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ALCAN  
ALUMINIUM  
LIMITED



ANNUAL  
REPORT  
1984

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# HIGHLIGHTS OF 1984

Principal Highlights	1984	1983	1982
Total shipments of aluminum ('000 tonnes)	1,790	1,902	1,707
Shipments of ingot products	577	728	758
Shipments of fabricated products	1,213	1,174	949
Total sales and operating revenues (U.S.\$ millions)	5,467	5,208	4,644
Net income (Loss) (U.S.\$ millions)	253	73	(58)
Capital expenditures (U.S.\$ millions)	427	382	643

## Financial, at end of year (U.S.\$ millions)

Working capital	1,488	1,452	1,361
Net fixed assets and investments	3,881	3,834	3,972
Long-term debt	1,350	1,499	1,749
Common shareholders' equity	2,916	2,799	2,511
Return on average shareholders' equity (%)			
Historical cost method	9	3	(2)
Current cost method	2	(2)	(3)

## Common Shares

Number of common shares outstanding at end of year (thousands)	99,118	96,929	85,189
Net income (Loss) per share (U.S.\$)	2.59	0.81	(0.69)
First quarter	0.85	(0.13)	0.14
Second quarter	1.01	0.03	0.06
Third quarter	0.53	0.30	(0.18)
Fourth quarter	0.20	0.57	(0.71)
Dividends (U.S.\$ per share)	1.20	0.90	1.35

## Company Profile

Alcan Aluminium Limited of Montreal, Canada, through subsidiary and related companies, is engaged in all phases of the aluminum business on an international scale.

The Group mines bauxite in eight countries, refines bauxite into alumina in ten, produces primary aluminum in nine, operates fabricating plants in more than twenty-five and sells its aluminum and related products throughout the world.

Alcan is a publicly owned company with some 67,000 shareholders, located mainly in Canada and the United States.

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## Cover Photo

The tinted aluminum cladding of Maison Alcan, the Company's new world headquarters, shines in the morning sun of Montreal.

The cladding was made with special anodizing-quality sheet produced by Alcan Aluminiumwerke GmbH in Germany.

## MESSAGE TO SHAREHOLDERS

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*David M. Culver, President and Chief Executive Officer, and Nathanael V. Davis, Chairman of the Board.*

or the aluminum industry, 1984 was a year of contrasts. After a first half which began with optimism and continuing growth, the events and pressures of the second half proved very chastening. The 1983 recovery in primary aluminum shipments by the industry continued into early 1984, but was then checked by a major reduction in customer inventories. The widespread re-start during 1983 of smelter capacity idled during the 1981-82 recession also continued into early 1984, causing what turned out to be an excessive increase in supply. By mid-year world primary aluminum inventories were rising steadily, and ingot prices were sliding. In response, some half a million tonnes a year of higher-cost smelting capacity was again progressively shut down during the second half-year. Inventories, however, continued to rise, only levelling off by year-end at above normal working levels.

This situation resulted in Alcan's realized ingot prices declining sharply in the second half of the year. On the other hand, fabricated product realizations fell only marginally in the second half and remained above 1983 levels for the year as a whole. Earnings in the first half-year were satisfactory at \$181 million, but declined in the second half-year to \$72 million, reflecting this adverse price movement and interrupting the steady climb in quarterly earnings from their low point in 1982. The earnings of \$253 million for the year as a whole compare with \$73 million in 1983. All regions participated in this improvement, which, though encouraging, still leaves earnings a long way from a satisfactory level. The financial strength of the company was maintained, and the year-end ratio of borrowing to shareholders' equity, including minority interests, improved from 36:64 to 34:66. Capital expenditure in 1984 was \$427 million, compared with \$382 million in 1983.

An industry under pressure often presents interesting opportunities. One such was our acquisition in 1982 of British Aluminium Company in the U.K. The resulting merger with our existing U.K. subsidiary is showing very promising results. We believe that the acquisition completed in January 1985 of aluminum assets from Atlantic Richfield Company, though different in scale, represents another valuable opportunity. It provides a means of expanding our operations in the U.S., the largest aluminum market in the world, without incurring the financial and time penalties of building new plant. It is a logical development of our U.S. manufacturing strategy, which originated in 1960.

The effect of the acquisition from Atlantic Richfield Company is to add approximately 50% to our existing sheet rolling capacity in the U.S., with

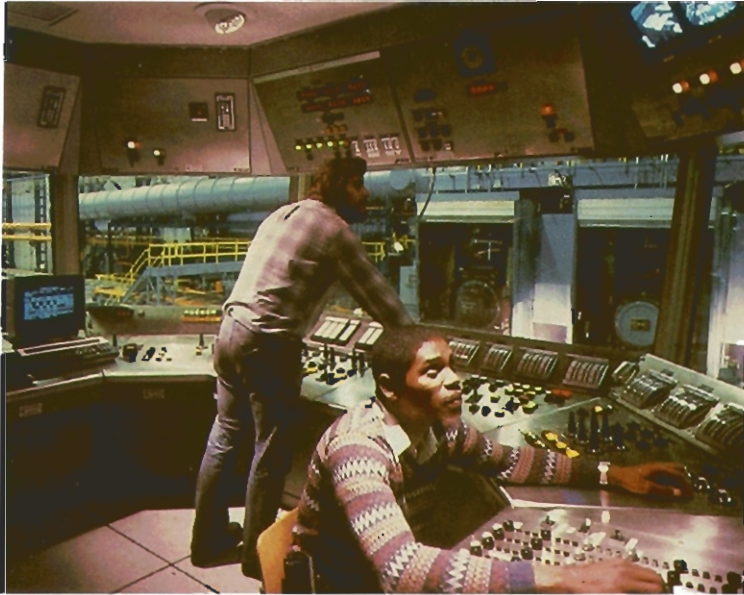
expansion possibilities especially at the Logan mill in Kentucky. It also puts us into foil products and primary aluminum smelting in the U.S. for the first time. We also acquired 25% of the Aughinish alumina refinery in Ireland, raising our stake in that operation to 65%. Although the process of acquiring these assets took longer than we had expected, we believe that the final result is a good one.

In October, we announced the postponement of our expansion plans for our hydro-electric and smelting investment in British Columbia. While this project is still one of great potential value to us, it is one which, in the current market outlook, cannot have a high priority. After the year-end, we also announced

the sale of our manufacturing interests in Mexico. We have had a successful position in Mexico for many years, but without a primary aluminum base for our operations there, we concluded that our capital could be put to better use elsewhere.

During the year, we have continued our emphasis on increased research and development effort to bring to market new and better products. Some of the ways in which we are doing this are described elsewhere in this report. While we will continue to remain significant sellers of primary aluminum ingot, we are developing higher added value products for which selling prices are less liable to the wide fluctuations of primary ingot. A good example is the family of new, high-strength aluminum-lithium alloys for which we have already supplied pre-production quantities to aircraft manufacturers. It is to this type of new product, and also to less established applications, that our intensive research and development effort is directed.

In meeting the demands of a rapidly changing business situation, we believe that the Regional structure for the management of our world-wide operations introduced late in 1983, is serving us well. It allows co-ordinated goal-setting and strategy development, coupled with decentralized operations geared to meeting our customers' needs and to deploying our resources wisely. The Company is continuing to take those steps necessary to bring down our breakeven point to the maximum extent possible, and maintaining the pressure to improve productivity and product quality. Any organisation is only as effective as the people in it, and the Board of Directors would like to acknowledge the efforts of Alcan employees around the world in meeting the challenges of today's sometimes frustrating conditions.



*The Logan rolling mill, of which Alcan acquired a 40% interest from Arco, uses state-of-the-art technology.*

Matters of environment, occupational health and safety have had an increasing emphasis. Highlights of 1984 include an in-depth audit of our Canadian fabricating operations, a process which is now being extended to our European companies. In India, an Alcan occupational health service centre has been set up in conjunction with the Canadian International Development Agency. This will not only benefit our own employees, but will also serve the local community.

On a personal note we were saddened by the unexpected death during the year of H. Stuart McEvoy, Vice President, Metal Planning and Administration at the age of 50. After 31 years of service, both his contribution and his personality will be sorely missed in the Company, as they will be in the many community bodies in which he served.

Three directors, Mr. John H. Hale, Mr. Paul H. Leman and Dr. Joachim Zahn will not be standing for re-election at the forthcoming Annual Meeting of Shareholders. We wish to express our thanks to them for their individual and valuable contributions over many years. It is interesting that between them they represent 37 years of service on the Board and, incidentally, 75 years of employment with Alcan.

In looking at 1985, it seems likely that there will be a continuation, perhaps at a slower pace, of the economic recovery that marked 1984, particularly in North America. For the aluminum industry, the question is whether it will be another year of sudden changes, or one of steady recovery. Whatever the course of events, it is encouraging that, following the primary production cut-backs in the second half of 1984, industry output levels appear to be in much better balance with demand. Within Alcan, along with others in the industry, we have adopted cost reduction, redeployment of our assets and continued product development as the cornerstones of our plan. These are all tasks that lie within our control. By succeeding in these, we place ourselves in the best position to cope with external events, however turbulent.



Nathanael V. Davis  
Chairman of the Board



David M. Culver  
President and Chief Executive Officer

Montreal, Canada  
7 February 1985



Aluminum has many strengths which can be put to work for the consumer. Lightness, the ability to conduct heat and electricity, resistance to corrosion – these are all valuable, but they must be interpreted individually to meet a given need. Understanding that need, and making aluminum work to meet it, is vital for aluminum's – and Alcan's – continued success. This means reaching out into the customer's plant and design offices. It means getting close to the customer's planning and problems, providing the solu-



*Alcan is more than just a foil supplier to the food industry – it actually designs and manufactures sophisticated filling and sealing equipment.*

tions and supplying the materials. Alcan does this all over the world, in many industries and in many ways. It is a key role of marketing, making the supplier and customer joint partners in problem solving, opening up markets for the benefit of both.

The challenges can be in design or in manufacturing, in gaining regulatory approvals or in establishing the right distribution methods. Whether it is food packaging in Germany, or automotive radiators world-wide, rail coal cars in the United States, or home improvement products in France, the aim is the same – an understanding of the customers' needs, and a commitment to serve them. It is this, and the ability to transfer solutions and apply them wherever they fit, that drive Alcan's marketing teams world-wide.

### Filling the gap

Take for example, Alcan and the food industry. Aluminum foil containers are very much part of the scene, from simple jam-packs to ready-prepared gourmet meals. But high-speed filling of containers can cause messy problems if things go wrong on the line. Containers have to be married very precisely to the food processor's equipment for trouble-free operation, and with variable sources of supply, this is not always achieved.

In Germany, Alcan Ohler, which produces foil containers, solved this problem by designing and manufacturing the filling and sealing machinery itself, in close co-operation with the food processors. Variable running speeds, different container sizes, multiple compartment requirements, splash-free filling, effective lid-sealing – all these had to be accommodated in the machinery designs, which had to be flexible enough to suit different food processors' requirements, and yet standardized enough to allow a few models to cover the full range.

Designed around Alcan containers, and with back-up maintenance service, this machinery package takes the problem off the food processor's shoulders, and puts Alcan Ohler one major step ahead of the competition.

This is the kind of marketing that really does make the supplier and the customer joint partners in serving the ultimate consumer.

## Opening up the can market

Perhaps one of the largest marketing efforts undertaken by Alcan in recent years was aimed at the introduction of the all-aluminum beverage can in Canada.

Four years ago, when the drive was initiated by Alcan Canada Products, the all-aluminum, 100% recyclable beverage can was practically non-existent in Canada, as a result of strong lobbies leading to discriminatory regulations in some provinces. The only type of beverage can accepted at the time was the aluminum-top steel-body can, which environmentalists disliked because

Crucial to the recycling of the aluminum can was the definition and subsequent establishment of an efficient recovery system for the used cans. In the last four years, Alcan has commissioned various studies and pilot projects in the provinces of Ontario and Quebec, to demonstrate the viability and social usefulness of multi-material recycling. Such a system, new to Canada and still being developed, will serve to collect not only the aluminum cans but also other recyclable materials such as newspaper, glass and plastic which otherwise go straight to the municipal dumps.

For the scheme to succeed, it was necessary to convince all the interests involved that such a recycling system for aluminum cans would be of benefit to them also. Alcan therefore had to reach out to a broad range of industries, environmental groups, municipalities and, ultimately, to the provincial governments themselves. Our efforts finally brought us widespread support, even from some of the environmental groups opposed to the all-aluminum can a decade ago.

Alcan has spent some \$2 million in its marketing efforts to introduce the can in Canada. This investment is paying off. A first breakthrough was achieved in Quebec in 1982, enabling construction by our customers of the first Canadian aluminum can plants the following year. Aluminum cans are now also being sold in Western Canada and the Maritimes and, starting in 1984, to the Ontario beer market.

"For Alcan, the aluminum can is a very interesting market opportunity" says Allan Wakefield, Alcan Canada Products' vice president for business development. "But we also think it will mean the start of a whole new recycling industry in Canada, creating socially useful jobs and enhancing the environment. And that is the icing on the cake."



*Top: Multi-material recycling starts at home, as citizens are asked to segregate their recyclable waste in special containers.*

*Bottom left: Recyclable materials are picked up and sorted out by private operators before being sold to recyclers.*

*Bottom right: Used aluminum beverage cans, crushed and baled, are ready for recycling.*

it was neither reusable nor economically recyclable.

It was this legislation – not lack of consumer demand – which prevented the establishment of the aluminum beverage can in Canada. The challenge was to get the regulations liberalized, by establishing the aluminum can as the symbol and the economic backbone of recycling in Canada. This approach was built on a fundamental property of aluminum, already well recognized in the United States – its exceptionally high recycling value.

## Venturing into coal cars



*Alcan uses computer-aided design in the engineering of the aluminum-intensive coal car.*

The light weight of aluminum makes it an ideal material for transportation, whether by air, water or land. One remaining application with a relatively large, untapped potential is that of rail freight cars in the United States. To help put aluminum on the right track, Alcan Aluminum Corporation, Alcan's operating subsidiary in the U.S., formed a joint venture in 1984 with Thrall Car Manufacturing Company to design, manufacture and market aluminum-intensive freight cars.

Herbert Taber, Alcancorp's vice president for marketing and sales, explains, "Thrall is one of the most experienced and lowest-cost independent rail car builders in the U.S. Alcan has on its side more than 20 years of experience in designing aluminum-intensive cars in Canada as well as also being involved in their

construction in Australia. Together, the two companies make a great team."

The Thrall-Alcancorp joint venture has started by developing a prototype of a rotary dump gondola car for coal. This prototype is expected to be completed in the Spring of 1985, and marketing will start as soon as testing has been successfully completed.

"Aluminum coal cars weigh one third less than conventional cars," says Mr. Taber. "Their payload is about 10% higher, and fuel consumption to haul them is significantly reduced. They may cost more initially, but their greater earning power rapidly offsets this additional capital outlay. In fact the more they roll, the faster the payback. And, aluminum cars last longer."

The joint venture will also work on other types of rail car designs. Costs to each party will be charged to the joint venture, and profits will be shared. For Alcan, this close working relationship with a customer is a rewarding way of putting its design skills to work to add value and profit to its products.

## Unlocking the radiator market

Sometimes it is a piece of technology which is needed to solve a customer's problem and unlock an outlet for aluminum. A good example is automotive heat exchangers - radiators, oil coolers, air-conditioning units. Aluminum's lightness and good heat conductivity make it the natural choice of the automotive designer, who is faced with increasing demand for air-conditioned vehicles, as well as the need to improve vehicle performance.

But traditional joining methods caused problems to which solutions had to be found. As a result, Alcan developed the patented NOCOLOK<sup>®</sup> flux brazing process, which offers a number of advantages over the traditional methods - lower cost, longer life, a less critical production process, better environmental features. License agreements with manufacturers round the world have put these advantages to

work. "A NOCOLOK<sup>®</sup> license, and its associated technology package, really do meet the different requirements of a wide range of manufacturers," says Jim Rogers, Alcan's Heat Exchanger Programme Manager. "It is enabling designers to take full advantage of aluminum's properties to improve vehicle performance."

Japanese manufacturers serving the automotive industry were among the first to recognize the advantages of the NOCOLOK<sup>®</sup> process. Nippon Light Metal, an Alcan affiliate, built its own heat exchanger plant in 1980 to exploit and develop the process, followed quickly by Nihon Radiator, a company in the Nissan group, which adopted the process for their production of condensers for automotive air conditioners.

Nihon Radiator has now extended its use of the process for the manufac-

ture of the radiators in one of Japan's most prestigious automobile designs, the Nissan Skyline. It has also recently completed a plant in Tennessee, U.S., (Calsonic Manufacturing Corp.), and announced that it will build another in Australia, (Nichira International), both of which will produce automotive heat exchanger components using the NOCOLOK<sup>®</sup> process. Other Japanese companies, including Nippon Denso, one of Japan's largest automotive heat exchanger manufacturers, have signed NOCOLOK<sup>®</sup> licenses.

In the U.S., it is hoped shortly to conclude license agreements with a number of leading U.S. manufacturers of automotive heat exchangers.

In what is a 'world product' industry, this development has helped to open up a market for Alcan's own 'world products'.



## Teaching customers



*Technal provides the ALUMINIERS<sup>®</sup> – the professionals of aluminum – with technical training, as well as sales guidance and promotional assistance.*

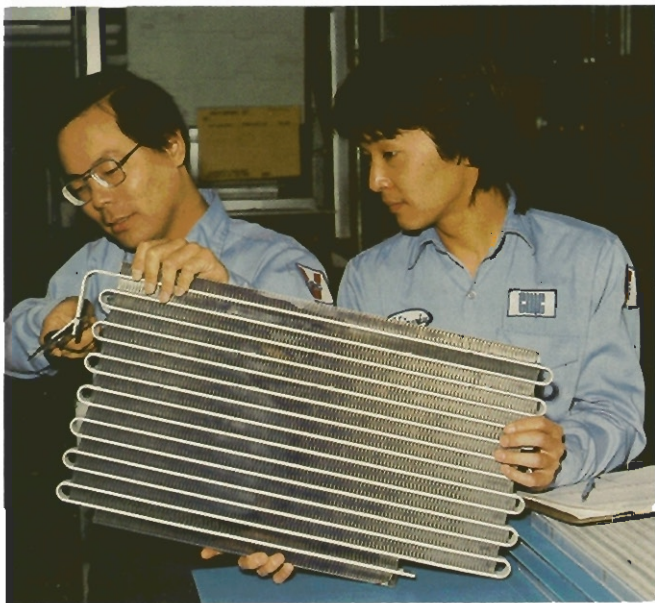
It is a long way from a bare aluminum extruded section to a new add-on sun lounge for a house, or a set of replacement double windows. The house owner wants a good looking product that performs well, and can be quickly and efficiently supplied. Alcan ensures that he gets both. Its European subsidiary Technal S.A., of Toulouse, France, covers the whole process from initial design to in-home performance.

Design is the first step. Technal modular components are assembled without screws, rivets or welds into a series of Technal-designed systems – for sun-lounges, balconies, shutters, replacement windows and other home improvement products – each capable of being custom-fitted and installed in individual homes by thousands of local independent fabricators – Technal's customers. National and local promotion creates the interest and the local fabricator calls to discuss the home owner's needs, and quote for installation.

Technal supplies its customers – nearly 10,000 of them – not only with the finished aluminum extrusions, but with all the hardware and tooling necessary to assemble and install its various designs. It has recently taken a step further, and appointed a number of selected customers as partners and agents in Technal's market development policy – the Technal ALUMINIERS<sup>®</sup>.

“We decided that if we were to stand behind the workmanship of the franchised companies – the Technal ALUMINIERS<sup>®</sup> – who instal our designs, we had to offer a full training for their staffs,” says Gérard de Saint-Remy, President. “At our Toulouse headquarters, we offer residential courses in aluminum product fabrication, in cost-estimating and in sales and marketing. That way we really see that the homeowner's needs are being met properly. If the work carried out by an ALUMINIERS<sup>®</sup> does not meet Technal standards, his franchise may be – and in some cases has been – withdrawn.”

From market research through design to promotion and service, Technal works with its customers to serve and develop the home owner market. As well as a very successful business, Alcan has developed in Technal a major “pull through” marketing tool for its main-line extrusion business.



*Cabsonic Manufacturing Corp., a subsidiary of Nihon Radiator in the U.S., uses Alcan's NOCOLOK<sup>™</sup> brazing process in the production of condensers for automotive air-conditioners.*

*The prestigious Nissan Skyline is equipped with an aluminum radiator built using Alcan's NOCOLOK<sup>™</sup> brazing process.*



Alcan's operations around the world benefitted from improved conditions during the first half of 1984, recording net income for the year of \$253 million compared with \$73 million in 1983 and a loss of \$58 million in 1982. Return on average shareholders' equity was 9%, up from 3% in 1983. The following review of operations reflects the diversity of the Company's markets.

### Canada

Earnings from Canadian smelter, fabricating and other operations were \$141 million in 1984, compared with \$105 million in 1983 and \$29 million in 1982.

Aluminum ingot production increased to 1,075,000 tonnes in 1984 from 945,000 tonnes in 1983, but lower shipments outside North America caused inventories to rise significantly.



*New machines, equipped with air-filtered cabs, are being introduced in Alcan's Quebec smelters as an additional protection for employee health.*

As a result, the Company shut down two potlines late in 1984 at its smelter in Jonquière, Quebec, representing 37,500 tonnes of annual capacity.

Net income from smelter operations was greater than in the prior year due to higher average selling prices. Production costs increased marginally, principally as a result of higher alumina costs, while employment levels were reduced slightly. In September 1984, following nine months of negotiations, a three-year agreement was signed covering approximately 7,000 smelter employees in Quebec. It provides for wage increases in most cases of 12.5% over the three-year life of the contract. The collective labour agreement for the 2,800 employees at the Kitimat, British Columbia, smelter expires in June 1985.

Capital expenditures in 1984 in Canada totalled \$194 million. Work progressed on a 44,000 tonnes a year aluminum fluoride plant in Quebec which will supply the Company's Canadian smelters. The plant is scheduled for completion in mid-1985. Late in 1984, construction began on an anode baking centre in Jonquière to replace obsolete facilities.

Plans were announced to build a 248,000-tonne smelter at Laterrière, Quebec in three stages, as part of a long-term rebuild of obsolete smelter capacity in the province. The smelter will employ state-of-the-art technology for

the protection of employee health and the external environment.

In September, the Company and the Quebec provincial government signed leases extending Alcan's water rights to the Péribonca River in the Saguenay-Lac-Saint-Jean region. The leases run through 31 December 2033.

Canadian fabricating operations had a difficult year overall as falling prices in the second half and strong competitive pressure erased much of the gains made in the first six months. An uneven economic recovery in Canada, both sectorially and regionally, added to the challenge.

Total shipments of ingot and fabricated products were 215,000 tonnes, compared with 195,000 tonnes in 1983 and 160,000 tonnes in 1982. The introduction of aluminum beer cans in Canada led to higher sales of can body stock while strength in the automotive castings market allowed a significant rise in foundry alloy sales.

Wire and cable operations continued at high levels, exceeding 1983 results. Rod sales, in particular, were up substantially as bare cable demand was above expectations. A new aluminum alloy, Neal 10920<sup>®</sup>, was introduced. It is designed to provide secure and reliable connections and better stability at high temperature for building wire and underground service cable. Aluminum substitution for copper conductor products is expected to increase significantly in these applications.

A restructuring of extrusion operations was initiated in 1984 to ensure their long term competitiveness. Over an 18-month period, the aging facilities at Kingston, Ontario, will be phased out and the regional press operations will be strengthened by the relocation of two medium-size presses to Toronto and Vancouver and construction of a billet casting facility in Toronto.

## United States

Led by a strong performance by its sheet and plate unit, the Company enjoyed a successful year in the United States in 1984. Total shipments reached 519,000 tonnes, a new company record, compared with 499,000



*Top: Alcan's Greensboro, Georgia plant, which will have a new sheet ingot casting center, recycles used beverage cans and other aluminum scrap.*

*Bottom: Construction of a new hot rolling mill at Alcan's Pindamonhangaba sheet complex in Brazil was 30% complete at the end of 1984.*

tonnes in 1983 and 368,000 tonnes in 1982. Falling prices toward year end, however, resulted in a decline in net income to \$17 million, from \$24 million in 1983. In 1982, U.S. operations incurred a loss of \$1 million.

Demand for sheet and plate products from automotive, industrial products and distributor customers was at good levels while rigid container sheet sales exceeded the Company's U.S. capacity. Can stock was purchased from subsidiaries in Germany and Canada to meet some requirements as part of the Company's strategy to build markets ahead of capacity. Metal was also tolled through another company in the U.S. under a contract which expired at the end of 1984.

As a result of these activities, Alcan is in a good position to provide an adequate load on facilities acquired in early 1985 from Atlantic Richfield Company. Among these is a 40% interest in a 'state-of-the-art' rolling mill in

Logan County, Kentucky, designed to produce can sheet. It is expected that the new plant will be producing can sheet by the middle of the year.

U.S. housing starts increased only 4% and the building products unit maintained total shipments near 1983 volume in a very competitive environment. Aluminum siding was complemented to an increasing degree by vinyl siding manufactured by the Company and distributed through its extensive network of independent distributors, contractors and own

service centres.

Metal Goods – the largest U.S. distributor of non-aluminum high-temperature, corrosion-resistant alloys – had flat results but good progress was made in productivity through the computerization of its inventory system.

Capital spending during 1984 totalled \$45 million. A portion of this was on a \$10 million sheet ingot casting facility at the Company's Greens-

boro, Georgia, recycling plant for used beverage cans to be completed during 1985. Work also continued on a \$14 million quality improvement and modification of the coolant system on the 100" rolling mill at Oswego, New York, which is the final stage in a program to ensure the mill's competitiveness.

## Latin America

The business environment in Latin America improved in 1984 but domestic demand for aluminum products was virtually flat. Nevertheless, operations in the area posted net income of \$39 million, significantly better than the \$11 million loss incurred in 1983 and the \$15 million earned in 1982. The principal reason for this turnaround was an improved ability to keep prices abreast of inflation. Shipments increased to 131,000 tonnes from the 1983 and 1982 levels of 114,000 and 118,000 tonnes, respectively.

The Company's wholly-owned subsidiary in Brazil faced its third straight year of depressed domestic demand, but aggressive selling in the export market permitted most facilities to be operated at or near capacity. Installation of a new hot rolling mill at Pindamonhangaba, near Sao Paulo, continued on schedule and below budget. The hot mill, which will enable the Brazilian subsidiary to deliver 95,000 tonnes of quality finished rolled products annually to domestic and export markets, is expected to begin operations in late 1986. At that time this aluminum rolling complex, of which the new mill is an integral part, will be the only modern complex of this size in Latin America.

Mineraçao Rio do Norte, a bauxite-mining consortium in Brazil's Amazon region in which Alcan has a 24% participation, had another successful year with higher sales in both domestic and export markets. Operations in Argentina and Uruguay returned to profitability while in Colombia a 49%-owned company posted lower results. In January 1985, the Company announced the sale of its 48.8% equity interest in its Mexican fabricating company for \$35 million, which approximates the book value of the assets.

## Europe

Despite a slower economic recovery in Europe than in the United States, Alcan's smelters and fabricating plants in the region reported encouraging results in 1984, reflecting higher productivity and plant efficiencies. Net income was \$51 million, compared with \$26 million in 1983 and a loss of \$128 million in 1982. The 1984 result includes a sizeable loss from an alumina joint venture in Ireland which is owned and managed by Aluminum Company of Canada, Limited.

Strong demand in the packaging and transportation markets boosted shipments of rolled products and castings while stagnation – and in some countries a decline – in the building industry affected the extrusion business. Shipments by Alcan companies to the European market totalled 520,000 tonnes, compared with 567,000 tonnes

in 1983 and 438,000 tonnes in 1982.

United Kingdom operations continued to improve performance, reaping the benefits of a major rationalization program begun in 1983 following an acquisition which nearly doubled the size of Alcan's subsidiary in that country. Net income in the U.K. was significantly above the 1983 level despite the negative effects of a national coal strike which caused the shutdown of the company's power station at the 120,000-tonne Lynemouth smelter in August. Arrangements were made to obtain power from the national grid.

In early 1985, the Company's plant at Kitts Green, Birmingham, will start up a new casting centre for the production of aluminum-lithium alloys which will be marketed worldwide under the trade name Lital<sup>®</sup>. These new alloys are lighter and stronger than conventional aluminum alloys and are designed for use by the aerospace industry. During 1984, the Company

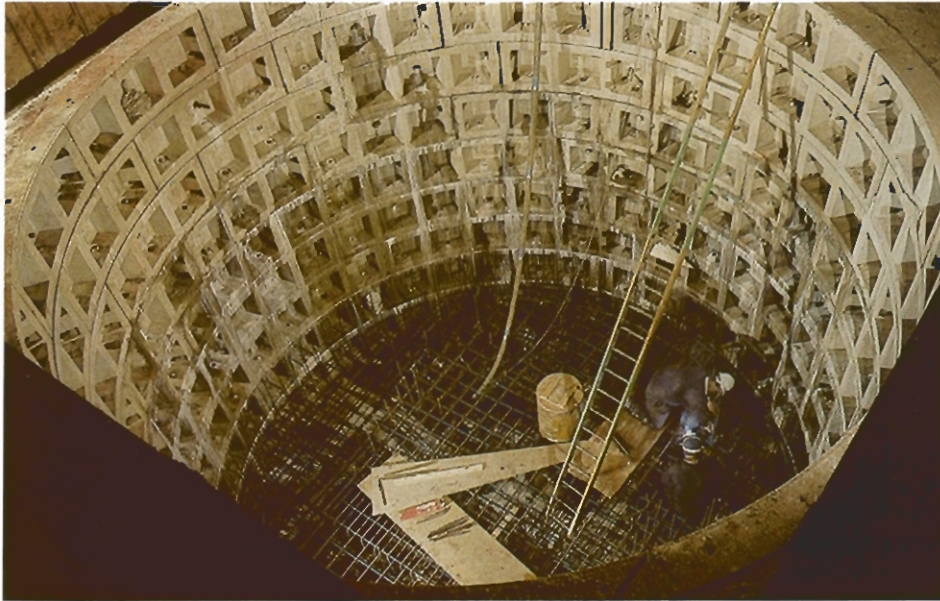
other products for the automotive industry. Efforts continued in 1984 to increase the penetration of the aluminum can in the face of sharp increases in the local currency values of aluminum sheet relative to competing materials. During the third quarter the Company signed a two-year contract with the local power authority for its 44,000-tonne smelter at Ludwigshafen.

Extrusion shipments in Europe were lower while demand for sheet products in Italy was steady. In France, Alcan acquired a majority position in Technal International, a company active in the design and distribution of aluminum architectural systems.

In Spain, 36.4%-owned Empresa Nacional del Aluminio (Endasa) faced weak demand for sheet and extrusions. However, Endasa's two 55%-owned subsidiaries – one consisting of a modern smelter and the other a new alumina plant – operated at satisfactory levels. Discussions are taking place with Instituto Nacional de Industria, the government-owned majority shareholder in Endasa, concerning a possible restructuring of the Spanish aluminum industry.

Alumina production at a 40%-owned joint venture at Aughinish in Ireland was satisfactory at 83% of the rated annual capacity of 800,000 tonnes. Because of weak demand for alumina, the Company sustained a loss on its share of the operations. On 18 January 1985, the Company increased its interest in the plant to 65% as part of its acquisition of assets from Atlantic Richfield Company.

Capital expenditures in Europe of \$35 million were largely limited to improvement of productivity and plant efficiencies. Improved cash generation was used to further strengthen the financial structure of the operating companies in the region.



*New melting and casting equipment under installation at Alcan's Kitts Green, U.K.. Works will allow commercial production in early 1985 of a new range of aluminum-lithium specialty plate for the aerospace industry.*

inaugurated production facilities for superfine aluminas at Burntisland, Scotland. Products include fire retardant chemicals, toothpaste additives and cosmetic perfume carriers which are marketed in both Europe and North America.

Operations in Germany produced a substantial improvement in net income. This was achieved despite a three-month strike in the domestic metal-working industry which had negative effects on the demand for castings and

## Pacific

Results were mixed in the Pacific region during 1984 but net income, at \$33 million, was significantly better than losses of \$28 million in 1983 and \$14 million in 1982. The turnaround was due largely to better results from



*Top: Alcan's newly established Pacific Regional Management opened its new office in Vancouver, Canada, in 1984.*

*Bottom: Work on the third potline at Alcan's Kurri Kurri smelter in New South Wales, Australia, nears completion.*

Australian operations following two years of losses.

The Australian economy expanded at a healthy rate in the first half of the year. Coupled with higher international ingot prices, this enabled 70%-owned Alcan Australia Limited to earn profits for the first time in three years. However, earnings in the second half were adversely affected by sharply lower ingot prices and the company deferred the start-up of a 55,000 tonne expansion at its Kurri Kurri smelter in New South Wales. Work on the new potline will be completed early in 1985, raising annual smelter capacity to 150,000 tonnes. Capital cost of the project, including capitalized interest, is \$250 million.

The fourth expansion at Queensland Alumina Limited, which brought its annual capacity to 2.7 million tonnes from 2.3 million tonnes, was successfully brought into production during the year. Alcan owns a 21.4% interest in the plant and is entitled to an equivalent share of its output. The plant supplies alumina for the Company's smelters in Australia and British Columbia.

In New Zealand, the domestic economy showed some improvement and the Company's 69.2%-owned subsidiary recorded an increase

in profits.

Fabricating businesses in Malaysia, Indonesia and Thailand encountered difficult market conditions in 1984 and suffered losses. The commissioning of a new rolled products plant in Malaysia, in which Alcan has a 40% interest, was virtually completed during the year. This substantial increase in capacity occurred at a time of weakness in the domestic market and competitive conditions internationally.

Indian Aluminium Company, Limited, 50.5%-owned, recorded a profit after suffering a loss in 1983. Smelter capacity utilization was restricted to 44% for the second consecutive year because of power shortages from state-owned utilities. However, higher prices for fabricated products and ingot, and

improved efficiencies in fabricated operations enabled a return to profitability.

In Japan, 50%-owned Toyo Aluminium K.K., the largest foil roller in Japan, had a satisfactory year in terms of both revenues and profits. Results were bolstered by declining prices on ingot purchases.

Nippon Light Metal Company Limited, also 50%-owned, made good progress in its planned transition to a manufacturer of higher value-added products from being principally a producer of ingot and semi-fabricated products. The company broke even after posting a loss in 1983.

Under very competitive conditions, shipments in the region by all Alcan companies were sharply lower at 342,000 tonnes, compared with 439,000 tonnes in 1983 and 567,000 tonnes in 1982. Ingot shipments to the region from the Company's Canadian smelters declined substantially from the levels of the two previous years, especially to the People's Republic of China. Ingot shipments to Japan were also lower.

## Other Areas

Alumina operations in Jamaica were unprofitable in 1984 for the third consecutive year but losses were lower than in 1983. A new levy agreement signed with the government during the year achieved some progress toward the necessary goal of making Jamaican alumina more competitive in world markets.

Fabricating subsidiaries in Africa continued to face difficult conditions. In the Ivory Coast, a 70%-owned roofing company operating in an extremely depressed market for building products accrued unacceptable losses and this led to a decision late in the year to cease operations.

Hulett Aluminium Limited in South Africa, in which Alcan holds a minority position of 24%, operated profitably in a weakening market for its semi-fabricated and fabricated products.

## R & D

For Alcan, the quality of its Research and Development activity is a measure of its future. In support of this, the company has dedicated increasing resources to its R & D effort during the turbulence of the past few years. Despite fluctuating earnings, R & D expenditures have steadily risen from \$55 million in 1982 to \$60 million in 1983 and \$66 million in 1984. This commitment has been accompanied by a major re-evaluation of the company's R & D strategy and how it should be managed.

The factors that are leading to a restructuring of the aluminum industry are leading also to changing needs and directions in R & D. World industrial growth has slowed during the past decade. Changing energy costs and new technologies are altering the relative values of materials. In this new

scene, aluminum's unique combination of properties continues to offer many advantages. It is the harnessing of these advantages which is receiving greater emphasis in Alcan's R & D strategy.

Vital work continues in extending and improving the technology of the basic processes – reducing process costs, improving performance. Results in 1984 have included some real breakthroughs – the new Alcan 275 smelting technology, leading the industry in productivity and energy efficiency; the TAC process for purifying metal, winner of an award for scientific excellence from the U.S. magazine "Research and Development".

To this work is being added greater emphasis on planning and managing of product development programmes. There is already a rising tide of inventive activity. The number of invention records filed by Alcan R & D in each of the past two years has risen by 25% and is twice the average of the last 10 years.

medium-term business plans to those with a 10-year or even 20-year horizon, often involving new technologies. An important element is the "packaging" of a technological development, so that it may be transferred and used by Alcan companies around the world.

To help set the right priorities, the Technical Strategic Council was formed in 1983. As well as comprising senior Alcan managers and Dr. Roger Gaudry, a director of the Company, it also includes outside scientists – Dr. Karl Kussmaul of the University of Stuttgart, Germany, Dr. J. E. Goldman, formerly Chief Scientific Officer of Xerox Corporation, and Dr. James Utterback of Massachusetts Institute of Technology. The purpose of the Council is to provide guidance in technical strategy and for long range R & D planning and decision making. Through its outside members it draws on valuable experience and knowledge of technological developments in fields other than aluminum.

During 1984, the Council has helped the company management to evaluate technological prospects, assign priorities, and ensure that a proper balance was achieved between projects with a short-term return and those with a long-term potential. According to Mr. Thor Suchoversky, President of Alcan International, "Perhaps one of the most challenging duties of the Technical Strategic Council is to help Alcan manage success and failure in research. There's a strong speculative aspect to research and development and not every attempt at progress is going to be a successful one. It is as crucial, therefore, to recognise when a project must be dropped as it is to recognize and reinforce a success."

Effective management of the right combination of programmes is a key factor in Alcan's success. Much has already been achieved, particularly in the process development field. The R & D efforts of the past three years towards product development will begin to show fruit in 1985 and beyond.



*A final prototype of Alcan's newly developed 275-kiloampere electrolytic cell was built and tested during 1984, at the Company's R & D facility in Jonquière, Québec.*

Management of Alcan's R & D is the responsibility of its fully-owned subsidiary, Alcan International Limited, with almost 1,000 people working in corporate engineering and at four research laboratories in Canada and the U.K. It also co-ordinates joint research programmes with the laboratories of affiliated companies in Japan and India. Research and development programmes range from those which are tied in closely with short-to

Business Conditions

**D**

espite a strong economic recovery in the United States and

Japan, and good growth in most aluminum consuming markets, shipments by producers in 1984 failed to reach anticipated levels. International ingot spot prices declined throughout the year and producer shipments of primary aluminum in all forms in the Western world appear to have remained unchanged from the 11.9 million tonne level of 1983. Aluminum consumption, on the other hand, increased about 7% – in line with world industrial production – with the full increment coming out of customer stocks.

Alcan estimates that net shipments in the U.S. increased about 6% although domestic producers did not reap the full benefit because of imports. European producer shipments experienced a small decline despite a high level of exports, principally to the U.S. In Japan, there was little change from 1983 domestically but can sheet exports to the U.S. were higher.

World producer inventories (adding International Primary Aluminium Institute inventories to those of commodity exchanges and the Japanese stockpile) rose to approximately 4.7 million tonnes from 4.0 million tonnes at the end of 1983. Although this was a relatively modest inventory build-up by past industry standards, international spot prices, defined as the average of the U.S. "Metals Week" quotation and the London Metal Exchange cash price, dropped 29% to an average of \$1,122 per tonne in the fourth quarter from \$1,593 for the same 1983 period.

The accompanying charts illustrate the relationship between producer shipments and production, inventories and ingot prices. During 1983, as the world economy pulled out of one of its severest recessions, seasonally-adjusted shipments rose sharply following nearly three years of decline. In 1984, however, shipments dropped off suddenly in the first half even though U.S. GNP was growing at a 7.7% annual rate.

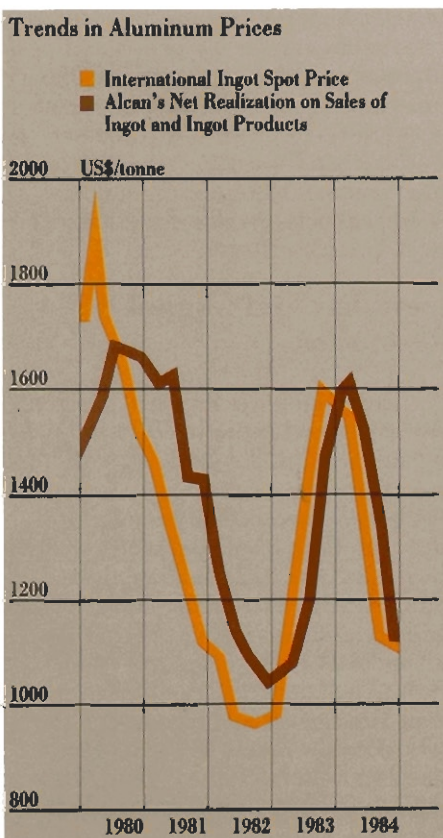
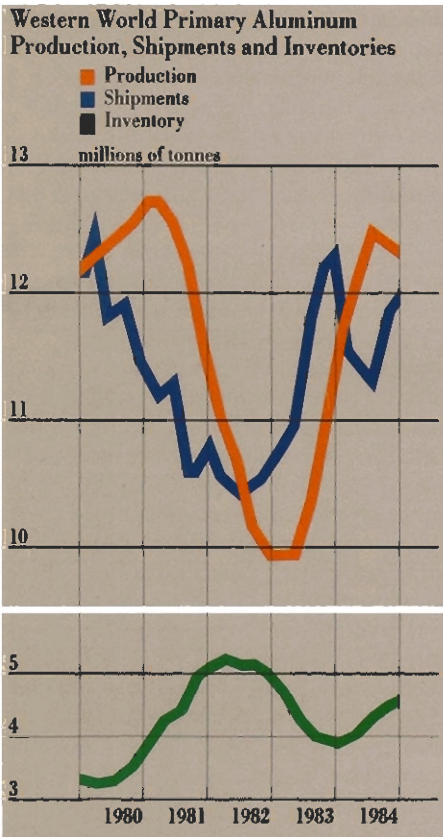
This paradox is explained principally by the unprecedented rise in the smelter capacity utilization rates during 1983 when about two million tonnes of capacity was activated, mostly in the second half. As more and more capacity came on stream, customers became convinced that perceived shortages of

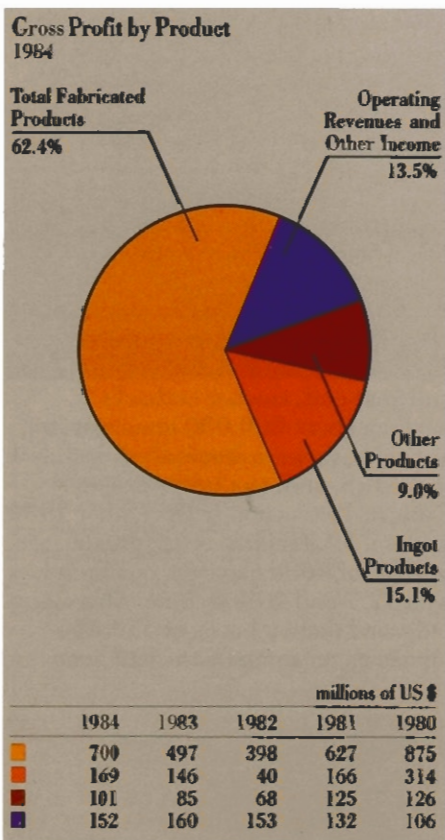
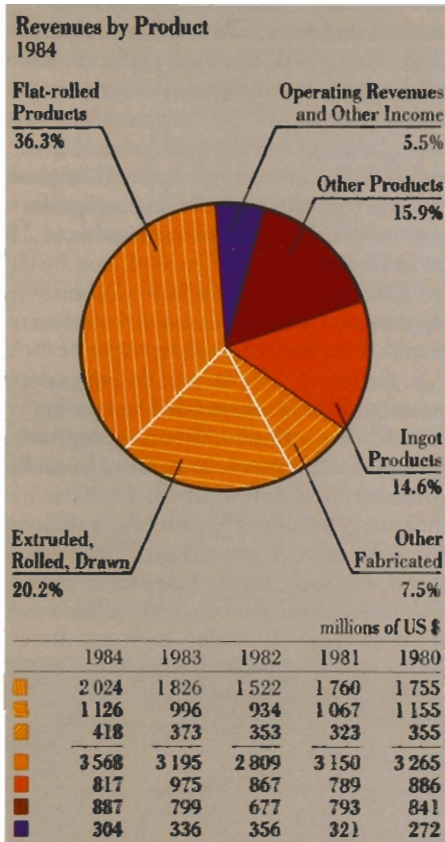
aluminum would not materialize and that prices were not likely to rise significantly. With the benefit of hindsight, it also appears that customers had overstocked in this period to protect against higher prices. When the supply of aluminum had increased sufficiently to cap the rise in prices, their reaction was to cut back on 1984 purchases. High real U.S. interest rates provided further impetus to reduce stocks and a significant inventory liquidation phase was set in motion.

Strong pressure on U.S. dollar ingot prices was also being exerted as a result of the exceptional strength of the U.S. currency. The strong dollar and a booming U.S. economy led to a rising tide of lower-priced aluminum imports into the U.S., mainly from Europe and debt-strapped developing countries. Despite generally sluggish levels of domestic economic activity, European aluminum producers entered the year with an operating rate of 96%. Because of the strong U.S. dollar, their production costs were lower than those of North American producers and, as the dollar strengthened further against most currencies through the year, European producers became even more competitive.

The effect of these developments on spot prices was devastating. After remaining steady since hitting a peak in the third quarter of 1983, spot ingot prices dropped sharply – to \$1,376 per tonne in the second and \$1,136 in the third quarters of 1984, before levelling out in the fourth quarter. As evidenced by the movement in Alcan's ingot realizations in the accompanying chart, spot prices have a strong pull on producer selling prices.

Falling prices and rising inventories forced aluminum producers to take corrective action and, between June and year-end, smelter cutbacks totalling about 800,000 tonnes on an annual basis were announced, mainly in the U.S. and, to a lesser extent, Europe. Production in December 1984 was at a 12.3 million tonne annual rate, or 87% of world capacity, compared with 12.7 and 90% in June. This indicated that cutbacks of 550,000 tonnes on an annual basis had been





implemented but the net decrease in the production rate was about 360,000 tonnes due to new capacity additions in Australia, Brazil and Indonesia.

With only a modest increase in shipments expected during 1985, it is likely that capacity utilization will be further reduced to restore supply/demand balance. Alcan also believes that a weakening of the U.S. dollar would be beneficial to its interests.

### Principal Products, Revenues and Gross Profit

Total aluminum shipments in 1984 from consolidated operations declined 6% to 1,790,000 tonnes from the record level of 1,902,000 tonnes in the prior year. Shipments in 1982 were 1,707,000 tonnes. The entire shortfall was due to significantly lower deliveries of ingot and ingot products which fell 21% to 577,000 tonnes from 728,000 tonnes in 1983 and 758,000 tonnes in 1982. Shipments of fabricated products in 1984 set a company record, rising 3% to 1,213,000 tonnes from 1,174,000 tonnes in 1983 and 949,000 tonnes in 1982.

Lower total shipments and higher smelter production resulted in a significant increase in inventories during 1984 to 708,000 tonnes. This compares with 534,000 tonnes at the end of 1983 and 620,000 tonnes at the end of 1982.

Ingot realizations, net of commissions, freight and duty, were nearly 6% higher than in 1983 and 24% above 1982 levels. However, realizations peaked in the 1984 first quarter and averaged 29% lower during the final quarter. Gross profit per tonne of ingot sales was \$293 or 21% of the average realization, compared with \$200 and 15% in 1983 and \$53 and 5% in 1982.

Average realizations on fabricated products were 8% above 1983 and a fraction below 1982 levels. Gross profit per tonne of fabricated products was \$577 or 20% of the average realization in 1984, \$424 or 16% in 1983 and \$419 or 14% in 1982.

Sales of other products increased 11% to \$887 million in 1984 from \$799 million in 1983. Revenues were \$677 million in 1982. The increase

was due to higher shipments of materials used in aluminum production, including metal-grade alumina, and industrial chemicals such as aluminum sulphate. About 25% of revenues in this category are derived from the sale of nickel, stainless steel and other alloys in the U.S. through 27 distribution outlets under the Metal Goods name. The company is also a major marketer of magnesium throughout the world.

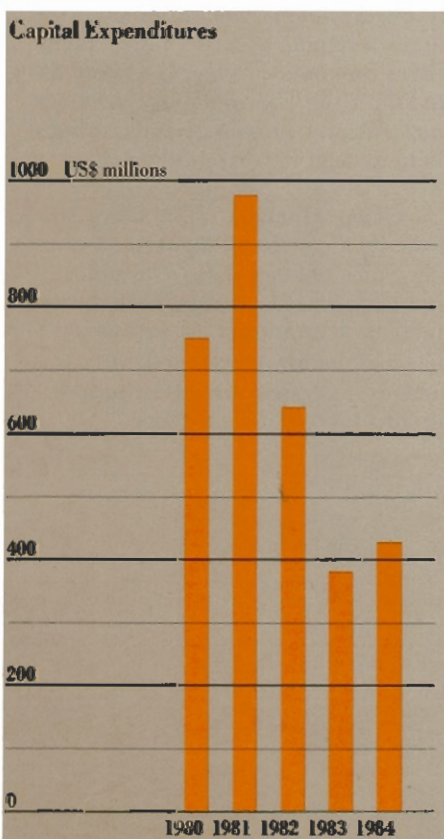
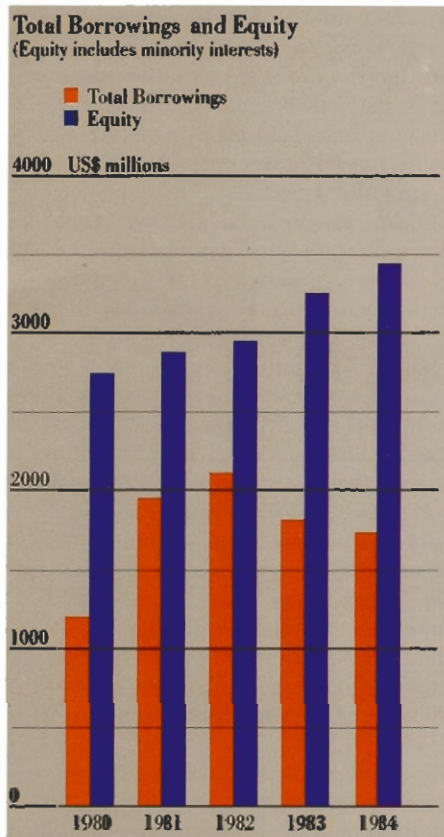
Operating revenues from other operations declined to \$195 million in 1984 from \$239 million in 1983 and \$291 million in 1982, mainly as a result of lower tolling revenues from U.S. fabricating operations caused by full utilization of rolling capacity for the Company's own sales. Revenues from the sale of surplus power were also lower. Other major components of operating revenues are general cargo shipping activities and the tolling of alumina into ingot for 50%-owned Nippon Light Metal Company under a long-term agreement. During 1984, 46,000 tonnes of metal were produced at the British Columbia smelter using alumina supplied by the Japanese company. Other income, totalling \$109 million, compared with \$97 million in 1983 and \$65 million in 1982, consisted principally of foreign exchange items and interest income.

The accompanying charts and tables provide five-year revenue and gross profit figures for each of the four categories - fabricated, ingot, other products, and operating revenues and other income. Revenues from fabricated products are also classified into major product categories.

### Liquidity and Capital Resources

The Company's financial position was improved further in 1984 through higher earnings, the issuance of preference shares by a subsidiary company and a restrained capital expenditure program. Cash from operations, net of dividends, was \$124 million higher than in 1983 (after taking into account an increase in operating working capital) and \$212 million greater than in 1982. Total debt decreased slightly from 1983 levels and at year-end the debt to equity ratio was 34:66, compared with 36:64 at the end of 1983 and 42:58 at the end of 1982. (In this





calculation, debt includes short-term borrowings and equity includes minority interests.)

Capital spending (consisting of property, plant and equipment and investments) totalled \$427 million, up 12% from the \$382 million recorded in 1983 and well below the 1982 level of \$643 million. About one-third of the 1984 expenditure was on major projects while the remainder was for improvements in smelter, fabricating and raw materials operations. Capitalized interest included in the above totalled \$32 million in 1984, \$37 million in 1983 and \$99 million in 1982.

Maximum flexibility in the capital expenditure program remains a key objective of management. Excluding \$196 million for the acquisition of certain aluminum assets from Atlantic Richfield Company, capital spending in 1985 is expected to decline slightly to \$400 million. This includes funds for the completion of the Kurri Kurri smelter expansion in Australia and the second-to-last year in the installation of a new hot rolling mill in Brazil. There is also provision for the start of construction of a new smelter and anode-baking facilities in Quebec.

In July, the Company's principal subsidiary - Aluminum Company of Canada, Limited - issued floating rate non-retractable preference shares for a net consideration of \$110 million. Proceeds were used to repay borrowings incurred for capital expenditures. The issue is recorded in Alcan's balance sheet under "Minority interests". At year-end, this subsidiary maintained a net amount of \$686 million in unutilized bank credit facilities. The Company may use the opportunity of lower long-term interest rates to convert some of its floating rate borrowings to fixed rate.

The Company issued 2.2 million common shares during the year under various shareholder, employee and executive share option plans which contributed \$60 million to equity. In 1983 and 1982, \$55 million and \$51 million, respectively, were recorded under these plans. However, it is expected that significantly less equity will be generated in 1985 because of changes to the shareholder investment

plans put into effect in late 1984. This included elimination of a 5% discount under the stock dividend and dividend reinvestment plans and a reduction in the quarterly limit under the share purchase plan.

The effective tax rate was 39% in 1984, compared with 46% in 1983 and a negative provision in 1982. Income tax recovery for prior years' losses, principally relating to U.K. operations, totalled \$37 million in 1984 and \$15 million in 1983. Further benefits of \$42 million are available and will be recorded in income when realized.

Dividends paid to Alcan shareholders totalled \$117 million in 1984, reflecting an increase in the quarterly dividend rate to 30¢ per share from 22½¢ per share approved by the Board of Directors on 7 February 1984. This compares with dividends of \$81 million in 1983 and \$113 million in 1982. Dividend levels are determined by the Board of Directors following an assessment of many factors, including earnings performance, capital requirements and the financial condition of the Company.

On 18 January 1985, the Company acquired certain aluminum assets in the United States and Ireland. Operations related to the acquired facilities are expected to result in a breakeven situation in the first two years following acquisition. However, certain non-recurring items will contribute to earnings in 1985 and, to a lesser extent, in subsequent years. Overall, the impact of this acquisition on net income in 1985 and 1986 is expected to be modestly favourable.

On the Company's balance sheet, the debt/equity ratio increased as a result of the transaction to 37:63 from the year-end level of 34:66. Full details are provided in Note 15 to the financial statements.

Management is of the opinion that it has sufficient resources available to carry out its capital spending commitments, debt repayments, contractual obligations and operational requirements.

## Principal Markets

**Containers and Packaging** – Aluminum has captured a substantial part of the can market in the United States based on physical properties, recyclability, cost competitiveness and consumer acceptance. Can sheet has become the largest use for aluminum. Alcan dedicated itself to serving this demand later than certain of its competitors but a strong commitment and the availability of technical know-how and equipment resulted in a significant presence within a few years. With the acquisition of a 40% interest in a new rolling mill in Kentucky and various other rolling facilities early in 1985, the Company has considerably improved its ability to satisfy customer needs.

In Canada, the Company has spearheaded continuing efforts to overcome regulatory obstacles to the introduction of aluminum cans – with some success. Use of aluminum for beer cans is increasing and, in the province of Quebec, was permitted for soft drink cans beginning in 1984. Eight all-aluminum can lines are now operating in the country and each is an Alcan customer.

Foil products – including household foil, printed foil, foil containers and closures – are a significant source of revenue, especially in Europe. On a worldwide basis, Alcan is the largest producer of aluminum foil products. This position was strengthened with the acquisition of significant foil facilities in the U.S. early in 1985.

**Transportation** – Aluminum usage in North American cars has risen steadily in recent years with the emphasis on fuel efficiency. One of the fastest growing applications has been in heat exchangers, especially radiators, and Alcan has been in the forefront both in developing technology and in the supply of specialized sheet products to radiator manufacturers. The company is also a major producer of bright sheet for automotive trim.

A German subsidiary is a leading producer of pistons for diesel and gasoline engines, including those for trucks. The plant at Nuernberg also produces a variety of automotive castings, in particular air-cooled cylinder heads. Foundry alloys for automotive castings are produced in Canada, Germany, Italy and the United Kingdom.

The international aerospace market is served from plants in the U.K., including a facility at Kitts Green, Birmingham, which is a leading European producer of aircraft plate. During 1985, the plant will begin production of a new aluminum-lithium alloy which is lighter and stronger than traditional aluminum alloys.

**Electrical** – Alcan companies in the U.S. and Canada produce a full line of conductor products, ranging from proprietary building wire to patented self-dampening conductor to reduce aeolian vibration in cross-country power transmission lines. Operations include what is believed to be the most fully automated cable plant in the world at Bay St. Louis, Mississippi, which is dedicated to the production of 600-volt underground conductor.

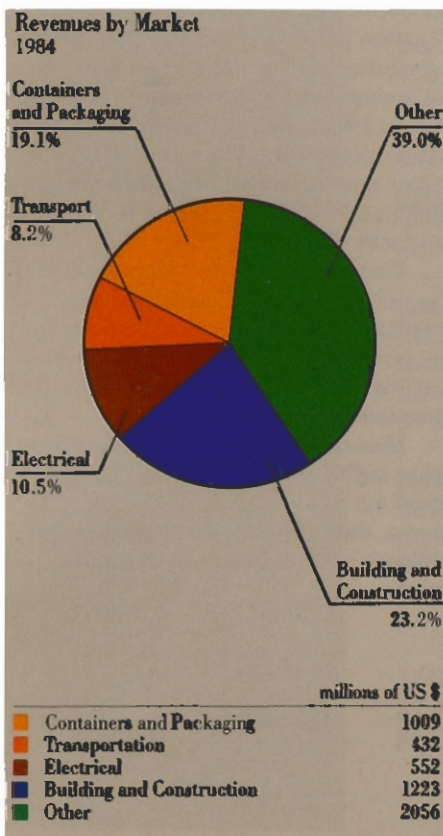
Work on a new \$21 million wire and cable plant in Shawinigan, Quebec, neared completion in early 1985. The facility will fabricate covered and insulated cable, aluminum strip and aluminum wire products.

**Building and Construction** – Product innovation and diversification have been the major thrusts of Alcan's strategy in the face of increasing penetration by competing materials, especially vinyl, in North American building products. Combined with the existence of an extensive network of independent distributors, dealers, contractors and owned distribution outlets for the marketing of its products, Alcan's sales of building products have grown consistently despite the competition.

The Company has increased its capacity to produce vinyl siding in the U.S. and, late in 1984, acquired a plant which manufactures coated steel siding for residential applications. Both new products complement the broad existing line of residential aluminum siding, the core product of which Alcan is the leading manufacturer, and a successful business in aluminum and steel siding and roofing for agricultural and commercial buildings marketed under the Fabral<sup>®</sup> name. In Canada, the company began manufacturing vinyl siding by acquiring the plastics division of Westroc Industries Ltd. in 1984.

Contrary to North America where the emphasis is on sheet, most of the aluminum applications in the building markets in Europe and elsewhere are in the form of extrusions. Alcan is the largest extruder in Europe with facilities in Belgium, France, Germany, Italy and the U.K. The Company is a leader in extrusion technology, a major ingredient in its ability to compete.

**Other Markets** – The Company is a significant seller of ingot internationally. Sales of other metals, alumina, inorganic chemicals related to the production of aluminum, as well as products with highly specialized end uses such as high pressure gas cylinders, are included in this category.



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## RESPONSIBILITY FOR THE ANNUAL REPORT

Alcan's management is responsible for the integrity and fair presentation of the financial statements and other information in the annual report. The financial statements have been prepared in accordance with accounting principles generally accepted in Canada, conforming in all material respects with international standards. Financial and operating data elsewhere in the annual report are consistent with those contained in the accompanying financial statements.

Alcan's policy is to maintain systems of internal accounting and administrative controls of high quality consistent with reasonable cost. Such systems are designed to provide reasonable assurance that the financial information is accurate and reliable and that company assets are adequately accounted for and safeguarded. The Audit Committee, which is comprised of directors who are not employees, meets regularly with representatives of Price Waterhouse, the shareholders' independent auditors, and with members of management to satisfy themselves that Alcan's policy is being followed.

The financial statements have been reviewed by the Audit Committee and, together with the other information in this annual report, have been approved by the Board of Directors. In addition, the financial statements have been examined by Price Waterhouse, whose report is included below.

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## AUDITORS' REPORT

To the Shareholders of Alcan Aluminium Limited

We have examined the consolidated balance sheets of Alcan Aluminium Limited as at 31 December 1984, 1983 and 1982 and the consolidated statements of income, retained earnings and changes in financial position for the three years then ended. Our examinations were made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, these consolidated financial statements present fairly the financial position of the company as at 31 December 1984, 1983 and 1982 and the results of its operations and the changes in its financial position for the three years then ended, in accordance with generally accepted accounting principles in Canada applied on a consistent basis, with the change in accounting for currency translation in 1983 described in note 2.

Montreal, Canada  
7 February 1985

PRICE WATERHOUSE  
Chartered Accountants

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## CONSOLIDATED STATEMENT OF INCOME

(in millions of U.S.\$)

Year ending 31 December	1984	1983	1982
<b>Revenues</b>			
Sales	\$5,272	\$4,969	\$4,353
Operating revenues	195	239	291
Other income	109	97	65
	<b>5,576</b>	<b>5,305</b>	<b>4,709</b>
<b>Costs and expenses</b>			
Cost of sales and operating expenses	4,214	4,188	3,837
Depreciation	250	238	221
Selling, research and administrative expenses	442	433	399
Interest	244	255	234
Other expenses	38	32	30
	<b>5,188</b>	<b>5,146</b>	<b>4,721</b>
Income (Loss) before income taxes and other items	388	159	(12)
Income taxes (note 4)	151	73	(9)
Income (Loss) before other items	237	86	(3)
Equity income (loss)	15	(6)	(45)
Minority interests	(36)	(22)	(10)
	216	58	(58)
Income tax recovery applicable to prior years' losses (note 4)	37	15	—
<b>Net Income (Loss) (note 3)</b>	<b>\$ 253</b>	<b>\$ 73</b>	<b>\$ (58)</b>
<b>In U.S.\$</b>			
<b>Income (Loss) per common share</b>			
Before income tax recovery	\$2.21	\$0.64	\$(0.69)
Income tax recovery	0.38	0.17	—
Net income (Loss)	\$2.59	\$0.81	\$(0.69)
<b>Dividends per common share</b>	<b>\$1.20</b>	<b>\$0.90</b>	<b>\$ 1.35</b>

## CONSOLIDATED STATEMENT OF RETAINED EARNINGS

(in millions of U.S.\$)

Year ending 31 December	1984	1983	1982
Balance – beginning of year	\$1,967	\$1,983	\$2,154
Net income (Loss)	253	73	(58)
	2,220	2,056	2,096
Dividends	117	81	113
Share issue expenses (net of income taxes)	—	8	—
Balance – end of year (note 11)	<b>\$2,103</b>	<b>\$1,967</b>	<b>\$1,983</b>

**CONSOLIDATED BALANCE SHEET**  
(in millions of U.S.\$)

31 December	1984	1983	1982
<b>Assets</b>			
<b>Current assets</b>			
Cash and time deposits	\$ 361	\$ 262	\$ 136
Receivables	786	890	777
Inventories			
Aluminum	935	814	906
Raw materials	339	381	449
Other supplies	238	253	251
	2,659	2,600	2,519
Deferred charges and receivables	150	166	141
Investments (note 5)	281	284	271
<b>Property, plant and equipment</b>			
Cost (note 6)	6,131	5,960	6,066
Accumulated depreciation	2,531	2,410	2,365
	3,600	3,550	3,701
<b>Total assets</b>	<b>\$6,690</b>	<b>\$6,600</b>	<b>\$6,632</b>

**Liabilities and Shareholders' Equity**

<b>Current liabilities</b>			
Payables	\$ 723	\$ 771	\$ 746
Short-term borrowings (principally from banks)	282	275	305
Income and other taxes	72	44	50
Debt maturing within one year	94	58	57
	1,171	1,148	1,158
Debt not maturing within one year (note 7)	1,350	1,499	1,749
Deferred credits (note 8)	187	181	228
Deferred income taxes	562	537	535
Minority interests (note 9)	504	436	451
<b>Shareholders' equity</b>			
Common shares (note 10)	1,015	955	528
Retained earnings (note 11)	2,103	1,967	1,983
Deferred translation adjustments (note 2)	(202)	(123)	—
	2,916	2,799	2,511
Commitments and guarantees (note 12)			
<b>Total liabilities and shareholders' equity</b>	<b>\$6,690</b>	<b>\$6,600</b>	<b>\$6,632</b>

Approved by the Board: David M. Culver, Director  
Lionel P. Kent, F.C.A., Director

**CONSOLIDATED STATEMENT OF CHANGES  
IN FINANCIAL POSITION** (in millions of U.S.\$)

Year ending 31 December	1984	1983	1982
<b>Operating activities</b>			
Income (Loss) before other items	\$ 237	\$ 86	\$ (3)
Depreciation	250	238	221
Deferred income taxes	68	40	(26)
Operating working capital	(91)	(22)	49
Other – net	25	(18)	14
	489	324	255
Dividends paid to Alcan shareholders	(117)	(81)	(113)
Dividends paid to minority interests	(38)	(33)	(20)
<b>Net cash from operating activities</b>	<b>334</b>	<b>210</b>	<b>122</b>
<b>Financing activities</b>			
New debt	283	468	671
Debt repayments	(290)	(621)	(501)
	(7)	(153)	170
Short-term borrowings – net	38	(4)	1
Common shares of Alcan (note 10)	60	419	51
Shares of subsidiary companies	124	19	219
Redemption of preferred shares of subsidiary companies	(37)	(1)	(1)
<b>Net cash from financing activities</b>	<b>178</b>	<b>280</b>	<b>440</b>
<b>Total cash available for investment activities</b>	<b>512</b>	<b>490</b>	<b>562</b>
<b>Investment activities</b>			
Property, plant and equipment	414	310	545
Investments	13	72	98
	427	382	643
Sales and disposals	(21)	(21)	(14)
<b>Net cash used for investment activities</b>	<b>406</b>	<b>361</b>	<b>629</b>
<b>Increase (Decrease) in cash before deferred translation adjustments</b>	<b>106</b>	<b>129</b>	<b>(67)</b>
<b>Deferred translation adjustments relating to cash and time deposits</b>	<b>(7)</b>	<b>(3)</b>	<b>–</b>
<b>Increase (Decrease) in cash and time deposits for the year</b>	<b>99</b>	<b>126</b>	<b>(67)</b>
<b>Cash and time deposits – beginning of year</b>	<b>262</b>	<b>136</b>	<b>203</b>
<b>Cash and time deposits – end of year</b>	<b>\$ 361</b>	<b>\$262</b>	<b>\$136</b>
<b>Changes in operating working capital</b>			
Receivables	\$(104)	\$113	\$ 37
Inventories	64	(158)	(102)
Payables	48	(25)	18
Income and other taxes	(28)	6	(2)
Deferred translation adjustments	111	86	–
<b>Increase (Decrease) for the year</b>	<b>\$ 91</b>	<b>\$ 22</b>	<b>\$ (49)</b>

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## NOTES TO FINANCIAL STATEMENTS

(in millions of U.S.\$)

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### 1. Summary of significant accounting policies

#### Principles of consolidation

The consolidated financial statements, which are prepared in accordance with generally accepted accounting principles in Canada, include the accounts of all companies more than 50% owned. In addition, under the equity accounting principle, consolidated net income includes Alcan's equity in the net income or loss of all companies 20-50% owned and the investments in these companies have been increased or decreased by Alcan's share of their undistributed net income or loss since acquisition and deferred translation adjustments. When the cost of an investment differs from the book value of Alcan's equity therein at date of acquisition, the difference is amortized over the estimated average useful life of the fixed assets acquired.

Intercompany items and transactions, including profits in inventories, are eliminated.

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#### Translation of accounts into United States dollars

The consolidated financial statements are expressed in U.S. dollars, the principal currency of international trade and of Alcan's business, under translation procedures recommended by The Canadian Institute of Chartered Accountants (CICA).

North American, Caribbean and other integrated operations as well as companies operating in hyperinflationary economies are translated using the temporal method. Under this method, current assets (excluding inventories), current liabilities and long-term monetary assets and liabilities are translated at the rates of exchange at year-end. Other balance sheet items are translated at the rates prevailing at the respective transaction dates. Income statement items are translated at average rates prevailing during the year, except for the cost of inventories and for depreciation which are translated at rates prevailing when the related assets were acquired. Translation gains and losses are included in income except for unrealized gains and losses arising from the translation of long-term monetary assets and liabilities which are deferred and amortized over the remaining lives of the related items.

Other operations, which are deemed to be self-sustaining, are translated using the current rate method. Under this method all assets and liabilities are translated at rates of exchange at the balance sheet date with income statement items translated at average exchange rates for the year. Translation adjustments arising from changes in exchange rates form part of the change in the deferred translation adjustments component of shareholders' equity until realized and included in income.

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#### Other

Aluminum, raw materials and other supplies are stated at cost (determined for the most part on the monthly average method) or net realizable value, whichever is the lower.

Depreciation is calculated on the straight-line method using rates based on the estimated useful lives of the respective assets.

Income (Loss) per common share is calculated by dividing net income (loss) by the average number of common shares outstanding. (1984: 97.8 million; 1983: 90.2 million; 1982: 83.8 million).

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## 2. Currency translation

Beginning with 1983, Alcan adopted the currency translation recommendations of the CICA under which self-sustaining operations use the current rate method described in note 1, instead of the temporal method previously used.

Currency translation losses included in income were \$89 in 1984 (\$33 in 1983, \$73 in 1982), including losses of \$113 in 1984 (\$92 in 1983, \$165 in 1982) arising from the translation of cost of inventories.

Following is an analysis of the Deferred Translation Adjustments component of Shareholders' Equity:

	1984	1983
Balance – beginning of year	\$ (123)	\$ (58)
Accounts affected during the year:		
Property, plant and equipment	(98)	(69)
Debt not maturing within one year	78	66
Operating working capital	(111)	(86)
Other – net	52	24
<b>Balance – end of year</b>	<b>\$ (202)</b>	<b>\$ (123)</b>

## 3. Differences between Canadian and United States generally accepted accounting principles (GAAP)

### Currency translation

Under Canadian GAAP unrealized exchange gains and losses on long-term monetary items are deferred and amortized over the life of the related items whereas under U.S. GAAP such gains and losses are absorbed in income immediately. Also, under Canadian GAAP deferred income taxes of companies using the temporal method are translated at historical exchange rates rather than at current exchange rates under U.S. GAAP.

### Tax recovery

In 1984, \$16 of the "Income tax recovery applicable to prior years' losses" relates to tax benefits of a purchased subsidiary arising from losses which occurred prior to acquisition by Alcan. Under Canadian GAAP such tax benefits are recorded in the year of realization directly in income. Under U.S. GAAP such tax benefits are recorded in the year of realization as a reduction of the fixed assets of the purchased subsidiary and are recognized in income through lower depreciation charges over the useful lives of these fixed assets.

The following table compares net income (loss) as reported with the net income (loss) that would have been reported under U.S. GAAP together with the cumulative effect on retained earnings and deferred translation adjustments.

	1984		1983		1982	
	As Reported	U.S. GAAP	As Reported	U.S. GAAP	As Reported	U.S. GAAP
<b>Consolidated net income (loss)</b>						
First quarter (unaudited)	\$ 83	\$101	\$ (12)	\$ (19)	\$ 12	\$38
Second quarter (unaudited)	98	107	3	8	5	20
Third quarter (unaudited)	52	39	27	25	(15)	6
Fourth quarter (unaudited)	20	16	55	52	(60)	(62)
	\$253	\$263	\$ 73	\$ 66	\$(58)	\$ 2
<b>Dollars per common share</b>	<b>2.59</b>	<b>2.69</b>	<b>0.81</b>	<b>0.73</b>	<b>(0.69)</b>	<b>0.02</b>
<b>Consolidated retained earnings</b>						
Beginning of year	1,967	2,099	1,983	2,122	2,154	2,185
End of year	2,103	2,245	1,967	2,099	1,983	2,074
<b>Deferred translation adjustments</b>						
End of year	(202)	(280)	(123)	(202)	—	—

The difference between amounts shown as Deferred Translation Adjustments under 'As Reported' and 'U.S. GAAP' arises principally from the different treatment of exchange on long-term debt at 1 January 1983. The initial effect of translating deferred income taxes at current rates amounted to \$48 and has been reflected in the 1983 U.S. GAAP consolidated retained earnings – beginning of year.



#### 4. Income taxes

	1984	1983	1982
<b>Income (Loss) before income taxes and other items</b>			
Canada	\$209	\$ 93	\$ 54
Other countries	179	66	(66)
	388	159	(12)
<b>Current income taxes</b>			
Canada	26	6	(6)
Other countries	57	27	23
	83	33	17
<b>Deferred income taxes</b>			
Canada	39	(4)	4
Other countries	29	44	(30)
	68	40	(26)
<b>Total income tax provision (recovery)</b>	<b>\$151</b>	<b>\$ 73</b>	<b>\$ (9)</b>

The composite of the applicable statutory corporate income tax rates in Canada is presently 44.8% (45.7% in 1983, 47.8% in 1982). Profits earned by subsidiary companies located outside Canada are generally subject to income taxes at rates comparable to this composite rate. Dividends paid by these subsidiary companies are generally tax-exempt upon receipt in Canada. Taxes withheld at source are included in Current income taxes - Other countries.

The following is a reconciliation of income taxes calculated at the above composite rates with the total income tax provision:

	1984	1983	1982
Income taxes at the composite rate	\$174	\$ 73	\$ (6)
Increase (reduction) attributable to:			
Investment and depletion allowances	(45)	(27)	(34)
Exchange translation losses	37	11	37
Income and expenses without tax effect	(23)	9	8
Other - net	8	7	(14)
Income tax provision (recovery)	\$151	\$ 73	\$ (9)

The principal timing differences giving rise to the deferred portion of income taxes are:

	1984	1983	1982
Inventory valuation	\$ (16)	\$ 27	\$ (19)
Depreciation	7	11	37
Prior years' losses	37	15	-
Investment tax credits	45	(8)	(17)
Other - net	(5)	(5)	(27)
	\$ 68	\$ 40	\$ (26)

In 1984 a tax benefit of \$37 (\$15 in 1983) was realized as a result of applying prior years' tax losses to the current year's income. Based on rates of exchange at year-end, additional tax benefits of approximately \$42 relating to prior years' tax losses will be recognized in income when realized.

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## 5. Investments

	1984	1983	1982
Companies 20%-50% owned, accounted for on the equity method ( <i>note 1</i> )	\$ 278	\$ 279	\$ 265
Companies less than 20% owned, at cost	3	5	6
	\$ 281	\$ 284	\$ 271

The combined results of operations and the financial position of the 20%-50% owned companies are summarized below:

### Results of operations for the year

Revenues	\$4,847	\$4,557	\$4,148
Costs and expenses	4,517	4,314	4,286
Income (Loss) before income taxes	330	243	(138)
Income taxes	118	140	21
Net income (Loss)	\$ 212	\$ 103	\$ (159)
* Alcan's share of net income (loss)	56	10	(46)
Dividends received by Alcan	16	9	10

### Financial position at 31 December

Current assets	\$2,557	\$2,623	\$2,359
Current liabilities	2,154	2,405	2,277
Working capital	403	218	82
Property, plant and equipment – net	2,175	2,143	2,386
Other assets – net	158	429	458
	2,736	2,790	2,926
Debt not maturing within one year	1,861	1,985	2,088
Net assets	\$ 875	\$ 805	\$ 838
Alcan's equity in net assets	265	259	260

\*Where a company operates as a joint venture supplying materials to each participant, Alcan's share of the net income or loss is applied to the cost of the materials so obtained.

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## 6. Property, plant and equipment, at cost

	1984	1983	1982
Land, and property rights	\$ 103	\$ 109	\$ 97
Buildings, machinery and equipment	5,485	5,495	4,945
Construction work in progress	543	356	1,024
	\$6,131	\$5,960	\$6,066

Capital expenditures in 1985 are expected to be about \$400 excluding the acquisition of certain assets as described in note 15.

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## 7. Debt not maturing within one year

	1984	1983	1982
<b>Aluminum Company of Canada, Limited and subsidiary companies</b>			
Bank loans under \$550 credit agreements (a)	\$ 50	\$ —	\$ 150
Notes payable (commercial paper) (b)	66	79	112
14¼% Notes, due 1992	100	100	100
5.10% Notes, due 1985/1992	3	41	45
9½% Notes, due 1985/1994	38	40	41
15¾% Eurodollar debentures, due 1992	75	75	75
9½% Sinking fund debentures, due 1995	52	61	75
10¾% Sinking fund debentures, due 1994 (Can. \$51)	39	42	43
9¾% Sinking fund debentures, due 1991 (Can. \$38)	29	33	36
9½% Sinking fund debentures, due 1988	24	31	33
8¾% Loan, due 1985/1992 (£31)	37	51	57
Other debt, due 1985/2005	68	60	65
<b>Alcan Alumínio da América Latina Ltda and subsidiary companies</b>			
Bank loans, due 1985/1992 (a)	205	204	191
Other debt, due 1985/1991	14	18	—
<b>Alcan Europe N.V. and subsidiary companies</b>			
Bank loans, due 1985/1995 (principally £102; DM159) (a)	204	300	308
5½% Bonds, due 1985 (Sw.F.100)	39	46	50
Loans due 1987/1994 (principally £22)	25	32	36
Other debt, due 1985/2008	26	30	57
<b>Alcan South Pacific Limited and subsidiary companies</b>			
Notes payable, due 1994 (a)	100	—	—
Bank loans and other debt due 1985/2002 (A.\$95 and U.S.\$90) (a)	169	218	264
8½% Bonds, due 1985/1989	20	21	22
<b>Other companies</b>			
Bank loans, due 1985/1992 (a)	3	5	12
Other debt, due 1985/1993	58	70	34
	1,444	1,557	1,806
Debt maturing within one year included in current liabilities	(94)	(58)	(57)
	\$1,350	\$1,499	\$1,749

(a) Interest rate fluctuates principally with lender's prime commercial rate, or the commercial bank bill rate, or is related to the London interbank offered rate.

(b) Issued in Canada and the United States at market rates and are fully backed up by long-term credit agreements amounting to \$251.

Based on rates of exchange at year end and after allowing for prepayments, sinking fund and other requirements over the next five years amount to \$94 in 1985, \$71 in 1986, \$118 in 1987, \$164 in 1988 and \$233 in 1989.

## 8. Deferred credits

Deferred credits include a prepayment by a related company under an alumina tolling arrangement of \$61 in each year.

## 9. Minority interests

The principal component consists of \$405 preferred shares of Aluminum Company of Canada, Limited, of which \$33 are retractable at the option of the holder in 1985, \$34 in 1986, \$33 in 1988 and \$193 in 1989.

## 10. Capital Stock

The authorized share capital is an unlimited number of common shares without nominal or par value. Changes in the number and value of outstanding shares are summarized below:

	Number (in thousands)			Value (in millions)		
	1984	1983	1982	1984	1983	1982
Outstanding – beginning of year	96,929	85,189	82,652	\$ 955	\$528	\$477
Issued for cash:						
Public issues	—	10,171	—	—	372	—
Executive share option plan	99	83	2	2	2	—
Dividend reinvestment and share purchase plans	1,249	858	1,139	35	32	25
Issued under stock dividend plan	841	628	1,396	23	21	26
Outstanding – end of year	99,118	96,929	85,189	\$1,015	\$955	\$528

Under the executive share option plan, key employees may purchase shares at a price not less than 90% of the market value on the effective date of each option. The average price of the shares covered by the outstanding options is Can. \$31.64 per share. These options expire at various dates during the next ten years. Changes in outstanding options are summarized below:

	1984	1983	1982
Outstanding – beginning of year	481,125	401,300	408,200
Granted	15,800	206,100	—
Exercised	(98,674)	(83,475)	(1,900)
Cancelled	(39,155)	(42,800)	(5,000)
Outstanding – end of year	359,096	481,125	401,300

At 31 December 1984, 5,089,815 warrants were outstanding. Each warrant entitles the holder to purchase from Alcan one share at a price of Can.\$36.50 per share until 31 December 1986. During the year 112 warrants were exercised.

## 11. Retained earnings

Consolidated retained earnings at 31 December 1984 include:

\$497 which, pursuant to the provisions of certain debt and share issues of Aluminum Company of Canada, Limited, is not distributable as dividends either in cash or in kind to Alcan, the holder of its common shares.

\$36 of undistributed earnings of companies 20%-50% owned, and

\$866, some part of which may be subject to certain taxes on distribution to the parent company; no provision is made for such taxes because these earnings are reinvested in the business.

## 12. Commitments and guarantees

To assure long-term supplies of bauxite and access to alumina and fabricating facilities, Alcan participates in several long-term cost sharing arrangements with related companies. Alcan's fixed and determinable commitments, which comprise long-term debt service in one joint venture and "take-or-pay" obligations in certain others, are estimated at \$149 in 1985, \$143 in 1986, \$143 in 1987, \$141 in 1988, \$140 in 1989 and \$852 thereafter. Alcan's total charges from these related companies were \$181 in 1984, \$198 in 1983 and \$192 in 1982. In addition, Alcan is guarantor of \$41 of long-term debt of certain of the related companies.

Minimum rental obligations amount to \$56 in 1985, \$45 in 1986, \$37 in 1987, \$32 in 1988, \$27 in 1989 and lesser annual amounts thereafter. Total rental expenses amounted to \$86 in 1984 (\$80 in 1983 and \$73 in 1982).

See also reference to capital expenditures in note 6, debt repayments in note 7, preferred share retractions in note 9 and subsequent event in note 15.

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### 13. Supplementary income statement information

	1984	1983	1982
Repairs and maintenance	\$385	\$367	\$350
Taxes, other than payroll and income taxes	117	122	104
Research and development	66	60	55
Interest on long-term debt	183	211	225
Capitalized interest	(32)	(37)	(99)

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### 14. Pension plans

Alcan and its subsidiaries (with some exceptions) have established pension plans in the principal countries where they operate, for the greater part contributory and generally open to all employees. The total pension expense in 1984 was \$42 (\$63 in 1983 and \$50 in 1982). The decrease in 1984 is due principally to favourable investment experience realized in the major pension funds in recent years and to an increase in the interest assumption used for the actuarial valuation of the major Canadian plan, both of which were reflected in actuarial reports completed in 1984. Pension expense includes amortization of unfunded actuarial liabilities which Alcan and its subsidiaries are funding and expensing for the most part over periods of 15 years or less.

Based on the most recent actuarial reports, the present value of vested accumulated plan benefits was \$892 (\$919 in 1983 and \$692 in 1982), the present value of non-vested benefits was \$17 (\$17 in 1983 and \$16 in 1982), and the value of the net assets available for benefits was \$1,261 (\$1,068 in 1983 and \$866 in 1982) at market prices prevailing at the time of actuarial valuation. These present values were determined using a weighted average assumed rate of return of 7.0%, (6.6% in 1983 and 7.1% in 1982). The decrease in the present value of vested accumulated plan benefits in 1984 is due to a weakening of other currencies relative to the U.S. dollar and to the change in interest assumption referred to above. The apparent surplus will be needed to meet increases in pension liabilities arising from future increases in salaries, which have not been allowed for in the above present values. The effective dates of the principal actuarial reports were 1 January 1984 for the two Canadian plans and the major United States plan, and 1 May 1984 for the major United Kingdom plan.

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### 15. Subsequent event

In January 1985, Alcan acquired certain assets of the aluminum business of the Atlantic Richfield Company (Arco) consisting of fixed assets valued at \$196 and working capital estimated at \$300. The acquisition will be accounted for by the purchase method.

The consideration given consisted of cash \$171, short-term notes of \$300 (subject to final adjustment) and a 13% subordinated note of \$25 payable in 1996. In addition, contingent consideration in the form of 9% Abatable Preferred shares in 10 equal series with an initial total nominal value of \$400 were issued to Arco. As the value of these shares is contingent on future aluminum prices as indicated below, they will not be recorded in the financial statements until such time as any such shares "qualify" for dividend and redemption. Each series of shares is related to one of the years 1985 to 1994 and the nominal redemption value of such series is subject to abatement at the rate of \$6.667 (to a maximum of \$40 per series) for each one cent by which the mathematical average of the price realized per pound of primary aluminum sales for any one year within the ten year period, as reported by Alcan and three other designated North American aluminum producers for the appropriate year, falls below:

	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
\$ per lb.	0.98	1.08	0.97	1.16	1.36	1.47	1.47	1.60	1.82	1.99

To the extent the shares do not abate, the qualifying amount will be reflected in the financial statements with a corresponding adjustment to the book value of the fixed assets acquired and the holder will be entitled to receive dividends, retroactive to the date of issue (18 January 1985), at the rate of 9% per annum on the qualifying redemption price. Such qualifying shares are subject to retraction by the holder on 18 January 1997, but may be redeemed earlier at the option of Alcan.

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**16. Information by geographic areas (in millions of U.S.\$)**

	Location	1984	1983	1982
Sales & Operating Revenues	To Subsidiaries			
	Canada	\$1,086	\$ 943	\$ 736
	United States	91	65	63
	Latin America	22	23	—
	Europe	80	15	17
	Pacific	73	65	55
	All Other	259	235	238
	Sub Total	1,611	1,346	1,109
	Consolidation Eliminations	(1,611)	(1,346)	(1,109)
	Total	—	—	—
	To Third Parties			
	Canada	\$1,004	\$1,033	\$1,050
	United States	1,576	1,358	1,093
	Latin America	349	298	431
Europe	1,683	1,766	1,312	
Pacific	709	627	629	
All Other	146	126	129	
Total	\$5,467	\$5,208	\$4,644	
Sales	\$5,272	\$4,969	\$4,353	
Operating Revenues	195	239	291	
Total	\$5,467	\$5,208	\$4,644	
Sales to subsidiary companies are made at a fair market price recognizing volume, continuity of supply and other factors.				
Net Income (Loss)	Canada	\$ 141	\$ 105	\$ 29
	United States	17	24	(1)
	Latin America	39	(11)	15
	Europe	51	26	(128)
	Pacific	33	(28)	(14)
	All Other	6	(4)	11
	Consolidation Eliminations	(34)	(39)	30
	Total	\$ 253	\$ 73	\$ (58)
Total Assets at 31 December	Canada	\$2,785	\$2,582	\$2,518
	United States	999	802	671
	Latin America	716	697	714
	Europe	1,469	1,652	1,754
	Pacific	927	845	867
	All Other	239	400	383
	Consolidation Eliminations	(445)	(378)	(275)
	Total	\$6,690	\$6,600	\$6,632
Capital Expenditures	Canada	\$ 194	\$ 127	\$ 212
	United States	45	34	17
	Latin America	37	48	95
	Europe	35	96	236
	Pacific	98	64	69
	All Other	18	13	14
	Total	\$ 427	\$ 382	\$ 643
Average number of employees (thousands)	Canada	18	19	19
	United States	5	5	5
	Latin America	10	9	9
	Europe	20	22	17
	Pacific	14	13	13
	All Other	3	3	4
	Total	70	71	67

**QUARTERLY FINANCIAL DATA (unaudited)**  
(in millions of U.S.\$)

	First	Second	Third	Fourth	Year
<b>1984</b>					
Revenues	\$1,431	\$1,478	\$1,348	\$1,319	\$5,576
Cost of sales and operating expenses	1,080	1,081	1,020	1,033	4,214
Depreciation	62	66	60	62	250
Income taxes	34	62	31	24	151
Interest and other items	181	182	194	188	745
Income tax recovery	9	11	9	8	37
Net income	\$ 83	\$ 98	\$ 52	\$ 20	\$ 253
Income per common share (U.S.\$)					
Before income tax recovery	0.76	0.89	0.44	0.12	2.21
Income tax recovery	0.09	0.12	0.09	0.08	0.38
Net income	0.85	1.01	0.53	0.20	2.59
<b>1983</b>					
Revenues	\$1,245	\$1,329	\$1,323	\$1,408	\$5,305
Cost of sales and operating expenses	1,010	1,071	1,035	1,072	4,188
Depreciation	62	62	61	53	238
Income taxes	6	17	11	39	73
Interest and other items	179	176	189	204	748
Income tax recovery	—	—	—	15	15
Net income (Loss)	\$ (12)	\$ 3	\$ 27	\$ 55	\$ 73
Income (Loss) per common share (U.S.\$)					
Before income tax recovery	(0.13)	0.03	0.30	0.42	0.64
Income tax recovery	—	—	—	0.15	0.17
Net income (Loss)	(0.13)	0.03	0.30	0.57	0.81
<b>1982</b>					
Revenues	\$1,236	\$1,193	\$1,194	\$1,086	\$4,709
Cost of sales and operating expenses	986	962	971	918	3,837
Depreciation	56	57	56	52	221
Income taxes	14	(10)	3	(16)	(9)
Interest and other items	168	179	179	192	718
Net income (Loss)	\$ 12	\$ 5	\$ (15)	\$ (60)	\$ (58)
Income (Loss) per common share (U.S.\$)	0.14	0.06	(0.18)	(0.71)	(0.69)

Income (Loss) per common share calculations are based on the average number of common shares outstanding in each period.

**ALCAN'S BAUXITE RESERVES (unaudited)**  
(millions of crude tonnes)

	1984	1983	1982	1981	1980
<b>Subsidiaries</b>					
Proved bauxite reserves at beginning of year	250	255	257	263	252
Total weighted average aluminum content*	27%	27%	27%	27%	27%
Bauxite mined during the year	5	5	4	5	5
<b>Related companies</b>					
Alcan's share of proved bauxite reserves at beginning of year	64	68	65	71	68

\*The amount of alumina extractable is always less than the total aluminum content, varying according to the nature of the bauxite, the process technology employed to extract the intermediate product, alumina, and the alumina plant efficiency.

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## INFLATION ACCOUNTING (unaudited)

This information is prepared in accordance with the recommendations of The Canadian Institute of Chartered Accountants (CICA).

The primary emphasis of the data is on current cost accounting. This focuses upon the specific changes in prices of assets and in expenses associated with the use of fixed assets or sale of inventories. It is a method of measuring their current values in terms of what the assets would cost to purchase or produce at the balance sheet date or at the date of use of fixed assets or sale of goods produced.

Current cost amounts for the company's assets were determined primarily by using appropriate specific indexes or reliable market prices. For property, plant and equipment this method assumes the assets would be replaced with like technology although this would not always be the case. The current cost of sales was determined by adjusting the historical costs by the estimated specific price changes which occurred between the time of production and the time of sale.

The current cost profit of \$81 for 1984 and loss of \$183 for 1983, as shown in the schedule below, are based on an operating capability concept of capital. This concept measures income/loss generated by an enterprise from all sources of capital, whether provided by lenders or shareholders. To measure income attributable to shareholders on a current cost basis, the CICA recommends the calculation of a "financing adjustment". It is based on the supposition that the funds required to maintain a company's operating capability (replace the assets it consumes) will be provided by a combination of shareholder and borrowed funds. The financing adjustment (calculated by reference to the existing level of debt and the specific price change during the year for inventory and property, plant and equipment) aims to provide a measure of the increases in current costs that would be financed by debt. Recognizing this adjustment produces current cost profit/(loss) attributable to shareholders of \$112 for 1984 and \$(113) for 1983.

Two items of general inflation information are presented. The first, "increase in current cost amounts of inventory and property, plant and equipment based on general inflation" provides a comparison with the specific price change for these assets. The latter for 1984 was \$145 lower than the amount that would have resulted if the current costs had increased by the rate of general inflation. The second is the "general purchasing power gain on net monetary liabilities". Holders of cash and other monetary assets lose purchasing power during periods of inflation; debtors gain. Alcan has greater monetary liabilities than monetary assets and the general purchasing power gain thereon helps to preserve the general purchasing power of shareholders' equity. It should be noted that, unlike the Financial Accounting Standards Board (FASB) in the United States, the CICA does not consider deferred income taxes to be a monetary item. Therefore, under the FASB recommendations Alcan would report a general price level gain on net monetary liabilities of \$74 for 1984 and \$84 for 1983.

The present lower levels of inflation are encouraging and hopefully indicate a longer term movement away from the exceedingly high rates of inflation experienced in the late 1970's and early 1980's. However, the effect of past inflation on Alcan remains significant because of the cumulative price increases on the company's assets from the time they were acquired. Accordingly, Alcan continues to support the disclosure of inflation accounting information to enable readers of the financial statements to obtain another assessment of the company's results.

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## Consolidated Statement of Income

(in millions of U.S.\$)

	Historical as reported		Current Cost Basis in average 1984 \$	
	1984	1983	1984	1983
Sales and operating revenues	\$5,467	\$5,208	\$5,467	\$5,409
Cost of sales and operating expenses	4,214	4,188	4,242	4,410
Depreciation expense	250	238	409	465
Selling, research and administrative expenses	442	433	442	450
Interest	244	255	244	265
Other (income) and expenses – net	(71)	(65)	(75)	(73)
	5,079	5,049	5,262	5,517
Income (Loss) before income taxes and other items	388	159	205	(108)
Income taxes	151	73	151	75
Equity (income) loss and minority interests	21	28	10	15
Income (Loss) before income tax recovery	216	58	44	(198)
Income tax recovery applicable to prior years' losses	37	15	37	15
Net income (Loss)	\$ 253	\$ 73	\$ 81	\$ (183)

## Schedule of Consolidated Assets

(in millions of U.S.\$)

	Historical as reported		Current Cost Basis in year-end 1984 \$	
	1984	1983	1984	1983
Inventory	\$1,512	\$1,448	\$1,559	\$1,627
Property, plant and equipment – net	3,600	3,550	6,501	6,860
Net assets (common shareholders' equity)	2,916	2,799	5,990	6,242

## Supplementary Information

(in millions of U.S.\$)

	In Average 1984 \$	
	1984	1983
Increase in current cost amounts of inventory and property, plant and equipment based on:		
General inflation	316	315
Specific prices	171	334
Difference	145	(19)
General purchasing power gain on net monetary liabilities	53	64
Financing adjustment on specific price increases of inventory and property, plant and equipment*	31	70

\*Based on the current cost adjustments made to income during the year, the financing adjustment amounts to \$33 (\$54 in 1983.)

## A FIVE-YEAR SUMMARY

(Certain items have been reclassified for purposes of comparability)

Operating data (thousands of tonnes)	Consolidated aluminum shipments	
		Ingot and ingot products Fabricated products
	Consolidated primary aluminum production	In Canada Outside Canada
	Consolidated aluminum inventories (end of year)	
Consolidated income statement items (U.S.\$ millions)	Primary aluminum capacity (end of year)	Consolidated subsidiaries Total subsidiaries and related companies
	Total revenues	
		Sales of aluminum ingot and ingot products Sales of aluminum fabricated products Sales of all other products Operating revenues and other income
	Costs and expenses	
		Cost of sales and operating expenses Depreciation Interest Income taxes Other
	Equity income (Loss)	
	Minority interests	
	Income (Loss) from continuing operations	
		As reported U.S. GAAP
	Extraordinary gain	
	As reported U.S. GAAP	
Net income (Loss)		
	As reported U.S. GAAP	
Consolidated balance sheet items (U.S.\$ millions)	Working capital	
	Property, plant and equipment – net	
	Investments in companies owned 50% or less	
	Long-term debt	
	Deferred income taxes	
	Minority interests	
	Common shareholders' equity	
		As reported U.S. GAAP
Total assets		
Per common share (U.S.\$)	Income (Loss) from continuing operations	
		As reported U.S. GAAP
	Income (Loss) including extraordinary gain	
		As reported U.S. GAAP
	Dividends paid	
		Common shareholders' equity As reported U.S. GAAP
Market price NYSE close		
Other statistics	Cash from operating activities (U.S.\$ millions)	
	Capital expenditures (U.S.\$ millions)	
	Average number of employees (thousands)	
	Common shareholders (thousands at end of year)	
	Common shares outstanding (millions at end of year)	
		Registered in Canada (%) Registered in USA (%) Registered in other countries (%)
	Return on average common shareholders' equity (%)	

See Note 3 to the Financial Statements which explains the reasons for the differences between the As Reported and U.S. GAAP.

	1980	1981	1982	1983	1984
	1,588	1,547	1,707	1,902	1,790
	533	510	758	728	577
	1,055	1,037	949	1,174	1,213
	918	962	917	945	1,075
	384	433	380	438	485
	485	666	620	534	708
	1,426	1,483	1,593	1,619	1,646
	1,930	1,987	2,035	2,070	2,097
	5,264	5,053	4,709	5,305	5,576
	886	789	867	975	817
	3,265	3,150	2,809	3,195	3,568
	841	793	677	799	887
	272	321	356	336	304
	3,682	3,801	3,837	4,188	4,214
	162	202	221	238	250
	107	186	234	255	244
	393	142	(9)	73	151
	375	423	429	465	480
	25	(16)	(45)	(6)	15
	(28)	(19)	(10)	(22)	(36)
	542	264	(58)	58	216
	569	346	2	51	242
	—	—	—	15	37
	—	—	—	15	21
	542	264	(58)	73	253
	569	346	2	66	263
	1,373	1,486	1,361	1,452	1,488
	2,441	3,267	3,701	3,550	3,600
	326	276	271	284	281
	930	1,589	1,749	1,499	1,350
	514	564	535	537	562
	269	244	451	436	504
	2,463	2,631	2,511	2,799	2,916
	2,412	2,662	2,602	2,852	2,980
	5,485	6,346	6,632	6,600	6,690
	6.70	3.24	(0.69)	0.64	2.21
	7.03	4.25	0.02	0.56	2.47
	6.70	3.24	(0.69)	0.81	2.59
	7.03	4.25	0.02	0.73	2.69
	1.35	1.80	1.35	0.90	1.20
	30.45	31.83	29.48	28.88	29.42
	29.81	32.21	30.54	29.42	30.07
	33.25	23.00	27.88	39.75	28.75
	675	240	255	324	489
	752	974	643	382	427
	66	67	67	71	70
	37	47	51	59	67
	81	83	85	97	99
	39	48	51	48	56
	53	45	42	48	39
	8	7	7	4	5
	24	10	(2)	3	9

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## DIRECTORS AND OFFICERS

### Directors

**Nathanael V. Davis**  
Osterville, Massachusetts  
Chairman of the Board

**Sonja I. Bata, O.C.**  
Toronto – Director of Bata Limited,  
International footwear manufacturers

**John F. Burlingame**  
Fairfield, Connecticut  
Director of various companies

**David M. Culver, O.C.**  
Montreal – President and  
Chief Executive Officer

**Dr. Lawrence E. Fouraker**  
Boston – Professor of Business  
Administration, Harvard Business  
School

**Dr. Roger Gaudry, C.C.**  
Montreal – Director of various  
companies

**John H. Hale**  
London – Managing Director,  
PEARSON plc, a diversified  
holding company

**Lionel P. Kent, F.C.A.**  
Montreal – Retired

**Paul H. Leman, O.C.**  
Montreal – Director of various  
companies

**Franklin S. McCarthy**  
Brockville, Ontario  
Director of various companies

**Hon. John L. Nichol, O.C.**  
Vancouver – President of a private  
investment company

**Jean-Marie Poitras, O.C.**  
Quebec City – Chairman of  
La Laurentienne Mutuelle d'Assurance

**Eric A. Trigg**  
Montreal – Senior Vice President

**Eric F. West**  
Lyme, Connecticut  
Senior Executive Vice President

**Dr. Joachim Zahn**  
Munich – Director of various  
companies

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### Audit Committee

**Lionel P. Kent, F.C.A., Chairman**  
**Sonja I. Bata**  
**John H. Hale**  
**Paul H. Leman**  
**Jean-Marie Poitras**  
**Joachim Zahn**

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### Personnel Committee

**Lawrence E. Fouraker, Chairman**  
**John F. Burlingame**  
**David M. Culver**  
**Roger Gaudry**  
**Franklin S. McCarthy**  
**John L. Nichol**

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### Officers

**David M. Culver**  
**Eric F. West**  
**Eric A. Trigg**  
**Archie F. Black**

**David Morton**

**Patrick Jean Jacques Rich**

**Ronald C. Bales**  
**Caryll Birkett**  
**A.A. Bruneau**

**Gerald Clark**  
**David H. Clarke**  
**W.O. Codrington**  
**Harold Corrigan**  
**Roy A. Gentles**  
**Allan A. Hodgson**

**Dr. Margaret G. Kerr**

**Murray D. Lester**  
**Norman F. Macfarlane**  
**André Saint-Denis**  
**C. Derek Statham**  
**Ihor Suchoversky**

**President and Chief Executive Officer**  
**Senior Executive Vice President**  
**Senior Vice President**  
**Regional Executive Vice President,  
Pacifie**  
**Regional Executive Vice President,  
The Americas**  
**Regional Executive Vice President,  
Europe, Africa and Middle East**  
**Vice President, Corporate Planning**  
**Vice President**  
**Vice President, Chief Legal Officer  
and Secretary**  
**Vice President**  
**Vice President, Personnel**  
**Vice President, Basic Raw Materials**  
**Vice President, Corporate Relations**  
**Vice President**  
**Vice President and Chief Financial  
Officer**  
**Vice President, Environment,  
Occupational Health and Safety**  
**Vice President, Energy Resources**  
**Vice President**  
**Treasurer**  
**Director of Corporate Ventures**  
**Vice President, Research and  
Operations Technology**

**ALCAN COMPANIES WORLDWIDE\* – (as at 31 December 1984)**  
**Fully owned unless the percentage of ownership is shown**

<b>Argentina</b> Camea S.A.	<b>Jamaica</b> Alcan Jamaica Company
<b>Australia</b> Alcan Australia Limited (70%) Queensland Alumina Limited (21.4%)	<b>Japan</b> Nippon Light Metal Company, Ltd (50%) Toyo Aluminium K.K. (50%)
<b>Belgium</b> S.A. Alcan Aluminium Benelux N.V.	<b>Malaysia</b> Aluminium Company of Malaysia Berhad (40%) Johore Mining and Stevedoring Co. Sdn. Berhad (61.25%)
<b>Bermuda</b> Alcan (Bermuda) Limited	<b>Mexico</b> Alcan Aluminio, S.A. de C.V. (48.8%)
<b>Brazil</b> Alcan Aluminio da América Latina Ltda Alcan Aluminio do Brasil S.A. Mineração Rio do Norte S.A. (24%)	<b>Netherlands</b> Hunter Douglas N.V. (24.9%)
<b>Canada</b> Aluminum Company of Canada, Limited Alcan Canada Products Limited Alcan Smelters and Chemicals Ltd Saguenay Shipping Limited Alcan Pacific Limited	<b>New Zealand</b> Alcan New Zealand Limited (69.2%)
<b>Colombia</b> Aluminio Alcan de Colombia, S.A. (49%)	<b>Nigeria</b> Alcan Aluminium of Nigeria Limited (58.2%)
<b>France</b> Aluminium Alcan de France	<b>Norway</b> Vigeland Metal Refinery A/S (50%)
<b>Germany</b> Alcan Aluminiumwerke GmbH Aluminium Norf GmbH (50%)	<b>Spain</b> Empresa Nacional del Aluminio S.A. (36.4%)
<b>Ghana</b> Ghana Aluminium Products Limited (60%)	<b>Sri Lanka</b> Acme Aluminium Company Limited (52.9%)
<b>Guinea</b> Compagnie des Bauxites de Guinée (13.8%)	<b>South Africa</b> Hulett Aluminium Limited (24%)
<b>Hong Kong</b> Alcan Asia Limited	<b>Switzerland</b> Alcan Aluminium S.A. Aluminiumwerke A.-G. Rorschach
<b>India</b> Indian Aluminium Company, Limited (50.5%)	<b>Thailand</b> Alcan Siam Limited (85%) Alcan Thai Company Limited (85%)
<b>Indonesia</b> P.T. Alcan Indonesia (70%)	<b>Trinidad</b> Chaguaramas Terminals Limited
<b>Ireland</b> Aughinish Alumina Limited (40%)	<b>United Kingdom</b> British Alcan Aluminium Limited
<b>Italy</b> Alcan Alluminio S.p.A.	<b>United States</b> Alcan Aluminum Corporation
<b>Ivory Coast</b> Alcan Ivoire S.A. (70%)	<b>Uruguay</b> Alcan Aluminio del Uruguay S.A. (89.9%)

\* This list covers the main companies in each country in which Alcan has investments. A complete list is available in the Company's annual 10-K report.

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## The OECD Guidelines

In the 1976 annual report Alcan expressed its support for, and compliance with, the OECD's guidelines for multinational enterprises. The Organization for Economic Cooperation and Development (OECD), which consists of 24 industrialized countries including Canada, had adopted those guidelines in 1976.

Alcan welcomed the guidelines as a positive statement of what is good practice for multinational companies and as part of a package of declarations establishing an acceptable framework of reciprocal rights and responsibilities between multinational enterprises and host governments.

Alcan continues to support and comply with the OECD guidelines. The Company's own statement, "Alcan, Its Purposes, Objectives and Policies," published in 1978 in 11 languages to strengthen the awareness of employees worldwide of the basic general principles and policies which have guided the conduct of Alcan's business over the years, is consistent with the OECD guidelines.

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## SHAREHOLDER INFORMATION

<b>Annual Meeting</b>	The Annual Meeting of the Shareholders of Alcan Aluminium Limited will be held on Thursday, 28 March 1985, at 10 a.m., in the Chateau Champlain Hotel, Montreal.					
<b>10-K Report</b>	A copy of the Company's annual 10-K report for 1984 to be filed with the United States Securities and Exchange Commission will be available to shareholders after 1 April and may be obtained upon written request to the Secretary of the Company.					
<b>Common Shares</b>	The common shares of Alcan Aluminium Limited are listed on the Montreal, Toronto, Vancouver, New York, Midwest, Pacific, London, Paris, Brussels, Amsterdam, Frankfurt, Basel, Geneva, Lausanne and Zurich stock exchanges. The markets where most of the shares are traded are New York and Toronto.					
<b>Transfer Agents</b>	The National Victoria and Grey Trust Company, Montreal, Toronto, Winnipeg, Regina, Calgary, Vancouver. Manufacturers Hanover Trust Company, New York. Manufacturers Hanover Trust Company of California, San Francisco. The Royal Trust Company, London.					
<b>Warrants</b>	Warrants, representing rights to purchase common shares of the company at \$36.50 per share in Canadian currency to 31 December 1986, are listed on the Montreal, Toronto and Vancouver stock exchanges, and included in the National Association of Security Dealers' automated quotation system in the United States. The warrant agent is The Royal Trust Company in Montreal, Toronto, Winnipeg, Regina, Calgary and Vancouver.					
<b>Shareholder Investment Plans</b>	<p>The Company offers shareholders three convenient ways of acquiring additional Alcan common shares at regular intervals and without payment of brokerage commissions or service charges. These are known as Dividend Reinvestment Plan, Stock Dividend Plan and Share Purchase Plan. For information write – or call collect:</p> <p>Alcan Shareholder Services  P.O. Box 6077, Montreal, Canada  H3C 3A7  Telephone: (514) 848-8050</p>					
<b>Quarterly Dividends and Common Share Prices</b>	1984	Dividends per share (U.S.\$)	Common Share Price (NYSE – U.S.\$)*		Common Share Price (TSE – CDN\$)*	
	Quarter		High	Low	High	Low
	First	0.30	41¼	32½	51⅜	40½
	Second	0.30	34¾	26½	44¼	34⅞
	Third	0.30	31⅓	23½	40⅝	31½
	Fourth	0.30	30	25⅝	39⅓	33¾
	Year	1.20				
	1983	Dividends per share (U.S.\$)	Common Share Price (NYSE – U.S.\$)*		Common Share Price (TSE – CDN\$)*	
	Quarter		High	Low	High	Low
	First	0.22½	33	25¾	40⅜	32½
	Second	0.22½	35¼	29	43¼	35⅝
	Third	0.22½	41⅝	31¾	50½	39
	Fourth	0.22½	41⅓	35⅓	51	43½
	Year	0.90				
	*The share prices are those reported as New York Stock Exchange – Consolidated Trading and as reported by the Toronto Stock Exchange.					

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## Terms

In this Report, unless stated otherwise, all dollar amounts are stated in United States dollars and all quantities in metric tons, or tonnes. A tonne is 1,000 kilograms, or 2,204.6 pounds. 'Subsidiary' means a company in which Alcan directly or indirectly owns more than 50% of the voting stock, whereas 'related company' indicates a company 50% or less owned.

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## Trademarks

The word Alcan and the symbol are registered as trademarks in more than 100 countries, and they are owned directly or indirectly by Aluminum Company of Canada, Limited.

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## Version française

On peut obtenir la version française de ce rapport sur demande écrite adressée: Alcan Aluminium Limitée, Service des Relations extérieures, 1188 ouest, rue Sherbrooke, Montréal (Québec) H3A 3G2.

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1188 Sherbrooke Street West  
Montreal, Quebec  
H3A 3G2

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