
Esso
Imperial Oil Limited
Annual Report 1981
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Contents

The broad base of Imperial's operations in activities related to the company's expertise is symbolized by the objects on the cover of this annual report. The rock cores from oil and gas wells, the beaker of upgraded oil from the oil sands, the sample of copper ore from the Granduc mine at Stewart, B.C., represent Imperial's operations in natural resources. The oil barrels, the motor-gasoline hose and nozzle, and the graduated cylinders of lubricants and specialty products stand for the company's operations in petroleum products. The circular dishes contain a pumpkin-colored additive to improve the flow of fuels at low temperatures, a sample of polypropylene rope, white granules of fertilizer, and light-blue plastic resin from Imperial's operations in chemicals.

Financial and operating highlights

Financial	1979	1980	1981
Earnings			millions of dollars
from operations	471	601	**465**
including unusual items	493	682	**465**
Earnings as a percentage of			percentages
average capital employed	15.2	15.7	**8.8**
average shareholders' equity	21.8	21.9	**11.9**
Per-share information			dollars
Earnings	3.78	4.71	**2.96**
Dividends	1.15	1.40	**1.40**
Other financial information			millions of dollars
Revenues	4906	6349	**8185**
Net internal funds generated	950	957	**893**
Taxes and royalties	1254	1620	**2712**
Capital and exploration expenditures	879	861	**1107**
Dividends	150	201	**220**
Capital employed	3751	5288	**5963**
Operating			
Crude oil and natural-gas liquids (1)			
Gross proved reserves (millions of m^3) (2)	200	198	**174**
Net proved reserves (millions of m^3)	147	140	**124**
Gross production (thousands of m^3/d)	40.7	34.7	**28.8**
Natural gas			
Gross proved reserves (billions of m^3) (2)	62	57	**53**
Net proved reserves (billions of m^3)	42	39	**37**
Gross production (millions of m^3/d)	9.8	8.2	**7.7**
Refining			
Crude oil processed (thousands of m^3/d)	71.6	71.1	**68.3**
Refinery capacity utilization at Dec. 31 (percent)	93	93	**89**
Sales volumes			
Natural gas (millions of m^3/d)	10.4	8.9	**8.5**
Petroleum products (thousands of m^3/d)	74.4	71.4	**69.0**
Chemicals (thousands of tonnes per day)	6.3	6.3	**6.4**

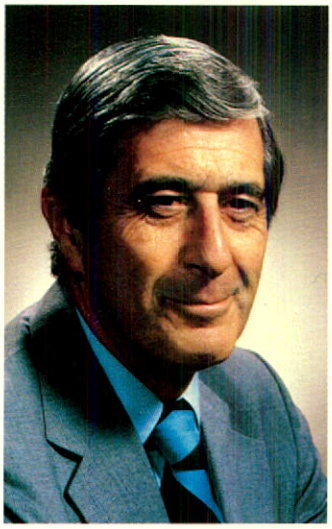
(1) Amounts are reported in metric units. One cubic metre (m^3) is equal to approximately 6.3 barrels or 35.3 cubic feet. One hectare equals about 2.5 acres.
(2) Proved reserves do not include crude oil or natural gas discovered in the Beaufort Sea/Mackenzie Delta or the Arctic islands. Reserves of crude oil in 1979 do not include the reserves of the experimental pilot plant at Cold Lake, Alta.

D. K. McIvor succeeds J. A. Armstrong as chief executive of Imperial

On Dec. 7, 1981, J. A. Armstrong announced his intention to resign as chairman of the board and chief executive officer on Dec. 31, 1981, and to remain a director until his retirement on April 1, 1982, which is in accordance with company policy. He was succeeded as chairman and chief executive officer by D. K. McIvor.

Jack Armstrong spent virtually all of his working life with Imperial. He began as a student, working during the summers of 1940 and 1941. He joined the company full time in 1942, after completing his studies, first at the University of Manitoba where he earned a bachelor's degree in geology and later at Queen's University where he graduated in chemical engineering. Armstrong worked as a geophysicist for Imperial in western Canada and for its subsidiary, International Petroleum Company Limited, in Ecuador. He returned to Canada in 1947, working in the West. After spending a year with Exxon's producing department in New York in 1959, he returned to Imperial in 1960 to manage operations in crude-oil production in Toronto. He was elected to the board in 1961 and assumed responsibility for marketing operations from 1963 to 1965. Armstrong became president of Imperial in 1970, chief executive officer in 1973, and chairman of the board in 1974.

Armstrong presided over a period of major growth for Imperial. He guided the company through the turbulent years of the "energy crisis," of growing environmental awareness, public suspicion of big business, and a rising tide of nationalist sentiment in Canada. His greatest achievement was his leadership at the meetings between government and industry in 1975 that led to a new agreement enabling the stalled Syncrude project to go ahead.



D. K. McIvor

Don McIvor is also a geologist and also an alumnus of the University of Manitoba. He began to work for Imperial as a geophysical trainee on a seismic crew in Alberta after graduating in 1950 and during the next eight years held various operational and research positions in exploration with Imperial and affiliated companies. Moving to Calgary in 1958, he became assistant to the exploration manager, supervisor of exploration planning, and manager of exploration research. During this time he also held brief assignments with Exxon Corporation in Angola and France.

McIvor moved to Imperial's head office in 1968 to become assistant manager and then manager of the corporate planning department. In 1970, he became Imperial's exploration manager. In 1972/73 he attended Class XXVI of the National Defence College of Canada. On his return to Imperial in 1973, he was named a senior vice-president and director and, in 1975, became executive vice-president. In 1977, he joined Exxon Corporation as vice-president with responsibility for oil and gas exploration and production. McIvor returned to Imperial in July, 1981, as deputy chairman of the board and director.

Canada's hydrocarbon prospects remain bright and promising

J. A. Armstrong

The message I want to leave with shareholders is that Canada's hydrocarbon prospects remain bright and promising. The industry is passing through a period of transition but Canada, almost alone among industrialized nations, possesses the opportunity for achieving self-sufficiency in all forms of energy within the foreseeable future. And it is energy development, more than any other industrial activity, that offers Canada the greatest prospects for economic growth. For a resource-rich country in a resource-hungry world, energy development represents a major opportunity and a major priority. And hydrocarbon development, for obvious reasons, heads the list.

The federal government certainly recognizes the importance of energy development to Canada's future. Its growing role in the petroleum industry is to be expected at a time when oil supply has become a matter of national concern. Imperial, for its part, supports many of the objectives contained in the federal government's National Energy Program, in particular the achievement of self-sufficiency in oil. And moreover, we have never been opposed to the intent of the program in promoting greater Canadian ownership of the oil industry. It is entirely reasonable that Canadians should play a greater role in domestic energy development.

However, it is reasonable, too, that a proper balance be struck between competing energy objectives. The urgency of energy development and the need for increased Canadian participation in that development, while both important, are very different objectives. Reconciling them represents a significant challenge for both government and industry. Canadianization will certainly reshape the oil industry and can do it in a way that benefits all Canadians. But at the same time, it is vital that the objective of increasing Canadian ownership and control is not pursued in a manner that impedes new energy development and jeopardizes our larger economic goals.

The job of energy development is so vast and so challenging that it will demand all of the resources the oil industry possesses. Those resources certainly include firms, such as Imperial, that can provide a wealth of technical and managerial skills, financial resources, and experience. To my mind, any energy policy for Canada must recognize the vital contribution that firms with major foreign ownership can make to the country's future. I am confident that government is sensitive to this fact of life.

Imperial Oil recognizes that the regulatory regime for energy development is changing and will undoubtedly continue to change. Your company is now in the process of adapting to those changes. Imperial Oil has identified many opportunities for new business development, not only in our traditional areas of hydrocarbon development and petroleum products, but also in chemicals and mineral development. Thus, on balance, Imperial's management looks toward the long-term future with considerable optimism.

I would add too that Imperial's long experience also provides good grounds for optimism. Change has been constant in the history of Imperial Oil; our success has been founded largely on our proven ability to adapt to change. During my long involvement with the company, I have witnessed many such changes. When I joined Imperial, it was largely a company that refined imported oil for petroleum products. Shortly afterwards, Imperial changed the face of the Canadian oil industry with the Leduc oil discovery. In later years, the company pioneered oil and gas exploration in the Arctic. And as pioneers, we have traditionally led the industry in developing new products and services. Our chemicals division, for example, grew from modest beginnings in 1955 and is now the most profitable chemical operation in the industry.

Imperial's outstanding record reflects a company that has never been afraid of change. And I have no doubt at all that Imperial Oil will continue to adapt in the future as successfully as it has in the past.

A company is, in the end, the people who work for it. Our company's long record of outstanding achievement reflects, more than anything else, the excellence of the people who are part of Imperial. They have certainly made my job as chairman not only easier than it might have been, but much more rewarding as well. My best wishes go to all of them for continued success in the future.

J. A. Armstrong

If we manage things properly, our future will see growth

The business environment for our industry is one of unprecedented change. This environment is not a cause for pessimism. If we manage things properly, there's a good probability that our company's future will be marked by sustained growth. I say "If we manage things properly" because it would be naive to assume a trouble-free future with automatic growth. Political and regulatory trends will demand flexibility and innovation. The economy is likely to remain sluggish for some time. Demand for petroleum products is declining. And our activities in natural resources have been hit by some very heavy taxes.

Imperial Oil has very substantial human, technical, and financial resources and we can work our way through difficult times. We have positioned ourselves in diverse areas of resource development which will provide us with a wide base to grow from. These include oil and gas exploration and development in the western provinces and in the Canada lands, heavy oil, coal, and base metals. The provisions of the National Energy Program that promote greater Canadian ownership and control of resource development, the generally high costs attached, and our reduced cash flow will make it desirable to participate with Canadian associates in some areas of resource development. We will pursue such a course in exploring for oil and gas in the Arctic and Atlantic.

Refining and marketing petroleum products will offer a significant challenge and opportunity. The market is shrinking, the product demand mix is changing, and raw material quality is deteriorating.

In this situation, inefficient refiners will see declining profits and possibly shutdowns. We have recently made very considerable investments in upgrading and restructuring our refining, distribution, and marketing facilities. A good index of the results is the fact that the gasoline volume sold at an average Imperial service station has doubled over the past 10 years.

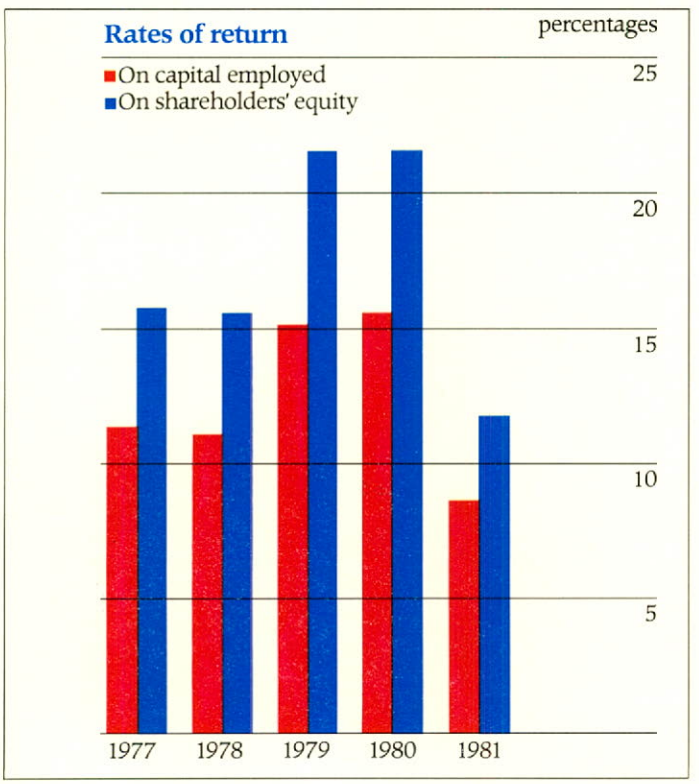
We'll see periodic weakening in the area of petroleum products but we're confident that our recent and planned upgrading will keep us strong over time.

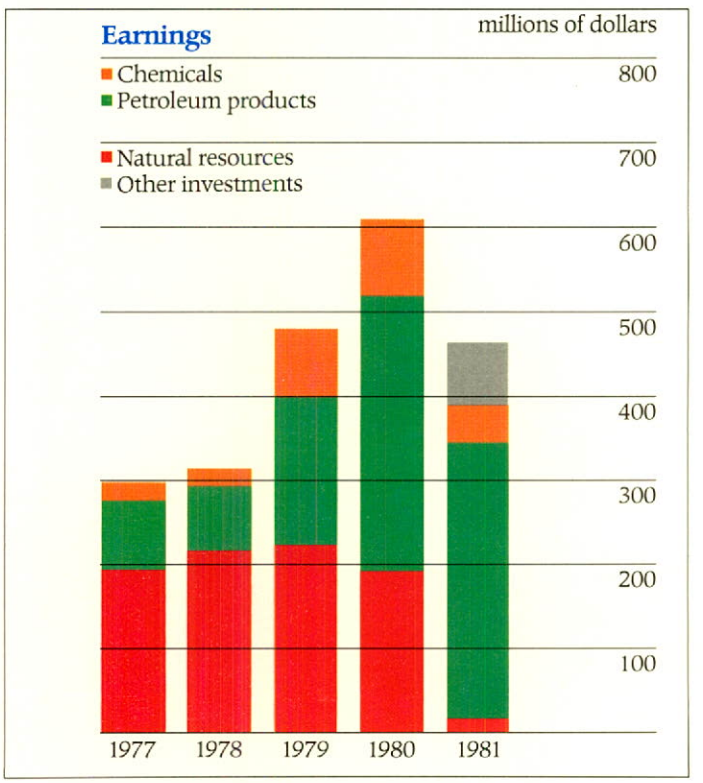
In petrochemicals, the relatively low cost of natural-gas feedstock should offer Canada an opportunity to establish world-scale manufacturing facilities and markets, and Imperial will take selective advantage of this opportunity.

Imperial is already an active explorer and producer in the field of coal and base metals. Markets for these commodities are cyclical, particularly for base metals, but a commitment to long-term involvement can result in significant contributions to our growth.

Although we find ourselves in a challenging period of transition, we have the confidence, the human, technical, and financial ability, and the inventory of opportunities to achieve sustained growth.

D. K. McIvor





Imperial's 1981 profit reduced by NEP and economic slowdown

J. G. Livingstone

The first year of Imperial Oil's second century was, as expected, a year of adjustment for the company, as it was for the industry. However, I am able to report that the company's performance in 1981 was satisfactory. I believe Imperial's ability to adjust and to respond to a changing business environment was demonstrated conclusively.

After the banner performance of 1980, taxing and other provisions of the National Energy Program, along with a general economic slowdown, resulted in lower earnings in 1981 and a reduction in the cash available for reinvestment. However, all operating segments were profitable and cash generation was strong. The operating results and investment opportunities outlined in this report are the basis for our confidence. I believe Imperial will remain an attractive investment for its shareholders and that the company will grow as the economy recovers.

Earnings from operations in 1981 were $465 million, compared to $601 million in 1980 and $471 million in 1979. Total earnings for 1981 were $465 million, compared to the record high of $682 million in 1980 and $493 in 1979. Total earnings in 1980 and 1979 included unusual items of $81 million and $22 million respectively, as explained in note 2 to the financial statements; there were no unusual items in 1981. The company's return on average capital employed was reduced to 8.8 percent in 1981, from 15.7 percent in 1980 and 15.2 percent in 1979.

Earnings per share in 1981 were $2.96, down from $4.71 in 1980 and $3.78 in 1979. Dividends paid in 1981 totalled $1.40 per share and were unchanged from 1980 dividends. Dividends in 1979 were $1.15 per share.

Earnings from resources reduced by new taxes

As expected, earnings of $16 million from natural resources were down substantially from $184 million in 1980 and $215 million in 1979. This reduction reflected the impact of a number of factors. The new Petroleum and Gas Revenue Tax introduced by the National Energy Program reduced earnings by $91 million or 49 percent. The continued decline in production of conventional crude oil and associated natural gas from mature fields, temporary reductions of crude-oil production imposed by the Alberta government, subsequent prorationing, and market limitations on the sale of natural gas reduced earnings by $64 million or 35 percent. Price increases for crude oil and natural gas were offset by volume declines in production.

Syncrude contributed $36 million to earnings in natural resources, in spite of operating problems in the first half of the year, compared with $60 million in 1980 and a loss of $17 million in 1979.

In base-metal mining, the closing of the lead-zinc mine at Gays River, N.S., resulted in a capital loss of $15 million being charged to earnings.

Refining and marketing earnings affected by lower product demand

During 1981, operations in petroleum products were organized as a new division of the company, Esso Petroleum Canada. Earnings from petroleum products were $330 million in 1981, compared to $310 million in 1980 and $176 million in 1979. However, $102 million of 1981 earnings were non-cash "inventory profits," most of which resulted from the accounting treatment of charges levied by the federal government on purchases of crude oil by refiners. Earnings in 1980 and 1979 included "inventory profits" of $48 million and $17 million respectively. A further discussion of "inventory profits" can be found in paragraphs 2, 3, and 4 on page 20. During 1981, earnings were also affected by higher costs of refining heavier, high-sulfur crudes, substantially lower demand for heating fuels and motor gasolines, and by lower volumes and prices of propane exports. These factors were only partially offset by increased sales of turbo and diesel fuel, especially in western Canada.

Chemical earnings down with declining economic activity

Esso Chemical Canada's earnings for 1981 were $45 million, a reduction of 44 percent from the record level of $81 million in 1980. Earnings in 1979 were $68 million. Decreased earnings reflected sharply declining levels of economic activity, particularly in the latter half of the year. This led to a highly competitive market resulting in volume decreases in higher-margin petrochemical exports and lower export prices for agricultural chemicals. Costs of raw materials and expenses related to major capital projects also increased.

Reported earnings are not adjusted for inflation

Total earnings are based on conventional measurements, which do not identify the impact of the high rates of inflation and changes in prices that have been experienced in recent years. On page 48, a report of the negative effect of inflation and changing prices on actual financial performance is presented. Although it is experimental and the calculations are subjective, it indicates the direction and general magnitude of the effects of inflation.

Liquidity and capital resources support Imperial's investments

Imperial Oil is a financially sound company with a solid capital base. A prime credit rating allows financing flexibility and in 1981, 1980, and 1979, the company demonstrated its ability to meet its cash requirements from internal cash generation and external financial issues. In 1981, Imperial raised $221 million with a debt issue, following an $858-million equity issue in 1980 and a $292-million debt issue in 1979. With a 1981 year-end funds position of $608 million and a debt that is 19 percent of shareholders' equity, the company is well placed to pursue investment opportunities in 1982 and beyond. Also, the company maintains lines of credit with three major Canadian banks amounting to $287 million. The company will probably require additional external financing in future years to meet expected investment needs.

Operations in natural resources provided funds of $86 million in 1981, compared to a requirement of $34 million in 1980. Reduced capital and exploration expenditures plus a reduced requirement for working capital were partially offset by a decline in internal funds generated. Operations in petroleum products required funds of $301 million in 1981, due to lower earnings before inventory profits, the higher costs of replacing inventories, and an increase in capital expenditures. Funds of $173 million were also required for the chemicals segment as a result of expenditures for the expansion of various plants, including the projects to manufacture nitrogenous and phosphatic fertilizers at Redwater, Alta.

The effects of the National Energy Program on the company's funds were severe in 1981 and its continuing restriction of the company's cash flow and earnings will influence future investment plans. Also, major amounts of working capital were required to finance inventories and receivables. As a result of the schedule of price increases for crude oil agreed by the federal and Alberta governments, there is a significant upward trend in the requirements for working capital. The company is managing its working capital carefully to minimize this effect. Year-end inventories represent a 91-day supply, and receivables are turned into cash in 37 days.

Prospects for earnings and cash flow from natural resources have not been improved significantly by the agreement of Sept. 1, 1981, between the federal government and the government of Alberta on the pricing and taxation of Canadian crude oil and gas for the period through 1986. While the agreement provides a stable framework for planning and provides incentives for the discovery and production of new oil reserves, revenues from currently producing fields will not increase substantially.

Investments and opportunities provide broad base for future earnings

For many years, Imperial Oil has pursued a policy of broadening its operating base in areas related to the company's expertise. This policy of making selective investments in growth opportunities to provide earnings flexibility for the future continued during 1981 and we expect it to continue through the 1980s. Imperial's capital and exploration expenditures in 1981 were $1107 million, a significant increase over expenditures of $861 million in 1980 and $879 million in 1979.

Capital spending declines in natural resources

Capital and exploration expenditures in natural resources fell to $455 million in 1981 from their high level of $682 million in 1980, which was a reduction from the record level of $737 million in 1979. This decline results primarily from decisions taken in light of the National Energy Program, which has made investments in exploration and development generally less attractive. However, Imperial is continuing its programs for the development of natural resources on a selective basis.

Through 1981, we continued to explore for crude oil in the western provinces, the Beaufort Sea and Mackenzie Delta, the Arctic islands, and the Atlantic offshore. We were encouraged by test results from a well at Issungnak in the Beaufort Sea, which indicated both oil and gas, and by discoveries in the Arctic islands. Esso Resources Canada will continue to explore in the western provinces, the Beaufort Sea, and the Atlantic offshore, and to participate with others in the Arctic islands.

The company received approval from the federal government in 1981 for a project to increase production of crude oil from Norman Wells by 1985. Modifications to increase efficiency at Syncrude will continue in 1982 and increased production is anticipated by the mid-1980s. The Cold Lake project was suspended in July, 1981, and it appears unlikely that it will proceed in the immediate future. This is due to limitations on the company's earnings and cash flow as a result of the current business environment as well as the need to negotiate suitable investment terms.

In minerals development, Esso Minerals Canada closed down its lead-zinc facility at Gays River, N.S. However, in 1981 we completed our acquisition of Byron Creek Collieries Limited in southeastern British Columbia, and a program is under way to identify reserves for a major expansion. Additional investments in minerals development are planned for the future, with continued emphasis on thermal coal.

Petroleum-products division increases spending on capital projects

In petroleum products, capital expenditures increased greatly, to $229 million in 1981 from $111 million in 1980 and $102 million in 1979. Work began on a number of projects that will enable us, over the next three years, to process a greater variety of feedstocks, to expand our capacity to increase yields of selected products from poorer-quality crude oil, and to improve the efficiency of our marketing and distribution operations. Most notably, construction began in May, 1981, to expand the capacity and improve the efficiency and flexibility of the Strathcona refinery at a cost of $299 million, with completion expected in 1983.

Chemical spending breaks 1980 record

Capital expenditures by Esso Chemical Canada also increased dramatically, from $26 million in 1979 and $50 million in 1980 to $327 million in 1981. Canada has substantial secure supplies of attractively priced petrochemical feedstocks, and development of the petrochemical industry is supported by federal and provincial governments. With these advantages, Canadian world-scale petrochemical plants are economically attractive and Imperial is well placed to participate in their development.

Petrochemical projects commenced in 1981 include a new nitrogen-fertilizer plant and an expansion of our phosphate-fertilizer plant, both at Redwater, Alta., and a world-scale, linear low-density polyethylene plant as well as an expansion of our polyvinyl-chloride plant in Sarnia, Ont.

Early in 1982, the company withdrew from the Petalta aromatics and styrene project proposed by Esso Chemical Canada and Alberta Energy Company Ltd.

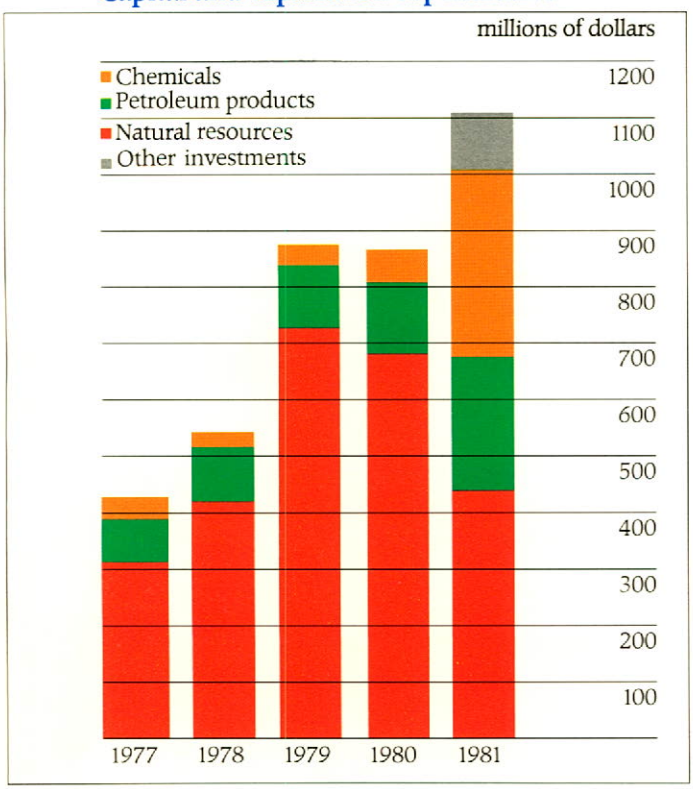
An application was submitted in November to the Alberta Energy Resources Conservation Board to build a $700-million ethylene plant south of Redwater, Alta., in a joint venture with Alberta Energy Company Ltd. and Hudson's Bay Oil and Gas Company Limited.

Outlook improves for Imperial as Canadian economy recovers

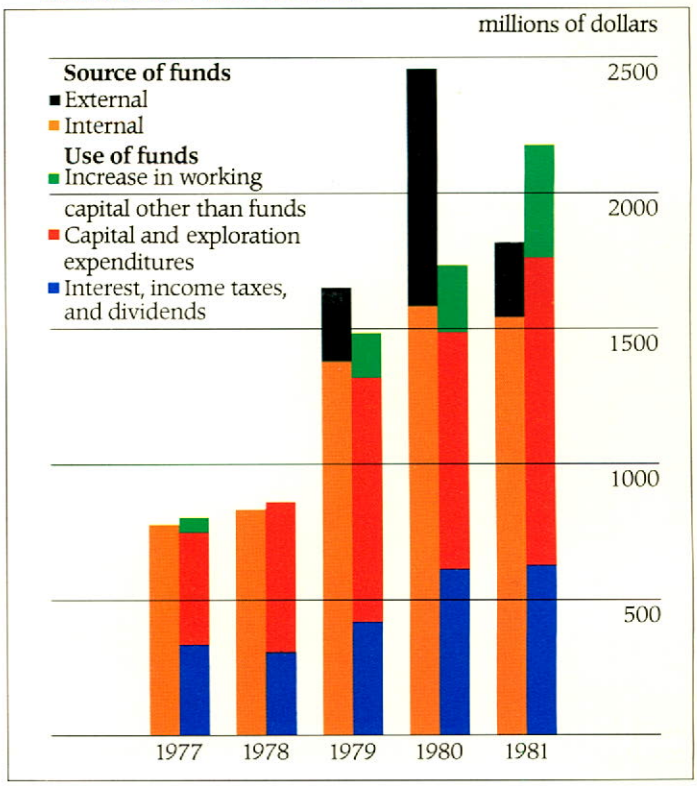
With an impressive list of major projects under way, with further projects planned for the near future, and still more in prospect, Imperial is a strong and profitable company. As the economy recovers and as temporary setbacks ease, we believe that we will become even stronger and play a major role in Canada's energy future.

J. G. Livingstone

Capital and exploration expenditures



Sources and uses of funds



A century of operations in Canada

Imperial has been closely woven into the fabric of Canadian life since its founding in London, Ont., on Sept. 8, 1880, by 16 Canadian businessmen. It was the biggest Canadian oil company of its time and when it began operating, the market for oil products was growing. The market grew faster than Imperial and within 20 years the company needed capital to expand if it was to survive. In 1898, it got that capital by selling a majority interest to Standard Oil Company. Imperial remained Canadian, however, and in the years since then, it has continued to be the largest oil company in Canada with operations from coast to coast and in the far North.

The photograph at left suggests the changes over a century of operations, from hand-written ledgers to computer terminals; from seat-of-the-pants operations at Regina in 1918 when the refinery staff posed for a group portrait, to plans for multi-million-dollar projects.

Imperial's financial, physical, and human resources are managed by a committee composed of the company's senior executives. Chairman of the committee is Donald K. McIvor, a native of Winnipeg who has been an employee of Imperial since 1950, with experience mainly in oil and gas exploration and production and in business planning. Vice-chairman is James G. Livingstone, a Torontonian who joined the company in 1942 and has worked in the refining and manufacturing operations. Other members are Arden R. Haynes, a native of Regina, who joined the company in 1951 and has experience in marketing; J. Warren Flanagan, also a Torontonian and an employee since 1946 with experience in manufacturing, economics, and chemicals; Thomas H. Thomson, a Winnipegger who joined Imperial in 1959 and has worked mainly in marketing; and William J. Young, a native of Windsor, Ont., who joined Imperial in 1961 and has experience in economics, market research, public and employee relations, and marketing.

All the members of Imperial's management committee except W. J. Young have spent their working careers with the company. They arrived at their present positions by way of a systematic program followed by Imperial to assure a stream of competent, dedicated managers and professionals at all levels of the organization. The program begins with recruiting. Imperial visits universities, community colleges, and technical schools to find persons with a special combination of intelligence, talent, and training and follows up with programs to identify future managers early in their careers.

The company operates internal training programs for employees, frequently using operating personnel as program staff. These include programs in management development, advanced technical training for persons with specialized skills, and on-the-job operational training.

Employees are offered work assignments related to their potential for advancement in a variety of operating positions to increase their knowledge of the business and further their careers. These assignments may take an employee to a number of areas in Canada as well as to other parts of the world with affiliates of Imperial.

Management training course in Toronto

John Lang on government assignment

Judy Colby at U of T

Dave Gracey on assignment with Esso Inter-America Inc.

Outlook bright for oil, gas, coal, minerals

Imperial is Canada's largest producer of crude oil and among the top five producers of natural gas. It holds the largest hydrocarbon reserves of any company in Canada. The company is the largest single participant in Syncrude Canada Ltd. and is operating a successful pilot plant to produce bitumen from buried oil sands at Cold Lake, Alta. Through Esso Minerals Canada, it is one of the largest mineral-exploration companies in Canada and operates a coal mine and a copper mine. Clockwise from upper left in the photograph below are upgraded crude oil from Syncrude, conventional crude, natural gas, copper ore and its powdery black concentrate, coal, sulfur, and oil sands.

The company's operations in natural resources are all located in Canada and are carried on through Esso Resources Canada Limited, a wholly owned subsidiary of Imperial based in Calgary. A.R. Haynes, a native of Regina, became chairman of Esso Resources' board on Oct. 1, 1981, and was appointed executive vice-president of Imperial on Jan. 1, 1982. He joined Imperial Oil in 1951 and worked in the company's marketing function and was a director of Imperial between 1974 and 1978 before moving to Esso Resources. President and chief executive officer of Esso Resources is R.B. Peterson. Like Haynes, he was born in Regina. Peterson joined the company in 1960 and has extensive experience in producing operations. He was appointed president of Esso Resources in October, 1981, and became chief executive officer on Jan. 1, 1982.

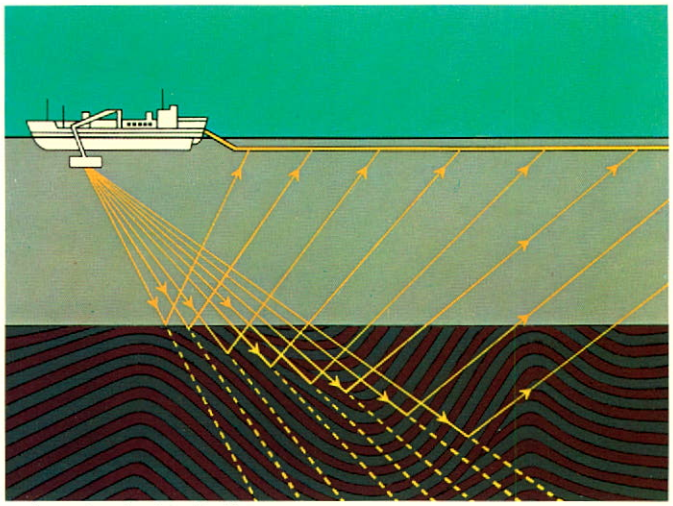
Major opportunities exist in conventional oil from Canada lands

The Mackenzie Delta and the Beaufort Sea, the Atlantic offshore, and the Arctic islands have the potential for major oil and gas production. The company has been operating in these areas for 17 years, beginning with exploration in the Mackenzie Delta in 1964. The investment opportunity is great in these areas and the company is well positioned to participate through its experience, technological capability, and extensive land holdings.

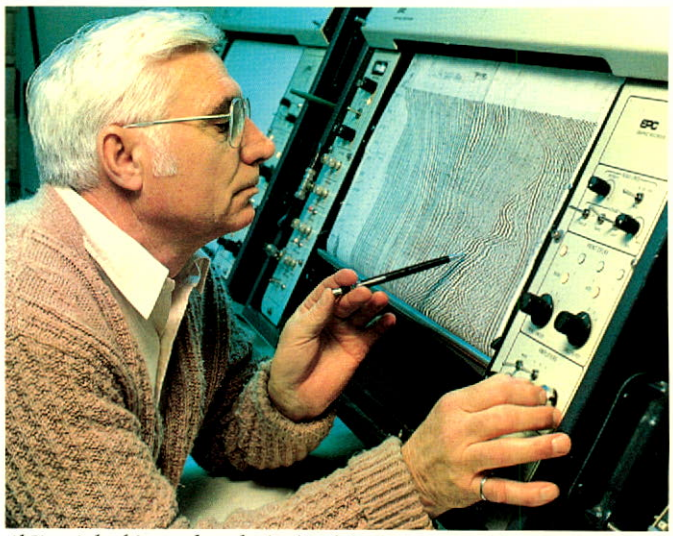
Esso Resources holds exploration rights to 5.5 million gross hectares in the Atlantic off the shores of Baffin Island and Newfoundland. The company has participated in the drilling of two wells and has recorded almost 15 000 km of seismic exploration in this area since 1979. During 1981, 4400 km of seismic exploration was acquired.

Esso Resources is planning to farm out some of its lands in the Beaufort Sea/Mackenzie Delta and Atlantic offshore to accelerate exploration of these holdings and to increase Canadian participation in its operations in these areas. Oil produced from the Beaufort Sea/Mackenzie Delta and the Atlantic will be classified as "new" oil and will be priced at or near world levels, as established by the Ottawa-Alberta energy agreement of Sept. 1, 1981.

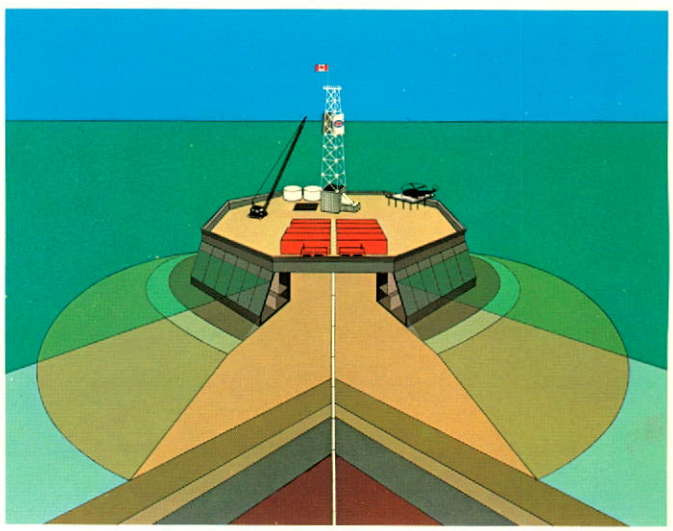
Esso Resources has developed a technique for building artificial islands to be used as offshore drilling platforms in the Beaufort Sea. The technique uses ring-shaped steel caissons, about 100 m in diameter and 12 m high. Floated into place, the caissons would be sunk and filled with sand. After the well is drilled, the caisson would be refloated and towed to the next site. A contract was awarded to Hitachi Shipbuilding & Engineering Co. Ltd., of Osaka, Japan, to build such a caisson for delivery to the Beaufort Sea in 1982. The first well is planned to be drilled from it in 1983.



Underwater seismic technology



Al Stuart checking on-board seismic printouts



Proposed caisson island

1983 construction start approved for Norman Wells project

The company received approval from the federal government in 1981 for an enhanced-recovery project at Norman Wells, N.W.T., which will cost $800 million and increase production of crude oil and natural-gas liquids from about 500 m^3/d to 4400 m^3/d. The operation will require 190 new wells to be drilled, some of them from six artificial islands to be built in the Mackenzie River using technology developed through island-building in the Beaufort Sea. These islands will permit oil to be produced from the part of the reservoir that lies under the river.

A system of buried pipelines will bring the crude oil to a central processing plant where water and natural gas will be removed before the oil goes to the refinery and a new $575-million pipeline to carry the production 900 km to southern markets. An application by Interprovincial Pipe Line (NW) Limited to build this pipeline was also approved in 1981.

Mobilization of equipment and camps is planned to begin in the summer barging season of 1982.

Opportunities beckon in minerals and coal

During 1981, Esso Minerals explored in most areas of Canada. More than a billion dollars has been proposed for investment in minerals development in the 1980s.

Shipments from the company's rehabilitated Granduc copper mine near Stewart, B.C., began in April, 1981. The company acquired the property in 1979.

Demand for thermal coal is increasing rapidly in Canada as well as Japan and other countries of the Orient. The company is in a good position to supply some of this demand through expansion of Byron Creek Collieries in British Columbia and the development of other thermal-coal properties.

Late in 1981, the company signed an agreement by which it can acquire an interest in a coal property at Hinton East, about 250 km west of Edmonton. In addition, the company also holds interests in other sub-bituminous and bituminous coal properties in western Canada.

The company also has interests in gold and base-metal properties at various stages of exploration and development in other parts of Canada.

Experimental pilot plant expanded at Cold Lake

Esso Resources operates a pilot plant at Cold Lake which has been testing and evaluating production methods since 1964. Expansion of the pilot was completed in 1981 and production of bitumen is expected to increase to an average of about 2000 m^3/d in 1982.

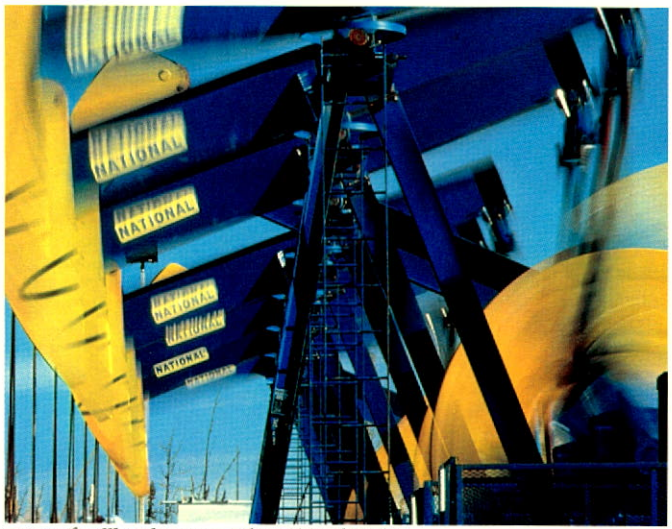
To recover the bitumen, high-temperature steam is pumped under pressure through insulated lines and down wells into the underground deposits, which are bands of sand up to 50 m thick containing viscous bitumen and roughly 500 m below the surface. The steam heats the bitumen, thinning it out until it starts to flow. Then the bitumen is pumped

Wellhead pump at Norman Wells

Drilling at Norman Wells

Brock McMichael at Granduc

Working face at the Granduc mine



Array of wellhead pumps at the Cold Lake pilot


Steam lines at the Cold Lake pilot


Bucketwheel reclaimer at Syncrude

to the surface for further treatment and upgrading.

Much of Esso Resources' research has been aimed at using the energy in the injected steam to heat as much of the bitumen as possible.

To reduce surface disruption and to improve the economics of steam distribution, the company has developed a process of drilling a number of wells in a radiating pattern from one central cluster. This allows steam to be injected into a large underground area while reducing the disturbance caused by surface wells. Each cluster is expected to have a productive life of about five years, after which the surface facilities would be dismantled and moved to a new area and the land either returned to its original state or upgraded for agricultural or some other use.

The Alberta Energy Company Ltd. received approval in 1981 to construct a pipeline to transport crude bitumen from the Cold Lake area to Edmonton. This will eliminate the need for truck transportation.

Increases expected in Syncrude capacity

Work is continuing at Syncrude to increase reliability of operations and reduce costs. Further work is proposed to increase production of upgraded crude at a total investment that could reach $360 million, of which the company's share would be $90 million. This could increase production by 2800 m^3/d to 19 200 m^3/d, which would add 700 m^3/d to the company's share, bringing it to 4800 m^3/d by 1987.

Syncrude's leases are sufficient to support a major expansion in plant capacity to about 30 000 m^3/d by the early 1990s. Such an expansion would require the participants to negotiate acceptable business terms with the Alberta and federal governments since it would not be economic under the terms of the energy agreement of Sept.1 between Ottawa and Alberta.

At Syncrude, the oil sand is buried under an overburden of rock and soil that averages 10 m in depth. This overburden is removed by mobile equipment and set to one side. The oil sand is mined by draglines capable of scooping up a hundred tonnes of earth in a single bite and stockpiled where giant bucketwheel reclaimers can load it onto conveyor belts for its trip to the separating plant. At the plant, hot water is used to separate the bitumen from the sand. The bitumen is then upgraded into a light crude oil, the sand eventually returned to its original site, and the overburden replaced on top of it.

Review of 1981 operations in natural resources

Earnings reflect production decline, tax increases

Earnings from natural resources were $16 million in 1981, a decrease of $168 million or 91 percent from 1980 results. The decrease has two main causes. First is the new Petroleum and Gas Revenue Tax, which increased taxes by a total of $91 million in 1981. Second is declining productivity in mature oil fields and production cutbacks ordered by the Alberta government between March and September, prorationing in Alberta from September through November, the shutting in of production in Saskatchewan, higher operating costs, and the loss of depletion allowances, which together more than offset increases in prices for crude oil and natural gas.

Gross revenues from sales of natural gas were unchanged since lower volumes were offset by higher prices. Production of gas is also limited by the current low demand for it.

Earnings on production from Syncrude were down by 40 percent from $60 million in 1980 to $36 million in 1981, due to the Petroleum and Gas Revenue Tax of $10 million and increases in operating costs and royalty payments, partially offset by increased earnings from higher prices.

Expenditures on exploration for oil and gas were $190 million, a decrease of $197 million or 51 percent from 1980 figures. Capital spending on facilities to increase or maintain production of conventional oil amounted to $90 million in 1981, a decrease of $53 million or 37 percent from 1980 spending.

Financial and production statistics	1980	**1981**	Percentage increase (decrease)
Financial	millions of dollars		
Earnings	184	**16**	(91)
Revenue	1201	**1255**	4
Capital and exploration expenditures			
Oil and gas			
Capital	226	**133**	(41)
Exploration	387	**190**	(51)
Minerals	69	**132**	91
Capital employed	2083	**2046**	(2)
Return on average capital employed (percent)	9.6	**0.8**	
Production (gross)			
Crude oil and natural-gas liquids	thousands of m^3/d		
Conventional	30.6	**24.2**	(21)
Syncrude	3.2	**3.2**	–
Cold Lake pilot	0.9	**1.4**	56
Total	34.7	**28.8**	(17)
Natural gas	millions of m^3/d		
Gross production	8.2	**7.7**	(6)
Gross sales (1)	8.9	**8.5**	(5)
Mineral concentrates	tonnes per day		
Gays River, N.S. (2)	34	**50**	47
Stewart, B.C.	34	**82**	141
Total	68	**132**	94

(1) Sales to outside customers include purchases of natural gas for resale.
(2) Production at the Gays River mine was suspended in August, 1981.

Oil and gas exploration summary	1980	**1981**	Percentage increase (decrease)
Exploration expenditures (net)	millions of dollars		
Western provinces	321	**118**	(63)
Canada lands			
Beaufort Sea/Mackenzie Delta and Northwest Territories	53	**54**	4
Arctic islands	7	**8**	14
Atlantic offshore	6	**10**	67
Total	387	**190**	(51)

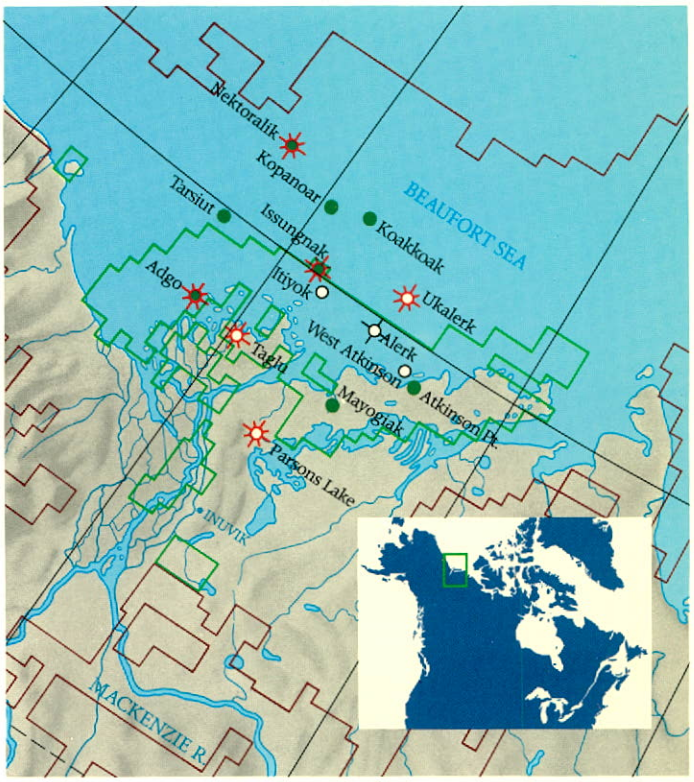
Exploration wells drilled (net) (1)	oil	gas	dry
Western provinces			
Convention oil	2	11	7
Cold Lake, Athabasca, and Peace River	9	2	–
Canada lands			
Beaufort Sea/Mackenzie Delta, Northwest Territories, Yukon Territory, Arctic islands, and Atlantic offshore	*	*	1
Total (net) (2)	11	13	8
Total (gross) (3)	35	44	16
Development wells drilled (net) (2)	94	13	4
(gross) (3)	107	48	10

*less than 1

(1) The designation as oil, gas, or dry is preliminary and does not necessarily reflect the ultimate classification for financial reporting purposes.
(2) Net: the number of wells after the interests of others have been deducted.
(3) Gross: the total number of wells in which the company has an interest.

Operations in oil and gas to be more selective

The company's operations in exploration for and production of oil and gas are being affected by the National Energy Program (NEP) and agreements between Ottawa and Alberta on the pricing of oil and gas. The Petroleum and Gas Revenue Tax affects earnings on all oil and gas produced.



Beaufort Sea/ Mackenzie Delta

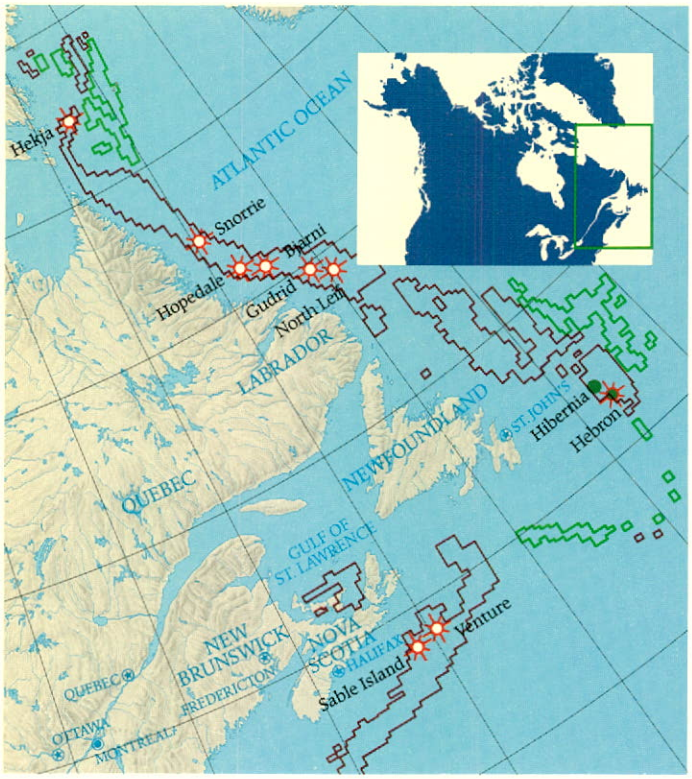
- Company-interest holdings
- Holdings of others
- Gas
- Oil
- Oil and gas
- Drilling location
- Dry hole

When the Incremental Oil Revenue Tax is added in 1982, earnings from "old" oil–oil that was discovered before 1981–will be further reduced.

Exploration plans for 1982 include seismic surveys and drilling on promising oil prospects in Alberta and British Columbia.

NEP forces drilling reduction in western provinces

In 1981, the company spent $118 million exploring in Alberta and British Columbia. This is a decrease of $203 million from 1980, mainly as a result of the terms of the NEP. The company participated in 40 gas wells and five oil wells in these provinces in 1981, compared to 111 gas wells and eight oil wells in 1980.



Atlantic coast offshore

- Company-interest holdings
- Holdings of others
- Gas
- Oil
- Oil and gas

Issungnak follow-up successful; more exploration planned in Arctic and Atlantic

The company holds exploration rights to approximately 16.9 million gross hectares in the Beaufort Sea/Mackenzie Delta, the Arctic islands, and the Atlantic offshore. In 1981, Parliament passed legislation appropriating an interest of 25 percent in Canada lands. The law becomes effective after it is proclaimed. In the meantime, the company is negotiating new agreements on exploration conditions for these lands.

Extensive evaluations and geological testing were carried out in 1981 on the Issungnak 2-0-61 well in the Beaufort Sea, a follow-up to the 1980 Issungnak 0-61 oil and gas discovery. Gas or oil or both were recovered from 13 individual sands ranging in thickness from one to seven metres. Flow rates of up to 286 000 m^3/d of gas and 535 m^3/d of oil were recorded. Further drilling will be required to evaluate fully the reserves potential and productivity of the discovery.

In December, drilling was completed at Alerk, on an artificial island 60 km southeast of Issungnak. It was a dry hole.

An artificial island was completed for later drilling at West Atkinson in six metres of water, 10 km northwest of the 1970 oil discovery at Atkinson Point. Island construction was started in 1981 at Itiyok, 12 km southeast of Issungnak, in 15 m of water.

In 1981, the company acquired about 4400 km of seismic surveys over its Atlantic acreage in the Flemish Pass area, 160 km east of the Hibernia discovery. This program is part of a technical evaluation of prospects for drilling after 1982.

The company participated with the Arctic Islands Exploration Group in three successful oil and gas discoveries at Skate, Cisco, and Maclean in 1981. A significant aspect of these discoveries is that oil was recovered in important quantities in what was previously considered to be a gas-prone area.

Activity for 1982 includes participation in two wells to follow up the gas discovery at Whitefish in 1979 and the discovery of oil and gas at Cisco in 1981. Exploration wells will also be drilled at Cape Mamen and Sculpin.

Investments reduce decline in oil and gas production

Although the company spent $9 million to maintain maximum production from reserves in 1981, gross production continued to decline. Without capital investments to maintain production, the rate of decline would have been even greater.

Productivity in mature fields in western Canada is declining at an average industry rate of about 10 percent. Because the fields operated by Esso Resources have been producing for a longer time than most, their rate of decline is higher, averaging 15 percent.

Waterflood approved to increase Norman Wells production

Production at the Norman Wells oilfield in the Northwest Territories will be increased from 500 m^3/d to 4400 m^3/d by means of a waterflood operation. This is a reduction from previous estimates and results from design changes in processing facilities.

Syncrude production at record levels; pilot operations continue at Cold Lake

The Syncrude project produced 12 940 m^3/d of upgraded crude, a slight increase over 1980 production. This production

was achieved despite operating problems and maintenance shutdowns that restricted production during the first half of the year and in December. Esso Resources owns 25 percent of Syncrude and its share of the production was 3235 m^3/d.

The company's plans for a project to produce upgraded crude oil from the bitumen at Cold Lake, Alta., were suspended on July 8, 1981. Esso Resources continues to operate a successful pilot plant at the site.

Operations in minerals produce mixed results

In February, 1981, the company purchased Byron Creek Collieries Limited in southeastern British Columbia. The mine has the capacity to produce about one million tonnes of thermal coal per year and the company plans to expand this to about 3.6 million tonnes per year by 1985 if sufficient reserves are found and sales contracts are obtained. A strike that began on April 29 was settled on Nov. 23 and production of coal resumed.

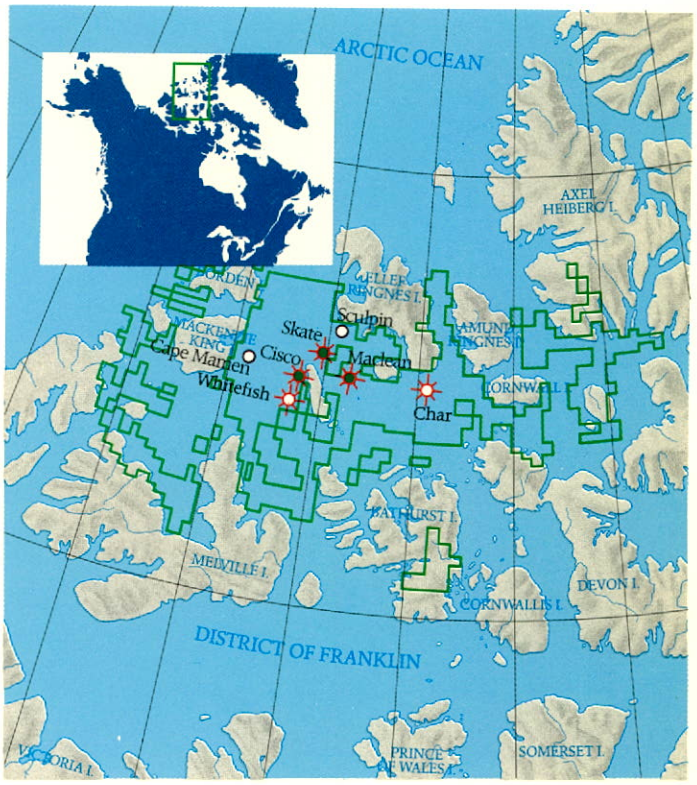
In response to the company's forecast for growth in the demand for thermal coal, an exploration agreement was signed with Associated Porcupine Mines Ltd. by which the company can earn an interest of 70 percent in a potential thermal-coal property near Hinton, Alta. Thermal coal is burned to generate steam.

Production of copper ore at the Granduc copper mine near Stewart, B.C., was nearly 615 000 tonnes in 1981, containing 1.44 percent copper. The company plans to maintain this level of production while continuing development work underground to enable the mine to reach production of 1.3 million tonnes of ore per year.

Operations at the lead-zinc mine at Gays River, N.S., were suspended in August, 1981, and $23 million was written off less taxes of $8 million. Technical problems with erratic ore seams and water resulted in substantial operating losses for the mine. Test mining and water studies are continuing in an effort to solve these problems.

Renewable-energy research continues on solar, biomass

Imperial is continuing its studies of renewable energy sources. Although solar energy does not yet appear to be an economic alternative to fossil fuels or electricity, a research program to study the efficiency of solar collectors mounted in vacuum tubes to reduce heat loss is being operated for the company by the University of Calgary in a laboratory on the roof of the Esso Plaza building in Calgary. Studies into the commercial possibilities of wood as a renewable source of energy are continuing and the company is monitoring published reports of other studies in renewable energy. Expenditures on renewable energy resources were $800 000 in 1981.



Arctic islands

- Company-interest holdings
- Gas
- Oil and gas
- Drilling location

Research stresses oil sands, gas-recovery techniques

The company continued its research into exploration for and development of natural resources in 1981 with an expenditure in Canada of $30 million. During the year, a division of minerals research was established.

Principal subjects for research in 1981 included new techniques to produce bitumen from underground formations using injected steam and *in situ* combustion, methods to tap the large supplies, mainly of gas, trapped in rocks of very low permeability, fundamental studies of the way hydrocarbons are formed, and new seismic-exploration techniques to obtain clearer pictures of underground formations.

During the year, the professional staff of the laboratory in Calgary was increased and now stands at 120 persons. Total staff numbers 270.

Profits flow from fuels and lubricants

Imperial is Canada's oldest and largest marketer of refined petroleum products, with a market share of about 25 percent. It operates six refineries and provides a full range of products and services throughout the country through a network of nearly 4600 dealers and agents. The principal sources of earnings are gasolines, diesel fuels, and jet fuels–symbolized by the hoses in the photograph below–and lubricants, as shown in the graduated cylinders.

A new division–Esso Petroleum Canada–was formed in 1981 to manage Imperial's operations in petroleum products more effectively and to provide greater flexibility in dealing with changes in this segment of the business. President of Esso Petroleum Canada is W. A. West, a native of Toronto. He is a vice-president of Imperial Oil Limited and former general manager of the company's refining and supply operations. Executive vice-president is M. G. Handford, vice-president of Imperial and formerly general manager of marketing operations. Handford was born in Snowflake, Man.

Future opportunities present many investment possibilities

The Strathcona refinery at Edmonton is being enlarged to bring its year-round capacity to 27 400 m^3/d by mid-1983 at a capitalized cost of $299 million.

In the spring of 1981, a new approach to automotive maintenance and repair service began in Hamilton and Burlington, Ont. Named Auto Tech, the proposed new service provides a computer analysis of a car's engine, fuel system, and electrical system to locate troubles. The service offers repairs based on a written price estimate and follows up with a guarantee. When the tests of the program are completed, it may be extended to other metropolitan areas.

Imperial is studying the feasibility of a project in Alberta to extract by-product gas produced at oil-sands plants and upgrade it into feedstock for the manufacture of petrochemicals, liquefied petroleum gas, and blending components for gasoline.

Business opportunities exist in alternatives to transportation fuels, especially substitutes such as propane or compressed natural gas as well as gasoline extenders derived from alcohols. During 1981, a program testing propane vehicles was begun in Ontario and a pilot plan developed to sell propane, conversion kits, and service to fleet customers in Toronto.

The company plans to spend $270 million during the next three years to increase operating efficiency in the areas of energy conservation, use of raw materials, and applications of computer technology.

Research in petroleum products and processes has expanded by about 50 percent since 1977. The main reason for this research expansion has been a growing need to maximize the yields of high-quality transportation fuels and lubricants from crude oils of declining quality.

Expansion at the Strathcona refinery

New Auto Tech centre

Research on lubricating oils

Review of 1981 operations in petroleum products

Earnings from petroleum products inflated by "inventory profits"

Earnings from operations in petroleum products increased to $330 million in 1981 from $310 million in 1980, an increase of $20 million or six percent.

They include an "inventory profit" of $102 million, after taxes of $91 million. "Inventory profits" arise when price increases reflect the higher costs of raw materials. If old stock, which was in inventory before the cost increase, is sold at the higher price, the difference between the profit earned on it at the new price and the profit it would have earned at the old price is called an "inventory profit". Imperial earned $193 million in this way in 1981 and paid $91 million in taxes on those earnings.

However, inventory must be replaced immediately and the higher costs of the new inventory absorb the "inventory profit" earned on the sale of old stock at new prices. As a result, the company has a decrease in its cash flow equal to the tax paid on the "inventory profit." In Imperial's case, this decrease amounted to $91 million in 1981.

If the "inventory profits" and the taxes paid on them were excluded from 1981 and 1980 results, earnings for 1981 would be $228 million, a decrease of $34 million or 13 percent from 1980 results.

In 1981, the increases in costs of crude oil included three price increases and increases in the Canadian government's Petroleum Compensation Charge and its Canadian Ownership Special Charge. Together, these increases amounted to $59.15/m³.

The volume of all products sold was down three percent from 1980 figures, which is slightly better than the decline for the industry. Imperial's total market share increased in 1981. Earnings after "inventory profits" were reduced because of lower sales, higher supply costs, and greater discounts in 1981's "soft" market.

Sales volumes of lubricating oils and greases remained essentially the same as in 1980, even though sales of these products were down throughout the rest of the industry. Earnings in this division increased as a result of price increases, which were general throughout the industry.

Capital expenditures more than doubled, from $111 million in 1980 to $229 million in 1981. They were made to reduce energy consumed in operations, to improve the product yield at refineries, and to further increase efficiency in marketing and distribution.

The market for oil products is changing rapidly

The business climate for petroleum products is changing significantly. Products most in demand are high in quality, value, and profitability. Demand for products such as heavy fuel oil, home-heating oil, and motor gasolines is falling. Both these trends are expected to continue and Imperial's current investments and future plans for refinery expansion and modifications to increase the yield of high-quality products place it in an advantageous position in this market.

Financial and operating statistics	1980	1981	Percentage increase (decrease)
Financial	millions of dollars		
Earnings	310	**330**	6
excluding inventory profits	262	**228**	(13)
Revenues	5058	**6647**	31
Capital expenditures	111	**229**	106
Capital employed	1786	**2452**	37
Return on average capital employed (percent)	18.8	**15.6**	–
Operating	thousands of m³/d		
Sales of petroleum products			
Gasolines	27.8	**26.6**	(4)
Jet fuels	4.1	**4.6**	12
Heating fuels	10.0	**8.1**	(19)
Diesel	12.7	**13.4**	6
Heavy fuel oils	6.5	**6.6**	2
Lubricants, greases, specialty oils, and other	10.3	**9.7**	(6)
Total	71.4	**69.0**	(3)
Refining			
Crude oil processed	71.1	**68.3**	(4)
Capacity utilization (percent) at Dec. 31	93	**89**	–

In eastern Canada, demand for heating oil is falling as consumers switch to natural gas and electricity. The demand for motor gasoline is also declining as prices rise and automobile efficiency improves. The shift to unleaded gasolines will continue, as will growth in sales of diesel and jet fuels, and supply of these three products is expected to remain tight. In western Canada, the demand for most petroleum products continues to increase with the pace of economic growth in this region.

The demand for petroleum products declined about five percent in Canada in 1981 and there were no shortages of crude oil. As a result, products were in oversupply and profit margins declined in some markets as distributors cut prices to increase sales.

Refinery investments total more than $180 million

Although the volume of petroleum products sold was down in 1981, demand remains fairly strong in western Canada and the capacity of the Strathcona refinery at Edmonton is being increased. An application for this expansion was approved in February, 1981, and excavation work for the construction

began in May. The project will increase production of transportation fuels and double the refinery's capacity to refine asphalt from bitumen produced by the Cold Lake pilot plant to 2000 m^3/d. Completion is expected in mid-1983.

At Sarnia, work began on a two-year program to renovate, improve, and put back into service three process units that were shut down in 1975 and to add new facilities to process larger amounts of heavier crudes that are higher in sulfur. As a result, the refinery will be able to handle a greater variety of feedstocks and be more flexible in its mix of products. The program includes advanced instrumentation and control systems. The project is expected to cost $100 million.

During the next two years, $21 million will be spent at the Montreal refinery to increase yields of high-quality products while reducing production of heavy fuel oil and using less crude. Part of the investment will be spent on new equipment to meet standards for air quality that will take effect in 1983.

New investments and changes in operations will enable Imperial refineries to reduce the amounts of heavy fuel oil produced and increase yields of higher-value products. As a result, the company withdrew from a consortium studying the feasibility of an industry upgrader for heavy fuel oil in eastern Canada, where refiners are facing increasing surpluses of this product.

Refineries adjust to changing crude supplies

During 1981, cutbacks in the supply of light crude oil from western Canada required Imperial's refinery in Sarnia to use more crude oils that are heavier and contain more sulfur. This change in crude supply reduced yields of high-quality products and created operating difficulties in some refinery units.

Supplies of light Venezuelan crude oil have been declining in recent years. Replacement crudes for the Dartmouth, N.S., refinery have been heavier and higher in sulfur, requiring the refinery to purchase higher-priced "sweet" crudes for blending. In some cases, finished products were imported as a more economic alternative to meet demand.

Since 1979, the refinery at Dartmouth has been undergoing modifications to process a greater variety of imported crude oils. This program will be completed in 1982 and is expected to cost $43 million.

Investments improve service to customers, reduce marketing costs

Marketing activities continued to emphasize the efficient servicing of customer needs with quality products and the reduction of operating costs. In 1981, a greater percentage of higher-value products such as gasoline and diesel fuels was sold through fewer Esso outlets. The increased profitability from these activities was partly offset by the reduction in sales of products of lower value such as heating fuels.

A five-and-a-half-year program to modernize the system for distributing products, controlling inventory, and improving billing is being completed at a cost of $11 million. The system provides faster delivery as well as permitting earlier billing.

A new $6-million distribution centre for packaged products opened at Edmonton early in 1981. It has increased efficiency in handling the large volumes of lubricants being sold in western Canada.

New plants are being built at Sarnia and Edmonton to manufacture screw-top plastic bottles, fill them with lubricants, and package them for shipment. The Sarnia plant is expected to cost $14 million and start operations early in 1982. The Edmonton plant will be completed in the summer of 1982 at a cost of $13 million.

In the fall, a conservation-based home-heating program under the name Econo Savers was introduced to consumers in eastern Canada. The program features the Econo + 2 heating system, which makes the most efficient use of two heat sources: electricity when temperatures are above freezing and oil in colder weather. The system can cut oil consumption in half and reduce total heating costs by as much as 20 percent. Other items in the program include the Econoblue furnace and boiler, the Econo FRH burner, the Econo humidifier, the Econotherm thermostat, home insulation, and an energy-analysis service. Expansion of the program into western Canada is being evaluated.

Sarnia research expands as new facilities rise

Imperial's research facilities at Sarnia are the centre for research on lubricating-oil processes and base oils for Exxon Corporation and its affiliates.

The company is expanding and modernizing these facilities, the largest and oldest petroleum research centre in Canada. In 1980, a $3.5-million addition to the main laboratory building was opened. Work began in 1981 on a new complex for process and automotive research, for completion in 1983 at an estimated cost of $43 million.

The amount spent on research in Canada in 1981 was almost $19 million, an increase of 27 percent over the 1980 figure.

Staff at the Sarnia research centre numbered nearly 400 at the end of 1981, of whom 120 were graduate chemists and engineers.

Investments increase in chemicals

Imperial occupies a major position in the chemical industry, with operations in petrochemicals, plastic resins, fertilizers, building materials, and synthetic rope and twine. In the photograph below, the central container holds a pumpkin-colored petrochemical that improves the flow of fuels and lubricants at low temperatures. It is surrounded by plastic resins above and below it, by synthetic cordage and granular fertilizer on the right, by a sample of asphalt shingle and a lubricating-oil additive on the left. Containers across the top hold fertilizers, cordage, another shingle, more fertilizer, and a sample of ceiling tile.

Imperial's operations in this segment of its business are managed by Esso Chemical Canada, a division of Imperial Oil Limited. In August, J. E. Akitt, a native of Edmonton, was appointed president of Esso Chemical Canada, succeeding A. G. Moreton who retired after 34 years with the company. Akitt joined Imperial in 1956 and has worked in the company's petroleum-products and chemicals operations. Since 1978, he had been on loan assignments with Essochem Europe Inc. and Exxon Corporation.

Abundant supplies, supportive policies offer growth opportunities.

Favorable government policies and substantial supplies of petrochemical feedstocks support the expansion of the chemical industry and Imperial is well placed to participate. Growth in petrochemical derivatives is strong and is likely to increase as rising energy costs provide a competitive advantage to synthetics. Esso Chemical has a recognized research capability and access to a world wide technology resource.

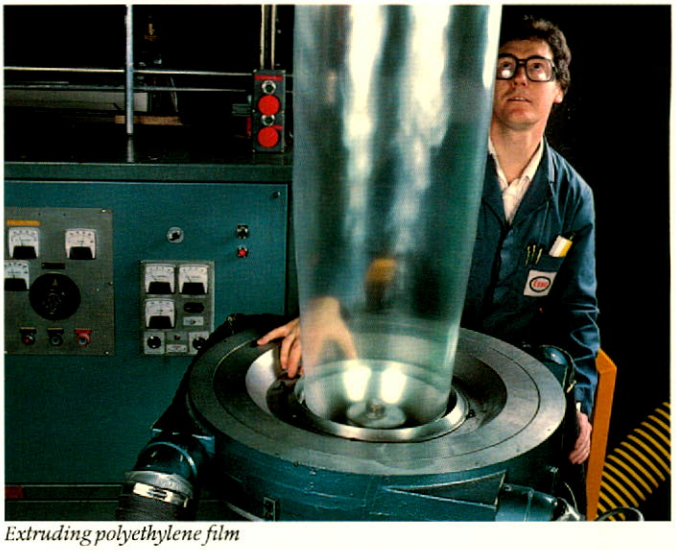
The company has experience in manufacturing in Alberta, where petrochemical expansion is focussed. It has the resources to take advantage of opportunities in this capital-intensive industry. It has experience in export markets. And it has experience in building and operating major projects.

Current major investments include a new $400-million nitrogen-fertilizer plant at Redwater plus warehousing and distribution facilities in Manitoba and Saskatchewan estimated to cost a further $50 million. A $53-million expansion to the phosphate-fertilizer plant, also at Redwater, was completed in 1981. Other major investments are a new $180-million plant to produce linear, low-density polyethylene, a $50-million expansion to the ethylene plant, and a $35-million expansion to the polyvinyl-chloride plant, all at Sarnia, Ont. Total for these investments is $768 million.

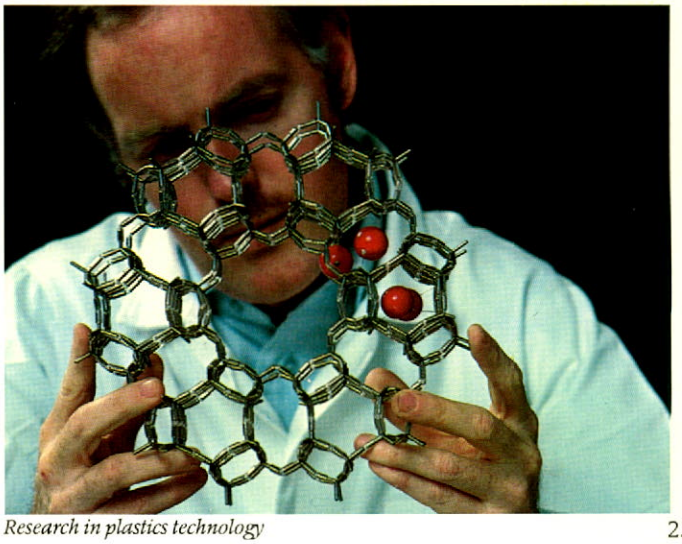
Esso Chemical is a participant in a proposed joint venture for a $700-million, world-scale ethylene plant to be located near Redwater, Alta. An application for the plant was submitted to the Alberta Energy Resources Conservation Board in October, 1981. These and other opportunities in chemicals offer continued advancement and growth throughout the 1980s.

Plastics research at Esso Chemical in 1981 was concentrated on three areas: improvements in the film made from linear low-density polyethylene, new formulations for polyvinyl-chloride resins, and technology to make vinyl siding in more colors.

PVC plant expansion at Sarnia



Extruding polyethylene film



Research in plastics technology

Review of 1981 operations in chemicals

Economic downturn, higher costs reduce earnings in chemicals

Earnings from operations were $45 million in 1981, a decline of $36 million or 44 percent from 1980 results. The decline is due to reduced economic activity generally and to higher costs for raw materials, which could not be recovered in product prices. Volumes of high-margin petrochemical exports were less, as were prices for exported fertilizers. The low level of house building in Canada and the United States resulted in a loss for building products in 1981.

Capital expenditures were $327 million in 1981, an increase of $277 million over 1980 spending. Most of the money was spent on the construction of the nitrogen-fertilizer plant at Redwater, Alta., and the three plastics projects at Sarnia.

Work continued during 1981 on new plants or expansions in Ontario and Alberta that will cost more than $821 million.

Financial and operating statistics	1980	1981	Percentage increase (decrease)
Financial	millions of dollars		
Earnings	81	**45**	(44)
Revenues	850	**993**	17
Capital expenditures	50	**327**	554
Capital employed	278	**568**	104
Return on average capital employed (percent)	32.7	**10.6**	–
Sales	thousands of tonnes per day		
Petrochemicals	2.9	**3.0**	3
Agricultural chemicals	1.9	**2.1**	10
Building products	1.5	**1.3**	(13)
Total	6.3	**6.4**	1

Canadian feedstock prices provide competitive edge in exports

A poor export market and low economic growth at home are expected to continue into 1982, with some recovery anticipated later in the year. Although feedstock prices rose faster than world prices for crude oil in 1981, Canada still has an advantage over other major petrochemical-producing countries and this, coupled with the lower value on the Canadian dollar, provides a competitive edge in export markets.

Chemical sales, earnings down; investments continue strong

Petrochemical sales grew slowly in 1981. Sales of chemical intermediates and solvents increased strongly in the first half but ended the year lower than 1980 sales due to a decline in demand beginning at midyear. Sales of polyvinyl-chloride resins were about the same as in 1980 although industry demand weakened and prices declined as the year progressed.

The company remains optimistic about the future of the petrochemical industry in Canada and is continuing to make significant investments. In Sarnia, work began on three projects in 1981. A $180-million plant scheduled for completion early in 1983 will produce 135 000 tonnes per year of linear low-density polyethylene resin, used to make grocery bags, food wrap, wire insulation, etc. It will be highly efficient in its use of energy. A $35-million expansion of the polyvinyl-chloride plant will double its capacity to about 100 000 tonnes per year by 1983. Polyvinyl chloride is the plastic used to make vinyl siding, plastic pipe, vinyl upholstery, wire insulation, etc. A $50-million expansion will increase the capacity of the ethylene plant. Ethylene is used in the manufacture of other chemicals. Completion is expected in 1983.

In January, 1982, the company withdrew from the Petalta project, a joint venture between Esso Chemical Canada and Alberta Energy Company Ltd. to manufacture benzene, other aromatics, and styrene. The decision resulted from changes in business plans caused by the general economic slowdown, the federal budget, and the agreement between Ottawa and Alberta on the pricing of crude oil and natural gas. The company's share of expenditures on the project amounted to $17 million which was expensed during the year.

Prices depress fertilizer earnings; new capacity available

The increase of 18 percent in fertilizer revenues in 1981 is due to both higher prices and increased sales. Export sales dropped slightly from 1980 levels and Canadian sales increased. Domestic and export markets were highly competitive in 1981 and cost increases could not be recovered by the increase in prices. As a result, earnings in fertilizers were down from the 1980 level.

A $53-million expansion of the phosphate-fertilizer plant at Redwater, Alta., was completed in 1981, five months ahead of schedule. It can increase production by 150 000 tonnes per year. Start-up of the plant has been delayed until the market for fertilizers containing phosphates improves.

Construction began on a new $400-million, world-scale plant adjacent to the agricultural-chemicals complex at Redwater, Alta., to produce nitrogenous fertilizer. Completion is slated for 1983. About $50 million of the total investment will be spent to make the plant 25 percent more efficient in its use of energy than older fertilizer plants.

Building products move into strong home-renovation market

Building Products of Canada Limited, a wholly owned subsidiary that manufactures building materials and synthetic rope and twine, increased sales revenues from $189 million to $192 million. The market was highly competitive in 1981 and demand for building materials was dampened by high interest rates. Export sales were $21 million, a decrease of 17 percent from 1980 sales of $25 million.

Although new residential construction in Canada is expected to remain well below the peak of 1976, the renovation market is growing. To serve this market, new distribution centres are being established specifically designed for applicators of the company's building-materials products. In 1981, three of these centres were opened in Canada.

Revenues from sales of synthetic rope and twine in 1981 were affected by low-priced imported products.

Fertilizer research facility announced for Redwater, Alta.

Esso Chemical announced the formation of a new research unit to be located at Redwater, Alta. It will perform research in agricultural-chemicals technology, supplying research support to the agricultural-chemicals complex at Redwater and the plants of other Exxon affiliates around the world. Research facilities in chemicals are located at Sarnia, Ont., and in building products at LaSalle, Que.

Esso Chemical continued its research on petrochemicals and building products at a cost of $6 million in Canada in 1981, an increase of 33 percent over 1980 expenditures. An addition to the plastics-technology centre at Sarnia is under construction at a cost of $750 000.

At Sarnia, the company performs all research on polyvinyl-chloride plastics and fuel-economy additives for Exxon Corporation and its affiliates.

Imperial's business policies stress responsibility

As a responsible corporate citizen, Imperial is conscious of its obligations to its customers, its neighbors, its employees, and the public. To meet these responsibilities, the company has a number of programs to protect the environment, conserve energy in its operations, increase safety and improve health at work, provide information to its customers and others on the safe handling of its products, contribute to the well-being of the communities in which it operates, and encourage the development of Canadian industry.

Shown with the sample of muskeg, the clarinet, and the academic cap in the photo at left are the mask and regulator for a self-contained breathing apparatus and a device used to test the safety of mixtures of air and hydrocarbon gases.

Wide range of projects protect natural environment

Esso Resources conducted extensive studies to predict the impact of its projects on the natural environment and provide a standard against which their effects can be measured. Studies show that the Norman Wells project would have a neutral and perhaps beneficial effect on river creatures and would not affect migratory birds.

This subsidiary also began sampling soil on farmland near gas-processing plants in Alberta as a result of concerns expressed by farmers. The sampling showed no overall increase in sulfur and no change in the soil's acid balance.

Experiments completed at the refineries in Sarnia, Ont., and Dartmouth, N.S., have shown that sludges from treatment plants and oily wastes can be disposed of by working them into the soil. In this process, the oily wastes are decomposed by bacteria in the soil into carbon dioxide and water. The site is monitored continually to ensure that the metallic compounds remaining are held in the soil until they reach a concentration that justifies the soil's removal to a secure landfill. With the exception of Norman Wells, all company refineries use this method, which is supported by provincial authorities. The amount of land set aside inside the refineries for this use is about 16 hectares. At Norman Wells, oily wastes are incinerated or buried in landfill sites.

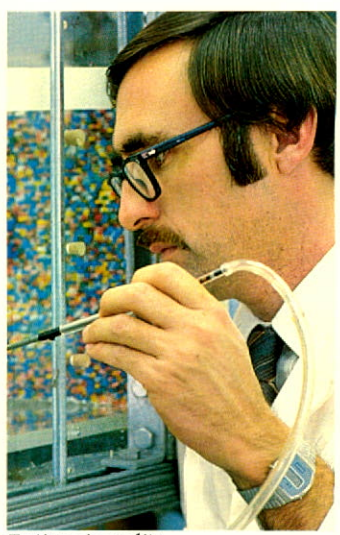
Extensive modifications made to the refineries at Ioco, B.C., Sarnia, Ont., and Montreal, have reduced the noise affecting employees and refinery neighbors to levels that meet or surpass regulatory requirements.

Esso Chemical made expenditures of $26 million at the agricultural-chemicals complex at Redwater, Alta., in 1981 to further reduce emissions and bring the plants into compliance with stricter environmental regulations. Studies of the environmental impact of new projects announced by Esso Chemical are under way at a cost during 1981 of $28 million. These studies are designed to identify potential environmental risks so that they can be eliminated or held to acceptable levels.

The total amount spent by the company to study the effects of its operations on the natural environment and to develop programs to eliminate or reduce them reached $66 million in 1981.

Esso Cup races, Etobicoke, Ont.

Learning about solar energy



Testing air quality

Arctic seawater studies off Baffin Island in May, 1981

Energy conservation program provides significant savings

Imperial is committed to using energy as efficiently as possible in its operations in order to reduce fuel costs. This also lessens dependence on imports and makes more efficient use of a depleting resource. The company has invested almost $150 million in an energy-management program since 1972 and has achieved savings equivalent to nearly five million cubic metres of fuel oil. These savings are the result of operating improvements, better maintenance, and investments to increase efficiency in the use of energy in new and existing facilities.

In fuel-oil equivalent, the energy consumed in 1981 was almost a million cubic metres less than the energy required in 1972 for similar operations. The amount invested in energy conservation in 1981 was $21 million.

Safety policies reduce accidents at work

The company accepts the responsibility for providing a safe working environment and its safety programs involve employees in developing accident-free and efficient working habits.

A highlight of 1981 occurred on Oct. 27 when the Dartmouth refinery completed three years without a disabling injury. The Strathcona refinery was awarded a four-star safety rating by the International Loss Control Institute, the highest ILCI rating reached by any refinery in the world.

The frequency rate for disabling injuries in Esso Chemical in 1981 was 0.19 per 200 000 man-hours, an improvement of 10 percent. In Esso Petroleum Canada the rate was 0.46, an improvement of 31 percent over 1980 figures. In Esso Resources, the rate was 2.12, reflecting the influence of mining operations where accidents have been more frequent. The rate for the company as a whole in 1981 was 0.80, an improvement of 19 percent over the 1980 rate.

Programs reduce health risks to customers and employees

It is company policy to provide information to customers on the proper use of its products so that potential hazards can be avoided or reduced. All packaged goods are labelled with respect to potential hazards and information about bulk products is provided to customers, agents, and transporters.

Imperial's medical department includes seven industrial hygienists whose primary responsibility is to identify potential long-term risks to the health of employees working in company operations and ensure that any such risks are eliminated or controlled. These experts provide support to all of the company's operating segments in their programs for a work environment that is safe and healthy.

Community programs support wide variety of services

Social programs that have a long-term impact on society and are beneficial to a large segment of the local or national population receive support from Imperial. These include education, health and welfare agencies, cultural activities, the arts, amateur sports, and community services. A major contribution was made to the Canadian Rehabilitation Council for the Disabled in recognition of the International Year of the Disabled Person. In 1981, the company contributed $7 million to a variety of such projects. This is an increase of $1 million over the 1980 figure.

A special interest is taken in the communities in which Imperial operates and the company attempts to understand and respond to their needs and concerns. At public meetings held prior to the submission of the application to the Alberta Energy Resources Conservation Board for the nitrogenous-fertilizer plant at Redwater, members of communities expressed satisfaction with the project. Similar meetings have been held in connection with company plans in many other communities.

Company policy supports development of Canadian industry

Imperial supports and encourages the development of Canadian industry by giving preference to domestic suppliers who are competitive and by providing maximum opportunities to Canadian business to participate in the company's activities. During 1981, the company established an industrial-benefits group to coordinate this program, to identify and publish opportunities for Canadian suppliers on Imperial operations and projects, to monitor contractor activities, and to work with project teams to encourage local employment and business participation.

As a result of these programs, the company has achieved a high level of Canadian content in its purchases. At the Stratchcona refinery expansion, for example, it exceeds 85 percent.

Summary of accounting policies

Principles of consolidation

The consolidated financial statements include the accounts of Imperial Oil Limited and its wholly owned subsidiary companies. All intercompany accounts and transactions have been eliminated. A list of subsidiary companies is shown on page 51.

A significant portion of the company's activities in natural resources, including Syncrude, is conducted jointly with others. The accounts reflect the company's proportionate interest in such activities.

Inventories

Inventories of crude oil and products are recorded at cost, using the first-in, first-out method, which is less than net realizable value. The recorded cost includes the Petroleum Compensation Charge and Canadian Ownership Special Charge.

Materials and supplies are recorded at the lower of cost and net realizable value.

Investments

The principal investments in companies other than subsidiaries are accounted for using the equity method. Imperial's share of the net assets of these companies is recorded in the consolidated statement of financial position as "Investments". Its share of their earnings after income taxes is included in the consolidated statement of earnings with "Investment income and other operating revenues".

Other investments are recorded at cost and income from them is recorded only as dividends are declared.

The ownership percentages of Imperial's principal investments are shown on page 51. The amount at which all investments are recorded is shown in note 16 on page 39.

Property, plant, and equipment

Property, plant, and equipment, including related preoperational costs and design costs of major projects, are recorded at cost and so carried until sold or otherwise disposed of.

The company follows the successful-efforts method of accounting for costs of exploration and development activities. Costs of exploration acreage are capitalized and amortized over the period of exploration or until a discovery is made. Costs of exploratory wells are capitalized until their economic status has been evaluated. Costs of exploratory wells found to be dry during the year or before the issuance of the financial statements are charged against earnings. All other exploration costs are charged against earnings as incurred. All costs of development wells and successful exploration wells are capitalized.

The costs of maintenance and repairs are charged to current operating expense. Improvements that increase the service capacity of an asset or prolong its service life beyond that contemplated in the established rates of depreciation are capitalized.

Investment tax credits are reported as a reduction of the capitalized costs of the asset to which they apply and subsequently amortized over its life.

Depreciation of plant and equipment is calculated using the straight-line method, based on the estimated service life of the asset. Amortization of the costs of capitalized producing wells and leases, of the capitalized costs of the Syncrude project, and of operating mines are calculated using the unit-of-production method.

Gains or losses on assets sold or otherwise disposed of are included in the consolidated statement of earnings.

Federal import compensation

Amounts received or claimed under the federal government's compensation program for oil imports are deducted from the cost of purchasing crude oil and products. The company has maintained its selling prices in accordance with federal-government guidelines in order to be eligible for this compensation.

Taxes other than income taxes

The special gasoline excise tax and federal sales tax, which are payable at the point of sale, are included in "Commodity, property, and other taxes" in the consolidated statement of earnings. The Petroleum Compensation Charge and Canadian Ownership Special Charge levied by the federal government and payable on crude oil entering the refinery are included in "Purchases of crude oil and products".

The Petroleum and Gas Revenue Tax is reported as an operating expense in the consolidated statement of earnings.

Taxes levied on the consumer and collected by the company, primarily provincial taxes on motor fuels and the federal tax on exports of crude oil and petroleum products, are excluded from the consolidated statement of earnings.

Translation of foreign currencies

Long-term monetary liabilities payable in foreign currencies have been translated at the rates of exchange prevailing on Dec. 31. Exchange gains and losses arising on translation of long-term debt are amortized over the remaining term of the debt.

International accounting standards

The consolidated financial statements are prepared in accordance with accounting principles generally accepted in Canada and therefore conform in all material respects with the standards of the International Accounting Standards Committee.

Consolidated statement of earnings for the years 1979, 1980, and 1981

	1979	1980	1981
	millions of dollars		
Revenues			
Crude oil (1) (2)	–	375	**475**
Natural gas	156	191	**193**
Petroleum products	3872	4702	**6202**
Chemicals	673	788	**895**
Investment income and other operating revenues (3) (16)	205	293	**420**
Total revenues	4906	6349	**8185**
Expenses			
Exploration	210	253	**221**
Purchases of crude oil and products (1) (2)	2197	2970	**4395**
Operating (6)	652	844	**1068**
Marketing and administration	511	580	**643**
Interest (3)	56	61	**66**
Depreciation and amortization	132	156	**244**
Commodity, property, and other taxes	345	392	**518**
Petroleum and Gas Revenue Tax	–	–	**91**
Total expenses	4103	5256	**7246**
Earnings before income taxes and unusual items	803	1093	**939**
Income taxes (8)	332	492	**474**
Earnings before unusual items	471	601	**465**
Unusual items, after income taxes (2)	22	81	**–**
Earnings for the year	493	682	**465**
			dollars
Earnings per share (12)	3.78	4.71	**2.96**

Consolidated statement of changes in financial position for the years 1979, 1980, and 1981

	1979	1980	1981
	millions of dollars		
Internal funds			
Generated from			
Operations (19)	697	875	**878**
Adjustment for exploration, interest, and current income-tax expenses	475	670	**631**
Proceeds from sale of property, plant, and equipment	193	30	**14**
Internal funds generated	1365	1575	**1523**
Required for:			
Interest	56	61	**66**
Income taxes	209	356	**344**
Dividends	150	201	**220**
	415	618	**630**
Net internal funds generated	950	957	**893**
Investment of funds			
Capital and exploration expenditures	879	861	**1107**
Increase in operating working capital (a)	160	256	**420**
Total investment	1039	1117	**1527**
Excess of investment over net internal funds	(89)	(160)	**(634)**
External financing			
Capitalized leases	–	9	**73**
Long-term debt, net of repayments	276	(13)	**206**
Capital stock	11	868	**8**
Total external financing	287	864	**287**
Increase (decrease) in funds			
Cash	103	(95)	**(143)**
Marketable securities	27	561	**(3)**
Short-term loan to Exxon Corporation	–	200	**(200)**
Short-term notes	68	38	**(1)**
Total increase (decrease) in funds	198	704	**(347)**

(a) Operating working capital represents working capital less funds.

Consolidated statement of financial position as at December 31, 1980 and 1981

	1980	1981	change
	millions of dollars		
Capital employed			
Working capital			
Current assets			
Cash, including short-term deposits	154	**11**	(143)
Marketable securities at cost, which approximates market value	601	**598**	(3)
Short-term loan to Exxon Corporation (7)	200	**–**	(200)
Accounts receivable	886	**851**	(35)
Inventories of crude oil and products	994	**1559**	565
Materials, supplies, and prepaid expenses	106	**136**	30
Total current assets	2941	**3155**	214
Current liabilities			
Short-term notes	–	**1**	1
Accounts payable and accrued liabilities (6)	658	**900**	242
Amounts owing to Exxon Corporation and affiliates (7)	59	**43**	(16)
Income and other taxes payable	239	**189**	(50)
Total current liabilities	956	**1133**	177
Total working capital	1985	**2022**	37
Investments and other long-term assets (16)	193	**203**	10
Property, plant, and equipment at cost, less accumulated depreciation and amortization (17)	3110	**3738**	628
Total capital employed	5288	**5963**	675
Long-term debt, deferred income taxes, and shareholders' equity			
Long-term debt and other obligations (7, 13)	618	**946**	328
Commitments and contingent liabilities (14)			
Deferred income taxes (8)	881	**975**	94
Shareholders' equity			
Capital stock (10, 12)	1168	**1176**	8
Earnings retained and used in the business			
At beginning of year	2140	**2621**	481
Earnings for the year	682	**465**	(217)
Dividends	(201)	**(220)**	(19)
At end of year	2621	**2866**	245
Total shareholders' equity	3789	**4042**	253
Total long-term debt, deferred income taxes, and shareholders' equity	5288	**5963**	675

The summary of accounting policies and notes are part of the financial statements.

Approved by the board

Chairman and chief executive officer *President*

Auditors' report

To the Shareholders of Imperial Oil Limited

We have examined the consolidated statements of earnings and changes in financial position of Imperial Oil Limited for each of the three years in the period ended December 31, 1981 and the consolidated statement of financial position as at December 31, 1980 and 1981. Our examinations were made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these consolidated financial statements present fairly the results of operations and changes in financial position of the company for each of the three years in the period ended December 31, 1981 and its financial position as at December 31, 1980 and 1981, in accordance with generally accepted accounting principles consistently applied.

Price Waterhouse

Chartered Accountants
Toronto-Dominion Centre
Toronto, Ontario
February 15, 1982

Notes to the financial statements

1. Crude-oil revenues

In addition to the reported revenues, sales of crude oil also arise from the operations of buying and selling crude oil as a supplement to the company's own production, which is not sufficient to meet its own refining needs. These offsetting purchases and sales have been excluded from both revenues and purchases of crude oil and amount to $742 million in 1981 (1980–$996 million; 1979–$1623 million).

2. Unusual items

On Aug. 30, 1979, the Alberta Energy Company Ltd. exercised its option to purchase 20 percent of the participants' interest in Syncrude. As a result, the company realized a gain of $22 million, after income taxes of $24 million, and its interest in the project was reduced from 31.25 percent to 25 percent.

On April 1, 1980, the Alberta Petroleum Marketing Commission began purchasing, at the wellhead, all crude oil produced from lands leased from the province of Alberta and the company has been recording net production of crude oil from these leases as sales to the commission from that date. Since then, the earnings from the production of crude oil have been recognized at the point of sale at the wellhead rather than after the crude oil has been processed and sold as refined products. As a result, a one-time, non-cash increase in net earnings of $81 million was recorded in 1980, after income taxes of $45 million.

3. Interest

	1979	1980	**1981**
	millions of dollars		
Expenses			
Interest on long-term debt	37	55	**56**
Interest on short-term notes	16	2	**2**
Interest on capitalized leases	–	–	**7**
Other	3	4	**1**
Total interest expense	56	61	**66**
Total interest income	26	76	**141**

4. Research and development costs

Research and development costs in 1981 were $67 million (1980–$46 million; 1979–$33 million). These were charged to expenses.

Notes to the financial statements

(continued)

5. Business segments	Natural resources			Petroleum products			Chemicals		
	1979	1980	**1981**	1979	1980	**1981**	1979	1980	**1981**
							millions of dollars		
Revenues									
Sales to customers	156	542	**682**	4019	4886	**6380**	673	812	**947**
Intersegment sales (1)	875	659	**573**	144	172	**267**	28	38	**46**
Total revenues	1031	1201	**1255**	4163	5058	**6647**	701	850	**993**
Earnings before income taxes and unusual items	381	341	**150**	300	563	**594**	122	149	**81**
Income taxes	166	157	**134**	124	253	**264**	54	68	**36**
Earnings before unusual items	215	184	**16**	176	310	**330**	68	81	**45**
Capital employed									
Segment assets	2034	2268	**2357**	2261	2502	**3222**	296	373	**696**
Less current liabilities	293	185	**311**	755	716	**770**	79	95	**128**
Total capital employed	1741	2083	**2046**	1506	1786	**2452**	217	278	**568**
Depreciation and amortization	58	71	**150**	60	69	**71**	13	15	**18**
Capital and exploration expenditures	737	682	**455**	102	111	**229**	26	50	**327**

(1) In the consolidated figures reported here, all intersegment transactions have been eliminated. The company operates its business in the segments described in the "Operations reviews". The information in the table above is presented as though each segment were a separate business activity. Intersegment sales are made substantially at prevailing market prices.

6. Cold Lake project

On July 8, 1981, the Cold Lake project was suspended. Despite the agreement of Sept. 1, 1981, between the government of Canada and the province of Alberta, re-establishing the project will depend on pricing for synthetic crude oil, capital costs, provincial royalties, federal tax and other fiscal arrangements, the availability of qualified contractors and professional personnel, and Imperial's funds flow.

In 1981, Petro-Canada advanced the company $40 million to maintain the Cold Lake project in existence while negotiations continued. If the decision to suspend the project is rescinded prior to June 30, 1982, the agreement requires the $40 million to be repaid with interest. The loan is included in "Accounts payable and accrued liabilities" in the consolidated statement of financial position.

Included in operating expense is $54 million (1980–$62 million; 1979–$21 million) in preliminary design and engineering costs relating to the Cold Lake project.

Other investments			Consolidated		
1979	1980	**1981**	1979	1980	**1981**
			millions of dollars		
58	109	**176**	4906	6349	**8185**
–	–	**–**	–	–	**–**
58	109	**176**	4906	6349	**8185**
–	40	**114**	803	1093	**939**
(12)	14	**40**	332	492	**474**
12	26	**74**	471	601	**465**
269	1215	**916**	4668	6244	**7096**
(18)	74	**19**	917	956	**1133**
287	1141	**897**	3751	5288	**5963**
1	1	**5**	132	156	**244**
14	18	**96**	879	861	**1107**

7. Transactions with Exxon Corporation and affiliated companies

By Dec. 24, 1981, all loans to Exxon Corporation had been repaid. The company earned $61 million (1980–$6 million) at competitive Canadian interest rates on these loans.

Crude oil, refined petroleum products, and petrochemicals are bought and sold between the company and Exxon Corporation and its affiliates in order to maintain supplies to customers. Technical and engineering services are performed and received and the company hires ocean tank vessels from affiliates of Exxon. The net cost to Imperial for all these transactions with Exxon and its affiliates in the year ended Dec. 31, 1981, was $529 million (1980–$698 million; 1979–$530 million). The terms of these transactions were competitive or as favorable as terms that would be available with an unrelated party. "Other obligations," reported in note 13, includes $18 million due to an Exxon affiliate. All liabilities to Exxon Corporation and affiliates arose in the normal course of operations.

Under the company's rights offering of 1980, which is reported in note 12, Exxon Corporation acquired 18 186 319 shares, maintaining its ownership interest in the company at 69.6 percent.

8. Income taxes

The operations of Imperial are complex and the related income-tax interpretations, regulations, and legislation are continually changing. As a result, there are usually some tax matters in question. The company believes the provision made for income taxes is adequate.

Summary of income tax calculations (1)	1979	1980	**1981**
	millions of dollars		
Earnings before income taxes	803	1093	**939**
Deduct equity companies' earnings	24	21	**22**
Adjusted earnings	779	1072	**917**
Basic corporate tax rate (percent)	47.8	50.2	**50.3**
Income taxes at basic rate	372	538	**461**
Add income taxes on:			
Petroleum and Gas Revenue Tax, Crown royalties, and other similar non-deductible payments to governments	185	185	**218**
	557	723	**679**
Deduct income taxes on:			
Resource allowance	101	111	**99**
Depletion allowance	98	79	**52**
Manufacturing and processing credit	13	26	**26**
Other	13	15	**28**
Income taxes	332	492	**474**
Effective tax rate (percent)	42.6	45.9	**51.7**
Increases in deferred income taxes resulting from timing differences:			
Capital-cost allowance	37	76	**118**
Successful drilling	44	12	**69**
Land-aquisition costs	9	8	**1**
Drilling in progress	23	35	**(61)**
Other	10	5	**3**
Total increase in deferred income taxes	123	136	**130**
Current income taxes	209	356	**344**

(1) This summary does not include income taxes on unusual items in 1979 and 1980, or an amount of $36 million of current income taxes receivable reclassified in 1981 to deferred income taxes.

Notes to the financial statements

(continued)

9. Oil and gas exploration and production activities

Capitalized costs (a)	Oil and gas		Syncrude		Total	
	1980	**1981**	1980	**1981**	1980	**1981**
					millions of dollars	
Property costs						
Proved	109	**140**	–	**–**	109	**140**
Unproved	233	**223**	–	**–**	233	**223**
Producing assets	1235	**1312**	551	**580**	1786	**1892**
Support facilities	74	**99**	–	**–**	74	**99**
Incomplete construction	181	**165**	–	**–**	181	**165**
Total capitalized costs	1832	**1939**	551	**580**	2383	**2519**
Accumulated depreciation and amortization	492	**595**	25	**39**	517	**634**

Costs incurred	1979	1980	**1981**	1979	1980	**1981**	1979	1980	**1981**
							millions of dollars		
Property costs	108	66	**16**	–	–	**–**	108	66	**16**
Exploration costs	326	321	**174**	–	–	**–**	326	321	**174**
Development costs	207	204	**104**	22	22	**29**	229	226	**133**
Major projects preconstruction costs	24	83	**59**	–	–	**–**	24	83	**59**
Production expenses	165	219	**247**	133	139	**182**	298	358	**429**
Petroleum and Gas Revenue Tax	–	–	**81**	–	–	**10**	–	–	**91**
Depreciation and amortization (excluding support facilities)	41	48	**92**	10	15	**14**	51	63	**106**
Net revenues from the production of oil and gas (b)									
Sales to customers	142	519	**680**	–	–	**–**	142	519	**680**
Intersegment sales	671	321	**152**	113	244	**265**	784	565	**417**
Total	813	840	**832**	113	244	**265**	926	1084	**1097**
Less production expenses	165	219	**247**	133	139	**182**	298	358	**429**
Net revenues from production	648	621	**585**	(20)	105	**83**	628	726	**668**

(a) Property costs are payments for rights to explore for petroleum and natural gas. Proved represents areas where successful drilling has delineated a producing field. Unproved represents all other areas. Costs of incomplete construction include drilling and other costs relating to the discovery of commercial oil and gas reserves in the Beaufort Sea/ Mackenzie Delta region.

(b) Sales of crude oil to consolidated affiliates are valued at market, using posted field prices. Sales of natural-gas liquids to consolidated affiliates are valued at amounts estimated to represent prices equivalent to those that could be obtained in a competitive, arms-length, market. Total sales exclude the sale of natural gas and natural-gas liquids purchased for resale.

Net reserves of crude oil and natural gas (unaudited)

Crude Oil	Conventional and Cold Lake pilot			Syncrude			Total Crude		
	1979	1980	**1981**	1979	1980	**1981**	1979	1980	**1981**
									millions of m^3
Net proved developed and undeveloped									
Beginning of year	106.4	100.1	**107.8**	56.4	46.8	**31.7**	162.8	146.9	**139.5**
Revisions of previous estimates and improved recovery	1.4	14.4	**(8.6)**	2.5	(14.1)	**0.1**	3.9	0.3	**(8.5)**
Sale of reserves in place	–	–	**–**	(11.3)	–	**–**	(11.3)	–	**–**
Discoveries and extensions	0.4	0.3	**0.3**	–	–	**–**	0.4	0.3	**0.3**
Production	(8.1)	(7.0)	**(5.9)**	(0.8)	(1.0)	**(1.0)**	(8.9)	(8.0)	**(6.9)**
End of year	100.1	107.8	**93.6**	46.8	31.7	**30.8**	146.9	139.5	**124.4**
Net proved developed									
Beginning of year	95.2	89.9	**85.7**	56.4	46.8	**31.7**	151.6	136.7	**117.4**
End of year	89.9	85.7	**73.5**	46.8	31.7	**30.8**	136.7	117.4	**104.3**

Natural gas	1979	1980	**1981**
			billions of m^3
Net proved developed and undeveloped			
Beginning of year	37.9	42.4	**38.5**
Revisions of previous estimates and improved recovery	4.2	(2.3)	**(0.2)**
Sale of reserves in place	–	(0.5)	**–**
Discoveries and extensions	2.7	1.0	**0.3**
Production	(2.4)	(2.1)	**(2.0)**
End of year	42.4	38.5	**36.6**
Net proved developed			
Beginning of year	24.8	33.8	**31.1**
End of year	33.8	31.1	**28.9**

The company has not reduced the estimated reserves of crude oil, natural gas, or natural-gas liquids as a result of either the National Energy Program or the agreements reached in 1981 between the government of Canada and the provinces of Alberta, British Columbia, and Saskatchewan on the pricing and taxation of Canadian oil and gas. The company has assumed that taxes and royalties will not reach such a level that wells are abandoned prematurely and reserves reduced accordingly.

All these reserves of crude oil and natural gas are located in Canada. Reserves of crude oil include condensate and natural-gas liquids. With the exception of the reserves of the Cold Lake pilot and Syncrude, all reserve estimates are determined by analysis of geological and engineering data, which has demonstrated with reasonable certainty that they are recoverable from known oil and gas fields under economic and operating conditions at Dec. 31 of each year. The calculation of reserves of crude oil at Syncrude is based on the company's participating interest in the province of Alberta's production permit. Reserves of crude oil at the Cold Lake pilot are those reserves estimated to be recoverable from the existing experimental pilot plant.

The calculated net reserves of conventional crude oil, oil from the Cold Lake pilot, and natural gas are determined by deduction of the mineral owners' or governments' share or both and are calculated on the year's average royalty rate. Net reserves of Syncrude are based on an estimate of the average royalty rate over the project life, using price increases established by the agreement of Sept. 1, 1981, between the government of Canada and the province of Alberta on the pricing and taxation of Canadian oil and gas until Dec. 31, 1986. This royalty rate may vary with production prices and cost. Syncrude production prior to 1980 was not subject to royalty.

Reserves data include proved reserves in the Northwest Territories and Yukon Territory but do not include reserves of crude oil and natural gas discovered in the Beaufort Sea/Mackenzie Delta and the Arctic islands, nor the reserves contained in the oil sands other than those attributable to Syncrude and the reserves in the Cold Lake pilot area. Natural-gas reserves are calculated at a pressure of 101.325 kPa at 15°C.

Notes to the financial statements

(continued)

10. Stock options

The company has a stock-option plan for certain employees under which options for the purchase of Class A or Class B convertible shares of Imperial are still outstanding. No further options may be granted under this plan. Each option expires not later than 10 years from the date on which it was granted and all options expire on July 15, 1984.

As of Dec. 31, 1981, there were outstanding options to purchase 528 390 shares (Dec. 31, 1980–555 113) at prices ranging from $25.20 to $38.14 (Dec. 31, 1980–$22.95 to $38.14). Included are 116 080 shares under option to directors and officers (Dec. 31, 1980–121 940). Fair market value per share ranged from $28.00 to $42.375 at the dates the options were granted. All options may be exercised currently.

In 1981, options were exercised totalling 26 723 shares for $643 000 under the terms of the plan (1980–133 948 shares for $4 million). The fair market value of shares on the dates the options were exercised totalled $924 000 (1980–$6 million).

11. Employee retirement plans

The company's pension plans cover substantially all employees. The plans, which are subject to certain age and service requirements, generally provide an annual pension of 1.6 percent of the average of employees' earnings in their final three years multiplied by years of service. Costs of the plans are funded primarily by the company. During the year, $33 million (1980–$60 million; 1979–$50 million) was charged to earnings.

Funding of the plans is based on triennial or more frequent actuarial valuations, the most recent of which occurred as at Dec. 31, 1980. As at Dec. 31, 1981, the market value of the pension-fund assets was $714 million. This amount exceeded the actuarial present value of the vested and non-vested earned benefits by $140 million. The actuarial present value of the estimated future benefits earned and to be earned by the employees exceeds the plans' assets by $98 million. This amount is to be charged to earnings over a period of up to 15 years. During the year, refinements were made to the process for arriving at the actuarial valuations and the resulting changes have been reflected in the actuarial present value of earned benefits at Dec. 31, 1981. The assumed rate of return used in determining the actuarial present value of plan benefits is six percent.

12. Capital stock

Number of shares		
Authorized (Class A and B)	160 000 000	
Issued:	Class A	Class B
Dec. 31, 1979	126 310 745	4 335 156
Dec. 31, 1980	151 957 540	4 974 222
Dec. 31, 1981	151 899 810	5 282 019

Each class of shares is voting, convertible into one another on a share-for-share basis, and ranks equally with respect to dividends and in all other respects.

By articles of amendment dated April 24, 1979, the provisions of the Class A and Class B convertible shares were amended to provide for the payment of the Class B dividend by way of a stock dividend of Class B convertible shares having a value substantially equivalent to the cash dividend on Class A convertible shares.

During 1981, the company paid stock dividends totalling 223 344 (1980–163 845; 1979–112 946) Class B convertible shares and charged $7 million (1980–$6 million; 1979–$4 million) to dividends.

Imperial offered to its shareholders in 1980 the right to subscribe for Class A convertible shares of the company at the subscription price of $33.00 per share in the ratio of one Class A convertible share for each five outstanding Class A or Class B convertible shares. A total of 25 988 068 Class A convertible shares were issued as a result of that offering, with cash proceeds amounting to $858 million.

Earnings per share are calculated on the monthly weighted average of shares outstanding during the year.

13. Long-term debt, other obligations, and financing

Sinking-fund debentures			1980	**1981**
Year of issue	**Maturity date**	**Rate of interest**	millions of dollars	
1967	Jan. 2, 1987	6¾	22	**20**
1968	Jan. 2, 1988	7⅜	26	**25**
1969	Aug. 15, 1989	8½	14	**13**
1972	Feb. 15, 1992	7¾	34	**32**
1974	Aug. 15, 1994	10⅝	88	**85**
1975	Feb. 15, 1995	9¾	93	**90**
1979	Sept. 15, 2009 (U.S. $250 million)	9¾	299	**296**
1981	Dec. 1, 2011 (U.S. $200 million) (a)	15½	–	**221**
Total long-term debt			576	**782**
Capitalized leases			9	**82**
Other obligations			33	**82**
Total long-term debt and other obligations			618	**946**

(a) U.S. $186 million of the 15½% sinking-fund debentures due 2011 were delivered on Dec. 16, 1981, and U.S. $14 million of the debentures were delivered on Feb. 1, 1982.

Sinking-fund and maturity payments required during the next five years are: 1982–$2 million; 1983–$18 million; 1984–$19 million; 1985–$19 million; 1986–$19 million. Other obligations at Dec. 31, 1981, include $32 million (1980–$23 million) related to take-or-pay gas contracts.

Unused lines of credit with major Canadian banks totaled $229 million as at Dec. 31, 1981 (1980–$242 million).

14. Commitments and contingent liabilities

The company has a number of contractual obligations and commitments payable under long-term agreements, all of which arose in the normal course of business. The total future liability for all of these agreements is not significant in relation to the consolidated financial position of Imperial.

A number of lawsuits are pending against the company. In the opinion of counsel, any financial liability that may result from these suits would not have a significant effect on Imperial's consolidated financial position or results of operations.

15. Long-term incentive compensation plan

The company has a plan designed to attract and retain promising employees and reward them for high performance. Payments are not made at the time of the award but are deferred for periods up to six years depending on the type of award granted. At the discretion of the company, payments may be made in up to 10 annual instalments or in such other manner as the company deems appropriate. The awards are based on the greater of an increase in the price of Class A convertible shares or an increase in the earnings per share of Imperial.

Estimated costs of the plan are amortized over its life. In 1981, Imperial charged $13 million to earnings (1980–$9 million; 1979–$5 million) in respect to the plan.

16. Investments and other long-term assets

Investments are primarily in companies engaged in pipeline transportation of crude oil and petroleum products.

Investments	1979	1980	**1981**
	millions of dollars		
At equity value:			
with quoted market value of $135 million at Dec. 31, 1981; $143 million at Dec. 31, 1980; $171 million at Dec. 31, 1979	82	85	**90**
without quoted market value	20	20	**20**
At cost	8	18	**1**
Total investments	110	123	**111**
Other long-term assets	53	70	**92**
Total investment and other long-term assets	163	193	**203**
Income from investments			
Earnings after income taxes	24	21	**22**
Dividends received	17	18	**17**

17. Property, plant, and equipment

	Cost		Accumulated depreciation and amortization	
	1980	**1981**	1980	**1981**
	millions of dollars			
Natural resources				
Exploration and production	1725	**1821**	469	**565**
Heavy oil	658	**698**	48	**69**
Minerals	79	**169**	2	**32**
	2462	**2688**	519	**666**
Petroleum products	1626	**1828**	688	**738**
Chemicals	330	**650**	174	**185**
Other	117	**211**	44	**50**
Total property, plant, and equipment	4535	**5377**	1425	**1639**

18. Reclassification

The financial statements reflect the reclassification of certain items in 1979 and 1980 to conform with the 1981 presentation. This does not affect earnings for 1979 and 1980.

19. Internal funds generated from operations	1979	1980	**1981**
	millions of dollars		
Earnings for the year	493	682	**465**
Add: Depreciation and amortization	132	156	**244**
Deferred income taxes	123	181	**130**
Unusual items (note 2)	(46)	(126)	**–**
Other items	(5)	(18)	**39**
Total internal funds generated from operations	697	875	**878**

20. Supplemental information (unaudited)

The company has security holders resident in the United States and may wish to use capital markets in that country in the future. Consequently, supplemental information that is in conformity with the reporting practices of companies in the United States is included. This information includes a reconciliation of the differences between the accounting principles generally accepted in Canada and the United States. The information appears on pages 46, 47, 49, and 50.

Five-year summary

Financial

Revenues and expenses by category	1977	1978	1979	1980	1981
	millions of dollars				
Revenues					
Crude oil	–	–	–	375	**475**
Natural gas	104	123	156	191	**193**
Petroleum products	2852	3308	3872	4702	**6202**
Chemicals	406	468	673	788	**895**
Other products	75	81	94	108	**131**
Other operating revenues	42	42	45	70	**102**
Total operating revenues	3479	4022	4840	6234	**7998**
Equity in earnings of principal investments	19	19	24	21	**22**
Investment and other income	30	28	42	94	**165**
Total revenues	3528	4069	4906	6349	**8185**
Expenses					
Exploration	96	116	210	253	**221**
Purchases of crude oil and products	1591	1970	2197	2970	**4395**
Operating	379	442	652	844	**1068**
Marketing and administration	426	471	511	580	**643**
Interest	33	33	56	61	**66**
Depreciation and amortization	103	112	132	156	**244**
Commodity, property, and other taxes	357	364	345	392	**518**
Petroleum and Gas Revenue Tax	–	–	–	–	**91**
Total expenses	2985	3508	4103	5256	**7246**
Earnings before income taxes and unusual items	543	561	803	1093	**939**
Income taxes	250	247	332	492	**474**
Earnings before unusual items	293	314	471	601	**465**
Unusual items, after income taxes	–	–	22	81	**–**
Earnings for the year	293	314	493	682	**465**

Financial information by segments	1977	1978	1979	1980	1981
	millions of dollars				
Revenues					
Natural resources	589	766	1031	1201	**1255**
Petroleum products	3048	3548	4163	5058	**6647**
Chemicals	425	489	701	850	**993**
Other investments	37	38	58	109	**176**
Intersegment sales	(571)	(772)	(1047)	(869)	**(886)**
Total revenues	3528	4069	4906	6349	**8185**
Earnings before unusual items					
Natural resources	185	220	215	184	**16**
Petroleum products	76	75	176	310	**330**
Chemicals	16	20	68	81	**45**
Other investments	16	(1)	12	26	**74**
Total earnings before unusual items	293	314	471	601	**465**
Capital employed					
Natural resources	1076	1319	1741	2083	**2046**
Petroleum products	1433	1524	1506	1786	**2452**
Chemicals	169	196	217	278	**568**
Other investments	94	(47)	287	1141	**897**
Total capital employed	2772	2992	3751	5288	**5963**

Return on average capital employed					percent
Natural resources	19.6	18.4	14.1	9.6	**0.8**
Petroleum products	5.3	5.1	11.6	18.8	**15.6**
Chemicals	9.3	10.9	32.9	32.7	**10.6**
Other investments	16.2	(4.7)	9.3	3.6	**7.3**
Total return on average capital employed	11.6	11.4	15.2	15.7	**8.8**

Capital and exploration expenditures	1977	1978	1979	1980	1981
			millions of dollars		
Natural resources					
Exploration	114	180	434	387	**190**
Production	31	89	191	143	**90**
Heavy oil	179	138	62	83	**43**
Minerals	11	22	50	69	**132**
Total natural resources	335	429	737	682	**455**
Petroleum products	61	86	102	111	**229**
Chemicals	12	18	26	50	**327**
Other investments	4	2	14	18	**96**
Total capital and exploration expenditures	412	535	879	861	**1107**

Taxes and royalties					
Income taxes	250	247	332	492	**474**
Federal sales tax	146	161	168	211	**311**
Special gasoline excise tax	174	164	133	127	**121**
Petroleum Compensation Charge	–	8	70	223	**1021**
Canadian Ownership Special Charge	–	–	–	–	**113**
Crown royalties	355	427	507	513	**495**
Petroleum and Gas Revenue Tax	–	–	–	–	**91**
Property and other taxes	37	39	44	54	**86**
Total taxes and royalties	962	1046	1254	1620	**2712**

Financial statistics	1977	1978	1979	1980	1981
			millions of dollars		
Working capital					
Current assets	1236	1450	1817	2941	**3155**
Less current liabilities	613	908	917	956	**1133**
Total working capital	623	542	900	1985	**2022**
Property, plant, and equipment at cost, less accumulated depreciation	2009	2298	2688	3110	**3738**
Investments and other long-term assets	140	152	163	193	**203**
Total capital employed	2772	2992	3751	5288	**5963**
Total assets	3385	3900	4668	6244	**7096**
Long-term debt and other obligations	336	329	611	618	**946**
Net internal funds generated	451	464	950	957	**893**
Percentages and ratios					
Reinvestment percentage (1)	102.7	100.6	109.4	116.7	**171.0**
Earnings as a percentage of					
Average capital employed	11.6	11.4	15.2	15.7	**8.8**
Average shareholders' equity	16.2	15.8	21.8	21.9	**11.9**
Debt as a percentage of					
Capital employed	11.7	10.5	15.7	10.9	**13.1**
Shareholders'equity	17.0	15.0	24.1	15.2	**19.3**
Current ratio (2)	2.0	1.6	2.0	3.1	**2.8**

(1) Total investments in the year divided by net internal funds generated in the year.

(2) Current assets divided by current liabilities.

Five-year summary

(continued)

Operating

Wells drilled–gross/net	1977	1978	1979	1980	1981
Western provinces					
Exploratory					
Conventional	42/30	102/58	163/61	151/50	**61/20**
Cold Lake, Athabasca, Peace River	16/16	50/40	27/20	72/40	**30/11**
Development					
Conventional	67/40	119/85	267/116	139/58	**83/30**
Cold Lake, Athabasca, Peace River	–/–	12/12	21/21	26/26	**81/81**
Canada lands					
Beaufort Sea/Mackenzie Delta, Northwest Territories, Yukon Territory, Arctic islands, and Atlantic offshore					
Exploratory	6/4	5/3	6/3	5/1	**4/1**
Development	1/1	1/*	4/3	6/4	**1/***
Total wells drilled					
Exploratory	64/50	157/101	196/84	228/91	**95/32**
Development	68/41	132/97	292/140	171/88	**165/111**

*less than 1

Proved reserves–gross/net (1)					
Crude oil (millions of m³) (2)	165/109	217/163	200/147	198/140	**174/124**
Natural gas (billions of m³)	62/39	61/38	62/42	57/39	**53/37**
Production–gross/net (1)					
Crude oil (thousands of m³/d) (2)					
Conventional	35.0/21.3	34.7/20.6	37.5/22.3	30.6/18.4	**24.2/14.9**
Cold Lake	0.8/0.8	0.8/0.8	1.0/0.9	0.9/0.9	**1.4/1.3**
Syncrude	–/–	0.5/0.5	2.2/2.2	3.2/2.8	**3.2/2.7**
Total crude production	35.8/22.1	36.0/21.9	40.7/25.4	34.7/22.1	**28.8/18.9**
Natural gas (millions of m³/d)	9.2/5.2	8.9/6.0	9.8/6.6	8.2/5.6	**7.7/5.4**
Natural-gas liquids purchased for resale –gross (thousands of m³/d)	0.8	0.7	1.0	1.0	**0.8**
Natural gas purchased for resale –gross (millions of m³/d)	1.1	0.8	0.6	0.7	**0.8**

(1) Gross reserves and production of crude oil include only the amount directly owned, produced, and sold by the company before deducting the shares of mineral owners or governments, or both. Net production of crude oil is after deducting the shares of mineral owners or governments, or both. Net production of natural gas is the amount remaining after gas purchased for resale and the shares of mineral owners or governments, or both, have been deducted from total sales.
(2) Crude oil includes natural-gas liquids.

Crude-oil supply and utilization (thousands of m^3/d) (2)	1977	1978	1979	1980	**1981**
Net production of crude oil (1)	22.1	21.9	25.4	22.1	**18.9**
Net purchases from others (3)					
Domestic	26.3	28.4	31.0	32.6	**34.3**
Imported	19.2	18.9	15.2	16.4	**15.1**
Crude oil processed at company refineries	67.6	69.2	71.6	71.1	**68.3**
Refinery capacity at Dec. 31	81.2	77.9	76.8	76.7	**76.7**
Refinery capacity utilization at Dec. 31 (percent)	83	89	93	93	**89**
Sales volumes					
Petroleum products (thousands of m^3/d)					
Gasolines	26.0	27.2	28.0	27.8	**26.6**
Jet fuels	4.1	3.9	4.0	4.1	**4.6**
Heating fuels	12.0	11.7	10.8	10.0	**8.1**
Diesel fuels	10.6	11.7	12.8	12.7	**13.4**
Heavy fuel oils	7.4	7.6	7.6	6.5	**6.6**
Lubricants and other products	8.7	9.2	11.2	10.3	**9.7**
Total petroleum products	68.8	71.3	74.4	71.4	**69.0**
Natural gas (millions of m^3/d) (4)	10.3	9.7	10.4	8.9	**8.5**
Chemicals (thousands of tonnes per day)					
Petrochemicals	2.4	2.2	2.9	2.9	**3.0**
Agricultural chemicals	1.7	1.8	2.0	1.9	**2.1**
Building materials	1.2	1.4	1.4	1.5	**1.3**
Total chemicals	5.3	5.4	6.3	6.3	**6.4**

(3) The figures shown for crude purchases include changes in inventories during the year.

(4) Sales to outside customers include purchases of natural gas for resale.

Five-year summary
(continued)

Operating

Land holdings–gross/net (1)	1977	1978	1979	1980	1981
					millions of hectares
Oil and gas					
Western provinces					
Conventional	1.2/0.8	2.5/1.0	2.9/1.0	5.3/1.4	**5.6/1.4**
Cold Lake	0.1/0.1	0.1/0.1	0.1/0.1	0.1/0.1	**0.1/0.1**
Syncrude	*/*	*/*	*/*	*/*	**0.1/***
Other oil sands	0.6/0.2	0.6/0.2	0.6/0.2	0.6/0.2	**0.6/0.2**
Total western provinces	1.9/1.1	3.2/1.3	3.6/1.3	6.0/1.7	**6.4/1.7**
Other provinces (2)	–/–	–/–	–/–	–/–	**1.8/0.2**
Canada lands					
Beaufort Sea/Mackenzie Delta, Northwest Territories, and Yukon Territory	4.9/4.7	3.5/3.3	2.9/2.5	2.6/2.4	**2.6/2.4**
Arctic islands	15.0/2.6	14.1/2.4	10.4/1.7	9.1/1.6	**8.8/1.4**
Atlantic offshore	9.0/7.6	6.5/5.2	7.2/5.8	6.1/5.2	**5.5/4.8**
Total Canada lands (3)	28.9/14.9	24.1/10.9	20.5/10.0	17.8/9.2	**16.9/8.6**
Total land holdings	30.8/16.0	27.3/12.2	24.1/11.3	23.8/10.9	**25.1/10.5**
Minerals					
Coal	0.3/0.3	0.3/0.3	0.3/0.3	0.4/0.4	**0.5/0.5**
Uranium	0.5/0.3	0.5/0.4	0.4/0.3	0.3/0.2	**0.3/0.2**
Base metals	0.1/0.1	0.1/0.1	0.1/0.1	0.5/0.5	**0.3/0.3**

*Less than 100 000 hectares
(1) Gross includes the interests of others; net excludes the interests of others.
(2) Seismic options in the province of Quebec.
(3) Federal legislation has been enacted appropriating an interest of 25 percent for the government or its nominee. This legislation is expected to come into effect in 1982 and is not reflected in this table.

Employees					
Number at Dec. 31	14 136	14 328	14 966	16 029	**16 314**
Total payroll and benefits (millions of dollars)	354	384	487	594	**691**
Payroll and benefits per employee (dollars) (a)	23 700	26 100	30 100	34 600	**37 800**

(a) The amounts for payroll and benefits per employee are calculated from total payroll and benefits for full-time employees divided by their monthly average number.

Share ownership and stock trading

	1977	1978	1979	1980	**1981**
Share ownership, Class A and B					
Average number outstanding, weighted monthly (thousands)	130 220	130 248	130 421	144 880	**157 034**
Shares held in Canada at Dec. 31 (thousands)	31 422	31 714	29 182	33 629	**38 188**
Number of shareholders at Dec. 31					
Total shareholders	45 985	46 962	44 188	48 442	**46 849**
Resident in Canada	40 335	41 241	38 149	41 064	**40 669**
Shares traded, Class A (thousands)	9 513	13 677	24 839	43 441	**22 498**
Share prices, Class A					dollars
High	23¾	25¼	46¼	57½	**38¼**
Low	18⅛	18¼	24⅞	30⅜	**24½**
Close at Dec. 31	21½	25⅛	44¼	32⅞	**25½**
Earnings per share:					
from operations	2.25	2.41	3.61	4.15	**2.96**
including unusual items	2.25	2.41	3.78	4.71	**2.96**
Earnings as a percentage of average shareholders' equity	16.2	15.8	21.8	21.9	**11.9**
Price/earnings ratio, Class A at Dec. 31 (percent)	9.6	10.4	11.7	7.0	**8.6**
Dividends					
Total paid (millions of dollars)	116	124	150	201	**220**
Per share (dollars)					
Cash	0.888	0.95	1.15	1.40	**1.40**
Stock	–	–	0.90	1.40	**1.40**
As a percentage of earnings	40	39	30	30	**47**

Class A and B shares have equal voting rights and are convertible into one another. Holders of Class A shares receive a cash dividend. Holders of Class B shares receive a stock dividend of Class B convertible shares having a value substantially equivalent to the cash dividend on Class A convertible shares.

Supplemental information

Presentation of financial statements

The financial statements of Imperial have been prepared in accordance with accounting principles generally accepted in Canada. In Imperial's case, these principles conform in all material respects to those in the United States except for the unusual items described in note 2 to the financial statements. Under United States accounting principles, the unusual items would be reported in the consolidated statement of earnings before "Earnings before income taxes" and would not be shown net of the applicable income taxes. This presentation does not affect the amounts shown as earnings for the year.

Management discussion and analysis

Management discussion and analysis of the company's financial condition and results of operations are incorporated in the president's message on pages 5, 6, and 7 of this report.

Shareholder and investor information

General summary of tax consequences affecting foreign security holders

Cash dividends paid by the company to shareholders not resident in Canada and who are resident in the United States, the United Kingdom, France, Switzerland, and most of the other countries with which Canada has an income-tax convention, are usually subject to Canadian non-resident withholding tax at a rate of 15 percent. This is subject to reduction to 10 percent if the company has the requisite degree of Canadian ownership. The company had that requisite degree in 1981. Stock dividends in the form of Class B shares paid to a holder of Class B shares who is not resident in Canada on that class of shares are usually not subject to Canadian non-resident withholding tax unless more than 10 percent of the shares of that class are owned by the shareholder alone or together with other related persons.

In most cases, there is no Canadian tax on gains arising from the sale of shares or debt instruments owned by security holders who are neither resident in nor carry on business in Canada.

Interest paid by the company on its outstanding debentures to a non-resident of Canada with whom the company is dealing at arm's length is not subject to Canadian withholding tax if the debenture was originally issued after June 23, 1975. Interest paid by the company to debenture holders not resident in Canada on debentures issued before that date is usually subject to withholding tax.

No estate taxes or succession duties are imposed by the government of Canada or by the governments of any of the provinces of Canada except the province of Quebec. In the province of Quebec, no succession duties are payable with respect to securities of the company physically situated outside the province of Quebec if the person to whom they are transmitted is domiciled and resident outside the province of Quebec.

Shareholders	Shareholders of record at Dec. 31, 1981	Residency (percent)		
		Canada	Other	Total
Class A	45 811	87	13	100
Class B	1 360	85	15	100
	47 171			

Quarterly financial and stock-trading data

Imperial Oil stock is listed on the Montreal, Toronto, and Vancouver stock exchanges and is admitted to unlisted trading on the American Stock Exchange. The high and low Toronto prices for Class A shares and the number of shares traded on all the above exchanges are shown. The Class B shares generally trade at the same price as Class A shares.

The average number of outstanding shares included in the calculation of earnings per share is weighted on a monthly basis. As a result, the sum of the quarterly earnings per share does not necessarily equal the yearly earnings per share.

	1980 three months ended				1981 three months ended			
	Mar. 31	June 30	Sept. 30	Dec. 31	Mar. 31	June 30	Sept. 30	Dec. 31
	millions of dollars							
Revenues	1366	1479	1594	1910	**1815**	**1975**	**2185**	**2210**
Expenses, including income taxes	1214	1331	1413	1790*	**1669**	**1862**	**2028**	**2161**
Unusual items	–	–	81	–	**–**	**–**	**–**	**–**
Earnings	152	148	262	120	**146**	**113**	**157**	**49**
	dollars							
Earnings per share	1.16	1.10	1.67	0.76	**0.93**	**0.72**	**1.00**	**0.31**
Dividends per share (declared quarterly)	0.35	0.35	0.35	0.35	**0.35**	**0.35**	**0.35**	**0.35**
Share prices								
High	57½	46¾	47⅞	45¾	**36⅜**	**37½**	**38¼**	**28⅝**
Low	36½	35⅛	37¼	30⅜	**30⅝**	**32⅛**	**24½**	**25¼**
Close	41⅝	44½	41	32⅞	**33⅛**	**36¼**	**26⅝**	**25½**
	thousands							
Shares traded	11 499	10 895	9815	11 232	**5182**	**5974**	**6907**	**4435**

*Fourth-quarter expenses for 1980 include $62 million in Cold Lake project costs. In 1981, costs were expensed as incurred.

Supplemental information

(continued)

Accounting for the effects of inflation and changing prices

Reasons for adjusting

In times of continuing high inflation and changing prices, the purchasing power of the dollar diminishes. Conventional accounting statements reflect financial results in terms of the dollar value at the time of transaction. Inflation accounting recognizes the diminished value of the dollar and restates the results in terms of dollars of equal purchasing power. The adjusted results, therefore, are intended to indicate the real growth in a company's earnings, whether the shareholders' equity is being protected from the impact of inflation, and if sufficient earnings are being generated to maintain its current levels of production in the future.

Method of adjusting

The techniques of adjusting for inflation are in the developmental stages. In 1981, refinements were made to the method of calculating the depreciation adjustments and the 1980 figures have been restated to be consistent with this refinement.

The Canadian Institute of Chartered Accountants reissued its recommendations in 1981, with a proposal that they become effective in December, 1982. The proposed adjustments to historical cost values are similar in nature to those required by the Financial Accounting Standards Board in the United States.

There are two recognized ways to adjust historical values: constant-dollar accounting, which restates the value of assets and liabilities in relation to the change in the Canadian Consumer Price Index (CPI); and current-cost accounting, which restates the value of assets and liabilities in terms of current replacement costs. Imperial uses a variety of industrial indices and, in some cases, market values to calculate the current values of its assets.

Effect of adjusting

Adjustments to inventory values result in an increased cost of sales under both approaches. The difference between the constant-dollar and current-dollar cost of sales is the difference between specific price increases and the general price increase measured by the CPI.

The increased values of the property, plant, and equipment that arise from these adjustments are reflected in an increase in depreciation expense.

Because income taxes are already expressed in current dollars, their amounts do not change. The result is that taxes remain at the same level although earnings are less. In effect, the rate of income tax has increased.

Interpretation of results

Constant-dollar earnings for 1981 were $146 million (1980–$430 million). Although this indicates that Imperial made a profit even after adjusting for inflation as measured by the increase of 12.5 percent in the CPI, the rate of return on capital employed of 2.2 percent is well below the required level.

Current-cost accounting reports a loss of $376 million (1980–earnings of $97 million). This results primarily from three things. First, the significantly higher cost of crude–up 27 percent; second, the high cost of government levies–a rate increase of 92 percent; and third, the higher depreciation expense, which reflects the increase in the replacement costs of assets over the costs determined by using the general price increases in constant-cost accounting.

While these results are still considered experimental, they emphasize the effect of royalty and taxation on the production of crude oil and natural gas and the high effective income-tax rate on corporate earnings. In total, royalties, taxes, and levies amount to over $2.7 billion in 1981 for Imperial alone–a measure of the significant burden being carried by the industry.

	Conventional dollar	Constant dollar	Current cost
		millions of dollars	
Capital employed	5963	8681	10097
Revenues	8185	8185	8185
Expenses			
Purchases of crude oil and products	4395	4535	4830
Depreciation and amortization	244	423	650
Other	2607	2607	2607
Total expenses	7246	7565	8087
Earnings before income taxes	939	620	98
Income taxes	474	474	474
Earnings (loss) for the year	465	146	(376)
Return on average capital employed (percent):			
1981	8.8	2.2	(3.7)
1980	15.7	7.2	(1.7)
Earnings (loss) per share (dollars):			
1981	2.96	.93	(2.39)
1980	4.71	2.96	.67

Oil and gas producing activities

Estimated future net revenues

	1982	1983	1984	Remainder	Total
					millions of dollars
Estimated future net revenues from estimated production (before income taxes)					
Proved developed	602	574	509	6089	7774
Proved undeveloped	(143)	(214)	(185)	1476	934
Petroleum and Gas Revenue Tax	(101)	(88)	(78)	(1012)	(1279)
Total before income taxes	358	272	246	6553	7429
Less: income taxes	345	277	228	3901	4751
Total after income taxes	13	(5)	18	2652	2678

	1978	1979	1980	1981
Present value of estimated future net revenues discounted at 10 percent				
Proved developed	3387	2991	2748	3502
Proved undeveloped	442	401	178	(116)
Petroleum and Gas Revenue Tax	–	–	–	(564)
Total before income taxes	3829	3392	2926	2822
Less: income taxes	2063	1920	1540	1998
Total after income taxes	1766	1472	1386	824

The company does not agree that the above calculation of the present value of future net revenues from estimated production of proved reserves necessarily represents the fair market value of conventional oil and gas properties nor future cash flows and cautions readers about its use. The valuation does not include the value of exploratory properties and probable reserves. Neither does it include anticipated future price increases of oil and gas and anticipated increases of development and production costs. The valuation excludes the company's activities related to extraction of upgraded crude oil from Syncrude. In the company's opinion, the method of calculating the data on reserve recognition accounting is not reliable and the values may not provide a basis for meaningful analysis. The material has been included to comply with the requirements for investors in the U.S.

Estimated future net revenues are computed by applying the prices on Dec. 31 of crude oil, including condensate and natural-gas liquids, and natural gas to the estimated future production of proved oil and gas reserves, less the estimated future expenditures based on current costs to be incurred in developing and producing the proved reserves.

Estimated future income taxes are computed by applying the current statutory tax rates to the estimated taxable income for each year. Taxable income is based on estimated future net revenues adjusted to take into account differences from standard accounting practices permitted under income-tax regulations in effect at the end of the year.

Summary of reserve-recognition accounting (RRA) for changes in present value of estimated future net revenues

The following table shows a reconciliation for 1979, 1980, and 1981 of the pretax present value of proved developed and undeveloped reserves at the beginning and the end of each year. The table excludes the company's activities related to the extraction of upgraded crude oil from Syncrude and includes the Cold Lake pilot project in 1980 and 1981.

The table also shows the calculation of the company's after-tax results for the years on the basis of RRA. RRA departs significantly from historical accounting practices. Under RRA, a dollar valuation of proved reserves is computed as described in "Estimated future net revenues" and earnings are recognized when proved reserves are discovered or the valuation of proved reserves changes.

Supplemental information

(continued)

	1979	1980	1981
	millions of dollars		
Net present value of proved reserves			
Additions to estimated proved reserves–gross	95	34	**48**
Revisions of estimates of prior years			
Changes in reserves (a)	(875)	(956)	**60**
Changes in prices (b)	476	636	**575**
Interest factor (c)	369	314	**356**
	65	28	**1039**
Present value of estimated future development and production costs (d)	(25)	(17)	**(22)**
Expenditures that reduced estimated future development costs	171	144	**106**
Petroleum and Gas Revenue Tax (e)	–	–	**(564)**
Net sales of oil and gas (after production costs)	(648)	(621)	**(663)**
Net change in net present value	(437)	(466)	**(104)**
Balance, beginning of year	3829	3392	**2926**
Balance, end of year	3392	2926	**2822**
After-tax results on RRA basis			
Net change in net present value of proved reserves	(437)	(466)	**(104)**
Add net sales of oil and gas (after production costs)	648	621	**663**
Less: Costs incurred, including impairments (f)	(384)	(484)	**(290)**
Expenditures that reduced estimated future development costs	(171)	(144)	**(106)**
	(344)	(473)	**163**
Provision for income taxes (g)	43	315	**(447)**
After-tax results on RRA basis	(301)	(158)	**(284)**
Earnings from operations in oil and gas on the basis reported in the primary financial statements	218	165	**53**

(a) Changes in reserves, which increased in 1981 by $60 million (1980–a reduction of $956 million) were due to the effect of changes in estimates of future production, revisions of proved reserves determined in prior years, and changes in estimates of future development costs. The change in estimates of future production, reflecting a higher estimated producibility factor, resulted in an increase of about $415 million in 1981 (1980–a decrease of $680 million). The downward revision of reserves resulted in a decrease of about $250 million in 1981 (1980–a decrease of about $130 million). The revision of future development costs to maintain producibility resulted in a reduction of approximately $100 million in 1981 (1980–a reduction of $140 million) due mainly to inflation and an upward revision of development costs for the Norman Wells field. See also the first paragraph of page 37.

(b) Changes in prices contributed $575 million in 1981 (1980–$636 million) to results. This reflects the increase in prices for crude oil, natural gas, and natural-gas liquids during each year.

(c) Interest factor, amounting to $356 million in 1981 (1980–$314 million) is due to an increase in the estimated present value of proved reserves because realization of future net revenue is one year sooner.

(d) Present value of estimated future development and production costs of $22 million in 1981 (1980–$17 million) represents the present value of estimated future expenditures to be incurred in developing and producing reserves added during each of the years for which revenue is reflected in "Additions to estimated proved reserves–gross."

(e) The Petroleum and Gas Revenue Tax was introduced on Jan. 1, 1981, and totals $564 million. For 1981, the tax is eight percent of income from the net operating revenue related to the production of oil and gas, including income from oil and gas royalty interests, as specified in the National Energy Program. Accordingly, it is considered a production tax and not an income tax and is shown as a reduction of net revenues before income taxes.

(f) Costs incurred, including impairments expensed for RRA of $290 million in 1981 (1980–$484 million) for conventional oil and gas, include costs of exploratory drilling, geological and geophysical costs, costs of carrying and retaining undeveloped properties, development costs incurred to produce reserves determined during the year, and amortization of exploratory costs. Land-acquisition costs incurred during 1981 of $21 million (1980–$61 million) were deferred.

(g) Income taxes for 1981 were computed by first applying current statutory tax rates to the estimated present value of future taxable income to be generated from producing proved reserves as of the end of the year and deducting the similarly computed amount as of the beginning of the year. To this amount was added the provision for income tax payable for the year. Income taxes for 1980 and 1979 were computed similarly. The income-tax increase of $447 million in 1981 and a 1980 decrease of $315 million are 274 percent and 67 percent of pretax values respectively. The rate increases because the Petroleum Gas and Revenue Tax is not deductible for income-tax purposes.

Subsidiaries, principal investments, and investor information

Imperial Oil Limited

The company was incorporated under the Canada Joint Stock Companies Act, 1877 on Sept. 8, 1880. Its head office is at 111 St. Clair Avenue West, Toronto, Canada, M5W 1K3. Telephone (416) 968-4111.

Imperial Oil Limited is active in all phases of the petroleum industry in Canada. The company explores for and produces crude oil and natural gas and is a major participant in a commercial oil-sands facility in Alberta to produce upgraded crude oil. It also explores for and develops minerals across Canada and operates two mines. The company refines and markets petroleum products and manufactures and sells petrochemicals, fertilizers, and building materials.

The terms company and Imperial as used in this report sometimes refer not only to Imperial Oil Limited but collectively to all of its subsidiary companies or divisions or to any one or more of them.

Subsidiary companies

W. H. Adam, Ltée, Ltd.
Atlas Supply Company of Canada Limited
Building Products of Canada Limited
Byron Creek Collieries Limited
Canada Wide Mines Ltd.
Champlain Oil Products Limited
Delta Rope & Twine Limited
Devon Estates Limited
86129 Canada Ltd.
E S F Limited
Esso of Canada Limited
Esso Resources Canada Limited
446259 Ontario Limited
The Imperial Pipe Line Company, Limited
Maple Leaf Petroleum Limited
Mongeau & Robert Cie Ltée
95185 Canada Limited
95269 Canada Limited
Nisku Products Pipe Line Company Limited
Northwest Company, Limited
102335 Canada Ltd.
107580 Canada Inc.
Renown Building Materials Limited
Les Restaurants Le Voyageur Inc.
Servacar Ltd.
Winnipeg Pipe Line Company Limited

Principal investments in other companies, not consolidated

	percentage of ownership
Alberta Products Pipe Line Ltd.	30.0
Interprovincial Pipe Line Limited	32.6
Montreal Pipe Line Limited	32.0
Moraine Properties Ltd.	50.0
Rainbow Pipe Line Company, Ltd.	33.3
Tecumseh Gas Storage Limited	50.0
Trans Mountain Pipe Line Company Ltd.	8.6
Williamsport Properties Limited	50.0

Transfer offices

Shares of Imperial Oil Limited may be transferred at the following offices: head office of Imperial Oil Limited; principal offices of Montreal Trust Company at St. John's, Charlottetown, Halifax, Saint John, Montreal, Toronto, Winnipeg, Regina, Calgary, and Vancouver; and Morgan Guaranty Trust Company of New York.

Annual meeting

The annual meeting of shareholders will be held at 11:00 a.m., Friday, April 23, 1982, in the Canadian Room, Royal York Hotel, Toronto.

Investor information

Investors may obtain information to assist them in evaluating the company's operations and results, including the annual report on Form 10-K filed with the United States Securities and Exchange Commission, from the Manager, Investor Relations, Imperial Oil Limited, at 111 St. Clair Avenue West, Toronto, Canada, M5W 1K3. Changes of address or inquiries about shares and dividends may be sent to the Assistant Secretary, Shareholder Affairs, at the same address.

Les rapports de la Compagnie Pétrolière Impériale Ltée aux actionnaires sont publiés en français. Veuillez écrire à la division des Relations avec les actionnaires, Compagnie Pétrolière Impériale Ltée, 111 avenue St. Clair ouest, Toronto, Canada, M5W 1K3.

The base maps shown on pages 15, 16, and 17 derive, with permission, from *The National Atlas of Canada/L'Atlas national du Canada,* Department of Energy, Mines and Resources, Ottawa 1981.

Directors, officers, and board committees as at Dec. 31, 1981

Directors

J. A. Armstrong
*Chairman and chief executive officer, Imperial Oil Limited**
J. B. Buchanan
President, British Columbia Packers Ltd. (fish and seafood)
P. Des Marais II
President, Pierre Des Marais Inc. (printing and lithography)
J. W. Flanagan
Senior vice-president, Imperial Oil Limited
M. Kovitz
President, Murko Investments Ltd. (property and livestock)
J. G. Livingstone
President, Imperial Oil Limited
W. A. Macdonald
Partner, McMillan, Binch (barristers and solicitors)
D. K. McIvor
*Deputy chairman, Imperial Oil Limited**
T. H. Thomson
Senior vice-president, Imperial Oil Limited
W. J. Young
Senior vice-president, Imperial Oil Limited

Officers

Imperial Oil Limited
Chairman of the board and chief executive officer:
J. A. Armstrong

Deputy chairman of the board:
D. K. McIvor

President:
J. G. Livingstone

Senior vice-presidents:
J. W. Flanagan, T. H. Thomson, W. J. Young

Vice-presidents:
W. E. Beacom, *comptroller*
R. E. Landry, *external affairs*
A. M. Lott, *treasurer*
D. H. MacAllan, *corporate affairs and general secretary*
G. A. Rogers, *general counsel*
P. Stauft, *natural-resources coordination*

J. E. Akitt, *Esso Chemical Canada*
W. A. West, *Esso Petroleum Canada*
M. G. Handford, *Esso Petroleum Canada*

*On Dec. 31, 1981, J. A. Armstrong resigned as chairman of the board and chief executive officer. He was succeeded by D. K. McIvor. On Jan. 1, 1982, A. R. Haynes was appointed executive vice-president.

Board of directors

The board has ten members, of whom six are employees of the company and four have their principal employment outside Imperial. D. D. Lougheed resigned from the board on July 1, 1981. On that date, he was appointed an executive vice-president and a director of Esso Resources Canada Limited. D. K. McIvor was appointed a director and deputy chairman of Imperial on July 1, 1981.

The board meets monthly to consider subjects of major corporate significance. These include financial and social performance, investment decisions, strategic plans, and corporate policies, in addition to other matters on which the board is legally required to act. In 1981, attendance at board meetings averaged 89.3 percent.

Board committees

Meetings of board committees are usually scheduled following board meetings. Attendance at all board committees in 1981 averaged 91.7 percent.

Audit committee

Chairman: W. A. Macdonald
Vice-chairman: P. Des Marais II
Members: J. B. Buchanan, M. Kovitz, J. G. Livingstone
W. J. Young

The committee meets a minimum of six times a year to review the company's financial statements, accounting practices, and business and financial controls. It also recommends the appointment of auditors and reviews their fees. The shareholders' auditor, Price Waterhouse, attends and participates in all meetings.

Contributions committee

Chairman: M. Kovitz
Vice-chairman: P. Des Marais II
Members: J. A. Armstrong, J. B. Buchanan, W. A. Macdonald

The committee meets at least twice a year to examine policies and programs related to the company's contributions to enhance the quality of Canadian life. An annual budget, which includes support for education, health, welfare, community services, sports, and culture, is recommended to the board for adoption.

Board compensation committee

Chairman: P. Des Marais II
Vice-chairman: J. B. Buchanan
Members: J. A. Armstrong, M. Kovitz, W. A. Macdonald

The committee meets at least twice a year to decide on the appropriate compensation for senior vice-presidents or their equivalent and to recommend to the board specific compensation for the chairman and president. It also reviews overall policy on corporate compensation and the process by which the future managers of the company are identified and selected.

Principal operating management as at Jan. 1, 1982

Esso Resources Canada Limited

Chairman of the board:
A. R. Haynes

President and chief executive officer:
R. B. Peterson

Executive vice-presidents:
D. D. Lougheed
G. H. Thomson

Vice-presidents:
G. E. Courtnage, *heavy oil*
G. L. Haight, *production*
W. J. Mann, *finance and administration, and treasurer*
R. A. F. Wilkinson, *exploration*
G. J. Willmon, *president, Esso Minerals Canada*

Esso Petroleum Canada

President:
W. A. West

Executive vice-president:
M. G. Handford

Vice-presidents:
T. R. Clapp, *specialty products*
C. A. Hayles, *marketing*
W. J. Keough, *refining*
D. F. MacLauchlan, *supply*
D. R. Purdie, *technology and business development*

Esso Chemical Canada

President:
J. E. Akitt

Executive vice-president:
R. A. Burnside

Vice-presidents:
G. R. Bunting, *plastics*
R. W. Hodgson, *western Canada*
W. R. K. Innes, *aromatics development*
P. J. Levins, *president, Building Products of Canada Limited*
W. W. Levy, *agricultural chemicals*
R. H. Shepherd, *olefins*

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PYREX
1000
ml
900
800
700
600
500