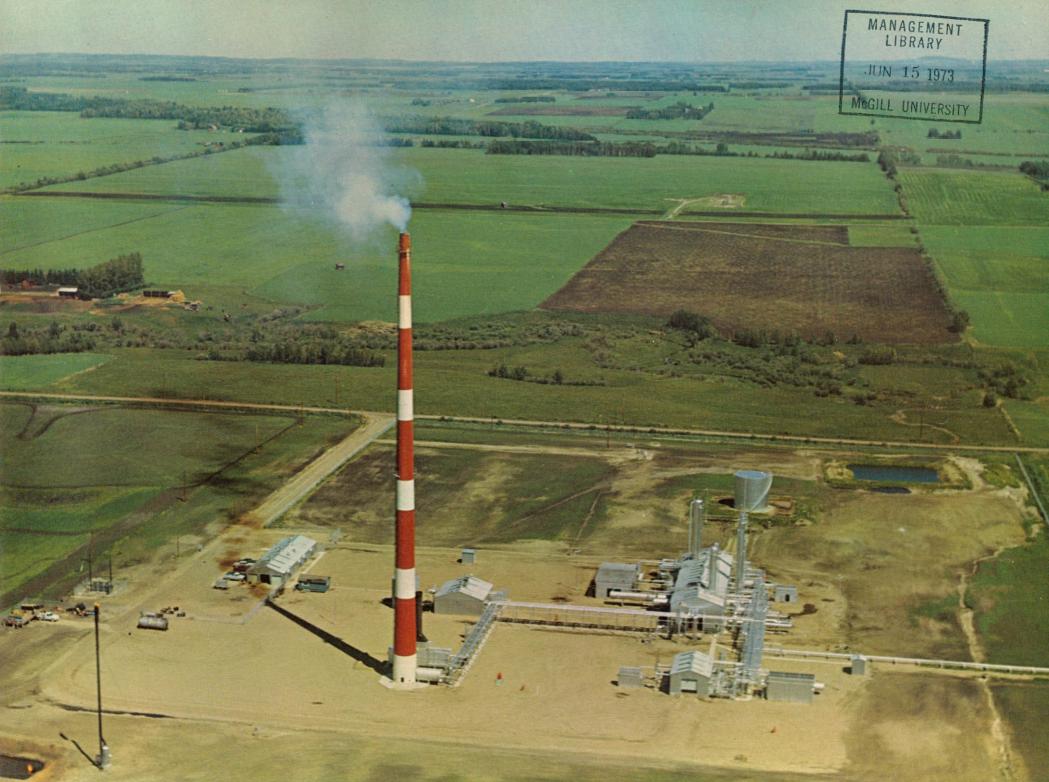


# TECK CORPORATION LIMITED

1972





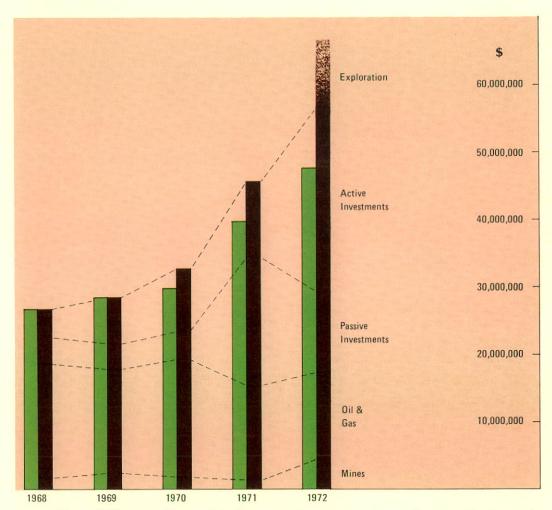
# **CONTENTS**

Directors and Officers	4
Highlights	
Report to Shareholders	6
Financial Summary	8
Investments	(
Reserve Inventory	13
Exploration	16
Mining Operations	
Personnel	20
Petroleum Operations	23
Mineral Production	26
Financial Statements	27

The annual general meeting of shareholders will be held at 2:30 p.m., Monday, March 12, 1973, in the Bel-Aire Room, Calgary Inn, Calgary, Alberta. Teck is a diversified natural resources company, active from coast to coast on behalf of 14,000 Canadian shareholders.

The company's assets include three precious metal mines, a producing oil and gas division, a substantial investment portfolio, a senior operating staff and an active exploration team.

Through its investments in associated companies, Teck is sponsoring development of a number of copper, molybdenum, columbium, zinc, and coking coal projects.



This graph illustrates the growth in the company's assets over the past five years. The bar on the right for each year represents total assets, and the bar on the left represents net assets after deducting bank debt.

Investments are valued at market, or, in the case of debentures, at cost; oil and gas reserves are valued at one dollar per barrel of oil; operating mines are valued at three times last year's operating profit.

Investments are segregated into active and passive investments with the former representing situations where Teck plays an active role in management and development.

Page Three

#### DIRECTORS

B. O. Brynelsen, Vancouver, British Columbia, President, Brenda Mines Limited.
Sir Michael Butler, Bt., Q.C., Vancouver, British Columbia, Barrister, Farris, Farris, Vaughan, Wills & Murphy. R. E. Hallbauer, B.A.Sc., Vancouver, British Columbia, President, Brameda Resources Limited.
William James, M.A., Ph.D., Toronto, Ontario, Partner, James & Buffam.
G. L. Jennison, Toronto, Ontario, Director, Canada Permanent Mortgage Corporation.
A. R. Keevil, M.A., P.Geol., Calgary, Alberta, Vice President, Teck Corporation Limited.
N. B. Keevil, M.Sc., Ph.D., Mississauga, Ontario, President, Copperfields Mining Corporation Limited.
N. B. Keevil Jr., M.Sc., Ph.D., P.Eng., Vancouver, British Columbia, President, Tribag Mining Co., Limited.
J. D. Leishman, M.D., Vancouver, British Columbia, Director, Mutual Life Assurance Company of Canada.
C. E. Michener, B.A., M.Sc., Ph.D., Toronto, Ontario, Consulting Geologist.
J. H. Westell, Islington, Ontario, Executive Vice President, Teck: Mining Group Limited.
R. J. Wright, Toronto, Ontario, Partner, Lang, Michener, Cranston, Farquharson & Wright.

#### **OFFICERS**

Norman B. Keevil, President and Chairman of the Board Norman B. Keevil Jr., Executive Vice President Robert E. Hallbauer, Vice President, Mining Alan R. Keevil, Vice President, Petroleum James H. Westell, Vice President and Treasurer Donald L. Hiebert, Vice President, Finance G. Robert Shipley, Controller William H. Maedel, Secretary Ronald D. Penrose, Assistant Treasurer John D. Munroe, Assistant Secretary Walter H. Bowles, Assistant Secretary

#### MINE MANAGERS

Mr. A. W. Foley, Lamaque Mining Company Limited, Val d'Or, Quebec Mr. W. C. Summers, Silverfields Mining Division, Cobalt, Ontario Mr. B. E. Goetting, Beaverdell Mining Division, Penticton, British Columbia

#### **EXECUTIVE OFFICE**

Suite 700, 1177 West Hastings Street, Vancouver 1, British Columbia EASTERN DIVISION
Suite 4900, Box 49, Toronto-Dominion Centre, Toronto M5K 1E8, Ontario PETROLEUM DIVISION
1530 Aquitaine Tower, 450 - 5th Avenue S.W., Calgary 1, Alberta

#### TRANSFER AGENTS

Guaranty Trust Company of Canada, Toronto, Montreal, Winnipeg and Vancouver National State Bank of Newark, Newark, New Jersey, U.S.A.

#### **AUDITORS**

McDonald, Currie & Co., Vancouver, B.C.

# HIGHLIGHTS

- Record mine operating profit of \$1,492,000.
- Earnings of \$1,603,000 or 23c per share before extraordinary items.
- Teck and Iso purchased 50% of Afton Mines Ltd., which discovered an important copper orebody near Kamloops, B.C.
- Teck's interest in Brameda increased to 47%, and over \$5,000,000 spent by partner on engineering and trial mining at Brameda's Sukunka coal project.
- Successful pilot plant programme on Copperfields' St. Honoré columbium project.
- In exploration:
  - Seven more gas wells completed at Bantry.
  - Seismic structure located on Mackenzie Delta permits.
  - Additional coal located on Bullmoose project.
  - Magusi River copper-zinc deposit discovered by Iso and Copperfields.
  - Copper deposit at Twin Bridges, Montana, being explored by Copperfields and Iso.

# REPORT TO SHAREHOLDERS

It is a pleasure to report on the first full year of operations following the amalgamation of four associated companies into Teck Corporation Limited in April, 1971. The amalgamation created a company with a strong financial base from which to maintain and improve our competitive positions in the Canadian resources industry.

Your company's asset value has grown in recent years, as illustrated in the accompanying chart. Growth in future earnings may be anticipated from development projects now in hand, but short term earnings have declined somewhat as a result of our expansion programme, as noted in the financial section of this report. Regular quarterly dividends of 30¢ per share were paid in 1972, but these have since been suspended to conserve our strong financial position and to enable us to meet anticipated capital requirements.

Mine operating profit was at a record level, with improved prices for gold and silver and the increase in production at our Silverfields mine. Petroleum revenue was lower after the sale of production in the Illinois basin in the central United States.

About sixty per cent of the shares of Mattagami Lake Mines Ltd. held by the company were sold during the year, and the proceeds from this sale, together with bank borrowings, were used to acquire an interest in Afton Mines Ltd. and to increase our investment in Iso Mines Limited and Brameda Resources Limited. The copper orebody discovered by Afton near Kamloops, B.C., appears to be one of the most important discoveries for some years. Teck and an associated company, Iso Mines Limited, hold over 50% of the shares of that company. A summary of developments on this acquisition together with a review of developments on other important holdings are given elsewhere in this report.

In mining exploration, two associated companies, Iso and Copperfields, discovered a new copperzinc-precious metals Magusi River deposit near Noranda, where an active drilling programme is in progress. The same two companies are also drilling the Twin Bridges copper project in Montana. Results

on both properties have been encouraging to date, and both could develop into mines. On Teck's Bull-moose coal project in British Columbia, drilling added to reserves in both the Chamberlain and Bird seams, and development work by a partner on Brameda's adjoining Sukunka coking coal deposit has proceeded to the point where a production decision appears imminent.

In petroleum exploration since the year end, seven more gas wells were drilled in the Bantry area in southwestern Alberta, where Teck and a partner are exploring for shallow natural gas, and additional exploration and development wells are planned this year. In the Mackenzie Delta, a structure was indicated on our permits, and is being explored by more detailed seismic work also. Since the year end, Teck participated in four successful gas wells in the Vegreville area of central Alberta.

The Canadian natural resource industry finds itself in a most difficult period. The profitability of the mining industry has been declining over the past few years because, by and large, world prices have not yet kept pace with cost escalation, and the value of exports has declined because of the strong Canadian dollar. At the same time, the industry has been subjected to an ever-increasing tax burden at both federal and provincial levels in the form of royalties, mining taxes and income taxes, as well as to other governmental restrictions. We feel that these developments arise from a basic misunderstanding by some governments of factors that affect the industry, and of the risks associated with the development of natural resources.

We are confident that in the long-run this situation will improve, but in the meantime, unfortunately, mineral exploration and development will be curtailed and emphasis will shift to areas where government policies are less restrictive. This will have serious effects on the economic development of some provinces and the country as a whole. Eventually, we can anticipate a return to more reasonable levels of the overall tax burden of the industry, and to policies that will encourage resource development.

On a more positive note, the prices of most mineral resource commodities have shown considerable improvement recently. Teck, with its strong financial position, its inventory of large tonnage, long life deposits, and its capable professional staff, is well poised to take advantage of any improvement in economic conditions. With respect to management, we have added considerably to the depth of the company in the past few years. We were pleased to have Donald L. Hiebert join us this past summer as Vice President of Finance, to work closely with James H. Westell in this aspect of the company's affairs. Our engineering staff under Robert E. Hallbauer has expanded substantially, and is now one of the best in the country. Some members of this team and some members of our exploration group are introduced in this report.

ON BEHALF OF THE BOARD

mounis

Chairman and President.



N. B. Keevil



I H Westell

Investment Portfolio:	1972	1971
Marketable securities (at market)	\$11,996,000	\$19,278,000
Investments in asso- ciated companies (at market)	25,380,000	10,304,000
Brameda debentures and mortgage (at cost)	2,300,000 \$39,676,000	1,000,000 \$30,582,000
Per share	\$5.82	\$4.48

## **FINANCIAL**

During 1972 a number of important changes were made in Teck's investment portfolio:

- Teck purchased 862,000 shares of Afton Mines Ltd. at a cost of \$11,978,000. An associated company, Iso Mines Limited, purchased 464,203 shares, for a combined total of just over 50% of the issued shares of Afton.
- Teck purchased 610,553 shares of Iso Mines Limited at a cost of \$1,645,000, increasing its equity in Iso to 39%.
- Teck purchased 3,491,033 shares of Brameda Resources for \$3,043,000 which enabled Brameda to reduce its bank indebtedness. Teck's interest in Brameda was thus increased to 47%.
- Teck sold 450,071 shares of Mattagami Lake Mines Ltd. for \$15,621,000. The Company still holds 332,600 shares of Mattagami and Iso holds 168,500 for a combined total of 501,100 shares.

We have elected to treat Afton as an investment in an associated company, while Mattagami is treated as a current asset. Because of this and the other transactions, reported working capital declined from \$13,648,000 to \$1,579,000 at September 30, 1972. However, the value of our investment portfolio, taking marketable securities at market increased from \$30,582,000 to \$39,676,000 and the net value of the portfolio, after deducting bank debt, increased from \$23,979,000 to \$30,533,000.

The capital requirements of Teck and associated companies over the next few years could be substantial and, while our financial position is good, we will have to rely upon bank and other external financing to a considerable extent. New projects will be financed as far as possible through project financing loans, but Teck will undoubtedly be called upon to stand behind portions of these. The suspension of dividend payments will conserve over \$2,000,000 per year and improve the company's financial strength.



D. L. Hiebert

Net earnings in 1972, before extraordinary items, decreased from \$1,997,000 or 33¢ per share to \$1,603,000 or 23¢ per share. The decline in petroleum revenue and operating profit was due to the sale of the Illinois Basin production (which was not contributing significantly to net earnings), to the normal field decline in our Canadian oil production and to higher land rentals and field operating expenses. Offsetting the decline in petroleum earnings was the increase in operating profit from mining operations of over \$1,000,000 to a record \$1,492,000. Higher gold and silver prices and increased production from the Silverfields mine were the major contributing factors. Interest expenses were up by \$200,000 and exploration was up by \$324,000.

Extraordinary items netting \$2,418,000 increased net earnings by 36¢ per share to \$4,021,000 or 59¢ per share in 1972.



N. B. Keevil Jr.

# **INVESTMENTS**

Teck Corporation has a substantial investment portfolio consisting of shares and debentures in other companies in the Canadian natural resources industry. The market value of this portfolio on September 30, 1972, taking debentures and mortgage at cost, was \$39,676,000, or \$5.82 per Teck share, compared with \$30,582,000 or \$4.48 per share in 1971.

This portfolio may be subdivided into active and passive investments. The active portion includes companies which are managed by Teck or in which Teck makes a significant contribution to the management, such as Afton, Brameda, Copperfields, Highmont, Iso, Silver Standard and Tribag. Passive investments, like Mattagami and Marion Oil, do nothing for Teck structurally, but provide a reservoir of financial strength to stand behind your company's more direct activities. Madeleine is an intermediate situation, since its unusual dividend covenants mean that Teck will receive and be able to employ its 25% share of Madeleine's cash flow annually.

Over the past few years there have been two trends apparent in our investment portfolio. One is the movement towards a greater proportion of active investments, and this is indicated by the graph on page three. The other has been a tendency to swing our active investment package towards interests in companies which, under Teck Group auspices, are developing substantial, long term ore reserves.

Teck Corporation's principal investments are described in this section. Where applicable, further information on some of their activities is included in the Reserve Inventory and Exploration sections of this report.

#### MATTAGAMI LAKE MINES

Teck Corporation retained 332,600 shares of Mattagami with a market value of \$11,392,000 on September 30, 1972. An associate of Teck's, Iso Mines Limited, held a further 168,500 shares, for a combined total of 501,100 shares or 8% of that company.

Mattagami produces copper, zinc and silver from a 3,900 ton per day operation in northwestern Quebec, and owns 63% of a 145,000 ton per year zinc smelter — refinery complex and a related fertilizer plant in the Montreal area. Mattagami's 60% subsidiary, Mattabi Mines Ltd., started production at a new, 3,000 ton per day copper, zinc, lead, silver mine in western Ontario in August, 1972.

Teck was a participant in the syndicate which discovered the original Mattagami mine in Quebec. However, Teck was not at the time in the development business, and the project was financed to production and has been managed since by the Noranda Group.

Reserves at the Mattagami mine were 15,893,160 tons grading 8.8% Zn and 0.66% Cu on December 31 1971. At the Mattabi Mine, reserves have been reported as 12,900,000 tons of 7.6% Zn, 0.9% Cu, 0.8% Pb and 3.1 ounces of silver. At least two additional orebodies have been indicated on Mattabi or Mattagami ground in the vicinity, and this tonnage could be increased.

Earnings for the nine-month period ended September 30, 1972, including two months of Mattabi operations, were \$7,480,000 or \$1.13 per Mattagami share. Operating profit, before non-cash write-offs and interest, for the same nine-month period was \$16,018,000, or \$2.42 per share.

#### MADELEINE MINES

Teck holds 1,151,176 shares or 25% of Madeleine Mines Ltd., with a market value of \$4,605,000 on September 30, 1972.

Madeleine operates a 2,400 ton per day copper mine and concentrator near Ste. Anne des Monts, in the Gaspé region of Quebec.

An affiliate of Teck was a joint venture participant in discovery of the Madeleine orebody in 1966. Teck assisted in negotiation of a development contract for management and financing and, although Teck was prepared to do this itself, it was possible to negotiate an excellent contract with a third party, McIntyre

Porcupine Mines Ltd. A feature of the development contract was the provision that, after initial debt retirement, all cash flow other than that required for working capital and maintenance of the operation be paid to shareholders as dividends. As a result, dividends should exceed Madeleine's earnings over the next few years, and Madeleine dividends could make a significant contribution to Teck's earnings.

Madeleine's debt stood at \$3,500,000 on December 31, 1971, with working capital of \$1,428,405, and it was anticipated that the debt might be eliminated by the end of this year. However, copper prices have continued to be depressed and, with a modest capital expenditure programme to develop portions of the mine below the 2,400 level, cash flow was not sufficient to retire the remaining debt during the year.

Operating profit before non-cash writeoffs and interest was \$3,184,000 in the nine-month period ended September 30, 1972. Net earnings were \$928,000 and capital expenditures \$747,000 in the same period.

Ore reserves on December 31, 1971 were reported as 5,014,000 tons grading 1.2% Cu, with some silver values.

#### AFTON MINES LTD.

Teck made a substantial investment in Afton Mines Ltd., during the year. Teck held 862,000 shares of Afton with a market value of \$8,189,000 on September 30. An affiliate, Iso Mines Limited, held 464,203 shares, for a combined total of just over 50% of the outstanding shares.

Afton is exploring and developing a copper prospect 10 miles west of Kamloops, British Columbia. This deposit, discovered this year, is unusual in several respects: it consists mostly of native copper rather than chalcopyrite, and it will be possible to produce a particularly high grade concentrate; the grade is significantly higher than for most B.C. open pit orebodies; and it is well-located close to the City of Kamloops.

Ore reserves at Afton are estimated to exceed 30,000,000 tons grading 1.06% Cu, with additional values in precious metals. This is within a preliminary open pit outline with a stripping ratio of 3.3 to one. Indications are that the orebody continues to depth, and additional ore may be developed for an eventual underground operation as well.

Teck and Iso jointly purchased over 50% of Afton in the open market in May, with the intention of assisting Afton in the management and development of the property.

Unfortunately, the then-Afton directors, after learning of Teck's holdings, entered into a contract with a Placer subsidiary which provides for the possible issuance of more than 1,100,000 treasury shares giving management of Afton's property to the Placer company. Teck, with the approval of the independent shareholders, took this into the courts. The Supreme Court of British Columbia ruled that the directors' action be upheld, and your company has announced plans to appeal.

#### COPPERFIELDS MINING CORPORATION

Teck held 1,581,000 shares or 25% of Copperfields Mining Corporation, with a market value on September 30, 1972 of \$2,055,000.

Copperfields is an exploration and development company with a number of interesting prospects. Until early this year, the company operated a copper mine in the Temagami area. Discovered by Copperfields in 1954, the mine operated for 17 years before its ore reserves were exhausted.

Copperfields was a participant in the discovery of the Silverfields mine in 1964, and subsequently Silverfields Mining Corporation Limited was acquired by Teck for shares and cash. Copperfields now holds over 2,000,000 shares of Teck Corporation, and is the largest single shareholder of your company. This investment, with a market value of \$9,767,000, gives Copperfields the financial strength to explore for and develop new mines to replace its Temagami operation.

Copperfields is presently engaged in three interesting projects: development of the St. Honoré columbium deposit near Chicoutimi, Quebec; exploration of the Magusi River copper-zinc-precious metals deposit near Noranda; and exploration of the Twin Bridges copper deposit near Butte, Montana. The former is in joint venture with Soquem, the Quebec Government exploration company; the latter two are in joint venture with Iso Mines Limited, another Teck affiliate.

The **St. Honoré** deposit contains extensive reserves of medium to high grade columbium and is well-located for low cost development and mining. Underground bulk sampling and pilot plant work were carried out during the year, with favourable results, and detailed marketing negotiations — the final stage of the feasibility study — are now in progress. Plans are to begin production in the 1,500 - 2,000 ton per day range, with provision for expansion as markets expand.

The Magusi River deposit is a massive sulphide body similar to others in the Noranda camp. It contains sections of high grade copper and/or zinc with precious metals. The **Twin Bridges** deposit is a copper-bearing skarn, with values in precious metals, located 25 miles south of Butte, Montana. If drilling continues to produce favourable results, either or both of these could develop into significant mines.

Further information on St. Honoré, Magusi River and Twin Bridges is included in the Exploration section of this report.

#### ISO MINES LIMITED

Teck held 1,269,200 shares or 39% of Iso Mines Limited, with a market value on September 30, 1972 of \$2,031,000.

Iso is an exploration and development company with a substantial investment portfolio, and is similar in this respect to Copperfields. Iso's investments include 168,500 shares of Mattagami Lake Mines Limited, 464,203 shares of Afton Mines Ltd., and 85,700 shares of Orchan Mines Ltd. Its net market value

of investments, after deducting debts, was \$7,002,000 on September 30, 1972.

Iso is participating with Copperfields in the Magusi River and Twin Bridges projects, and is carrying out exploration on its own in eastern Canada and British Columbia. Under an agreement with Teck Corporation in 1972, Teck undertook to spend \$300,000 during the year ending June 30, 1973, with an option to continue at the same rate for a total of five years, on exploration projects selected and owned by Iso, with Teck earning shares of Iso for the expenditures. This gives Iso exposure to exploration success without depleting its working capital.

Iso is participating with Ashland Oil and Andrew Robertson in exploration of an interesting bismuth prospect in northern B.C., and is active in airborne EM surveys and follow-up in eastern Canada.

Although Teck continues to conduct mining and petroleum exploration on its own, the agreement with Iso gives Teck increased exposure to exploration at the same time as it earns additional equity in Iso.

#### BRAMEDA RESOURCES LIMITED

Teck held 4,624,368 shares or 47% of Brameda Resources Limited, as well as \$2,300,000 in Brameda debentures, and the value of this investment on September 30, 1972 was \$7,156,000.

Brameda's most important asset is the Sukunka coking coal property near Chetwynd, British Columbia, discovered by Brameda, and upon which over 65,000,000 tons of mineable, high grade coking coal has been outlined.

Teck was responsible for negotiating a development contract with subsidiaries of Brascan Ltd., under which the Brascan Group may provide the capital necessary to place the deposit into production and may acquire a 60% equity in it. Management would be provided jointly by Brameda-Teck and the Brascan Group, under a Management Committee representing the proportionate interests. Brascan's associates in the venture include Austen and Butta Limited, Australian coal operators, and Intercontinental Fuels Ltd., coal marketing consultants.

If the option is exercised, Brameda would receive a further cash payment of \$9,800,000 of which \$5,050,000 would be paid upon the exercise and the remainder by mid 1976. Brameda's 40% ongoing interest would be a direct, joint venture equity, and its earnings would be consolidated into Teck Corporation's financial statements.

Brameda also holds a 16% share interest in Casino Silver Mines Ltd., and an option to acquire up to a 70% interest in Casino's Yukon copper, molybdenum property upon placing it into production. The Casino project is marginal under present conditions, but it contains a substantial mineral deposit which could become an important asset in the future.

Brameda owns 51% of Churchill Copper Corporation and is that company's principal creditor, holding \$7,933,000 in Churchill notes. The Churchill mine was shut down in late 1971 because of falling copper prices, and the mine and mill are being maintained in condition for a resumption of operations should economic conditions improve.

#### SILVER STANDARD MINES LIMITED

Teck held 866,666 shares or 15% of Silver Standard Mines Limited, which had a market value of \$867,000 on September 30, 1972. In addition, Teck had spent \$91,000 at September 30, 1972, which can be converted into 60,333 shares, with the combined market value being \$927,000.

Silver Standard is a Vancouver-based mining exploration company, led by Ridgeway W. Wilson. Teck has an agreement with Silver Standard under which Teck conducts exploration on various projects of that company and earns shares as a result. The earning price is related to market from time to time, but it is estimated that Teck's eventual equity will be in the range of 45-50%. The Silver Standard arrangement gives Teck excellent exposure to exploration by a well-managed, independent exploration team, as well as an equity in the important Schaft Creek copper deposit.

Silver Standard's Schaft Creek property, held by a 67% owned subsidiary, contains one of the largest undeveloped porphyry copper deposits in Western Canada. Reserves are estimated at approximately 300,000,000 tons of 0.5% copper-equivalent, with a good stripping ratio and added values in precious metals. Silver Standard has farmed this out to Hecla Mining Co., which can acquire a 70% interest upon placing the property into production.

The company is engaged in a number of other, early stage exploration ventures, the most interesting of which presently appear to be two zinc-silver and copper prospects in the Yukon.

### HIGHMONT MINING CORP. LTD.

Teck held 875,000 shares or 22% of Highmont Mining Corp. on September 30, 1972, with a market value of \$1,312,000. In addition Teck had spent \$630,000 at September 30, 1972 which can be converted into 194,000 shares, in which case the combined market value would have been \$1,600,000. Teck also holds an indirect 5% equity in Highmont through its shareholding in Torwest Resources (1962) Ltd., a small B.C. exploration company which holds 1,000,000 shares of Highmont Mining Corp.

Highmont's principal asset is a copper, molybdenum property in the Highland Valley district of British Columbia, adjacent to the Lornex mine. The deposit contains 145,000,000 tons grading 0.27% Cu and 0.045% MoS<sub>2</sub> with a strip ratio of 1.2 to 1. An independent feasibility study in 1971 recommended placing this deposit into production, but deteriorating economic conditions made it necessary to postpone a production commitment for the time being.

Teck is managing the exploration and development programme and has purchased a 45% equity in the deposit, over and above its share position in Highmont Mining Corporation. Although economic conditions are not favourable at the moment, Highmont will in the future become an important producer and should contribute to Tecks earnings.

#### TRIBAG MINING CO. LTD.

Teck held 1,158,959 shares (30%) of Tribag Mining Co., with a market value of \$556,000 on September 30, 1972.

Tribag operates a 500 ton per day copper mine near Sault Ste. Marie, Ontario, which has produced 30,000,000 pounds of copper valued at more than \$16,000,000 since being financed into production by Teck in 1967. Tribag mines copper from two breccia pipes known as the Breton and West Breccias, developed to depths of 1,200 and 600 feet respectively.

Results during 1972 have been adversely affected by low copper prices, and the mine incurred an operating loss of \$527,000 during the first nine months of the year.

The company is exploring a copper property, upon which interesting values have been encountered, 25 miles south of its original mine.

## RESERVE INVENTORY

One of the most important aspects of a natural resources company, and one which is not generally evident in its balance sheet, is its inventory of ore reserves in the ground. Teck Corporation's policy in recent years has been to expand its ore reserve inventory, with emphasis on large tonnage deposits with long term reserves.

The success of this programme has changed the character of your company considerably, and the inventory of reserves held by Teck and associated companies gives us a good opportunity for continued expansion in the coming years.

#### AFTON PROJECT

Afton appears to be the most significant copper discovery made in British Columbia for some time, with relatively high grade ore for an open pit operation, good logistics, and the possibility of producing a high grade, native copper concentrate. The deposit occurs only 10 miles from the City of Kamloops, and provides an excellent opportunity for a well-planned operation, accessible to the public and one which could be a showpiece of the Canadian mining industry.

Ore reserves indicated to date are 30,000,000 tons of 1.06% Cu with a waste to ore ratio of 3.3 to one. Drilling was suspended by court order in July, and at that time the orebody had not been delimited, particularly at depth and to the west.

Metallurgical tests conducted by Teck and Afton show that good recoveries can be obtained and that unusually high grade concentrate can be produced. The grade and nature of the concentrate should contribute to flexible marketing alternatives, with treatment and transportation costs being lower than usual.

Although additional drilling could add to reserves, the ore outlined to date appears sufficient to warrant an operation with a capacity of 6,000 to 8,000 tons per day. The ultimate decision as to mill-

ing rate will depend upon the results of feasibility study work now in progress.

## **SUKUNKA PROJECT**

The Sukunka coal project lies in the Sukunka River Valley in north central British Columbia, 30 miles south of the town of Chetwynd. Teck's interest in the main Sukunka project is held through Brameda Resources (Teck 47%), although Teck has a direct joint venture interest in other, adjoining coal licences as well.

Approximately \$8,500,000 has been invested in the project to date, including \$2,500,000 by Brameda and Teck and over \$6,000,000 by the Brascan Group, who are presently conducting detailed feasibility studies and have the right to finance the project into production.

Mineable coking coal reserves are estimated at 65,000,000 tons, which is sufficient to support an operation shipping 2,000,000 tons of washed coal per year for over 20 years. The coal is classed as low-sulphur, medium-volatile coking coal, and has excellent blending and coking characteristics. In quality, it appears to be one of the premium coking coals in the world. The deposit is predominantly flat-lying, with a thickness between 8 and 11 feet, and appears amenable to low cost, underground mining methods.

During 1970 Brameda Resources did 44,380 feet of diamond drilling and 350 feet of underground work in addition to extensive geological mapping. This work outlined approximately 80,000,000 long tons of flat-lying, high grade coking coal. The Brascan group, during 1971 and 1972, has done an additional 65,906 feet of drilling, for a total of 110,286 feet, and has done approximately 3,000 feet of underground development and trial mining. This is the most extensive exploration programme carried out on any Canadian coal deposit prior to a production decision.

The feasibility study and mine and mill design are near completion and, if events proceed favourably, Sukunka could be in production in late 1974.

## ST. HONORÉ PROJECT

The St. Honoré columbium deposit is located only 7 miles from Chicoutimi, Quebec, on the main C.N.R. line and close to town and port facilities. The property is being developed jointly by Copperfields (Teck 25%) and Soquem, the Quebec Government exploration company.

Ore reserves are more than ample to support an operation at the scale anticipated, and exploratory drilling was suspended with indicated reserves of 40,000,000 tons grading 0.76% Cb<sub>2</sub>O<sub>5</sub>. Work during 1972 included an underground bulk sampling programme, with access via an inclined tunnel, and an eleven-month pilot plant programme at the Quebec Department of Mines' Quebec City plant. The pilot plant work indicated excellent recoveries and concentrate grades, and resulted in a patent application for a proprietary process technique.

The determining factor as to initial mine output will be marketing. Columbium is a relatively new metal and its principal current applications are in super-alloys and in pipeline, deep-drawing and lightweight structural steels. This market is expected to continue to grow and to form the base for St. Honoré's initial market penetration. In the longer term, the superconductive nature of certain columbium-based alloys may find important application in power generation, high-capacity buried transmission lines, and in public transportation systems using linear induction technology, such as the prototype being tested by the Japanese National Railway.

After a weak period for all ferroalloy materials in 1971, columbium demand resumed its growth trend this year. There have been two price increases in the past six months, and the price now stands at \$1.39 per pound of columbium pentoxide.

Present plans are for an initial plant capacity between 1,500 and 2,000 tons per day, with an output of 6,000,000 to 8,000,000 pounds per year, and a production decision should be possible in early 1973.

### SCHAFT CREEK PROJECT

Silver Standard's Schaft Creek project is in the Liard mining division of northern British Columbia, 45 miles west of the Stewart-Cassiar highway and 185 road miles from the port of Stewart. Exploration and development is being financed by Hecla, which can earn a 70% interest in the project by financing it to production.

Schaft Creek is one of the largest porphyry copper deposits in western Canada. Drilling has indicated approximately 300,000,000 tons of 0.40% Cu and 0.036% MoS<sub>2</sub>. This is more than ample for an operation in the 25,000 to 40,000 ton per day range, and the next stage is bulk sampling, pilot plant work and detailed feasibility studies. This would take the better part of a year, even if accelerated, and Schaft Creek could not be in production before the middle of the decade. However, the deposit is an important one, and forms a significant part of the Teck Group's long term reserve portfolio.

#### HIGHMONT PROIECT

Highmont is a porphyry copper deposit in the Highland Valley area of British Columbia, in the same geological environment as Lornex, Valley Copper and Bethlehem. Reserves defined to date are 145,000,000 tons grading 0.27% Cu and 0.045% MoS<sub>2</sub> with a waste to ore ratio of 1.2 to one.

Teck and Highmont have conducted extensive engineering and design studies on the Highmont project, culminating in design of a 25,000 ton per day concentrator, pit plans, tailings and waste disposal plans and detailed capital and operating cost estimates. An independent feasibility study was commissioned, and this concluded that development was technically and economically feasible, with a capital cost estimated at \$66,000,000 including preproduction interest.

However, economic conditions have deteriorated continuously since the project was started. The Canadian dollar appreciated by almost 10¢ relative to the U.S., effectively reducing the price of copper

by about 5¢ per pound; the world price of copper has weakened on its own account; smelting charges have increased substantially and markets for molybdenum have weakened. It is not anticipated that a production decision will be made until the net effect of these factors has turned around.

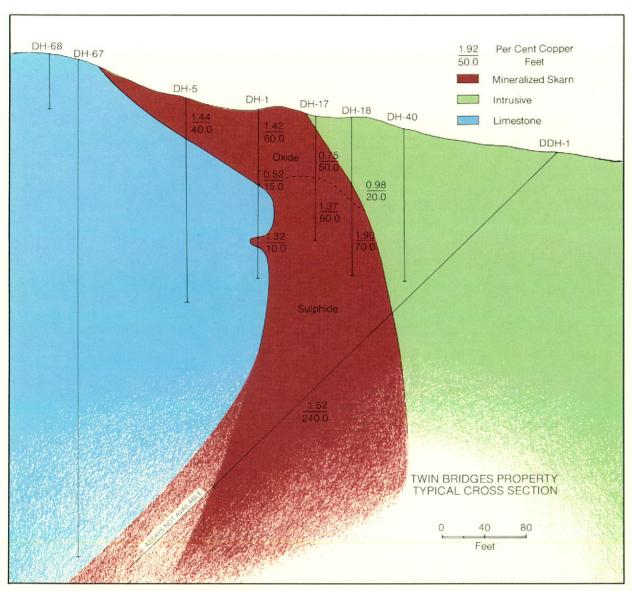
#### CASINO PROJECT

Casino is an extensive low grade coppermolybdenum deposit 190 miles northwest of Whitehorse in the Yukon Territory. Teck's interest is held through its shareholding in Brameda Resources.

Reserves within a preliminary pit outline are approximately 180,000,000 tons grading 0.37% Cu and 0.039% MoS<sub>2</sub>, with a waste to ore ratio of 1.67 to one. These are estimated from a limited amount of drilling, and considerably more work would have to be done to firm them up into mineable reserves.

Although the grade is higher than several other deposits now in production in British Columbia, the indefinite, high cost of operating in the Yukon makes it difficult to establish economic projections with any degree of certainty. It is not anticipated that extensive work at Casino will be resumed until economic conditions in the copper industry have improved materially.

#### **TECK GROUP MINERAL RESERVES** Grade Company Commodity Tonnage **NEAR TERM** Afton Copper 30,000,000 1% Cu Afton Copperfields Columbium 40,000,000 .76% Cb2O5 St. Honoré 65,000,000 Sukunka Brameda Coking coal High grade LONGER TERM Schaft Creek Silver Standard Copper, Moly 300,000,000 0.40% Cu, 0.036% MoS<sub>2</sub> Highmont Teck & Highmont 0.27% Cu, Copper, Moly 145,000,000 0.045% MoS<sub>2</sub> Casino Brameda 0.37% Cu, Copper, Moly 180,000,000 0.039% MoS<sub>2</sub> **EXPLORATION POSSIBILITIES** Magusi River Copperfields & Iso Cu, Zn, Ag, Au Twin Bridges Copperfields & Iso Cu,Ag,Au Bullmoose Teck Coking coal



# EXPLORATION

Teck Corporation carries out exploration directly, for its own account, and sponsors exploration by two associated companies: Silver Standard Mines Ltd. and Iso Mines Ltd. Two projects undertaken during 1972 have resulted in discovery of mineral deposits which, while they both require additional work, appear interesting: the Magusi River copper-zine precious metals body and the Twin Bridges copper deposit. In addition, drilling on the Bullmoose coal project produced encouraging results.

#### MAGUSI RIVER

The Magusi River property, 20 miles northwest of Noranda, Quebec, was staked in July as a result of airborne geophysical anomalies. Additional geophysical surveys on the ground led to a drilling programme and the discovery of a massive sulphide deposit containing values in copper, zinc, silver and gold.

Twenty two holes have been completed and have traced the zone for a strike length of 1,200 feet and to a depth, down the dip of the deposit, of 1,000 feet. Two types of ore occur: one high in copper, and the other high in zinc, with both containing values in silver and gold. Thickness and grade vary and considerably more drilling is required before calculations of grade and tonnage and a proper economic assessment can be made, but results to date are encouraging.

This project is a joint venture between Iso Mines and Copperfields Mining Corporation.

#### TWIN BRIDGES

The Twin Bridges copper prospect is 25 miles south of Butte, Montana, and is also being explored jointly by Iso and Copperfields.

Copper mineralization occurs in a contact metasomatic or skarn deposit between limestone and granite. The primary mineralogy consists of garnet, epidote, magnetite and chalcopyrite, with the chalcopyrite generally converted to oxides in the upper 60 feet. Seventy vertical percussion holes have been drilled, and have traced the zone for a length of 1,200 feet and to an average depth of 200 feet. The drill-indicated, reserves to this depth, including both oxides and sulphides, have been estimated at 1,800,000 tons grading 1.3% Cu.

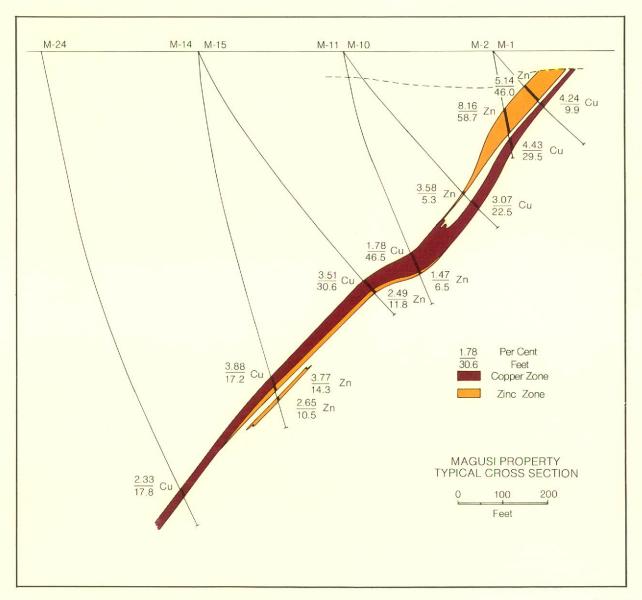
A diamond drilling programme is planned to explore the zone at depth, beneath the limits of the percussion drilling programme.

#### BULLMOOSE

Teck is exploring 50 coal licences immediately south of the Sukunka coal property. Teck can earn a 50% working interest upon the expenditure of \$1,000,000 in exploration and development, with the balance held by Brameda Resources.

Drilling to explore the Chamberlain seam, which contains the bulk of the reserves on the adjoining Sukunka project, continued in 1972. Approximately 15,000,000 tons have been indicated to date, with possible reserves in the area immediately adjacent to Sukunka estimated to be in the 40,000,000 ton range. Geological mapping traced the Chamberlain seam on surface for a length of 4 miles in another part of the property and, although dips in this area tend to be steep, some drilling is planned here as well.

In addition, approximately 50,000,000 tons of coal have been indicated by preliminary drilling in the Bird seam, which lies above the Chamberlain. However, although apparently of excellent coking quality, this is high in sulphur and it may only be possible to utilize it by blending with low-sulphur Chamberlain coal.





R. E. Hallbauer

# MINING OPERATIONS

Teck produces silver from its Silverfields mine near Cobalt, Ontario, silver and base metals from its Beaverdell mine near Kelowna, B.C., and gold and silver from its Lamaque mine at Val d'Or, Quebec. The company employs over 500 men at the three mines, and indirectly many more benefit from these operations.

Sales revenue from mining operations was \$7,180,000 in 1972, compared with \$5,090,000 in 1971. Operating profit for the mining division increased from \$433,000 to \$1,492,000.

#### SILVERFIELDS MINE

The Silverfields mine is a 270 ton per day operation near the town of Cobalt, Ontario. Since being placed into production in 1965, the mine has produced over 10,000,000 ounces of a silver, valued at over \$16,500,000. The operation employs a labour force of 80 men.

Production increased to 1,328,510 ounces of silver from 1,112,822 ounces the previous year. Revenue increased from \$1,205,000 to \$1,874,000 and operating profit from \$126,000 to \$732,000. The average price received for silver was \$1.65, compared with \$1.58 in 1971.

The increase in sales and profit was achieved despite a seven week shutdown of milling operations in March for repairs and expansion, which resulted in an increase in capacity from 225 to 270 tons per day.

Mining continued routinely during the year, although unusually thick stope widths were developed in the 4W vein and in the 1NN and 11W vein systems. Exploration was concentrated in the southeast part of the property, where a considerable amount of drilling was done from the 403 crosscut, and indications are that some additional reserves will be developed in this area.

Research into a new hydrometallurgical process continued, and it is expected that this will result in a process that will produce metallic silver while rejecting arsenic as an insoluble sludge. It also may prove feasible to recover cobalt, nickel and copper.

Ore reserves at the year end were estimated at 343,490 tons grading 14.3 ounces silver per ton, compared with 346,820 tons grading 14.1 ounces the previous year. Broken reserves were 180,000 tons grading 15.2 ounces per ton.

#### BEAVERDELL MINE

The Beaverdell division operates a 120 ton per day mine and mill at Beaverdell, in southeastern British Columbia. The mill has been in production since 1950, and has produced over 17,000,000 ounces of silver. Concentrates, which include zinc, cadmium, lead and gold, are shipped to the Cominco smelter at Trail, and the operation employs a labour force of 35 men.

Production increased to 676,363 ounces of silver, compared with 584,094 ounces the previous year. Revenue increased from \$898,000 to \$1,043,000, and operating profit from \$60,000 to \$268,000.

It is not customary to publish ore reserves for high grade silver mines such as Beaverdell, but exploration and development continued to locate new ore. A new level is being driven 3,000 feet to develop ore indicated in recent diamond drilling and this will result in higher capital costs during the next fiscal year.

# **LAMAQUE MINE**

Lamaque Mining Company Ltd., a wholly-owned subsidiary of Teck, operates a 2,100 ton per day mine and mill at Val d'Or, Quebec. Lamaque is the largest gold mine in the Province of Quebec and has a record as one of the lowest cost underground mining operations of its size in Canada. Since going into production in 1935, Lamaque has produced over 4,000,000 ounces of gold valued at almost \$150,000,000. The operation employs a labour force of 385 men.

Production in fiscal 1972 was 81,815 ounces of gold, compared with 96,197 ounces the previous year. Tonnage milled was 768,820, compared with 777,920 in 1971, and the average grade dropped from 0.131 ounces per ton to 0.114 of gold per ton. Bullion

sales were \$4,263,000, compared with \$3,437,000 in 1971. Operating profit was \$492,000, compared with \$263,000 in 1971.

Lamaque has long been a victim of the gold costprice squeeze, with the price remaining fixed in U.S. dollars from 1934 to 1968, while the cost of labour and supplies rose consistently. In the last few years a free market price for gold developed, but the increase of 10% in the Canadian dollar over the same period countered much of the benefit of this. However, in 1972, the free market price rose sharply to a peak over \$70 per ounce, and it is currently at about \$65 per ounce. This timely increase could help to prolong the life of the mine.

Exploration activities were resumed, both on surface and underground. The surface programme met with little encouragement, but exploration in previously-abandoned areas in the upper levels of the mine has indicated some ore-making possibilities. In addition, exploration near the north boundary with the adjoining Sigma mine resulted in encouraging high grade intersections, and plans are to drive a 2,000 foot crosscut to develop this area.

Geological ore reserves were estimated at 643,000 tons of 0.146 ounces gold at the year end, compared with 750,000 tons of 0.162 ounces the previous year.

As with the majority of the mining industry, an adequate supply of manpower has not been available, particularly in the underground department. Despite a new labour agreement in January, 1972, which was re-opened in July, 1972 to increase wages and encourage recruitment, a chronic shortage of miners and trainees will probably continue to affect production schedules adversely. Production has been reduced to 1,500 tons per day to increase efficiency and prolong the life of the mine.

#### **TEGREN MINE**

The Tegren property is being mined from the Macassa mine workings under a royalty agreement with Upper Canada Mines Ltd., which now operates Macassa.

A total of 23,364 tons grading 0.84 ounces of gold

per ton was milled. The production royalty amounted to \$65,384 and part of the net proceeds after taxes were used to retire \$26,880 in preferred shares held by Teck. Mining is continuing in the areas developed previously by Teck close to the Macassa boundary, and new theories with respect to the ore structure are being tested by exploration in an area 2,000 feet west of the boundary.



S. F. Siscoe (left), R. E. Hindson, L. Bilheimer, R. Drozd and M. P. Lipkewich reviewing preliminary feasibility projections on a new project with R. E. Hallbauer.

Lee Bilheimer's mining engineering record included Newmont, St. Joseph Lead and Placer Development prior to joining the Teck Group, where he is one of the principal contributors to new project feasibility studies.

Mr. Drozd, chief engineer for the Teck Mining Group, held a similar post with the Texas Gulf development at Timmins before joining Teck.

Mr. Lipkewich, another ex-Placer man and formerly with Cassiar Asbestos, has combined mining engineering and computer talents in the optimization of mine and mill design for the Group's new projects.



Gordon MacIntosh, chief mine geologist, and Ken Hymas, assistant general manager of Mining Operations, review plans for development drilling a zinc property in Newfoundland.

Mr. MacIntosh has been senior mine geologist for the Teck Group since 1956 and has been in charge of geological investigations at all of the Group's mines. He spent many years as mine geologist at Wright-Hargreaves, Sylvanite, Broulan-Reef and Hollinger before joining Teck.

Mr. Hymas had extensive mining experience in Europe, Africa and Canada prior to joining Teck from the Placer organization in 1965.

Mr. Siscoe, Teck's chief metallurgist, is responsible for Teck's current and projected milling operations. He joined the company in 1969 after a career which included Rio Algom's Lornex project and Campbell Chibougamau.

Mr. Hindson has had extensive experience in exploration particularly in northern Canada, and managed the Casino and Sukunka exploration projects in recent years.

One of your company's intangible resources is people: the geologists, engineers, miners and other staff who make up the Teck Group team. Whether on the lookout for new deposits, developing or operating those on hand, working in the stopes or in administration, these people — working with our more tangible assets — form the future of our company. Some of them appear on these pages and, with others who are not shown, make up one of the best resources teams in the country.



Dr. Matthew Blecha and John L. May, part of the Teck Group exploration team, examine nickel-rich manganese nodules from the Pacific Ocean floor. During 1972, Teck participated in a pilot test of a dredging system to recover these nodules.



Dr. D. C. Fraser, chief geophysicist, and Mario Steiner analyze the results of airborne geophysical surveys in northwestern Quebec.

Dr. E. A. Manker handles marketing and research and development arrangements for the Group's ferroalloy materials, including columbium and molybdenum.



Dr. Manker joined the Teck organization in 1971 after a career as research chemist and operating engineer with the Occidental Petroleum Group.

use today.

an electrical engineering technician educated in Yugoslavia and Switzerland as well as in Canada, were respon-

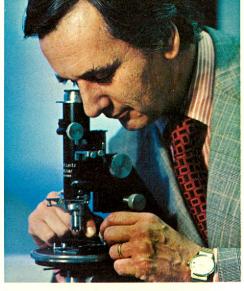
sible for developing the Dighem airborne EM concept, one of the finest airborne electromagnetic systems in

John May, a geological engineer, combines managerial with technical talents. Prior to joining the Teck Group, his career included open pit iron mining, chief engineer for a gas exploration company, and geothermal exploration.

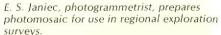
Dr. Fraser, past president of the Canadian Exploration Geophysical Society, is both a geologist and one of the premier geophysicists in the industry. He and Mr. Steiner,



Hugh Jones, between Matt Blecha and John May, studying geological maps with an aeromagnetic compilation in the background.

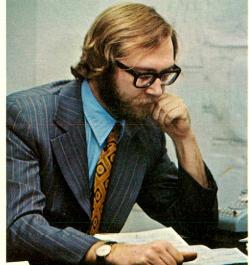


Dr. Matthew Blecha, a senior member of the Teck Group's exploration team examines samples from the Magusi River copper deposit.





T. A. Wedge, part of Teck Group's metal marketing team, reviewing alternatives for the Afton deposit.



military and a number of e

Dr. Blecha, with a geological background from three Canadian universities and practical experience from a number of mining companies, was with Tribag when Teck acquired and brought that property into production. Dr. Blecha has risen rapidly in the Teck organization and is now exploration manager in eastern Canada.

Mr. Jones spent fourteen years in mineral exploration, his speciality being massive sulphide deposits in eastern Canada. His experience includes seven years with Anaconda and a position with Rio Tinto, before joining the Teck Group.

Mr. Wedge studied at the University of Saskatchewan and York University. He joined the Teck organization after a training programme with Rudolf Wolff, metal traders on the London Metal Exchange, and is responsible for the Group's base metal sales.

Mr. Janiec has had extensive experience as a cartographer, photogrammetrist and engineering draftsman, both with the military and a number of exploration companies.

Page Twenty-Two

## PETROLEUM OPERATIONS

Teck Corporation produces petroleum from various oilfields in Alberta, Manitoba and Saskatchewan, with the principal contribution being from the Steelman field in Saskatchewan. Teck also produces natural gas from the West Provost field in southern Alberta, and obtains minor revenue from small working interests in North Dakota and Montana.

In fiscal 1972, Teck produced 1,352,765 barrels of crude oil and 549,840 mcf of natural gas. This compares with Canadian production of 1,449,807 barrels of crude and 511,080 mcf of gas the previous year.

Total petroleum sales during the year were \$3,940,000 with an operating profit of \$2,666,000, compared with sales of \$5,076,000 and an operating profit of \$3,606,000 in fiscal 1971. The reduction in sales and operating profit was mainly due to sale of Teck's interest in oil production from the Illinois Basin prior to the current fiscal year.

The average price received for crude oil was \$2.89 per barrel and for gas was 15¢ per mcf. There were not significant changes in our pricing structure from January, 1971 to the year end, but a 10¢ per barrel increase became effective in November, 1972, and a further 20¢ increase occurred on January 1, 1973. The West Provost gas was under contract at 15¢ per mcf in 1972, escalating by ¼¢ per year until 1988. General industry opinion is that prices for both oil and gas should continue to increase in the future, but the timing and amount are difficult to assess.

Canadian petroleum reserves at the year end were calculated by Reid, Crowther & Partners Ltd. at 12,639,200 barrels of net recoverable crude oil and 17,269,000 mcf of net recoverable gas, compared with 13,904,600 barrels and 15,894,000 mcf the previous year. This does not include provision for gas reserves being outlined in the Bantry area.

# **DEVELOPMENT DRILLING**

Teck completed three development wells during the year, with two gas wells in the West Provost Viking Gas Unit and one oil well at Benson in Saskatchewan.

The West Provost wells will provide additional gas production from the Unit to meet deliverability requirements of the existing sales contracts. The Benson oil well adds some extra reserves, and completes currently planned development of this pool.

Since the year end two more development gas wells have been drilled, jointly with BP Canada Limited, near Bantry in southeastern Alberta. Both encountered shallow Milk River gas and Teck now has interests in twelve capped Milk River and/or Second White Specks gas wells in this area, eleven of which were drilled in the last two years. This is shallow, low pressure gas at depths of around 2000 feet, and is similar to that now being produced in the area by Alberta Eastern Gas Co. and others. After additional development drilling is undertaken during the current year, the necessary gathering system and other related equipment will be installed with a view to placing these reserves into production. Teck holds interests in 73 sections of land for a total of 12,672 net acres in the Bantry area.

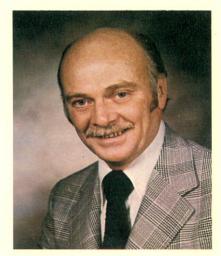
In 1973, development wells are planned for both the Vegreville area of central Alberta, where Teck participated in gas discoveries during the year; and for the Knappen area of southern Alberta, where three gas wells have recently been drilled by a farmee company on and near Teck lands.

#### PETROLEUM EXPLORATION

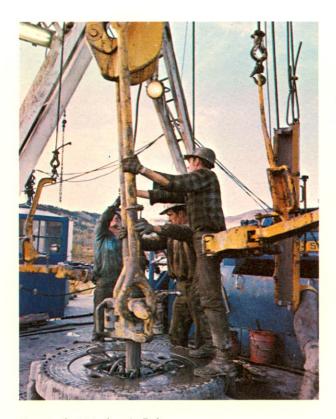
Teck participated in seven exploratory wells in 1972. These resulted in three potential gas producers in the Bantry area and dry holes at Sturgeon Lake, Alberta; Daly, Manitoba; and Steeple Aston, England. Since the year end, three more gas wells were drilled at Bantry, and further exploratory drilling is planned during 1973.

Teck also supported eight other exploratory wells by farmout; two at Aden and Medicine River, Alberta, resulted in gas wells; two were completed as oil wells in Saskatchewan; and four were dry.

Since the year end Teck (5½%) has participated in six exploratory wells in the Vegreville-Lavoy area



A. R. Keevil



Hovercraft at Mackenzie Delta



	P	PETROLEUM F	PRODUCTION	1		
	1972	1971	1970	1969	1968	1967
(barrels)						
Steelman, Sask.	1,164,584	1,245,193	1,274,693	1,299,891	1,398,875	1,399,19
Cullen, Sask.	66,829	71,732	71,226	85,670	100,544	98,442
Medicine River, Alta.	35,820	37,873	38,532	38,637	54,696	40,66
Virden, Man.	31,439	35,262	44,083	36,932	33,783	35,47
Miscellaneous	54,093	59,747	44,934	30,697	24,574	33,49
	1,352,765	1,449,807	1,473,468	1,491,827	1,612,472	1,607,26
Illinois Basin, USA	_	286,564	418,450	_	_	
NATURAL GAS (mcf)						
West Provost, Alta.	549,840	511.080	408,319	354,020	307,451	_

of central Alberta, four of which were completed as single or multizone gas wells. As soon as this tenwell programme is finished, gas sale negotiations will commence and additional development drilling will be considered during the year. During the coming year Teck (7½%) will participate in another multiwell gas exploration programme in the Athabasca-Pelican River area of central Alberta.

Teck encouraged the drilling of four wells near its acreage by farmout agreements. One (at Arrowwood, Alberta) resulted in an oil well; two were dry, and one (at Cochrane, Alberta) has been abandoned since the year end.

### **EXPLORATION IN THE U.K.**

In March, Teck (17%) and associates were awarded a 64,600-acre offshore permit in the Celtic

Basin, 110 miles southwest of Cardiff. Seismic surveys carried out prior to the bidding indicated a structure on the block, and 118 miles of additional seismic this summer have confirmed this. There have been important recent gas discoveries and oil indications in the vicinity, and it is anticipated that this will be an active area for the industry in the next few years. Teck, in addition to its primary permit, is participating in other seismic surveys in the area and anticipates further bids.

Teck and a partner jointly drilled Steeple Aston No. 1 in the Severn Basin in on-shore England. The well was unproductive, but encountered excellent reservoir rocks with hydrocarbon shows, and further exploration is planned in the vicinity. Elsewhere on the permits, seismic work will soon get underway to confirm a structure and to assist in selecting a drill site for a deep test in mid-1973.

#### **NORTH SEA**

Teck (15%) is participating with a group of companies investigating geophysical data in the North Sea area, with a view to bidding on permit blocks which contain favourable structures.

#### MACKENZIE DELTA

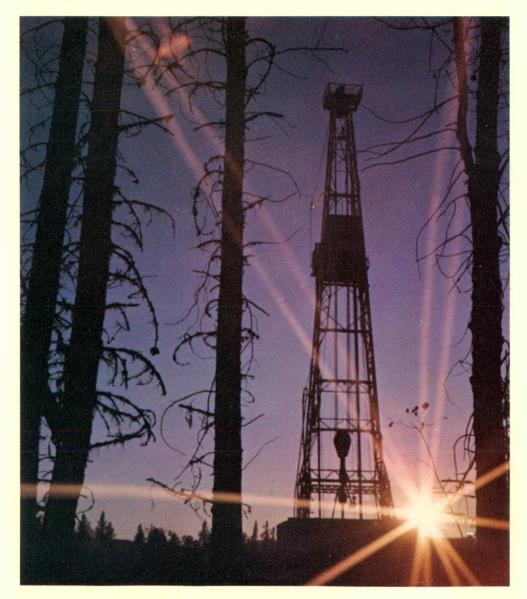
During the summer of 1972 PanCanadian Petroleum Limited conducted a marine geophysical survey (using a Hovercraft) and a land geophysical survey on and immediately adjacent to Teck's permits in the Mackenzie Delta, scene of several recent oil and gas discoveries. The Teck (25%) et al permits cover 70,000 acres. Total cost of the geophysical programme in 1972 was close to one million dollars. During the winter of 1972-1973 the farmee will undertake an additional seismic programme on the ice with a view to picking a location for a deep exploratory well.

#### **KETTLEMAN HILLS**

Seismic work undertaken by other companies has confirmed the structure under the Teck block in the East Kettleman Hills area of central California. This is five miles east of the deep McCulloch oil discovery made last year. However, completion problems have plagued that discovery well, and little more is known about the area than a year ago. Teck has no immediate plans to drill its acreage.

# **HUDSON BAY AND JAMES BAY LOWLANDS**

No wells were drilled in 1972, but aeromagnetic surveys were undertaken and integrated with known geology. This resulted in additional applications for permit acreage in one area. An exploratory well is planned for the James Bay Lowlands in the current year. In the central Hudson Bay, which appears to have the greatest potential, Arco, Aquitaine et al have announced plans to drill at least one exploratory test during the summer of 1973.



# MINERAL PRODUCTION OF THE TECK GROUP

Gold			
Howey	1930-1941	\$ 13,167,000	
Lamaque	1935-1972	149,235,000	
Leitch	1937-1965	30,547,000	
Pickle Crow	1935-1966	53,225,000	
Teck-Hughes	1917-1968	107,854,000	\$354,028,000
Copper			\$334,020,000
Copperfields	1955-1972	34,232,000	
Tribag	1967-1972	17,987,000	52,219,000
Silver			32,213,000
Beaverdell	1946-1972	23,998,000	
Silverfields	1964-1972	16,559,000	
Silver Standard	1948-1958	12,300,000	52,857,000
Oil and Gas	1953-1972		59,919,000
TOTAL			\$519,023,000



# CONSOLIDATED BALANCE SHEET AS AT SEPTEMBER 30, 1972

ASSETS	1972	1971
	\$	\$
Current Assets		
Cash	44,000	381,000
Concentrates and bullion at estimated net realizable value	1,642,000	1,020,000
Accounts receivable	684,000	568,000
Receivable under the provisions of the Emergency Gold Mining Assistance Act	81,000	311,000
Marketable securities — at cost, less amounts written off (quoted market value 1972 — \$11,996,000; 1971 — \$19,278,000) (notes 4 and 9)	6,625,000	18,882,000
Supplies — at cost		382,000
Deposits and prepaid expenses		154,000
	9,563,000	21,698,000
Investment in and Advances to Associated and Other Companies — at cost,		
less amounts written off (notes 2, 4 and 9)	. 29,192,000	10,954,000
Property, Plant and Equipment (note 3)		
Producing petroleum properties including well development expenditures — at cost, less accumulated depletion (1972 — \$4,848,000; 1971 — \$4,573,000)	. 2,653,000	2,934,000
Undeveloped petroleum properties — at cost, less amortization (1972 — \$327,000: 1971 — \$377,000)	1 (06 000	1 919 000
Mining properties — at cost, less amounts written off		1,818,000 4,282,000
	3,149,000	4,202,000
Buildings, plant and equipment — at cost, less accumulated depreciation (1972 — \$8,199,000; 1971 — \$7,395,000)	1,902,000	1,970,000
	0.240.000	11 004 006
	9,310,000	11,004,000
	48,065,000	43,656,000

.IABILITIES	1972	1971
	\$	\$
Current Liabilities		
Bank loans (notes 2 and 4)	6,485,000	6,603,000
Accounts payable and accrued expenses	1,381,000	1,433,000
Income and other taxes	118,000	14,000
	7,984,000	8,050,000
ank Loans (notes 2 and 4)	2,658,000	
Nortgage Payable (note 5)	2,500,000	2,500,000
Deferred Income Taxes	1,714,000	1,873,000
	14,856,000	12,423,000
Authorized — 7,500,000 Class "A" shares without nominal or par value 17,500,000 Class "B" shares without nominal or par value		
17,500,000 Class B. Shares without horninal of par value		
Issued and fully paid —		
	14,021,000	14,021,000
Issued and fully paid —	14,021,000 11,136,000	
Issued and fully paid — 4,903,620 Class "A" shares		11,136,000
Issued and fully paid — 4,903,620 Class "A" shares	11,136,000	11,136,000 25,157,000
Issued and fully paid — 4,903,620 Class "A" shares	11,136,000 25,157,000	11,136,000 25,157,000 6,076,000
Issued and fully paid — 4,903,620 Class "A" shares	11,136,000 25,157,000 8,052,000	11,136,000 25,157,000 6,076,000
Issued and fully paid — 4,903,620 Class "A" shares	11,136,000 25,157,000 8,052,000	14,021,000 11,136,000 25,157,000 6,076,000 31,233,000 43,656,000

# CONSOLIDATED STATEMENT OF EARNINGS FOR THE YEAR ENDED SEPTEMBER 30, 1972

	1972 \$	1971 \$
Revenue from petroleum operations	3,940,000	5,076,000
Revenue from mining operations	7,180,000	5,090,000
	11,120,000	10,166,000
Operating profit from petroleum operations (See schedule)	2,666,000	3,606,000
Operating profit from mining operations (See schedule)	1,492,000	433,000
Investment income	829,000	803,000
Churchill Copper payment	5,000	155,000
	4,992,000	4,997,000
Less: Administrative and general expenses	640,000	637,000
Interest expense	608,000	408,000
	1,248,000	1,045,000
Operating profit before exploration and write-offs	3,744,000	3,952,000
Petroleum and mining exploration	1,387,000	1,063,000
	2,357,000	2,889,000
Depletion, depreciation and amortization (note 3 (c))	745,000	1,066,000
Petroleum and mining properties written off	168,000	1,000,000
	913,000	1,066,000
	1,444,000	1,823,000
Income taxes (note 7)		
Deferred	(159,000)	(200,000)
	1,603,000	2,023,000
Minority interest in profits of subsidiary	(	26,000
Net earnings for the year before extraordinary items	1,603,000	1,997,000
Extraordinary items	2 502 202	
Profit on sale of marketable securities	3,562,000	827,000
Profit on sale of investments	17,000	1,126,000
Profit on disposal of fixed assets	353,000 (1,316,000)	132,000
Write-down of investments	(1,318,000)	(767,000)
Reorganization and other expenses	The second second	(92,000)
	2,418,000	1,226,000
Net earnings for the year	4,021,000	3,223,000
Earnings per share (note 6)  Before extraordinary items	23¢	33¢
After extraordinary items	59¢	53¢

# CONSOLIDATED STATEMENT OF SOURCE AND USE OF FUNDS FOR THE YEAR ENDED SEPTEMBER 30, 1972

Source of Funds	1972 \$	1971 \$-
Operating profit before exploration and write-offs	3,744,000	3,952,000
Less: Minority interest in profits for the year		26,000
Cash earnings from operations	3,744,000	3,926,000
Profit on sale of marketable securities	3,562,000	827,000
Proceeds on disposal of property, plant and equipment	1,406,000	2,107,000
Proceeds on sale and redemption of investments	69,000	2,854,000
Bank loans (note 4)	2,658,000	
Shares issued on acquisition of assets		8,099,000
Investments surrendered in exchange for assets		8,954,000
Proceeds on repayment of mortgage receivable		555,000
Proceeds from Highmont mortgage payable		2,500,000
Use of Funds	11,439,000	29,822,000
Dividends paid	2,045,000	1,814,000
Exploration — petroleum and mining	1,387,000	1,063,000
Property acquisitions — petroleum and mining	35,000	3,645,000
Additions to plant and equipment	204,000	114,000
Development well expenses	33,000	245,000
Investments in and advances to associated and other companies	19,606,000	7,230,000
Reorganization and other expenses	198,000	92,000
Repayment of bank loan — U.S. (net)		1,962,000
Decrease in minority interest on reorganization		750,000
Decrease in initionly interest on reasgains and	23,508,000	16,915,000
Increase (Decrease) in Working Capital	(12,069,000)	12,907,000
Working Capital — Beginning of Year	13,648,000	741,000
Working Capital — End of Year	1,579,000	13,648,000

# CONSOLIDATED SCHEDULE OF OPERATING PROFIT FOR THE YEAR ENDED SEPTEMBER 30, 1972

		19	972					1971		
	Petroleum Operations (Note A)	Lamaque Mining Company Limited	Silverfields Division	Beaverdell Division	Total Mining Operations (Note B)	Petroleum Operations (Note A)	Lamaque Mining Company Limited	Silverfields Division	Beaverdell Division	Total Mining Operations (Note B)
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Revenue										
Revenue before royalties paid to provincial governments	4,368,000	4,263,000	1,874,000	1,043,000	7,180,000	5,519,000	3,437,000	1,205,000	448,000	5,090,000
Royalties to provincial governments	428,000					443,000				
	3,940,000	4,263,000	1,874,000	1,043,000	7,180,000	5,076,000	3,437,000	1,205,000	448,000	5,090,000
Expenses										
Operating expenses	1,274,000	4,023,000	1,052,000	775,000	5,850,000	1,470,000	3,791,000	1,079,000	404,000	5,274,000
Provincial mining taxes		24,000	90,000		114,000					
	1,274,000	4,047,000	1,142,000	775,000	5,964,000	1,470,000	3,791,000	1,079,000	404,000	5,274,000
Less: Recoverable under the Emergency Gold Mining										
Assistance Act		276,000			276,000		617,000			617,000
	1,274,000	3,771,000	1,142,000	775,000	5,688,000	1,470,000	3,174,000	1,079,000	404,000	4,657,000
Operating Profit	2,666,000	492,000	732,000	268,000	1,492,000	3,606,000	263,000	126,000	44,000	433,000

# Notes:

- A. On September 9, 1971, Northern Plains Petroleum Company, a wholly-owned subsidiary, sold the majority of its producing petroleum properties. In 1971, Northern Plains Petroleum Company contributed \$268,000 of operating income while in 1972 the company had a loss from operations amounting to \$141,000.
- B. The operations of Silverfields Division include the five-month period ended February 28, 1971, while that company was still a subsidiary of of the company and the operations of the Division from April 1, 1971, to September 30, 1971.

The Beaverdell mine was acquired on acquisition of the assets less liabilities of Leitch Mines Limited on April 1, 1971.

# CONSOLIDATED STATEMENT OF RETAINED EARNINGS FOR THE YEAR ENDED SEPTEMBER 30, 1972

	1972	1971
	\$	\$
Balance — Beginning of Year	6,076,000	4,667,000
Net earnings for the year	4,021,000	3,223,000
	10,097,000	7,890,000
Dividends paid	2,045,000	1,814,000
Balance — End of Year	8,052,000	6,076,000

# **AUDITORS' REPORT TO THE SHAREHOLDERS**

We have examined the consolidated balance sheet of Teck Corporation Limited and its subsidiaries as at September 30, 1972 and the consolidated statements of earnings, retained earnings, and source and use of funds for the year then ended. Our examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances.

In our opinion these consolidated financial statements present fairly the financial position of the companies as at September 30, 1972 and the results of their operations and the source and use of their funds for the year then ended, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceeding year.

Vancouver, B.C. McDONALD, CURRIE & CO.
November 22, 1972 CHARTERED ACCOUNTS
except as to note 11 which
is as of December 8, 1972

# NOTES TO CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED SEPTEMBER 30, 1972

#### 1. Principles of Consolidation

The consolidated financial statements include the statements of all wholly-owned subsidiaries except certain subsidiaries which have been excluded because the companies are inactive or are in the exploration stage and have had no significant profits or losses since their acquisition or inception.

The accounts of the U.S. subsidiary have been converted into Canadian dollars as follows:

- (a) Fixed assets at rates at the date of acquisition.
- (b) Current assets and liabilities at rates at September 30, 1972.
- (c) Income and expenses at average monthly rates except for depreciation, depletion and amortization which are converted at the rates effective on the dates at which the expenditures on the related assets were made.

#### 2. Investments in and Advances to Associated and Other Companies

The investments in associated and other companies are not temporary investments and include marketable shares at a cost of \$24,947,000 which had a quoted market value of \$25,380,000 at September 30, 1972. These amounts include the cost and market value of certain purchased escrowed shares; market value of these escrowed shares (\$2,446,000) is calculated at the quoted market price for free shares. The total market value of all shares included in investments may not necessarily reflect the present or ultimate value of these holdings which may be more or less than that indicated by cost or market quotations.

The remaining balance of \$4,245,000 consisting of bonds and non-marketable shares in and advances to associated and other companies represents costs to date less amounts written off and may not necessarily reflect present or future values.

Certain of the aforementioned investments are pledged as security for the bank loans and the contingent liability with respect to the bank loan to Brameda Resources Limited (notes 4 and 9).

# 3. Property, Plant and Equipment

#### (a) Petroleum Properties

The practice of the company is to capitalize lease acquisition costs and drilling and development expenditures of producing wells. Depletion of such costs and depreciation of related productive equipment are provided on a unit of production method based on estimated recoverable reserves of oil. Amortization of undeveloped petroleum properties is a provision for future write-offs

accrued at a rate of 8% per annum. Carrying charges on undeveloped petroleum properties are charged to operations as incurred.

### (b) Mining Properties

The amounts shown for mining properties represent costs to date less amounts written off and do not necessarily reflect present or future values.

(c) Depletion, depreciation and amortization consist of:

	1972	1971
	\$	\$
Depletion of producing petroleum		
properties	310,000	466,000
Depreciation Amortization of undeveloped	280,000	444,000
petroleum properties	155,000	156,000
	745,000	1,066,000

#### 4. Bank Loans

The bank loans are secured by marketable and investment securities (note 2). The long-term bank loans are due as follows:

	<b>D</b>
December 31, 1973	1,887,000
June 15, 1974	386,000
December 15, 1974	385,000
	2,658,000

#### 5. Mortgage Payable

During the year ended September 30, 1971 the company purchased a 45% undivided interest in the mineral properties of Highmont Mining Corp. Ltd. for \$2,500,000 which sum is payable on the date of commencement of production from the property or December 31, 1974, whichever date is the earlier. Payment of the \$2,500,000 is secured by an interest-free mortgage on the company's 45% interest in the Highmont mineral properties.

#### 6. Capital Stock

During the year, options expiring on April 1, 1977 were granted to officers on 90,000 Class "A" shares at \$5.00 per share.

One-third of the optioned shares may be purchased during 1972 and a further one-third of the total shares optioned may be purchased during 1973. The balance of shares in respect of which options have not been exercised may be purchased during the remaining term of the option agreement.

The dilutive effect of these stock options has no significant effect on the earnings per share and has therefore been ignored.

#### 7. Income Taxes

- (a) During the year, the company expended \$1,212,000 on development of the mining claims of other mining companies in consideration for shares or interest in the properties of those companies. For income tax purposes, the company intends to claim sufficient of this amount to eliminate its taxable income.
- (b) As a consequence of a reorganization, the company has capital cost allowances in the amount of approximately \$375,000 in excess of the book values of the related assets. This amount may be utilized to reduce income taxes of the company in future years.

#### 8. Directors' and Senior Officers' Remuneration

The company has twelve directors and seven officers, of which five officers are also directors.

The aggregate remuneration paid or payable by the company during the year to its directors and officers amounted to \$45,000 and \$165,000 respectively. The amount paid by Lamaque Mining Company Limited, a subsidiary, to directors and officers of the parent company amounted to \$4,000 and \$12,000 respectively.

Remuneration to the directors and senior officers (as defined by the Ontario and British Columbia Securities Acts) amounted to \$246,000.

#### 9. Contingent Liabilities

(a) The company is contingently liable in the amount of \$51,000 with respect to

- guarantee notes issued by a bank in connection with the company's share of oil exploration commitments.
- (b) At September 30, 1972, the company is contingently liable in the amount of \$2,321,000 as guarantor of a bank loan to Brameda Resources Limited. Certain securities have been pledged with respect to this guarantee (note 2).
- (c) Additional expenses regarding the Afton Mines Ltd. court case are anticipated but cannot be estimated at this time.

#### 10. Leased Mining Property

The company's producing mining property operated as the Silverfields Division at Cobalt, Ontario, is held under a lease expiring on July 4, 1982, the terms of which provide for a minimum annual royalty payment of \$5,000.

#### 11. Subsequent Event

During 1972 the company and Iso Mines Limited, an associated company, acquired a majority shareholding in Afton Mines Ltd. Immediately after this acquisition, Canadian Exploration Limited (Canex) executed a development agreement with Afton under which Canex may acquire a substantial number of shares thereby eliminating the majority position of the company and Iso. An action was commenced in the Supreme Court of British Columbia to set aside this agreement. In a judgment handed down on December 8, 1972, the company's action was dismissed with costs. The company is considering an appeal.

# COMPARATIVE FIGURES

	Years ended September 30,				
	1972	1971	1970	1969	1968
Crude oil and gas sales	\$3,940,000	\$5,076,000	\$5,336,000	\$4,012,000	\$4,336,000
Less: Operating expenses	1,274,000	1,470,000	1,531,000	729,000	701,000
Operating profit from petroleum operations	2,666,000	3,606,000	3,805,000	3,283,000	3,635,000
Operating profit from mining operations	1,492,000	433,000	665,000	820,000	602,000
Investment income	829,000	803,000	509,000	826,000	657,000
Churchill Copper payment	5,000	155,000	64,000	FOREST S.	
Churchiii Copper payment	4,992,000	4,997,000	5,043,000	4,929,000	4,894,000
Land Alexandria and coperal expenses	640,000	637,000	455,000	377,000	266,000
Less Administrative and general expenses	608,000	408,000	235,000	5,555	
Interest expense	1,248,000	1,045,000	690,000	377,000	266,000
Continue (t) before audienties	3,744,000	3,952,000	4,353,000	4,552,000	4,628,000
Operating profit before exploration	1,387,000	1,063,000	1,097,000	1,147,000	1,067,000
Petroleum and mining exploration	2,357,000	2,889,000	3,256,000	3,405,000	3,561,000
Solution I would be added to the state of th	745,000	1,066,000	1,267,000	928,000	788,000
Depletion, depreciation and amortization	168,000	1,000,000	54,000	320,000	12,000
Mining claims written off	913,000	1,066,000	1,321,000	928,000	800,000
Income taxes	1,444,000	1,823,000	1,935,000	2,476,000	2,761,000
Current	1,+11,000	1,025,000	89,000	198,000	610,000
Deferred	(159,000)	(201,000)	(146,000)	230,000	103,000
Deletted	(159,000)	(201,000)	(57,000)	428,000	713,000
	1,603,000	2,024,000	1,992,000	2,048,000	2,048,000
	1,003,000	2,024,000	1,992,000	205,000	2,040,000
Deduct: pre-acquisition profits subsidiary	1,603,000	2,024,000	1,992,000	1,843,000	2,048,000
	1,003,000	26,000	56,000	44,000	2,040,000
Minority interest in profits of subsidiary	1,603,000	1,997,000	1,936,000	1,799,000	2,048,000
Net earnings before extraordinary items	1,003,000	1,997,000	1,930,000	1,733,000	2,040,000
Extraordinary items	(1,316,000)	(767,000)			
Write off, investment and advances	(1,310,000)	(767,000)	82,000		
Recovery of income taxes	2 562 000	027 000		474,000	162.000
Profit on sale of marketable securities	3,562,000	827,000	465,000		162,000
Profit on disposal of fixed assets	353,000	132,000		50,000	107,000
Profit on sale of investments	17,000	1,126,000			
Reorganization expenses	(198,000)	(92,000)	E 47, 000	F24 000	260,000
	2,418,000	1,226,000	547,000	524,000	268,000
Net Earnings for the Period	\$4,021,000	\$3,223,000	\$2,483,000	\$2,323,000	\$2,317,000
Earnings Per Share					
Before extraordinary items	\$0.23	\$0.33	\$0.37	\$0.36	\$0.44
before extraordinary nems					



