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**Canterra  
Energy Ltd.**

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**Annual  
Report  
1984**





## **Corporate Mission**

Canterra will be a leading force in the Canadian petroleum and sulphur industry.

It will be an aggressive and successful participant in the various facets of the exploration, production and marketing of oil, gas and sulphur in Western Canada and in the offshore regions of Canada.

It will apply its expertise to selective international operations.

Canterra will stimulate professional excellence and promote innovation, initiative and responsibility throughout the organization while applying rigorous standards of profitability to achieve financial strength and sustained growth.

## **Corporate Profile**

Canterra Energy Ltd., based in Calgary, Alberta, is a major Canadian producer of hydrocarbons and sulphur.

The company produces conventional oil and gas in Western Canada, particularly from major oil fields at Rainbow Lake in northern Alberta and major gas fields in the Ram River area of west central Alberta. The company is a significant producer of oil through enhanced oil recovery methods, namely commercial miscible floods of light oil at Rainbow Lake, a tar sands pilot in Alberta and a heavy oil pilot in Saskatchewan.

Canterra is the largest supplier and marketer of sulphur in Canada. Recovered sulphur from gas processing is marketed in Canada, the United States and international markets.

Canterra is an aggressive explorer for oil and gas in Western Canada and in the frontier regions, particularly on the Grand Banks and on the Scotian Shelf.

In the United States, Canterra explores for and produces oil and gas, primarily in the Williston Basin and the Gulf Coast. The company is a medium-sized producer of coal in Pennsylvania.

Canterra was formed in 1981 when it changed its name from Aquitaine Company of Canada Ltd. following the acquisition of all the outstanding shares of Aquitaine by Canada Development Corporation (CDC). In November 1981, various natural resource assets and companies owned by CDC, including Canterra, CDC Oil & Gas Limited and certain oil, gas and sulphur assets of Kidd Creek Mines Ltd. (formerly Texasgulf Inc.) were combined under Canterra Energy Group. Following the acquisition on October 31, 1984 of these assets of Kidd Creek, the assets of Canterra Energy Group were consolidated within Canterra Energy Ltd. Canterra is a wholly-owned subsidiary of Canada Development Corporation.



# Highlights

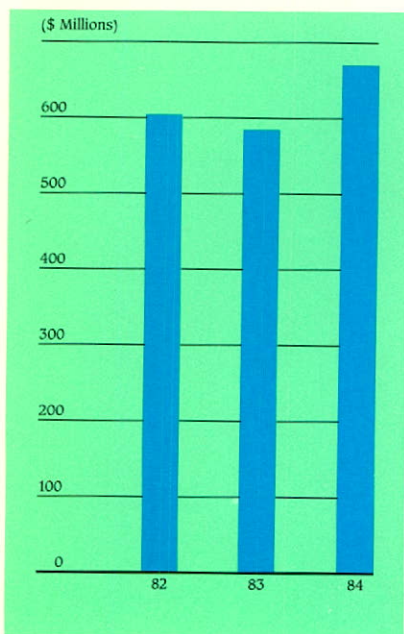
(dollar amounts in thousands)

|   | 1984             | 1983      | % Change |
|---|------------------|-----------|----------|
| <b>Financial</b>                                    |                  |           |          |
| Net Revenues (after royalties) . . . . .            | <b>\$669,600</b> | \$583,500 | + 15     |
| Earnings . . . . .                                  | <b>\$ 41,400</b> | \$ 14,700 | +182     |
| Free Cash Flow . . . . .                            | <b>\$187,100</b> | \$138,800 | + 35     |
| Capital Expenditures (net after grants)             |                  |           |          |
| Western Canada Exploration & Production . . . . .   | <b>\$110,800</b> | \$115,300 | - 4      |
| Frontier Canada Exploration . . . . .               | <b>\$ 20,700</b> | \$ 34,800 | - 41     |
| U.S. Oil and Gas Exploration & Production . . . . . | <b>\$ 14,300</b> | \$ 18,600 | - 23     |
| Coal . . . . .                                      | <b>\$ 4,700</b>  | \$ 1,900  | +147     |
| Other . . . . .                                     | <b>\$ 10,000</b> | \$ 2,300  | +335     |

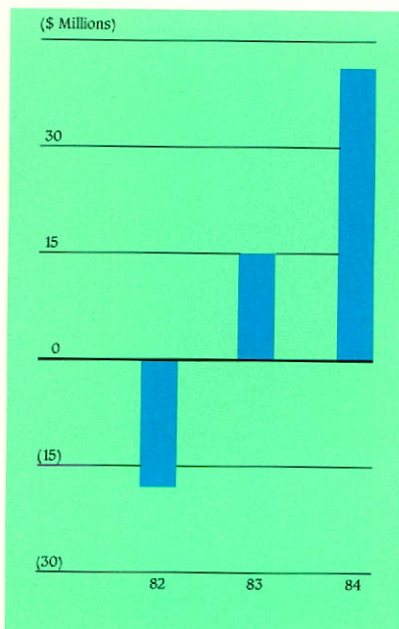
## Operations

|   |              |       |      |
|---|--------------|-------|------|
| Sales Volumes (gross before royalties)                  |              |       |      |
| Oil & Gas Liquids (thousands of cubic metres) . . . . . | <b>1,870</b> | 1,988 | - 6  |
| Gas (millions of cubic metres) . . . . .                | <b>1,892</b> | 1,850 | + 2  |
| Sulphur (thousands of tonnes) . . . . .                 | <b>2,017</b> | 1,217 | + 66 |
| Coal (thousands of tonnes) . . . . .                    | <b>887</b>   | 804   | + 10 |
| Proved Reserves (gross before royalties)                |              |       |      |
| Oil & Gas Liquids (millions of cubic metres) . . . . .  | <b>18.3</b>  | 16.6  | + 10 |
| Gas (billions of cubic metres) . . . . .                | <b>38.6</b>  | 39.0  | - 1  |
| Sulphur (millions of tonnes) . . . . .                  | <b>14.3</b>  | 15.7  | - 9  |
| Coal (millions of tonnes) . . . . .                     | <b>51.1</b>  | 55.4  | - 8  |

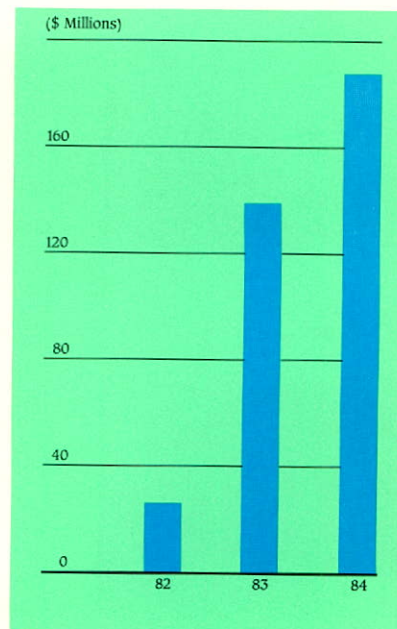
**Net Revenues**



**Earnings**



**Free Cash Flow**









# President's Report

CANTERRA completed in 1984 its third year of operation as a new corporate entity in the Canadian petroleum industry. During the year, the company recorded substantial financial gains and operational successes, and took major steps toward the accomplishment of its strategic objectives.

In a business environment which has dramatically improved for the Canadian oil and gas industry, the company intends to build on its solid base of attractive assets, ideas and projects with the added strength of a young but stable and cohesive organization committed to professional excellence. It looks forward to the future with excitement and confidence, expecting to show in 1985 and beyond a continuous trend of healthy financial growth.

## Financial

Canterra established a new record in its financial results in 1984. Earnings reached \$41.4 million, almost triple the \$14.7 million achieved in 1983. Free cash flow (cash flow before capitalization of financial charges and exploration overhead) increased 35 per cent to \$187.1 million from \$138.8 million in 1983. Consolidated revenue for the year was \$837.0 million, an improvement of 13.8 per cent from \$735.7 million reported for 1983.

## Operations

While progress was achieved in all the business segments of Canterra, the most significant factor of improvement was the gradual recovery of sulphur markets through 1984.

**Sulphur** sales exceeded two million tonnes, an increase of 66 per cent

over 1983; sulphur revenues at \$180 million were double 1983 revenues, and returned to the level experienced in 1981 by the companies now consolidated into Canterra.

The company is particularly pleased with this evolution of sulphur markets: it confirms its earlier assessment that the downturn observed in 1982 and 1983 was an aberration caused by the rapid disposition by Saudi Arabia of inventories accumulated over a long period and that a strong rebound would occur when these inventories were absorbed. By reducing its sales volumes when the market was depressed, Canterra maximized the value of its reserves and increased its product availability for better market conditions. Through the purchase of inventories and reserves at low cost in the downturn, the company enhanced further its opportunities for future gains from sulphur sales.

In 1984, the company continued to pursue its systematic screening of all possible opportunities to maximize revenues and improve the value of its oil and gas reserves.

New **oil** discoveries in Western Canada and the United States were put on stream and exploitation plans were implemented expeditiously. A major enhanced oil recovery project was developed in the B pool of the Rainbow field and other candidates for enhanced oil recovery are being actively investigated for decision in 1985. In Canada, the proportion of oil production eligible for the new oil reference price (NORP) and new oil royalty regime increased from an average of 21 per cent in 1983 to an average of 35 per cent in 1984 and reached 44 per cent at the end of the year.

Canterra's **gas** sales increased as a result of expanded sales into the intra-Alberta markets, improved rates of take by some major gas purchasers and the development of several new properties, particularly at Okotoks and Benjamin in Western Canada and North Deep Lake in the United States. In Canada, the increasing proportion of new gas sales subject to new gas royalty status, as the deliver-

ability of older fields declines, resulted in a further reduction of the average gas royalty rate with its consequent financial benefits.

The improved financial results of the oil and gas operations achieved in 1984 also reflect the fruits of the continuation of various programs designed to constrain administrative and operating expenses and to remain a highly efficient, low-cost operator.

Canterra's **coal** operations in the United States generated improved cash flow and positive earnings during the first three quarters of the year, although financial results remained unsatisfactory in terms of return on capital. On October 1, the United Mine Workers of America and the Bituminous Coal Operators' Association reached an agreement without strike on a new three-year labour contract. Canterra Coal did not sign this standard agreement and was still negotiating at year end with the miners' representatives for more flexible working rules which would allow a more productive operation of the mine, expansion of its capacity and capture of additional markets.

## Capital Investments

Canterra's capital investment program reached \$246.6 million in 1984. After federal and provincial incentives grants, the net cost was \$160.5 million which was entirely financed internally out of cash flow from current operations. Exploration expenditures at \$189.5 million gross (\$98.7 million net) remained the prime focus of the capital program.

## Conventional Exploration

Approximately three quarters of the exploration expenditures are allocated to the conventional plays of Western Canada and the United States where experience and on-going opportunities indicate a potential for steady growth.

Exploration for oil was particularly successful in Western Canada with discoveries in excess of 1.1 million cubic metres (proved plus risked probable)—a record for Canterra and its predecessor companies. Prime areas of activity were the Peace River



Bernard F. Isautier  
President and  
Chief Executive Officer

Opposite page:  
Canterra's sulphur inventory of four million tonnes, which represents one third of the Canadian industry's stocks, provides the company with the flexibility to meet the needs of worldwide customers.



Arch, the Rainbow-Zama-Shekilie basins in Alberta and in the south-eastern part of Saskatchewan. Over the last few years, Canterra has accumulated land positions, geophysical and geological data base and an inventory of prospects which should permit the company to maintain the momentum of new oil exploration success in the future.

Drilling or testing of several sour gas prospects, as part of the company's strategy to add major sulphur and gas reserves which can be processed in Canterra's Ram River plant, was delayed by environmental concerns and the regulatory process. The company expects, however, to be able to proceed on these projects in 1985.

Despite the current surplus of natural gas in Alberta the company maintains a long-term perspective and an exploration program for sweet gas aimed essentially at developing a portfolio of prospects for future years. Drilling for gas resulted in reserves additions of 1.25 billion cubic metres (proved plus risked probable).

In the United States, the company more than replaced its oil and gas production through new discoveries and revisions of earlier reserves estimates. Prime areas of activity were in the Williston Basin for oil and onshore along the Gulf Coast for gas.

### **Frontier Exploration**

Canterra allocates approximately a quarter of net exploration funds to the frontier areas of Canada. The leverage provided by the Petroleum Incentive Program (PIP) allowed the company to invest gross expenditures of \$92.0 million in 1984 for a net cost of \$20.7 million—with the major thrust being placed on the East Coast, offshore Nova Scotia and Newfoundland. Although production from an East Coast discovery cannot be expected before the late 80s or early 90s, technical-economic studies confirm that East Coast offshore fields even smaller than already-proven fields can be developed economically under the appropriate royalty and tax

regimes. Canterra views offshore exploration, particularly on the East Coast, as offering the potential for major reserves additions at low cost and the opportunity for significant growth in the next decade.

The 1984 offshore exploration program was particularly encouraging with an oil discovery at Terra Nova on the Grand Banks and gas discoveries at Alma and Uniacke on the Scotian Shelf. Delineation drilling is under way on the Terra Nova and Alma discoveries as well as the Glenelg gas discovery of 1983 to define the economic feasibility of developing these discoveries.

### **Production Capital Expenditures**

In addition to the on-going expenditures for development of new oil and gas fields, the production capital program included in 1984 two special items. First, Canterra purchased and immediately brought on production sour gas reserves in the Okotoks area. Second, the tertiary miscible flood project in Rainbow involved additional wells and a major expansion and upgrading of the Rainbow gas plant for gas production and liquids extraction; Canterra's share of incremental reserves of oil from the B pool project is estimated by the Energy Resources Conservation Board at approximately 5.0 million cubic metres, of which only two-thirds are currently booked in the company's reserves.

### **Heavy Oil and Tar Sands**

The testing of Canterra's technology in the North Battleford heavy oil pilot in Saskatchewan continued to show improvement in production rates and positive cash flow generation. A submission was made to the Saskatchewan government on a royalty regime for a full-scale commercial operation.

The Alberta Oil Sands Technology and Research Authority (AOSTRA) increased its support of Canterra's Athabasca oil sands in-situ project which, after the successful operation of the initial pattern, will be expanded in 1985. The technical-economic parameters of a commercial operation were presented to the Alberta and

federal governments to support the company's request for a suitable royalty and taxation regime.

## **Business Environment and Outlook**

### **Energy Policies**

Several energy policy initiatives taken by federal and provincial governments in Canada over the last three years reflected a growing appreciation of the contribution which the oil and gas industry could make to economic activity and a better integration in public policies of investors' requirements and rationales. The industry responded immediately and vigorously to favourable taxation and royalty changes: activity in Saskatchewan is at a record high following royalty reductions introduced by the Saskatchewan government; an impressive number of enhanced oil recovery schemes were implemented in Alberta as a result of royalty changes; and several in-situ oil sands projects are being developed under fiscal terms negotiated with both the Alberta and federal governments. Although these initiatives were encouraging, they were limited to special areas or forms of activity.

The Western Accord reached on March 26, 1985, between the federal government and the provincial governments of Alberta, British Columbia and Saskatchewan lays the foundation for a broad-based recovery of the oil and gas industry and should allow the country to capitalize fully on the tremendous opportunities offered by its energy resources. The governments have agreed on two fundamental principles for energy policies which the economic community had been advocating for the last decade: market pricing for energy resources and taxation of the oil and gas industry on profits rather than revenues. For Canterra, the agreement means an increase of the value of its current reserves, the financial capacity to invest more and a broader range of attractive investment opportunities.

### **Markets**

World oil markets remain under pressure with stable prices, in current



dollars, for two years being the most common forecast. Under a scenario of lower prices than currently predicted, the Canadian industry would still be able to grow under the new energy principles set in the Western Accord.

**Gas** markets on the other hand have improved and are expected to grow over the coming years, largely as a result of the deregulation of export prices to the United States. While the current deliverability surplus in the United States will maintain some short-term pressure on prices, medium-term prices will have to recover to reflect replacement cost of gas reserves in the geographically protected North American market. Considering the time lag between the discovery and the development of a gas field, the company views gas exploration as a business opportunity warranting immediate action, particularly with the improved economic attractiveness under the new fiscal regime set in the Western Accord.

The recovery of **sulphur** markets is related to supply limitations rather than abnormal demand. In 1984, more than 10 per cent of world sulphur consumption came out of inventories and no significant new source of production is apparent for the next few years. Following the preliminary volume growth experienced by Canadian producers in 1984, markets have now entered a phase of compounded volume and price increases. While prices were in the range of \$85 U.S. (FOB Vancouver) in the first half of 1984, they reached \$130 U.S. for contracts and \$150 U.S. for spot sales at the beginning of 1985 and the Canadian industry is shipping product at full capacity.

### **Looking Ahead for Canterra**

Canterra anticipates substantial financial gains in 1985 and enhanced prospects for the future through the continued successful achievement of its growth objectives.

Canterra's strategy remains first to maximize the value of its existing assets through aggressive development and marketing plans and rigorous

cost management. Second, capital investments are applied to conventional exploration and production to replace oil, gas and sulphur reserves following a selective process to ensure above average returns. The Western Accord on new energy policies opens up very exciting opportunities in this area which the company will pursue aggressively. Third, Canterra also dedicates a modest fraction of its capital investments to longer-term and more risky projects which offer the potential for major growth.

After the financial growth achieved over the last three years, Canterra has the capability to finance internally a healthy and balanced capital investment program consistent with the size of its current operations and its growth objectives. Free cash flow in excess of capital expenditure requirements will be used to reduce debt until the financial ratios of the company reach a level more in line with industry standards. Although the company has the internal capacity to service its debt and its capital needs, a public equity issue is being considered. This issue would set a market reference for the value of the equity held by the parent company, Canada Development Corporation, familiarize the market with Canterra's operations if and when additional capital is needed, and provide other intangible benefits in terms of public recognition, business opportunities and management motivation. The public equity issue and its possible timing remain contingent on the status of the stock market and the ability to obtain a price consistent with the underlying value of the assets of the company.

### **Canterra's Staff**

Following previous years marked by unusual challenges, 1984 was a year of consolidation for Canterra's staff and organization. Building on stability and experience, the company is stressing professional excellence, focus on the achievement of goals and innovation throughout the organization. Training and career development plans are being emphasized to ensure personal growth opportunities and

job satisfaction for Canterra's staff. The results already achieved by the company both operationally and financially are the best objective test of the energy, competence and dedication of Canterra's staff.

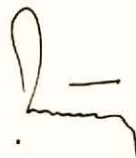
Two managers were promoted to vice presidential positions: William W. Taylor, Vice President, Exploration, Western Canada and R. George Scott, Vice President, Production, Frontier Canada. D. Michael Stewart's responsibilities as Vice President Marketing were expanded to include Corporate Development.

Frank Ricciuti, former Vice President, Corporate Development, elected to return to the investment banking community in Toronto after five years of rich and creative contribution to Canterra.

### **Canterra's Directors**

Conflicting business obligations led William D. Clark and Neil F. Phillips to resign from the board of directors. Gordon D. deS. Wotherspoon took his retirement but remains as an honorary director. The three directors had been involved since the very early days in the activities of Aquitaine Company of Canada, a predecessor company of Canterra, and through their guidance and their personal commitment, were instrumental in building the major company Canterra is today. We owe them our very special thanks and gratitude.

On behalf of the board,



Bernard F. Isautier  
President and  
Chief Executive Officer



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## Western Canada Exploration and Production



Pumping units are used to lift heavy oil to the surface at Canterra's in situ Athabasca pilot, north of Fort McMurray. Production at the pilot increased in 1984 by 68 per cent over the previous year.



## Business Environment

Western Canada oil and gas production increased significantly during the year. An improved business environment worldwide for petroleum products helped to stimulate industry growth, resulting in increased activity in both the exploration and production phases of the business.

Seismic activity, generally a precursor of higher activity levels, was up more than 15 per cent. Land sales activity in the four western provinces also increased significantly with provincial governments improving their revenues from sales by 44 per cent. Drilling activity improved on all fronts with more wells and metrage drilled than in any year since the record highs of 1981.

In spite of these higher activity levels, the drilling industry is concerned that it has not achieved desirable utilization rates. Oilfield construction and servicing have also become more active over the past year but new construction is still quite low as few new oil and gas facilities are being constructed. The effect of this general under-utilization in the service industries has moderated oilfield inflationary cost increases.

New light and medium oil finds and high development activity in the heavy oil areas of Western Canada have been primarily responsible for increasing oil production during the year. Moreover, renewed interest in enhanced oil recovery methods created by Alberta's new enhanced oil recovery fiscal regulations have brought about increased activity in this arena.

Although world oil prices have declined, Canada's government-regulated oil pricing situation remained anomalous with production brought on stream since 1974 obtaining prices slightly higher than world prices while oil discovered prior to 1974 continues to be priced significantly below market value.

Changes made to the new oil reference price (NORP) early in 1984 made the pricing more sensitive to world oil price fluctuations. NORP was also extended to infill wells drilled in older fields to improve ultimate recovery. In Alberta, increased minimum oil production allowances (five to eight cubic metres) and more liberal royalty holiday regulations for exploratory wells assisted in stimulating both oil drilling and production activity.

On the natural gas scene, drilling levels remained depressed largely because of the poor economics resulting from low netbacks and weak export markets. The Alberta border price of natural gas increased \$5.68 per thousand cubic metres (16 cents/mcf) during February 1984 and the consumer was shielded from this increase by a similar reduction in the natural gas and gas liquids tax (NGGLT). Perhaps one of the most significant events of the year was the federal government's announcement of partial deregulation of export gas pricing.

This brought about a flurry of gas price renegotiations which became effective in the contract year beginning November 1, 1984. The result has been a general improvement in the volume of export sales to the United States but at much reduced prices. An overall reduction in revenues as a result of significantly lower prices was being experienced at year end 1984.

The general improvement in the Western Canadian oil industry brought with it improved results for the company and better prospects for the future.

## Exploration

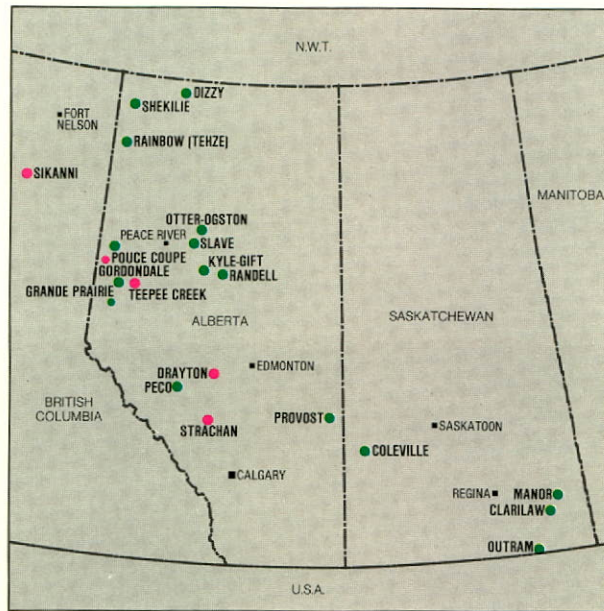
### Land

Canterra maintained a high profile in its land acquisition strategy in 1984 with the purchase of 56,000 net hectares of new lands, a 14 per cent increase over 1983. Land expenditures for 1984 were \$26.5 million with purchases in Alberta, British Columbia and Saskatchewan.

**"Employee dedication and improved markets made the difference in 1984."**



J. Lindsay Milne  
Senior Vice President  
Exploration and Production  
Western Canada



**Major Areas of Activity**

● Oil    ● Gas

0 KILOMETRES 400



At the end of 1984, the company's land holdings in Western Canada were 2,448,500 hectares (926,800 net), slightly less than at year end 1983. Expiring lands were in part replaced by lands in a number of active exploration areas positioned on oil, sweet and sour gas and heavy oil plays.

### Drilling Activity

Drilling activity during 1984 was significantly higher than in previous years with the total number of exploratory and development wells increasing to 248 from 185 in 1983. The exploration program, which comprised 136 (51.7 net) wells, realized a success rate of 56.6 per cent. Thirteen exploratory wells were still drilling at the end of the year.

### Alberta

Canterra's exploration program emphasized new oil resources with activity directed primarily at prospects in the Peace River Arch, Rainbow Basin and Grande Prairie regions of northern Alberta. This activity resulted in a very successful year for Canterra

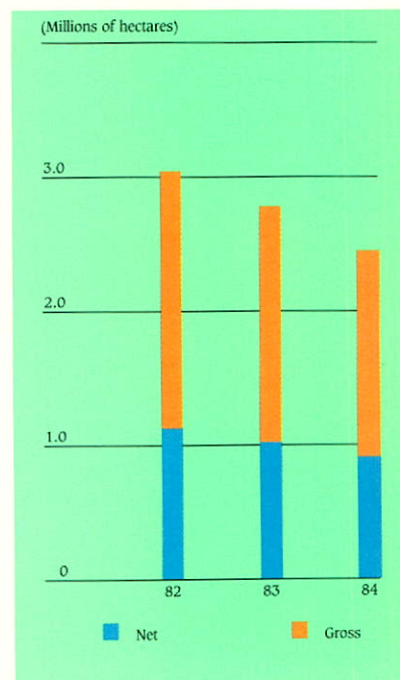
with a substantial increase in new oil resources compared to the previous two years.

Canterra maintained a high level of activity on the east side of the Peace River Arch where several oil discoveries have been recently made at Gift-Kyle, Ogston, Randell and Slave. At Gift-Kyle, delineation and development drilling continued to extend the limits of the Slave Point, Gilwood and Keg River Sand oil pools in the area. Twenty-eight joint interest locations (35.3 per cent working interest) were drilled, resulting in 23 completions of which nine were dually completed in both Slave Point and Gilwood reservoirs. Total production from the field now averages 340 cubic metres per day with individual wells producing up to 20-35 cubic metres per day. Ultimate oil resource potential for this field is expected to be in excess of two million cubic metres. Additional delineation and development drilling at Gift-Kyle is planned for the 1984-85 drilling season.

Fifteen km south of the Gift-Kyle field, at Randell, a dual zone oil discovery was made on 50-per-cent-interest lands, in the same reservoirs

that are productive to the north. The new discovery is particularly important in view of the company's extensive land position in the area. The pool will be further evaluated through delineation drilling early in 1985.

Western Canada Land Holdings



Western Canada Land Holdings

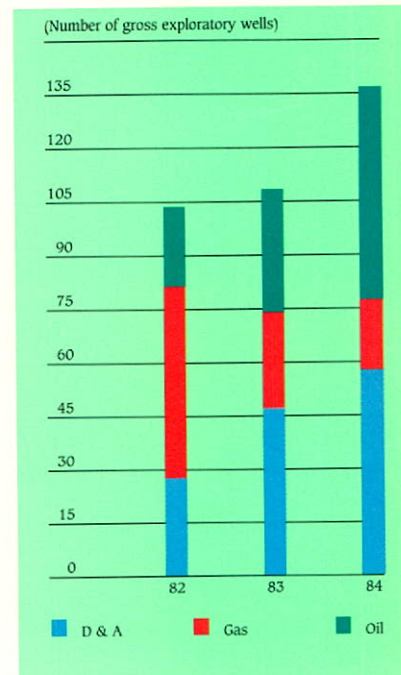
(Thousands of Hectares)

|                             | 1984         |            | 1983         |              |
|-----------------------------|--------------|------------|--------------|--------------|
|                             | Gross        | Net        | Gross        | Net          |
| Alberta .....               | 1 921        | 680        | 2 172        | 736          |
| British Columbia .....      | 445          | 213        | 546          | 242          |
| Saskatchewan .....          | 70           | 33         | 75           | 33           |
| Manitoba .....              | —            | —          | 1            | 1            |
| Northwest Territories ..... | 12           | 1          | —            | —            |
| Total .....                 | <u>2 448</u> | <u>927</u> | <u>2 794</u> | <u>1 012</u> |

Western Canada Drilling Activity—1984

|                     | Exploratory Wells |             | Development Wells |             |
|---------------------|-------------------|-------------|-------------------|-------------|
|                     | Gross             | Net         | Gross             | Net         |
| Oil .....           | 58                | 22.5        | 96                | 22.0        |
| Gas .....           | 19                | 3.5         | 9                 | 5.7         |
| Dry/Suspended ..... | 59                | 25.7        | 7                 | 1.4         |
| Total .....         | <u>136</u>        | <u>51.7</u> | <u>112</u>        | <u>29.1</u> |

Western Canada Drilling Activity





North of Gift-Kyle, delineation drilling on the Otter Keg River Sand oil pool (21.25 per cent working interest) resulted in three successful pool extensions. In exploratory drilling, two wells drilled under farm-in agreements established new oil pools on the same play, five km east and six km south-east of the Otter pool.

A further important oil discovery in 1984 was made at Slave in a stepout well drilled on 100-per-cent-interest lands west of the Slave Point H pool. This well has been tested at rates in excess of 250 cubic metres of oil per day.

At Rainbow, six oil wells (60-100 per cent working interest) were drilled and successfully completed in the Muskeg formation in the Tehze area. Four of these locations represented significant stepouts from the Tehze pool. Drilling in this area is expected to continue throughout the 1984-85 winter drilling season. This phase of exploration drilling at Rainbow continues to demonstrate that the basin has broad potential in zones other than the principal oil-bearing reefal reservoirs.

Elsewhere in northern Alberta, at Dizzy Creek Canterra participated (50 per cent working interest) in a Keg River oil discovery on lands acquired under a farm-in agreement. The well flowed at a rate of 100 cubic metres per day. This discovery will be followed up early in 1985 with further exploratory and delineation drilling.

In the western Peace River Arch region near Grande Prairie, the company participated in six Triassic oil wells, the most important of which were a successful offset to last year's Pouce Coupe discovery (66.6 per cent working interest) which had an initial potential of 25 cubic metres per day, and a new pool discovery at Gordondale (57.8 per cent working interest). In the latter area a successful offset has already been drilled and a further well was drilling at year end.

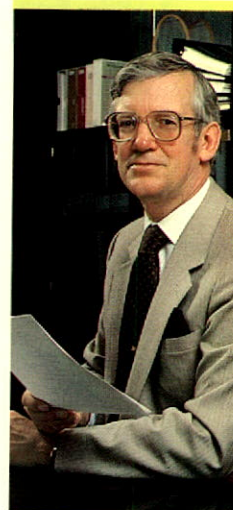
Drilling in the Peco area of western Alberta resulted in a successful oil pool extension onto company interest

lands (50 per cent working interest). Subsequently, six exploratory and development wells were completed in the Belly River formation with potential flow rates reaching 25 cubic metres per day.

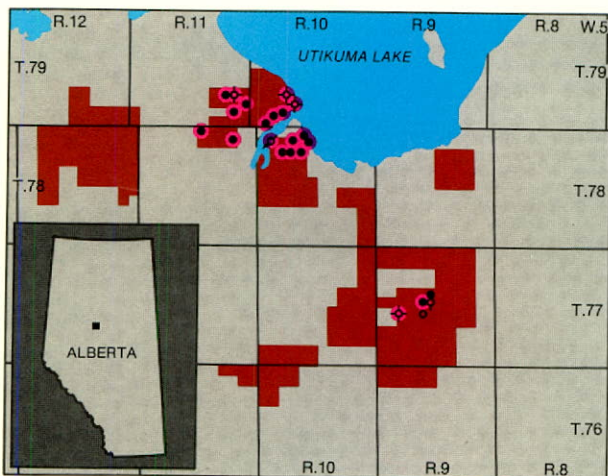
Exploration for new gas reserves in Alberta resulted in a potentially significant gas discovery near Drayton Valley (66.6 per cent working interest) where production testing of a Glauconite reservoir indicated flow rates in excess of 140,000 cubic metres per day. Delineation drilling in this pool is expected to commence early in 1985.

### British Columbia

Drilling activity in British Columbia was maintained at the same level as in the previous year with only five exploratory wells being drilled. One well (20 per cent working interest), drilled on a foothills structure at Sikanni, discovered large reserves of



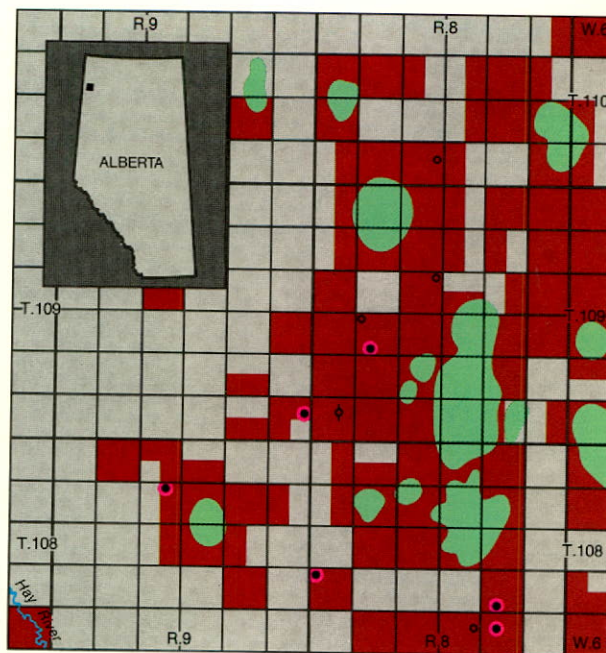
William W. Taylor  
Vice President  
Exploration  
Western Canada



### Gift Narrows

Canterra interest lands

- 1984 wells
- Oil well    ✱ Gas well    ✱ Oil and gas well    ○ Location
- ◇ Drilling    ⚡ Suspended    ✕ Dry and abandoned



### Rainbow Tehze

Canterra interest lands

- 1984 wells
- Oil well    ✱ Gas well    ✱ Oil and gas well    ○ Location
- ◇ Drilling    ⚡ Suspended    ✕ Injection    ✕ Dry and abandoned
- Oil Pool - Keg River



gas in the Mississippian. Flow rates of 580,000 cubic metres per day have been obtained from production testing.

## Saskatchewan

Drilling activity in Saskatchewan showed an appreciable increase over the 1983 level with 19 exploratory wells compared to seven the previous year. Several interesting oil discoveries were made in areas of good land representation in the southeastern part of the province. Successful oil completions were made at Clarilaw, Manor and Outram (60-70 per cent working interest). Delineation drilling is planned in all areas to determine the reserve and production capabilities.

## Outlook

Exploration in Western Canada will be maintained at a high level in 1985. The company expects to maintain and expand the momentum that has been established over the past few years and which has been successful

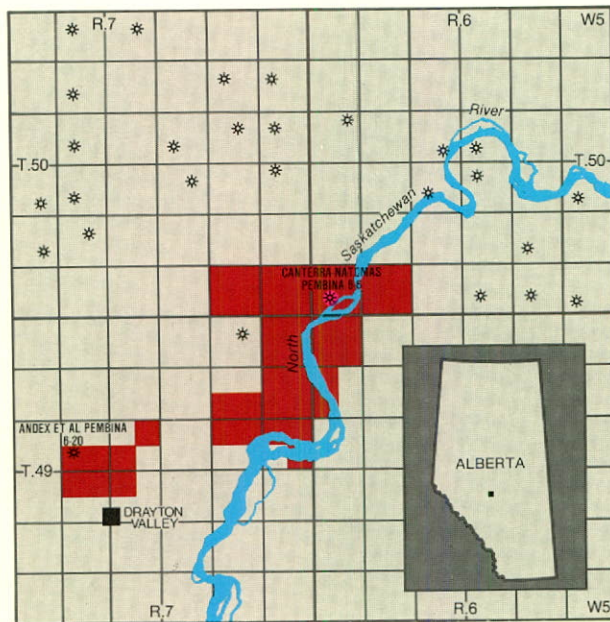
in locating new oil reserves in the vicinity of the Peace River Arch and in the Rainbow, Zama and Shekille Basins, where the company has established strong land positions.

While Canterra has placed a special emphasis on new oil exploration, it has remained company strategy to replace and add to the gas and sulphur inventories. The level of activity for these objectives will be significantly increased in 1985 principally through exploration in western Alberta, particularly as several sour gas projects which were delayed for environmental and regulatory concerns are expected to proceed in 1985.

## Production

As a result of increased royalty relief in the Rainbow field, together with new royalty incentive production from the company's various exploratory successes, Canterra's total 1984 after-royalty production increased by more than two per cent from 1983.

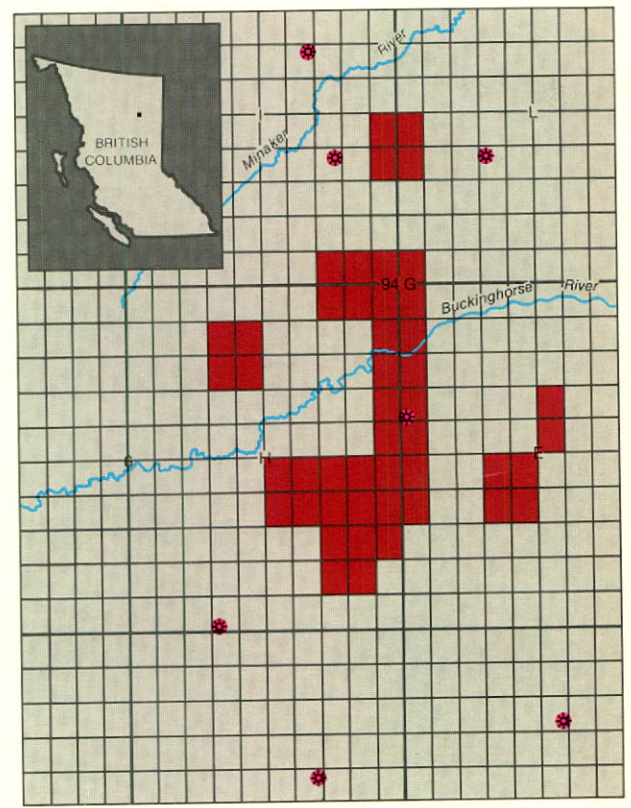
Several factors contributed to a slight decrease in the company's working interest share of Western Canada oil and natural gas liquids production which averaged 4,734 cubic metres per day during 1984. Some productivity decline was experienced in the Rainbow field when water breakthrough in one of the major pools resulted in temporary loss of production while wells were reworked



**Drayton Valley**

0 KILOMETRES 5

- Canterra interest lands
- 1984 wells
- Oil well
- ⊕ Gas well
- ⊛ Oil and gas well
- Location
- ⊖ Drilling
- ⊘ Suspended
- ⊙ Dry and abandoned



**Sikanni Chief**

0 KILOMETRES 5

- Canterra interest lands
- 1984 wells
- Oil well
- ⊕ Gas well
- ⊛ Oil and gas well
- Location
- ⊖ Drilling
- ⊘ Suspended
- ⊙ Dry and abandoned



and production restored. Additionally, reduced pipeline allocations in the second quarter resulted in reduced sales. Production was also reduced in the third quarter by a scheduled two-week turnaround of the Rainbow Lake plant to facilitate expansion tie-ins to accommodate the company's new enhanced oil recovery scheme at the Rainbow B pool.

Successful exploratory and development drilling during 1984 in the areas of Gift-Kyle, Slave, Medicine River, Ogston, Dizzy, Pouce Coupe, Bigoray, Mitsue and Swan Hills provided a year-end increase of 300 cubic metres per day of productive capacity.

The unit value of Canterra's oil production improved for the year with the proportion of production attracting NORP increasing from an average of 21 per cent in 1983 to an average of 35 per cent in 1984. At year-end the NORP production share had risen to approximately 44 per cent.

Canterra's working interest share of natural gas sales for 1984 increased two per cent over 1983 levels to 4,894 thousand cubic metres per day. This improvement in sales volumes together with an increase in the per-unit price and the volume of royalty-free gas sold combined to produce a six per cent gain in gas sales revenue over 1983 values.

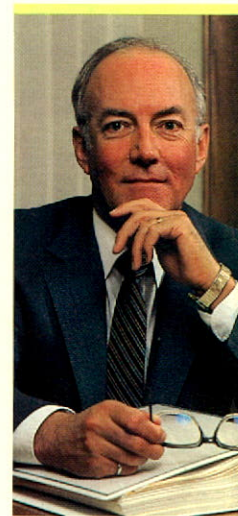
The company added a number of new gas sales during the year.

Production from purchased reserves in the Okotoks field commenced in November. Previously suspended wells in Delia, Benjamin Creek and Blue-ridge, Alberta and Osprey, British Columbia were tied in during the second quarter. Additional production also came from the Duchess field. A gas contract to sell to an industrial market in British Columbia was suc-

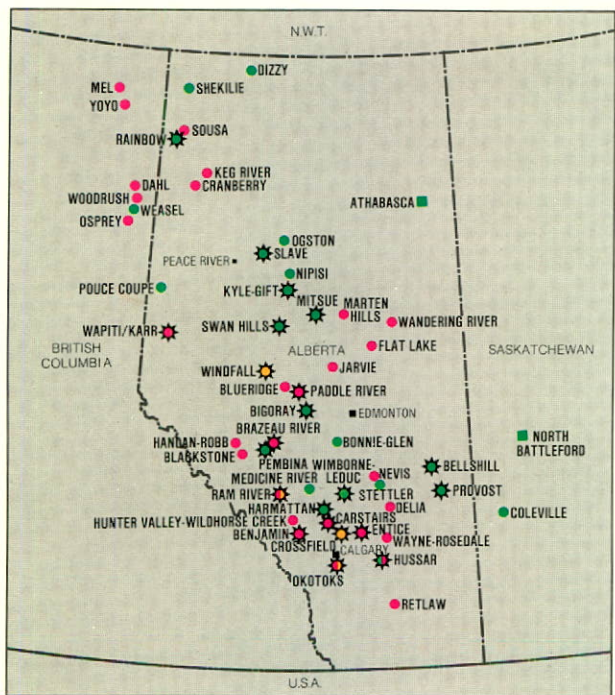
cessfully negotiated and deliveries commenced in the third quarter from the Yoyo and Woodrush fields. The new projects added more than 0.6 million cubic metres per day to company gas sales.

In the Ram River area, projects involving compression at Owl River, new Glauconite and Ostracod zone gas developments in the Strachan and Ricinus areas and compression at the Stolberg field were in progress late in 1984 and will be completed and placed on stream during 1985 to add further to the company's gas sales.

Canterra also processes and treats other companies' production. During 1984 processing income of \$24.4 million was up nine per cent from 1983.



Kenneth J. Fitzgerald  
Vice President  
Production  
Western Canada



### Producing Areas

#### Major Areas of Activity

★ Principal Producing Areas

● Oil ● Gas ● Sulphur

■ Pilot Plant

### Western Canada Oil and Gas Liquids Sales Volumes and Prices

(yearly)

|                | 1984                           |  | 1983                           |  |
|----------------|--------------------------------|--|--------------------------------|--|
|                | 10 <sup>3</sup> m <sup>3</sup> | Average Sales Price Per m <sup>3</sup> | 10 <sup>3</sup> m <sup>3</sup> | Average Sales Price Per m <sup>3</sup> |
| Rainbow Lake   |                                |  |                                |  |
| Before Royalty | 1 169                          | \$211                                  | 1 297                          | \$202                                  |
| After Royalty  | 826                            |  | 837                            |  |
| Other Canada   |                                |  |                                |  |
| Before Royalty | 563                            | \$198                                  | 529                            | \$187                                  |
| After Royalty  | 414                            |  | 376                            |  |
| Total          |                                |  |                                |  |
| Before Royalty | 1 732                          |  | 1 826                          |  |
| After Royalty  | 1 240                          |  | 1 213                          |  |

### Western Canada Gas Sales Volumes and Prices

(yearly)

|                | 1984                           |  | 1983                           |  |
|----------------|--------------------------------|--|--------------------------------|--|
|                | 10 <sup>6</sup> m <sup>3</sup> | Average Sales Price Per 10 <sup>3</sup> m <sup>3</sup> | 10 <sup>6</sup> m <sup>3</sup> | Average Sales Price Per 10 <sup>3</sup> m <sup>3</sup> |
| Ram River      |                                |  |                                |  |
| Before Royalty | 1 021                          | \$105  | 1 017                          | \$103  |
| After Royalty  | 713                            |  | 706                            |  |
| Other Canada   |                                |  |                                |  |
| Before Royalty | 770                            | \$100  | 736                            | \$ 98  |
| After Royalty  | 573                            |  | 542                            |  |
| Total          |                                |  |                                |  |
| Before Royalty | 1 791                          |  | 1 753                          |  |
| After Royalty  | 1 286                          |  | 1 248                          |  |



## Construction

The major construction project for the company in 1984 was the expansion of the Rainbow Lake processing plant. This expansion, required to increase gas capacity and natural gas liquids volumes for the Rainbow B pool and other local enhanced oil recovery schemes, was started in July and major plant tie-ins completed during the scheduled plant turnaround in September. The project is scheduled for completion in the first quarter of 1985.

In November gas gathering pipelines and wellsite facilities were completed, connecting the newly acquired Okotoks field gas reserves to the Okotoks plant. Production from these reserves began in November. As well, installation of new sales gas compression at the Okotoks plant was completed in August and the units were commissioned in November when the planned increase in sales gas line operating pressure occurred.

Several smaller projects including gas compression for the Stolberg gas gathering system and compression and wellsite facilities to connect two

new sweet gas wells to the Ram River plant were started late in 1984. These projects will be completed and on line in the first half of 1985.

## Enhanced Oil Recovery

The Rainbow Keg River B Pool tertiary hydrocarbon miscible flood (Canterra 48.5 per cent working interest) received Alberta Energy Resources Conservation Board (ERCB) approval in June 1984. The approval recognized an ultimate recovery factor for the pool of 71.6 per cent which corresponds to 10.2 million cubic metres (gross) of additional recoverable reserves from the Rainbow B pool. Solvent injection began as soon as ERCB approval was received. Five new wells were drilled in the pool, resulting in eight injectors and 19 producers. Horizontal spreading of the solvent to form a uniform blanket in the crestal region continued for the remainder of the year and will be supplemented by additional solvent injection during the next 5½ years. Thereafter, the solvent bank will be chased with lean gas. Oil and water production continue to be closely

monitored to ensure that a tertiary oil bank in the water swept zone is properly formed and preserved.

Canterra is currently evaluating the tertiary potential of the several other Keg River reef pools in the Rainbow area. As well, a number of pools in Bigoray, Alberta and Weasel, British Columbia have been identified as enhanced recovery candidates.

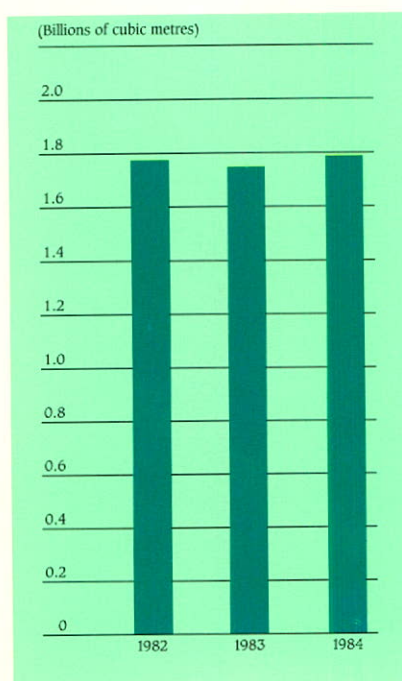
## Sulphur

### Business Environment

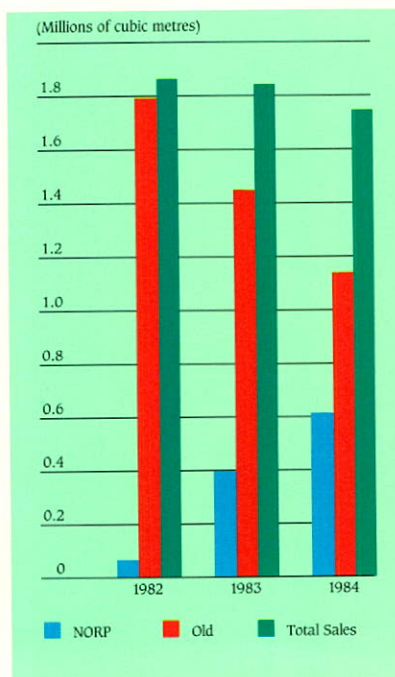
The recovery in sulphur markets which emerged in late 1983 strengthened during 1984 and provided the basis for increased prices and sales volumes for the Western Canadian sulphur industry in 1984.

Global consumption of elemental sulphur, primarily in the phosphatic fertilizer industry, increased by nine per cent during 1984. Although production increased as well, almost four million tonnes of block inventories, equivalent to about 10 per cent of global consumption, were required to

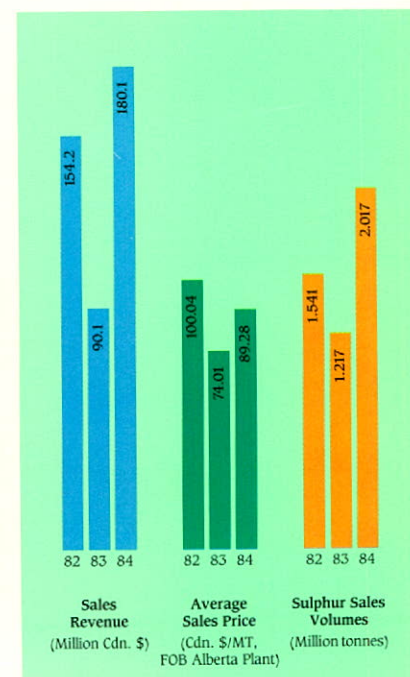
Gas Sales



Oil and Gas Liquids Sales



Sulphur Sales





balance supply available from production with demand. This higher demand for sulphur and the need for inventory withdrawals resulted in a large increase in the Canadian volume and share of export markets.

Shipments by the Western Canadian sulphur industry in 1984 totalled 8.4 million tonnes compared with 6.4 million tonnes in 1983 and the previous record volume of 8.2 million tonnes, shipped in 1981. The volume of shipments in 1984 resulted in the reduction of Western Canadian inventories by 2.8 million tonnes, leaving year-end inventories at less than 12 million tonnes, the lowest since 1973. Inventories have been drawn down for six consecutive years since 1979.

International contract sulphur prices followed the upward movement in spot prices in the latter part of 1983 and contract prices were increased nominally in the first half of 1984. As the demand for sulphur and Canadian supplies intensified, spot prices increased further and a \$19 U.S. per tonne increase in international prices was effected for the second half of

the year. Prices in the North American market also improved with the U.S. Frasch industry and Canterra implementing three price increases during the year. The benchmark Vancouver spot price moved from a low of \$82 U.S. per tonne in the third quarter of 1983 to \$140 U.S. per tonne by year-end 1984.

## Operations

As a result of operating at only 60 per cent of supply capability in 1983, Canterra was well positioned to use this excess capacity and take advantage of improved markets and prices in 1984.

Sales volumes during 1984 exceeded two million tonnes which represented a 66 per cent increase over 1.2 million tonnes in 1983. Sales into the North American market reflected the full year's effect of a large sales contract initiated in late 1983, while offshore sales volumes reflected the increased demand for Canadian sulphur in international markets, particularly in the second half of the year. Canada improved its share of the export trade and Cansulex, the producer-owned

marketing organization which markets sulphur on behalf of Canterra and 19 other Alberta sulphur producers in the offshore market, showed an increased market share against both Canadian and international competitors.

The average sales price received by Canterra increased by 21 per cent during the year, in line with price increases implemented by Canterra and Cansulex. These higher prices combined with higher volumes to produce sales revenues of \$180 million, a \$90 million or 100 per cent increase over 1983 results.

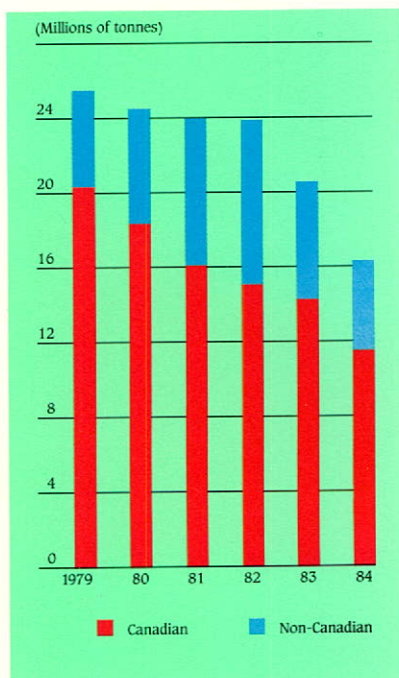
The level of sales volumes in 1984 necessitated a major reduction in Canterra sulphur block inventories during the year. Remelting operations at Ram River were re-started in March 1984 following a 19 month shutdown, and were operated at high rates for the last half of the year. Total inventory withdrawals at all Canterra plants amounted to 830,000 tonnes in 1984, a major reversal from 1983 when some 19,000 tonnes were added to inventories.

Canterra's 1984 year end proved reserves of sulphur totalled 14.3 million



**D. Michael Stewart**  
Vice President  
Corporate Development and  
Marketing

## World Sulphur Inventories



## 1984 Sulphur Operations

|  | 1984             | 1983             |
|--|------------------|------------------|
| Sales Volumes (tonnes)                           |                  |                  |
| Canada   | 164 000          | 88 000           |
| U.S.   | 313 000          | 121 000          |
| Offshore   | 1 526 000        | 987 000          |
| Other  | 14 000           | 21 000           |
| <b>Total</b>                                     | <b>2 017 000</b> | <b>1 217 000</b> |
| Sales Revenues (million C\$)                     | 180.1            | 90.1             |
| Average Sales Price (C\$/tonne, FOB Alta. Plant) | 89.28            | 74.01            |
| Source of Supply (tonnes)                        |                  |                  |
| Production                                       | 805 000          | 820 000          |
| Purchases  | 382 000          | 416 000          |
| Net Inventory Withdrawal                         | 830 000          | (19 000)         |
| <b>Total</b>                                     | <b>2 017 000</b> | <b>1 217 000</b> |
| Year End Inventories (tonnes)                    | 3 954 000        | 4 631 000        |
| Year End Proved Reserves (tonnes)                | 14 275 000       | 15 700 000       |



tonnes of which 3.9 million tonnes were in above-ground inventories.

### Outlook

Sulphur consumption in all sectors is expected to grow further in 1985 in line with global economic conditions. No major additional sources of production are expected to be brought on stream in 1985 so there will be continued withdrawals from inventories to balance supply to demand. Offshore demand for Canadian sulphur is expected to increase further in 1985 and has already resulted in contract prices being increased by US \$20 per tonne for the first half of the year.

## Research and Development

The company continued an active program of research and development to assist in both its exploration and production activities. Areas of particular interest include sour gas production, reservoir fluid flow, enhanced oil recovery processes, heavy oil and tar sands production techniques (discussed further under heavy oil and tar sands), corrosion, mineralogical studies, sedimentary rock age dating, geophysical processing and computer-aided graphics.

Because Canterra is a leader in enhanced oil recovery techniques, particularly in the area of vertical miscible flooding, the company continues an active research program to further knowledge in this area and to help solve day-to-day operating problems. In particular, the company is studying means to prevent the formation of asphaltenes near the producing wellbore areas. This is a problem which reduces production through plugging and is unique to fields which are under miscible flood recovery using light hydrocarbon driving fluids.

As a major producer and supplier of sulphur, the company has developed particular expertise in the handling of hydrogen sulphide from which sulphur is recovered. In an effort to expand sulphur reserves, the company is actively engaged in studying the many challenges which can limit the recovery of very sour (over 50 per cent H<sub>2</sub>S) natural gas from the reservoir. Such studies cover furthering an understanding of sour gas phase behaviour, development of wellbore materials to withstand the corrosive nature of sour gas and the development and application of sulphur

solvents to assist in producing sulphur from the reservoir.

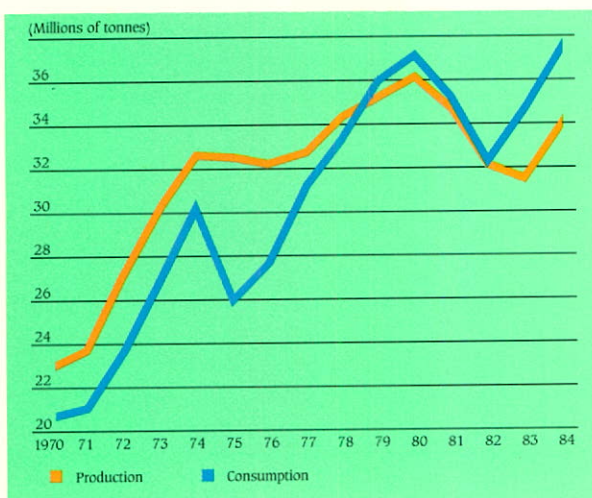
Geological and geophysical research is directed primarily to improving the company's understanding of the deposition and make-up of sedimentary formations which will aid the exploration process in the search for oil and natural gas traps.

Canterra is also actively involved in computer-aided graphics to assist its engineers and explorationists. In this area, Canterra has worked on furthering the means by which graphical presentations can aid professionals to understand the massive amounts of data they must synthesize to handle the day-to-day work in exploring for and producing oil and gas.

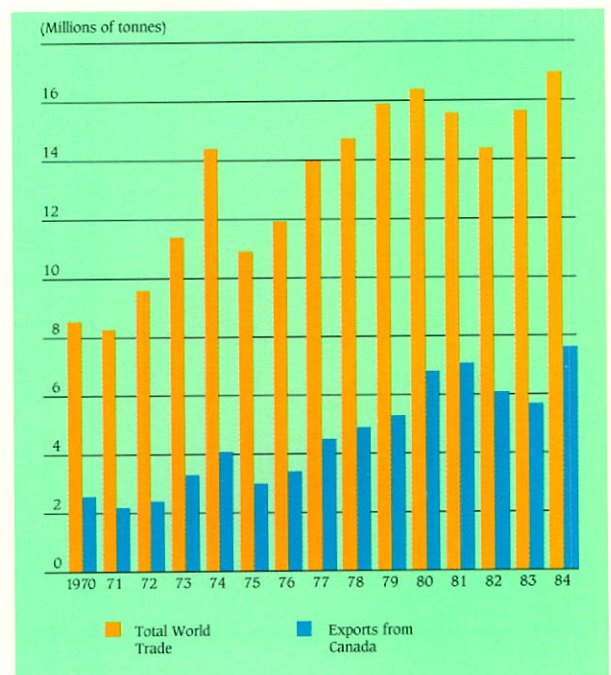
## Reserves

The 1984 year-end proved reserves of Canterra, after deduction of royalties, were 13.3 million cubic metres of oil and gas liquids, 27.9 billion cubic metres of natural gas and 12.9 million tonnes of sulphur.

Global Sulphur Production/Consumption



Global Sulphur Export Trade





Reserves of oil and gas liquids as at December 31, 1984 increased by more than 12 per cent compared with the 1983 total of 11.8 million cubic metres. Natural gas reserves increased one per cent to 27.9 billion cubic metres. Sulphur reserves, however, declined nine per cent to 12.9 million tonnes.

Discoveries, purchases, new miscible floods and re-appraisals of reservoir performance in several oil and gas pools have resulted in the company replacing approximately 130 per cent of the 1984 production of crude oil, natural gas liquids and natural gas, on an oil-equivalent basis.

At December 31, 1984, the company's total proved reserves of oil and gas before royalty on an oil equivalent\* basis were 57.9 million cubic metres, representing a two per cent increase over 1983 totals.

## Oil and Gas Liquids

Discoveries in the Gift-Kyle, Slave, Dizzy and Ogston areas of Alberta added approximately 0.6 million cubic metres of oil reserves. Other discoveries

were made in the Muskeg formation at Rainbow and in Coleville, Clarilaw and Manor, Saskatchewan. A tertiary hydrocarbon miscible flood was implemented in the Rainbow Keg River B Pool, increasing proved reserves by 0.9 million cubic metres of oil. Based on 1984 production rates, the company's reserve index for oil and gas liquids is 10.3 years.

## Natural Gas

Major gas discoveries were made at Sikanni, British Columbia and in the Grande Prairie and Pembina areas of Alberta. In total, gas discoveries added 0.7 billion cubic metres of reserves. A major acquisition in the Okotoks-Chestermere area also resulted in a significant increase in proved gas reserves. At 1984 production rates, the reserve life index for natural gas is 20.8 years.

## Sulphur

Sulphur reserves in excess of 0.4 million tonnes were added to the year-end total as a result of the Okotoks-Chestermere acquisition.

## Outlook

In general, industry oil and gas production is expected to show continued growth during 1985 as markets improve. This climate should allow the company to improve its production of natural gas as present deliverability exceeds market demand. Oil production increases are not expected, as the company continues to experience production declines at its major mature properties in the Rainbow field. However, new discoveries and enhanced oil recovery schemes should significantly offset these normal production declines. Deregulation of crude oil prices is expected to improve the company's revenue generation as 55 per cent of its crude production would move from present conventional old production prices of \$187 per cubic metre to world prices.

Gas prices, on the other hand, may decline as deregulation of export prices continues to force price concessions. Overall, it is felt that increased sales will offset these price declines on a revenue basis.



Kenneth J. MacRae  
Vice President  
Heavy Oil and Tar Sands

## Heavy Oil and Tar Sands

Testing at Canterra's two steam pilot projects continued to show encouraging results during the year.

Canterra is developing technology for commercial recovery of bitumen and heavy oil from two company-operated in situ steam field tests: one in the Athabasca region of north-eastern Alberta and the other near North Battleford, Saskatchewan.

The Athabasca pilot project (Canterra working interest 38.25 per cent), on a 19,770 hectare lease 110 km northeast of Fort McMurray, contains approximately 1,700 million cubic metres of bitumen-in-place. Of that amount, about 900 million cubic metres are surface mineable and 800 million cubic metres can be exploited using steam in situ recovery processes such as the one being tested by the pilot project.

### Western Canada Proved Reserves

|                            | Oil and Gas Liquids      |       | Natural Gas              |       | Sulphur            |       |
|----------------------------|--------------------------|-------|--------------------------|-------|--------------------|-------|
|                            | Gross                    | Net   | Gross                    | Net   | Gross              | Net   |
|                            | Millions of cubic metres |       | Billions of cubic metres |       | Millions of tonnes |       |
| Proved Reserves at         |                          |       |                          |       |                    |       |
| 1983-12-31 . . . . .       | 16.2                     | 11.8  | 37.7                     | 27.7  | 15.7               | 14.2  |
| Revisions . . . . .        | 2.3                      | 1.9   | 0.7                      | 1.0   | 0.6                | 0.4   |
| Production/Sales . . . . . | (1.7)                    | (1.2) | (1.8)                    | (1.3) | (2.0)              | (1.7) |
| Discoveries . . . . .      | 1.0                      | 0.8   | 0.7                      | 0.5   | 0.0                | 0.0   |
| Proved Reserves at         |                          |       |                          |       |                    |       |
| 1984-12-31 . . . . .       | 17.8                     | 13.3  | 37.3                     | 27.9  | 14.3               | 12.9  |
| Proved & Risked            |                          |       |                          |       |                    |       |
| Probable Reserves          |                          |       |                          |       |                    |       |
| at 1983-12-31 . . . . .    | 19.4                     | 14.4  | 40.0                     | 30.0  | 15.7               | 14.2  |
| Revisions . . . . .        | 1.1                      | 0.8   | 3.0                      | 2.2   | 0.8                | 0.6   |
| Production/Sales . . . . . | (1.7)                    | (1.2) | (1.8)                    | (1.3) | (2.0)              | (1.7) |
| Discoveries . . . . .      | 1.2                      | 0.9   | 1.2                      | 0.9   | 0.0                | 0.0   |
| Proved & Risked            |                          |       |                          |       |                    |       |
| Probable Reserves at       |                          |       |                          |       |                    |       |
| 1984-12-31 . . . . .       | 20.0                     | 14.9  | 42.4                     | 31.8  | 14.5               | 13.1  |

\*Note: 930 cubic metres of gas equals one cubic metre of oil equivalent



Canterra is testing a proprietary modified steam drive recovery process developed by the company and its partners. The results of the pilot, which began operation in 1981, are promising. Bitumen production totalled 8,600 cubic metres (gross) during 1984, an increase of about 70 per cent over 1983. A second pattern is scheduled for start-up in early 1985 which should more than double the current production rate.

The Alberta Oil Sands Technology and Research Authority (AOSTRA), which joined the pilot in 1983 with a working interest of 12.5 per cent, has since increased its working interest to 25 per cent.

The North Battleford pilot (Canterra working interest 33.33 per cent), on joint interest lands in which several pools with significant reserves have been identified, is testing a cyclic

steam stimulation followed by a steam drive recovery process. In 1984, the facility produced about 32,500 cubic metres of oil gross, an increase of 32 per cent over 1983. A further increase in production is expected in 1985 as the steam drive phase of the operation improves rates and allows producers to remain on continuous production.

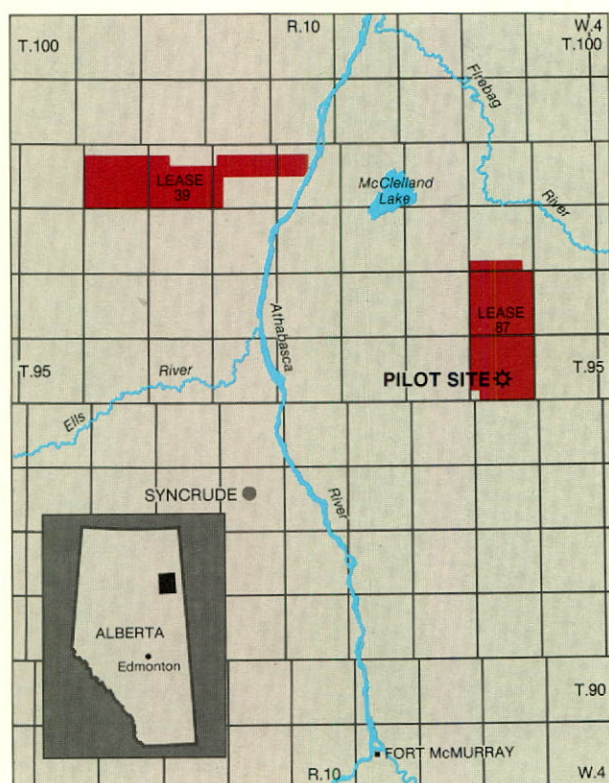
Commercial plant technical and economic feasibility studies completed in 1984 for both pilots indicated that commercial plants in both areas are technically and economically viable. Further testing at both pilots is needed to confirm the results of the feasibility studies. If technology development continues at the current pace, both areas have the potential for commercial capacity of 800 to

1,600 cubic metres per day for 22 to 25 years.

## Outlook

Within Western Canada, considerable interest is being expressed in developing heavy oil and tar sands properties; 1985 is expected to show considerable activity in this area, mainly due to improvements in fiscal regimes. Mini projects are expected to continue to prevail as operators continue to capitalize on favourable results of pilot projects which have been in operation for some time.

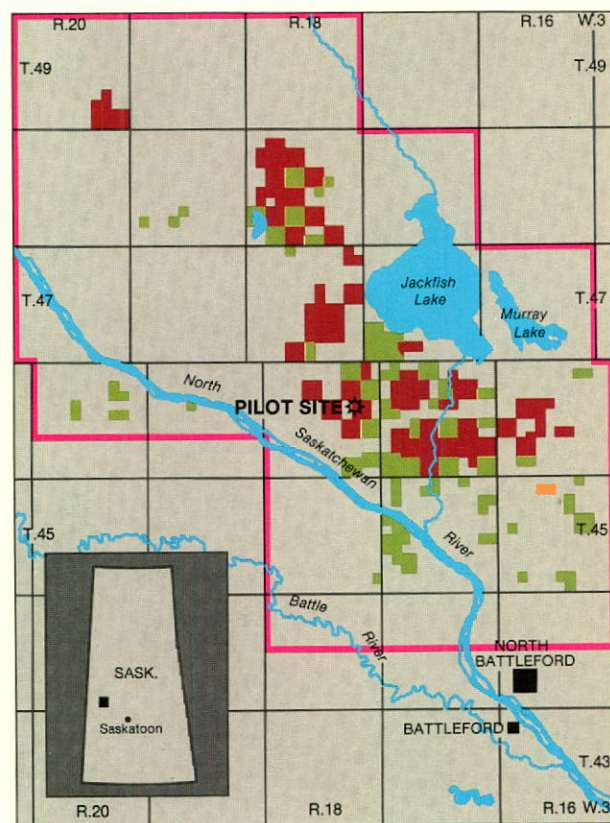
Existing under-utilized capacity in the service and supply sector are expected to shift resources to capitalize on this activity and therefore no significant cost increases are anticipated.



**Athabasca Tar Sands Holdings**

■ Canterra interest lands

0 KILOMETRES 20



**Saskatchewan Heavy Oil Holdings**

Canterra Interest Lands

- Total Crown (100% Net Mineral Interest)..... 12,727 Hectares
- Total Freehold (100% Net Mineral Interest)..... 9,618 Hectares
- Total Freehold (50% Net Mineral Interest)..... 130 Hectares
- Area of Mutual Interest

0 KILOMETRES 10





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## Canada Frontier Exploration and Production

Canterra's first operated offshore oil discovery, Beothuk M-05, flowed at a maximum rate of 1,432 barrels of oil per day.



## Business Environment

The Canadian frontier experienced its most active year in history as the full impact of Exploration Agreement validation and major farm-in commitments by Canadian companies came into play.

As exploration and delineation drilling programs progress, it has become evident that the high cost of exploration and development and the projected softness in world prices will require a concerted joint effort by industry and government to reduce the high costs of exploration, development and front end fiscal takes if the discoveries are to be brought to commerciality.

## Operations

As in 1983, Canterra was again involved in 18 exploratory wells in frontier areas during the past year and its efforts were rewarded with the discovery of oil and gas in its selected areas of investment off Newfoundland and Nova Scotia. The company successfully carried out two of the drilling operations itself.

Gratifying as the early success of the company's farm-in exploration efforts may be with discoveries at Glenelg in 1983 and Terra Nova and Alma in 1984, the structural and stratigraphic complexities of the Avalon Basin and the Scotian Shelf will require considerable delineation work before the economic merit of these discoveries can be ascertained.

Canterra invested \$92 million in capital expenditures on frontier exploration during 1984 and received \$71 million in PIP grants. The areas off Newfoundland and Nova Scotia absorbed 80 per cent of this expenditure, a further shift from the 1983 figure of 58 per cent and further evidence of the company's preference for areas south of 50° latitude, which are expected to produce an earlier return on investment than more northerly areas.

## Land

Various working interests in approximately 5.9 million hectares (1.3 million net hectares) were maintained by Canterra in 1984 in Canada's frontier areas. The substantial reduction from 1983 levels is largely due

### Canterra Land Holdings—Frontier at Year End 1984 and 1983 (Thousands of Hectares)

| Area Name            | 1984          |                |              |              |
|----------------------|---------------|----------------|--------------|--------------|
|                      | Gross         |                | Net          |              |
| Arctic               | 390           | (277)          | 86           | (19)         |
| Beaufort             | 736           | (60)           | 182          | (1)          |
| NWT/Yukon            | 413           | (18)           | 284          | (5)          |
| Labrador Sea         | 3 904         | (—)            | 707          | (—)          |
| Grand Banks          | 240           | (177)          | 17           | (22)         |
| Nova Scotia Offshore | 193           | (2 668)        | 19           | (294)        |
| Flemish Pass         | —             | (672)          | —            | (37)         |
| Total                | <u>5 876</u>  | <u>(3 872)</u> | <u>1 295</u> | <u>(378)</u> |
| Area Name            | 1983          |                |              |              |
|                      | Gross         |                | Net          |              |
| Arctic               | 372           | (295)          | 84           | (32)         |
| Beaufort             | 708           | (39)           | 182          | (1)          |
| NWT/Yukon            | 426           | (—)            | 285          | (—)          |
| Labrador Sea         | 10 142        | (—)            | 2 004        | (—)          |
| Grand Banks          | 52            | (392)          | 5            | (39)         |
| Nova Scotia Offshore | 139           | (3 911)        | 11           | (482)        |
| Total                | <u>11 839</u> | <u>(4 637)</u> | <u>2 571</u> | <u>(554)</u> |

( ) Approximate land in which Canterra has the right/obligation to earn an interest.

### Exploratory Wells

(At year end 1984)

| Well Name                     | Cost Interest % | Working Interest % | Net Well | Status/Results |
|-------------------------------|-----------------|--------------------|----------|----------------|
| Dome et al Siulik I-05        | 5.000           | 2.500              | .03      | D&A            |
| Gulf et al Kogyuk N-67        | 9.520           | 14.670             | .15      | D&A            |
| Gulf et al Akpak P-35         | 10.000          | 20.000             | .20      | Dr./Susp.      |
| Esso PCI Home et al           |                 |                    |          |                |
| Amerk O-09                    | 4.290           | 2.145              | .02      | Drilling       |
| Esso Home et al               |                 |                    |          |                |
| Nipterk L-19                  | 4.290           | 2.145              | .02      | Drilling       |
| Panarctic et al               |                 |                    |          |                |
| Sherard Bay F-34              | 20.669          | 10.334             | .10      | D&A            |
| Petro-Canada et al            |                 |                    |          |                |
| Corte Real P-85               | 7.420           | 11.440             | .11      | D&A            |
| Petro-Canada et al            |                 |                    |          |                |
| Terra Nova K-08               | 20.835          | 8.334              | .08      | Oil            |
| Petro-Canada et al            |                 |                    |          |                |
| Terra Nova K-18               | 8.333           | 8.334              | .08      | D&A            |
| Husky Bow Valley              |                 |                    |          |                |
| Voyager J-18                  | 9.000           | 4.500              | .05      | D&A            |
| Canterra PCI et al            |                 |                    |          |                |
| Port au Port J-97             | 25.002          | 12.500             | .13      | D&A            |
| Canterra et al Beothuk M-05   | 25.002          | 12.500             | .13      | Testing        |
| Mobil et al North Dana I-43   | 20.000          | 10.000             | .10      | Gas            |
| Shell PCI et al Uniacke G-72  | 30.000          | 15.000             | .15      | Gas            |
| Shell PCI et al Alma F-67     | 22.000          | 11.000             | .11      | Gas            |
| Shell PCI et al South         |                 |                    |          |                |
| Desbarres O-76                | 30.000          | 15.000             | .15      | D&A            |
| Shell PCI et al Glenelg E-58A | 30.000          | 17.375             | .17      | Gas            |
| Shell PCI et al Glenelg H-38  | 28.000          | 18.969             | .19      | Drilling       |
| Total: 18 wells (1.97 net)    |                 |                    |          |                |
| 1 oil                         |                 | (.08 net)          |          |                |
| 4 gas                         |                 | (.53 net)          |          |                |
| 8 D&A                         |                 | (.80 net)          |          |                |
| 5 drilling or suspended       |                 | (.56 net)          |          |                |



to mandatory relinquishments of lands at the mid-term point of a number of Labrador offshore Exploration Agreements.

In addition, Canterra has the right and obligation to earn an interest in an additional 3.9 million hectares and the option to earn interest in a further 740,000 hectares, the latter mostly on the mainland of the North-west Territories.

During the last year Canterra concluded three farm-in agreements. One is in the Flemish Pass area, where the company will earn an interest in 672,000 hectares contained in a large, relatively unexplored basin which harbours a number of attractive prospects. Canterra will pay 11 per cent of the cost of two exploratory wells.

The second farm-in involves lands at Tweed Lake, north of Norman Wells, N.W.T., in which the company can—in stages—earn an interest in 660,000 hectares by paying 50 per cent of exploration costs.

Finally, the company assumed a 4.29 per cent cost interest in the Amerk and Nipterk prospects (Beaufort Sea). All of these recent farm-ins will be tested by exploratory wells during 1985.

In total, the company participated in 43 Exploration Agreements on Canada Lands in 1984, either through farm-in, working interest ownership, or options.

### Exploration

The frontier wells in which Canterra participated during 1984 resulted in one oil discovery and four which found gas, while eight wells were abandoned. Five wells were still drilling at year end or were suspended until the summer season. The exploratory wells table presents basic data on these wells.

Canterra added 67,700 km of seismic data to its data base during the year, mostly through purchase, but also through programs conducted by groups in which it is a partner. Such programs included detailed so-called 3-D surveys over the discovery areas at Terra Nova (Grand Banks) and at Glenelg (Scotian Shelf).

### Beaufort Sea

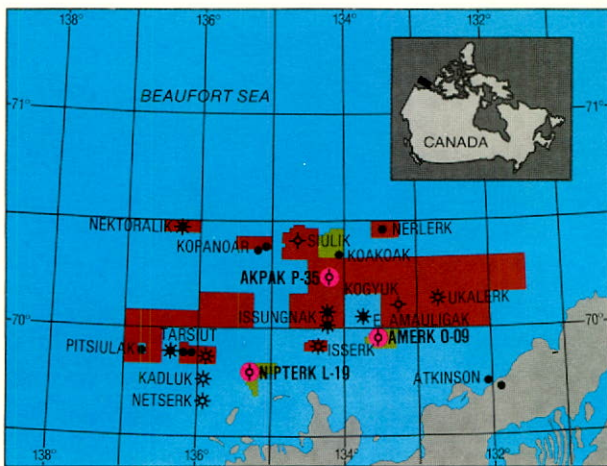
Canterra participated in five Beaufort Sea wildcats in 1984. The Siulik I-05 and Kogyuk N-67 wells failed to find significant amounts of hydrocarbons and were abandoned.

Akpaq P-35 is a new exploratory test 25 km north of Issunguak in which Canterra has chosen to reduce its cost interest to 10 per cent through farm-out. The well, which spudded in October, will be re-entered during

**“The results from the Grand Banks and Scotian Shelf give us cause for encouragement.”**

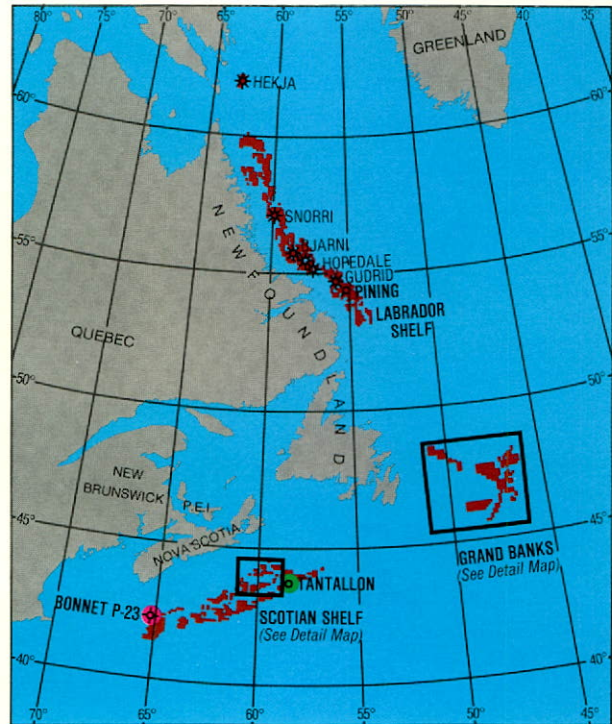


**William L. Kaufmann**  
Senior Vice President  
Exploration and Production  
Frontier Canada  
President  
Canterra Petroleum Inc.



### Beaufort Sea

- Canterra interest lands
- Lands in which Canterra may earn an interest
- 1984 Canterra participation wells
- Oil well
- Gas well
- Oil and gas well
- Location
- Drilling
- Suspended
- Dry and abandoned



### East Coast Offshore

- Canterra interest lands/Lands in which Canterra may earn an interest
- Future location
- 1984 Canterra participation wells
- Oil well
- Gas well
- Oil and gas well
- Location
- Drilling
- Suspended
- Dry and abandoned



the summer season of 1985. It is testing a play type different from those usually found in the area.

Canterra is paying 4.29 per cent to earn a 2.15 per cent interest in two Beaufort Sea prospects currently drilling, Amerk O-09 and Nipterk L-19.

### Arctic Islands

Sherard Bay F-34, the second deep test well under a farm-in agreement involving lands on the central Sabine Peninsula, was abandoned after finding no significant reservoir. The partners decided to cut short the original four-well program and demobilized the drilling rig.

### Labrador Sea

Except for the routine abandonment of the Corte Real P-85 well spudded in 1981, no drilling took place in 1984 on the Labrador Shelf. The Labrador Group, in which Canterra has a 17.1 per cent interest, negotiated the required acreage reductions with the federal

authorities. Canterra also reduced its holdings at Baffin-Labrador and at Hopedale. The general area harbours a number of important gas and condensate discoveries on lands in which Canterra has an interest and which are all retained under Significant Discovery status.

### Grand Banks

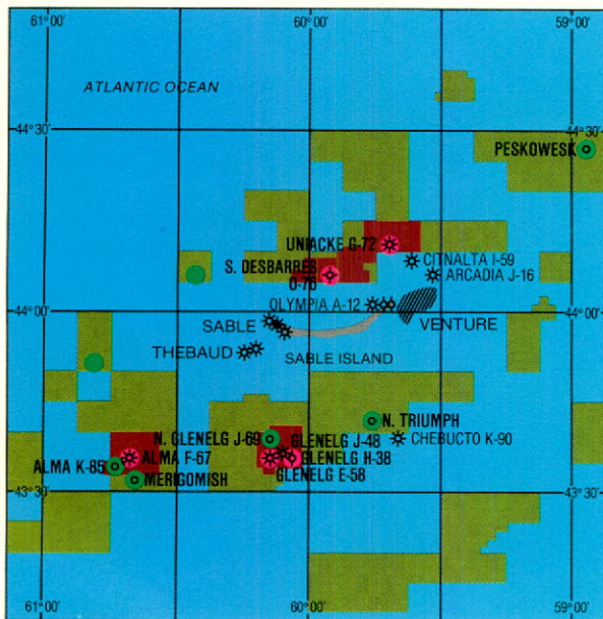
Under a farm-in agreement negotiated in 1983, Canterra participated in four commitment wells in the South Hibernia area 35 km southeast of the Hibernia oil field. Two of the wells were operated by the company. The first commitment well, Terra Nova K-08, reached total depth at 4 500 metres. Four significant drill-stem tests resulted in flows of 33.4° API oil at rates of 124, 187, 597 and 832 cubic metres per day respectively, all on one-inch chokes. The first delineation well to this discovery was Terra Nova K-18, two km west of K-08 across a major fault. It failed to

find hydrocarbons. The second delineation well, Beothuk M-05, Canterra-operated, spudded in November and oil indications were being evaluated early in the new year.

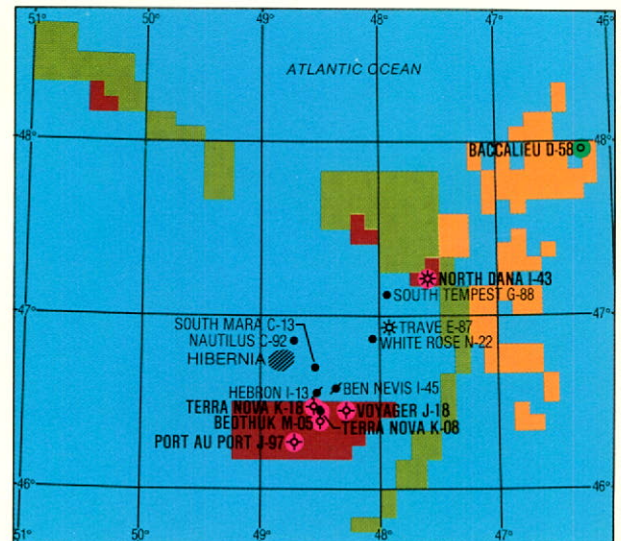
Two other wells on the farm-in lands tested the occurrence of stratigraphic traps in the area. Both of these wells, Voyager J-18 and Port au Port J-97, were abandoned during the summer. The Port au Port well was operated by Canterra.

### Nova Scotia Offshore

The nine well farm-in program through which Canterra is generally earning a 15 per cent interest in seven Exploration Agreements started in 1983 with the discovery of gas at Glenelg and at Uniacke. In 1984 the Uniacke well was completed after a blowout was brought under control and drilling proceeded at Alma F-67. This well tested gas from a number of drillstem tests at rates of 522 000, 319 000 and 846 000 cubic metres



### Scotian Shelf



### Grand Banks





per day respectively without depletion, with condensate flows ranging from 34 to 70 cubic metres per day. The discovery is located 60 km southwest of Sable Island. A delineation well will start in 1985.

Delineation drilling commenced in 1984 at the Glenelg discovery. The E-58 and its sidetrack E-58A produced gas on production tests at rates up to 659 000 and 310 000 cubic metres per day. No water was recovered, but the first test flowed 62 cubic metres per day of condensate. While this well was three km to the west of the J-48 discovery well, the next delineation well southeast of Glenelg H-38 was located two and one-half km to the east. The well was being evaluated early in 1985 but indications are that it may be dry.

## Production

The Frontier Production Department supports Canterra's frontier exploration efforts through engineering feasibility

studies and operations.

The development group evaluates the development potential of discoveries and provides technical and economic input into the planning process and maintains awareness of the rapidly developing technical aspects of offshore production schemes.

The drilling group is specialized in the complex task of offshore drilling operations. It followed its good 1983 performance with the Port au Port J-97 and Beothuk M-05 operations on the South Hibernia block in 1984 which were carried out ahead of schedule and within budget. Based on its performance on four offshore wells over the past two years, the company has built a reputation as an efficient and capable offshore operator.

## Outlook

Canterra expects to participate in some 18 wells in Canada Lands in 1985. While the company's renewed interest in the Northwest Territories

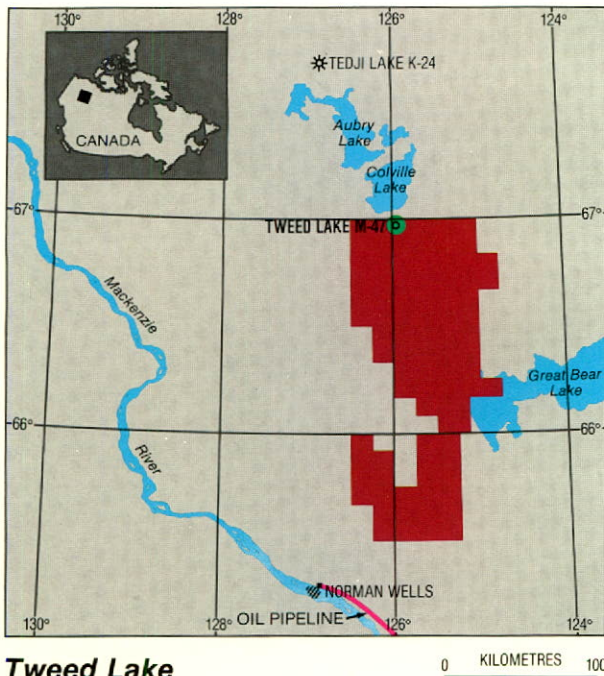
will be highlighted by the drilling at Tweed Lake, the greatest part of company activity will again be focused on the Grand Banks and Scotian offshore areas where it is believed that the best opportunities exist for relatively early production revenue.

The company is looking to the resumption of exploration in the Flemish Pass Basin where it will have an 11 per cent interest in the Baccalieu well, while pursuing further farm-in opportunities in the more familiar Avalon Basin. Canterra expects to be able to continue employing its expertise as an offshore operator in some of these areas.

Of prime interest will be the further delineation of the discoveries made at Terra Nova and on the Scotian Shelf. Additional drilling is planned in both areas, and a well at Alma is already under way. However, there are similar and other prospects yet to be evaluated and the company anticipates pursuing these opportunities at an early date.



R. George Scott  
Vice President  
Production  
Frontier Canada





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## International



A barge pulls equipment to do well servicing work on Canterra's discovery well in the North Deep Lake field in Cameron Parish, Louisiana.



# U.S. Oil & Gas

## Business Environment

After a dramatic decrease from its peak in activity in 1981, the United States oil and gas industry appears to have recovered somewhat from 1983 levels with the daily active drilling rig count averaging 2,425 in 1984, up from 2,232 in 1983.

Faced with an excess of domestic gas deliverability and continued decline in oil prices, the industry has had to adjust to a new economic environment. Specifically, with less capital available, industry has become more discriminating in its investments.

Canterra has reacted to these conditions by reducing expenses and maximizing profitability by means of effective cost controls and careful scrutiny of investment opportunities.

## Exploration

In 1984, Canterra focused its exploratory efforts in two major areas of the United States.

The Miocene trend of the Gulf Coast became a major area of exploration because of substantial reserve possibilities, immediate cash flow and the company's anticipation of an improving U.S. gas market.

On a selective basis, the Williston Basin of North Dakota and Montana continued to be a main area of activity for the company's oil exploration.

Additionally, the company participated in exploratory drilling in southwest Wyoming, southeast Colorado, and in southwest Louisiana on the Mecom Ranch.

## Drilling Activity

Canterra's 1984 drilling program resulted in nine (net 2.21) oil wells, five (net 1.25) gas wells, and 11 (net 2.74) abandoned wells for an overall success ratio of 55.8 per cent.

In addition, 33 exploratory wells were drilled at no cost to the company resulting in one gas well and 14 oil wells.

## Williston Basin

The delineation and development of several new oil pools on company lands in the Williston Basin resulted in 11 new oil wells producing from the Mississippian, Devonian, and Ordovician formations. These wells added approximately 60 cubic metres of oil per day resulting in an increase of approximately 14 per cent in the company's production base and an increase in proved reserves of eight per cent.

## Gulf Coast

The development of the 1983 gas discovery in the North Deep Lake Field (Fifteen-Three Prospect) in Cameron Parish, Louisiana was commenced in 1984 with the drilling of one additional well. The successful completion of

this well in the Miocene trend resulted in an upward revision of the company's proved reserves by approximately 11 per cent. Both wells in the North Deep Lake Field are now on production, producing at a combined rate of 450,000 cubic metres of gas per day (45 per cent working interest), thereby significantly enhancing the company's gas productivity.

## Land

The company's land holdings total 938,085 gross (225,877 net) hectares of which 90 per cent are located in Montana and North Dakota. The majority of these lands are Burlington Northern Railroad leases which expire at the end of 1985.

## Production

Canterra's production of oil and natural gas liquids in the United States decreased in 1984 by approximately 15 per cent to an average daily rate of 375 cubic metres. The decline was minimized by a successful well workover, recompletion and production optimization program and production additions from exploratory successes.

Natural gas production of 275,000 cubic metres per day was up four per cent from 265,000 cubic metres per day in 1983. An aggressive gas marketing effort in a very competitive market resulted in the production of



Douglas K. Thompson  
Executive Vice President  
Canterra Petroleum Inc.



## Major Areas of Activity

Principal Producing Properties    ● Oil    ▲ Gas  
Major Areas of Exploration       ▲ Oil    ▲ Gas

## Land Holdings (Thousands of Hectares)

| State        | 1984       |            | 1983         |            |
|--------------|------------|------------|--------------|------------|
|              | Gross      | Net        | Gross        | Net        |
| Colorado     | 32         | 5          | 38           | 5          |
| Kansas       | 19         | 4          | 18           | 4          |
| Louisiana    | 12         | 1          | 14           | 2          |
| Mississippi  | 4          | 1          | 4            | 1          |
| Montana      | 627        | 157        | 732          | 179        |
| Nebraska     | 24         | 16         | 44           | 19         |
| North Dakota | 193        | 37         | 171          | 44         |
| South Dakota | 4          | 1          | 15           | 4          |
| Texas        | 16         | 3          | 34           | 5          |
| Wyoming      | 7          | 1          | 23           | 5          |
| <b>Total</b> | <b>938</b> | <b>226</b> | <b>1 093</b> | <b>268</b> |



new reserves as well as maintenance of existing production at approximately contract quantity levels.

The average sales price of oil and gas liquids decreased by eight per cent, from \$185 (U.S.) per cubic metre in December, 1983 to \$171 (U.S.) per cubic metre in December, 1984. The decline in price was a result of a worldwide oversupply of crude

oil and downward pressure on domestic prices due to negative refinery margins.

Canterra's contract prices for natural gas decreased over the year due to downward market pressures. The average gas price is higher in 1984 than 1983 as a result of take-or-pay payments and prior year upward price adjustments.

## Reserves

Oil and gas liquid proved reserves increased by eight per cent during 1984 as a result of a successful oil exploratory program in the Williston Basin and an upward revision in Williston Basin proved reserves based on a re-evaluation of historical production performance.

The company's gross natural gas

## Drilling Statistics

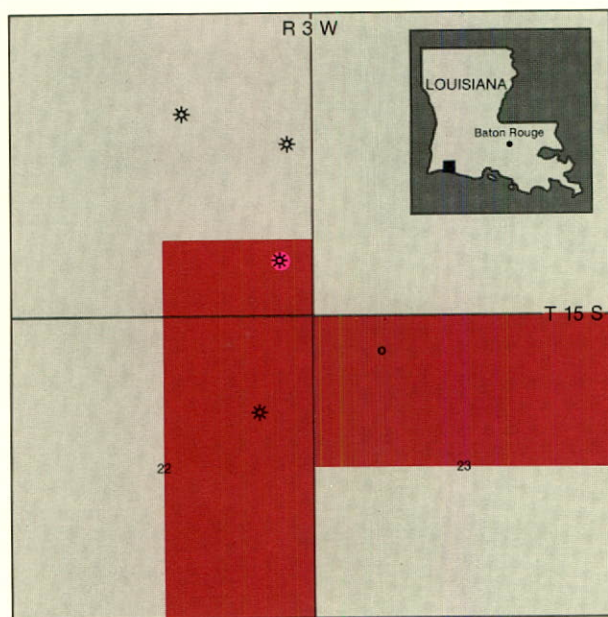
|  | Exploratory Wells |             | Development Wells |             | Total     |             |
|--|-------------------|-------------|-------------------|-------------|-----------|-------------|
|  | Gross             | Net         | Gross             | Net         | Gross     | Net         |
| <b>Working Interest</b>                |                   |             |                   |             |           |             |
| Oil .....                              | 9                 | 2.21        | 2                 | 0.30        | 11        | 2.51        |
| Gas .....                              | 5                 | 1.25        | 1                 | 0.45        | 6         | 1.70        |
| Abandoned .....                        | 11                | 2.74        | 0                 | 0           | 11        | 2.74        |
| Drilling/Suspended ..<br>(at year end) | 6                 | 0.74        | 0                 | 0           | 6         | 0.74        |
| <b>Total .....</b>                     | <b>31</b>         | <b>6.94</b> | <b>3</b>          | <b>0.75</b> | <b>34</b> | <b>7.69</b> |
| <b>Royalty Interest</b>                |                   |             |                   |             |           |             |
| Oil .....                              | 14                | -           | -                 | -           | 14        | -           |
| Gas .....                              | 1                 | -           | -                 | -           | 1         | -           |
| Abandoned .....                        | 16                | -           | -                 | -           | 16        | -           |
| Drilling/Suspended ..<br>(at year end) | 2                 | -           | -                 | -           | 2         | -           |
| <b>Total .....</b>                     | <b>33</b>         | <b>-</b>    | <b>-</b>          | <b>-</b>    | <b>33</b> | <b>-</b>    |

## U.S. Oil and Gas Liquids Sales Volumes and Prices

|                | 1984                      |                                     | 1983                      |                                     |
|----------------|---------------------------|-------------------------------------|---------------------------|-------------------------------------|
|                | Thousands of Cubic Metres | Average Sales Price Per Cubic Metre | Thousands of Cubic Metres | Average Sales Price Per Cubic Metre |
| Before Royalty | 137.4                     | \$234 (Can)                         | 162                       | \$233 (Can)                         |
| After Royalty  | 112.7                     | -                                   | 133                       | -                                   |

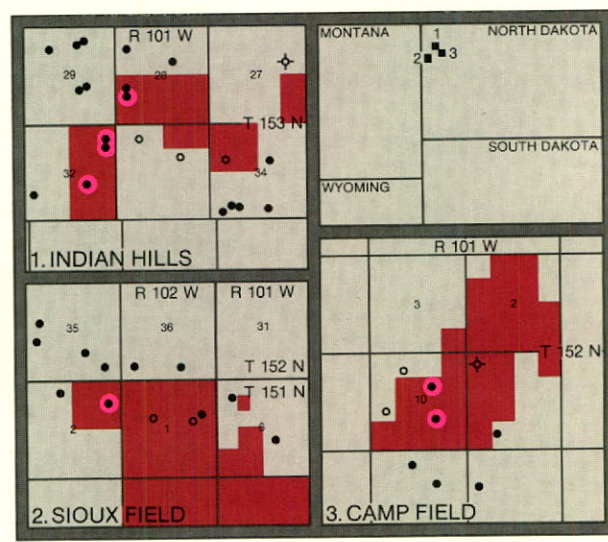
## U.S. Gas Sales Volumes and Prices

|                | 1984                     |   | 1983                     |   |
|----------------|--------------------------|---|--------------------------|---|
|                | Millions of Cubic Metres | Average Sales Price Per Thousand Cubic Metres | Millions of Cubic Metres | Average Sales Price Per Thousand Cubic Metres |
| Before Royalty | 101                      | \$166 (Can)                                   | 97                       | \$138 (Can)                                   |
| After Royalty  | 76                       | -   | 74                       | -   |



### North Deep Lake

- Canterra interest lands
- 1984 Canterra participation wells
- Oil well    \* Gas well    \* Oil and gas well    ○ Location
- ⊕ Drilling    ⌘ Suspended    ⚡ Dry and abandoned



### Williston Basin

- Canterra interest lands
- 1984 Canterra participation wells
- Oil well    \* Gas well    \* Oil and gas well    ○ Location
- ⊕ Drilling    ⌘ Suspended    ⚡ Dry and abandoned



proved reserves remained constant during 1984 as a result of the addition of 0.082 billion cubic metres and a 0.026 upward revision to reserves resulting from a re-evaluation of North Deep Lake field reserves.

## Outlook

The United States oil and gas industry is expected to operate in a very competitive business environment in 1985 with investment levels similar to or less than 1984. Competition in natural gas marketing between individual producers attempting to maintain their share of the market is expected to be high and may result in further erosion of natural gas prices. The crude oil price is expected to stabilize near the 1984 year end level of \$157 U.S. per cubic metre.

Canterra's exploration activities will continue to focus on high-potential gas reserves in the Gulf Coast and multi-pay zone oil prospects in the Williston Basin. The company will continue to implement rigorous technical and economic scrutiny of investment opportunities, prudent cost controls and aggressive oil and gas marketing techniques in order to compete successfully in the competitive industry environment which now exists.

### U.S. Proved Reserves

|                    | Oil & Gas Liquids        |                          | Gas                      |                          |
|--------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|                    | Gross                    | Net                      | Gross                    | Net                      |
|                    | Millions of Cubic Metres | Millions of Cubic Metres | Billions of Cubic Metres | Billions of Cubic Metres |
| Proved Reserves at |                          |                          |                          |                          |
| 1983-12-01 . . .   | .433                     | .347                     | 1.267                    | .910                     |
| Revisions . . . .  | .104                     | .095                     | .026                     | .010                     |
| Discoveries/       |                          |                          |                          |                          |
| Extensions . . .   | .069                     | .057                     | .082                     | .061                     |
| Production . . .   | (.138)                   | (.113)                   | (.101)                   | (.077)                   |
| Proved Reserves at |                          |                          |                          |                          |
| 1984-12-31 . . .   | .468                     | .386                     | 1.274                    | .904                     |

# U.S. Coal

## Business Environment

Nineteen eighty-four was marked by a continued brisk economic recovery in the United States as evidenced by the 6.4 per cent growth rate in the gross national product during the year. This resulted in a growth in coal consumption by eastern utilities of 4.8 per cent in 1984 compared to an increase of four per cent in 1983 and a seven per cent decrease in 1982. Coal markets were particularly lively during the first six months of the year in anticipation of a possible strike beginning October 1 at the end of the United Mine Workers of America (UMWA) and the Bituminous Coal Operators' Association (BCOA) contract. Since the contract was renewed without a strike for the first time in 20 years, the inventory build-up resulted in a major market slump which has carried into 1985.

## Operations

Coal shipments increased 10 per cent to 887 thousand tonnes during 1984 from 804 thousand tonnes in 1983. Selling prices per tonne increased to \$45.70 from \$43.17 in 1983. Cash flow for the year was \$5.9 million compared with \$5.7 million in 1983.

Canterra Coal did not sign the BCOA labour contract and was still negotiating with UMWA at year end for more flexible work rules which would improve productivity, allow a better utilization of facilities, reduce unit costs and expand the market in which Canterra Coal could sell competitively.

## Outlook

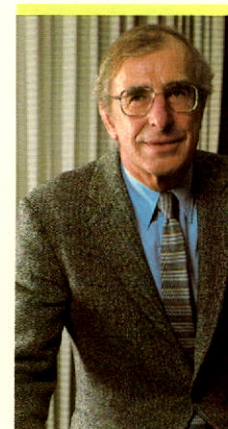
Soft coal markets will probably last well into 1985 and combined with labour uncertainties will have an adverse effect on Canterra's coal operations. However, a successful conclusion of the labour negotiations would substantially enhance the future prospects of Canterra's coal operations.

## Coal Shipments, Sales Prices & Operating Expenses

| (Yearly)                                       | 1984    | 1983    |
|--|---------|---------|
| Canterra Coal Inc.<br>-Consolidated            |         |         |
| Shipments<br>(thousands of tonnes) . . . . .   | 887     | 804     |
| Average Selling Price<br>(per tonne) . . . . . | \$45.70 | \$43.17 |
| Operating Expenses<br>(per tonne) . . . . .    | \$38.58 | \$34.94 |

## Coal Reserves

| (Millions of tonnes)               | 1984   | 1983   |
|------------------------------------|--------|--------|
| Proved Clean Recoverable Reserves: |        |        |
| Reserves at                        |        |        |
| January 1 . . . . .                | 55.4   | 55.4   |
| Purchases . . . . .                | .3     | 1.7    |
| Revisions of previous estimate . . | (3.7)  | (.9)   |
| Sales . . . . .                    | (.9)   | (.8)   |
| Reserves at December 31 . . . . .  | 51.1   | 55.4   |
| Land Holdings                      |        |        |
| Gross Surface Hectares . . . . .   | 14 900 | 14 784 |



Jean-Jacques Pascal  
President  
Canterra Coal Inc.

Note: all dollar amounts in the report are in Canadian dollars unless otherwise stated.



## Corporate Relations



An extension line to tie in reserves near Okotoks created particular environmental challenges when the line crossed the Bow River, one of the best trout streams in North America. Precautionary measures taken to preserve the area included precise timing of the line crossing to protect fish.



## Community Relations

Canterra continued during 1984 its firm commitment to the pursuit of harmonious relations with residents living near or affected by its operations. Active programs of community consultation were carried out both in Western Canada and frontier regions.

A particularly intense community program covered some five months leading up to the Alberta Energy Resources Conservation Board's hearing of a Canterra application to drill a sour gas well near Sundre, 110 km northwest of Calgary. Canterra teams visited virtually every resident within four km of the proposed site to describe the company's plans. The board approved the application, subject to conditions.

The company drilled two wells off the coast of Newfoundland during 1984 and both operations included active community consultation and information programs.

## Safety

Fifteen of Canterra's 17 plants in Western Canada received safety awards for no lost time accidents from the Canadian Gas Processors Association (CGPA) as well as the Petro Chemical Safety Council. The company's Ram River gas plant received the CGPA major plant award.

To promote safety internally, during the year a safety advisory group and a safety review team were formed to encourage an on-going safety program.

Safety programs continue to support the company's no lost time accident record in offshore operations.

Accomplishments in 1984 included strengthening the company's safety organization and performance and updating emergency response manuals.

## Canada Benefits

Canterra continued its practice of using Canadian workers, contractors and suppliers and purchasing Canadian-made goods, supplies and equipment where possible and competitive.

The company's commitment to maximize Canadian content in its operations was illustrated clearly through its exploration activities on Canada lands. Early in the year, following government review of its 1983 Canada Benefits annual report, Canterra was commended for having met and at times exceeded its benefits commitments for the Hopedale drilling program on the Labrador shelf. For the 1984 Port au Port J-97 and Beothuk M-05 wells, Canterra again maximized the use of Canadian contractors and suppliers. For these two well programs, approximately 500 Canadian workers were involved in such areas as the drilling vessel, support vessels and logistics bases.

## Environmental Affairs

Environmental protection and conservation are practised as an integral part of the company's production and exploration activities through involvement in projects during the planning and application stages and by continued participation in construction and operation to ensure compliance with existing regulations.

During 1984, environmental protection activities supported construction of the extension of the Okotoks gas gathering system, the proposed Sundre well public hearing, the planning and drilling of the Port au Port and Beothuk offshore wells and the application to test the Panther River well.

Ongoing activities include the monitoring of air, water, soil and vegetation at the company's production facilities and the improvement of waste handling and treatment techniques. In addition, the company continued its participation in research related to sour gas plant emissions near Whitecourt and Rocky Mountain House, and initiated research on disposal of drilling wastes. A significant element of the company's environmental protection program is maintaining close liaison with the general public, regulatory authorities and special interest groups.

## Human Resources

During the year Canterra adopted a new performance appraisal process to emphasize performance improvement through integrated objectives setting and employee expectation.

A new compensation system was also adopted to evaluate all positions in relation to industry norms and established basic benchmarks to ensure internal equity and external competitiveness. A number of positions were eliminated. As well, operational effectiveness reviews were conducted in selected areas of the company, resulting in productivity gains and improved quality of work life.

Canterra continues to offer a high level of employee benefits, including a non-contributory pension plan with an early retirement option, company contribution to employee savings plans plus options on combinations of pension and savings plans as well as comprehensive health and insurance plans.

At year end 1984, Canterra had a total of 1,400 employees in Canada and the United States.

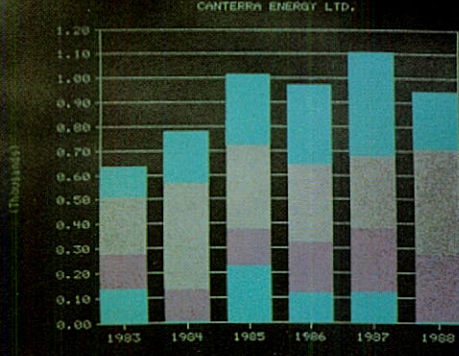
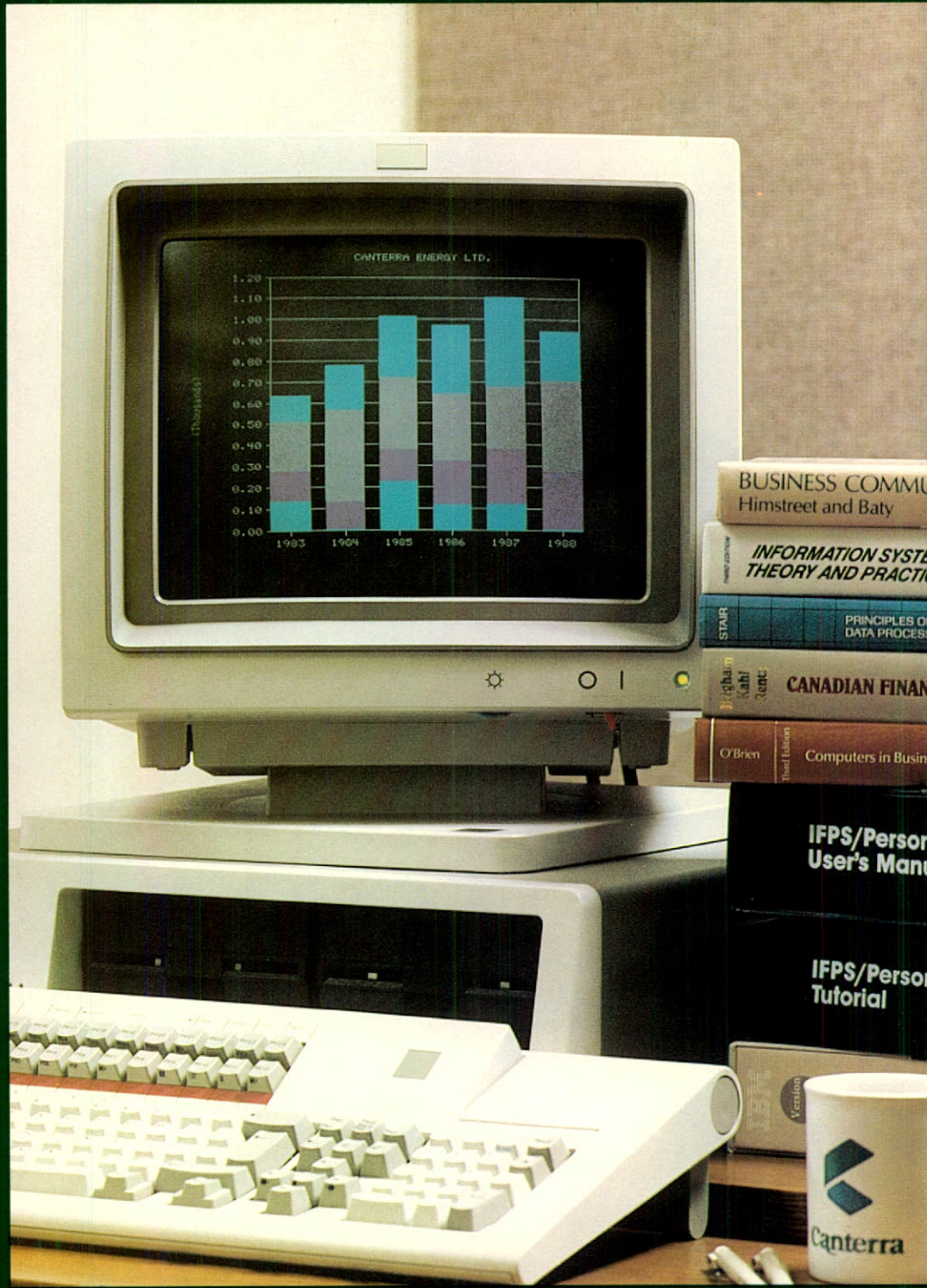
**"The implementation of performance improvement and personnel development systems will provide long-term benefits."**



John H. Currie  
Senior Vice President  
Administration



# Financial Performance





Earnings for 1984 were \$41.4 million compared with \$14.7 million in 1983 before parent company transactions. Free cash flow, defined as cash flow available for capital expenditures and debt repayment after deducting all financing charges and before capitalization of exploration overhead, rose to \$187.1 million, up from \$138.8 million the previous year.

Gross sales before royalties rose \$101.3 million over 1983 to \$837.0 million, an increase of 14 per cent. Higher sales volumes of natural gas, natural gas liquids, sulphur and coal more than offset the effects of lower oil sales volumes.

While oil volumes at 1750.4 thousand cubic metres were down seven per cent from 1983 levels, the effect was offset in large part by a higher percentage of Canterra's oil receiving world price (NORP). In 1984 an average of 35 per cent of Canadian oil sales received NORP pricing, up from 21 per cent in 1983. This increase resulted from new discoveries and enhanced recovery methods. By the end of 1984, 44 per cent of oil volumes were receiving NORP pricing. Gross oil sales were \$370.1 million compared with \$379.9 million the previous year.

Natural gas sales volumes of 1892.0 million cubic metres were up two per cent over the previous year in spite

of weak markets. Prices on average were slightly higher in 1984 than in 1983 due to a higher Alberta border price. This increase was, however, partially offset by a lower export flowback. Gross sales of \$201.6 million were realized, up from \$190.3 million in 1983. Natural gas liquids accounted for \$20.3 million of gross sales for the year compared with \$18.4 million the previous year.

Sulphur sales reacted to strong world demand in 1984 with volumes sold increasing 66 per cent to 2.0 million tonnes. Gross sales were \$180.1 million, double 1983 sales. Average prices, FOB Alberta plant, after transportation costs in 1984 were \$89.28 per tonne compared with \$74.01 in 1983. Sulphur prices increased throughout the year and by December had risen to \$113.15 per tonne.

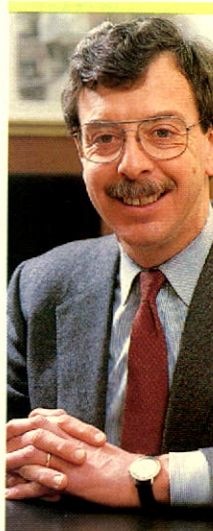
Coal sales were \$40.5 million in 1984, an increase of 17 per cent over 1983. Coal sales volumes increased 10 per cent to 886.6 thousand tonnes.

Processing fees of \$24.4 million account for the balance of sales revenues, up \$2.1 million from 1983.

Investment and other income of \$22.4 million results from the opera-

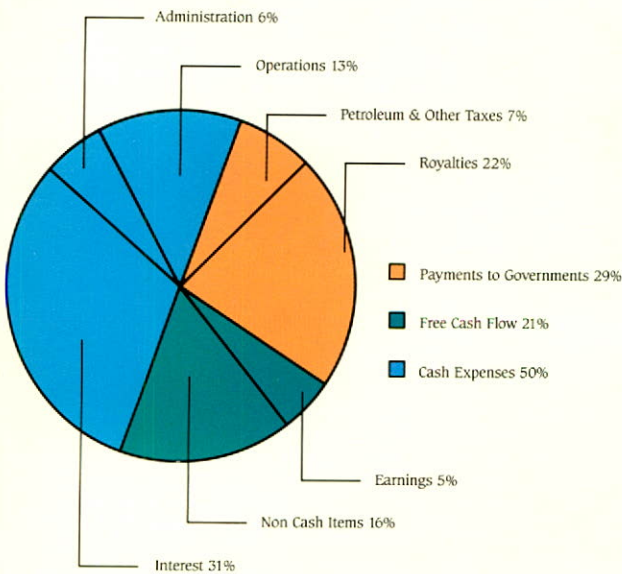
tion of two office buildings in Calgary, earnings of two equity accounted subsidiaries (Rainbow Pipe Line Company, Ltd. and Penmore S.A.) and interest. Investment and other income in 1983 was \$34.2 million due to strong Penmore S.A. earnings in that year.

Operating expenses in 1984 were \$109.2 million, down from \$110.8 million reported in 1983. Oil and natural gas operating costs were \$57.7 million compared with \$49.0 million in 1983. These costs were higher in 1984 due to incremental costs from new properties and workover programs designed to improve profitability as well as regular biennial maintenance on the Rainbow Lake and Ram River processing plants. Sulphur operating costs were \$13.8 million in 1984, down from \$30.6 million the previous year. Costs associated with higher sulphur shipments in 1984 were more than offset by reduced costs on purchased sulphur. Coal operating costs were \$34.2 million, up \$6.1 million over 1983 due to higher production in 1984 and a stronger U.S. dollar. Other operations account for the balance of operating costs.

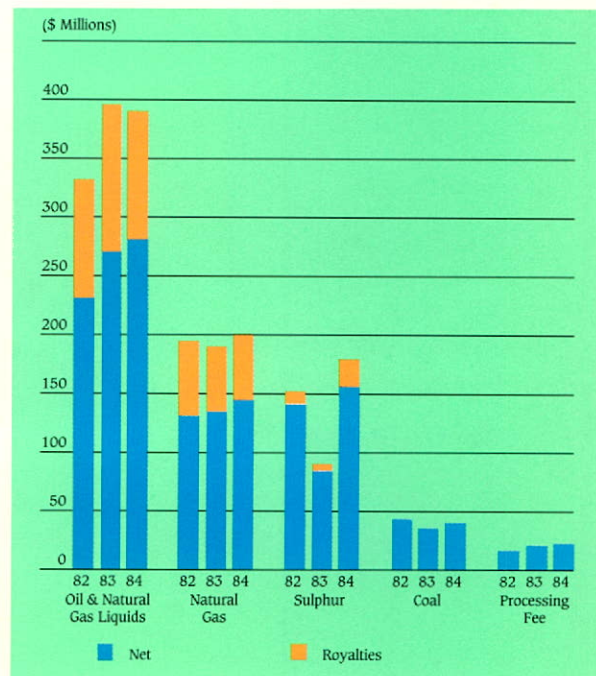


T. Sean Ahern  
Vice President  
Finance

### Distribution of Income



### Revenues





Interest expense incurred in 1984 was \$166.5 million, up 12 per cent over the \$148.8 million reported for 1983. Higher average interest rates in 1984 together with the effect of the weak Canadian dollar contributed to the increase. Administrative costs were \$38.8 million compared with \$40.4 million the previous year. The company is exercising a program of cost control together with aggressive action on overhead recoveries.

Depletion and depreciation expense was \$138.5 million in 1984, up from \$127.6 million in 1983. The increase is largely attributable to additional depletion taken on United States operations in 1984. Lower prices together with pending acreage abandonments in Canterra's U.S. oil and gas operation in 1985 were factors considered in providing the additional depletion in 1984.

Income and other taxes increased to \$175.2 million in 1984 compared with \$141.2 million the previous year. While petroleum and gas revenues and other production taxes decreased slightly, deferred income taxes were \$120.2 million compared with \$86.1 million in 1983. Higher deferred taxes resulted from higher earnings before taxes and the effect of legislated reductions in earned depletion on

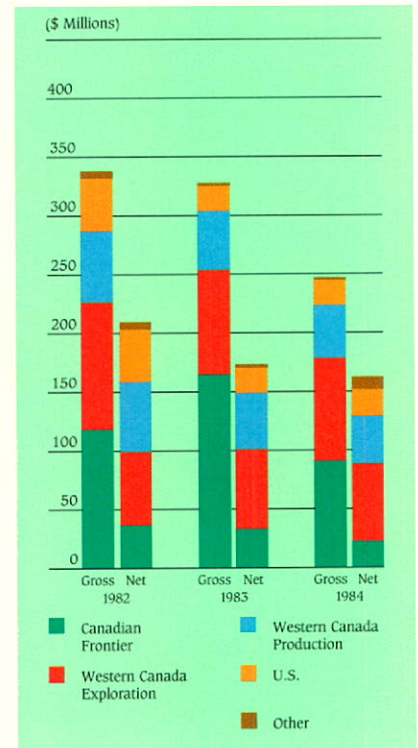
exploration expenditures. The company's effective rate of income and other taxes on earnings before such taxes was lower in 1984 at 80.9 per cent compared with 90.6 per cent in 1983.

Canterra spent \$246.6 million in capital expenditures before capitalized financing cost and exploration overhead, down from \$326.3 million the previous year. Petroleum incentive payments and other government grants received on these expenditures were \$86.1 million in 1984 and \$153.4 million in 1983. Lower expenditures in 1984 are due to a reduction in gross expenditures made in the Canadian Frontier. In 1984, the company transferred \$227.6 million of non-depletable capitalized costs associated with the Canadian Frontier to capitalized costs subject to depletion. Costs transferred in 1984 together with subsequent transfers will be subject to depletion in future years. Pursuant to the company's accounting policy, beginning in 1985 the company will make annual transfers from the Frontier cost pool to the depletable cost pool based on the estimated period of development of the Frontier.

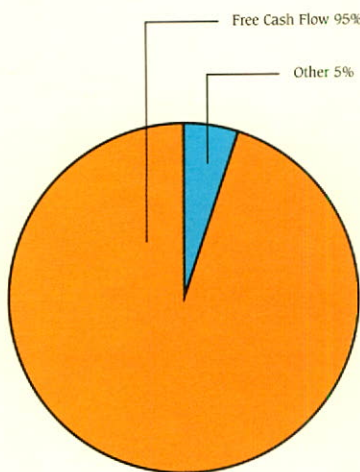
Information respecting proved reserves, including quantities, net of royalties of oil and natural gas liquids,

natural gas, sulphur and coal is covered in the annual report section on Western Canada, Exploration and Production. Changes in quantities due to revisions of previous estimates, purchases, discoveries and production are detailed therein.

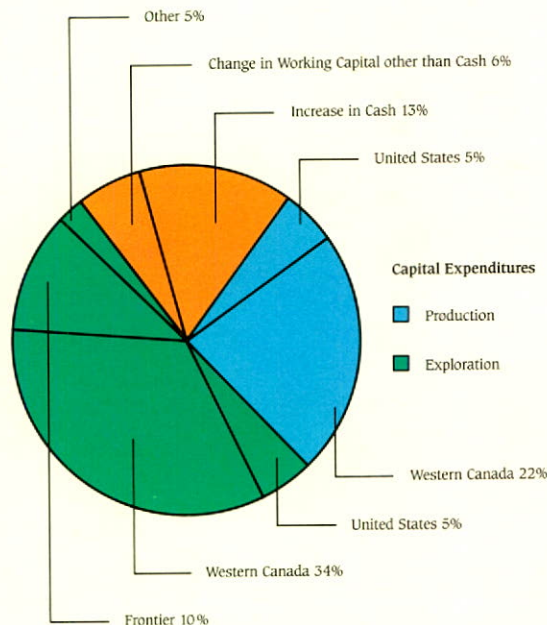
### Capital Expenditures



### Cash Generated



### Cash Used





# AUDITORS' REPORT

To the Shareholder of  
Canterra Energy Ltd.

We have examined the consolidated balance sheet of Canterra Energy Ltd. as at December 31, 1984, and the consolidated statements of earnings, retained earnings (deficit) and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these consolidated financial statements present fairly the financial position of the Company as at December 31, 1984, and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Calgary, Alberta  
February 15, 1985

  
Chartered Accountants

## SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Canterra Energy Ltd. (the Company) follows accounting policies generally accepted in Canada. The following significant policies are presented to assist the reader in evaluating these financial statements and together with the following notes should be considered an integral part of the consolidated financial statements.

### Principles of Consolidation

The consolidated financial statements include the accounts of the Company and subsidiary companies, all of which are wholly-owned, together with the oil, natural gas and sulphur operations and assets of another subsidiary of the Canada Development Corporation. While legal ownership of these other assets was obtained October 31, 1984, for accounting purposes the acquisition is deemed to have occurred effective January 1, 1982.

A wholly owned subsidiary providing certain insurance coverage to the Company is accounted for by the equity method and is included in investments and other assets. The Company's 33 1/3 per cent interest in Rainbow Pipe Line Company, Ltd. is also accounted for by the equity method.

### Foreign Exchange

All foreign subsidiaries are considered to be integrated subsidiaries and accordingly their financial statements have been translated into Canadian dollars as follows:

- (i) monetary assets and monetary liabilities at the exchange rate on December 31;
- (ii) properties, plant and equipment, investments and other assets, revenues and expenses at the exchange rate in effect on the dates of the transactions;
- (iii) accumulated provisions for depletion, depreciation, deferred income taxes and current provisions on the same basis as the related items; and
- (iv) exchange gains or losses are included in determining earnings for the year in which realized.

The Company's U.S. dollar debt is hedged by future revenue streams denominated in U.S. dollars. To the extent that future revenue streams denominated in U.S. dollars do not exceed the U.S. dollar debt the resulting foreign exchange exposure is amortized to earnings over the estimated repayment terms of the debt.



## **Summary of Significant Accounting Policies** (continued)

### **Inventories**

Inventories include materials, supplies, purchased sulphur and coal and are stated at the lower of cost and net realizable value.

### **Property, Plant and Equipment**

All costs of acquiring properties, exploring for and developing oil, natural gas and sulphur and related reserves are capitalized and accumulated in country-by-country cost centres. Such expenditures include land acquisition costs, geological and geophysical expenses, capitalized financing costs and other carrying charges of undeveloped properties, cost of drilling productive and non-productive wells and overhead expense related to exploration and development activities.

The capitalized costs less accumulated depletion and depreciation in each cost centre are limited to an amount equal to the estimated value of future net revenues from recoverable reserves (based on current prices less operating costs and applicable taxes) plus the lower of cost or estimated fair value of unproved properties.

Maintenance and repairs are charged against earnings and renewals and betterments which extend the economic life of the properties, plant and equipment are capitalized.

Gains or losses are not recognized upon disposition of oil and natural gas properties unless such a disposition would significantly alter the relationship between capitalized costs and proved reserves of oil and gas. Gains or losses are recognized upon disposition of other assets.

### **Depletion and Depreciation**

The provisions for depletion and depreciation for oil, natural gas and sulphur operations are calculated on the unit-of-production method based on proved reserves in each cost centre as estimated by the Company.

Costs of acquiring undeveloped properties are included in the depletion calculation over their anticipated period of development which is seven years.

Costs of acquiring and evaluating significant unproved properties such as costs incurred in Canadian Frontier areas, including the Beaufort Sea, Arctic Islands and East Coast, will be transferred into costs subject to depletion over their estimated period of development which varies between seven and fifteen years.

### **Capitalized Financing Costs**

Financing costs are capitalized on all oil and natural gas properties undergoing exploration and development activities until they are transferred to costs subject to depletion and on costs incurred during the construction of major additions to property, plant and equipment. Financing costs are charged to earnings subsequent to the completion of the exploration stage or when the facility commences operations.

### **Advances Under Natural Gas Sales Contracts**

Amounts received for annual contracted natural gas volumes not taken by pipeline purchasers are deferred and will be recognized as revenue when deliveries are made over a ten year period commencing November 1, 1984.

### **Joint Venture**

The Company conducts substantially all of its oil, natural gas and sulphur exploration and production activities on a joint venture basis and the accounts reflect the Company's proportionate interest in such activities.

### **Comparative Accounts**

Certain of the comparative accounts have been reclassified to conform with the financial statement presentation adopted in 1984.



**Canterra Energy Ltd.**  
**CONSOLIDATED STATEMENT OF EARNINGS**  
**Year Ended December 31, 1984**

|  | 1984             | 1983             |
|--|------------------|------------------|
|  | (thousands)      |                  |
| <b>REVENUES</b>  |                  |                  |
| Sales  |                  |                  |
| Gross .....  | \$ 837,000       | \$ 735,700       |
| Royalties .....  | (189,800)        | (186,400)        |
|  | <u>647,200</u>   | <u>549,300</u>   |
| Investment and other income .....                          | 22,400           | 34,200           |
|  | <u>669,600</u>   | <u>583,500</u>   |
| <b>EXPENSES</b>  |                  |                  |
| Operating .....  | 109,200          | 110,800          |
| Interest on long term debt .....                           | 34,800           | 34,000           |
| Interest on notes payable to parent company .....          | 131,700          | 114,800          |
| Administrative .....                                       | 38,800           | 40,400           |
| Depletion and depreciation .....                           | 138,500          | 127,600          |
|  | <u>453,000</u>   | <u>427,600</u>   |
| EARNINGS BEFORE UNDERNOTED ITEMS .....                     | <u>216,600</u>   | <u>155,900</u>   |
| Income and other taxes (Note 9)                            |                  |                  |
| Current .....  | (1,100)          | (3,500)          |
| Deferred .....   | 120,200          | 86,100           |
| Petroleum and gas revenue and other production taxes ..... | 56,100           | 58,600           |
|  | <u>175,200</u>   | <u>141,200</u>   |
| EARNINGS BEFORE PARENT COMPANY TRANSACTION .....           | 41,400           | 14,700           |
| Gain on debenture (Note 10(b)) .....                       | -                | 10,100           |
| EARNINGS FOR THE YEAR .....                                | <u>\$ 41,400</u> | <u>\$ 24,800</u> |

**Canterra Energy Ltd.**  
**CONSOLIDATED STATEMENT OF RETAINED EARNINGS (DEFICIT)**  
**Year Ended December 31, 1984**

|  | 1984            | 1983               |
|--|-----------------|--------------------|
|  | (thousands)     |                    |
| Deficit at beginning of year .....               | \$ (35,100)     | \$ (59,900)        |
| Earnings for the year .....                      | 41,400          | 24,800             |
| Retained earnings (deficit) at end of year ..... | <u>\$ 6,300</u> | <u>\$ (35,100)</u> |




**Canterra Energy Ltd.**  
**CONSOLIDATED BALANCE SHEET**  
**December 31, 1984**

|   | 1984                | 1983                |
|---|---------------------|---------------------|
|   | (thousands)         |                     |
| <b>ASSETS</b>   |                     |                     |
| CURRENT ASSETS  |                     |                     |
| Cash and short-term investments .....                               | \$ 33,800           | \$ 6,100            |
| Accounts receivable .....   | 80,100              | 63,500              |
| Petroleum incentive program grants receivable (Note 12 (c)) .....   | 13,400              | 47,200              |
| Inventories (Note 3) .....  | 94,400              | 72,100              |
| Prepaid expenses .....  | 7,900               | 7,300               |
|   | <u>229,600</u>      | <u>196,200</u>      |
| INVESTMENTS AND OTHER ASSETS .....                                  | 48,600              | 66,700              |
| PROPERTY, PLANT AND EQUIPMENT (Note 4) .....                        | 3,012,700           | 2,869,700           |
|   | <u>\$ 3,290,900</u> | <u>\$ 3,132,600</u> |
| <b>LIABILITIES</b>  |                     |                     |
| CURRENT LIABILITIES   |                     |                     |
| Bank indebtedness .....   | \$ 16,100           | \$ 17,900           |
| Accounts payable and accrued liabilities .....                      | 82,400              | 85,900              |
| Due to parent company .....   | 27,500              | 30,400              |
| Current portion of advances under natural gas sales contracts ..... | 3,100               | 1,500               |
| Current portion of long term debt .....                             | 1,300               | 1,300               |
|   | <u>130,400</u>      | <u>137,000</u>      |
| LONG TERM DEBT (Note 5) .....                                       | 452,800             | 448,400             |
| NOTES PAYABLE TO PARENT COMPANY (Notes 6 and 11) .....              | 1,703,600           | 1,703,600           |
| ADVANCES UNDER NATURAL GAS SALES CONTRACTS .....                    | 38,200              | 39,300              |
| DEFERRED INCOME TAXES .....   | 301,600             | 181,400             |
|   | <u>2,626,600</u>    | <u>2,509,700</u>    |
| SHAREHOLDER'S EQUITY  |                     |                     |
| Capital (Note 7) .....  | 658,000             | 658,000             |
| Retained earnings (Deficit) .....                                   | 6,300               | (35,100)            |
|   | <u>664,300</u>      | <u>622,900</u>      |
|   | <u>\$ 3,290,900</u> | <u>\$ 3,132,600</u> |

Approved by the Board:

B. F. Isautier, Director



H. G. Pearce, Director





**Canterra Energy Ltd.**

**CONSOLIDATED STATEMENT OF CHANGES IN FINANCIAL POSITION**

**Year Ended December 31, 1984**

|  | <u>1984</u>      | <u>1983</u>      |
|--|------------------|------------------|
|  | (thousands)      |                  |
| CASH GENERATED FROM OPERATIONS                               |                  |                  |
| Earnings before parent company transaction .....             | \$ 41,400        | \$ 14,700        |
| Non-cash items .....   | 258,700          | 213,700          |
| Capitalized financing costs and exploration overhead .....   | <u>(113,000)</u> | <u>(89,600)</u>  |
| FREE CASH FLOW* .....  | 187,100          | 138,800          |
| Advances under natural gas sales contracts .....             | (1,100)          | 2,000            |
| Changes in working capital other than cash .....             | <u>(10,500)</u>  | <u>74,400</u>    |
|  | <u>175,500</u>   | <u>215,200</u>   |
| CASH USED FOR CAPITAL EXPENDITURES                           |                  |                  |
| Canadian Frontier .....                                      | 92,000           | 165,300          |
| Western Canada Exploration .....                             | 87,300           | 87,800           |
| Western Canada Production .....                              | 46,300           | 50,400           |
| U.S. and other .....   | <u>21,000</u>    | <u>22,800</u>    |
|  | 246,600          | 326,300          |
| Less petroleum incentive program and provincial grants ..... | <u>86,100</u>    | <u>153,400</u>   |
|  | 160,500          | 172,900          |
| OTHER  |                  |                  |
| Parent company and other transactions .....                  | <u>(10,100)</u>  | 19,000           |
|  | 150,400          | 191,900          |
| INCREASE IN CASH AVAILABLE FOR REPAYMENT OF DEBT .....       | <u>\$ 25,100</u> | <u>\$ 23,300</u> |
| REPRESENTED BY CHANGES IN:                                   |                  |                  |
| Cash net of short term indebtedness .....                    | \$ 29,500        | \$ 13,100        |
| Long term debt including current portion .....               | <u>(4,400)</u>   | <u>10,200</u>    |
|  | <u>\$ 25,100</u> | <u>\$ 23,300</u> |

\* Free cash flow represents cash flow from operations after deducting capitalized financing costs and exploration overhead.



## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(Tabular amounts shown in thousands of dollars)

### 1. Parent Company

Canterra Energy Ltd. is a wholly owned subsidiary of the Canada Development Corporation (CDC).

### 2. Change in Method of Accounting for Foreign Currency

Prior to January 1, 1984, the Company followed the policy of translating foreign subsidiaries and debt repayable in foreign currencies into Canadian dollars on the following basis: current assets and current liabilities at the exchange rate in effect on the balance sheet date; properties, plant and equipment, investments, other assets, long term debts and revenues and expenses at rates in effect on the dates of the transactions; and accumulated provisions on the same basis as the related items. Exchange gains and losses were included in earnings only as realized.

Effective January 1, 1984, the Company adopted, on a prospective basis, the method of translating foreign currency as described in the summary of significant accounting policies. This change in accounting did not have a material effect on the financial statements.

### 3. Inventories

|   | 1984             | 1983             |
|---|------------------|------------------|
| Materials & supplies—oil, natural gas & sulphur ..... | \$ 10,700        | \$ 14,400        |
| —coal .....   | 3,100            | 2,900            |
| Purchased sulphur .....                               | 79,200           | 54,100           |
| Coal .....  | 1,400            | 700              |
|   | <u>\$ 94,400</u> | <u>\$ 72,100</u> |

### 4. Property, Plant and Equipment

|                              | 1984                |                           |                     | 1983                |
|------------------------------|---------------------|---------------------------|---------------------|---------------------|
|                              | Cost                | Accumulated<br>Provisions | Net                 | Net                 |
| Oil, natural gas and sulphur |                     |                           |                     |                     |
| Canada .....                 | \$ 2,993,200        | \$ 284,500                | \$ 2,708,700        | \$ 2,540,000        |
| United States .....          | 267,500             | 109,200                   | 158,300             | 183,800             |
|                              | <u>3,260,700</u>    | <u>393,700</u>            | <u>2,867,000</u>    | <u>2,723,800</u>    |
| Coal                         |                     |                           |                     |                     |
| United States .....          | 79,200              | 13,200                    | 66,000              | 65,700              |
| Office building              |                     |                           |                     |                     |
| Canada .....                 | 65,600              | 4,900                     | 60,700              | 62,400              |
| Other                        |                     |                           |                     |                     |
| United States .....          | 19,700              | 700                       | 19,000              | 17,800              |
|                              | <u>\$ 3,425,200</u> | <u>\$ 412,500</u>         | <u>\$ 3,012,700</u> | <u>\$ 2,869,700</u> |

On December 31, 1984, the Company has transferred \$227,600,000 of Canadian Frontier costs to costs subject to depletion in future years.

After the above transfer, costs of unproved and undeveloped properties are Western Canada \$201,100,000 (1983 - \$210,300,000), the Canadian Frontier \$529,000,000 (1983 - \$664,300,000), Tar Sands \$33,100,000 (1983 - \$39,100,000) and the United States \$Nil (1983 - \$3,300,000).

Financing costs of \$99,400,000 (1983 - \$86,600,000) incurred to finance these assets have been capitalized during the year.



## Notes to Consolidated Financial Statements (continued)

### 5. Long Term Debt

|  | 1984              | 1983              |
|--|-------------------|-------------------|
| 5.75% notes due in 1986 (Swiss Francs 50,000,000) .....  | \$ 28,400         | \$ 28,500         |
| 11.25% notes due in 1985 (U.S. \$30,000,000) .....   | 39,600            | 37,300            |
| 10.25% office building mortgage due in 1994,<br>subject to monthly repayments .....                | 13,500            | 13,600            |
| Floating rate notes and bank loans:  |                   |                   |
| Payable in Canadian funds due 1990 to 1992<br>with average interest of 11.28% (1983 - 9.88%) ..... | 90,800            | 23,700            |
| Payable in U.S. funds due 1986 to 1992 with<br>average interest of 10.53% (1983 - 10.24%) .....    | 320,300           | 353,500           |
| Other .....  | 2,000             | 2,000             |
|  | <u>494,600</u>    | <u>458,600</u>    |
| Less current portion .....   | 1,300             | 1,300             |
| Long term debt at current rates .....  | 493,300           | 457,300           |
| Less impact of revenue hedges .....  | 40,500            | 8,900             |
|  | <u>\$ 452,800</u> | <u>\$ 448,400</u> |

Long term repayments for the next five years are:

1985 - \$1,300,000; 1986 - \$55,500,000; 1987 - \$50,900,000; 1988 - \$34,100,000 and 1989 - \$27,100,000.

### 6. Notes Payable To Parent Company

Notes payable to CDC at December 31, 1984 and 1983 of U.S. \$1,412,000,000 bear interest at LIBOR plus ½% per annum and are payable on demand. CDC has indicated that it is not its intention to demand repayment unless such amounts are substituted by other forms of long term debt or equity. The notes will be repaid in accordance with the repayment schedule agreed to between CDC and its lenders which currently provides for repayments commencing in 1987 and ending in 1991. Repayment of the notes payable to CDC at current rates of exchange would result in an obligation of \$1,865,800,000 (1983 - \$1,757,200,000). As a result of foreign currency hedges these notes are reflected on the balance sheet at \$1,703,600,000.

### 7. Capital

Authorized:

Unlimited number of preferred and common shares without par value.

|  | 1984              | 1983              |
|--|-------------------|-------------------|
| Issued:  |                   |                   |
| Common shares - 27,566,193 (1983 - 21,626,070) ..... | \$ 658,000        | \$ 520,900        |
| Other capital .....                                  | —                 | 137,100           |
|  | <u>\$ 658,000</u> | <u>\$ 658,000</u> |

During the year the Company obtained legal title to the oil, natural gas and sulphur assets of another subsidiary of CDC through the issue of 5,940,123 common shares. For accounting purposes these assets were included in the consolidated financial statements of the Company from January 1, 1982 at a then ascribed value of \$137,100,000.

Under the terms of the Company's stock option plan a number of shares up to 4% of the then issued and outstanding common shares are reserved for issuance to officers and key employees. At December 31, 1984 no options have been granted.



**Notes to Consolidated Financial Statements** (continued)

**8. Information by Business Segments and Geographical Areas**

The following information is classified according to the Company's principal business segments and geographic areas of operation.

| BUSINESS SEGMENTS                                | 1984                | 1983                |
|--|---------------------|---------------------|
| Revenues   |                     |                     |
| Oil, natural gas & sulphur .....                 | \$ 618,000          | \$ 530,000          |
| Coal .....                                       | 40,500              | 34,700              |
| Office buildings .....                           | 8,200               | 8,500               |
| Other .....                                      | 2,900               | 10,300              |
|  | <u>\$ 669,600</u>   | <u>\$ 583,500</u>   |
| Operating Profits                                |                     |                     |
| Oil, natural gas & sulphur .....                 | \$ 357,800          | \$ 271,700          |
| Coal .....                                       | 2,400               | 3,100               |
| Office buildings .....                           | 4,700               | 5,400               |
| Other .....                                      | 2,900               | 10,300              |
|  | <u>367,800</u>      | <u>290,500</u>      |
| Administrative expense .....                     | 38,800              | 40,400              |
| Interest expense .....                           | 166,500             | 148,800             |
| Earnings before income taxes .....               | 162,500             | 101,300             |
| Income taxes .....                               | 121,100             | 86,600              |
| Earnings before parent company transaction ..... | <u>\$ 41,400</u>    | <u>\$ 14,700</u>    |
| Depletion and Depreciation                       |                     |                     |
| Oil, natural gas & sulphur .....                 | \$ 132,500          | \$ 121,600          |
| Coal .....                                       | 4,300               | 4,200               |
| Office buildings .....                           | 1,700               | 1,800               |
|  | <u>\$ 138,500</u>   | <u>\$ 127,600</u>   |
| Identifiable Assets                              |                     |                     |
| Oil, natural gas & sulphur .....                 | \$ 3,121,400        | \$ 2,967,700        |
| Coal .....                                       | 77,000              | 73,600              |
| Office buildings .....                           | 60,700              | 62,400              |
| Other .....                                      | 31,800              | 28,900              |
|  | <u>\$ 3,290,900</u> | <u>\$ 3,132,600</u> |
| Capital Expenditures*                            |                     |                     |
| Oil, natural gas & sulphur .....                 | \$ 266,800          | \$ 258,300          |
| Coal .....                                       | 4,700               | 1,900               |
| Other .....                                      | 2,000               | 2,300               |
|  | <u>\$ 273,500</u>   | <u>\$ 262,500</u>   |



Notes to Consolidated Financial Statements (continued)

| GEOGRAPHIC AREAS                                 | <u>1984</u>         | <u>1983</u>         |
|--|---------------------|---------------------|
| Revenue  |                     |                     |
| Canada .....                                     | \$ 560,900          | \$ 487,500          |
| United States .....                              | 105,800             | 85,700              |
| Other Foreign .....                              | 2,900               | 10,300              |
|  | <u>\$ 669,600</u>   | <u>\$ 583,500</u>   |
| Operating Profits                                |                     |                     |
| Canada .....                                     | \$ 345,800          | \$ 278,100          |
| United States .....                              | 19,100              | 2,100               |
| Other Foreign .....                              | 2,900               | 10,300              |
|  | <u>367,800</u>      | <u>290,500</u>      |
| Administrative expense .....                     | 38,800              | 40,400              |
| Interest expense .....                           | 166,500             | 148,800             |
| Earnings before income taxes .....               | 162,500             | 101,300             |
| Income tax .....                                 | 121,100             | 86,600              |
| Earnings before parent company transaction ..... | <u>\$ 41,400</u>    | <u>\$ 14,700</u>    |
| Depletion and Depreciation                       |                     |                     |
| Canada .....                                     | \$ 95,400           | \$ 90,000           |
| United States .....                              | 43,100              | 37,600              |
|  | <u>\$ 138,500</u>   | <u>\$ 127,600</u>   |
| Identifiable Assets                              |                     |                     |
| Canada .....                                     | \$ 2,898,900        | \$ 2,813,600        |
| United States .....                              | 360,000             | 290,100             |
| Other Foreign .....                              | 32,000              | 28,900              |
|  | <u>\$ 3,290,900</u> | <u>\$ 3,132,600</u> |
| Capital Expenditures*                            |                     |                     |
| Canada .....                                     | \$ 254,200          | \$ 238,700          |
| United States .....                              | 19,300              | 23,800              |
|  | <u>\$ 273,500</u>   | <u>\$ 262,500</u>   |

\* Capital expenditures include capitalized financing costs and exploration overhead of \$113,000,000 (1983 - \$89,600,000).



**Notes to Consolidated Financial Statements** (continued)

**9. Income and Other Taxes**

The effective rate of income and other taxes before parent company transactions was 80.9% (1983 - 90.6%) on earnings before income and other taxes. A reconciliation of effective tax rates is set out below:

|   | <u>1984</u>       | <u>1983</u>       |
|---|-------------------|-------------------|
| Expected income tax rate .....  | 47%               | 47%               |
| Computed "expected" income tax expense .....                                      | \$ 101,800        | \$ 73,300         |
| Increase (decrease) in income tax resulting from:                                 |                   |                   |
| Non-deductible crown charges less resource allowance and provincial rebates ..... | 11,300            | 14,700            |
| Non-allowable depletion and depreciation .....                                    | 21,100            | 21,400            |
| Income tax depletion .....  | (700)             | (9,800)           |
| Earnings of subsidiaries .....  | (7,700)           | (10,400)          |
| Investment tax credit .....   | (1,900)           | (2,500)           |
| Other .....   | (4,800)           | (4,100)           |
| Income tax expense .....  | 119,100           | 82,600            |
| Petroleum and gas revenue and other production taxes .....                        | 56,100            | 58,600            |
| Total income and other taxes .....  | <u>\$ 175,200</u> | <u>\$ 141,200</u> |

Included in the above are deferred income taxes of \$120,200,000 (1983 - \$86,100,000) which result from timing differences in recognition of income and the expenses for income tax and financial statement purposes. The source of these differences and the tax effect of each were as follows:

|  | <u>1984</u>       | <u>1983</u>      |
|--|-------------------|------------------|
| Capital cost allowance deducted for income tax purposes in excess of depreciation .....              | \$ 12,100         | \$ 13,900        |
| Exploration expenditures deducted for income tax purposes in excess of provision for depletion ..... | 49,200            | 51,600           |
| Capitalized interest deducted for income tax purposes .....  | 46,700            | 40,700           |
| Net capital loss .....   | —                 | (4,200)          |
| Non capital loss .....   | 21,200            | —                |
| Federal and provincial tax credits and rebates .....   | (5,700)           | (8,000)          |
| Other .....  | (3,300)           | (7,900)          |
| Deferred income tax expense .....  | <u>\$ 120,200</u> | <u>\$ 86,100</u> |

Certain U.S. subsidiary companies have tax loss carry forwards available for income tax purposes at December 31, 1984 of U.S. \$61,979,000 and investment tax credits of U.S. \$8,000,000 which expire from 1989 to 1999. The realization of these tax benefits is dependent upon the future taxable incomes of these subsidiaries. No recognition of the potential tax benefits has been taken into account.



### 10. Related Party Transactions

(a) At December 31, 1984 the Company owned approximately 49% of Cansulex Limited (Cansulex), a producer owned company marketing sulphur outside North America. The ownership in this company is reallocated annually depending on annual volume commitments by the respective owners. Sulphur sales after royalties by the Company through Cansulex were \$124,100,000 (1983 - \$69,400,000). As at December 31, 1984 and 1983 Cansulex was indebted to Canterra Energy Ltd. for \$16,700,000 and \$5,200,000 respectively.

(b) During 1983 the Company realized a gain of \$10,100,000 on a debenture which was acquired from CDC.

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### 11. Contingent Liability

The Company is jointly and severally liable in respect of all the principal liabilities and interest thereon owing or payable by CDC pursuant to a Loan Agreement and Trust Deed dated July 23, 1981 and Supplemental Loan Agreement and Trust Deed dated March 19 and March 23, 1982 respectively and Supplemental Deed of Trust and Mortgage dated May 15, 1983, and Second Supplemental Deed of Trust and Mortgage dated October 31, 1984.

As at December 31, 1984 the principal amounts of such liabilities were U.S. \$2,100,000,000 and Swiss francs 250,000,000 of which the Company is directly liable to CDC for U.S. \$1,412,000,000. This amount has been reflected on the balance sheet as "Notes Payable to Parent Company" (reference is made to Note 6).

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### 12. Other Information

#### (a) Pensions

The Company maintains pension plans all of which are fully funded based on determinations by independent actuarial consultants. Contributions to the plans were \$1,100,000 in 1984 (1983 - \$600,000).

Under the provisions of the coal union agreements the Company has guaranteed the benefits provided under the coal union health and retirement plans during the terms of the contract. Vested benefits under these plans may be underfunded and the Company may have future liabilities under the provisions of the U.S. pension legislation. It is not anticipated that the Company's share of such liabilities will have a material effect on the Company's financial position. Costs of contributions to the coal union health and retirement plans were \$1,500,000 (1983 - \$1,500,000).

#### (b) Rental Obligations

The annual rental obligations for buildings and equipment under long term leases are: 1985 - \$5,500,000; 1986 - \$5,000,000; 1987 - \$4,600,000; 1988 - \$2,700,000; 1989 - \$2,700,000 and \$700,000 thereafter.

#### (c) Petroleum Incentive Program Grants

Petroleum Incentive program grants receivable at December 31, 1984 and 1983 are \$39,500,000 and \$82,900,000 respectively. These amounts are reported net of Petroleum and Gas Revenue taxes payable of \$26,100,000 and \$35,700,000 respectively.

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**Canterra Energy Ltd.**  
**THREE YEAR SUMMARY**

|  | 1984             | 1983             | 1982             |
|--|------------------|------------------|------------------|
|  |                  | (Thousands)      |                  |
| <b>FINANCIAL</b>                                       |                  |                  |                  |
| <b>EARNINGS</b>  |                  |                  |                  |
| Revenues (net after royalties)                         |                  |                  |                  |
| Sales—   |                  |                  |                  |
| oil and natural gas liquids                            | 280,300          | 271,100          | 231,100          |
| natural gas  | 144,700          | 135,400          | 131,800          |
| sulphur  | 157,300          | 85,800           | 142,200          |
| coal   | 40,500           | 34,700           | 43,300           |
| processing income                                      | 24,400           | 22,300           | 18,600           |
| investment and other income                            | 22,400           | 34,200           | 33,900           |
| Total revenues   | <u>669,600</u>   | <u>583,500</u>   | <u>600,900</u>   |
| Expenses   |                  |                  |                  |
| Production—  |                  |                  |                  |
| oil, natural gas and sulphur                           | 75,000           | 82,700           | 93,000           |
| coal   | 34,200           | 28,100           | 40,400           |
| Administrative and foreign exchange                    | 38,800           | 40,400           | 40,600           |
| Interest   | 166,500          | 148,800          | 231,300          |
| Depletion and depreciation                             | 138,500          | 127,600          | 123,000          |
| Total expenses   | <u>453,000</u>   | <u>427,600</u>   | <u>528,300</u>   |
| Net earnings before undernoted items                   | <u>216,600</u>   | <u>155,900</u>   | <u>72,600</u>    |
| Income taxes—  |                  |                  |                  |
| Current  | (1,100)          | (3,500)          | (20,700)         |
| Deferred   | 120,200          | 86,100           | 53,000           |
| Petroleum and gas revenue and other taxes              | 56,100           | 58,600           | 58,200           |
|  | <u>175,200</u>   | <u>141,200</u>   | <u>90,500</u>    |
| Net earnings (loss) before Parent Company transactions | <u>41,400</u>    | <u>14,700</u>    | <u>(17,900)</u>  |
| Parent company transactions                            | —                | 10,100           | (42,000)         |
| Net earnings (loss)                                    | <u>41,400</u>    | <u>24,800</u>    | <u>(59,900)</u>  |
| Earnings by lines of business                          |                  |                  |                  |
| Oil, natural gas & sulphur                             |                  |                  |                  |
| Canada   | 341,100          | 272,700          | 261,000          |
| United States  | 16,700           | (1,000)          | 12,300           |
| Coal   |                  |                  |                  |
| United States  | 2,400            | 3,100            | 1,300            |
| Office buildings                                       |                  |                  |                  |
| Canada   | 4,700            | 5,400            | 5,000            |
| Other  |                  |                  |                  |
| United States  | —                | —                | 4,600            |
| Foreign  | 2,900            | 10,300           | 6,700            |
| Unallocated expenses                                   | (205,300)        | (189,200)        | (271,900)        |
| Income taxes   | (121,100)        | (86,600)         | (36,900)         |
| Parent company transactions                            | —                | 10,100           | (42,000)         |
| <b>FINANCIAL POSITION</b>                              |                  |                  |                  |
| Current assets   | 229,600          | 196,200          | 247,000          |
| Investments and other assets                           | 48,600           | 66,700           | 42,700           |
| Property plant and equipment (net)                     | <u>3,012,700</u> | <u>2,869,700</u> | <u>2,729,700</u> |
|  | <u>3,290,900</u> | <u>3,132,600</u> | <u>3,019,400</u> |
| Current liabilities                                    | 130,400          | 137,000          | 126,900          |
| Long term debt   | 452,800          | 448,400          | 458,200          |
| Notes payable to parent company                        | 1,703,600        | 1,703,600        | 1,703,600        |
| Advances under natural gas sales contracts             | 38,200           | 39,300           | 37,300           |
| Deferred income taxes                                  | 301,600          | 181,400          | 95,300           |
| Shareholder's equity                                   | 664,300          | 622,900          | 598,100          |
|  | <u>3,290,900</u> | <u>3,132,600</u> | <u>3,019,400</u> |
| <b>PROPERTIES, PLANT AND EQUIPMENT</b>                 |                  |                  |                  |
| Gross Investment                                       |                  |                  |                  |
| Oil, natural gas & sulphur                             |                  |                  |                  |
| Canada   | 2,993,200        | 2,727,800        | 2,489,000        |
| United States  | 267,500          | 256,200          | 227,700          |
| Coal   |                  |                  |                  |
| United States  | 79,200           | 75,500           | 75,300           |
| Office buildings                                       |                  |                  |                  |
| Canada   | 65,600           | 65,600           | 65,600           |
| Other  | 19,700           | 17,800           | 17,700           |
| Net Investments  |                  |                  |                  |
| Oil, natural gas & sulphur                             |                  |                  |                  |
| Canada   | 2,708,700        | 2,540,000        | 2,392,500        |
| United States  | 158,300          | 183,800          | 186,900          |
| Coal   |                  |                  |                  |
| United States  | 66,000           | 65,700           | 68,400           |
| Office building  |                  |                  |                  |
| Canada   | 60,700           | 62,400           | 64,200           |
| Other  | 19,000           | 17,800           | 17,700           |



|   | 1984            | 1983             | 1982             |
|---|-----------------|------------------|------------------|
|   |                 | (Thousands)      |                  |
| <b>CAPITAL EXPENDITURES*</b>                        |                 |                  |                  |
| Exploration   |                 |                  |                  |
| Frontier .....                                      | 92,000          | 165,300          | 119,800          |
| Less PIP Grants .....                               | <u>(71,300)</u> | <u>(130,500)</u> | <u>(82,000)</u>  |
|   | 20,700          | 34,800           | 37,800           |
| Western Canada .....                                | 87,300          | 87,800           | 107,600          |
| Less PIP Grants .....                               | <u>(19,500)</u> | <u>(20,700)</u>  | <u>(45,600)</u>  |
|   | 67,800          | 67,100           | 62,000           |
| United States .....                                 | 10,200          | 14,600           | 25,100           |
|   | <u>98,700</u>   | <u>116,500</u>   | <u>124,900</u>   |
| Production  |                 |                  |                  |
| Canada .....  | 43,800          | 49,000           | 52,200           |
| Less PIP Grants .....                               | <u>(2,900)</u>  | <u>(2,000)</u>   | <u>1,800</u>     |
|   | 40,900          | 47,000           | 54,000           |
| United States -<br>oil, natural gas & sulphur ..... | 4,100           | 4,000            | 15,400           |
| United States -<br>coal .....                       | 4,700           | 1,900            | 1,700            |
|   | <u>49,700</u>   | <u>52,900</u>    | <u>71,100</u>    |
| Heavy Oil/Tar Sands .....                           | 2,500           | 1,400            | 8,900            |
| Less PIP Grants .....                               | <u>(400)</u>    | <u>(200)</u>     | <u>(2,100)</u>   |
|   | 2,100           | 1,200            | 6,800            |
| Adjustment of prior year PIP claims .....           | 8,000           | -                | -                |
| Other .....   | 2,000           | 2,300            | 7,200            |
| Total Expenditures .....                            | 246,600         | 326,300          | 337,900          |
| Petroleum Incentive Receipts .....                  | <u>(86,100)</u> | <u>(153,400)</u> | <u>(127,900)</u> |
| NET CAPITAL EXPENDITURES .....                      | <u>160,500</u>  | <u>172,900</u>   | <u>210,000</u>   |

\* Capital expenditures do not include capitalized financing costs and exploration overhead of \$113,000,000 in 1984 (1983 - \$89,600,000 & 1982 - \$132,300,000).

#### OPERATING

##### Sales

|   |       |       |       |
|---|-------|-------|-------|
| Oil and natural gas liquids (m <sup>3</sup> per day)  |       |       |       |
| Before royalty  |       |       |       |
| Canada .....  | 4 734 | 5 003 | 5 074 |
| United States .....                                   | 375   | 444   | 463   |
| After royalty   |       |       |       |
| Canada .....  | 3 388 | 3 323 | 3 033 |
| United States .....                                   | 308   | 365   | 378   |
| Natural gas (10 <sup>3</sup> m <sup>3</sup> per day)  |       |       |       |
| Before royalty  |       |       |       |
| Canada .....  | 4 894 | 4 802 | 4 863 |
| United States .....                                   | 275   | 265   | 312   |
| After royalty   |       |       |       |
| Canada .....  | 3 513 | 3 419 | 3 225 |
| United States .....                                   | 209   | 201   | 233   |
| Sulphur (10 <sup>3</sup> t)                           |       |       |       |
| Before royalty  |       |       |       |
| Canada .....  | 1 704 | 1 096 | 1 388 |
| United States .....                                   | 313   | 121   | 153   |
| After royalty   |       |       |       |
| Canada .....  | 1 420 | 1 003 | 1 247 |
| United States .....                                   | 313   | 121   | 153   |
| Coal (10 <sup>3</sup> t)                              |       |       |       |
| United States .....                                   | 887   | 804   | 924   |
| Net property holdings (thousands of hectares)         |       |       |       |
| Oil and natural gas                                   |       |       |       |
| Canada .....  | 2,219 | 3,583 | 3,652 |
| United States .....                                   | 226   | 268   | 370   |
| Coal  |       |       |       |
| United States .....                                   | 15    | 15    | 15    |
| Proved reserves                                       |       |       |       |
| Oil and gas liquids (10 <sup>6</sup> m <sup>3</sup> ) |       |       |       |
| Before royalty  |       |       |       |
| Canada .....  | 17.8  | 16.2  | 14.7  |
| United States .....                                   | .5    | .4    | .5    |
| After royalty   |       |       |       |
| Canada .....  | 13.3  | 11.8  | 10.1  |
| United States .....                                   | .4    | .4    | .4    |
| Natural gas (10 <sup>9</sup> m <sup>3</sup> )         |       |       |       |
| Before royalty  |       |       |       |
| Canada .....  | 37.3  | 37.7  | 41.8  |
| United States .....                                   | 1.3   | 1.3   | .8    |
| After royalty   |       |       |       |
| Canada .....  | 28.0  | 27.7  | 30.3  |
| United States .....                                   | .9    | .9    | .6    |
| Sulphur (10 <sup>6</sup> t) - Canada                  |       |       |       |
| Before royalty .....                                  | 14.3  | 15.7  | 16.1  |
| After royalty .....                                   | 12.9  | 14.2  | 15.1  |
| Coal (10 <sup>6</sup> t)                              |       |       |       |
| United States .....                                   | 51.1  | 55.4  | 55.4  |
| Employees at year end .....                           | 1 400 | 1 384 | 1 486 |



# Corporate Information

## Directors

### John B. Hague

Chairman of the Board  
Canterra Energy Ltd.  
Executive Vice President  
Canada Development Corporation  
Toronto, Ontario

### H. Anthony Hampson

President and Chief Executive Officer  
Canada Development Corporation  
Toronto, Ontario

### Bernard F. Isautier

Vice Chairman of the Board  
President and Chief Executive Officer  
Canterra Energy Ltd.  
Calgary, Alberta

### D. Carlton Jones

President  
Carlton Resource Management Ltd.  
Calgary, Alberta

### John R. McCaig

Chairman of the Board and  
Chief Executive Officer  
Trimac Limited  
Calgary, Alberta

### John O. O'Brien

President  
J. O'Brien Petroleum Inc.  
Calgary, Alberta

### Daniel P. Owen

Vice President  
Canada Development Corporation  
Toronto, Ontario

### H. Gordon Pearce

Co-ordinator  
Slave River Hydro Project  
Calgary, Alberta

### Stanley G. B. Pearson

President  
S.G.B. Pearson Holdings Ltd.  
Cremona, Alberta

### John D. Redfern

Chairman  
Lafarge Corporation  
Montreal, Quebec

### Allan F. Waters

President  
CHUM Limited  
Toronto, Ontario

## Committees of the Board

### Audit Committee

#### H. Gordon Pearce (Chairman)

John O. O'Brien  
Daniel P. Owen  
Allan F. Waters

### Compensation Committee

#### D. Carlton Jones (Chairman)

John B. Hague  
H. Anthony Hampson  
John R. McCaig  
John D. Redfern

### Executive Committee

#### John B. Hague (Chairman)

Bernard F. Isautier  
D. Carlton Jones  
John O. O'Brien  
Stanley G. B. Pearson

## Officers

### John B. Hague

Chairman of the Board

### Bernard F. Isautier

Vice Chairman of the Board  
President and Chief Executive Officer

### John H. Currie

Senior Vice President  
Administration

### W. Stewart Wright

General Counsel and  
Corporate Secretary

### Lawrence M. MacLeod

Assistant Secretary

### William L. Kaufmann

Senior Vice President  
Exploration and Production  
Frontier Canada  
President  
Canterra Petroleum Inc.

### R. George Scott

Vice President  
Production  
Frontier Canada

### Douglas K. Thompson\*

Executive Vice President  
Canterra Petroleum Inc.

### J. Lindsay Milne

Senior Vice President  
Exploration and Production  
Western Canada

### Kenneth J. Fitzgerald

Vice President  
Production  
Western Canada

### Kenneth J. MacRae

Vice President  
Heavy Oil and Tar Sands

### William W. Taylor

Vice President  
Exploration  
Western Canada

### T. Sean Ahern

Vice President  
Finance

### Clarence E. Glessing

Controller

### Richard P. Norris

Treasurer

### Jean-Jacques Pascal

Vice President  
Coal

### D. Michael Stewart

Vice President  
Corporate Development and  
Marketing

## Auditors

### Thorne Riddell

Chartered Accountants  
205 - 5th Avenue S.W.  
Calgary, Alberta  
T2P 2W4

## Corporate Offices

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Telex: 038-22649

### Canterra Petroleum Inc.

Suite 600  
1625 Broadway Street  
Denver, Colorado  
U.S.A. 80202  
Phone: (303) 572-9332

### Canterra Coal Inc.

Three Parkway Center  
Pittsburgh, Pennsylvania  
U.S.A. 15220  
Phone: (412) 928-4100

### Canterra Sulphur Inc.

Three Parkway Centre  
Pittsburgh, Pennsylvania  
U.S.A. 15220  
Phone: (412) 928-8626

\* Officer of Canterra Petroleum Inc.



## Conversion Table

| <b>To Convert<br/>From</b>     | <b>To</b>                       | <b>Multiply<br/>By</b> |
|--------------------------------|---------------------------------|------------------------|
| metres (m)                     | feet (well depths)              | 3.2808                 |
| kilometres (km)                | miles (distance)                | 0.6214                 |
| hectares (ha)                  | acres (land)                    | 2.47                   |
| cubic metres (m <sup>3</sup> ) | thousand cubic feet (mcf) (gas) | 0.035494               |
| cubic metres (m <sup>3</sup> ) | barrels (oil)                   | 6.29                   |
| tonnes (t)                     | long tons (sulphur)             | 0.9842                 |
| tonnes (t)                     | short tons (coal)               | 1.10231                |

For more information or to obtain  
additional copies of this report contact:

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