

ALASKA LEGISLATURE COMMITTEE FILES 1900-1900

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RED DOG

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Hon. John Sund  
April 19, 1985  
Page 2

On the other hand, if the project proves successful, additional State revenues from corporate income taxes, mining license taxes, and possibly excess tolls and other sources would add to the State's debt capacity, as well as provide other financial benefits.

Sincerely yours,

A handwritten signature in cursive script that reads "Milt Barker".

Milt Barker  
Deputy Commissioner

MB/gb  
85-84

cc: Mary A. Nordale



**ALASKA PUBLIC INTEREST RESEARCH GROUP**  
Post Office Box 1093/Anchorage, Alaska 99510/(907) 278-3661

MAR 25 1985

March 21, 1985

Rep. Katie Hurley  
Pouch V  
Juneau, AK 99811

Dear Katie:

Enclosed is a letter I recently wrote to Sen. Sturgulewski regarding the Red Dog road and port project. If you have any questions, please feel free to call.

Sincerely,

Maureen Kennedy  
Director

*to Maureen please*



## ALASKA PUBLIC INTEREST RESEARCH GROUP

Post Office Box 1093/Anchorage, Alaska 99510/(907) 278-3661

March 6, 1985

Sen. Arliss Sturgulewski  
Pouch V  
Juneau, AK 99811

Dear Sen. Sturgulewski:

Thanks very much for meeting with me last week to discuss issues. I wanted to get back in touch with you to point out some areas of the Red Dog Project Analysis that should be updated by staff before the Resources Committee examines the Delong Road and Port Project more seriously.

1. The analysis does not include the impact of the Investment Tax Credit which the legislature passed last year. The lost revenues will be very substantial as the new law provides a 100% tax credit on both mining license tax and state corporate tax payments on the first \$50 million in investment, an 80% tax break on the next \$50 million in investment and so on up to \$250 million for up to 10 years. I'm also unclear whether the tax exemption would apply to the \$150 million in road and port construction as well as the \$250 million in mine development--if the State is acting as bank, wouldn't Cominco/NANA be eligible for the credit on the \$150 million too?
2. We are also unclear on how the new mining license tax regs will impact the project. The regs were not in existence at the time of the Analysis; now proposed regs are available and can be used to evaluate the revenue potential (or loss).
3. Although savings in regional shipping costs are touted as a major justification for state investment in the project, the projected savings are small and OMB did not have time to check 4 of the 6 issues factored into the estimate. Are the other assumptions and the total estimated savings correct?
4. What discount rate is Cominco using in its proposal, and what rate of return will it require before committing to the project? The company provided this information to Canadian provinces when negotiating state assistance with infrastructure there; why does

the State (or at least the legislature) have to make assumptions about these critical factors, basically making major fiscal decisions in a dark room?

5. While project benefits have been outlined extensively in the Analysis, costs have not been delineated because "time constraints have prevented analysis," and, "no attempt is made here to place a dollar value on the increase in social services delivery." Costs should be fleshed out to the same degree as have benefits.

6. Shouldn't the royalty payments to NANA (\$658 million) be included in the cost-benefit analysis, since according to Cominco, development and therefore royalties, would not come through if the State does not invest in the project?

7. How is the dramatic difference in estimated tax payments cited at \$205.69 million on p. IV-2 of the Analysis and \$420 million on pp. V-66 and V-68 explained (these final figures are extrapolated from the "probable" figures listed on those pages, multiplied by a conservative 20-year mine life).

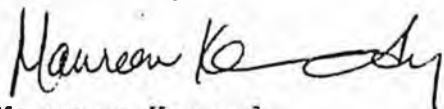
8. Does the State or legislature have any recent indications as to the likelihood of a detachment agreement between the NSB and the potential NANA borough?

9. Since AIDA has recently decided to scrap its contract for geotechnical studies with Cominco, will that \$3 million be available to the project as the first installment of an \$18 million appropriation, reducing this year's appropriation down to \$15 million?

As I expressed to you during our meeting, AkPIRG is very supportive of the development of the Red Dog Mine in NW Alaska; we are, however, concerned that the State go into negotiations with accurate information and a full hand. Given that the session is nearly half over, that a proposal is still not on the table, that Cominco has said it cannot agree to develop the mine unless certain commitments are ironed out, and since these difficulties are very likely NOT to be ironed out before May 15th, we have strong reservations about the manner in which the State seems to be rushing headlong into a commitment.

I hope you will ask your staff to include these issues as part of its updated analysis of the project.

Sincerely,



Maureen Kennedy  
Director

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\* DELIVER TO: JFOM  
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\* ORIGINAL  
\* SENT: 04/29/85 TIME: 10:45  
\* FROM: ANNIE NEUBAUER  
\* SUBJECT: POM/FAIRBANKS  
\* PRINT DATE: 04/29/85 TIME: 10:46  
\*  
\*\*\*\*\*

TO: ALL REPRESENTATIVES

FROM: DANIEL ADAMS, BOX 81001, COLLEGE 99708

PHONE: 479-2882

APR 29 1985

RE: RED DOG MINE

HOW CAN WE POSSIBLY CONSIDER SUBSIDIZING A LARGE CANADIAN CORP. VENTURE AT RED DOG? THEY ARE ONLY THE FIRST SERIOUS OFFER. THE STATE COULD GET A BETTER DEAL FROM ANOTHER MINING COMPANY. IF WE'RE GOING TO SUBSIDIZE IT WE SHOULD AT LEAST LET AN AMERICAN CO. HAVE A SHOT AT IT.

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\* DELIVER TO: PGM  
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\* ORIGINAL  
\* SENT 04/19/85 TIME: 08:32  
\* FROM: BARBARA NORRELL  
\* SUBJECT: PGM  
\* PRINT DATE: 04/19/85 TIME: 08:43  
\*  
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61

TO: ALL LEGISLATORS

FROM: WAYNE BLANK, 2812 WENTWORTH, #1, ANCHORAGE, AK 99508,  
276-4388

SUBJECT: RED DOG MINE PROJECT APR 19 1985

ALTHOUGH I SUPPORT THE MINING INDUSTRY, I OPPOSE ANY FORM OF  
SUBSIDY TO COMICO FOR THE RED DOG PROJECT. NO ONE COMPANY SHOULD  
BE SINGLED OUT FOR SPECIAL FAVORS. I FURTHER OPPOSE A LOAN  
REPAYMENT PLAN WHICH CALLS FOR THE LOANS TO BE PAID FROM COMICO  
USER FEES FOR THE ROAD. THIS PLAN OFFERS NO INCENTIVE FOR  
KEEPING THE MINE IN OPERATION.

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\*  
\* DELIVER TO: JPOH  
\*  
\* ORIGINAL  
\* SENT: 04/23/85 TIME: 14:17  
\* FROM: LANA TRUJILLO  
\* SUBJECT: POM  
\* PRINT DATE: 04/23/85 TIME: 14:20  
\*  
\*\*\*\*\*

34

TO: SEN. HALFORD, RAY, FAIKS, SACKETT, KERITULA, ELIASON, P. FISCHER, FERGUSON, DEVRIES, ABOOD, KELLY, V. FISCHER

REP. GRUSSENDORF, CLOCKSIN, MIN. MILLER, MARTIN, ADAMS, RINGSTAD, DUNCAN, LARSON, SZYMANSKI, COTTEN, FRANK, BINKLEY, POURCHOT, RIEGER, UEHLING, HURLEY, NAVARRE, CATO, BOUCHER, COLLINS

FROM: WAYNE FLEEK, 4340 S. PARK BLUFF DR., ANCHORAGE, 99516, 345-3205(HH), 269-5541(WK)

RE: CAPITAL BUDGET

I DO NOT BELIEVE THE STATE SHOULD BE FINANCING A ROAD OR ANYTHING ELSE RELATING TO THE RED DOG MINE PROJECT. THAT IS SOLELY A PRIVATE VENTURE AND NO PUBLIC FUNDS SHOULD BE USED. PLEASE DO NOT ALLOW ANY CAPITAL PROJECTS FOR THIS VENTURE TO BE PASSED OR FUNDED.

APR 23 1985

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\* DELIVER TO: JFOM \*  
\* \*  
\* ORIGINAL \*  
\* SENT: 04/25/85 TIME: 15:38 \*  
\* FROM: TCFBX \*  
\* SUBJECT: POM FBX/LS \*  
\* PRINT DATE: 04/25/85 TIME: 15:39 \*  
\*  
\*\*\*\*\*

TO: ALL REPRESENTATIVES

FROM: KATE WEDEMEYER, PO BOX 81461, COLLEGE, AK 99708  
#455-6316

RE: A.I.D. LOANS FOR RED DOG PROJECT

APR 27 1985

A.I.D. LOANS FOR THE RED DOG PROJECT ARE UNACCEPTABLE. THIS  
COULD BE INTERPRETED AS SOCIALISM FOR CORPORATIONS AND SETS A  
PRECEDENCE FOR THE STATE TO UNDERWRITE OTHER DEVELOPMENTS. IF IT  
IS ECONOMICALLY FEASIBLE TO MINE, THEN LET THE FREE MARKET MAKE  
CAPITAL AVAILABLE.

EOM

\*\*\*\*\*

Rep Hawley  
For your info  
Luzie

APR 30 1985



UNIVERSITY OF ALASKA  
FAIRBANKS, ALASKA 99701

April 27, 1985

Senator Frank R. Ferguson  
Alaska State Senate  
Pouch V  
State Capitol  
Juneau, Alaska 99811

APR 30 1985

Dear Senator Ferguson:

With 85,000,000 tons of proven lead-zinc reserves and a vast additional resource potential, Alaska's Red Dog Mine could become the largest lead-zinc mine in the world. At a rated annual capacity of 580,000 metric tons, this one mine would produce 8.9% of the total world production.

If the Red Dog Mine were in production, Alaska would rank as the fourth most important source of lead-zinc in the world. The State would only be outranked by the countries of Canada, U.S.S.R. and Australia. It would boost the total U.S. lead-zinc production ahead of Australia's and would reverse the long and continuous decline in U.S. metal production.

More importantly, it would establish Alaska as an important new world source of minerals and would provide a broad spectrum of economic benefits to our State and the nation.

Sincerely,

Leo Mark Anthony  
Professor of Mining Extension  
School of Mineral Engineering

LMA/bg

*Handwritten notes:*  
Luzie  
file  
sent 1/2/85

## "Meet Alaska" 1985



Senator Frank Murkowski said, "We cannot count on another Prudhoe Bay."

### Alternative Pay Plan Compromise Achieved

After three and a half years of effort, it appears a compromise piece of legislation has been hammered out which will reauthorize optional overtime pay plans in Alaska. The proposed amendments to the state's labor laws would also enact a 'good faith' defense for inadvertent mistakes in wage computation.

The compromise was worked out by leaders of industry and organized labor. State Commissioner of Labor Jim Robison spearheaded the effort to convene the two groups and asked them to work out their differences before going to the legislature.

Mano Frey, Business Agent for Laborer's Local 341 in Anchorage and president of the AFL/CIO chaired the labor team and Mike Klein, vice president of Cominco, served as chairman of the industry team. Jack Thompson, vice president of AIR VAN LINES, represented the Alliance on the task force. Other members who worked on the agreement involved IBEW representative Dixie Lee Hudish; Rich Peluso, president of the Western Alaska Building Trades Council; Paul Preston of the Halliburton Companies and Jerry Sheehan with Gearhart Industries.

## Member Spotlight



### NANA Regional Corporation: Alaskans Developing Alaska

NANA, the Northwest Alaska Native Association, is a for-profit Native regional corporation based in Kotzebue. NANA holds subsurface mineral rights to approximately 2.3 million acres in Northwest Alaska, including the Red Dog lead-zinc-silver deposit northwest of Kotzebue.

The corporation has entered into a partnership with Cominco Alaska to develop that deposit, and has made the project its top priority for 1985.

NANA and its subsidiaries employ up to 500 people a year. NANA's business arm, NANA Development Corporation, is based in Anchorage, and does business statewide through 11 companies it owns. Most of the companies, such as NANA Oilfield Services, Arctic Utilities and Purcell Services, are direct supporters of the petroleum industry.

Regional holdings include a seafood processing plant, jade mine and reindeer ... d.

The development corporation also is involved in a number of joint ventures. The two largest are Alaska United Drilling which operates four rigs on the North Slope, and NANA/Mannings which manages food service and house-keeping in 18 locations statewide. NANA/Coates provides hardrock drilling services to the mining industry. The corporation also is a 10 percent shareholder in United Bank Alaska.

*Red Dog*

#### BOARD OF DIRECTORS



Randy Goodrich, Director President, Executive Travel Service



Roger Haxby, Director President, Waukesha Alaska Corp.



Joe Mathis, Director Quality Assurance Manager Universal Services Inc., Intl.



Walt Ratterman, Director President, Pacific Industrial Co.



Jack Thompson, Director Vice President, General Manager, Air Van Lines, Inc.



Bill Webb, Director President, Arctic Hosts, Inc.

## THE ALLIANCE MOVES

For the second consecutive year, ARCTIC HOSTS, INC. has agreed to provide free office space to the Alliance.

Both the Alliance and ARCTIC HOSTS have recently relocated to newer and more spacious offices.

All members are invited to visit the staff at the new offices at 4831 Old Seward Highway, just north of International Airport Road.

**This issue of  
The Link  
is sponsored by:**



**NANA  
DEVELOPMENT  
CORPORATION, INC.**

## Alliance Board Expands by Seven

Members of the Alliance strained the banquet capacity of the Tower Club at the annual meeting of the organization held on March 28.

ARCO Alaska president, Harold Heinze, featured speaker at the annual meeting, noted the critical importance of public policy decisions as they affect development of Alaska's petroleum and mining industries. Heinze said that state spending must be reined in, citing the \$5000 per capita expenditure in Alaska as being about five times greater than the spending habits of most other states.

New members elected to the board of directors are: Tom Dow, NANA Development Corp.; Craig Duncan, Price Waterhouse; Scott Hawkins, Alaska Pacific Bank; Larry Holmstrom, Holden, Hackney and Holmstrom; Chuck McClain, Calista Construction Co.; Pat Rumley

Smith, Robinson & Gruening; and Larry Walker, Frontier Companies of Alaska.

Reelected to the board were William Webb, Arctic Hosts and newly elected president of the Alliance; Ann Curtis, Crowley Maritime Corp. and Vice President; Chuck Becker, Brown & Root, U.S.A. and Vice President; Bill Bennett, Perkins, Coie, Stone, Olsen & Williams and Secretary of the group; Val Molyneux, VECO International Inc., Treasurer; Milton Byrd, Charter College and immediate past president.

Also reelected to the board were Jack Thompson, Air Van Lines; Walt Ratterman, Pacific Industrial Co.; Joe Mathis, Universal Services International; Roger Haxby, Waukesha Alaska Corp.; Randy Goodrich, Executive Travel Service; and Bill Bettes, Pingo Corp.

## STATE ROLE IN RED DOG MINE DEVELOPMENT SUPPORTED

Based on projections of new jobs and diversification, Alliance directors called on state leaders to fund infrastructure for the Red Dog Mine.

Statistical projections indicate that development of the mine would provide jobs for up to 400 Alaskan workers with the estimated annual payroll expected to be \$15 million. Coupled with payment of taxes, purchases of supplies and other expenditures, development of the Red Dog Mine can be expected to contribute

\$100 million to the Alaskan economy each year.

An appropriation of \$150 million would fund a regional port and 55 miles of road through the DeLong Mountains, opening up the entire area to mineral development. Development of the rich Lik deposit would also be spurred by the proposed state action. The state investment is expected to be paid off through a combination of taxes and user fees.

The Alliance  
P.O. Box 100100  
Anchorage, Alaska 99510

Honorable Katherine Hurley  
Congresswoman  
Alaska State Legislature  
Pouch V (MS 3100)  
Juneau, AK 99811

Bulk Rate  
U.S. Postage  
**PAID**  
Anchorage, AK  
Permit No. 793



# MEET ALASKA

Newsletter of The Alliance

Volume 3; Number 1

First Quarter, 1985

MAY 7 1985

## AN INVITATION TO BOARD MEETINGS

Directors of the Alliance meet at 7:00 a.m. every Friday at the Tower Club, in the Denali Towers in Anchorage. In addition to focusing on policy issues and other business affecting the Alliance, government and industry leaders are invited to speak to the board.

All members are invited to attend meetings of the board of directors. Call 562-0100 by Wednesday to reserve your place and get information on speakers and issues.

## COMMITTEES NEED YOUR TALENT

Alliance directors have established standing committees and appointed chairmen for 1985. Any member interested in participating is urged to contact the Alliance office at 562-0100.

**PUBLIC POLICY:** Vice President, Chuck Becker; Co-Chairman, Jim Van der Veen; Transportation and Labor, Jack Thompson; Oil and Gas Lease Sales, Milton Byrd; Taxation, Walt Ratterman; Regulatory Management, Pat Rumley.

**COMMUNICATIONS:** Secretary, Bill Bennett; Newsletter, Bill Bennett; Historian, Joe Mathis; Public Relations, Larry Holmstrom.

**FINANCE:** Treasurer, Val Molyneux; Membership, Roger Haxby; Conferences, Bill Webb.

**ADMINISTRATION:** Vice President, Ann Curtis.

## Meet Alaska '85 Draws Sell-Out



Representative Don Young; addressing participants of the Meet Alaska '85 conference; forecast a lifting of the oil export ban by 1987.

More than 500 executives of the state's petroleum, mining and support industries packed the ballroom at the Captain Cook Hotel in Anchorage on Saturday, March 2 to hear 13 featured speakers at the second annual "MEET ALASKA" conference.

Keynote speaker, George Nelson, President of Sohio Alaska Petroleum Company led off the day-long event which focused on the theme of 'developing Alaska's marginal fields.'

Drawn from both the public and private sectors, other speakers included Esther Wunnicke, Commissioner of the State Department of Natural Resources; R. B. Stiles of Diamond Alaska Coal

Company, former Governor Walter J. Hickel; James Weeks of ARCO Alaska; and Ernie Espenschied of Chevron U.S.A. Rounding out the event were Senator Frank Murkowski; Congressman Don Young; H. M. Giegerich of Cominco Alaska; Rob McKee of Conoco; Tom Albanese of NERCO Minerals and Dick Weaver of EXXON U.S.A.

At the beer and pretzel break, the conversations of the participants indicated that changes in the laws, regulations and attitudes of government decision-makers are needed in order to overcome the obstacles to developing the state's natural resources.

## Sheffield Asked to Reconsider Permit Denial

Governor Bill Sheffield was asked by the Alliance to reconsider his decision denying a permit to prospect for gold in Cook Inlet for Aspen Exploration Company.

Citing the environmental protections of current laws and regulations and the willingness of the applicant to change plans to meet objections and recommen-

dations of state officials, the Alliance pressed for reconsideration based on the potential for economic diversity offered by the venture.

Alliance president, Milton Byrd, joined with six other organizations in appealing to the governor to reconsider his position.



## BOARD OF DIRECTORS



Milton Byrd, President  
Vice President, Corporate Development  
Frontier Companies of Alaska, Inc.



Ann Curtis, Vice President  
Contract Administrator,  
Crowley Maritime



Val Molyneux, Treasurer  
Manager, Contracts & Sales,  
VECO, Inc.



Bill Bennett, Director  
Partner, Law Firm of Perkins,  
Cole, Stone, Olsen & Williams



Chuck Becker, Director  
Director Government Affairs,  
Brown & Root, Inc.



Bill Bettes, Director  
General Manager, Plingo Corp.

## "Meet Alaska" 1985



George N. Nelson, president of Sohio Alaska Petroleum, Co., stated: "Development of marginal fields is critical for the long term strength of Alaska's economy."

### State's Position on OCS Sale 92 Challenged

Relating the forecasted decline in crude oil production in Alaska to the loss of jobs for Alaskans, the Alliance called on the U.S. Department of the Interior at a hearing in Anchorage to maintain the integrity of the five-year oil and gas lease sale schedule in the outer continental shelf and hold the North Aleutian Basin sale in December as set.

Chuck Becker, vice president for public policy of the Alliance and government affairs director of Brown and Root USA, said that the state's call for another ten-year delay in the sale is based on arguments which cannot stand up to substantive challenge. Becker noted the "on-again, off-again" history of the area sale which was set as early as 1974 and said that jobs and other economic benefits stemming from exploration and development by the state's prime industry required stability and predictability in Alaska's business climate. He said that public policy makers must base their decision "on facts and a well-founded understanding of the global impacts of their decisions.

## Offshore Lease Sale Schedule Supported in D.C.

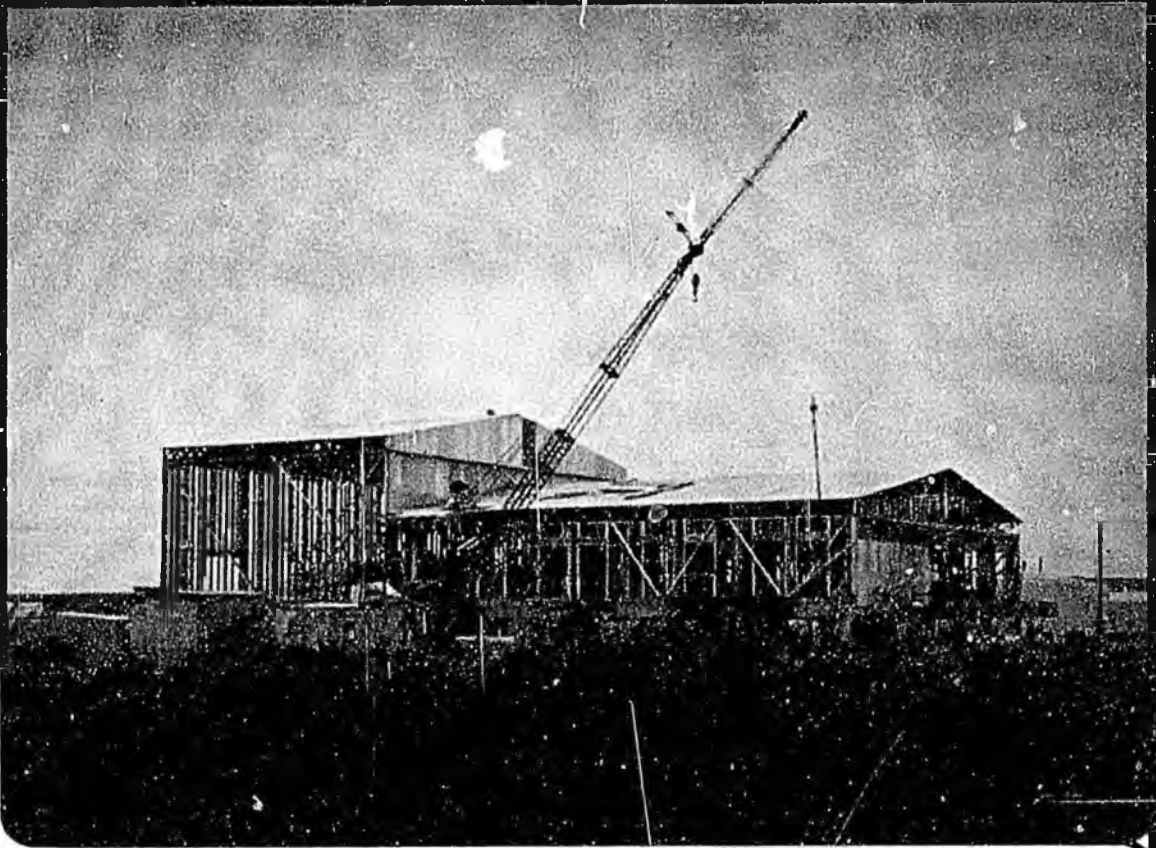
In testimony before a House Appropriations panel in Washington, D.C., Alliance vice president Chuck Becker said that the winds, tides, currents and ice floes of Cook Inlet posed much greater hazards to oil and gas exploration and production than conditions in Bristol Bay and urged members of Congress to refrain from imposing moratoria against the sale of oil and gas leases in Alaska's outer continental shelf.

Although the state has pressed its case for delaying the lease sale in Bristol Bay for at least another ten years, Sheffield administration officials also oppose the spending moratoria by the appropriations committee as an inappropriate method to block the sale. Becker told Rep. Sid Yates (D-IL), chairman of the subcommittee. Beginning with 700,000 acres in 1982, the panel has blocked oil and gas lease sales in coastal areas off California, New England and Florida extending the original ban to over 50 million acres today.

Appearing on a panel of support industry spokesmen sponsored by the National Ocean Industries Association, Becker noted that nearly 100 wells have been drilled in the waters off Alaska over the past twenty years without causing damage to the resources of Alaska's fishing, hunting and trapping industries or harming the environment in any other way.

The Alliance is spearheading an effort to inform Alaskans about the achievements of the petroleum industry in Alaska and the need to keep the lease sales on track. "When crude oil delivery from the North Slope begins to drop early in the decade of the '90s, Alaskan workers are going to be thrown out of jobs. The promise offshore is, for many, the promise of a future in Alaska," Becker said.

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**LEGISLATIVE REPORT 1978-85**

THE NANA REGIONAL STRATEGY:  
A SUMMARY REPORT ON  
ITS ACTIVITIES AND ACCOMPLISHMENTS  
1978-1985

Prepared for  
Maniilaq Association  
Kotzebue, Alaska

By Matt Conover  
Development Management Systems

The preparation of this report was financed in part by funds from the State of Alaska, administered by the Municipal & Regional Assistance Division, Department of Community & Regional Affairs

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## INTRODUCTION

This report is a summary of regional development planning in the NANA region. The region is located in Northwest Alaska, in the area surrounding Kotzebue. In 1978, the NANA region initiated a regional development planning program which was the first in the Unorganized Borough. This program, the NANA Regional Strategy, has since been adopted unanimously by most of the region's boards, and is now in the implementation phase.

The NANA Regional Strategy has been recommended as a model development process for Alaska, the U.S., and other countries. Following the success of the Strategy, several other regions in Alaska have received State funds to develop strategy programs.

The NANA Regional Strategy has focused its efforts on formulating and implementing solutions for economic development, capital improvement project planning, and public service delivery. Planning and implementation has taken place through coordinating various levels of government with private corporations and other organizations.

State funds to support this work have been administered through contracts from the Department of Community and Regional Affairs. Contracts for the respective Strategy programs have been established with a service delivery agency in the participating region, such as Maniilaq Association in the NANA Region.

The purpose of this report is to describe progress being made in the NANA region through the Regional Strategy program, and to demonstrate a return on the State's investment in the program. The report describes activities and accomplishments that have occurred through the Strategy, and identifies recommendations for continuing the program.

For additional information on the NANA Regional Strategy, please contact Paul Hansen, Regional Services Director or Duane Kujala, Strategy Planner at the Maniilaq Association, Box 256, Kotzebue, Alaska 99752, or call at 442-3311.

## SUMMARY

The NANA Regional Strategy provides an integrating framework for over 30 plans presently being prepared in the region.

The NANA Regional Strategy Plan is significant politically. It declares the region's intent to exert a stronger role in shaping future development. The plan also demonstrates the leadership and management ability needed for self-government. Projected economic development in the region may provide the necessary tax base for a potential borough government. The Regional Strategy could be used to help establish direction for a future borough government, or could serve as a constructive alternative to a borough.

Rural development in Northwest Alaska has been accelerated and improved through the NANA Regional Strategy. Health, education, and social service programs have been better coordinated through improving joint planning and service delivery. Further implementation of this Strategy, and the development and implementation of strategy programs in other regions, should yield additional benefits to the State.

The State should continue to financially and administratively support the NANA Regional Strategy and the strategy program.

## HISTORY

In 1978, then-Governor Hammond received a request for financial and technical assistance from the leaders of several organizations in the NANA region to develop the ability to perform in-region planning. The leaders proposed a joint intergovernmental planning process; one that would integrate all the on-going plans in the region under a common strategy.

The Governor's Office saw the opportunity for a long-term program in which each region would produce a regional component for a statewide plan. The statewide plan would reflect the preferences of each region, and have the support of the people living in the respective regions.

Since there is no borough government in the region, the Maniilaq Association received State funds to organize and operate the NANA Regional Strategy through a contract with the Department of Community and Regional Affairs. As the regional non-profit Native corporation based in Kotzebue, Maniilaq was managing a variety of development programs under State and Federal contracts, and its board had representatives from every community in the region.

A Steering Committee was established to represent the regional organizations participating in the progress. These included the NANA Regional Corporation, the Northwest Arctic School District, and Maniilaq Association. The region's legislators were also invited to participate on the Steering Committee.

The plan was prepared through a process involving almost 100 public meetings with boards and community councils, a survey of resident needs, multiple agency task force meetings, and direct staff involvement in many development projects.

Following completion of the Strategy plan in 1982, and its endorsement by the region, it was sent to agencies through the Office of the Governor. Governor Sheffield endorsed the plan and wrote a memo to his commissioners in February 1983, asking them to cooperate with implementation of the plan. He stated that if there were conflicts between the Regional Strategy and respective agency plans, "any differences should be worked out in a spirit of cooperation".

An annual conference is held to solicit continuing involvement from all community councils and board representatives. Updates have been printed each year and sent to holders of the original strategy plan binder. In 1984, the staff concentrated on implementing specific development projects proposed in the Strategy, and this effort will continue through 1985.

## GOALS

The original goal of the Regional Strategy was to improve the quality of development in the NANA region. The emphasis was on community facilities, land use, and economic development. However, after the program got underway, the region's health and social service program managers asked that the goals be expanded to address social issues. In adding social goals, the region acknowledged the need to reduce social problems to help establish the setting for stable economic development.

The formal goals of the NANA Regional Strategy became the following:

1. To raise the standard of living in the region, through balanced and phased economic development.
2. To protect the region's environment and the subsistence-based culture.
3. To strengthen the spirit and pride of the region's Inupiat Eskimo, and reduce the causes of social problems brought on by rapid social and cultural change.
4. To develop the region's local management abilities and local control.

To achieve the above goals, detailed action plans are described in the NANA Regional Strategy Plan. To implement the action plans, several task forces were established, consisting of agencies, corporations, and local council members. The task forces meet periodically to recommend priorities for funding. Through this process, grants, loans, and technical assistance are focused on the region's priority projects, and the efforts of all parties are integrated.

As an umbrella plan, the NANA Regional Strategy provides a structure and a process to address the difficult issues facing the region. Through the planning framework established by the Strategy, the formulation of respective agency plans can be coordinated, and the needs of the NANA region integrated into those plans. The NANA Regional Strategy presents an active ongoing mechanism to better identify and express the region's needs and goals.

## ACTIVITIES & PRODUCTS

During preparation of the Strategy, numerous communities received direct development assistance. This was provided through staff organizing task forces of agencies to work together on specific projects, staff helping communities to write funding proposals, and staff coordinating the gathering of information to be used in obtaining permits.

Development assistance has been provided on the following projects:

- Noatak erosion control and relocation project
- Selawik agriculture
- Ambler sewer and water repair
- Red Dog Mine
- Community profile updates
- Timber and vegetation inventories
- Gravel inventories
- Reindeer and fish plants
- Upper Kobuk/Koyukuk road proposals
- State land disposal policy
- Western Arctic Transportation Study
- Statewide Maritime Port program  
and several other programs.

The Regional Strategy has been used to accelerate capital projects. For example, the staff planner coordinated 10 agencies in the design and evaluation of alternative construction projects at Noatak, where erosion threatened approximately \$12 million in capital facilities.

Products of the Strategy staff work at Noatak included:

- Multi-agency meetings with the community,
- Multi-agency site visits to examine conditions
- Multi-agency benefit-cost analyses to compare options
- A community block grant proposal worth \$212,000.

The Strategy helped to coordinate service delivery, speed up construction, save money, and bring in additional funds.

The complex problems at Noatak required several months of staff time by the Department of Transportation & Public Facilities (DOT/PF), capital budget changes for almost ten agencies, two legislative appropriations, bringing in equipment by cat train over forty miles of frozen river and hills, and two seasons of construction work.

The strategy staff also prepared a gravel report for the DOT/PF, to help them prepare for building local roads, airports, and building pads. The report identified known and potential locations of gravel deposits, consolidated regulatory policies, and established procedures for contractors and DOT/PF to initiate leases, purchase, and rights-of-way for access to gravel.

In 1982, the NANA Regional Strategy was used to identify priority requests in the region for capital projects which had not been budgeted yet by any organizations. Because there were no other available funding sources, the Department of Community & Regional Affairs (DCRA) submitted requests for those priority projects in their capital budget. The projects included: reforestation of the Ambler townsite to stop erosion and dust-related health problems; subdivision roads for Noatak and Buckland; and redevelopment of Noorvik's electrical, sewer, water, and drainage systems. Although the Legislature did not fund the projects through DCRA's capital budget, attention was called to the problems, and funding was provided for most of them through other sources. In addition, the Strategy staff used the task force structure and process to leverage assistance to accomplish project design and permit coordination for many of these projects.

Economic forecasting for the region was also done, through subcontracts designed and provided through the NANA Regional Strategy. The forecasting included projections of population and related needs for land, water supply, electrical plant capacity, and other public services in communities. Forecasts were based on interviews with corporations which are expected to have a significant effect on the regional economy. Communities now have statistics they can use to obtain funding for projects to provide utilities and land to meet the projected demand.

A second round of economic forecasting led to updated forecasts of economic impacts of the Red Dog Mine. Entrepreneurs now have statistics on potential investment opportunities which they can use in bank loan proposals. The forecasts are also being used by several institutions to prepare detailed manpower training and placement program plans. Funds for doing the forecasts were raised from Federal and corporate sources, including multi-national corporations and a bank, to supplement the funds originally provided by the State.

Staff of several regional organizations worked together to improve health, education and social services. Activities included joint goal-setting and prioritizing, tactical discussions, and program follow-through. Projects were initiated to improve student academic performance, suicide prevention through a volunteer hotline (later funded) and many health service delivery programs.

## EVALUATION

Overall, the NANA Regional Strategy has been successful in helping to guide both physical and human resource development within the NANA region. A key to its success has been the strong support and cooperation among its participants during strategy formulation and ongoing implementation.

Cooperation has been fostered through the following factors:

1. The common practice of leaders in the NANA region working with the region's communities to obtain consensus before making major project decisions. (e.g. Red Dog Mine and village corporation mergers).
2. Strategy staff and participants working effectively with high-level political entities, who committed their staff and support.
3. Maniilaq Association initially employed trained technical staff who defined a clear planning process, with tasks people could understand, and has continued to employ capable staff to work on implementation.
4. Multiple levels of planning have been defined, so each participant can see the level of detail at which he/she will interact with others.
5. Each related plan has been explicitly acknowledged. This involved diagramming inter-plan relationships, and ensuring that data from each plan is incorporated into other plans.
6. The staff schedules meetings so that each participating group meets with staff on their home ground. Villagers can thereby feel comfortable and more thoroughly express their views. Each group's input is labeled as a specific portion of the plan to recognize each group's contribution. (e.g. A local strategy plan for every community; a task force plan for every group of agencies, corporations, and common-interest organizations like the Mayors' Council).
7. Through the Strategy process the region has developed a strong technical base of information, such as resource inventories, economic forecasts, and surveys to support project planning.
8. The region has strong leadership in the for-profit regional corporation (NANA), the non-profit corporation (Maniilaq Association), the school board (Northwest Arctic School District) and statewide political bodies.

This combination of factors demonstrates the conscious melding of technical expertise with political strength to encourage cooperation. Some of these factors were pre-existing, but were effectively brought together and focused through the Regional Strategy. The Strategy has helped to establish a favorable public impression of the region's ability to manage development. Outside organizations have demonstrated a willingness to provide financing and increased contracting to provide program services.

Coordination between the administrative and legislative branches at the regional level is a continuing vital factor in the success of the Strategy. While the plan was being prepared, policy issues and individual projects were discussed with the region's legislators. Strategy staff acknowledged the importance of legislators adjusting the order of priorities. Through frequent contact with their constituents, the legislators are able to respond to the shifting order of priorities; and their political judgement enables them to be successful in obtaining project funding. Their role in plan implementation is essential.

NANA region legislators have commented that other legislators found the Regional Strategy to be useful for clarifying the rationale of NANA region funding requests.<sup>1</sup> Similar comments have been voiced by State and Federal agency staff traveling to the NANA region. In addition, several letters have been received from State and Federal agencies commenting on the quality and thoroughness of the NANA Regional Strategy.<sup>2</sup>

Agency staff have stated they believe project costs had been either avoided or reduced through their use of the Strategy Plan and their participation in the process. An example of this is the experience of the State Department of Transportation & Public Facilities (DOT/PF). According to DOT/PF staff engineers interviewed in 1983, the establishment of community development plans and acceleration of land title clearance through the Strategy process enabled DOT/PF to move ahead with projects in adjacent villages at the same time. Since the villages were on the same river, mobilization costs for equipment and management costs for supervision and inspection were split between projects, thereby reducing the cost for each project.<sup>3</sup>

The Strategy has also helped villages to secure grant funds for development projects through the competitive grant process. Federal agencies, including the Department of Housing & Urban Development (HUD), the Administration for Native Americans (ANA), and the Economic Development Administration (EDA), have stated verbally or in letters that funds were being granted to the village or region in part because the high quality of development planning in the NANA Regional Strategy provided more assurance that the projects were well-conceived.<sup>4</sup>

The Alaska Advisory Committee for the International Exposition on Rural Development recommended that the NANA Regional Strategy be profiled as a model development program at the 62-nation exposition in New Delhi India in 1984.<sup>5</sup> A former World Bank employee sitting on the committee stated that the NANA Regional Strategy is the first plan he had seen that could really achieve the "intergrated rural development" the World Bank seeks to finance.<sup>6</sup>

In a report to the 24-nation Organization for Economic Cooperation and Development (OECD), based in Paris France, the University of Alaska's Center for Cross-Cultural Studies recommended the NANA Regional Strategy as a model for improving self-governance ability through nonformal education in politics and economic development.<sup>7</sup>

The University of Alaska's Native Management Center, in the School of Business and Public Administration, has requested copies of the NANA Regional Strategy to use as a textbook in management.<sup>8</sup> Similar requests have been received from the University's College of Human and Rural Development.<sup>9</sup>

Copies of the Strategy and related documents have been requested by the United Nations' Northern Science Network in Canada and Sweden,<sup>10</sup> the Canadian Department of Indian Affairs & Northern Development in Ottawa,<sup>11</sup> and the Institute for Strategic & International Studies in Washington D.C.<sup>12</sup>

The benefit to the State from this international recognition is the public relations value. Multi-national corporations made aware of the State's involvement in the NANA Regional Strategy are perceiving the State to be a supportive leader in solving socioeconomic development problems of international importance. They have become more interested in locating in Alaska and creating jobs here. Multi-national mining companies involved in the NANA region have said the NANA Regional Strategy was important to them as an indicator of the region's serious intentions to provide a stable development environment, and to provide the management ability to follow through on the details.<sup>13</sup>

Human resource development encouraged in the Strategy helps to stabilize the labor force and improve the potential for local participation in management of development projects. Health, education and social programs that address alcoholism, family problems, disease levels, and student and adult education all contribute to reduced training times, lower turnover rates, and greater participation in sharing the benefits of development. Such programs are important even in the absence of potential large projects. The Strategy helps focus and intensify their management.

## CONCLUSIONS

In reviewing the development and use of the Strategy, the following conclusions can be made:

1. The State has achieved cost saving through the Regional Strategy program in the following ways.

A. State agencies have been aided through the Strategy planning process. In particular, the annual conference, village strategy plans, and resource information gathered have helped them to coordinate pre-construction project permitting, land title clearance, and design. Assistance has been especially helpful to State departments like DOT/PF, which have achieved economies-of-scale by building several projects at a time, thus reducing mobilization and management costs.

B. Timetables for starting development projects have been accelerated through pre-construction permit coordination and resource information-gathering for permits.

C. Complex construction projects involving various agencies and contractors (such as the previously-described Noatak erosion control project) have been completed in a cost-effective fashion, without major avoidable delays.

D. State funding for projects has been supplemented with Federal funding and corporate donations as a result of financing proposals and fund raising efforts by Regional Strategy staff.

The quality of development has been improved in the following ways:

A. Strategy staff have worked with the Northwest Inupiat Housing Authority and HUD officials from Anchorage, Seattle, and Washington D.C. to develop new policies, and approaches for designing arctic housing.<sup>14</sup> As a result of this and efforts by other groups, housing and other public buildings are better designed for the region's cold climate.

B. Designs have been improved due to active inclusion of operation and maintenance (O & M) costs in the local design criteria for projects. Staff worked with village councils to help encourage the process of designing projects on the basis of energy efficiency. This has reduced the operation and maintenance costs for State residents living in the NANA region.

3. Successful implementation of the projects proposed in the NANA Regional Strategy are projected to result in increased employment for the region. Economic development projects such as the Red Dog Mine,<sup>15</sup> Chicago Creek coal, fish plants, construction activity, and small business development should increase the tax base, enhance the quality of life, and reduce welfare expenditures.

4. Local management ability has been improved through a combination of clear local development plans and the opportunity to be more effectively involved in wider-scope development planning.<sup>16</sup>

5. NANA region residents have a greater sense of regional unity, through their participation in the Regional Strategy process.<sup>17</sup>

6. The increased sense of regional unity may result in an improved political climate for establishing a borough government. If pending negotiations between the NANA region and the North Slope Borough result in boundary changes around the Red Dog Mine area, there may be an adequate tax base to establish a borough.<sup>18</sup>

7. In relation to the magnitude of development appropriations for Northwest Alaska, the cost of the Regional Strategy planning process has been fairly low.

8. While quantitative information is not available to calculate a financial return on investment, the social return can be considered to be very high for the NANA Regional Strategy. Social returns have occurred through constituent satisfaction, improved relationships between agencies and corporations, accelerated development, and lower cost of development.

## RECOMMENDATIONS

The recommendations below were developed for the NANA Regional Strategy, but may have implications for other areas of the Unorganized Borough seeking to initiate or continue regional strategy programs.

1. State support for the NANA Regional Strategy Plan and program should be continued.

2. Effective implementation of the Strategy will require funding be provided for the recommended programs and capital projects. As available funds decline, the Legislature and granting agencies may have a more difficult time establishing priorities for expenditures. The Regional Strategy Plan and process will become increasingly valuable as decision-making tools. The Strategy should continue to be used in conjunction with the judgements of the region's legislators to determine priorities.

3. Both the Legislature and Governor's office should encourage agencies to cooperate in implementation of the Strategy.

4. Funding should be increased for Strategy program operation, so the Strategy staff can better provide direct assistance to local businesses and communities in promoting economic development. The difficulties for any business or community are compounded in the "Bush". Although the region tries to help the State achieve statewide goals such as increased employment, the development process in the "Bush" requires more resources, not less.

More staff are needed to provide assistance to businesses and communities to get financing, complete tax and permit requirements, and conduct training of prospective employees. Although there are a number of entities providing specific services, the NANA experience has shown that there is a great demand for and appreciation by agencies, communities and businesses for expanded coordination and direct technical assistance.

5. To protect the State's investment in databases already prepared, funding should be provided to continue development of resource databases, and to computerize them. By automating the databases, they will be more accessible, and can be updated more regularly.

The information to be automated would include project status charts, timetables, maps, and condition trendlines. These are useful for budgeting, construction scheduling, site selection, permitting, and tracking overall progress of development efforts.

This centralized data base could be updated regularly at the community and regional levels, and certain parts of it could be accessed by development contractors and agencies via telecommunications. The quality of development information and decisions would be improved, leading to higher quality development, and lower-term costs to the State.

#### FOOTNOTES

1. Comment by Senator Frank Ferguson to John Schaeffer, President of NANA Regional Corporation. Personal communication from John Schaeffer, 1983.
2. For example, letter from Regional Director of Economic Development Administration in Seattle to Marie Schwind, President of Maniilaq Association.
3. Interview with Henry Springer, of the Department of Transportation and Public Facilities and former director of Planning and Programming for the Interior Region, Fairbanks and Nome. 1984.
4. For example, verbal comments by Norm Nault, former program administrator for the U.S. Administration for Native Americans, (ANA) in Seattle, upon award of ANA grants to Maniilaq Association and Selawik. 1983.
5. Observed by the author at a meeting of the committee in 1983, in the Alaska National Bank of the North Building.
6. Personal communication from Dr. Jack Brownell, now Vice-Chancellor of Academic Affairs, University of Alaska, Anchorage, at meeting referenced in Footnote 5 above.
7. Michael J. Gaffney, "Alaska Native Rural Development: The NANA Experience. Occasional Paper No. 2. University of Alaska, Fairbanks. 1981. 46 pp.
8. Verbal request from Dr. Jack Taylor, director, and Drew Hagemann, deputy director, in early 1984.
9. Verbal request from Dr. Gerald Mohat, dean of the college, in Fairbanks and Dr. Nick Flanders, assistant professor, in Kotzebue.
10. Letters from Dr. Melton Freeman, Network chair, (University of Calgary) 1983, and personal communication from Dr. Kurt Abrahamsson, deputy chair (University of Umea, Sweden) 1984.
11. Mr. G. Bangay, director of Northern Land Use Planning, DIAND, Ottawa, letter of 1984.
12. Letter from Director of Energy Programs, 1984.
13. Pers. Comm. Harry Noah, Director of Environmental Affairs, Cominco Alaska, Anchorage. 1983.
14. Meeting with Deputy Secretary of HUD Donna Sheldailah, 1981.

15. Report of the Governor's Task Force on the Red Dog Mine Project. 1984.

16. Comments of mayors at annual meetings of NANA Regional Strategy, 1982-1983.

17. Verbal comments from the Office of Senator Frank Ferguson to Governor Sheffield's Office. Reported in a speech by Margo Waring to the first meeting of the Bering Straits Regional Strategy, Nome, March 1984 .

18. Per. Comm. from John Schaeffer, President of NANA Regional Corp. 1984.

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*Cominco Ltd. Annual Report 1984*

**Cominco**



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## *Cominco Ltd.*

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

Incorporated in 1906, Cominco Ltd. is an integrated natural resource company with principal activities in mineral exploration, mining, smelting and refining, and chemical fertilizer production.

Cominco is one of the world's largest mine producers of zinc and lead, with major operations in eight countries. The Company also produces silver, gold, copper, tin, cadmium, bismuth, indium, diamonds, coal, steel products, fabricated metals, high-purity metals, compound semiconductor materials and components for the electronics industry.

Cominco is an important producer of chemical fertilizers, which are mainly marketed under the Elephant Brand

name in Canada and the United States. The principal products are ammonia, urea, urea sulphur, ammonium nitrate, ammonium phosphate, ammonium sulphate and potash. The Company also produces sulphuric acid and sulphur dioxide.

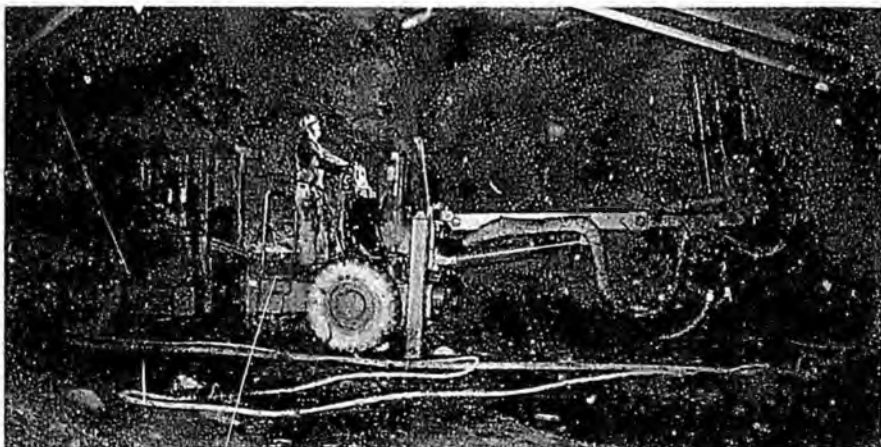
Cominco's primary objective is steady, profitable growth. To accomplish this, the Company is strengthening its position in zinc through the discovery and development of low-cost mines, and is expanding its activities in gold and selected non-ferrous metals. In addition, Cominco intends to expand its nitrogen-based fertilizer business.

Cominco is committed to the protection of the environment, and to promoting the health, safety and welfare of its employees.

### *On the Cover*

#### **A record year for the Sullivan miners**

Operated by Cominco since 1909, the underground operations of the Sullivan zinc-lead-silver mine at Kimberley, B.C. produced a record amount of ore in 1984. This was mainly the result of the \$25 million mechanization program which began in 1977 and will be completed in 1985. Pictured in a personnel taxi at the 4250-foot level (1300 m) are development miners Claude Dubois, Gordon McLean, Frank Maille and Bob Hopson.



*Mechanized mining at the Sullivan: hydraulic rockbolters increase safety*

# 1984 Annual Report

## Highlights of the Year

(All dollar amounts in millions except per share figures)

	1984	1983
Revenue	\$1,589.8	\$1,379.3
Earnings (loss) before extraordinary items	19.0	(39.3)
Net earnings (loss)	24.2	(39.3)
Net earnings (loss) per common share*	0.17	(0.87)
Dividends paid per common share*	0.15	0.13
Shareholders' equity	880.8	869.9
Capital expenditures	122.9	106.3

\*Adjusted to reflect 3-for-1 stock split effective May 4, 1984.

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Directors and Officers	Inside Back Cover

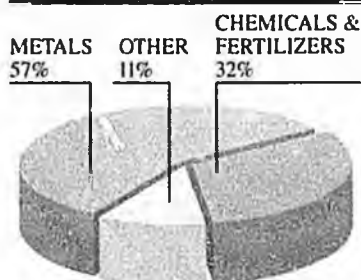
## Terms used

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.

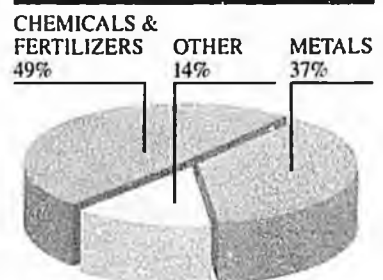
## Annual Meeting

The Annual General Meeting of shareholders of Cominco Ltd. will be held on Thursday, April 18, 1985, at 11:00 a.m., in the Park Ballroom, Four Seasons Hotel, Vancouver, B.C.

### Percentage of Revenue by Business Segment



### Contribution to Operating Profit by Business Segment



## Report of the Chairman to the Shareholders



*M. N. Anderson  
Chairman and  
Chief Executive Officer*

Cominco achieved a substantial turnaround in 1984. The return to profitability resulted from the generally improved markets for our metals and fertilizers, and from continued gains in productivity throughout the Company.

The profit for the year, which included extraordinary items of \$5.2 million, amounted to \$24.2 million, or \$0.17 a common share, on revenues of \$1,589.8 million. In 1983, the consolidated loss was \$39.3 million, or \$0.87 a common share, on revenues of \$1,379.3 million.

Zinc and fertilizer prices recovered in early 1984, and these products accounted for over half of Cominco's earnings. There were higher profit margins on sales of refined zinc, zinc concentrate and gold, which were offset in part by lower profits on copper concentrate and silver. Sales volumes of all our major metals and metal concentrates were higher in 1984 than in 1983 with the exception of lead and lead concentrate. Zinc and lead prices improved until early in the second quarter and subsequently declined to

1983 levels in the second half of the year. On average, zinc and lead prices were higher in 1984, while silver, gold and copper prices were much lower in 1984 than in the previous year.

Fertilizer markets in the first nine months of 1984 improved considerably over the comparable period in 1983, with higher volumes and prices for major products, but sales volumes and prices in the fourth quarter were adversely affected by the early onset of winter. Sales volumes of chemicals and fertilizers were slightly higher in 1984 than in 1983. Potash sales tonnage in 1984 increased by 12 per cent over 1983 levels to a record of 1.25 million tons (1.14 million).

We have reacted to this uneven recovery in a number of ways, and one of the most important was to improve our productivity. Our employees have done a splendid job in helping the Company through the worst recession in 50 years.

In 1984, many of our operations achieved outstanding production levels:

- a record amount of zinc was produced at Trail, B.C., while the number of employees in the zinc operations was reduced by 170 during the year;
- the Vade potash mine at Vanscoy, Saskatchewan, increased production 21 per cent with no increase in the number of employees; and
- the Valley copper mine, near Ashcroft, B.C., reduced operating costs by 8.6 cents a pound of copper.

Some of the other operations with outstanding productivity were the Con Mine, Pine Point Mines, the Beatrice and Carseland fertilizer operations, the Electronic Materials Division and our oldest mine, the Sullivan. It was a magnificent performance throughout the Company.

To sustain the momentum achieved in 1984, emphasis will continue to be placed on the efficient use of capital and technology. In the future, we intend to invest — through increased earnings, capital redeployment and the raising of new capital — in important new projects such as the Red Dog mine in Alaska, the Hellyer mine in Australia, nitrogen fertilizer expansion, and in our fast-growing electronic materials business. With Government support, a new lead smelter may be included in these investment plans. In total, the projects will amount to about one billion dollars over the next ten years.

**A Commitment to Exploration**

During the year, we spent \$40.9 million on exploration as part of the Company's plan to discover and develop world-scale deposits, and to add to our reserves.

In addition, \$7.8 million was spent on preparatory work on the Red Dog zinc-lead-silver deposit in northwest Alaska. Located above the Arctic Circle, Red Dog will be developed in association with the NANA Regional Corporation, Inc. under terms of an agreement reached in 1982. Ultimately it will become a primary source of concentrates for Trail, and will also serve concentrate markets on the Pacific Rim and in Europe.

The Red Dog deposit has an estimated 85 million tons (77 million) of ore containing 17.1 per cent zinc, 5 per cent lead, and 2.4 ounces/ton (82 g/tonne) silver. The deposit, which is flat-lying and close to the surface, will be mined by the open-pit method.

At year-end \$30 million had been spent on the project. Detailed engineering will be carried out in 1985 on a schedule that would allow start-up by 1989 if a decision to proceed is made during 1985. Cominco is seeking State assistance for the financing of port and road facilities to serve the area.

Our associate company in Australia, Aberfoyle Limited, announced a new zinc-lead-silver discovery at Hellyer, Tasmania, near that company's Que River Mine.

Preliminary estimates indicate 18 million tons (16.3 million) of diluted high-grade ore grading 18.2 per cent combined zinc-lead, 4.3 oz/ton (148 g/tonne) silver and 0.06 oz/ton (2 g/tonne) gold. Development work on the deposit will begin in 1985.

In December Cominco sold 1,253,959 Common Shares for approximately \$20 million to a taxable Canadian corporation which will be entitled to a share-purchase tax credit of \$5.0 million. Cominco also planned for the sale of further Common Shares in 1985 to provide for a flow-through of an aggregate of approximately \$20 million of Canadian exploration expenses and scientific research credits.

**The Outlook for Our Businesses**

Cominco's producing mines and ore reserves have positioned the Company as a highly competitive producer. We anticipate steady growth for zinc, and Cominco is well established in this metal. Emerging markets in Asia hold great promise, and our sales

efforts there are being increased.

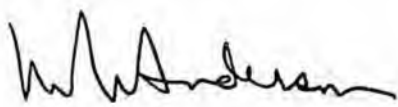
Similarly, the potential for growth of our chemicals and fertilizers business is excellent. Canadian nitrogen-based fertilizer consumption is projected to grow rapidly in Western Canada to the end of the decade, and consumption of these fertilizers should also increase in the United States. The outlook for potash consumption, particularly in markets in developing countries, is good. As agriculture becomes more intensive on the available land base, increased use of fertilizers will be required.

Cominco's electronic materials business has nearly doubled in the past four years, and the Company continues to plan for further growth through the expansion of facilities and research, and through the development of a strong marketing network. Through Cominco Engineering Services Ltd., Cominco is also marketing its engineering expertise around the world.

We are confident that 1985 will show further progress. Cominco has strong mineral resources, the ability to innovate, and above all, good people. With these assets, we shall take full advantage of new opportunities.

I would like to recognize the contributions of Messrs. F. E. Burnet, H. T. Fargey, and the Hon. I. D. Sinclair, O.C., Q.C., who retired from the Board of Directors in 1984. Messrs. R. P. Douglas, W. W. Stinson and F. H. Tyaack were elected to the Board.

On behalf of the Directors and Officers, I also wish to thank our employees whose excellent performance helped to bring about the Company's improved results.



March 13, 1985

## The Year in Review



W. G. Wilson  
President

### Revenue and Earnings

Cominco's net earnings for 1984 totaled \$24.2 million. Included in earnings is an extraordinary gain of \$5.2 million which arose principally from the sale of an interest in an oil recovery project in Texas. Earnings before extraordinary items were \$19.0 million and represent a significant improvement over the \$39.3 million loss incurred in 1983. Cominco made a profit in the first three quarters of 1984 but incurred a loss during the final quarter because of decreased prices for its principal products, and the weak fall fertilizer season.

Revenue from sales of products and services increased to \$1,585.3 million in 1984 compared with \$1,374.7 million in 1983. Of this increase additional sales volumes accounted for \$129 million and improved sales prices accounted for \$81 million.

The cost of products and services in 1984 was \$1,105.4 million, an increase of \$90.2 million over 1983, due principally to costs attributable to increased sales volumes. Distribution costs of \$176.4 million increased by \$14.6 million over 1983 levels, due mainly to the increased volume of products sold.

Interest expense increased by \$10.6 million in 1984, almost entirely as a result of higher interest rates which increased during the first three quarters and which eased off only during the fourth quarter. Depreciation and depletion expense increased by \$15.5 million to \$115.6 million in 1984, reflecting the start-up of the electrolytic and melting plant in Trail, and the increase in Pine Point Mines Limited depreciation over that charged in 1983 when the operation was shut down for 5½ months.

The earnings for the year were increased by a credit for income taxes totaling \$5.2 million. Of this, \$3.5 million resulted from the realization of investment and research and development tax credits through sales of flow-through shares and debentures. The remainder resulted from the application of various allowance-made under the Income Tax Laws of the several jurisdictions in which the Company and its subsidiaries operate. The interests of minority shareholders in the net earnings of subsidiary companies amounted to \$5.1 million, compared with their loss of \$1.3 million in 1983. This improvement was largely due to the return to profitability in 1984 of Pine Point Mines Limited.

Equity in the net earnings of associated companies increased by \$11.8 million to \$14.1 million in 1984. This increase was mainly due to the improved results of Fording Coal Limited, which experienced higher sales and lower production costs, and of Exploración Minera Internacional España S.A., which benefited from improved zinc prices and from the strength of the U.S. dollar in relation to the Spanish peseta.

### Liquidity and Capital Resources

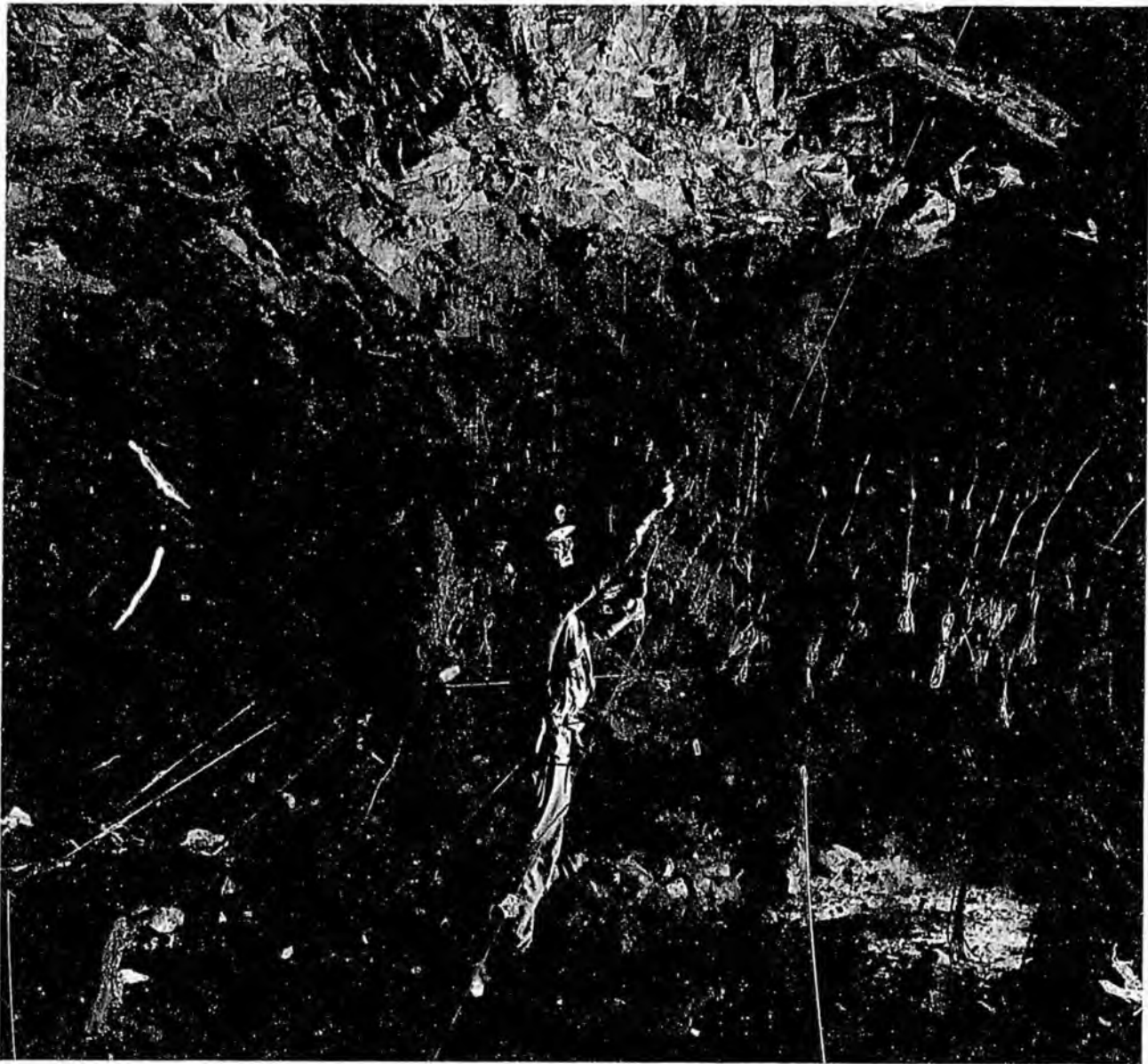
The *Consolidated Statement of Changes in Financial Position* shows that 1984 sources of funds totaled \$182.1 million. Funds from operations were \$122.9 million, an increase of \$91.3 million over 1983. Proceeds from the disposal of assets that were no longer consistent with long-term objectives totaled \$34.3 million, and included proceeds from the sale of the Company's investment in Tara Exploration and Development Company Limited of \$22.5 million, and the sale by Cominco American Incorporated of its interest in a tertiary oil recovery project for \$6.3 million.

Additional long-term debt in the year amounted to \$6.9 million. Nearly all of the \$15.3 million in new share capital resulted from the issue of 1,253,959 Common Shares by Cominco in conjunction with the sale of investment tax credits.

Funds used during 1984 were \$209.2 million compared with \$183.7 million in 1983. Expenditures on land, buildings, equipment and mineral properties, at \$122.9 million, were \$16.6 million above the 1983 total. Most 1984 capital expenditures were made either on projects of a sustaining nature or on those initiated in previous years. Some of the major expenditures were \$12.2 million for the Trail modernization program, \$7.8 million for preparatory work on the Red Dog project in Alaska, \$7.8 million at Pine Point Mines to replace obsolete mining equipment, \$8.4 million to upgrade transmission and distribution equipment at West Kootenay Power and Light Company, Limited, and \$3.4 million towards the deepening of the Robertson Shaft at the Con gold mine. Total dividend payments were \$29.7 million: \$13.3 million to preferred shareholders; \$6.2 million to minority shareholders of subsidiary companies; and \$9.7 million to common shareholders. The common dividends amounted to \$0.15 a share, compared with \$0.13 a share in 1983.

The working capital was reduced during 1984 to \$159.8 million from \$187.0 million at the end of 1983. Bank lines of credit available to Cominco and its consolidated subsidiaries totaled \$535.5 million, of which \$340.3 million remained unutilized at year-end.

*Neil Saunders, blasthole loader in the Sullivan Mine, Kimberley, B.C. is wiring 84,000 pounds (38,000 kg) of explosive that will break up 112,000 tons (102,000) of zinc-lead-silver ore. New blasting techniques are maximizing ore recovery in the mine.*



## The Year in Review

### Operations

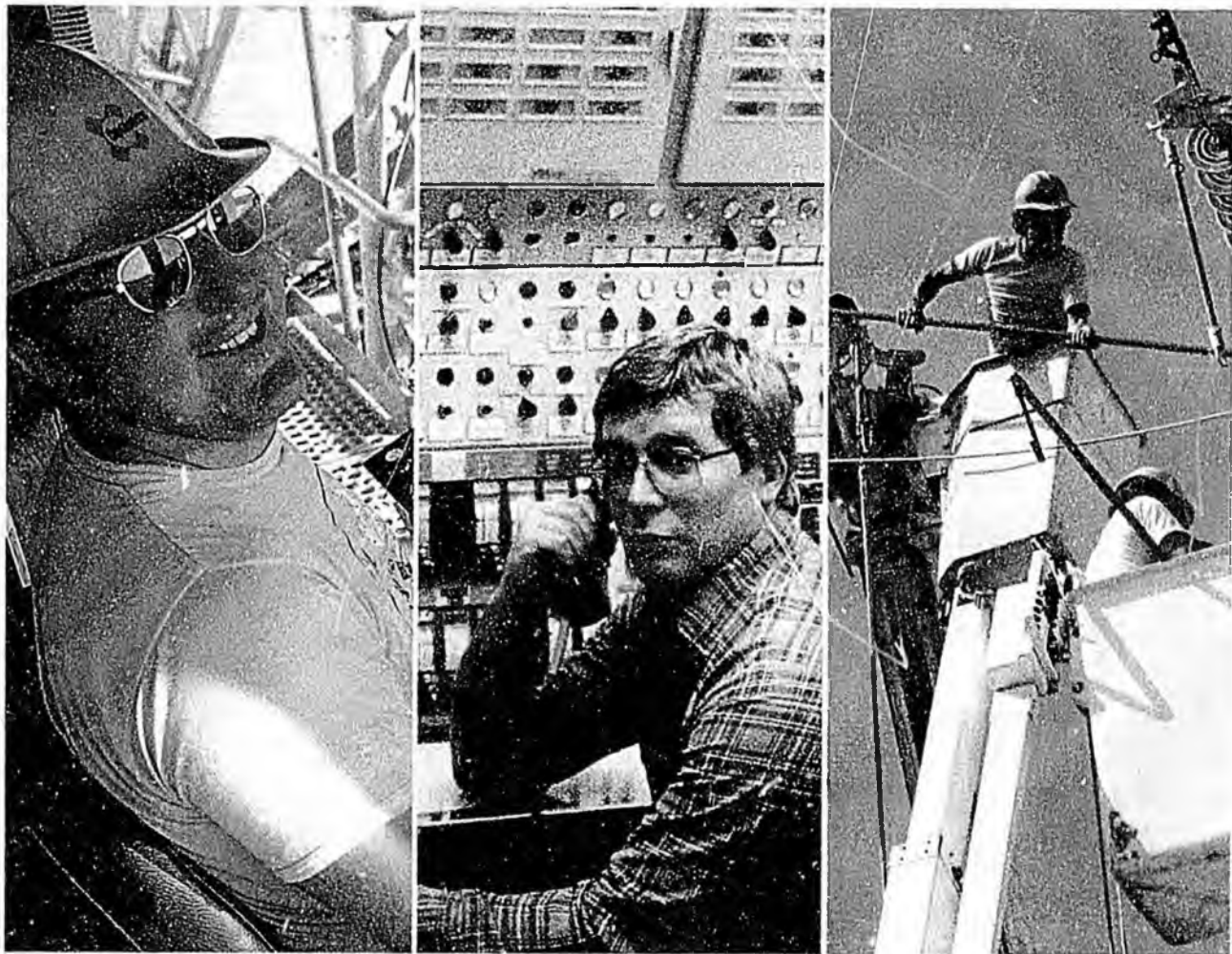
The operations of Cominco Ltd. are divided into three industry segments:

*Mining and Integrated Metals* comprises principally the mining and processing of mineral ores; the production and sale of zinc, lead and copper concentrates; and the smelting and refining of zinc, lead, silver and gold.

*Chemicals and Fertilizers* comprises principally the production of ammonia, urea, phosphates, nitrates, potash, sulphuric acid and sulphur dioxide.

*Other Operations* comprises principally the production and manufacture of steel products, high-purity metals and compound semi-conductor materials, and the generation and distribution of electric power.

The revenues and operating profits (losses) of each segment are shown in Note 16 of the *Notes to Consolidated Financial Statements* on page 32. Operating profits (losses) are after providing for depreciation on assets and depletion of mining properties, but before providing for unallocated costs and expenses, including interest expense, general mineral exploration and income and resource taxes.



*Left: Andy Larrivee, dragline operator, Pine Point Mines, N.W.T.; centre: Richard Wagner, operator, at the urea plant console, Carseland Fertilizer Operations, Alberta; right: Ed Kislanko (top) and Brian Dunn, linemen, West Kootenay Power and Light Company, Limited, Trail, B.C.*

## Mining and Integrated Metals

### Revenues and Operating Profit (Loss)

	Revenues		Operating Profit (Loss)	
	1984	1983	1984	1983
	(millions)			
Sullivan Mine	\$ 97	\$103	\$ 19	\$ 19
Pine Point Mines	120	52	16	(15)
Polaris Mine	100	61	28	6
Black Angel Mine	56	66	14	16
Magmont Mine	31	24	9	2
Valley Mine	59	54	1	7
Con Mine	44	36	5	8
Buckhorn Mine	1	—	(4)	—
Trail Metallurgical Operations	429	402	(22)	(35)
Maintenance of inactive mines and properties	—	—	(17)	(14)
	<b>\$937</b>	<b>\$798</b>	<b>\$ 49</b>	<b>\$ (6)</b>
First Quarter			\$ 6	\$(11)
Second Quarter			18	(1)
Third Quarter			29	1
Fourth Quarter			(4)	5
			<b>\$ 49</b>	<b>\$ (6)</b>

At Trail, B.C. Cominco operates an integrated smelter and refining complex producing various refined metal products, principally zinc, lead, silver and gold. In addition to processing concentrates from Company mines, Trail also purchases and refines concentrates from other mines located mainly in southern British Columbia and the northwest United States.

The principal sources of concentrates for the metallurgical operations at Trail are the Sullivan Mine at Kimberley, B.C. (zinc-lead-silver) and Pine Point Mines in the Northwest Territories (zinc-lead). Other mines operated by Cominco and its subsidiaries are the Polaris Mine, N.W.T. (zinc-lead); the Black Angel Mine, Greenland (zinc-lead-silver); the Magmont Mine, Missouri (lead-zinc-copper); the Con Mine, N.W.T. (gold); the Buckhorn Mine, Nevada (gold); and the Valley Mine, B.C. (copper).

### The Industry

The demand for base metals was strong in the first half of the year due to the high level of economic activity, particularly in the United States. The economic recovery was consumer-oriented and centered in the automotive, home construction, and consumer goods industries. After mid-year, metal demand weakened as the rate of economic growth slackened and

metal consumers decided to keep inventories low because of high interest rates and the possibility of lower prices in terms of U.S. currency.

Although base metal prices quoted in dollar terms weakened in the second half of the year, prices in other currencies increased as the U.S. dollar continued to strengthen. A strengthening U.S. dollar tends to depress the prices of commodities quoted in dollars. It also strengthens the competitive position of producers outside North America, whose revenues are in U.S. dollars but whose costs are largely in other currencies.

### Zinc

Western world consumption of refined zinc increased to 5,180,000 tons (4,700,000), up 2.1 per cent over 1983, reaching the highest level since 1979. Western world zinc metal production rose to a record level of 5,317,000 tons (4,824,000), up 3.9 per cent over 1983. Net exports of both refined metal and zinc concentrates to China and the Eastern Bloc countries decreased in 1984 from 1983. Total stocks at the end of the year were 10 per cent above normal levels. Monthly average zinc prices quoted by *Metals Week* increased to 52.8 U.S. cents a pound during the first half of the year but

declined in the second half to 43.6 U.S. cents a pound near year-end, the lowest price for the year.

### Lead

Refined lead consumption in the Western world increased by 2.2 per cent in the year. Refined metal production gained 0.2 per cent, but mine production decreased by 4.1 per cent mainly due to labor disputes in Australia and in the United States. Net exports of refined lead to China and the USSR during the year were about the same as last year but net exports of lead concentrates were slightly lower. Total metal stocks declined steadily through the year but at year-end were still 14 per cent above normal. Refined lead U.S. monthly average prices quoted by *Metals Week* moved erratically during the year, peaking in July at 30.5 U.S. cents a pound as consumers became concerned about the lead supply due to the continuing strikes at U.S. lead producers. Prices weakened after mid-year and the monthly average was 21.9 U.S. cents a pound at year-end, the lowest for the year.

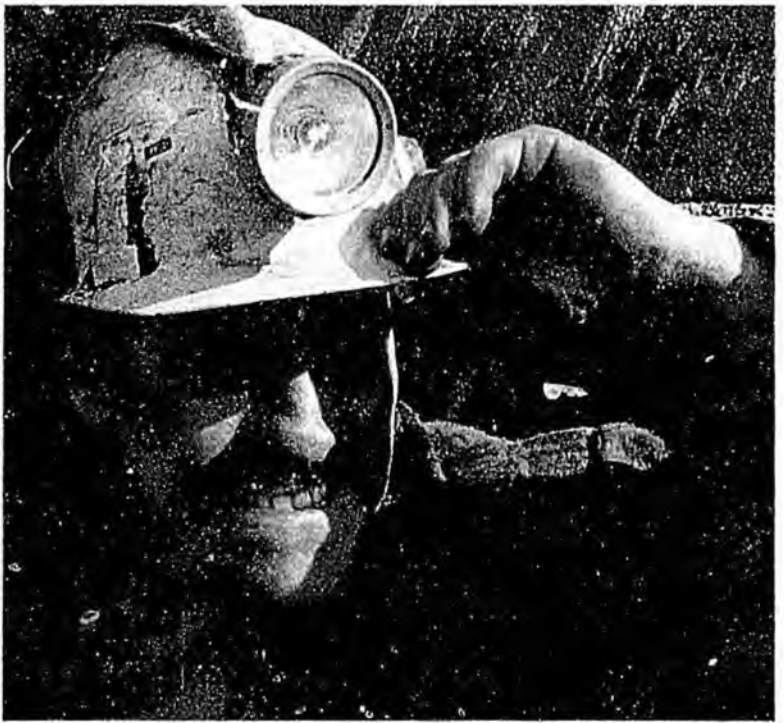
### Copper

The consumption of refined copper in the Western world increased by 9.2 per cent in 1984 over 1983. Despite this gain in consumption, prices in U.S. dollars were generally depressed due to the high level of inventories and also because of the strength of the U.S. dollar. Mine production of recoverable copper declined by 1.0 per cent, and refined production was down 3.4 per cent in the year. Total refined copper stocks at the start of 1984 were 1.7 times the normal level. By the end of the year stocks had declined by more than 562,000 tons (510,000) to 1.2 times the normal level. At year-end there was a shortage of higher quality copper, and the supply of copper concentrates was tight. Monthly average prices of refined copper on the London Metal Exchange, expressed in U.S. currency, peaked in April at 69.6 U.S. cents a pound. The average for the year was 62.5 U.S. cents a pound, about 10 U.S. cents a pound below the 1983 average.

### Summary of Results

Cominco's mining and integrated metals business segment earned an operating profit of \$48.8 million,

*Left: Art Harrison, an operator in the lead refinery at the Trail Metallurgical Operations, is testing the electrolyte in cells which are used in processing lead bullion from the smelter; right: (top) Jack MacPhee, underground miner at the Con gold mine, Yellowknife, N.W.T.; (bottom) Jason Jessup operates the vital communications network at the Red Dog camp in Alaska.*



# The Year in Review

compared with an operating loss of \$5.8 million in 1983.

The sales volume of all Cominco's metal concentrates and refined metal increased in 1984 over 1983 except lead concentrate and refined lead. In the case of zinc concentrate the increase was 34 per cent. The increase in the sales volume of copper contained in concentrate was 31 per cent, and that of refined zinc was 7 per cent. The sales volumes of lead concentrate and refined lead each declined by 7 per cent. At year-end Cominco's inventories of refined zinc were at normal levels and lead inventories were below normal. Sales of gold were 132,800 oz (4,130 kg), an increase of 48 per cent over 1983. Silver sales were 11,380,100 oz (354,000 kg), about the same as in 1983.

### Sullivan Mine

The underground operations of the Sullivan zinc-lead-silver mine at Kimberley, B.C. produced a record amount of ore in 1984, its 76th year of operation by Cominco. This mine is the principal supplier of zinc and lead concentrates to the metallurgical plants at Trail.

Tons of ore milled, and production of zinc and lead concentrates significantly exceeded that of the previous year. However, the total revenue declined because the Trail smelter could not process all of the increased production of lead concentrate. High inventories of lead concentrate were held at Kimberley at year-end. The increase in zinc concentrate sales reflecting higher production was not enough to offset the effects of the reduction in lead concentrate sales. Lower zinc and lead metal prices in the second half of the year and the substantially lower price realized for the silver content of lead concentrate also contributed to the decline in revenues.

Sixty per cent of the 1984 ore production came from the use of mobile, rubber-tired mining equipment. The mine mechanization project was essentially complete at year-end with only final ramping to lower levels to be completed. Mine ventilation is being improved by the construction of an additional intake and ventilation shaft with ancillary fans and duct work, and this project is scheduled for completion in early 1985.

Large diameter blasthole drilling and

blasting techniques are now well established in the mine, and major improvements in the crushing and conveying systems were made during the year. These factors increased ore production, and, combined with the higher ore grades and mill throughput, resulted in the substantial increase in zinc and lead concentrate production. At year-end there was a 10-day shutdown of the mine and concentrator to reduce inventories.

		1984	1983
Ore milled	tons	2,725,000	2,224,000
	(tonnes)	(2,472,300)	(2,017,000)
<b>Zinc</b>			
Average ore grade		4.0%	3.6%
Concentrate	tons	187,000	136,000
	(tonnes)	(169,600)	(123,400)
Average concentrate grade		49.8%	49.3%
<b>Lead</b>			
Average ore grade		5.1%	4.6%
Concentrate	tons	194,300	139,300
	(tonnes)	(176,300)	(126,500)
Average concentrate grade		61.6%	62.2%
<b>Silver</b>			
Average ore grade	oz/ton	1.7	1.6
	(g/tonne)	(58)	(55)
Number of employees at year-end		925	941

### Pine Point Mines

At year-end Cominco owned 69 per cent of the shares of Pine Point Mines Limited, which has zinc-lead mines and a concentrator at Pine Point, N.W.T., on the south shore of Great Slave Lake. All of the zinc concentrate produced is treated at Cominco's metallurgical plants at Trail. All of the lead concentrate was sold in 1984 to an associated company, Mitsubishi Cominco Smelting Company Limited (45 per cent owned), which operates a lead smelter in Japan.

On September 20, 1984 Cominco announced its intention of selling 800,000 shares of Pine Point, reducing its ownership to 51 per cent. The sale was completed in January, 1985.

Production of zinc concentrate was the highest since 1980. Significant gains in productivity were achieved by the efforts of the employees and the changeover to larger shovels and trucks.

Total ore reserves declined in 1984. During the year, \$3.7 million was spent on exploration, and this effort was successful in finding 1.9 million

tons (1.7 million). A new orebody was discovered seven miles (11 km) west of the concentrator containing 224,000 tons (203,000) grading 8.1 per cent zinc and 3.9 per cent lead. Closer spaced drilling in and around known orebodies on the north trend resulted in a small increase in ore tonnage with some loss of zinc metal.

While reserves at the end of 1984 were at about the same level as at the end of 1964, when operations first began, it is necessary to continue an intensive exploration program to replace the ore mined each year and to locate more high-grade ore zones like N-81, the current primary producer.

Exploration on the western part of the property, where mineralization dips to 300 feet (90 m) below the surface, has shown signs of tabular ore zones of sufficient thickness, continuity and grade to warrant mining by underground methods. The feasibility of mining this ore is being tested in a \$2 million program. A decision on the viability of this method of mining is expected to be made by mid-1985.

Operations were suspended at the concentrator for 11 days at the end of December to reduce inventory levels following a period of low prices.

		1984	1983*
Ore milled	tons	2,512,000	985,000
	(tonnes)	(2,279,000)	(894,000)
<b>Zinc</b>			
Average ore grade		7.6%	8.1%
Concentrate	tons	302,900	129,700
	(tonnes)	(274,700)	(117,700)
Average concentrate grade		58.7%	56.9%
<b>Lead</b>			
Average ore grade		2.3%	2.7%
Concentrate	tons	67,600	32,100
	(tonnes)	(61,400)	(29,100)
Average concentrate grade		75.2%	73.8%
No. of employees at year-end		588	544

\*In 1983, Pine Point Mines was shut down for 5½ months due to low metal prices that were insufficient to cover operating costs.

### Polaris Mine

The Polaris zinc-lead mine, the world's most northerly metal mine, on Little Cornwallis Island, N.W.T., completed its second full year of production in 1984. The concentrate production is shipped in a 12-week season at the end of the Arctic summer when the sea is open for navigation.

Most of the zinc concentrate is sold to European smelters. The remainder is treated at a custom smelter in Europe, and the resulting metal is sold by

## The Year in Review

Cominco. The lead concentrate is sold to smelters in Europe.

Although total zinc and lead concentrate production was 21 per cent lower, because of the inventory left at Polaris from the previous summer there was more tonnage of concentrates shipped in 1984 than in 1983. The last shipment left the Polaris dock at the end of October, unusually late in the year for shipping. The average grade of the zinc and lead ore was lower in 1984 because mining moved to a lower-grade area of the orebody.

Monthly production averaged 16,000 tons (14,500) of zinc concentrate and 3,400 tons (3,100) of lead concentrate. A new production area in the South Keel Zone was opened up during the year.

The continuous diamond drilling program at the mine in 1984 increased the total measured and indicated reserves of ore by 18 per cent, or 3.4 million tons (3.1 million).

The policy of employing as many northerners as possible is proving to be successful: there were 75 northerners employed in a total work force of 272 in mid-December, of whom 25 were Inuit or Native Indians.

Operations were suspended for one month starting in mid-December 1984 following a period of low prices and returns from concentrate sales, and resumed early in January 1985.

		1984	1983
Ore milled	tons	903,000	914,000
	(tonnes)	(819,100)	(829,000)
<b>Zinc</b>			
Average ore grade		13.7%	16.8%
Concentrate	tons	191,900	239,300
	(tonnes)	(174,100)	(217,100)
Average concentrate grade		61.7%	60.9%
<b>Lead</b>			
Average ore grade		3.8%	5.2%
Concentrate	tons	40,700	56,300
	(tonnes)	(36,900)	(51,100)
Average concentrate grade		76.9%	76.2%
No. of employees at year-end		272	237

### Black Angel Mine

Cominco holds a 62.5 per cent interest in Vestgron Mines Limited, which, through its wholly owned subsidiary Cominco A/S, owns and operates the Black Angel zinc-lead-silver mine and concentrator on Maarmorilik Fjord in Greenland. Zinc and lead concentrates

are transported from the mine during the June-November shipping season.

The zinc concentrate produced is sold to European refineries or tolled at a custom smelter in Europe with the resulting metal being sold by Cominco. The lead concentrate is sold to smelters in Europe.

Shipments from Maarmorilik commenced in July in 1984 and totaled 139,200 tons (126,300) of zinc concentrate and 29,400 tons (26,700) of lead concentrate. A favorable shipping contract was negotiated for the year resulting in a reduction in distribution costs.

Revenues from sales of zinc concentrate benefited from higher zinc prices early in the year but prices decreased in the second half of the year, which was the period when most of the production of the Black Angel Mine was sold. Lead concentrate revenues were reduced by lower prices received for the silver content. The mine processed the same quantity of ore as in 1983. Costs in Danish currency increased by 13.5 per cent but, due to the weakened value of the Danish krone relative to the Canadian dollar, costs remained near 1983 levels in terms of Canadian currency.

Exploration expenditures were \$4.5 million compared with \$3.6 million in 1983, and exploration was successful in adding 368,000 tons (334,000) of new ore to the reserves. The Plateau Zone containing 362,000 tons (328,000) was also added to reserves. However, the additional ore did not replace the amount of ore mined in 1984, and reserves were reduced by 14,300 tons (13,000) to 1,955,000 tons (1,774,000). A drift is being driven to test an area called the Deep Lee Zone, and drilling is expected to begin in early 1985. The possibility of significant additions to the ore reserves of the Black Angel Mine will largely depend on the results of this program as most other likely target areas have been tested.

An exclusive exploration concession in southwest Greenland was granted to Greenex in 1984. Mapping and short-hole diamond drilling identified two mineralized zones with gold values of 0.15 oz/ton (5 g/tonne) across 8 feet (2.5 m) in one, and 0.12 oz/ton (4 g/tonne) over 5 feet (1.5 m) in the second. Further limited work is planned in 1985.

Greenex policy is to promote the employment of Greenlanders whenever possible. Of the employees at Maarmorilik in 1984, 156 were Greenlanders, the highest proportion since the mine began operations.

		1984	1983
Ore milled	tons	744,000	744,000
	(tonnes)	(675,000)	(675,000)
<b>Zinc</b>			
Average ore grade		11.0%	12.3%
Concentrate	tons	135,000	150,300
	(tonnes)	(122,500)	(136,300)
Average concentrate grade		58.2%	58.1%
<b>Lead</b>			
Average ore grade		3.0%	3.6%
Concentrate	tons	28,400	33,800
	(tonnes)	(25,800)	(30,700)
Average concentrate grade		68.9%	70.5%
<b>Silver</b>			
Average ore grade			
	oz/ton	0.7	0.8
	(g/tonne)	(24)	(28)
No. of employees at year-end		357	347

### Magmont Mine

The Magmont Mine near Bixby, Missouri produces zinc, lead and copper. In August, the mine attained its highest monthly production of concentrates, 15,800 tons (14,300), from 108,200 tons (98,200) of ore, the largest monthly amount put through the concentrator. Production of concentrates reached a new high in 1984, partly because of the zinc grade increase, and partly because of the introduction of more efficient mining equipment.

The improvement in revenues was brought about by higher production, record sales of by-product zinc concentrate, and the improvement in zinc and lead prices. Magmont, a low-cost producer, was able to take advantage of the higher zinc prices by increasing mining activity in the new Magmont West area, which contains higher-than-average zinc grades.

# The Year in Review

	1984	1983
Ore milled* tons	1,115,000	1,142,000
(tonnes)	(1,011,300)	(1,036,000)
<b>Lead</b>		
Average ore grade	7.1%	7.2%
Concentrate tons	49,800	52,100
(tonnes)	(45,100)	(47,300)
Average concentrate grade	77.0%	77.4%
<b>Zinc</b>		
Average ore grade	2.1%	1.4%
Concentrate tons	16,600	10,700
(tonnes)	(15,000)	(9,800)
Average concentrate grade	60.0%	60.8%
<b>Copper</b>		
Average ore grade	0.2%	0.2%
Concentrate tons	1,700	1,300
(tonnes)	(1,600)	(1,200)
Contained in concentrate tons	500	400
(tonnes)	(400)	(300)
No. of employees at year-end	182	181

\*This mine, operated by Cominco American Incorporated, is a joint venture with Dresser Industries Incorporated. Ore milled is reported at 100 per cent; the concentrate tonnage reported is Cominco's 50 per cent share of production.

## Valley Mine

The Valley copper mine in the Highland Valley, B.C. sells its concentrates directly to smelters in Japan.

Lower copper prices contributed to significantly lower profits than in the previous year, despite an increase in ore milled and concentrate produced.

The unit cost of production in 1984 was reduced substantially from the 1983 level. This was achieved primarily by increasing the milling rate by 18 per cent to 25,000 tons (23,000) of ore per day. The waste-stripping program was reduced by 50 per cent in March to reduce costs.

A large part of the increased productivity is attributed to the commitment by the workforce to improving productivity. During the year the employees formed and received certification for an independent employee association.

The measured and indicated ore reserves reported in 1983, of 509 million tons (460 million) with an average grade of 0.475 per cent copper, were increased to 616 million tons (559 million) with an average grade of 0.47 per cent copper in 1984.

Valley has additional inferred ore reserves of 156 million tons (142 million) with an average grade of 0.48 per cent copper.

	1984	1983
Ore milled tons	9,300,000	7,906,000
(tonnes)	(8,437,000)	(7,172,000)
<b>Copper</b>		
Average ore grade	0.51%	0.52%
Contained in concentrate tons	41,700	36,700
(tonnes)	(37,900)	(33,300)
Average concentrate grade	43.0%	44.4%
No. of employees at year-end	416	427

## Buckhorn Mine

Located in Eureka County, Nevada, the Buckhorn Mine is a low-grade open-pit mine using a heap-leach method to recover gold and silver. It is operated by Cominco American Incorporated, which owns a 76 per cent interest.

The mine started up in June but was shut down in November for modifications to the ore handling and crushing equipment. The modifications will be completed in early 1985, and a decision about reopening the mine will be made.

The mine's stated ore reserves were reduced by about one-third in 1984 after operating results revealed that the ore density was lower than indicated in earlier tests. It is hoped to increase the tonnage and improve the grade of the reserves through intensive exploration in 1985.

## Con Mine

In production since 1938, the Con Mine in Yellowknife is the oldest producing gold mine in the Northwest Territories. Ore produced at the mine is milled and refined at the mine and the gold is sold in Canada.

Revenue increased in 1984 because of higher production and sales volume, but profits were lower because of the lower gold prices realized. A record amount of ore was milled in 1984, and with higher grades, the amount of gold produced was greater than in 1983 when a labor dispute closed the mine for two months. Productivity increased both in tons per person per shift and in total throughput.

Work began on deepening the Robertson Shaft by 810 feet (247 m) to 6,235 feet (1,900 m) in June. This will provide four more working levels and the opportunity to develop reserves

located at greater depth. This project will cost \$9.6 million when completed in 1986.

Exploration at the Con Mine in 1984 came close to replacing reserves mined, and the Robertson Shaft work will provide further opportunity for step-out exploration drilling.

The arsenic recovery plant was commissioned in February, 1984 following major revisions, and was operating reliably at year-end. Its product is sold in the United States for use as a wood preservative and in agricultural chemicals. These markets remained soft throughout the year, but all the production was sold.

	1984	1983
Ore milled tons	244,000	209,000
(tonnes)	(221,000)	(189,800)
<b>Gold</b>		
Average ore grade oz/ton	0.39	0.36
(g/tonne)	(13)	(12)
Production (including gold from the arsenic plant)		
ounces	89,100	70,500
(kg)	(2,770)	(2,190)
<b>Arsenic trioxide</b>		
Production thousand lb	2,800	—
(thousand kg)	(1,266)	—
No. of employees at year-end	341	317

## Trail Metallurgical Operations

Production of Refined Metals

	1984	1983
<b>Zinc</b> tons	285,600	239,800
(tonnes)	(259,100)	(217,500)
<b>Lead</b> tons	129,700	132,300
(tonnes)	(117,700)	(120,000)
<b>Silver</b> oz	10,609,200	10,235,000
(kg)	(330,000)	(318,300)
<b>Gold</b> oz	37,400	21,400
(kg)	(1,160)	(670)
No. of employees at year-end	3,514	3,659

The integrated smelter and refining complex at Trail, B.C. produces a wide range of metals, principally refined zinc, lead, silver and gold. Annual production capacity is 300,000 tons (272,000) of refined zinc and 150,000 tons (136,000) of refined lead. In 1984, over half of Cominco's Canadian-mined zinc and lead concentrates were refined at Trail. To supply the smelter and refinery, additional quantities of custom concentrates are purchased. Other products manufactured there include phosphate and sulphate fertilizers, high-purity metals and semi-conductor materials. Electric power from

## The Year in Review

Cominco's two hydro-electric generating plants is used by Cominco and any surplus is offered for sale to West Kootenay Power and Light Company, Limited and to other utilities.

The amount of refined zinc produced at Trail reached a record total in 1984. Refined lead production was slightly less than in 1983. The strategy of purchasing lead concentrates high in silver and gold continued in 1984 to offset uneconomic lead prices and to increase the revenues from the lead production facilities.

Gold production at Trail increased in 1984, with essentially all of it coming from custom sources, while silver

production remained at about the same level as in 1983, with 69 per cent coming from purchased sources.

On average, realized prices for zinc and lead were above 1983 levels although lead prices remained low. Realized gold and silver prices were considerably lower than in 1983.

Liquid sulphur dioxide and sulphuric acid production at Trail increased from 1983 by about 18 per cent and 9 per cent, respectively. Ammonia production was 10 per cent above 1983 and ammonium sulphate fertilizer increased by 25 per cent.

The first phase of the Trail modernization and expansion program, which began in 1977, was completed in 1984.

Expenditures on zinc facilities and major environmental projects in this program total \$358 million, with \$12.2 million of this amount incurred in 1984.

The new \$210 million electrolytic and melting plant, the most sophisticated and automated in the world, was operating at its design production rate by year-end. The old electrolytic zinc plant was permanently closed in April.

## Ore Reserves

### Operating Mines (Measured and Indicated)

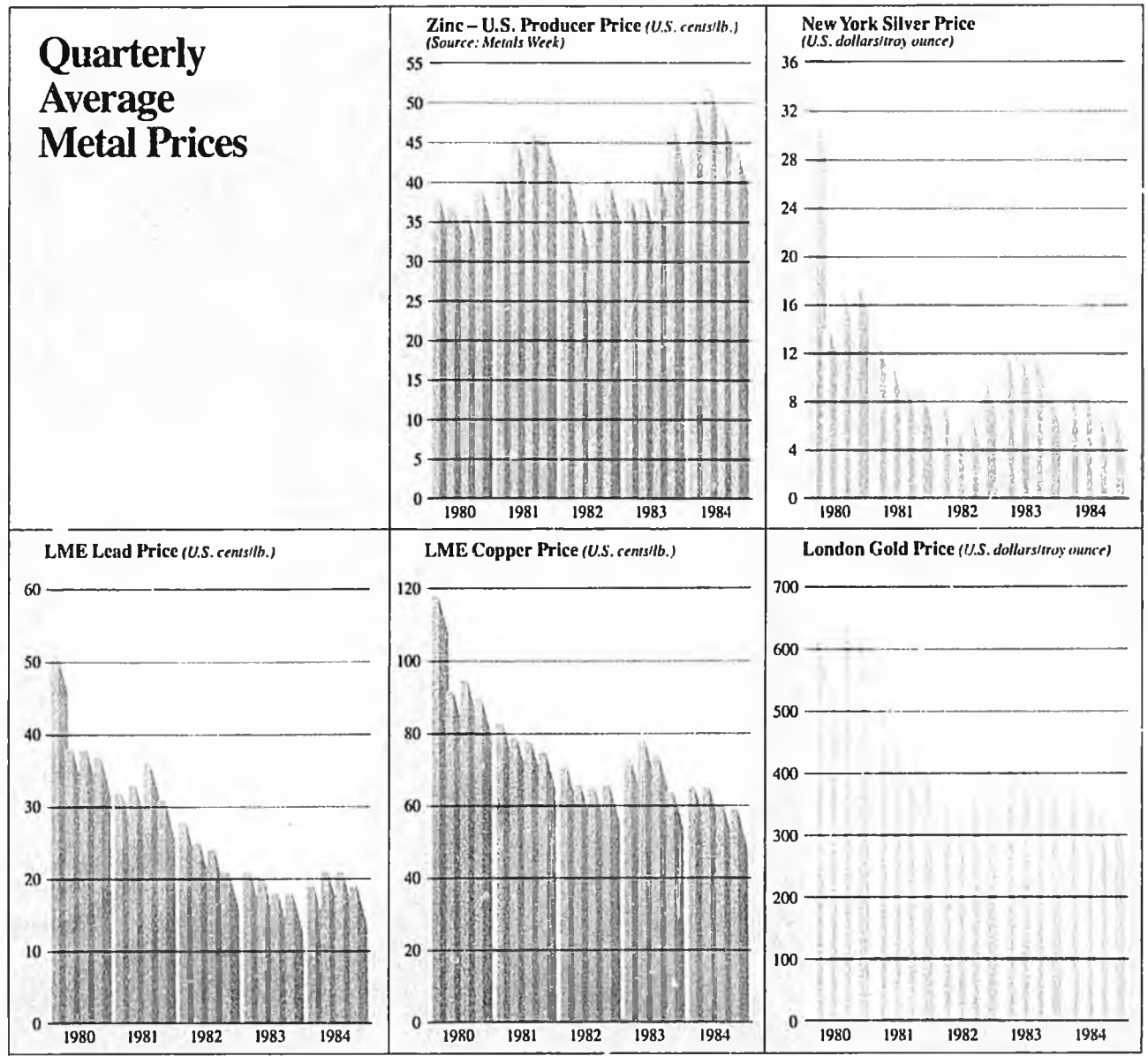
	1984				1983			
	Ore Tons × 1000	%Pb	%Zn	Ag oz/ton	Ore Tons × 1000	%Pb	%Zn	Ag oz/ton
Sullivan	44,000	4.4	6.3	1.0	47,000	4.4	6.2	1.0
Pine Point	24,000	2.7	6.0		26,000	2.7	6.3	—
Polaris	22,000	3.8	14.3		18,600	4.1	14.8	—
Black Angel	2,000	3.3	10.1	0.8	2,000	3.3	11.0	0.8
Magmont	7,900	6.5	1.2	0.4	6,200	8.0	1.0	0.4
Que River	2,100	7.0	12.1	6.0	2,200	7.4	12.7	6.0
Rubiales	11,000	1.1	6.8	0.4	12,300	1.1	6.9	0.4
Con	1,700	0.42 oz Au/ton		—	1,900	0.44 oz Au/ton		—
Buckhorn	3,100	0.04 oz Au/ton		—	5,100	0.04 oz Au/ton		—
Valley	616,000	0.47% Cu		—	509,000	0.475% Cu		—
Ardlethan	400	0.49% Sn		—	400	0.51% Sn		—
Cleveland	300	0.77% Sn		—	900	0.80% Sn		—
Warm Springs	7,600	30.0% P <sub>2</sub> O <sub>5</sub>			7,700	30.0% P <sub>2</sub> O <sub>5</sub>		
Vade	150,000	25.3% K <sub>2</sub> O equiv.			153,000	25.3% K <sub>2</sub> O equiv.		
Owens Lake	33,000	sodium carbonate equiv.			33,000	sodium carbonate equiv.		
Hondeklip	400	0.4 carats diamonds/ton			400	0.4 carats diamonds/ton		
Fording	239,000	clean met. coal equiv.			237,000	clean met. coal equiv.		

### Operating Mines (Inferred)

Polaris	4,000	2.5	12.1		5,900	3.0	13.1	—
Black Angel, Plateau	—	—	—		360	3.9	8.8	1.0
Magmont West	—	—	—		3,100	3.5	1.9	0.4
Que River	1,400	3.9	7.5	2.0	2,200	2.8	5.3	1.4
Valley	156,000	0.48% Cu			272,000	0.475% Cu		

### Potential Mines (Measured, Indicated and Inferred)

Red Dog	85,000	5.0	17.1	2.4	85,000	5.0	17.1	2.4
Hellyer	18,000	6.4	11.8	4.3	—	—	—	—
Troya	4,400	1.1	11.5	—	5,500	1.2	10.7	0.5
Pinchi	1,200	6.4 lb Hg/ton			1,200	6.4 lb Hg/ton		
Douglas	12,000	31.0% P <sub>2</sub> O <sub>5</sub> equiv.			12,000	31.0% P <sub>2</sub> O <sub>5</sub> equiv.		
Fording	2,100,000	thermal coal			2,100,000	thermal coal		



*Left: Alois Koller, Viscount Flour Mill Ltd., Viscount, Sask., using a front-end loader to custom blend Elephant Brand fertilizers; right: Dann Mattson, Green Way Farm Supply Limited at his vertical fertilizer blending plant at Olds, Alberta; bottom: anhydrous ammonia is stored, transported and applied to fields by Beiseker Agri Services Ltd., Beiseker, Alberta, another Elephant Brand dealer.*



## Chemicals and Fertilizers

### Revenues and Operating Profit (Loss)

	Revenues		Operating Profit (Loss)	
	1984	1983	1984	1983
	(millions)			
Kimberley	\$ 35	\$ 44	\$ 1	\$ (3)
Carseland	113	126	27	25
Calgary	27	25	3	2
Borger	89	56	7	(5)
Beatrice	7	6	1	(1)
Vade	111	88	20	11
Products for resale and others	124	101	5	5
	<b>\$506</b>	<b>\$446</b>	<b>\$ 64</b>	<b>\$ 34</b>
First Quarter			\$ 13	\$ —
Second Quarter			27	22
Third Quarter			13	(3)
Fourth Quarter			11	15
			<b>\$ 64</b>	<b>\$ 34</b>

Cominco is a fully integrated plant food producer operating at 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. The revenues from the Trail fertilizer operations are included in the Mining and Integrated Metals Segment as these operations form a part of the sulphur recovery process of the metallurgical operations.

The principal products are ammonia, ammonium nitrate, ammonium phosphate, ammonium sulphate, potash, urea and urea sulphur. About one-half of the Company's total chemical and fertilizer products is sold in U.S. markets by Cominco American Incorporated. The remainder is marketed in Canada and other countries. Substantial quantities of potash are sold to Canpotex Ltd., a marketing corporation owned by Saskatchewan potash producers, which sells potash outside North America. About 54 per cent of Cominco's potash is sold in the United States by Cominco American Incorporated.

In addition to the chemicals produced and used in the manufacture of fertilizers, Cominco produces sulphuric acid and sulphur dioxide for sale to the forest industry and also produces and markets a variety of other industrial chemicals. Cominco American produces trona, which is sold for use in the production of borax.

### The Industry

The year 1984 was one of improvement in the North American fertilizer industry. Consumption of fertilizers in both Canada and the United States increased significantly over 1983 with strengthened prices in both markets. The early arrival of winter in North America, however, diminished sales in the fourth quarter.

Higher prices toward the end of the 1983 crop year prompted U.S. farmers to plant more acres in 1984. The elimination of the U.S. Government's Payment in Kind program and below-normal farm commodity inventories also contributed to the return to normal planting practices. Farm commodity prices levelled off at mid-year because of expectations of bumper crops. There was also price resistance in international markets because of the strong U.S. dollar.

The recovery in U.S. fertilizer consumption encouraged several U.S. producers to re-start plants which had been closed down during 1983. However, heavy competition, particularly from offshore producers of nitrogen and potash, kept fertilizer prices from increasing.

The consumption of all base nutrients increased in Canada, due largely to

continuing strong Canadian grain exports. Nitrogen fertilizer consumption in 1984 increased by 18 per cent in Western Canada and 21 per cent in the United States over 1983.

Exports of nitrogen fertilizers from Western Canada reached a new record, mainly a result of the start-up of two new world-scale nitrogen plants in Alberta during 1983, and the turnaround in demand for fertilizers in the U.S. in 1984.

Phosphate consumption increased by 14 per cent in Western Canada and 19 per cent in the United States. Canadian phosphate manufacturers participated more in the Western Canadian market despite increased imports from U.S. manufacturers, leading to a corresponding decrease in exports to the U.S.

U.S. consumption of potash in 1984 was 15 per cent higher than in 1983 but still remained below the levels reached between 1979 and 1981. Prices for potash in 1984 were only marginally higher in the United States and Canada than in 1983, but were considerably improved in offshore markets.

At the end of 1984, stocks of most major agricultural commodities were close to normal levels within the U.S. but prices remained relatively weak.

There was some buildup of inventories of nitrogen, phosphate and potash at year-end due to softer markets in North America in the fourth quarter.

The demand for fertilizers is expected to show further improvement in 1985, but due to continuing low farm commodity prices and the strong U.S. dollar, only modest gains in fertilizer prices are projected. Prices in offshore markets strengthened considerably in 1984 and are expected to remain firm throughout 1985.

### Summary of Results

The increase in revenues and operating profits from the chemicals and fertilizers segment was due both to higher sales volumes and higher prices for all major products, particularly in the first half of the year. Revenues and operating profits for the second half were curtailed by the early winter throughout North America, and by reduced prices of potash in the United States resulting from oversupply conditions in the market.

## The Year in Review

### Kimberley Operation

The production of ammonium phosphate fertilizer at Kimberley, B. C. increased by 13 per cent over 1984 and sulphuric acid production increased by 21 per cent.

Ammonium phosphate fertilizer sold totaled 146,500 tons (132,900) compared with 183,800 tons (166,700) in 1983, and 20,500 tons (18,600) of sulphuric acid were sold compared with 11,200 tons (10,200) in 1983.

	1984	1983
<b>Ammonium phosphate</b>		
Production tons	170,900	151,000
(tonnes)	(155,000)	(137,000)
<b>Sulphuric acid</b>		
Production tons	269,000	223,200
(tonnes)	(244,000)	(202,500)
No. of employees at year-end	145	143

### Warm Springs Operation

Phosphate rock is produced at the Warm Springs, Montana operation of Cominco American Incorporated from an underground mine and is shipped to Kimberley for use in the manufacture of phosphate fertilizer.

During the year, additional mining areas were opened on the eastern side of the property. The resulting increase in stope openings allowed for an increase in the tonnage mined at better grades and will provide an opportunity for further increases in production in the future. Shipping of phosphate rock to Kimberley began on a year-round basis following the construction of a thaw shed at Kimberley during the year.

	1984	1983
<b>Phosphate rock</b>		
Production tons	209,900	188,000
(tonnes)	(190,400)	(171,000)
No. of employees at year-end	118	114

### Carseland Operation

The Carseland Fertilizer Operation near Calgary, Alberta produces ammonia and urea. Urea production was below plant capacity because ammonia feedstock was diverted from urea production to meet market demands for ammonia.

Revenues declined because of lower sales volumes, but the operating profit increased as a result of reduced feedstock natural gas costs following the renegotiation of long-term contracts with suppliers.

As a result of low fertilizer application on the prairies in the fall due to early winter conditions, more product than in the previous year was shipped to offshore markets. An increased number of "solid" trains, which carry only one product to one destination for greater transportation efficiency, were loaded at the plant for dispatch to ships at the head of the Great Lakes and at Vancouver.

In March the plant achieved the highest monthly production of both urea and ammonia since it was commissioned in 1977.

	1984	1983
<b>Ammonia</b>		
Production tons	439,800	436,700
(tonnes)	(399,000)	(396,200)
<b>Urea</b>		
Production tons	463,100	465,900
(tonnes)	(420,100)	(422,700)
No. of employees at year-end	141	137

### Calgary Operation

The higher demand for the specialized fertilizers made in Calgary, Alberta resulted in a 12 per cent increase in the production of ammonia, urea, ammonium nitrate and urea sulphur fertilizers.

Urea sulphur, a Cominco-developed product, was introduced in 1982. Process refinements and improved production controls in 1984 resulted in the sustained output of a uniform product. Cereal trials in Western Canada conducted by Cominco have shown significant increases in yield from sulphur-treated plots.

	1984	1983
<b>Fertilizer</b>		
Production tons	186,600	158,800
(tonnes)	(169,300)	(144,100)
No. of employees at year-end	124	121

### Borger Operation

The fertilizer plant at Borger, Texas produces anhydrous ammonia and urea and delivers the ammonia through a 900-mile (1,440 km) pipeline to Cominco American pipeline terminals as well as to the ammonium nitrate fertilizer plant at Beatrice, Nebraska.

With improved markets, the production of anhydrous ammonia and urea at Borger returned to normal levels in 1984.

A \$45-million project to make the anhydrous ammonia operation more energy efficient is under study. The process change under examination would increase the volume of

ammonia and reduce the energy required to produce it. Benefits foreseen are improvement of the plant's profit margin and its competitive position in the fertilizer market, and reduction of waste disposal volumes.

	1984	1983
<b>Ammonia</b>		
Production tons	360,000	240,800
(tonnes)	(326,600)	(218,500)
<b>Urea</b>		
Production tons	77,400	51,700
(tonnes)	(70,200)	(46,900)
No. of employees at year-end	81	81

### Beatrice Operation

The Homestead ammonium nitrate plant of Cominco American Incorporated at Beatrice, Nebraska sold 9 per cent more fertilizer than in 1983.

A number of small energy-saving projects had the cumulative effect of reducing by 15 per cent the consumption of natural gas, the most expensive component in the production of ammonium nitrate. A new \$1 million urea-ammonium nitrate solution facility is scheduled for completion in 1985 to meet increased demand for liquid fertilizer in the midwest market area.

	1984	1983
<b>Ammonium nitrate</b>		
Production tons	154,700	123,600
(tonnes)	(140,400)	(112,100)
No. of employees at year-end	61	60

### Vade Operation

A new annual record for the production of potash was established at the Vade Potash Mine near Saskatoon, Saskatchewan where 1,361,100 tons (1,234,800) of product was produced in 1984.

An increase of 6 per cent in potash recoveries in the concentrator was achieved as a result of better operating techniques and other improvements. The mine operated during the year with only a three-week scheduled shutdown during July, 1984, and was particularly successful in responding to fluctuating market conditions by matching production of the four grades of potash to demand.

Sales volumes increased by 12 per cent over last year and established a new sales record at 1,251,400 tons (1,135,300).

The trend towards more shipments

# The Year in Review

from the plant by solid train continued. A new mining block immediately east of the current mining area was developed during the year. A new 3-mile (5-km) mainline conveyor system, built at a cost of \$4 million, was commissioned to move ore from the new working faces for hoisting to the surface.

	1984	1983
Potash		
Production tons (tonnes)	1,361,100 (1,234,800)	1,122,400 (1,018,000)
No. of employees at year-end	453	453

## Lake Minerals

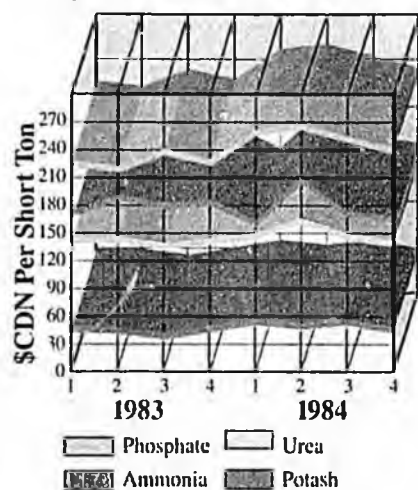
Lake Minerals Corporation generated revenues of \$1.3 million, compared with \$1.6 million in 1983, from its Owens Lake, California trona mining operation in 1984.

Ongoing research on a low-cost process that uses solar energy to produce soda ash cost \$0.8 million during the year, which was charged against earnings, causing an operating loss of \$0.4 million for the year.

Production was 45,300 tons (41,100) in 1984, the same as the previous year.

## Fertilizer Prices

(By Quarter)



## Other Operations

### Revenues and Operating Profit (Loss)

	Revenues		Operating Profit (Loss)	
	1984	1983	1984	1983
	(millions)			
Electronic Materials	\$ 55	\$ 47	\$ 4	\$ 2
Western Canada Steel	65	58	(3)	(4)
West Kootenay Power	56	53	18	18
Miscellaneous	8	11	—	1
	<b>\$184</b>	<b>\$169</b>	<b>\$ 19</b>	<b>\$ 17</b>
First Quarter			\$ 6	\$ 4
Second Quarter			5	4
Third Quarter			5	4
Fourth Quarter			3	5
			<b>\$ 19</b>	<b>\$ 17</b>

This segment of Cominco's business comprises principally the operations of the Electronic Materials Division, Western Canada Steel Limited and West Kootenay Power and Light Company, Limited. Miscellaneous operations include the activities of Cominco Engineering Services Ltd. and European holding and trading companies.

### Summary of Results

The increase in the operating profit of this segment is due to the growth of the electronic materials business.

### Electronic Materials Division

The Electronic Materials Division operates production and research facilities at Trail, B.C. and Spokane, Washington. High-purity materials and compound semi-conductor materials are produced at Trail. In Spokane, Cominco Electronic Materials Incorporated, a wholly owned subsidiary of Cominco American Incorporated, produces precision fabricated metal parts, bonding wire and ribbon, and sputtering targets. The Trail and Spokane products are marketed mainly to the electronics industry, in which they are used in the manufacture of a broad variety of electronic devices, such as integrated circuit chips, infrared radiation detectors and communications equipment.

Revenues from electronic materials were higher in 1984 than in 1983 as a result of higher sales volumes, offset to some extent by lower prices.

Sales increased sharply upon the completion of an expansion in gallium

arsenide production facilities early in the year. A further expansion was underway at year-end. Cominco's gallium arsenide wafers continue to be recognized as a leading product in the market and substantial quality features were added during the year as the result of continued research and development.

The number of employees in Electronic Materials in Spokane and Trail was 248 at the beginning of the year and 266 at year-end.

### Western Canada Steel

Western Canada Steel Limited (100 per cent owned) operates plants producing steel products from scrap metal in Vancouver and Calgary and at Hawaiian Western Steel Limited (51 per cent owned) on the island of Oahu, Hawaii.

The company continued to incur losses in 1984. The main plant at Vancouver was unprofitable because of low demand and low prices received for products sold to the construction industry. Interest costs and depreciation associated with the installation of a \$24-million rolling mill also contributed to the loss.

The Vancouver plant production for the year was 79,500 tons (72,100) compared with 29,800 tons (27,000) for six months' operation in 1983. The tandem rolling mill, which started up

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in March, will increase the volume and size range of steel products.

Reduced construction activity resulted in the Calgary plant producing 61,300 tons (55,600) of steel during the year compared with 87,000 tons (78,900) in 1983.

The Hawaiian plant continued to operate at one-half capacity with production of 20,600 tons (18,700) compared with 26,000 tons (23,600) in 1983. The operation was temporarily closed in November, 1984 because of a labor dispute in the Hawaiian construction industry.

### West Kootenay Power and Light Company, Limited

West Kootenay Power and Light Company, Limited, in Trail, B.C., provides electrical energy for residential and industrial customers in south central British Columbia.

Delivery of electrical energy to customers increased in 1984 by 3.8 per cent over 1983 to a total of 1,967 million kilowatt-hours. This increase was due in part to colder weather in 1984, but about 2.3 per cent was the result of positive load growth.

Net earnings at \$6.3 million were \$0.5 million higher than in 1983, yielding a return of 15.4 per cent on average Common Share equity, only slightly less than the 15.5 per cent to 16.5 per cent return that was approved by the British Columbia Utilities Commission. Dividends of \$3.2 million were paid on Common Shares in 1984.

The company's electric service rates were among the lowest in Canada in 1984. Low-cost plants, and low-cost purchases of power from Cominco are mainly responsible for this. In addition, there was stringent control of both capital and operating projects, reorganization of field operations and greater use of technologically upgraded equipment.

The area that the company serves has a strong growth potential and increasing amounts of electricity will continue to be required.

The major capital projects authorized for construction include increasing the capacity of the transmission system in the Okanagan, building a new 60 KV line in the Trail area and rebuilding the 60 KV line between the Corra Linn Plant and the City of Nelson. During 1984, \$12.4 million was spent on capital projects, compared with \$9.3 million in 1983.

In the third quarter of 1984, the company raised \$10 million of long-term debt at a fixed rate of 13.75 per cent and used the proceeds to reduce short-term borrowing.

Detailed studies are continuing in 1985 on the assessment of the various options for long-term power sources available to the company. These studies will be completed in late 1985.

In November, the company made application for an increase in rates, effective January 1, 1985. This increase, which averaged 3.7 per cent, was approved in January, 1985.

### Cominco Engineering Services Ltd.

Cominco Engineering Services Ltd. (CESL) was formed in 1982 to sell to the public the engineering and management expertise gained in the development of Cominco's operations. An office was opened in Calgary in 1984 to augment the work carried out in the Trail and Vancouver offices. During the year CESL was engaged in a series of feasibility studies for the China National Coal Development Corp., and did engineering work for a large gold mining project in Ghana.

### Associated Companies

Associated companies are those in which Cominco holds 50 per cent or less of the shares and over which it has significant influence.

#### Fording Coal

Fording Coal Limited is engaged in the mining and development of metallurgical and thermal coal reserves in southeastern B.C. and Alberta.

Revenues and Cominco's share of earnings increased, partly because production and sales volumes were higher than a year earlier when an 82-day strike occurred, and partly because of reductions in unit operating costs resulting from a 14 per cent increase in productivity.

Fording's production of clean coal from its surface operations near Elkford, B.C. was 4,446,000 tons (4,033,000), compared with 3,041,000 tons (2,759,000) in 1983. Sales of 4,412,000 tons (4,002,000) in 1984 compared with 3,250,000 tons (2,949,000) in 1983.

Development of the Eagle Mountain reserves at Fording River continued during 1984, with 220,000 tons (199,500) being mined from the newly developed areas in the year. The remaining development work is planned to be completed in 1985. Despite depressed worldwide coal markets and a small price reduction, Fording remained profitable because of continued improvement in productivity. The average amount of coal and waste moved per person per shift has doubled since 1980.

Fording's joint venture with Edmonton Power (the city-owned utility) to establish a thermal coal mine at Genesee, Alberta, which will fuel an electric generating station, is currently planned to start operation in 1987 at an estimated cost of \$126 million. In January, 1985, the Energy Resource Conservation Board of Alberta held public hearings to determine whether the Genesee Project should be delayed on the basis of current electricity demand forecasts.

#### Aberfoyle

Operations of Aberfoyle Limited in Australia comprise a 90 per cent interest in a zinc-lead-silver mine in Tasmania and two tin mines, one in Tasmania and the other in New South Wales.

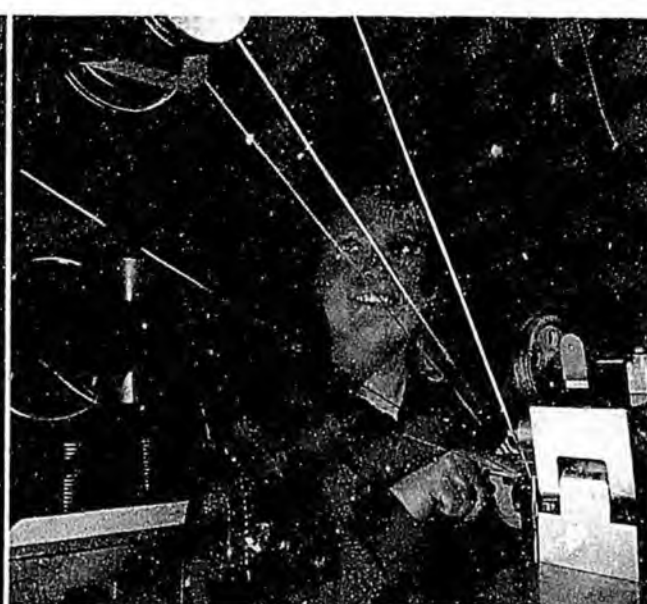
Aberfoyle had revenues of \$50 million in 1984, compared with \$56 million in 1983. Aberfoyle operated at near break-even in 1984, and as a result Cominco recorded no earnings from this company.

In 1984 the Que River zinc-lead-silver mine in Tasmania produced 218,000 tons (198,000) of ore, compared with 244,700 tons (222,000) in 1983. Because of strikes at the mine and at the custom concentrator that treats the production, Que River delivered 216,300 tons (196,200) of ore to the concentrator compared with 240,200 tons (217,900) in 1983.

Aberfoyle curtailed tin production during the year as a result of continuing severe export controls.

Drilling at Hellyer, an important new zinc-lead-silver sulphide discovery 2 miles (3 km) north of Que River, has indicated approximately 18 million tons (16.3 million) of ore, grading 18.2 per cent combined zinc-lead, 4.3 oz/ton (148 g/tonne) silver and 0.06 oz/ton (2 g/tonne) gold. Underground exploration of the deposit will start in 1985.

*Left: Mohinder Sandhu is using a cutoff torch on continuous cast ingots at Western Canada Steel, Vancouver, right: at Cominco Electronic Materials, Spokane, Washington, Robin Mann (top) and Judy Oles (bottom) slice lead-tin ribbon and package gold-germanium alloy parts for the electronics industry.*



## The Year in Review

### Exminesa

Exminesa's (Exploración Minera Internacional España S.A.) Rubiales Mine in the Spanish province of Lugo earned revenues of \$56 million in 1984, compared with \$37 million in 1983. Cominco's share of the net earnings was \$7.2 million, compared with a \$0.1 million loss in 1983.

The improved 1984 earnings resulted from higher production, improved dilution control, lower costs and improved metal prices, particularly in terms of the Spanish peseta.

In 1984, the Rubiales concentrator treated 1,016,000 tons (922,000) of ore, compared with 921,000 tons (836,000) in 1983. Zinc concentrate production was 128,200 tons (116,300) compared with the production of 103,900 tons (94,300) in 1983. Lead concentrate production was 16,100 tons (14,600) compared with 16,400 tons (14,800) in 1983.

Work on Exminesa's zinc-lead deposit at Troya in the Spanish province of Guipuzcoa continued, with the main

emphasis being placed on improving the knowledge of the orebody's Central Zone by drifting and drilling.

### Transcom Venture

Production from the Hondeklip alluvial diamond mine in South Africa, in which Cominco has a 50 per cent interest, was 61,100 carats in 1984 compared with 53,100 carats in 1983. Revenues were \$5 million in 1984 compared with \$4 million in 1983. Cominco's share of the net earnings was \$0.4 million compared with \$0.2 million in 1983.

The terms of employment of the 89 persons on the staff and workforce of the Transcom Venture conform with the Canadian Government's guidelines for Canadian companies operating in South Africa.

### Canada Metal

The Canada Metal Company Limited is a major Canadian manufacturer of secondary lead, and a fabricator of lead and other metal products. Carter Chem Ltée, Montreal, a subsidiary, is the principal manufacturer in Canada of lead chemicals.

Canada Metal had sales of \$71 million in 1984, compared with \$56 million in 1983, as a result of higher sales volumes and prices. Cominco's share of the net earnings was \$0.1 million, compared with a loss of \$0.1 million in 1983.

### Other Investments

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

Panarctic Oils Ltd. (6.3 per cent owned) continues to capitalize its exploration costs as none of its properties is in production. Natural gas reserves in the Arctic Islands are 17.4 trillion cubic feet, insufficient to justify a pipeline under present conditions. Oil discoveries in the

Associated Companies	Percentage Ownership	Revenues		Share of Net Earnings (Loss)	
		1984	1983	1984	1983
				(millions)	
Fording Coal Limited	40	\$277	\$217	\$ 5.8	\$ 1.6
Aberfoyle Limited	47	50	56	—	0.4
Exploración Minera Internacional España S.A. (Exminesa)	48	56	37	7.2	(0.1)
Transcom Venture	50	5	4	0.4	0.2
The Canada Metal Company Limited	50	71	56	0.1	(0.1)
Other		47	39	0.6	0.3
		\$506	\$409	\$14.1	\$ 2.3

### Summary of Financial Position of Associated Companies

	1984	1983
	(millions)	
Working capital	\$ 56.1	\$ 39.2
Fixed assets	326.4	350.7
Other assets	9.6	7.6
	392.1	397.5
Less: Long-term debt	86.9	101.4
Other non-current liabilities	80.6	17.0
Income taxes not currently payable	18.3	74.6
Net assets	\$206.3	\$204.5
Cominco's share of net assets	\$ 90.7	\$ 91.0

### Summary of Results of Operations of Associated Companies

	1984	1983
	(millions)	
Revenues	\$506.0	\$408.9
Costs and expenses	453.3	398.7
Earnings before the following	52.7	10.2
Income taxes	16.1	7.9
Exchange gain on translation of foreign companies	0.1	2.4
Total net earnings of associated companies	\$ 36.7	\$ 4.7
Cominco's share of net earnings	\$ 14.1	\$ 2.3
Dividends received by Cominco	\$ 1.7	\$ 3.4

region indicate the possibility of substantial reserves.

As part of a continuing review of assets, Cominco sold its entire 17.2 per cent interest in Tara Exploration and Development Company Limited on January 20, 1984. Proceeds from the sale amounted to \$22.5 million.

### Exploration

The objectives of Cominco's exploration program are to extend known reserves at existing mines, and to discover new deposits that could be developed into profitable mines. Because reserves are being depleted as mining proceeds, exploration must be carried on systematically to provide Cominco's future resource base.

Exploration expenditures in 1984 totaled \$40.9 million. Of this amount, exploration at producing mines accounted for \$7.6 million and investigation and appraisal of other identified mineral properties accounted for \$15.9 million. Both of these amounts were capitalized as investments in mineral properties and are being amortized against earnings. The balance of \$17.4 million was spent in general exploration and charged against 1984 earnings. In addition, \$7.8 million was spent on preparatory work at the Red Dog deposit in Alaska.

Projects in Canada accounted for 38 per cent of the total expenditure; 24 per cent was spent in the United States; and 38 per cent on projects in Europe, Australia, South America and Mexico. The major part of Cominco's 1984 exploration program was devoted to the search for zinc and gold. Specific programs also explored for lead, silver, copper, phosphate, diamonds, niobium and industrial minerals. Diamond drilling programs were carried out on over 50 properties and results were sufficiently encouraging on nearly half of these to warrant further work.

Exploration expenditures at Pine Point Mines, N.W.T., amounted to \$3.7 million, compared with \$2.4 million in 1983. A belt south and east of existing production areas has the potential of hosting important deposits, and a major underground mining feasibility program began during the year.

In Australia, drilling on the Hellyer property has outlined a promising deposit (see section on Aberfoyle).

Underground exploration of the deposit will start early in 1985, and metallurgical studies are also underway.

In Alaska, work on the Red Dog deposit focused on the collection of additional data required for pre-production planning and on engineering studies.

The search for gold deposits was widespread. A number of properties in Nevada were investigated, and work will continue there in 1985. In Canada, extensive programs were carried out in the Timmins area of Ontario and in the Slave region of the Northwest Territories. Two gold prospects on which Cominco work had indicated only a limited potential were sold during the year.

One of the more promising new properties explored in 1984 was a niobium prospect, east of Williston Lake in north central B.C. Further work is planned there in 1985.

### Environmental Protection

Capital expenditures for environmental improvements totaled \$6.0 million in 1984, including \$0.5 million for environmental and permit studies for the Red Dog project in Alaska.

Most of the capital expenditures in the year were for work on the sulphur gas recovery project in Trail, B.C. Further improvements were made in the reliability of sulphur dioxide and smoke control from zinc operations and at the new mercury removal plant. The new tail gas retreatment section of the zinc roaster/acid operation resulted in a further reduction of sulphur dioxide emissions into the atmosphere.

In Alaska, environmental baseline studies required before work proceeds on the Red Dog mine were completed in 1984. This resulted in the issuance of the Final Environmental Impact Study Statement by the U.S. Environmental Protection Agency, a prerequisite for the project to obtain all necessary construction and operating permits.

## Research and Development

### Technical Research Centre

The Technical Research Centre at Trail, B.C., with an operating budget of \$3.2 million, provided technical support for the Company's worldwide exploration and processing operations.

During 1984 the Centre completed a major pilot program for improved purification of the solutions used in the electrolysis of zinc. Work is continuing to define the most cost-effective equipment requirements to put the process into operation.

Feasibility studies were completed for a new plant to recover a germanium concentrate at the Trail Operations as seed for production of electronic materials. A decision on the development of a \$9 million plant will be made in 1985.

The first production rotary furnace installation for tin-indium production was successfully commissioned in March to streamline the process metallurgy, and a second installation to improve silver production will be commissioned in 1985.

Research work also continued on improved processing of arsenic and antimony entering the Trail metallurgical plants, the recovery of soda ash from the complex salt deposit at Owens Lake, California, on gold heap-leaching processes, and on niobium recovery.

The Technical Research Centre had 46 employees at year-end.

### Product Research Centre

The Product Research Centre at Sheridan Park, Ontario, with an operating budget of \$2.3 million, provided technical support for Cominco's metal customers.

During 1984 the Centre assisted customers in the application of new developments in technology to lead and zinc products. Research and development work was carried out on lead batteries, on galvanizing and on zinc alloy castings. Improved processes were developed for continuous casting of zinc-aluminum

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alloys for use in bearings, a new zinc application.

Cominco's technology in superplastic zinc forming was licensed to an Ontario company, which will continue work on this new process for forming zinc parts. Advanced technology developed at the Centre is now widely used by battery companies to improve battery designs and to increase manufacturing productivity.

The Product Research Centre had 30 employees at year-end.

### Electronic Materials Division

The research and development work of the Electronic Materials Division, with an operating budget of \$2.5 million, is undertaken at facilities at Trail, B.C., and at Spokane, Washington.

The germanium research program has led to the introduction of several high-value-added products. Evaluation quantities of thin-film cadmium mercury telluride infrared detector materials have been developed and provided to customers for further experimentation.

Emphasis was placed on maintaining the Division's leading position in the rapidly developing gallium arsenide market. Gallium arsenide is used in high-speed communications equipment and in super-computers. Improved purity, defect reduction and enhanced surface quality were important research areas.

Research is also being conducted on the preparation of several other compound semi-conductor materials with commercial potential. Several of these programs are supported by grants from various government agencies.

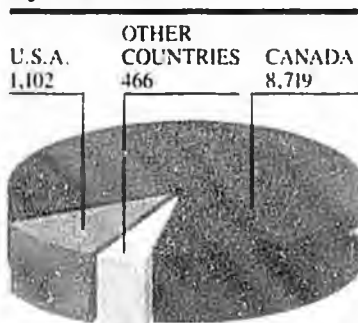
Substantial progress was achieved in upgrading fine gold wire products, in engineering automated production equipment, and in developing a high-speed continuous casting process for making a superior grade of solder alloys.

The Electronic Materials Division's research and development operations had 28 employees at year-end.

### Human Resources

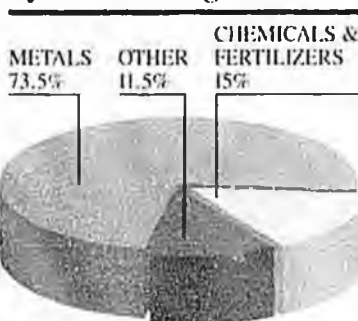
Approximately 70 per cent of Cominco's North American employees are represented by unions. During 1984, four collective agreements were concluded. There were no work interruptions due to labor disputes

### Distribution of Employees by Countries

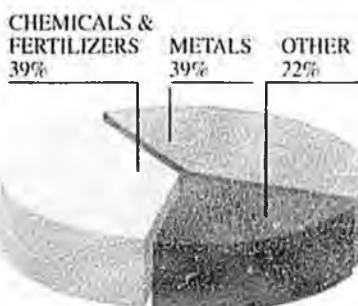


Total Employees 10,287

### Distribution of Employees by Business Segment



Canada



U.S.A.

during the year. Thirteen collective agreements, covering ten operations, will expire in 1985.

Forty years of service were completed by 26 employees in 1984, bringing the total number of those who have reached this milestone to 1,213. Sixty-four scholarships of \$500 to \$750 were granted in Cominco's higher education award program for children of employees and pensioners.

On March 1, one of Canada's first flexible benefit programs was introduced to non-union salaried employees. This program, covering 1,800 employees, combines a base level of benefits with a variety of options available to employees to fit

their different personal needs.

A Share Purchase Plan for all employees of Cominco Ltd. in Canada was announced in December and commenced January 1, 1985.

### Safety

Cominco is committed to comprehensive safety programs to protect the public and its employees. They are established at every operation, and are reviewed regularly.

The Company's safety performance is consistent with the industry average in North America, and the overall frequency of lost-time accidents was unchanged from the previous year. Injury severity, a statistical measure of the number of working days lost for every 200,000 hours worked, was 371, compared with 227 in 1983. This increase largely results from the 3 fatalities during the year.

There were some notable safety achievements in 1984. The Warm Springs underground mine in Montana operated through the year without a single lost-time accident.

At the Valley copper operation in the Highland Valley, B.C., the frequency of lost-time accidents was reduced from 7 per 200,000 hours worked in 1983 to 4 in 1984, a 43 per cent improvement. The measure of severity of the accidents also declined significantly.

A rehabilitation program involving employees in Trail, B.C. who are recovering from injuries, completed its first full year of operation in 1984. The program provides opportunities for the employees to work while assisting in their physical recovery. The program included 32 employees in 1984, 7 of whom were recovering from off-the-job injuries. A similar program is also in operation at Kimberley, B.C., and both are effectively reducing the very high costs associated with accidents.

The Sullivan Mine Rescue Team and the Sullivan First Aid Team both won their respective competitions at the annual provincial competitions at Kamloops, B.C. in June.

At Pine Point Mines, 7 supervisors won awards of merit from the Territories Mines Accident Prevention Association for each supervising 5,000 manshifts without a lost-time accident. With the start of an underground mining project at Pine Point, 9 employees were trained and certified in underground mine rescue.

*Elaine Woo, technician, Exploration Laboratory, Vancouver, is using an atomic absorption spectrophotometer to analyze the metal content in rock and soil samples.*



## Production and Sales Statistics

		1984		1983	
		Sales	Production	Sales	Production
<b>Refined Metal</b>					
<b>Zinc</b>					
Trail	tons	279,900	285,600	242,000	239,800
Tolled — Black Angel	tons	6,500	6,400	13,000	13,400
— Polaris	tons	12,300	10,900	24,100	17,900
		298,700	302,900	279,100	271,100
<b>Lead</b>					
Trail	tons	129,100	129,700	142,800	132,300
Tolled — Magmont	tons	37,200	37,200	36,200	32,300
		166,300	166,900	179,000	164,600
<b>Silver<sup>(1)</sup></b>					
	ounces	11,380,100	11,565,700	11,316,100	11,451,300
<b>Gold</b>					
Con	ounces	92,300	89,100	68,300	70,500
Trail	ounces	37,400	37,400	21,400	21,400
Buckhorn	ounces	3,100	3,100	—	—
		132,800	129,600	89,700	91,900
<b>Concentrates<sup>(2)</sup></b>					
<b>Zinc</b>					
Sullivan	tons	—	187,000	—	136,000
Polaris	tons	205,600	191,900	118,700	239,300
Magmont	tons	16,500	16,600	10,700	10,700
Pine Point	tons	—	302,900	—	129,700
Black Angel	tons	128,700	135,000	132,200	150,300
		350,800	833,400	261,600	666,000
<b>Lead</b>					
Sullivan	tons	—	194,300	32,200	139,300
Polaris	tons	62,400	40,700	38,700	56,300
Magmont	tons	4,400	49,800	1,000	52,100
Pine Point	tons	61,700	67,600	55,300	32,100
Black Angel	tons	29,400	28,400	42,400	33,800
		157,900	380,800	169,600	313,600
<b>Copper<sup>(3)</sup></b>					
Valley	tons	44,000	41,700	33,000	36,700
Magmont	tons	—	500	600	400
		44,000	42,200	33,600	37,100
<b>Chemicals and Fertilizers</b>					
Nitrogen products	tons	1,164,000	1,252,800	1,151,900	1,102,800
Phosphates	tons	303,100	339,200	356,900	300,600
Potash	tons	1,251,400	1,361,100	1,113,800	1,122,400
Other	tons	356,400	344,200	272,200	278,200
		3,074,900	3,297,300	2,894,800	2,804,000

(1) Includes silver sold in concentrates and intermediate products.

(2) Sales tonnages exclude concentrates processed at Trail and concentrates tolled through other smelters.

Operations at Pine Point Mines Limited were suspended for the period January 2, 1983 to June 14, 1983.

(3) Tonnages are for copper contained in concentrate.

## Statement on Inflation Accounting

Canada and other Western world nations have come through a period of high inflation that has eroded the purchasing power not only of individuals but also of corporations. The cumulative effect of prolonged periods of inflation diminishes the usefulness of the conventional historical cost balance sheet and statement of earnings, which do not measure the ability of a corporation to maintain its productive capacity. To overcome this deficiency, the Canadian Institute of Chartered Accountants (CICA) is... a recommendation that major corporations disclose selected information regarding the effects of changing prices in their 1983 and subsequent annual reports. CICA views its recommendations as experimental and part of an ongoing process to explain the impact of changing prices.

Cominco's consolidated financial statements are prepared on a historical cost basis. Under this

concept, assets are reported at the amounts originally paid and are not adjusted for subsequent changes in the purchasing power of money or for the current cost of replacing the assets.

The CICA-recommended disclosure is to report the effects of changes in the replacement cost of productive capacity by adjusting certain historical cost amounts (principally fixed assets and inventory) for changes in current costs and to measure this change against the rate of general inflation.

Cominco continues to monitor this experiment closely and has for several years used some of these principles for management purposes when evaluating the replacement of production facilities and new projects. The process is complex and involves the use of arbitrary assumptions concerning the replacement of production facilities which will not likely reflect

economic conditions when replacement decisions are made.

As a mining company, our most valuable assets are our mineral resources and the infrastructure and facilities to process the ore. Resource properties are unique in terms of location, ground condition and mineral potential and, when depleted, they cannot be specifically replaced. The replacement cost of a mineral asset will be influenced to a far greater extent by its location and ground condition than by the direct effect of inflation. Therefore, at this stage of the experiment, Cominco does not believe that the recommended disclosures contribute to a better understanding by shareholders of its economic performance.

Cominco's management appreciates CICA's desire to stimulate improved reporting to account for the effects of inflation and will continue to monitor the development of this experiment.

## *Management's Statement on Financial Reporting*

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 auditors, Thorne Riddell, and their report follows.

## *Auditors' Report*

To the Shareholders  
of Cominco Ltd.

We have examined the consolidated balance sheet of Cominco Ltd. as at December 31, 1984 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 corporation as at December 31, 1984 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 which have been applied on a basis consistent with that of the preceding year except for the change in the method of accounting for the translation of foreign currency accounts explained in Note 1 to the financial statements.



Vancouver, Canada  
February 11, 1985

Chartered Accountants

## Summary of Significant Accounting Policies

The accounts of Cominco Ltd. (the "Corporation") are prepared using accounting principles generally accepted in Canada applied on a consistent basis except for the change in the method of accounting for the translation of foreign currency accounts explained in Note 1. To facilitate review of the consolidated statements contained in this report, the significant accounting policies followed by the Corporation and its subsidiaries are summarized below.

### Principles of Consolidation

The accounts of the Corporation 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 Corporation owns 50 per cent or less of the shares and over which it has significant influence) are accounted for by the equity method. Under this method the Corporation includes in its earnings its share of the earnings or losses of associated companies. In measuring the Corporation'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

Foreign currencies are translated as follows:

Foreign denominated monetary items of Canadian operations are translated into Canadian dollars at current rates of exchange. Unrealized translation gains or losses on translation of long-term monetary items are deferred and amortized over the remaining lives of these items.

The accounts of foreign subsidiaries and associated companies which are considered financially and operationally independent of the parent company (self-sustaining) are translated into Canadian dollars. Accounts included in the consolidated statement of earnings are translated at weighted average rates for the year and accounts included in the balance sheet are translated at rates in effect at the end of the year (current rate) except that earnings reinvested in the business are at rates at date of origin and share capital is at the rate at date of issue. The resulting translation adjustments are deferred as a separate component of shareholders' equity until there is a

realized reduction in the net investment in the foreign subsidiary.

The accounts of foreign subsidiaries which are considered financially and operationally dependent on the parent company (integrated) are translated into Canadian dollars using the current rate of exchange for monetary assets and liabilities, historical rates of exchange for non-monetary assets and liabilities and average rates for the year for revenue and expense items except depreciation and depletion which are translated at the rate of exchange applicable to the related assets. Gains or losses resulting from these translation adjustments are included in the determination of 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 operation.

### 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-of-production 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. Income tax provisions are made on the basis of income for financial reporting purposes (the Tax Allocation method) and accordingly the differences in timing of deductions result in taxes being provided for which are not currently payable.

Effective August 1, 1984 the Corporation's subsidiary company West Kootenay Power and Light Company, Limited, which is a regulated utility, was required to change its method of providing for income taxes from the tax allocation method to the taxes payable method to conform with the basis allowed for determining utility rates charged to its customers.

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

Interest is charged to earnings except for interest on funds applied to major expenditures for fixed assets, which is capitalized during the construction period. Capitalization is based upon the actual interest on debt specifically incurred for the asset, or on the average borrowing rate for all other debt. Prior to 1984, only interest on debt specifically incurred for the development of a particular project was capitalized during construction. The effect of this change on current earnings is not material.

### Start-Up Costs

Start-up costs related to major projects are deferred until the facilities achieve commercial operation. 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 paid and accrued dividends for preferred shares by the weighted average number of shares outstanding during the year.

## Consolidated Statement of Earnings

Year Ended December 31, 1984

	1984	1983
	(thousands)	
<b>Revenue</b>		
Sales of products and services	\$1,585,292	\$1,374,723
Income from investments	4,466	4,600
	<b>1,589,758</b>	<b>1,379,323</b>
<b>Costs and Expenses</b>		
Costs of products and services	1,105,400	1,015,195
Distribution	176,398	161,817
Selling	31,822	28,491
General and administrative	45,017	44,023
General mineral exploration	17,378	15,642
Interest (Note 9)	91,939	81,375
Depreciation, depletion and amortization	115,637	100,153
	<b>1,583,591</b>	<b>1,446,696</b>
<b>Earnings (Loss) Before the Following</b>	<b>6,167</b>	<b>(67,373)</b>
Taxes on income including resource taxes (Note 10)		
Current	8,727	5,853
Not currently payable (reduction)	(13,893)	(32,591)
	<b>(5,166)</b>	<b>(26,738)</b>
Minority interests in net earnings (loss) of subsidiary companies	11,333	(40,635)
	<b>5,096</b>	<b>(1,327)</b>
Equity in net earnings of associated companies	6,237	(39,308)
Loss on translation of accounts of foreign subsidiaries	14,053	2,275
	<b>(1,333)</b>	<b>(2,292)</b>
<b>Earnings (Loss) Before Extraordinary Items</b>	<b>18,957</b>	<b>(39,325)</b>
Extraordinary items (Note 11)	5,222	—
<b>Net Earnings (Loss)</b>	<b>\$ 24,179</b>	<b>\$ (39,325)</b>
<b>Earnings (Loss) Per Common Share</b>		
Before extraordinary items	\$ 0.09	\$ (0.87)
<b>Net Earnings (Loss)</b>	<b>\$ 0.17</b>	<b>\$ (0.87)</b>

## Consolidated Statement of Earnings Reinvested in the Business

Year Ended December 31, 1984

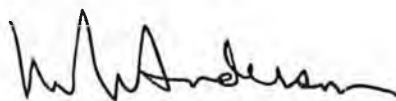
	1984	1983
	(thousands)	
<b>Amount at Beginning of Year</b>	<b>\$ 490,615</b>	<b>\$ 554,414</b>
Net Earnings (Loss)	24,179	(39,325)
	<b>514,794</b>	<b>515,089</b>
<b>Deduct:</b>		
Costs incurred on issue of shares	359	2,326
Dividends paid		
Preferred – Series A \$2.00 per share	3,405	3,498
– Series C \$1.71 per share (1983 – \$1.98)	3,422	3,968
– Series D \$3.25 per share	6,500	6,500
Common – 15 $\frac{1}{4}$ ¢ per share (1983 – 13 $\frac{1}{4}$ ¢)	9,666	8,182
	<b>23,352</b>	<b>24,474</b>
<b>Amount at End of Year</b>	<b>\$ 491,442</b>	<b>\$ 490,615</b>

# Consolidated Balance Sheet


at December 31, 1984

	1984	1983
	(thousands)	
<b>Current Assets</b>		
Cash and short-term investments	\$ 13,540	\$ 13,858
Accounts receivable	227,303	224,273
Inventories (Note 2)	343,874	324,352
Prepaid expenses	11,507	9,481
	<u>596,224</u>	<u>571,964</u>
<b>Investments</b>		
Associated companies	91,147	94,796
Other companies (Note 3)	5,451	30,482
	<u>96,598</u>	<u>125,278</u>
<b>Fixed Assets</b>		
Land, buildings and equipment	1,727,188	1,633,691
Less accumulated depreciation	673,124	581,595
	<u>1,054,064</u>	<u>1,052,096</u>
Mineral properties and development (Note 4)	440,851	416,977
Less accumulated depletion	118,996	108,846
	<u>321,855</u>	<u>308,131</u>
	<u>1,375,919</u>	<u>1,360,227</u>
<b>Other Assets (Note 5)</b>	<u>31,499</u>	<u>25,862</u>
	<u>\$2,100,240</u>	<u>\$2,083,331</u>
<b>Current Liabilities</b>		
Bank loans and notes payable	\$ 214,851	\$ 157,672
Accounts payable and accrued liabilities	165,386	166,380
Income and resource taxes	13,840	17,830
Long-term debt due within one year	42,303	43,058
	<u>436,380</u>	<u>384,940</u>
<b>Long-Term Debt (Note 6)</b>	<u>617,153</u>	<u>649,428</u>
<b>Income Taxes Provided But Not Currently Payable</b>	<u>133,839</u>	<u>144,498</u>
<b>Minority Interests</b>	<u>32,039</u>	<u>34,561</u>
<b>Shareholders' Equity</b>		
Capital (Note 7)	393,692	379,289
Earnings reinvested in the business	491,442	490,615
Cumulative translation adjustment (Note 8)	(4,305)	—
	<u>880,829</u>	<u>869,904</u>
<b>Commitments and Contingent Liabilities (Note 13)</b>		
<b>Subsequent Events (Note 15)</b>		
	<u>\$2,100,240</u>	<u>\$2,083,331</u>

Approved by the Board:



Director



Director

## Consolidated Statement of Changes in Financial Position

Year Ended December 31, 1984

	1984	1983
	(thousands)	
<b>Source of Funds</b>		
Funds from operations	\$ 122,851	\$ 31,551
Disposal of land, buildings, equipment and investments	28,015	8,949
Sale of oil and gas properties (Note 11)	6,278	—
Additional long-term debt	6,877	8,811
Issue of common share capital	15,318	100,406
Increase in working capital resulting from changes in translation rates	2,720	—
	<b>182,059</b>	<b>149,717</b>
<b>Application of Funds</b>		
Land, buildings and equipment	87,265	83,529
Mineral properties and development	35,629	22,807
Reduction of long-term debt	52,263	46,670
Preferred shares purchased for cancellation	875	1,552
Dividends - to preferred shareholders	13,327	13,966
- to common shareholders	9,666	8,182
- to minority shareholders of subsidiary companies	6,224	2,487
Other	3,990	4,533
	<b>209,239</b>	<b>183,726</b>
<b>Decrease in Working Capital</b>	<b>(27,180)</b>	<b>(34,009)</b>
<b>Working Capital at Beginning of Year</b>	<b>187,024</b>	<b>221,033</b>
<b>Working Capital at End of Year</b>	<b>\$ 159,844</b>	<b>\$ 187,024</b>

## Notes to Consolidated Financial Statements

Year Ended December 31, 1984

### 1. Accounting Policies

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

Effective January 1, 1984 the Corporation changed its method of accounting for the translation of accounts denominated in foreign currencies to comply with the revised recommendations of the Canadian Institute of Chartered Accountants, which are described under the caption "Summary of Significant Accounting Policies". This change has been applied prospectively from January 1, 1984 and accordingly the 1983 accounts have not been restated in these financial statements.

The main effects of the change in the current year's statements are as follows:

	1984 (thousands)
a) New deferred charge representing unrealized translation loss on long-term debt (Note 5)	\$ 10,137
b) New component within shareholders' equity (Cumulative Translation Adjustment) representing unrealized translation loss on the net investment in self-sustaining foreign operations (Note 8)	\$ 4,305
c) Net decrease in translated values of net tangible assets	\$(16,031)
d) Net decrease in earnings for the year (\$0.025 per common share)	\$ 1,589

The cumulative amounts of the deferred translation adjustments are not fixed; they will increase or decrease with future changes in foreign exchange rates.

Prior to 1984, accounts included in the statement of earnings except inventories, depreciation and depletion were translated at the weighted average rates of exchange prevailing during the year. Inventories, depreciation and depletion were translated at the rates in effect when the related expenditures were made. In the consolidated balance sheet, all current assets and current liabilities except inventories were translated at rates of exchange in effect at the end of the year. Inventories, non-current assets and non-current liabilities were translated at historical rates of exchange. The resulting translation adjustments were included in the annual determination of earnings.

### 2. Inventories

	1984	1983
	(thousands)	
Finished goods	\$155,692	\$141,936
Raw materials and partially processed materials	103,047	96,866
Stores and operating supplies	85,135	85,550
	<u>\$343,874</u>	<u>\$324,352</u>

### 3. Investments

	1984	1983
	(thousands)	
Other companies:		
Shares at cost		
Panarctic Oils Ltd. (6.3% owned; 1983 - 6.9%)	\$ 18,831	\$ 18,962
Tara Exploration and Development Company Limited (at value realized on sale in 1984)	—	22,515
Other companies	1,984	5,092
Other	490	519
	<u>21,305</u>	<u>47,088</u>
Less accumulated amortization of mineral investments	15,854	16,606
	<u>\$ 5,451</u>	<u>\$ 30,482</u>

### 4. Mineral Properties and Development

	1984	1983
	(thousands)	
Operating mineral properties	\$299,277	\$291,367
Less accumulated depletion	49,283	47,350
	<u>249,994</u>	<u>244,017</u>
Exploration properties, less amounts amortized	71,861	64,114
	<u>\$321,855</u>	<u>\$308,131</u>

### 5. Other Assets

	1984	1983
	(thousands)	
Debt financing costs, less amounts amortized	\$ 1,700	\$ 1,886
Loan to Bankeno Mines Limited	3,000	3,000
Deferred start-up costs, less amounts amortized	8,231	13,830
Deferred translation losses, less amounts amortized	10,137	—
Other	8,431	7,146
	<u>\$ 31,499</u>	<u>\$ 25,862</u>

### 6. Long-Term Debt (excluding amounts due within one year)

	1984	1983
	(thousands)	
Cominco Ltd.		
10% Serial Notes due 1986 to 1996 U.S. \$36,668,000 (Note 1a))	\$ 48,453	\$ 39,380
8½% Sinking Fund debentures due 1991	48,590	50,571
10¼% Sinking Fund debentures due 1995	43,121	45,074
Export-Import Bank of the United States 8% loan due 1985 U.S. \$763,000	—	759
Bank loans due 1986 to 1994 with interest related to prime bank rates	389,200	422,800
West Kootenay Power and Light Company, Limited		
5½% First Mortgage bonds due 1985 (to be refinanced)	5,218	5,218
Bank loans due 1987 with interest related to prime bank rates	6,100	9,300
13% secured debentures due 1988	10,000	10,000
13¼% secured debentures due 1994	10,000	—
14¼% secured Sinking Fund debentures due 1998	10,000	10,000
14¼% retractable Sinking Fund debentures due 1998	15,000	15,000
Cominco American Incorporated		
8½% Note payable due 1986 to 2000 U.S. \$2,051,000	2,710	2,548
Other debt U.S. \$478,000	632	568
Pine Point Mines Limited		
Bank loans due 1987 to 1991 with interest related to prime bank rates	8,100	15,000
Western Canada Steel Limited		
Bank loan due 1986 to 1993 with interest related to prime bank rates	19,500	22,500
Other debt	529	710
	<u>\$617,153</u>	<u>\$649,428</u>

Payments required on long-term debt, assuming the conversion of certain revolving bank loans into five-year term loans, are: 1985 - \$42,303,000; 1986 - \$42,814,000; 1987 - \$57,466,000; 1988 - \$77,790,000; 1989 - \$67,802,000.

## 7. Capital

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

On April 19, 1984 the shareholders approved a three-for-one stock split of the outstanding Common Shares. All references in these financial statements to Common Share capital and to per share data for 1984 and 1983 have been restated to reflect the effect of the stock split.

	1984	1983
	(thousands)	
a) Issued and fully paid:		
Preferred -		
1,685,884 shares (1983 - 1,722,484) - \$2.00 Tax Deferred Exchangeable Preferred Shares Series A - issued 1976 (Note 7d))	\$ 42,146	\$ 43,061
2,000,000 shares - Floating Rate Preferred Shares Series C - issued 1978	50,000	50,000
2,000,000 shares - \$3.25 Cumulative Redeemable Preferred Shares Series D - issued 1982	50,000	50,000
	<b>142,146</b>	<b>143,061</b>
Common -		
64,304,128 shares (1983 - 63,025,569) (Note 7c))	251,546	236,228
	<b>\$393,692</b>	<b>\$379,289</b>

### b) Preferred Shares:

The Corporation 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"
- 2,000,000 shares as "\$3.25 Cumulative Redeemable Preferred Shares Series D"

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.

Each Series D Preferred Share is entitled to a fixed cumulative cash dividend of \$3.25 per annum payable quarterly. The holders of the Series D Preferred Shares may call for retraction on March 31, 1988. The Corporation may elect on or after February 1, 1988 to designate a further series of Preferred Shares into which the Series D Preferred Shares may be converted.

### c) Shares issued during the year for cash:

	1984	1983
	(thousands)	
Common -		
1,253,959 shares (1983 - 6,575,340 shares)	\$ 15,047	\$100,000
24,600 shares (1983 - 33,000 shares) (Note 7e))	271	406
	<b>\$ 15,318</b>	<b>\$100,406</b>

On December 31, 1984 the Corporation sold 1,253,959 Common Shares together with certain share purchase tax credits for a cash consideration of \$20,000,000 being the stated capital of the Shares pursuant to the Canada Business Corporations Act. For accounting purposes, \$15,047,000 has been added to the paid-in capital of the Corporation, \$4,022,000 has been applied to reduce current income tax expense, and the balance of the gross proceeds of \$931,000 has been deferred until qualifying investments have been made.

The stated capital account of the Corporation for Common Shares issued and outstanding at December 31, 1984 is \$256,499,000.

### d) Shares purchased for cancellation:

During 1984, the Corporation purchased for cancellation 36,600 Series A Preferred Shares with an issued value of \$915,000 for \$875,000 cash.

- e) The Corporation has 83,100 Common Shares remaining available for issuance under stock option plans in favour of certain executives in the full-time employment of the Corporation or a subsidiary. Options are exercisable within five years of issue at a minimum of 90% of the market price on the day prior to the day when granted.

Outstanding options at December 31, 1984 are as follows:

Granted	Minimum Price	Out-standing	Exercised in 1984
1979	10.80	nil	21,000
1980	17.44	55,500	nil
1981	20.33	69,750	nil
1982	12.23	66,900	3,600
1983	15.34	84,150	nil
1984	16.09	90,300	nil
		<b>356,600</b>	<b>24,600</b>

## 8. Cumulative Translation Adjustment

This adjustment represents the net unrealized foreign currency translation loss on the Corporation's net investment in self-sustaining foreign operations, principally in Greenland, Spain and the United States. Changes during the year are as follows:

	1984 (thousands)
Cumulative unrealized loss on adoption of revised translation method at January 1, 1984	\$ (10,287)
Unrealized gain for the year on translation of net assets	5,612
	<b>(4,675)</b>
Realized loss on dividends paid by foreign operations	370
Cumulative unrealized loss at December 31, 1984	<b>\$ (4,305)</b>

## 9. Interest

Interest charges were as follows:

	1984	1983
	(thousands)	
Long-term debt interest	\$ 77,957	\$ 72,091
Short-term debt interest	19,683	14,028
	<b>97,640</b>	<b>86,119</b>
Less interest capitalized	5,701	4,744
Charged to earnings	<b>\$ 91,939</b>	<b>\$ 81,375</b>

## 10. Taxes on Income

- a) The major factors which caused variations from the Corporation's combined federal and provincial statutory Canadian income tax rates of 50.8% (1983 - 50.8%) were the following:

	1984	1983
	(thousands)	
Income tax (reduction) on earnings (loss) at statutory tax rates	\$ 3,133	\$(34,225)
Tax effect of:		
Resource allowance and earned depletion net of resource taxes	(7,250)	7,339
Inventory allowance	(2,525)	(2,740)
Investment and Research and Development tax credits	(3,492)	(1,663)
Differences in foreign tax rates	(989)	(1,097)
Non deductible costs	5,803	4,697
Other items	154	951
<b>Taxes on income (reduction) included in income statement</b>	<b>\$ (5,166)</b>	<b>\$(26,738)</b>

- b) Accumulated investment tax credits amounting to \$39,200,000 are available to reduce income taxes otherwise payable during the years 1985 to 1991.

## 11. Extraordinary Items

In 1984 a subsidiary company, Cominco American Incorporated, realized a gain of \$6,108,000 from the sale of its interest in a tertiary oil recovery project. The Corporation received proceeds of \$6,278,000 after income taxes of \$3,512,000.

The Corporation has entered into an agreement to sell its equity in an associated company, Cominco Binani Zinc Limited. This agreement is subject to approval by the Indian Government and is currently under review. A provision of \$886,000 has been made for the estimated loss on the sale of this investment.

## 12. Pensions

The Corporation 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, 1983. At December 31, 1984, actuarial estimates of the liability for past service to be funded in future years amount to \$45,000,000 (1983 - \$50,000,000). The vested portion of the liability for past service to be funded in future years is \$21,000,000 (1983 - \$23,000,000).

Total pension expense including past service costs was \$18,500,000 for 1984 and \$18,600,000 for 1983.

## 13. Commitments and Contingent Liabilities

- a) At December 31, 1984 guarantees amounted to \$6,700,000 of which \$5,700,000 was for bank loans of an associated company.
- b) At December 31, 1984 unexpended amounts remaining on approved major capital projects were \$59,000,000 of which \$54,000,000 is expected to be spent in 1985.
- c) At December 31, 1984 the aggregate minimum payments under operating leases were estimated at \$47,560,000 with annual payments in each of the five years following 1984 of: 1985 - \$11,568,000; 1986 - \$10,107,000; 1987 - \$8,717,000; 1988 - \$6,387,000; 1989 - \$1,771,000.

## 14. Related Party Transactions

Related parties consist of the Corporation's associated companies and Canadian Pacific Limited and its subsidiary and associated companies. Sales (all at fair market prices) to related parties amounted to \$36,900,000 (1983 - \$27,900,000).

The Corporation has a revolving line of credit with Canadian Pacific Securities Limited in the amount of \$75,000,000 which provides for loans of up to one year at interest rates related to commercial paper rates. The amount outstanding at December 31, 1984 was \$12,000,000 (1983 - \$75,000,000). Interest expense on these loans amounted to \$8,400,000 (1983 - \$6,100,000).

The Corporation 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 Corporation 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.

## 15. Subsequent Events

On January 31, 1985 the Corporation sold 800,000 shares from its holdings in Pine Point Mines Limited for \$21.0 million. An extraordinary gain of approximately \$9.5 million after income taxes will be reported in the first quarter of 1985. The Corporation continues to hold approximately 51 per cent of the outstanding shares of Pine Point Mines Limited.

In January 1985, the Corporation entered into an agreement with CMP 1985 Mineral Partnership and Company, Limited (the partnership) to raise approximately \$15 million in 1985 for Canadian exploration programs by selling Common Shares to the partnership. The issue price of the shares will include a premium that reflects the value of the tax deductions associated with the exploration expenses being funded that flow through to the partnership.

## 16. Segmented Information

- a) Cominco's business operations are grouped into three industry segments:

### *Mining and Integrated Metals:*

Principally the mining and processing of mineral ores; the production and sale of zinc, lead and copper concentrates; and the smelting and refining of concentrates to produce zinc, lead, silver and gold.

### *Chemicals and Fertilizers:*

Principally the production of ammonia, urea, potash, ammonium nitrate, ammonium phosphate, ammonium sulphate, sulphuric acid and sulphur dioxide.

### *Other Operations:*

Principally the production of steel products, high-purity metals and compound semiconductor materials; and the generation and distribution of electric power.

- b) Sales to other segments are accounted for at prices which approximate market.
- c) Investment income and certain corporate expenditures and assets relating to the overall direction and management of the Corporation's activities are not allocated to industry segments.
- d) Canadian export sales amounted to \$755,000,000 (1983 - \$605,000,000).

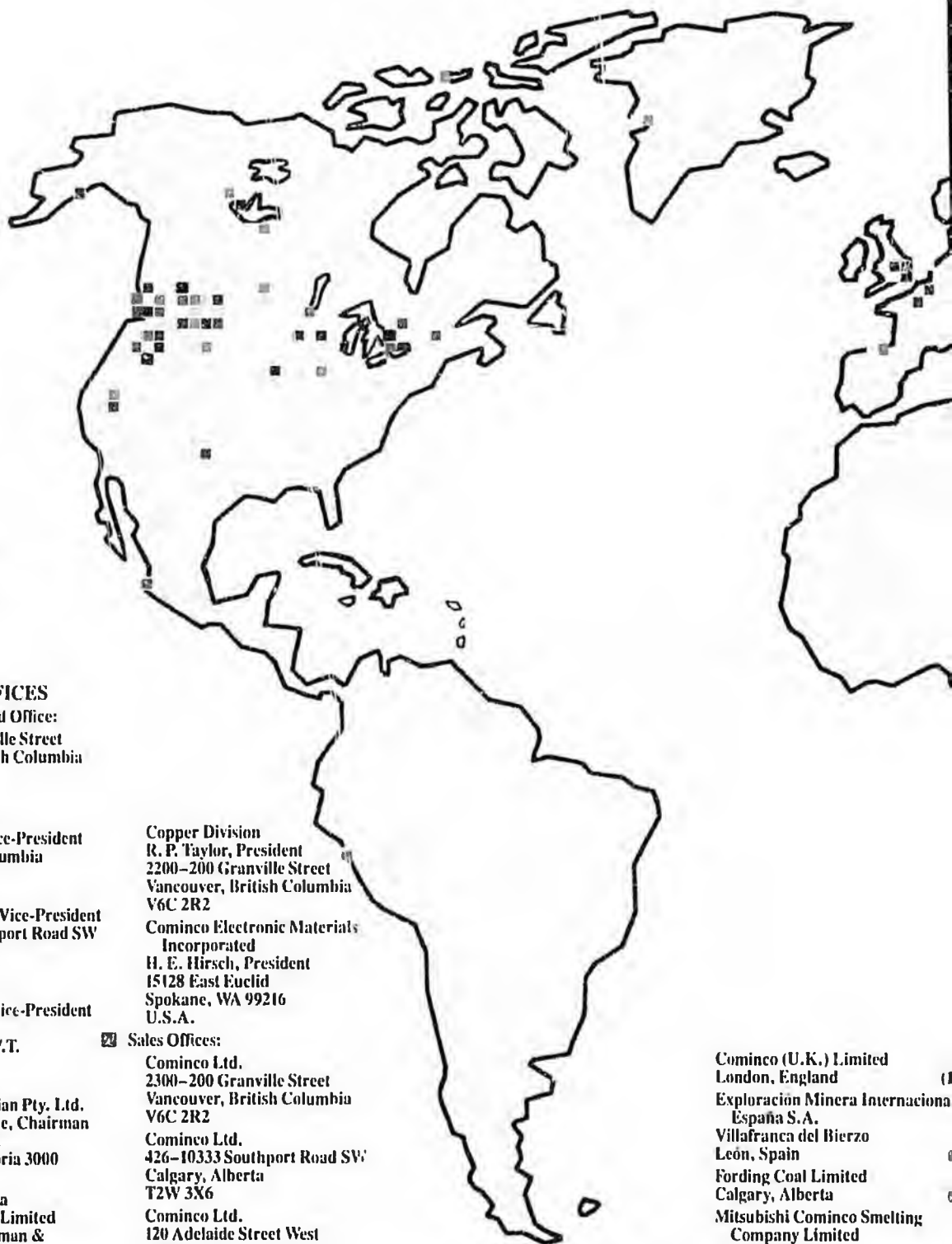
(Note 16 continues on following page)

## Segmented Information

Year Ended December 31, 1984

(Millions)

By Industry Segment	Mining and Integrated Metals		Chemicals and Fertilizers		Other Operations		Consolidated	
	1984	1983	1984	1983	1984	1983	1984	1983
<b>Revenue</b>								
Sales to external customers	\$ 902	\$ 767	\$ 503	\$ 443	\$ 180	\$ 165	\$1,585	\$1,375
Sales to other segments	35	31	3	3	4	4		
	\$ 937	\$ 798	\$ 506	\$ 446	\$ 184	\$ 169		
<b>Earnings</b>								
Operating profit (loss) before unallocated items, below	\$ 49	\$ (6)	\$ 64	\$ 34	\$ 19	\$ 17	\$ 132	\$ 45
General mineral exploration							(17)	(16)
Interest expense							(92)	(81)
Corporate — net							(17)	(16)
Income and resource taxes							5	27
Earnings (loss) before minority interest, gain or loss on translation, equity in earnings of associates and extraordinary items							\$ 11	\$ (41)
<b>Identifiable Assets</b>								
Segment assets								
— Operating	\$1,240	\$1,183	\$ 402	\$ 384	\$ 200	\$ 165	\$1,842	\$1,732
— Undeveloped properties and construction in progress	105	137	2	1	3	33	110	171
	\$1,345	\$1,320	\$ 404	\$ 385	\$ 203	\$ 198	\$1,952	\$1,903
Corporate assets								
Investment in associated and other companies							52	55
							96	125
<b>Total Assets</b>							\$2,100	\$2,083
<b>Depreciation, Depletion and Amortization</b>								
	\$ 85	\$ 71	\$ 23	\$ 22	\$ 8	\$ 7	\$ 116	\$ 100
<b>Capital Expenditures</b>								
	\$ 96	\$ 81	\$ 10	\$ 9	\$ 17	\$ 16	\$ 123	\$ 106
<b>By Geographic Region</b>								
	Canada		United States		Other Countries		Consolidated	
	1984	1983	1984	1983	1984	1983	1984	1983
<b>Revenue</b>								
Sales to external customers	\$1,120	\$ 980	\$ 406	\$ 325	\$ 59	\$ 70	\$1,585	\$1,375
Sales to other regions	109	96	10	9	—	—		
	\$1,229	\$1,076	\$ 416	\$ 334	\$ 59	\$ 70		
<b>Earnings</b>								
Operating profit before unallocated items	\$ 103	\$ 26	\$ 17	\$ 4	\$ 12	\$ 15	\$ 132	\$ 45
<b>Identifiable Assets</b>								
Regional assets								
— Operating	\$1,624	\$1,509	\$ 167	\$ 150	\$ 51	\$ 73	\$1,842	\$1,732
— Undeveloped properties and construction in progress	44	115	55	46	11	10	110	171
	\$1,668	\$1,624	\$ 222	\$ 196	\$ 62	\$ 83	\$1,952	\$1,903
<b>Depreciation, Depletion and Amortization</b>								
	\$ 93	\$ 79	\$ 15	\$ 12	\$ 8	\$ 9	\$ 116	\$ 100
<b>Capital Expenditures</b>								
	\$ 92	\$ 75	\$ 24	\$ 27	\$ 7	\$ 4	\$ 123	\$ 106



#### ■ PRINCIPAL OFFICES

Registered and Head Office:  
2300-200 Granville Street  
Vancouver, British Columbia  
V6C 2R2

#### Group Offices:

**B.C. Group**  
J. E. Fletcher, Vice-President  
Trail, British Columbia  
V1R 4L8

**Prairie Group**  
W. J. Robertson, Vice-President  
426-10333 Southport Road SW  
Calgary, Alberta  
T2W 3X6

**Northern Group**  
D. L. Johnston, Vice-President  
P.O. Box 1979  
Yellowknife, N.W.T.  
X1A 2P5

**Australia**  
Cominco Australian Pty. Ltd.  
N.A. Gilberthorpe, Chairman  
367 Collins Street  
Melbourne, Victoria 3000  
Australia

**Europe and Africa**  
Cominco Europe Limited  
P. Hansen, Chairman &  
Managing Director  
50 Finsbury Square  
London EC2A 1DD  
United Kingdom

**U.S.A.**  
Cominco American Incorporated  
J. L. Anderson, President &  
Chief Executive Officer  
818 West Riverside Avenue  
Spokane, Washington 99220  
Cominco Alaska Incorporated  
H. M. Giegerich, President &  
General Manager  
5660 "B" Street,  
Anchorage, Alaska 99502

**Cominco Engineering Services Ltd.**  
N. H. Booth, President  
Trail, British Columbia  
V1R 4L8

**Copper Division**  
R. P. Taylor, President  
2200-200 Granville Street  
Vancouver, British Columbia  
V6C 2R2

**Cominco Electronic Materials Incorporated**  
H. E. Hirsch, President  
15128 East Euclid  
Spokane, WA 99216  
U.S.A.

#### ■ Sales Offices:

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

**Cominco Ltd.**  
426-10333 Southport Road SW  
Calgary, Alberta  
T2W 3X6

**Cominco Ltd.**  
120 Adelaide Street West  
Suite 1500  
Toronto, Ontario  
M5H 1T1

**Cominco American Incorporated**  
818 West Riverside Avenue  
Spokane, Washington 99220  
U.S.A.  
(also Amarillo, Texas; Chicago,  
Illinois; Fargo, North Dakota;  
Lincoln, Nebraska; Minneapolis,  
Minnesota)

**Cominco Electronic Materials Incorporated**  
15128 East Euclid Avenue  
Spokane, Washington 99216  
U.S.A.

**Cominco (U.K.) Limited**  
50 Finsbury Square  
London EC2A 1DD  
United Kingdom

#### □ PRINCIPAL SUBSIDIARIES AND ASSOCIATED COMPANIES

(Cominco ownership in parentheses)

**Aberfoyle Limited**  
Melbourne, Australia (47%)

**The Canada Metal Company Limited**  
Toronto, Ontario (50%)

**Cominco American Incorporated**  
Spokane, Washington, U.S.A. (100%)

**Cominco Electronic Materials Incorporated**  
Spokane, Washington, U.S.A. (100%)

**Cominco Europe Limited**  
London, England (100%)

**Cominco Holdings N.V.**  
Amsterdam, The Netherlands (100%)

**Cominco (U.K.) Limited**  
London, England

**Exploracion Minera Internacional**  
España S.A.

**Villafranca del Bierzo**  
León, Spain

**Fording Coal Limited**  
Calgary, Alberta

**Mitsubishi Cominco Smelting**  
Company Limited  
Tokyo, Japan

**Pine Point Mines Limited**  
Pine Point, N.W.T.

**Vestron Mines Limited**  
Yellowknife, N.W.T.

**Greenex A/S**

**Marmorilik, Greenland**

**Western Canada Steel Limited**  
Vancouver, British Columbia (100%)

**Hawaiian Western Steel Limited**  
Ewa, Hawaii, U.S.A. (100%)

**West Kootenay Power and Light Company, Limited**  
Trail, British Columbia  
(Common Shares 100%)  
(Preferred Shares 100%)

\*On January 31, 1985 Cominco reduced its ownership interest from 69 to 51 per cent.



**OPERATING MINES**

- Ordlethan  
New South Wales, Australia
- Black Angel  
Greenland
- Buckhorn  
Nevada, U.S.A.
- Cleveland  
Tasmania, Australia
- Con  
Northwest Territories  
Canada
- Fording Coal  
British Columbia  
Canada
- Hondeklip  
Cape Province  
South Africa
- Magnont  
Missouri, U.S.A.
- Pine Point  
Northwest Territories  
Canada
- Polaris  
Northwest Territories  
Canada
- Que River  
Tasmania, Australia

- Rohitales  
Ciego, Spain
- Sullivan  
British Columbia  
Canada
- Vade  
Saskatchewan  
Canada
- Valley  
British Columbia  
Canada
- Warm Springs  
Montana, U.S.A.

**☒ METAL PRODUCTION AND FABRICATION**

- The Canada Metal Company Limited  
British Columbia  
Alberta  
Manitoba  
Ontario  
Quebec
- Cominco Ltd.  
Trail, British Columbia  
Canada
- Cominco Electronic Materials Inc.  
Spokane, Washington  
U.S.A.
- Hawaiian Western Steel Limited  
Hawaii, U.S.A.
- Mitsubishi Cominco Smelting  
Company Limited  
Japan
- Western Canada Steel Limited  
Calgary, Alberta  
Vancouver, British Columbia

**☐ CHEMICAL AND FERTILIZER PRODUCTION**

- Cominco Ltd.  
Trail and Kimberley,  
British Columbia, Canada  
Calgary and Carseland, Alberta  
Canada
- Vade, Saskatchewan  
Canada
- Cominco American Incorporated  
Beatrice, Nebraska  
U.S.A.
- Borger, Texas  
U.S.A.
- Owens Lake, California  
U.S.A.
- Warm Springs, Montana  
U.S.A.

**■ RESEARCH CENTRES**

- Trail, British Columbia
- Sheridan Park, Mississauga, Ontario
- Electronic Materials, Trail, B.C. and  
Spokane, Washington

**☒ EXPLORATION OFFICES**

- Cominco Ltd.  
Vancouver, British Columbia;  
Toronto, Ontario
- Cominco American Incorporated  
Spokane, Washington; Anchorage,  
Alaska; Reno, Nevada
- Cominco Europe Limited  
Guildford, England
- Cominco France S.A.  
Paris, France
- Cominco S.A.  
Brussels, Belgium
- Aberfoyle Limited  
Melbourne, Australia
- Compañía Minera Constelación S.A.  
de C.V.  
Guadalajara, Mexico
- Eland Exploration (Pty.) Ltd.  
Johannesburg, South Africa
- Cominco (Perú) S.R. Ltda.  
Lima, Peru

## Five Year Financial Summary

(All dollar amounts in millions except per share figures)

	1984	1983	1982	1981	1980
<b>Operations</b>					
Sales of products and services	\$1,585.3	\$1,374.7	\$1,234.7	\$1,416.9	\$1,442.7
Net earnings (loss)	24.2	(39.3)	(51.2)	70.3	171.1
— per Common Share*	0.17	(0.87)	(0.73)	1.12	3.18
Funds (deficit) from operations	122.9	31.6	(8.1)	201.3	307.7
— per Common Share*	1.73	0.29	(0.32)	3.51	5.85
Dividends on Common Shares	9.7	8.2	24.4	75.2	75.2
— per Common Share*	0.15	0.13	0.43	1.37	1.47
Capital expenditures	122.9	106.3	230.4	333.7	280.3
<b>Financial Position</b>					
Assets:					
Working Capital	\$ 159.8	\$ 187.0	\$ 221.0	\$ 292.0	\$ 323.7
Fixed assets (net)	1,375.9	1,360.2	1,359.8	1,242.4	909.9
Investments and other assets	128.1	151.2	156.0	151.4	129.6
	<b>\$1,663.8</b>	<b>\$1,698.4</b>	<b>\$1,736.8</b>	<b>\$1,685.8</b>	<b>\$1,363.2</b>
<b>Financed by:</b>					
Long-term debt	\$ 617.2	\$ 649.4	\$ 688.0	\$ 566.7	\$ 329.0
Income taxes not currently payable	133.8	144.5	175.5	219.2	172.9
Minority interests	32.0	34.6	38.4	45.4	90.4
Shareholders' equity	880.8	869.9	834.9	854.5	770.9
	<b>\$1,663.8</b>	<b>\$1,698.4</b>	<b>\$1,736.8</b>	<b>\$1,685.8</b>	<b>\$1,363.2</b>
Return on assets	4.6%	Nil	Nil	7.7%	16.4%
Return on common shareholders' equity	1.7%	Nil	Nil	9.3%	26.2%
Number of employees at year-end	10,287	10,466	10,797	12,643	12,296
Total employment costs	\$ 450.0	\$ 400.4	\$ 421.3	\$ 416.1	\$ 341.8
Market price per Common Share*					
(Toronto Stock Exchange) — High	\$20 $\frac{3}{8}$	\$21 $\frac{1}{8}$	\$18 $\frac{3}{8}$	\$24	\$27
— Low	\$11 $\frac{1}{4}$	\$14 $\frac{3}{8}$	\$11 $\frac{1}{4}$	\$14 $\frac{3}{8}$	\$15 $\frac{3}{8}$

\*Data per Common Share are adjusted to reflect the subdivision of the Common Shares on a 3 for 1 basis on May 4, 1984.

## Shareholder Information

### Transfer Agents and Registrars

#### The Royal Trust Company

Bentall Centre 1  
505 Burrard Street  
Vancouver, B.C.  
V7X 1R5

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

\*\*\*1660 Hollis Street  
Halifax, N.S.  
B3J 1V7

#### Bank of Montreal Trust Company

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

#### Stock Exchanges

Vancouver, Montreal, Toronto  
(Canada)

\*\*American (U.S.A.)

\*Series A and D Preferred Shares Only

\*\*Common Shares Only

\*\*\*Series D Preferred Shares Only

### Share Valuation

For Canadian capital gains tax purposes, the value of Cominco Ltd. Common Shares on Valuation Day, December 22, 1971, as established by the Department of National Revenue, was \$22.88 per share.

### Stock Holdings

The number of registered holdings of voting stock on March 6, 1985 was 19,729.

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

95.32% Canada  
4.30% United States  
0.12% United Kingdom  
0.26% Other Countries

### Dividends

Cominco's practice is to declare dividends on its Common Shares 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 shown in this Report of the Royal Trust Company, the Company's principal Registrar and Transfer Agent.

## 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.

Quarterly interim reports are mailed in May, August, and November. These reports contain unaudited 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.

The Company has been qualified under the Prompt Offering Qualification System for securities of senior Canadian issuers. Upon written request to the Corporate Secretary, shareholders may receive a copy of the Company's current Annual Information Form that has been filed under this system.

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. To be placed on direct mailing lists, shareholders and others should write to the Corporate Secretary, Cominco Ltd., Suite 2300-200 Granville Street, Vancouver, B.C., Canada. V6C 2R2.

## Directors and Officers

### Directors

- \*M. N. ANDERSON  
Chairman and Chief Executive Officer  
Cominco Ltd., Vancouver
- H. C. BENTALL  
Chairman, the Bentall Group  
Vancouver
- \*E. S. BURBIDGE  
Chairman and Chief Executive Officer  
Canadian Pacific Limited, Montreal
- \*R. W. CAMPBELL  
Chairman and Chief Executive Officer  
Canadian Pacific Enterprises Limited, Calgary
- R. P. DOUGLAS  
Executive Vice-President, Operations  
Cominco Ltd., Vancouver
- \*R. G. DUTHIE  
Corporate Director  
Vancouver
- S. E. EAGLES  
President,  
Canadian Pacific Enterprises Limited, Calgary
- R. HOUGEN  
Chairman of the Board  
Hougen's Limited, Whitehorse

- †D. J. KELSEY  
Consultant and Corporate Director  
Vancouver
- †R. A. MacKIMMIE, Q.C.  
Barrister and Solicitor  
MacKimmie Matthews  
Calgary
- †P. A. NEPVEU  
Corporate Director  
Montreal
- W. W. STINSON  
President  
Canadian Pacific Limited, Montreal
- F. H. TYAACK  
President and Chief Executive Officer  
Westinghouse Canada, Inc., Toronto
- \*W. G. WILSON  
President  
Cominco Ltd., Vancouver

### Officers

- M. N. ANDERSON  
Chairman and Chief Executive Officer
- W. G. WILSON  
President
- R. P. DOUGLAS  
Executive Vice-President, Operations
- R. R. STONE  
Vice-President, Finance

- O. E. OWENS  
Vice-President, Exploration
- K. H. SPURR  
Vice-President, Metal Sales
- J. GIOVANETTO  
Vice-President, Human Resources
- W. J. ROBERTSON  
Vice-President, Prairie Group
- J. E. FLETCHER  
Vice-President, B.C. Group
- D. L. JOHNSTON,  
Vice-President, Northern Group
- E. A. KOWALENKO  
Vice-President, Chemical and Fertilizer Marketing
- K. S. BENSON  
Vice-President, Corporate Secretary
- H. E. HIRSCH  
President, Electronic Materials Division
- R. P. TAYLOR  
President, Copper Division
- L. D. MARGERM  
Treasurer
- A. D. MILLER  
Comptroller
- B. J. PARTRIDGE  
General Counsel

\*Member of Executive Committee

†Member of Audit Committee

