


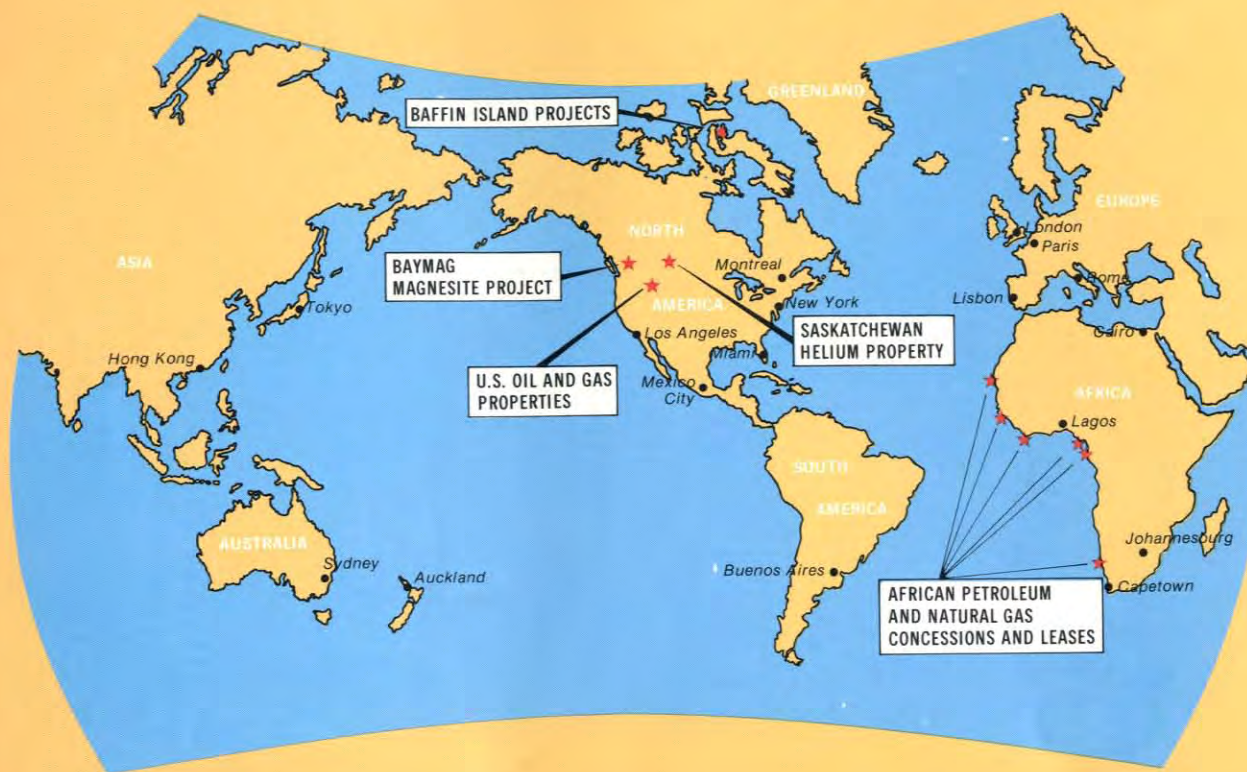
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**MINERAL
RESOURCES
INTERNATIONAL
LIMITED**

PROPERTY FILE

ANNUAL REPORT 1974



Directors

C. FRANKLIN AGAR
 HAROLD P. MILAVSKY
 VICTOR F. BURSTALL
 WILLIAM A. CLARKE
 JOHN L. GAIRDNER
 SAM HASHMAN
 ZAVE CLIMAN

Officers

C. FRANKLIN AGAR, President
 HAROLD P. MILAVSKY,
 Vice-President
 VICTOR F. BURSTALL, Secretary

Registrar and Transfer Agent

MONTREAL TRUST COMPANY
 Toronto, Montreal, Winnipeg,
 Calgary and Vancouver

Auditors

TOUCHE ROSS & CO.
 Calgary, Alberta

Solicitors

BURSTALL, CLARKE, JONES & COADY,
 Calgary, Alberta

Shares Listed

"MRI" The Montreal Stock Exchange

Head Office:

Suite 401 - 44 Victoria Street
 Toronto, Ontario

Operating Office:

100 - One Calgary Place
 330 - 5th Avenue S.W.
 Calgary, Alberta

Report to the Shareholders

Excellent progress has been made during the past year on development work aimed at bringing the Strathcona Sound project into production late in 1976 at a planned mining rate of 1,500 tons per day.

Under terms of an agreement dated June 18, 1974, the Canadian Government is providing certain infrastructure components including a marine terminal, an airport, roads and a townsite. Approximately one half of the costs of these components are recoverable from the project as long term loans and user charges.

Arrangements for financing the industry components of the project were completed with the signing of formal agreements in February, 1975 under which \$33,000,000 is being provided in the form of loans from a banking group and Metallgesellschaft A.G. and Billiton B.V. The agreements also contain provisions for working capital loans and cost overrun funds from these companies as well as a \$10,000,000 cost overrun guarantee from Texasgulf Inc. Concentrate sales agreements provide for initial zinc concentrate sales distribution of 40% to Metallgesellschaft, 40% to Billiton and 20% to Texasgulf. Lead concentrates are to be initially distributed, 50% to Metallgesellschaft and 50% to Billiton.

A new operating company named "Nanisivik Mines Ltd." (in the Inuit language, Nanisivik means "*the place where people find things*") was formed to which MRI transferred its rights and obligations in the Strathcona Sound project. Nanisivik is to be owned 59.5% by MRI, 18% by the Canadian Government, 11.25% by Metallgesellschaft and 11.25% by Billiton. As described more fully in this report, MRI's interest in Nanisivik may be decreased as a result of provision of cost overruns by the other Nanisivik shareholders.

On site at Strathcona Sound, construction activities have proceeded since April, 1974 under the project management of Strathcona Mineral Services Limited which is an independent consulting and project management company. To date, despite the critical logistics involved in organizing, supplying and utilizing a construction workforce at such a remote location, the project is generally on schedule.

Experience with the Inuit members of the workforce has been encouraging, boding well for the probability that Nanisivik will be able to attract, train and maintain a predominantly Inuit workforce during production operations with a minimum of employee turnover.

After the Company's fiscal year end, the holders of the Company's 7% Convertible Debentures elected to convert their debentures into 660,000 common shares. In addition, holders of 660,000 share purchase warrants exercised their warrants and purchased 660,000 common shares of the Company. In connection with the closing of financing arrangements for Nanisivik, the Company recovered a portion of the funds it had invested in the Nanisivik project and sold 400,000 treasury shares at \$1.75 per share. This allowed the Company to retire its debts and replenish its treasury by some \$1,000,000. The financial statements contained in this report include the accounts of the Strathcona Sound project which was an operating division of the Company until February 27, 1975 at which time Nanisivik Mines Ltd. took over the project.

Over the last year the Company has reduced its property inventory. As a result of property investigations and re-examinations, the Company sold its U.S. subsidiary, International Helium, Inc., and disposed of certain mineral properties. Although the Company's interest in Nanisivik is its most important asset and management's efforts are concentrated on development of this project, the Company holds other resource properties and will continue to investigate exploration and development potential of these as well as new resource properties.

On Behalf of the Board of Directors



C. F. Agar
President

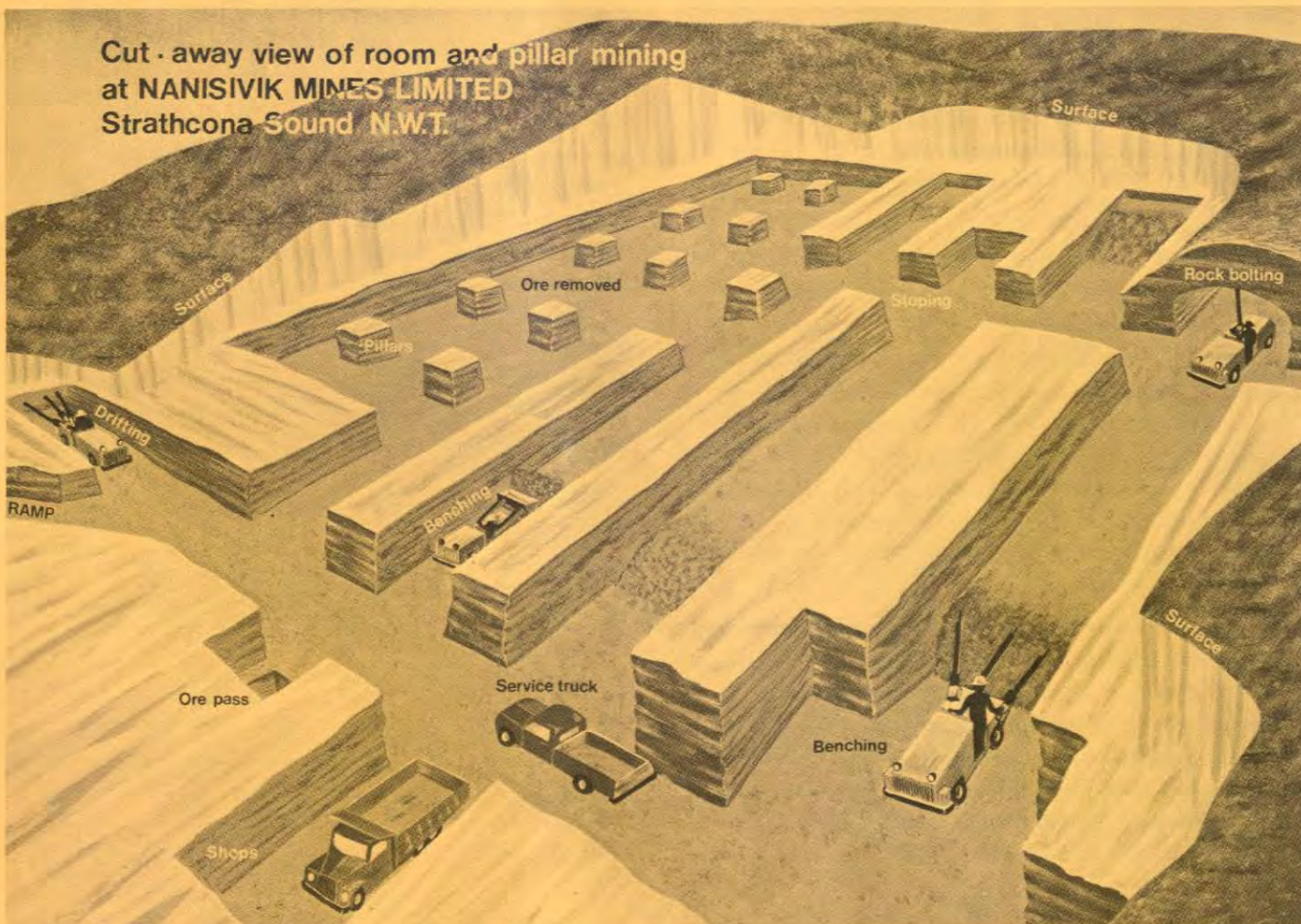
Calgary, Alberta
May 9, 1975.

Planned underground development at the Strathcona Sound Project of Nanisivik Mines Limited at Baffin Island Canada (Looking North)



Strathcona Mineral Services Limited

Cut-away view of room and pillar mining at NANISIVIK MINES LIMITED Strathcona Sound N.W.T.



Operations

MINERALS

Strathcona Sound Mining Project

A formal agreement was signed with the Canadian Federal Government in 1974 under which the Government is providing certain project infrastructure components including an airport, marine wharf, townsite facilities and roads. At the time the agreement was signed, these facilities were estimated to cost \$16.7 million with about one-half of the costs recoverable from the project in the form of long term loans and user charges. The agreement contains extensive provisions for environmental protection and for preferential training and employment of northern residents.

Under the Heads of Agreement with Metallgesellschaft A.G. and Billiton B.V., these companies provided bridge financing throughout 1974 in order that development of the project could proceed and, up to February of 1975, some \$14 million had been advanced to the project under these arrangements. In February, 1975, formal financing agreements were signed which provided, among other things, for repayment of bridge financing and:

1. The transfer of MRI's rights and obligations in the project to a new operating company called "Nanisivik Mines Ltd." to be owned 59½% by MRI, 18% by the Canadian Government, 11.25% by Metallgesellschaft and 11.25% by Billiton.
2. Financing arrangements whereby funds equivalent to \$25 million will be loaned to Nanisivik by the Toronto Dominion Bank, Citicorp Ltd. and Kreditanstalt Fur Wiederaufbau, a West German state bank.
3. Funds equivalent to \$8 million being loaned in two stages to Nanisivik by Metallgesellschaft and Billiton.
4. Working capital provision and overrun financing committed to by Metallgesellschaft, Billiton and Texasgulf with the first \$12½ million of overrun costs, if required, being provided 80% by Texasgulf and 10% each by Metallgesellschaft and Billiton. Thereafter, overrun funds are to be provided 50% each by Metallgesellschaft and Billiton.
5. In the event overrun funds are required and they are not provided by MRI, Texasgulf will earn .5% of Nanisivik from MRI for each \$1 million of overrun funds it provides up to \$5 million and a .75% interest of Nanisivik for each \$1 million of overrun funds provided in excess of \$5 million. Metallgesellschaft and Billiton will earn 1% of Nanisivik from MRI for each \$1 million of overrun funds they provide in excess of the first \$12½ million of total overrun funds

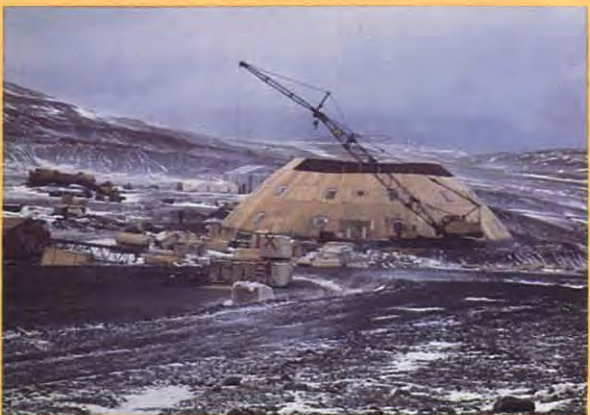


Top, Road building problems — Summer of 1974. Above, Sealift 1974. Below, Experimental Communication Antennae — Note low angle with horizon required to focus on Anuk Satellite over Equator. Bottom picture, Improved concrete "plant".





Top, Building foundation construction. Above, Percy Pikoyak — Heavy equipment operator and Director of Nanisivik. Below, Strathcona Sound Community Development.



up to a total of \$20 million of overrun funds. These companies will earn 2% of Nanisivik per \$1 million of overrun funds provided for funds in excess of \$20 million of total overrun funds.

6. In all cases the Canadian Government has the right to provide overrun funds in lieu of the above companies and earn the same interests.

Assuming the project is completed according to current cost estimates of 55 million dollars MRI will maintain a majority interest in Nanisivik.

Early in 1974, the work camp on site was reopened and men and materials were airlifted in utilizing Hercules aircraft landing on an ice strip on Kuhulu Lake. A 70 man camp was established and a road was constructed connecting the docksite, millsite, townsite and the site of the new airport. Some 3,000 feet of rough grading of the airport runway and the millsite and townsite leveling work was completed prior to the end of the 1974 field season. After a sealift of some 5,300 tons of material, work progressed at the townsite with the completion of a 116-foot diameter domed building to be used as a cafeteria, recreation centre and office complex, and the erection of seven houses. At the millsite a 60 x 120 foot prefabricated building was erected to be used as a temporary mine dry, material storage warehouse and vehicle repair depot. A 700,000-gallon fuel storage tank was completed and late in the shipping season, filled with diesel fuel.

A 45-foot boat was purchased and shipped to the property for marine biological survey work and a second boat was rented from Pond Inlet for this purpose. Personnel from B.C. Research, the Company's environmental consultants, and from the Department of Fisheries completed extensive land and marine biological baseline surveys. Additional environmental baseline work is planned for the 1975 field season.

Over the winter of 1974-1975, mining crews completed some 6,000 feet of underground development work including an access adit under the west end of the orebody, fine ore storage bins, a crushing station and a drift and crosscuts within the west end of the orebody. No change in proven ore reserves were made as a result of this work and it generally confirmed, except for less faulting underground, the feasibility study interpretation of the west end of the orebody. A limited exploration program is planned for 1975.

Work got underway on construction of the dock in March of 1975 and three 70-foot diameter sheet pile cells consisting of 80-foot long linked piles have been driven through the ice in some 50 feet of water. Completion of the dock is scheduled prior to the 1975 shipping season when a sealift of 9,000 tons of dry cargo is planned.

During the summer of 1975, extensive foundation work for the concentrator complex is planned such that the buildings can be rapidly assembled after the 1975 sealift. This will allow work to proceed within the building during the winter of 1975-76 and barring late delivery of essential equipment on the 1975 sealift or other unforeseen delays, first production is planned for some time in the last quarter of 1976.

The problem of attracting and maintaining an effective workforce consisting of Company and contractor personnel and including both Southerners inexperienced in Northern working conditions and Inuits inexperienced in a wage economy and in operating and maintaining heavy equipment has presented many unique challenges. Not the least of these challenges is the problem of adequate communication, both within the workforce and with the outside world.

In general, experience to date with the workforce has been encouraging. The Inuit men, who have mostly come from Arctic Bay some 17 miles away, have generally proven to be willing workers who are innovative, can rapidly adapt, and who are not particularly discouraged by weather conditions which sometimes might appear intolerable to inexperienced Southern Canadians.

During 1974, a peak workforce of 100 was reached, including some 30 Inuit men. A course in English is taught on site at night and recently, a three-week course in heavy equipment maintenance and operation was held in Montreal and attended by 12 Inuit men selected from the workforce. An on-the-job heavy equipment operator's training program was also completed on site in April, 1975. On-the-job training appears to be the most effective way of training and assimilating a reasonable number of Inuit personnel into the workforce although there is extra equipment downtime being experienced. Keeping in mind the long term needs of the production workforce, Nanisivik must balance the cost in time and money of on-the-job training of inexperienced operating personnel against the demanding schedule of construction on site.

A peak workforce of 300 men is anticipated during the 1975 summer season and a significant contribution by Northerners is anticipated. On-the-job training programs for miners and other jobs are planned during the remainder of 1975 and 1976 aimed at training as many Northerners as is practically possible for approximately 170 permanent jobs forecast for production operations.



Top, Weather conditions at site of new airport — October 1974, Dick Gallant — Observer. Above, Snooker competition in Transient Centre. Below, Stormy day in October.





Earth Resources Technology Satellite Photograph.

Satellite photograph of portion of north end of Baffin Island taken July 1973

Notice that the ice had gone out of northern portion of Admiralty Inlet and had broken up in Strathcona Sound. Melt holes in the ice are evident at creek mouths and inlets caused by the inflow of fresh warmer water. Normal shipping season at mine site will be from July 30th to September 30th. This restricts the annual incoming sealift of supplies and will control the timing of outgoing shipments of metal concentrates from Nanisivik's mine.

Airlift to ice strip on Strathcona Sound — Spring 1975.



Mine development operations — Spring 1975.



Threading of 80 foot long linked sheet piles through ice of Strathcona Sound to form one of three 70 foot diameter cells in dock construction.



Magnesite outcrop near base of Eon Mountain.



Baymag Mines Magnesite Project

As previously reported, MRI owns a 10½% interest in Baymag Mines Co. Limited which holds a 260 claim group covering extensive high-grade magnesite deposits some twenty miles east of Radium Hot Springs, British Columbia. This claim group was optioned to Canex Placer Limited in 1972 who carried out a program of drilling, bulk sampling and costing and design work which outlined some 21,000,000 tons of magnesite with a MgO content (on a dead burn basis) of 95.7% in one deposit. After several extensions of Canex Placer's option agreement, Baymag Mines refused a further extension and the Canex Placer option expired in September 1974.

Market demand for high-grade magnesite was strong in 1974 with spot prices for high quality dead burn magnesite reaching \$285 per metric ton in Europe. Due to inflation, both the estimated project capital and operating costs have risen substantially. Nevertheless, pending confirmation of further bulk sampling analyses, the project appears to be economically feasible to develop. Negotiations are proceeding with a number of refractory, mining and steel companies toward bringing the project into production.

Tay Sound - Baffin Island

During 1974, 12 mineral claims were staked in the Tay Sound area of northern Baffin Island. Field work consisting of geophysical work and diamond drilling is being considered for the 1975 work season.

Aquarius Mineral Joint Venture

This joint venture in British Columbia is being funded by a group of companies based in Calgary including MRI to the extent of 5%. During 1974, five groups of mining claims were examined under a \$100,000 program. The 1974 results were encouraging and a budget of \$200,000 has been approved by the group for continued exploration during 1975.

During the coming year, the joint venture's efforts will be concentrated on an interesting gold prospect covered by the Boliver claim group totalling 4,450 acres on Texada Island and the Hope claim group covering 2,500 acres in the Frazer River Valley. A holding pattern on the balance of claims with good potential will be maintained pending a more favorable exploration environment in British Columbia.

Global/King Claims - Baffin Island

Early in 1974, the Company optioned 979 claims from Global Arctic Islands Limited and King Resources Company covering a number of surface showings of zinc and lead sulphide mineralization and geophysical anomalies along the Society Cliff dolomite trend to the southeast of the Strathcona Sound property.

Under an agreement with Metallgesellschaft A.G., Billiton B.V. and New Jersey Zinc Company, these companies carried out an exploration program on the optioned property during the 1974 summer season. Additional geophysical work was completed and seven diamond drill holes were drilled in the general area of the high-grade zinc mineralization trenched in 1973 by the Global/King group. No additional mineralization was found as a result of this work and the option with Global/King was dropped.

Lake Ixpaco Sulphur Property

No further progress was made toward bringing this property into production and the sulphur concession held by the Company's 50% interest subsidiary, Azufres de Guatemala Limitada was cancelled by the Guatemalan Government.

Other Properties

No further work was carried out in the Leaf Bay area of Quebec and the claim group, in which the Company held a 50% interest, was allowed to lapse.

Additional sample analyses work indicated that initial platinum assays reported for the Rosland claim group, in which the Company held a 50% interest, were too high and the claims were allowed to lapse.

OIL AND GAS

Aracca Oil and Gas Venture

During 1974, the Company, as one of a group, through Aracca Petroleum Corporation of New York maintained at minimal expense its 7½% interest position in some 18 million acres of petroleum and natural gas rights off the west coast of Africa Block 9 comprising 5,000,000 acres in South West Africa was farmed out to a three-company group for a seismic program conducted in 1974 under the terms of which the farmees obtained a 20% interest. The results were encouraging and a further seismic program is being undertaken by this Group in 1975 to increase their interest to 30%.

Under its 1974 agreement with Aracca, the Company obtained at no direct cost an interest in two shooting options offshore the Country of Liberia totalling approximately 2.5 million acres.

Montana Oil and Gas Play

Late in 1974 the Company embarked on a geophysical program in the general area of the Sumatra oil field in Montana. Following completion of the program, some 7,000 acres of oil and gas leases were obtained. Negotiations are now underway towards arranging for potential partners to drill one or more exploration wells on prospects outlined by the geophysical program.

Saskatchewan Helium Property

The Company continues to hold a 100% working interest, subject to a 12½% royalty to Texaco Exploration, on a 4,960 acre helium lease covering an estimated 70 billion cubic foot inert gas reserve near Mankota, Saskatchewan. Development of these reserves is dependent on marketing arrangements for the helium contained in the raw gas.

International Helium, Inc.

During 1974, production from the Company's U.S. subsidiary, International Helium, Inc., continued to decline and operating losses developed. Because of the backlog of development costs within International Helium, Inc., a substantial U.S. tax loss existed on its books. Following negotiations with a number of parties interested in acquiring the company, International Helium, Inc. was sold for a consideration of \$145,000.

MINERAL RESOURCES INTERNATIONAL LIMITED

Balance Sheet as at December 31, 1974

ASSETS

	<u>1974</u>	<u>1973</u>
		(Note A.1)
MINING PROPERTIES, at cost (Note B)	\$	\$
Baffin Island		
— mining property	1,922,262	1,919,451
— exploration and development costs	15,647,805	982,000
Baymag Mines Co. Limited	336,871	335,171
Guatemala (Note I.1)	—	50,000
Other mining properties	5,500	18,767
	<u>17,912,438</u>	<u>3,305,389</u>
OIL AND GAS LEASES, (Note C)	1,180,531	1,179,736
CASH AND SHORT-TERM DEPOSITS	796,461	88,030
OTHER ASSETS	87,183	33,694
	<u><u>\$19,976,613</u></u>	<u><u>\$4,606,849</u></u>

Signed on behalf of the Board

C. F. Ogar Director

H. M. [Signature] Director

LIABILITIES

	<u>1974</u>	<u>1973</u>
		(Note A.1)
BANK LOAN, secured (Note B.2)	\$ 470,000	\$ 250,000
7% CONVERTIBLE DEBENTURES (Note D)	330,000	330,000
DUE TO METALLGESELLSCHAFT AG (Note H)	5,676,123	100,000
DUE TO BILLITON BV (Note H)	5,818,964	—
DUE TO TEXASGULF INC. (Note B.1)	3,130,195	—
ADVANCES PAYABLE	—	225,000
ACCOUNTS PAYABLE AND ACCRUED LIABILITIES	905,459	107,256
	<u>16,330,741</u>	<u>1,012,256</u>

SHAREHOLDERS' EQUITY

CAPITAL STOCK: (Note E)

Authorized		
— 10,000,000 shares without par value		
Issued		
— 5,347,174 shares (1973 — 4,933,841 shares)	23,966,349	23,681,449
DEFICIT	20,320,477	20,086,856
	<u>3,645,872</u>	<u>3,594,593</u>
	<u>\$19,976,613</u>	<u>\$4,606,849</u>

MINERAL RESOURCES INTERNATIONAL LIMITED

Statement of Loss and Deficit

For The Year Ended December 31, 1974

	1974	1973
		(Note A.1)
Expenses		
General administrative	\$ 68,470	\$ 40,786
Interest	32,153	36,003
Abandoned projects and related expenses	58,297	33,008
Depreciation	1,762	1,697
Loss from operations of subsidiary (Note I.2)	54,996	42,828
Loss for the year before extraordinary items	<u>215,678</u>	<u>154,322</u>
Extraordinary items		
Writedown of investment in Guatemala (Note I.1)	50,000	185,650
Loss on sale of investment in subsidiary (Note I.2)	496,739	—
	<u>546,739</u>	<u>185,650</u>
NET LOSS FOR THE YEAR	<u>762,417</u>	<u>339,972</u>
Deficit at beginning of year	\$20,086,856	\$19,746,884
Less portion applicable to subsidiary disposed of in 1974 (Note I.2)	(528,796)	—
Deficit at end of year	<u>\$20,320,477</u>	<u>\$20,086,856</u>
Loss per common share		
Before extraordinary items	<u>\$.04</u>	<u>\$.03</u>
Net loss for the year	<u>\$.15</u>	<u>\$.07</u>

Loss per common share is based on the average number of common shares outstanding during the year.

MINERAL RESOURCES INTERNATIONAL LIMITED

Statement of Changes in Financial Position

For The Year Ended December 31, 1974

	<u>1974</u>	<u>1973</u>
		(Note A.1)
Source of Funds		
Metallgesellschaft AG	\$ 5,576,123	\$ 100,000
Billiton BV	5,818,964	—
Bank loan	220,000	55,000
Issue of shares (Note E)	284,900	880,000
Increase in accounts payable and accrued liabilities	798,203	—
Proceeds on sale of subsidiary company (Note I.2)	145,000	—
Proceeds from sale of properties	—	797
Decrease in other assets	—	1,091
Other advances	25,000	219,130
	<u>12,868,190</u>	<u>1,256,018</u>
 Application of funds		
From operations		
Loss before extraordinary items	\$ 215,678	\$ 154,322
Items not requiring an outlay of funds —		
Property written off	(42,633)	(15,983)
Depreciation	(1,762)	(1,697)
Items included in income of subsidiary company, not requiring an outlay of funds	(50,247)	(66,579)
	<u>121,036</u>	<u>70,063</u>
 Exploration and Development at Baffin Island net of \$3,130,195 expended by Texasgulf Inc. prior to 1972 (Note B.1)	 11,538,421	 832,000
Repayment of advances	250,000	15,153
Acquisition of other projects	196,813	47,539
Increase in other assets	53,489	—
Decrease in accounts payable and accrued liabilities	—	233,803
	<u>12,159,759</u>	<u>1,198,558</u>
Increase in cash and short-term deposits	<u>\$ 708,431</u>	<u>\$ 57,460</u>

Notes to the Financial Statements

December 31, 1974

A. Summary of Significant Accounting Policies

1. Comparative Financial Statements.

At December 31, 1974 the company did not have any active subsidiaries. The consolidated financial statements at December 31, 1973 (which have been restated to conform with 1974 presentation) included the accounts of the company and its former subsidiary, International Helium Inc. (See Note I.2).

2. Exploration and Development Costs

All direct and indirect costs related to the exploration and development of mineral properties and oil and gas leases are capitalized. Depletion of such costs will be provided for by the unit of production method based on estimated recoverable reserves. When it is determined that a project will not attain commercial production, the related costs are written off.

3. Foreign Exchange

Long term liabilities payable in foreign currency have been converted into Canadian currency at historical exchange rates. Revenue and expense items have been converted into Canadian currency at average exchange rates during the year.

B. Mining Properties

1. Baffin Island Mining Property

Under the terms of an agreement with Texasgulf Inc., dated July 7, 1972, the company acquired an option to finance, develop and operate a lead-zinc-silver mineral property on Baffin Island in the Canadian Arctic. To December 31, 1974 the company incurred \$15,647,805 in costs to further explore and develop this property.

By placing the property in production prior to December 31, 1978, at a minimum rate per day, the Company will earn a 100% working interest in the project. After recovery of development costs, the Company and the vendor will be entitled to recover, on a pro rata basis, the Company's predevelopment expenditures of \$1,043,801 and the vendor's predevelopment expenditures of \$3,130,195. The Company's right to recover the \$1,043,801 was subsequently sold to Metallgesellschaft AG and Billiton BV for \$652,376. (Note H).

After recovery of the predevelopment expenditures, the vendor will receive a 35% interest in net profits. Provisions are made in the agreement for extensions beyond the December 31, 1978 date by which commercial production must be attained to December 31, 1983 through advanced royalty payments to the vendor of \$200,000 per year of extension.

The rights under the above agreement and the exploration and development costs incurred on the project were assigned to Nanisivik Mines Ltd., a newly formed subsidiary company, on January 6, 1975 (Note H).

2. Baymag Mines Co. Limited

The company owns 324,480 shares of Baymag Mines Co. Limited which represents a minority interest in that company. Baymag owns claims covering a magnesite deposit in British Columbia. The shares have been pledged as security for the company's bank loan.

C. Oil and Gas Leases

The helium property in Saskatchewan is carried at \$1,000,119 which represents the cost of leases.

development expenses and related equipment. The recoverability of the company's investment in this property is dependent upon development of a suitable market and the construction of processing facilities.

D. 7% Convertible Debentures

The 7% debentures were convertible at the option of the holders any time prior to January 31, 1975 at the rate of 200 shares of the Company for each \$100 principal amount of the debentures. (See Note E.2).

E. Capital Stock

1. Issued stock is summarized as follows:

	1974		1973	
	Shares	Amount	Shares	Amount
Balance at beginning of year	4,933,841	\$23,681,449	3,183,841	\$22,801,449
Issued				
— for repayment of advances	333,333	250,000	—	—
— for options exercised	80,000	34,900	—	—
— for cash	—	—	1,740,000	870,000
— for services	—	—	10,000	10,000
Balance at end of year	<u>5,347,174</u>	<u>\$23,966,349</u>	<u>4,933,841</u>	<u>\$23,681,449</u>

2. Share purchase warrants were outstanding at December 31, 1974 entitling shareholders to purchase 660,000 common shares of the Company on or before January 31, 1975 at a purchase price of .50c per share. These warrants were exercised on January 30, 1975.

3. Employee stock options exercisable over a period of five years were outstanding at December 31, 1974 to an employee for the purchase of 25,000 shares of the company at 50c per share.

Effective upon confirmation at a general meeting of shareholders and subject to the approval of regulatory bodies, directors have resolved that the Company will loan to the President sufficient funds to purchase from the treasury of the Company up to 175,000 common shares at a price not less than 50c per share.

4. The Company issued 200,000 shares to each of Metallgesellschaft Canada Limited and Billiton BV, at \$1.75 per share on February 25, 1975. (Note H).

F. Income Taxes

At December 31, 1974 the Company had available the following approximate amounts which can be deducted from future taxable incomes and capital gains:

	1974	1973
Exploration and development expenditures and undepreciated capital cost	\$2,200,000	\$1,855,000
Non-Capital losses (expire in 1979)	120,000	—
Capital losses	493,000	—

Additional costs of \$15,647,805 relating to the Baffin Island project were transferred to Nanisivik Mines Ltd., on February 25, 1975. (Note H).

G. Remuneration of Directors and Senior Officers

The remuneration paid to directors and senior officers of the Company amounted to \$40,000 (1973 — \$30,000).

H. Subsequent Events

By agreement dated January 6, 1975 the Company assigned its interest in the Strathcona Sound property to Nanisivik Mines Ltd. in exchange for 77.5% of the issued capital of Nanisivik Mines Ltd. By subsequent related agreements the Company also assigned its rights and obligations relating to the exploration, development, operation and financing of the Strathcona Sound Project to Nanisivik Mines Ltd.

Provision is made under a loan agreement dated February 25, 1975 between Nanisivik Mines Ltd. and the Toronto-Dominion Bank and Citicorp Ltd. for a loan to Nanisivik Mines Ltd. for the Project of \$17,000,000 (Cdn. equivalent). Pursuant to an agreement of the same date with Kreditanstalt Für Wiederaufbau, a German state bank, provision is made for a loan to Nanisivik Mines Ltd. for the Project of \$8,000,000 (Cdn. equivalent). Metallgesellschaft AG and Billiton BV have guaranteed the obligations of Nanisivik Mines Ltd. under the above loan agreements, and the Company has in turn guaranteed the performance of the guarantee by Metallgesellschaft AG and Billiton BV.

By a further loan agreement dated the 25th day of February, 1975 between the Company, Nanisivik Mines Ltd., Metallgesellschaft AG, Billiton, and Texasgulf Inc., provision is made for a loan to the Company of \$8,000,000 (Cdn. equivalent) from Metallgesellschaft AG. and Billiton BV. and as well the agreement provides for overrun financing. These loans are subordinated to the senior financing provided by the Banks.

The bridge financing for the Project was repaid to Metallgesellschaft AG. and Billiton BV. on February 27, 1975.

By an agreement dated June 18, 1974 the Government of Canada agreed to provide loans and grants for certain facilities for the Project for which it would be entitled to receive from the Company 18% of the issued capital of Nanisivik Mines Ltd. 11.25% of the capital of Nanisivik Mines Ltd. has been issued to each of Metallgesellschaft AG. and Billiton BV. After transferring 18% to the Federal Government of Canada the Company will be left with 59.5% of the issued capital of Nanisivik Mines Ltd.

In certain circumstances involving the amount of overrun financing required for the Project and repayment and delays in repayment of working capital, additional shares owned by the Company in Nanisivik Mines Ltd. may be earned by Metallgesellschaft AG. Billiton BV. and Texasgulf Inc. If overrun funds are advanced by Metallgesellschaft AG. Billiton BV. and Texasgulf Inc. and not by the Company then, based on the current estimated cost of completion of the Project of \$55,000,000 (exclusive of working capital), the Company will retain in excess of 50% of the issued capital of Nanisivik Mines Ltd.

I. Extraordinary Items

1. *Guatemala*

During 1974 the sulphur concession in which the company had an interest was cancelled by the Guatemalan government.

2. *Investment in Subsidiary*

Effective November 15, 1974, the Company sold its shares in International Helium Inc. for \$145,000 and incurred a loss on disposal of \$496,739. The company's share of the former subsidiary's 1974 operating loss to date of disposal was \$54,996.



*116 foot diameter cafeteria, recreation and office building —
Mine adit in background.*

Auditors' Report

The Shareholders,
Mineral Resources International Limited

We have examined the balance sheet of Mineral Resources International Limited (an Ontario corporation) as at December 31, 1974 and the statements of loss and deficit and changes in financial position for the year then ended. Our examination included a general review of the accounting procedures and such tests of the accounting records and other supporting evidence as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the company as at December 31, 1974 and the results of its operations and 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
March 31, 1975.

TOUCHE ROSS & CO.
Chartered Accountants

MEMORANDUM

TO..... Mr. Hart Horn,.....
Operations Branch
.....
.....

FROM THE


DEPARTMENT OF MINES
AND PETROLEUM RESOURCES

VICTORIA, B.C., February 19....., 19..75..

WHEN REPLYING PLEASE REFER
TO FILE No.....

Re: Baymag Magnesite Deposit

At your request (February 14, 1975) I have compiled data at hand on available geology, exploration, and feasibility studies for the Baymag magnesite deposit.


E. W. Grove,
Senior Geologist

EWG/l dm

Summary Report on the Mt. Brussilof Magnesite Deposit

Location

The Mount Brussilof magnesite deposit is located about 20 air miles northeast of Radium Hot Springs, at the junction of Mitchell River and Assiniboine Creek (NTS map 82J/13E, $50^{\circ} 48'$, $115^{\circ} 39'$).

The claims lie about 8 miles west of the B. C. - Alberta border, about 4 miles south of Mount Assiniboine Provincial Park, and about 5 miles east of the eastern boundary of Kootenay National Park (Fig. 1).

Access

Best access to the mineral claim area is by helicopter. The route from Canal Flats along Settlers Road which involves at least three river fords and is impossible at high water is about 60 miles long. The area can also be reached from Radium via highway 93 and a bush road, a distance of about 30 miles. The claims and the immediate area are shown in Figure 2.

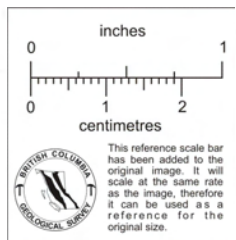
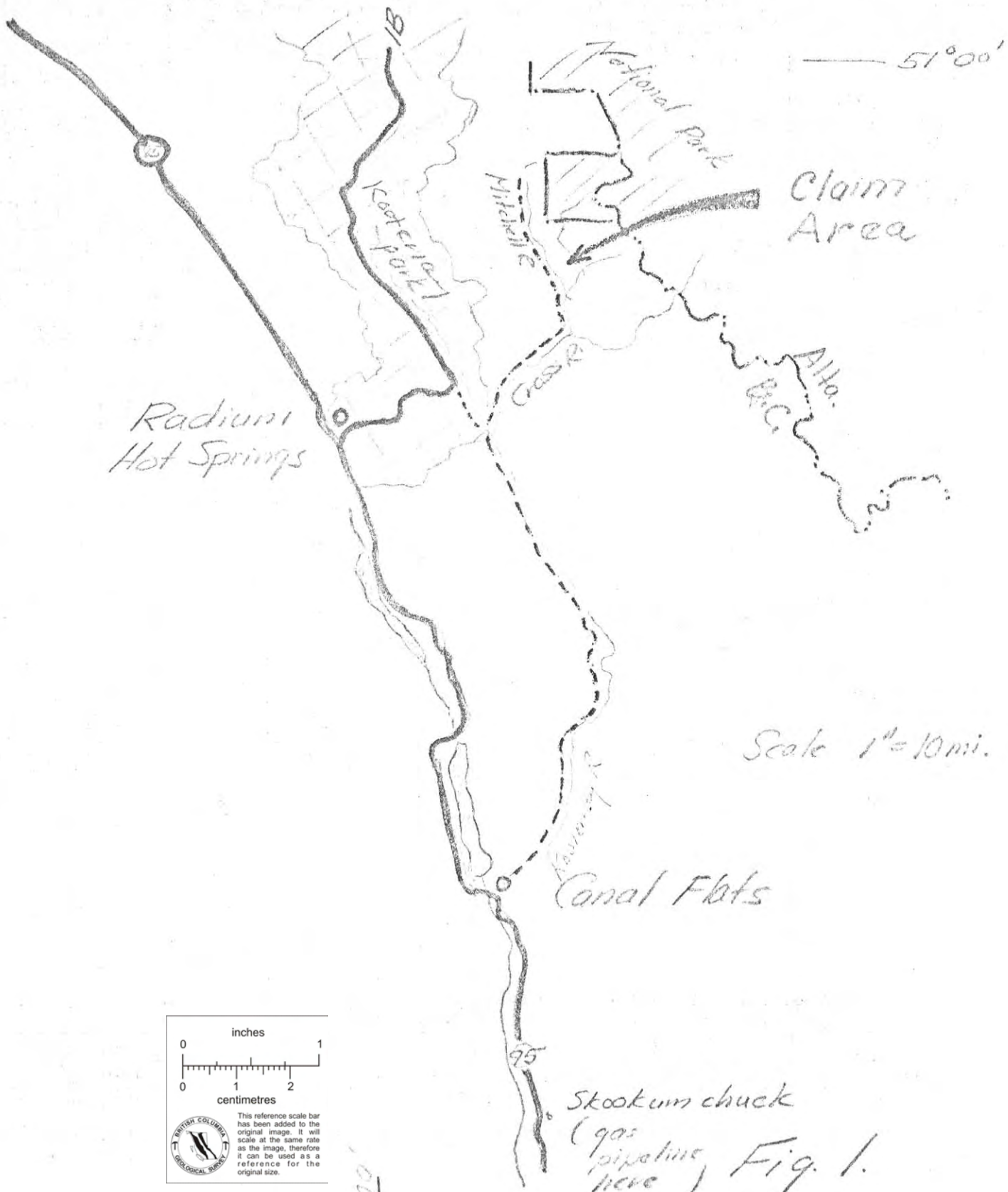
History

The occurrence of magnesite in major quantities was established by G. B. Leech in 1965 during routine field work (Leech, 1966). Thirty-six mineral claims (Mag 1-36) were staked and recorded by Mr. P. Roy Swainson of Calgary, and examined by Baykal Minerals Ltd of Calgary during 1969. The work included geological mapping and sampling. Baymag Mines Co. Ltd. was formed in 1971 to handle the 300 (+) claim property. In January 1972 the prospect was optioned to Canex Placer Ltd. who undertook an extensive program of exploration and development involving detailed geological mapping, diamond drilling and bulk sampling, metallurgical testing and research, production feasibility studies, and market analysis.

Canex Placer Ltd. dropped its option September 17, 1974 and the property has reverted to the vendors who are apparently attempting to reach marketing agreements with U. S. and European interests.

Geology

Magnesite occurs within the Middle Cambrian Cathedral Formation along the west flank of Mount Brussilof at the junction of Cross and Mitchell rivers. The Cathedral Formation is a 1,200 foot thick, cliff-forming unit comprising mainly sandy to argillaceous, fine grained, light to dark grey dolomite.



116°00'

The magnesite occurs as massive irregular lenticular bodies 200 to 300 feet thick within the dolomite. Two major magnesite zones (A & B zones) have been outlined within the Cathedral Formation in this area. A-zone has been traced across the upper, steep slope of Mount Brussilof and the upper slope of the ridge between Mitchell River and Assiniboine Creek. B-zone extends along the lower slope of Mount Brussilof and the ridge (Fig 3).

The magnesite is white to greyish in color, and varies from fine grained and compact to very coarsely crystalline and friable. In places weathering has produced extensive surficial accumulations of magnesite sand.

The area of most immediate interest is the lower slope between Assiniboine Creek and Mitchell River where a large area of B-zone is exposed and has been explored in some detail by Canex Placer Ltd. (Fig. 4).

Exploration

The bulk of the exploration activity on the B-zone (Mag claims) took place during 1972 when 7,531 feet of BQ core drilling and 1,530 feet of 6 inch core drilling was carried out by Canex. The 6 inch core weighing about 27 tons was used in subsequent metallurgical studies.

Mineral Reserves

The work carried out by Canex has partially outlined a complexly shaped, cigar-like zone of magnesite aggregating from 15-20 million tons of better than 93% MgO. The deposit has not been delimited, that is, more drilling would increase the present geological reserve significantly

Results of the 1972 Canex assay program published by Baymag Mines Co. Ltd. (1972) is as follows.

Cut-off	Tons	MgO	Fe ₂ O ₃	CaO	SiO ₂	Al ₂ O ₃
90%	21,265,000	95.70	0.92	2.19	0.47	2.25
95%	14,748,000	96.68	0.63	1.90	0.39	0.21
96%	10,413,000	97.15	0.53	1.74	0.35	0.18
97%	5,857,000	97.69	0.47	1.53	0.28	0.14
98%	1,807,000	98.28	0.44	1.38	0.23	0.12

Mining

An open pit operation is the only method deemed feasible but is of course subject to the usual variables that afflict any such operation. The 'Gaps', Nevada magnesite deposit has been studied by Canex because of its comparability. Grade control and grain size control must be considered in the mining operation.

Metallurgy

Canex encountered a number of serious technical difficulties during the metallurgical testing and preparation of a product of the desired density and purity. The market requirement for a higher class of refractory than has been in normal use has come about because of the change over of the steel-making industry from the open-hearth to the basic oxygen furnace process.

As a result of this changing demand the $\text{CaO}:\text{SiO}_2$ ratio, the Fe_2O_3 content, and even the initial grain size of the magnesite have become controlling parameters. A major problem also encountered by Canex was in the dead-burning of the Baymag magnesite to produce a final product with a specific gravity as close to 3.56 g/cm^3 as possible. The initial technique involved a final double (two stage) burning after briquetting. Canex's most recent advance has been to develop a more economical one-stage burn. The basic flow chart essentially involves:

- (1) Grinding -
- (2) pyrite floatation and separation -
- (3) briquetting
- (4) burning

The metallurgical studies have led to a near solution for the material from the Baymag magnesite but more testing is required.

Marketing

A major problem encountered by Canex was marketing. Magnesite sales etc are apparently exploited by a European cartel with Greece the leading exporter. Also the continually changing economic parameters, including rising energy and labor costs resulted in hazy forecasting.

Conclusions

The geological mineral reserves of the Baymag magnesite deposit are considered (by Canex) of an adequate size and grade to support a world-scale plant. There appears to be no need for further geological inventory but more metallurgical testing, plant location, transportation, production study, market analysis and energy considerations are necessary. These last items include a wide spectrum of problems which have been considered in detail by Canex Placer in their most recent feasibility studies.



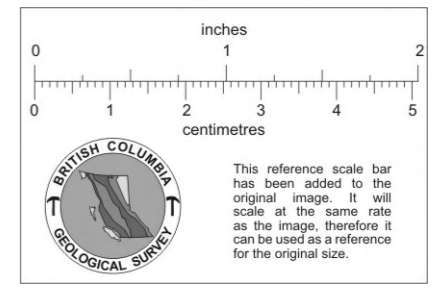
E. W. Grove,
Senior Geologist

References

- Baykal, Orhan (1969): Preliminary geological report on the
Mag 1 to 36 mineral claims (Ass. Rept. 2048).
- Baymag Mines Co. Limited (1972): Interim Report
- Leech, G. G. (1966): Kananaskis Lakes, W $\frac{1}{2}$, Area, G.S.C. Paper 66-1
- McCammon, J. (1973, 1972) Magnesite, in G.E.M., B.C. Dept. of Mines.
- Palfreyman, M (1974): Refractory grade magnesia in Canada, C.I.M.,
March, p. 148-154.

FIG. 4

Mount Brussif



WESTERN FACIES

- Lower Chancellor Fm. Middle Cambrian
- Black Argillaceous Limestone
- Brown Argillite

EASTERN FACIES

- Stephen Fm. Lower Middle Cambrian
- Cathedral Fm. Lower Middle Cambrian
- Mount White Fm. Lower Cambrian
- God Group, Lower Cambrian
- Calcareous Shale
- Magnetite
- Dolomite
- Limestone (argillaceous)
- Argillite (frequently calcareous)
- Quartzite

- CONTACT (defined, projected, assumed)
- FAULT
- BEDDING
- FOLIATION, CLEAVAGE
- JOINTS (vertical)

GENERAL GEOLOGICAL MAP OF SWAIN GROUP AREA

MAG 1-36 MINERAL CLAIMS

MOUNT BRUSILOF - B.C.

By: ORHAN BAYKAL P. Eng., P. Geol.

June 1969

Scale: $\frac{1}{2}$ " = 1 Mile

LEGEND

Paleozoic	MIDDLE CAMBRIAN	
	3	Cathedral Formation: Dolomite, and Magnesite.
	2	Mount Whyte Formation: Limestone and Shale.
LOWER CAMBRIAN		
1	St. Piran Formation: Slate, Phyllite and Orthoquartzite.	

Formational Boundary (Defined, Approximate, Assumed) — — — — —

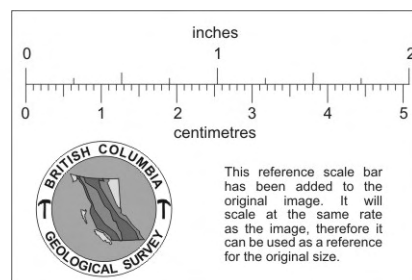
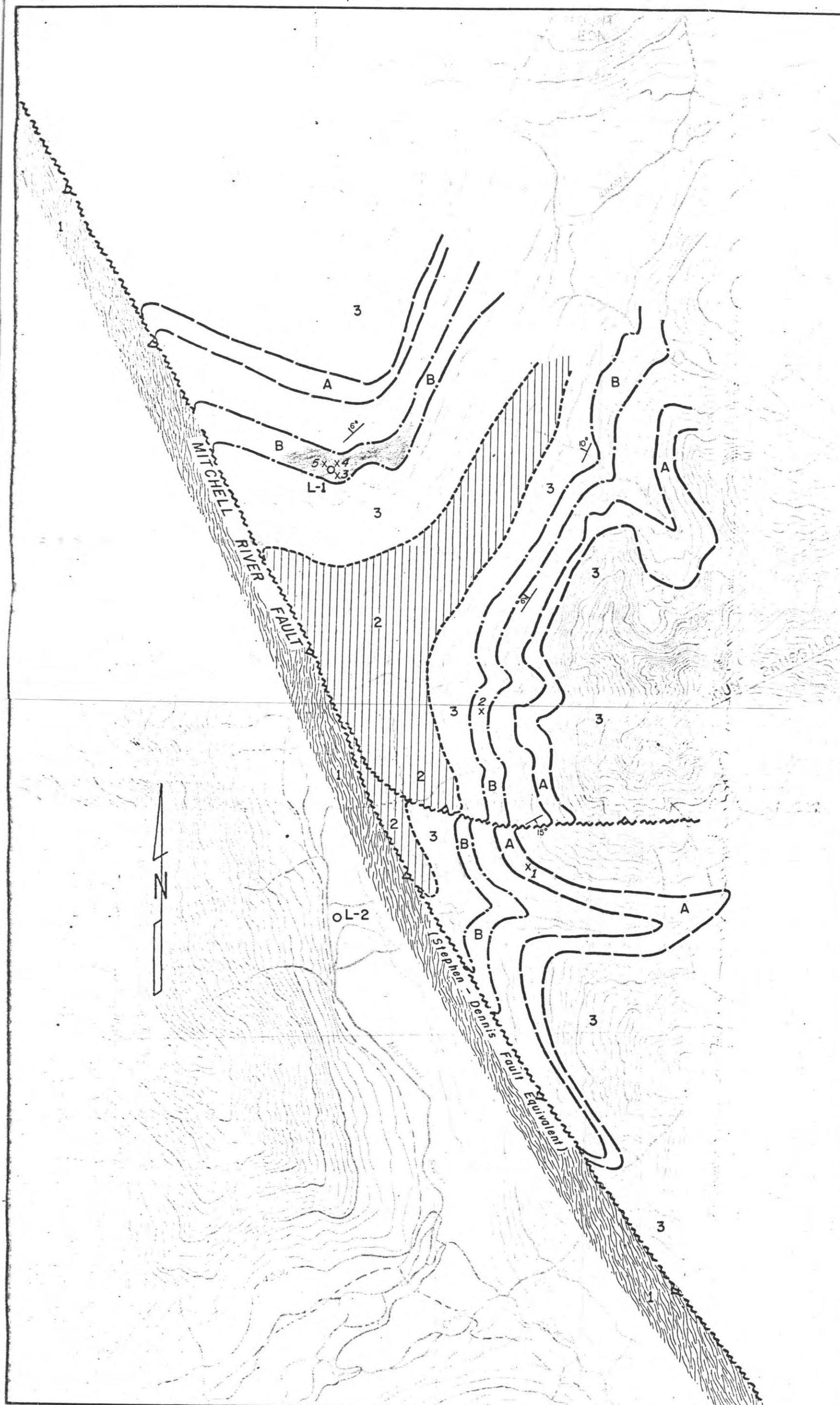
Bedding (Horizontal, Inclined, Vertical) + / \

Fault (Defined, Approximate, Assumed) ~ ~ ~ ~ ~
Arrow in Direction of Dip

Magnesite - A Bed ≡ ≡ ≡ A
(Approximate B Bed Position) ≡ ≡ ≡ B

Sample Locality x³

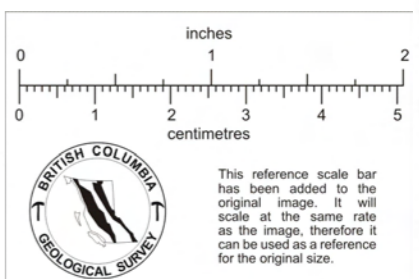
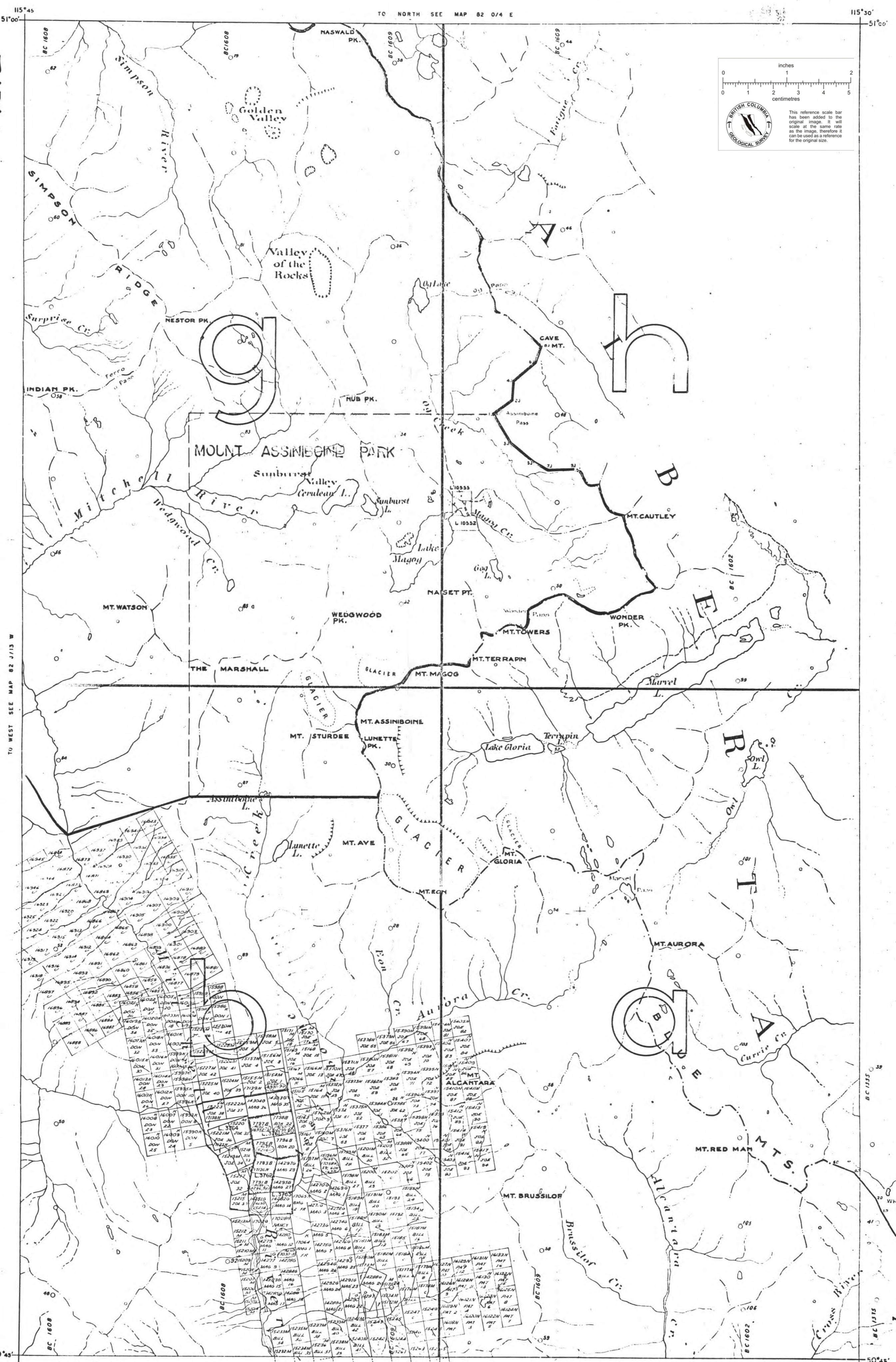
Picture Location ○ L-2



Expiry Date: November 22, 1969

Department of
 Mines and Geotechnical Sciences
 Vancouver, B.C.
 No. 2048 MAP 773

Figure



GOLDEN MINING DIVISION

International Boundary	—+—+—+—	Bridge	—+—+—+—
Provincial Boundary	—+—+—+—	Tunnel	—+—+—+—
Mining Division Boundary	—+—+—+—	Power Transmission Line	—+—+—+—
City or Municipal Boundary	—+—+—+—	Pipeline	—+—+—+—
Indian Reservation	—+—+—+—	Stream, perennial	—+—+—+—
Surveyed Boundary	—+—+—+—	Stream, intermittent, dry	—+—+—+—
Unsurveyed Boundary	—+—+—+—	Ditch, canal, flume	—+—+—+—
Mineral and Placer Reserve	—+—+—+—	Dam	—+—+—+—
Ecological Reserve	—+—+—+—	Rapid, Falls	—+—+—+—
Park Boundary	—+—+—+—	Boundary, swamp, flat, snow	—+—+—+—
Recreation Area Boundary	—+—+—+—	Swamp	—+—+—+—
Railway	—+—+—+—	Lookout	—+—+—+—
Railway (abandoned)	—+—+—+—	Cliff or steep bank	—+—+—+—
Highway	—+—+—+—	Mine	—+—+—+—
Public Road	—+—+—+—	Crown Granted	—+—+—+—
Other Road	—+—+—+—	Entered Mineral Claim	—+—+—+—
Trail, Truck, Logging Road	—+—+—+—		

DEPARTMENT OF MINES AND PETROLEUM RESOURCES

MINERAL TITLES REFERENCE MAP 82J/13E

This map is prepared only as a guide to the location of mineral claims and Placer Mining Leases as shown on the locator's sketches. For current or more specific information, application should be made to the Mining Division concerned.

Map prepared by d l fox
from Air Interim 82J/13E
drawn from aerial photographs dated 1952

