

MIRAMAR MINING CORP  
Form 40-F  
May 20, 2003

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

**FORM 40-F**

(Check one)

**REGISTRATION STATEMENT PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934**

**OR**

**ANNUAL REPORT PURSUANT TO SECTION 13(A) OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934**

**For the fiscal year ended: December 31, 2002**

**Commission file number 001-34436**

**MIRAMAR MINING CORPORATION**

(Exact name of Registrant as specified in its charter)

**Not Applicable**  
(Translation of Registrant's name  
into English (if applicable))

**British Columbia, Canada**  
(Province of other jurisdiction of  
incorporation or organization)

**Not Applicable**  
(I.R.S. Employer Identification  
Number (if applicable))

**1040**  
(Primary Standard Industrial Classification Code Number (if applicable))

**Suite 300 889 Harbourside Drive,  
North Vancouver, British Columbia, Canada V7P 3S1  
(604) 985-2572**

OR

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(Address and telephone number of Registrant's principal executive offices)

**CT Corporation System,  
111 Eighth Avenue, 13<sup>th</sup> Floor, New York, New York 10011  
(212) 894-8940**

Name, address (including zip code) and telephone number (including area code)  
of agent for service in the United States)

Securities registered or to be registered pursuant to Section 12(b) of the Act.

Title of each class  
**Common Shares**

Name of each exchange on which registered  
**American Stock Exchange**

Securities registered or to be registered pursuant to Section 12(g) of the Act.

**None**  
(Title of Class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act.

**None**  
(Title of Class)

For annual reports, indicate by check mark the information filed with this Form:

Annual information form

Audited annual financial statements

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.

**As at December 31, 2002, 123,143,673 Common Shares without par value were issued and outstanding.**

Indicate by check mark whether the Registrant by filing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934 (the Exchange Act). If Yes is marked, indicate the filing number assigned to the Registrant in connection with such Rule.

Yes 82- \_\_\_\_\_

No  X

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days.

Yes  X

No \_\_\_\_\_

OR

Explanatory Note: Miramar Mining Corporation (the Company or the Registrant) is a Canadian issuer eligible to file its annual report pursuant to Section 13 of the Securities Exchange Act of 1934 (the 1934 Act) on Form 40-F. The Company is a foreign private issuer as defined in Rule 3b-4 under the 1934 Act and in Rule 405 under the Securities Act of 1933. Equity securities of the Company are accordingly exempt from Sections 14(a), 14(b), 14(c), 14(f) and 16 of the 1934 Act pursuant to Rule 3a12-3.

#### NOTE REGARDING FORWARD LOOKING STATEMENTS

This report contains forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995 concerning the Company's plans at the Con Mine, the Giant Mine, the Hope Bay Project and other matters. These statements relate to analyses and other information that are based on forecasts of future results, estimates of amounts not yet determinable and assumptions of management.

Statements concerning reserves and mineral resource estimates may also be deemed to constitute forward-looking statements to the extent that they involve estimates of the mineralization that will be encountered if the property is developed, and in the case of mineral reserves, such statements reflect the conclusion based on certain assumptions that the mineral deposit can be economically exploited. Any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions or future events or performance (often, but not always, using words or phrases such as expects or does not expect, is expected, anticipates or does not anticipate, plans, estimates or intends, or stating that certain actions, events or results may, could, would, might or will be taken, occur or be achieved) are forward-looking statements. Forward-looking statements are subject to a variety of risks and uncertainties which could cause actual events or results to differ from those reflected in the forward-looking statements, including, without limitation:

risks and uncertainties relating to the interpretation of drill results, the geology, grade and continuity of mineral

results of initial feasibility, pre-feasibility and feasibility studies, and the possibility that future exploration, development or mining results will not be consistent with the Company's expectations;

mining and development risks, including risks related to accidents, equipment breakdowns, labour disputes or other unanticipated difficulties with or interruptions in production;

the potential for delays in exploration or development activities or the completion of feasibility studies;

risks related to the inherent uncertainty of production and cost estimates and the potential for unexpected costs and expenses

risks related to commodity price fluctuations;

the uncertainty of profitability based upon the Company's history of losses;

risks related to failure to obtain adequate financing on a timely basis and on acceptable terms for the Company's planned exploration and development projects;

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risks related to environmental regulation and liability;

political and regulatory risks associated with mining development and exploration; and

and other risks and uncertainties related to the Company's prospects, properties and business strategy.

This list is not exhaustive of the factors that may affect any of the Company's forward-looking statements. These and other factors should be considered carefully and readers should not place undue reliance on the Company's forward-looking statements.

Forward looking statements are made based on management's beliefs, estimates and opinions on the date the statements are made and the Company undertakes no obligation to update forward-looking statements if these beliefs, estimates and opinions or other circumstances should change. Further information regarding these and other factors is included in the filings by the Company with the U.S. Securities & Exchange Commission and Canadian provincial securities regulatory authorities.

## Currency

Unless otherwise indicated, all dollar amounts in this report are Canadian dollars. The exchange rate of Canadian dollars into United States dollars, on December 31, 2002, based upon the noon buying rate in New York City for cable transfers payable in Canadian dollars as certified for customs purposes by the Federal Reserve Bank of New York, was U.S.\$1.00 = CDN \$1.5800.

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## CONTROLS AND PROCEDURES

Within the 90-day period prior to the filing of this report ( Date of Evaluation ), an evaluation was carried out under the supervision of and with the participation of the Company's management, including the Chief Executive Officer ( CEO ) and Chief Financial Officer ( CFO ), of the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(c) and Rule 15d-15(c) of the Securities Exchange Act of 1934, as amended). Based on that evaluation the CEO and the CFO have concluded that the Company's disclosure controls and procedures are effective to ensure that information required to be disclosed by the Company in reports that it files or submits under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in U.S. Securities and Exchange Commission rules and forms.

There have been no significant changes in our internal controls or other factors, which could significantly affect internal controls subsequent to the date of the evaluation. Therefore, no corrective actions were taken.

The Company's management, including the CEO and CFO, does not expect that its disclosure controls and procedures or internal controls and procedures will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the control. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, control may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

## UNDERTAKING AND CONSENT TO SERVICE OF PROCESS

**Undertaking**

The Registrant undertakes to make available, in person or by telephone, representatives to respond to inquiries made by the Securities and Exchange Commission ( SEC ) staff, and to furnish promptly, when requested to do so by the SEC staff, information relating to: the securities registered pursuant to Form 40-F; the securities in relation to which the obligation to file an annual report on Form 40-F arises; or transactions in said securities.

**Consent to Service of Process**

Consent to Service of Process on Form F-X in connection with the Common Shares is attached to this annual report on Form 40-F as Exhibit 99.1.

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**DOCUMENTS FILED AS PART OF THIS REPORT**

1. Annual Information Form of the Registrant for the year ended December 31, 2002
2. The following audited consolidated financial statements of the Registrant, are exhibits to and form a part of this Annual Report:  
  
Auditors' Report on Consolidated Financial Statements  
  
Consolidated Balance Sheets as of December 31, 2002 and 2001;  
  
Consolidated Statements of Operations and Deficit for the years ended December 31, 2002 and 2001;  
  
Consolidated Statements of Cash Flows for the years ended December 31, 2002 and 2001;  
  
Notes to Consolidated Financial Statements (which include reconciliation with United States generally accepted accounting principles).
3. Supplementary Information  
Reconciliation with United States Generally Accepted Accounting Principles
4. Management Discussion and Analysis of Financial Conditions and Results of Operations

**EXHIBITS**

- 99.1 Appointment of Agent for Service of Process and Undertaking on Form F-X
- 99.2 Certificate of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
- 99.3 Certificate of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
- 99.4 Consent of KPMG LLP

99.5 Consent of Dave Arthur, BSC, Senior Production Geologist Con Mine

99.6 Consent of Robert Hauser

99.7 Consent of Dan Rousseau, Senior Mine Planner for the Giant Mine

99.8 Consent of Dean McDonald, Ph.D., P. Geol., Former Exploration Manager

99.9 Consent of SRK

99.10 Consent of Dean Besserer, P.Geol

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**Signatures**

Pursuant to the requirements of the Exchange Act, the Registrant certifies that it meets all of the requirements for filing on Form 40-F and has duly caused this annual report to be signed on its behalf by the undersigned, thereto duly authorized.

**Registrant**

**MIRAMAR MINING CORPORATION**

By /s/David Long  
David Long, Corporate Secretary

Date: May 20, 2003

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**CERTIFICATION**

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I, Anthony P. Walsh, Chief Executive Officer and Director certify that:

1. I have reviewed this annual report on Form 40-F of Miramar Mining Corporation (the Registrant );
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this annual report;
4. The Registrant s other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the Registrant and have:
  - (a) designed such disclosure controls and procedures to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
  - (b) evaluated the effectiveness of the Registrant s disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the Evaluation Date ); and
  - (c) presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. The Registrant s other certifying officers and I have disclosed, based on our most recent evaluation, to the Registrant s auditors and the audit committee of Registrant s board of directors (or persons performing the equivalent function):
  - (a) all significant deficiencies in the design or operation of internal controls which could adversely affect the Registrant s ability to record, process, summarize and report financial data and have identified for the Registrant s auditors any material weaknesses in internal controls; and
  - (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant s internal controls; and
6. The Registrant s other certifying officers and I have indicated in this annual report whether there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

Date: May 16, 2003

/s/ Anthony P. Walsh  
Anthony P. Walsh  
Chief Executive Officer

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**CERTIFICATION**

I, Elaine Bennett, Chief Financial Officer certify that:

1. I have reviewed this annual report on Form 40-F of Miramar Mining Corporation (the Registrant );
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this annual report;
4. The Registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the Registrant and have:
  - (a) designed such disclosure controls and procedures to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
  - (b) evaluated the effectiveness of the Registrant's disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the Evaluation Date ); and
  - (c) presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. The Registrant's other certifying officers and I have disclosed, based on our most recent evaluation, to the Registrant's auditors and the audit committee of Registrant's board of directors (or persons performing the equivalent function):
  - (a) all significant deficiencies in the design or operation of internal controls which could adversely affect the Registrant's ability to record, process, summarize and report financial data and have identified for the Registrant's auditors any material weaknesses in internal controls; and
  - (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant's internal controls; and
6. The Registrant's other certifying officers and I have indicated in this annual report whether there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

Date: May 16, 2003

/s/ Elaine Bennett  
Elaine Bennett  
Chief Financial Officer

# 1. ANNUAL INFORMATION FORM OF MIRAMAR MINING CORPORATION

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**MIRAMAR MINING CORPORATION**  
**Suite 300- 889 Harbourside Drive North**  
**Vancouver, British Columbia**  
**Canada V7P 3S1**  
**Website Address: [www.miramarmining.com](http://www.miramarmining.com)**

**ANNUAL INFORMATION FORM**  
**"AIF"**  
**FOR THE YEAR ENDED DECEMBER 31, 2002**

May 20, 2003

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**Preliminary Notes**

**Incorporation of MD&A**

Incorporated by reference in this AIF is the Corporation's management's discussion and analysis ( MD&A ) set out on pages 13 to 17 of the Corporation's 2002 Annual Report. All financial information in this AIF is prepared in accordance with Canadian generally accepted accounting principles ( GAAP ).

The Corporation prepares and files its AIF, consolidated financial statements and MD&A in accordance with Canadian GAAP. The consolidated financial statements and MD&A are included with the Corporation's 2002 Annual Report and are filed with Canadian regulatory authorities.

**Date of Information**

All information in this AIF is as of May 15, 2003 unless otherwise indicated.

**Forward Looking Statements**

Certain statements in this AIF and in the information incorporated herein by reference constitute forward looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995. Such forward looking statements include estimates of future gold production for specific operations, estimated future production costs, exploration and development expenditures and other expenses for specific operations and statements as to the projected development of certain ore deposits, including estimates of capital costs, expected production commencement dates and anticipated rates of return. Such forward looking statements are subject to risks, uncertainties and other factors which could cause actual results to differ materially from future results expressed or implied by such forward looking statements.

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Specific reference is made to Risk Factors and the MD&A incorporated by reference in this AIF for a discussion of the source of the factors underlying forward looking statements.

All resource estimates reported in this disclosure are calculated in accordance with National Instrument 43-101 and the Canadian Institute of Mining and Metallurgy Classification system. These standards differ from the requirements of the United States Securities and Exchange Commission and resource information reported in this disclosure may not be comparable to similar information reported by United States companies. The terms Resource(s) and Reserve(s) may not be included in documents filed with the Securities and Exchange Commission or are referred to as mineralization(s) or Mineral deposit(s)".

**Currency and Exchange Rates**

All dollar amounts in this AIF are expressed in Canadian dollars unless otherwise indicated. The revenue of the Corporation is derived primarily from the sale of gold, denominated in U.S. dollars. The noon rate of exchange on May 15, 2003 as reported by the Bank of Canada for the conversion of Canadian dollars into U.S. dollars was CDN\$1.3761 per U.S. \$1.00 (Cdn.\$1.00 per US\$0.7267).

The following table sets forth (i) the rate of exchange for the Canadian dollar, expressed in U.S. dollars, in effect at the end of the periods indicated, (ii) the average exchange rates on the last day of each month during such periods, and (iii) the high and low exchange rates during such periods, each based on the noon rate of exchange as reported by the Bank of Canada for conversion of Canadian dollars into U.S. dollars.

	Year Ended December 31,		
	2002	2001	2000
Rate at end of Period	\$0.6339	\$0.6278	\$0.6669
Average rate for last day	\$0.6374	\$0.6458	\$0.6733
High for Period	\$0.6618	\$0.6711	\$0.6984
Low for Period	\$0.6199	\$0.6230	\$0.6397

**Metric Equivalents**

The following table sets forth the factors for converting imperial measurements into metric equivalents:

To convert from Imperial	To Metric	Multiply by:
Acres	Hectares	0.404686
Feet	Metres	0.304800
Miles	Kilometres	1.609344
Tons	Tonnes	0.907185
Ounces (troy)/Ton	Grams/Tonne	34.285700

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**Glossary of Terms**

The following is a glossary of technical terms that appear in the discussion of the Corporation's business in this document:

Au	Gold
Autoclave	A high pressure and temperature vessel for oxidizing refractory ore. Ore or concentrate is fed into the strong vessel and placed under high pressure and temperature conditions with elevated oxygen levels to liberate the gold or base metals.

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Backfill	Waste material used to fill and support the void created by mining an ore body.
Crushing Plant	A plant in which run-of-mine ore is physically reduced in size by mechanical crushing in order to improve the liberation of the gold particles for downstream recovery.
Cut & Fill	A method of stoping in which ore is removed in slices, or lifts, and then the excavation is filled with rock or other waste material known as back fill, before the subsequent slice is mined.
Cyanidation	The process of extracting gold or silver through dissolution in a weak solution of sodium cyanide.
Corporation	Miramar Mining Corporation.
Decline	An underground passageway connecting one or more levels in a mine or underground development, providing adequate traction for heavy, self-propelled equipment. Such underground openings are often driven in a downward spiral, much the same as a spiral staircase.
Diamond Drill	A type of rotary drill in which the cutting is done by abrasion rather than percussion. The cutting bit is set with diamonds and is attached to the end of long hollow rods through which water is pumped to the cutting face. The drill cuts a core of rock which is recovered in long cylindrical sections, an inch or more in diameter.
Dilution	Waste material not separated from ore mined which was below the calculated economic cut-off grade of the deposit. Dilution results in increased tonnage mined and reduced overall grade of the ore.
Dip	The angle which a geological structure forms with a horizontal surface, measured perpendicular to the strike of the structure.
Dore	Unrefined gold and silver in bullion form.

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Feasibility Study	A comprehensive study of a deposit in which all geological, engineering, and economic factors are considered in sufficient detail to serve as the basis for a final decision on whether to proceed with development of the deposit for production.
Floatation	A process by which some mineral particles are induced to become attached to bubbles and float, and other particles to sink, so that the valuable minerals are concentrated and separated from the host rock.
Free milling	Gold ore that occurs in its natural state in ore and may be liberated by conventional milling and cyanidation.
Grade	The weight of precious metals in each tonne of ore.
g/t; g Au/t	Grams per metric tonne; grams of gold per metric tonne.
Metallurgy	The science of extracting metals from ores by mechanical and chemical processes and preparing them for use.

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Mill	A plant where ore is crushed and ground to expose metals or minerals of economic value, which then undergo physical and/or chemical treatment to extract the valuable metals or minerals.
Mineral Reserve	That part of a measured mineral resource or indicated mineral resource which can be extracted legally and at a profit under economic conditions that are specified and generally accepted as reasonable by the mining industry and which is demonstrated by a preliminary feasibility study or feasibility study. For further information on Mineral Reserves please see the "Additional Information" section of this AIF.
Mineral Resource	A concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge. For further information on Mineral Resources, please see the see the "Additional Information" section of this AIF.
Mineralization, Mineralized material, mineralized deposits, or Deposit	A mineralized body which has been intersected by sufficient closely spaced drill holes and/or sampling to support sufficient tonnage and average grade of metal(s) to warrant further exploration-development work. A deposit does not qualify as a commercially mineable ore body until a final and comprehensive economic, technical, and legal feasibility study based upon the test results is concluded and supports Proven/Probable Mineral Reserves.
Net profits royalty	A royalty payment made by a producer of metals based on a percentage of revenue from production, less deduction of the costs of production, including exploration, capital and operating costs.

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Net smelter return royalty/ NSR royalty	A royalty payment made by a producer of metals based on gross metal production from the property, less deduction of certain limited costs including smelting, refining, transportation and insurance costs.
Ore	A metal or mineral or a combination of these of sufficient value as to quality and quantity to enable it to be legally mined at a profit.
Ounces/oz	Troy ounces.
Oz/ton	Troy ounces per short ton.
Refractory	Ore that resists the action of chemical reagents in the normal treatment processes and which may require pressure leaching or other means to effect the full recovery of the valuable minerals.
Roasting	To heat a refractory ore to drive off volatile substances or oxidize the ore. The oxidation of the ore liberates the gold.
Sulphide Ore	Ore containing a significant quantity of unoxidized sulfides.
Tailings	The material that remains after all metals or minerals of economic interest have been removed from ore during milling.

Ton	Short ton (2,000 pounds).
Tonne	Metric tonne (1,000 kilograms/2204 pounds).

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### CORPORATE STRUCTURE

Miramar Mining Corporation was incorporated with the name Miramar Energy Corporation under the Company Act (British Columbia) by memorandum and articles of incorporation dated January 11, 1983. The memorandum of the Corporation was amended on July 17, 1989 to change the Corporation's name to Miramar Mining Corporation, on May 24, 1991 to increase the authorized capital from 20,000,000 to 100,000,000 shares without par value and on August 4, 1994 to increase the authorized capital from 100,000,000 to 500,000,000 shares without par value ( Common Shares ).

The registered office of the Corporation is at 800 885 West Georgia Street, Vancouver, British Columbia V6C 3H1 and its principal executive office is located at 300 889 Harbourside Drive, North Vancouver, British Columbia V7P 3S1.

The following table sets forth the name of each material subsidiary of the Corporation, the jurisdiction of its incorporation and the direct or indirect percentage ownership by the Corporation in such subsidiary.

<b>Name of Subsidiary</b>	<b>Jurisdiction of Incorporation</b>	<b>Percentage Ownership</b>
Miramar HBG Inc.	Quebec	100%
Miramar Con Mine Ltd.	Ontario	100%
Miramar Giant Mine Ltd.	British Columbia	100%
Miramar Hope Bay Ltd.	Northwest Territories	100%

Where the context requires, the term Corporation includes the subsidiaries of the Corporation.

### GENERAL DEVELOPMENT OF THE BUSINESS

#### Properties

Miramar Mining Corporation, together with its subsidiaries, is engaged in the mining and processing of gold ore and the exploration for, and the acquisition and development of, gold bearing mineral properties. Miramar's business is presently focused in northern Canada in the Northwest Territories and the territory of Nunavut. The Corporation's goal is to maximize shareholder wealth through growth in the gold sector and the Corporation plans to accomplish this goal by acquiring and developing viable properties and maintaining a solid balance sheet to fund these initiatives.

The Corporation, through its 100% owned subsidiary, Miramar Con Mine Ltd. ( Con Ltd. ), owns and operates the Con Mine, an underground gold mine located near Yellowknife, Northwest Territories, Canada. Gold recovered from the Con Mine was 98,037 ounces of gold in 2002 and 104,798 ounces of gold in 2001.

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The Corporation, through its 100% owned subsidiary, Miramar Giant Mine Ltd. ("Giant Ltd.") owns and operates the Giant Mine located near Yellowknife, Northwest Territories, Canada and near the Con Mine.

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The Corporation acquired the Giant Mine in December 1999. The Giant Mine recovered 23,889 ounces of gold in 2002 and 25,361 ounces of gold in 2001.

Through its Yellowknife operations (the Con and Giant Mines), the Corporation produced and shipped approximately 115,134 ounces of gold in 2002 and 129,607 ounces in 2001.

The Corporation, through its 100% owned subsidiaries, Miramar Hope Bay Ltd. ( MHBL ) and Miramar HBG Ltd. ( MHGL ), owns 100% of the Hope Bay Project, a gold exploration project located in Nunavut, Canada. The Corporation acquired a 50% interest in the Hope Bay Project in December 1999. The Hope Bay Project was held in a 50/50 joint venture with Hope Bay Gold Corporation Inc. ( Hope Bay Gold ). In May 2002, pursuant to an amalgamation by court approved plan of arrangement, Hope Bay Gold Corporation became a wholly owned subsidiary (MHGL) of the Corporation.

The Corporation owns 9.6% of Northern Orion Exploration Ltd., a company with interests in mineral properties located in Cuba and Argentina, and 40.21% of Sherwood Mining Corporation, which owns mineral rights in the territory of Nunavut, Canada.

### DESCRIPTION OF THE BUSINESS

#### Con Mine

On October 14, 1993, a wholly-owned subsidiary of the Corporation, acquired all of the outstanding shares of Con Ltd. together with the outstanding indebtedness of Con Ltd. to NERCO Minerals Company ( NERCO Minerals ), its former parent, for a purchase price of approximately US\$25,000,000 and 3,900,000 Common Shares valued at \$4,875,000, of which 2,200,000 Common Shares were issued to Red Lion Management Ltd. ( Red Lion ), a private company controlled by the former President of the Corporation, and 200,000 Common Shares were issued to a third party. In addition, the Corporation reimbursed Red Lion for its expenses in connection with the transaction and the Corporation and Con Ltd. indemnified Red Lion (the Red Lion Indemnity ) for any liability which Red Lion may incur in respect of the indemnity given by Red Lion in favour of NERCO Minerals with respect to any exposure to environmental risks associated with the past or future operation of the Con Mine and agreed to grant security in the assets of Con Ltd. to secure the indemnity. The transaction was approved by a majority of the non-interested shareholders of the Corporation at a meeting of the shareholders of the Corporation held on October 12, 1993. In September 1998, in accordance with the original 1993 agreement Con Ltd. granted to Red Lion a \$20 million principal amount fixed charge demand debenture (the Red Lion Debenture ) secured by its assets to secure the Red Lion Indemnity. NERCO released Red Lion from its obligations in April 2003. (see under Con Mine Mining Operations )

#### *Title Location and Access*

The property on which the Con Mine is situated consists of 1,141 acres of surface rights, 206 claims under 60 mining leases and 40 separate claims covering an aggregate of 21,125 acres. The surface rights lie within the municipal boundary of the City of Yellowknife, Northwest Territories. The mining leases are each valid for a 21 year term, expire at various times to 2014 and can be extended. The Con Mine is located near the southern limits of Yellowknife and is adjacent to the western edge of Yellowknife Bay on Great Slave Lake.

Road access is via highway from Edmonton, Alberta, to Enterprise, Alberta and then around Great Slave Lake to Yellowknife, a distance of 930 miles, and is generally available all year, except for minor interruptions during spring break-up and fall freeze-up. Yellowknife is well serviced

by road and air

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transportation, being the capital city of the Northwest Territories. There are several scheduled flights per day by jet aircraft from Edmonton to Yellowknife.

#### *History*

The Con Mine has operated for 58 of the 65 years since it commenced production in 1938 (it was on care and maintenance from 1941 to 1945 and closed during most of 1998 and part of 1999 as a result of strike action by the hourly workers) and has produced more than five million ounces of gold. Production has come from a number of shear zones with an aggregate strike extent exceeding 18 miles.

The original Con Mine claims were staked in September 1935 by a Cominco Ltd. field party following the discovery of gold in the area by the Geological Survey of Canada. In 1937, the C1 shaft was sunk 235 feet on a small high-grade quartz vein located in the hanging wall of the Con Shear, and a 100 ton per day mill was built. The first gold bar was poured on September 5, 1938. By 1940 gold was being mined from the Con Shear and the mill was expanded to process 175 tons of ore per day. In 1941, the Bluefish hydroelectric power station (the Bluefish Power Plant ), located 25 miles northwest of Yellowknife was brought on-line to provide power for the mine, the mill was expanded to 350 tons per day and a roasting plant was commissioned to process refractory ore.

In January 1946, a new parallel shear zone, known as the Campbell Shear, was discovered. The C1 shaft was extended to 2,443 feet in September 1946. A major re-evaluation of reserves took place in the early 1970s when gold prices were allowed to float freely on the world market. This led to the sinking of the Robertson Shaft to access ore in the lower levels of the Campbell Shear to 6,240 feet, which began in 1974, and the shaft was sunk to 5,425 feet by 1977 and deepened to its current depth of 6,240 feet.

In December 1986, NERCO Minerals purchased the Con Mine and renamed it the NERCO Con Mine. NERCO Minerals initiated a major modernization and reserve development program. The original C1 Shaft was refurbished and the processing plant was expanded to 1,000 tons per day and then to 1,100 tons per day. Considerable underground development was undertaken to access new ore. In 1992, NERCO Minerals constructed and brought on line an autoclave, which uses high temperature and pressure to liberate gold from refractory ores and also to reprocess roaster residues.

Immediately following its purchase of the Con Mine in October 1993, the Corporation embarked on a broad program of operating cost reductions and ceased operation of the autoclave until certain modifications could be completed. During 1994 and 1995, the Corporation expanded the mill capacity to 1,400 tons per day and increased the capacity of the Bluefish Power Plant from 3.5 megawatts to 7.0 megawatts. In the fourth quarter of 1997, in response to continued low gold prices and high operating costs, the Corporation determined to reduce production from the Con Mine to 600 tons per day from 1,200 tons per day and to reduce its workforce by 35%. The Con Mine did not operate from May 1998 through April 1999 as a result of a strike by hourly union workers. Following the settlement of the strike in April 1999, the Corporation recommenced operations at the Con Mine based upon the reduced production plan developed in the fourth quarter of 1997. During the third quarter of 1999, plans were implemented to commence refractory ore processing in the first quarter of 2000 through the autoclave at a rate of 300 tons per day bringing total production to 900 tons per day.

#### *Regional Geology*

The Con Mine occurs within the northeast trending Yellowknife greenstone belt, which lies along the west side of Yellowknife Bay on the north shore of Great Slave Lake. The greenstone belt is bounded to the west by the Western Plutonic Complex and the east by sedimentary rocks of the Burwash Formation. The

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belt consists of a steep easterly dipping succession of mafic to intermediate volcanic rocks with minor interbedded volcanoclastic and sedimentary rock. The Kam Group is the lowest sequence in the belt and is a 22,000 foot thick sequence of theolitic basalt, comprised of massive, pillowed and variolitic flows and flow breccias.

The greenstone belt is transected by a number of north-northeast trending shear zones that are sub-parallel to the Western Plutonic Complex contact. The largest of the producing shears is the Campbell Shear, which has been traced by drilling over a length of 4.2 miles and is as much as 500 feet wide. The Con Shear has been traced for over 7.2 miles along its length. Other gold producing shears include the Negus and Ryon Shears.

#### *Mineralization*

Gold primarily occurs in the north striking, west dipping shears. Typically, above the 3100 level in the mine, gold occurs intimately associated with arsenopyrite, making the reserves in the upper portions of the mine refractory in nature. Below the 3100 level, gold is associated with pyrite, but occurs on grain margins and is generally free-milling. Gold mineralization is not present along the entire shear but occurs in structurally-controlled lenses separated by barren shear material.

#### *Mining Operations*

The Con Mine is an underground operation with nearly over two miles of vertical shafts to transport men and equipment to more than 60 miles of horizontal tunnels called drifts in the area of the Campbell Shear. Currently, the Con Mine is serviced by two shafts to surface and one internal shaft equipped with operable hoists. Historically, the newer, 6,240 foot deep Robertson Shaft was used for most of the movement of men and supplies and the hoisting of ore and waste. The older C1 Shaft head frame was refurbished in 1989 and operated as a production shaft in 1992-93 and 1995-96 for refractory ores. In 2000, modifications were made to the ore handling system underground resulting in all ores being hoisted through the Robertson Shaft. The C1 Shaft is currently used only for secondary access to the mine. Ore is mined by a combination of cut and fill (mechanized and conventional), shrinkage and long-hole methods.

In the fourth quarter of 2002 Miramar implemented a revised mine plan at the Con Mine to facilitate an accelerated shutdown of the Robertson Shaft complex which would result in refractory only production by the fourth quarter of 2003, with all ore hoisted via the C1 shaft.

As a result of the revised mine plan, the operating life of the Con Mine has been extended to 2005. Refractory production has resumed at the Con Mine and the production estimates for 2003 was between 105,000 and 110,000 ounces, however, because of the production shortfall year to date, the Con Mine will not meet its production objectives for 2003. All production at the Con Mine is dependent on its ability to generate positive cash flow and earnings. The mine plan will be reassessed regularly to ensure the operations are meeting this objective.

On April 4, 2003 Con Ltd. sold the Bluefish Power Plant to the Northwest Territories Power Corporation ( NTPC ) for a purchase price of \$10 million payable on December 31, 2004. Also, the supply of power, will be provided to the Con Mine, free of charge, equal to the historic generation profile of Bluefish to the Con Mine until December 31, 2004; and, for the five year period 2005 to 2009, NTPC will provide power to the Con Mine, free of charge, at an annual rate of 5 million kilowatts and 1,500 KVA of demand. Part of the purchase price is secured by a non-interest bearing note for \$10 million. Con Ltd. also has a right of an early payment of the purchase price at a discounted rate.

To satisfy the bonding requirements for the Con Mine, upon receipt of the \$10 million from NTPC on December 31, 2004, Con Ltd. will place these proceeds into a reclamation security trust (the First Trust ) to fund the reclamation of the Con Mine site upon completion of mining operations. In order to facilitate the Bluefish sale, the Corporation and Con Ltd. granted to NERCO Minerals an indemnity with respect to any exposure to environmental risks associated with the operation of the Con Mine and Con Ltd. agreed to establish a second reclamation security trust to fund any reclamation of the Con Mine site not funded by the First Trust. The second trust will receive all proceeds of sale of assets of the Con Mine upon completion of mining operations. NERCO released Red Lion from its obligations under the indemnity granted by Red Lion to NERCO in 1993 as part of the transaction whereby Con Ltd. acquired the Con Mine. The Red Lion Debenture provides that Red Lion will discharge the debenture upon Red Lion being released by NERCO of its obligations under the indemnity. Con Ltd. is proceeding to obtain the release of the Red Lion debenture.

#### *Processing*

The mill was originally constructed in 1938, but has been significantly expanded and modernized over the past number of years. In 1995, the Corporation completed an expansion of the mill to a daily capacity of up to 1,400 tons per day. The mill currently has separate treatment circuits for free milling and refractory ores.

All ore goes through two-stage crushing and grinding circuits. Free milling ores are subjected to conventional whole ore leaching to recover the gold. The Con and Giant refractory ores are subjected to flotation to separate the gold-bearing sulphide minerals for treatment in the autoclave. Concentrates undergo pressure oxidation in the autoclave to facilitate dissolution of the gold in the presence of weak cyanide solutions. Gold in solution is separated from the spent ores by means of filtration and is recovered from solution in a Merrill-Crowe facility which uses zinc to precipitate the gold. The gold bearing precipitate is sent to the refinery for final processing into dore. After gold recovery, the spent ores or tailings are size classified, with part of the coarse material sent underground as backfill. The remaining tails are deposited in a tailings impoundment adjacent to the mill site.

Recoveries are maintained in the 92% range for free milling ore and overall recovery for refractory ores is in the 86% range. Silver is produced as a by-product of the gold recovery process to a total of approximately 25% of the ounces of gold produced. This level is expected to remain roughly in proportion to gold production in the future.

An autoclave facility was constructed and commenced operation during late 1992 to process refractory ores and gold-bearing arsenic sludge from historic roasting operations. These metallurgical residues have been stored on site in ponds and have average grades estimated between 0.35 to 0.50 ounces of gold per ton. The autoclave facility can operate at a rate of 90 tons per day of ore concentrate. Operation of the autoclave to process the arsenical sludge eliminates a potential environmental liability at the site, rendering the toxic chemical arsenic trioxide as a stable and environmentally benign chemical ferric arsenate. The autoclave is processing refractory ores from the Con Mine and the Giant Mine and from March 2000 has been processing arsenical sludges from the Con Mine property. On March 16, 2002, the autoclave temporarily ceased operations (see below under Surface Facilities ), resumed full operations in July 2002 and has been operating normally since that time.

The refinery consists of two small furnaces utilizing fuel oil for heating. Precipitate from the mill is mixed with fluxes (sodium nitrate, borax, fluor spar, soda ash, silica and manganese dioxide) and refined three times a month to produce dore.

#### *Production*

From the commencement of production to December 31, 2002, the Con Mine produced 5,916,909 ounces of gold from 12,376,747 tons of ore with an average grade of 0.48 ounces of gold per ton. Of the total, 83% was produced from the Campbell Shear, 13% from the Con Shear and substantially all of the remainder from the Rycon-Negus Shear.

The following table sets forth certain information relating to production from the Con Mine during the periods indicated:

<b>Con Mine</b>	<b>2002</b>	<b>2001</b>	<b>2000</b>	<b>1999</b>	<b>1998</b>
Tons milled	279,638	298,455	300,516	119,347	86,026
Grade (ounces per ton)	0.375	0.377	0.378	0.349	0.296
Production (Recoverable ounces)	95,512	100,992	101,670	38,938	23,447
Recovery	91.0%	89.8%	89.5%	93.5%	92.1%
<b>ARSENIC SLUDGES</b>					
Tons Processed	5,307	9,187	3,260	--	--
Grade (ounces per ton)	0.548	0.470	0.457	--	--
Production (Recoverable ounces)	2,524	3,806	1,210	--	--
Recovery	86.8%	88.1%	81.1%	--	--

Cash operating costs for the 2002 for the Yellowknife operations were US\$246 per ounce, compared to US\$257 per ounce for 2001. The lower cash costs in 2002 were a result of the reimbursement of environmental costs from the Department of Indian and Northern Affairs ( DIAND ) for Giant Mine, lower mine development costs at the Con Mine and reduced autoclave operating costs offset somewhat by increased labour rates.

#### *Surface Facilities*

In addition to the mill and other processing equipment, surface facilities include an assay lab, environmental lab and a small development laboratory for metallurgical requirements. Other surface facilities include a powerhouse with back-up generators and a number of compressors for property use, as well as the main electrical switch gear. There is a lake pump/boiler house that supplies steam and water for property use. The steam requirements are supplemented by five other boilers on the property. The fuel supply for the boiler and generators is shipped in by barge. The oil is stored in a tank farm on the property.

Historically, Con Mine had the capacity to obtain up to 80% of its power requirements from the Bluefish Power Plant. The remaining power was supplied by NTPC. Additionally, there is a diesel back-up power plant at the Con Mine capable of producing 1.2 megawatts from three units.

A water treatment plant was built during 1987 to treat cyanide and arsenic in the tailings pond to environmentally acceptable levels. In 1989, the water treatment plant incorporated updated technology to improve the effectiveness of treating the tailings impoundment water.

On March 18, 2002, the roof of the building containing the plant which produces oxygen to operate the autoclave at the Con Mine collapsed. No injuries resulted from the collapse; however, as a result of the incident, the autoclave circuit had to be suspended for a three month period. The direct cost impact to the Corporation for the repairs to the oxygen plant building was approximately \$0.3 million. The oxygen

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supplier was responsible for the repairs to the equipment. On June 28, 2002, the oxygen plant and the autoclave resumed operation. During the period from March 18 to June 24 in which the autoclave was down, concentrates containing a total of 15,900 ounces of recoverable gold was stockpiled for processing when the oxygen plant returned to operation. Although this stockpile of gold-bearing refractory flotation concentrates was created throughout the shutdown and plans were implemented to process the concentrates during the second half of 2002, gold production was lower than planned and approximately 6,449 ounces of recoverable gold remained stockpiled as concentrate at December 31, 2002.

### *Employees*

The Con Mine currently operates with an employee base of approximately 265 employees, of whom approximately 207 are members of the United Steelworkers of America Union. Since the acquisition of the Con Mine by the Corporation the mine has operated without work stoppages from Union actions, except for the period from May 1998 until April 19, 1999 during which the Union was on strike. A new collective agreement was entered into in April 1999 which continued the terms of the previous contract with no increases in compensation.

On July 18, 2002, members of the United Steelworkers Local 802 at the Con Mine voted in favour of a new three-year collective agreement that includes improvements to severance and relocation provisions, and a staged annual wage increase of 7%, 5% and 3% over the term of the agreement. This is the first monetary increase at the Con Mine in twelve years and provides for a more competitive compensation package for the Northwest Territories in light of increased competition for skilled labour in the north and encourages labour stability through to the end of the mine life.

### *Mineral Reserves*

The following table sets forth the mineral reserves of the Con Mine as at December 31, 2002, and December 31, 2001. These estimates were prepared by Dave Arthur, BSc., Senior Production Geologist, Con Mine under the supervision of Dean McDonald, PhD., P. Geol., former Exploration Manager with the Corporation who is a qualified person within the meaning of National Instrument 43-101 ( NI 43-101 ) of the Canadian securities administrators.

	<b>Tons</b>	<b>Gold Grade (Oz/ton)</b>	<b>Contained Gold (ounces)</b>
<b>December 31, 2002</b>			
Proven Mineral Reserves	188,178	0.33	61,664
Probable Mineral Reserves	374,743	0.34	126,497
Total	562,921	0.33	188,161
<b>December 31, 2001</b>			
Proven Mineral Reserves	284,256	0.33	93,984
Probable Mineral Reserves	663,698	0.35	230,249
Total	947,954	0.34	324,233

### *Numbers may not add due to rounding*

- 1) Mineral Reserves for the Con Mine as at December 31, 2002 and December 31, 2001 have been estimated assuming a gold price of, US\$308 and US\$280 per ounce, respectively, and have been restricted to material that is already substantially developed. This mineral reserve provides the

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basis for the current life of mine plan which extends into the first quarter of 2005. The Corporation continues to evaluate options to extend the mine life provided such an extended life can be shown to generate free cash flow from operations.

- 2)

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Proven and probable mineral reserves were determined by the use of mapping, drilling, sampling, assaying and evaluation methods generally applied in the mining industry. Proven and probable mineral reserves were calculated using different cut-off grades depending on each deposit stopes properties and based on the mine plan for the deposit.

- 3) The proven and probable mineral reserves figures presented herein are estimates, and no assurance can be given that the indicated levels of recovery of gold will be realized. Ounces of gold contained in the proven and probable mineral reserves are prior to any losses during metallurgical treatment. Mineral reserve estimates may require revision based on actual production experience. Market price fluctuations of gold, as well as increased production costs or reduced recovery rates, could render proven and probable mineral reserves containing relatively lower grades of mineralization uneconomical to exploit and might result in a reduction of mineral reserves.

In addition, to proven and probable mineral reserves, the Con Mine has measured resources of approximately 347,000 tons grading 0.35 oz/ton for 127,000 ounces of gold and indicated resources of approximately 875,000 tons grading 0.34 oz/ton for 304,000 ounces of gold. The Con Mine does not currently expect to recover these ounces or convert them to reserves.

### *Environmental Matters*

The Con Mine is subject to environmental legislation regulating water, air and land. The mine's management team is responsible for ensuring environmental compliance. The mine has an environmental laboratory which maintains up-to-date certification to ensure environmental compliance including health and safety monitoring. Mine management monitors environmental issues as they arise and supervises steps to remedy any concerns.

Part of the Con Mine property has shown elevated arsenic levels and, according to mine management, a maximum of 30 hectares may need some form of remediation. Ore from the Con Mine contains gold naturally associated with arsenic bearing minerals. Until 1970 gold was extracted from refractory ore, where the gold is intimately associated with arsenic, and recovered through roasting the arsenical sulphides. While some of the elevated arsenic levels around the mine are likely due to mining operations, it is also likely that the naturally occurring background arsenic level is elevated due to the arsenic minerals in the extensive mineralized shear zones. Remediation of arsenic contamination is part of the long-term reclamation of the mine. A conceptual abandonment and restoration plan was submitted by NERCO Minerals to the Northwest Territories Water Board and has been accepted as an interim plan. Con Ltd. submitted a revised plan in the first quarter of 2003 and is awaiting final approval.

The autoclave is used to reprocess arsenic sludges left from prior roaster operations at the Con Mine. These materials are readily recoverable from surface storage impoundments and are estimated to contain an average grade of 0.47 oz/ton gold, of which approximately 80% is expected to be recovered during the pressure oxidation and leach processes. Reprocessing of these materials in conjunction with sulphide

concentrates from the flotation circuit will stabilize the arsenic in an environmentally benign form of ferric arsenate, effectively providing permanent remediation of these materials. At December 31, 2002, an estimated 10,000 tons of arsenic sludges remained to be reprocessed. Reprocessing should be completed by the first quarter of 2004. Beginning in early 2005, all other outstanding reclamation will be commenced as part of the current operating plan, with reclamation of the Con Mine site to be completed

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over a two to three year period. There will likely be ongoing monitoring of the site by Con Ltd. after this time until bonding has been released by the government.

On August 8, 2000, Con Ltd. received a renewal of the water licence for the Con Mine issued under the Northwest Territories Waters Act. This licence expires on July 29, 2006. As a condition of the water license, Con Ltd. maintains a security deposit for the cost of future reclamation as required by the licensing agency and in a form acceptable to DIAND. The licence requires increases to the security of \$1.5 million per year until

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a total of \$9 million is on deposit. Con Ltd. has assigned to DIAND the consideration for the purchase of Bluefish in full satisfaction of the bonding requirements at the Con Mine.

As in any industrial undertaking, from time to time the Con Mine may not be in strict compliance with all regulations, however, instances of non-compliance generally do not have material adverse affects on the operations of the Con Mine.

On May 14, 2003 the Corporation and Con Ltd. were notified that they had been charged with the unlawful deposit of tailings effluent in 2001 and 2002 and failing to comply with the Con Mine water licence. Particulars of these charges have not yet been received and the Corporation will not be able to assess the charges until the particulars have been received. These charges have not had and are not expected to have a material adverse affect on the operation of the Con Mine.

The Con Mine is permitted to deposit tailings in a tailings impoundment area, provided that a minimum one meter of freeboard (the distance from the water level to the top of the tailings dam liner) is maintained. As a result of rising water levels the Con Mine stopped operation of the mill on May 1, 2003 in order to reduce water discharge to the tailings impoundment area. Mined ore is being stockpiled for later processing and all stockpiled ore should be processed by the end of the third quarter of 2003. The mill is expected to resume operation by the end of May, 2003.

### **Giant Mine**

The property on which the Giant Mine is situated consists of 32 mining leases covering 3,050 acres and one surface lease covering 2,243 acres located in the City of Yellowknife (adjacent to the Con Mine). The mining leases are each valid for a 21 year term, expire at various times and can be extended.

### *Acquisition*

Giant Ltd. acquired the Giant Mine including its mineral assets, plant and equipment from DIAND for nominal cash consideration and a lump sum payment of \$425,000 for parts and materials inventories. The lump sum payment was placed into the Giant Mine Reclamation Security Trust ( RST ), a trust established to fund the cost of environmental reclamation relating to the prior operation of the mine. The RST will also receive a net proceeds royalty on ores processed from the Giant Mine under certain circumstances. The agreement between Giant Ltd. and DIAND provides that DIAND will indemnify the Corporation from all environmental liabilities related to the operation of the Giant Mine prior to the acquisition of the mine by the Corporation.

The Giant Mine paid property taxes to the City of Yellowknife in 2000 and 2001; however, one third of the assessed taxes were used to purchase certain lands from Giant Ltd. that have no mining value and one-third was reimbursed by each of the Government of the Northwest Territories and DIAND as an exploration/development grant for the Giant and Con Mines.

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Giant Ltd. started mining at the Giant Mine in the first quarter of 2000. The combined costs at the Con Mine and the Giant Mine were US\$246 per ounce in 2002 and US\$257 per ounce in 2001. All ore was processed at the Con Mine mill.

<b>Giant Mine</b>	<b>2002</b>	<b>2001</b>
Tons Milled	71,536	73,247
Grade (ounces per ton)	0.379	0.393
Production (recoverable ounces)	23,899	25,361
Recovery	88.1%	88.2%

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Under the agreement between Giant Ltd. and DIAND, Giant Ltd. could elect to transfer the mine back to DIAND after operating the mine for two years. Giant Ltd. notified DIAND that it would return the Giant Mine effective December 14, 2001; however, an agreement was reached with DIAND to amend the existing agreement to extend Giant Ltd.'s operation of the mine. Pursuant to the amended agreement, DIAND currently funds environmental compliance and holding costs at the Giant Mine estimated at \$300,000 per month beginning December 15, 2001 throughout the period of extended operations. These costs were previously borne by Giant Mine. The indemnity against environmental liability was unaffected by the amendment to the original agreement.

#### *Background*

The Giant Mine is located approximately three miles north of Yellowknife and has been in production since 1948. The Ingraham Trail, a paved all-weather highway from Yellowknife, passes through the centre of the property. Mining is conducted underground and ores shipped to the Con Mine mill for processing. Since 1948, the Giant Mine has produced in excess of 7.1 million ounces of gold. In 1996, the previous owner completed rehabilitation of the infrastructure that accesses the Supercrest ore body described below.

#### *History*

The Giant Mine has been in operation over much of the past 53 years. During the first 25 years of mine life, gold production averaged in excess of 150,000 ounces per year. During this same period, the mill head grade was in excess of 20.6 g/t Au. At the end of this period, most of the major ore blocks had been mined out from the underground. Mining of remnant and lower grade blocks began and resulted in the head grade dropping below 10.3 g/t Au. In 1974, mining of the open pits commenced, and had a negative affect on the head grade. By the late 1980s the pits were exhausted and mining again was primarily focused underground.

Most of the main ore stopes underground that had been mined by conventional cut and fill were exhausted by the end of the 1970s. The mine entered a remnant recovery phase that has continued to the present. This recovery phase involves mining smaller satellite ore lenses around the old mined out cut and fill stopes.

In November 1990, Royal Oak Resources Limited acquired control of the Pamour group of companies which owned the Giant Mine properties and amalgamated all the properties into one company, Royal Oak Mines Incorporated, ( Royal Oak ) in July 1991. Royal Oak went into receivership in 1999 and in the same year Giant Ltd. acquired the Giant Mine from DIAND.

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#### *Mining facilities*

The Giant Mine operates as an underground mine with access provided by two large service raises, five declines and the C shaft, which is the principal operating opening for hoisting and extends to a depth of 2,124 feet. Mining is by conventional underground mining techniques such as cut and fill. The mine is mechanized with jumbo drills and 3-1/2 yard scoop trams. The mine operates on a five day a week schedule. The power source for the Giant Mine is the Northwest Territories Power Corp. The main infrastructure of the Giant Mine has been in place since 1946.

Prior to the acquisition of the Giant Mine by Giant Ltd., the ore produced from the mine was processed at the mill located on the property using a roaster to oxidize refractory ores. Giant Ltd. does not operate the roaster and all ore produced at the Giant Mine is processed at the Con Mine mill.

*Geology*

The Giant Mine is in the Yellowknife Greenstone belt, a package of Archean volcanic rocks similar to those related to the Con Mine. Deposits are hosted in shear zones within the greenstones. Individual deposits are veins, quartz lenses, or silicified areas within the shear. Gold is associated with fine-grained arsenopyrite.

The Giant Mine ore bodies are bounded to the south by the West Bay Fault, to the north by the Akaitcho Fault, and to the east by the angular unconformity with the sediments along the Yellowknife Bay shoreline. The general trend of the Giant ore body is North-South in the A shaft area between the West Bay Fault and the Townsite Fault, and is approximately N30E north of the Townsite Fault. The dip of the alteration zone is generally to the east, but the angle is highly variable. The alteration zone that hosts the Giant ore bodies continues north to the Akaitcho Fault on this trend. The alteration zone is characterized by chloritic and/or sericitic alteration of the country rocks. The alteration zones may appear massive, or weakly to strongly foliated.

Where the zones are strongly foliated, they have been referred to as shear zones in the past. The major ore bodies have generally been located in sericite schist, but the intensity of alteration and schistosity varies widely. Large ore lenses have been found in weakly to moderately foliated, chlorite-to-chlorite sericite altered zones. The alteration zones (and the ore zones within) have been complexly folded. The foliation or schistosity (shearing) observed in the mine is related to the D2 deformation. Mineralization in the south and central portions of the mine is generally recognizable as quartz-carbonate-sericite schist with disseminated sulphide mineralization, bounded by sericite to chlorite schist. In the northern portion of the mine, gold is located within generally narrow, shallow dipping zones chlorite to sericite altered zones in relatively narrow (1 - 5 m wide) composite quartz carbonate veins that are often folded or boudined. An unfoliated intense sericite alteration zone hosts sections of the Supercrest ore zone between the 750 Level and the 1100 Level.

*Employees*

The mine currently operates with an employee base of approximately 60 employees, of which 44 are members of the Canadian Auto Workers Union. The union employees are subject to the terms of a new collective bargaining agreement, which provides for wage increases of 8%, 4% and 3% plus other benefits, over the three years until the contract expires in 2005.

*Mineral Reserves*

The following table sets forth the estimated proven and probable mineral reserves for the Supercrest area at the Giant Mine as at December 31, 2002 and December 31, 2001. The estimates below include allowances for dilution and mining losses, but not for losses in processing. All other mineralization at the Giant Mine has been classified as mineralization pending a more thorough evaluation. These estimates were prepared by Dan Rousseau, Senior Mine Planner Giant Mine under the supervision of Dean McDonald, PhD., P. Geol., former Exploration Manager with the Corporation, who is a qualified person within the meaning of NI 43-101.

	<b>Tons</b>	<b>Gold Grade (oz/ton)</b>	<b>Contained Gold (ounces)</b>
<b>December 31, 2002</b>			
Proven Mineral Reserves	22,139	0.386	8,536
Probable Mineral Reserves	79,772	0.318	25,363
Total	101,911	0.333	33,899
	<b>Tons</b>	<b>Gold Grade (oz/ton)</b>	<b>Contained Gold (ounces)</b>
<b>December 31, 2001</b>			
Proven Mineral Reserves	29,439	0.380	11,179

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<b>December 31, 2001</b>	<b>Tons</b>	<b>Gold Grade (oz/ton)</b>	<b>Contained Gold (ounces)</b>
Probable Mineral Reserves	74,297	0.336	24,943
Total	103,735	0.348	36,122

1. Proven and probable mineral reserves were determined by the use of mapping, drilling, sampling, assaying and evaluation methods generally applied in the mining industry. Proven and probable mineral reserves were calculated using different cut-off grades depending on the deposit's properties and based on the mine plan for the deposit.
2. Mineral Reserves as at December 31, 2002 and December 31, 2001 have been estimated assuming a gold price of US\$308 per ounce and US\$280 per ounce, respectively, and have been restricted to material that is already substantially developed.
3. The proven and probable mineral reserves figures are estimates, and no assurance can be given that the indicated levels of recovery of gold will be realized. Ounces of contained gold are prior to any losses during metallurgical treatment. Mineral reserve estimates may require revision based on actual production experience. Market price fluctuations of gold, as well as increased production costs or reduced recovery rates, could render proven and probable mineral reserves containing relatively lower grades of mineralization uneconomical to exploit and might result in a reduction of mineral reserves.

In addition, Giant Mine has measured resources of approximately 83,009 tons grading 0.27 oz/ton for 22,637 ounces of gold and indicated resources of approximately 263,330 tons grading 0.18 oz/ton for 48,762 ounces of gold; however the Corporation does not currently expect to recover these ounces or convert them to reserves.

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*Environmental Matters*

Prior to the Corporation's acquisition of the Giant Mine, ore was processed on site using a roaster to oxidize refractory material prior to cyanidation. This process generated arsenic bearing waste which is stored underground in specially excavated chambers. This material presents a potential hazard to the environment and a substantial cost to clean up. The agreement pursuant to which Giant Ltd. acquired the Giant Mine from DIAND provides that DIAND will indemnify the Corporation from any environmental liabilities arising from previous operations at the mine. In exchange for this indemnification, the Corporation has agreed to work closely with the Federal and Territorial governments to develop a long term reclamation strategy for the Giant Mine.

As in any industrial undertaking, from time to time the Giant Mine may not be in strict compliance with all regulations, however, instances of non-compliance generally do not have material adverse affects on the operations of the Giant Mine.

*Government Regulations*

Federal and Territorial statutes, ordinances and regulations govern operations at the Con and Giant Mines. Included under Northwest Territorial jurisdiction are the Apprentices and Tradesmen Regulations, the Boiler and Pressure Vessel Regulations, Business License Fire Regulations, Explosive Use Regulations, Fire Prevention Act, Labour Standards Ordinance, the Northwest Territories Mining Safety Act, Workers Compensation Act, Public Health Ordinance, Emergency Measures Act and Environmental Protection Ordinance. Under Federal jurisdiction are

the Clean Air Act, the Fisheries Act, Northwest Territories Waters Act, Territorial Lands Act, Transportation of Dangerous Goods Act and Canada Mining Regulations. Failure to comply with these statutes, ordinances and regulations may result in cease work orders and/or fines.

## Hope Bay Project

### *Acquisition*

On December 17, 1999 MHL acquired a 50% interest in a group of concession agreements (the NTI Concessions) and Federal mineral claims and mining leases located in Nunavut and known as the Hope Bay Project from Hope Bay Gold Corporation (Hope Bay Gold) for US\$13,346,100. The NTI Concessions are with Nunavut Tunngavik Incorporated, the Corporation representing the Inuit people of Nunavut, which owns subsurface mineral rights in Nunavut. The acquisition occurred concurrently with Hope Bay Gold's acquisition of 100% of the Hope Bay Project from BHP Diamonds Inc. for US\$18,492,340.

In 2000, the Corporation and Hope Bay Gold entered into a joint venture agreement (the JVA) to govern all work on the Hope Bay Project. The JVA created the Hope Bay Joint Venture which governed the operation of joint venture and provided that MHL and Hope Bay Gold would fund exploration work in differing proportions until each participant had incurred the same amount of purchase price and exploration costs, after which, each participant would fund exploration work equally.

In 2002, the Corporation and Hope Bay Gold completed a business combination pursuant to which Hope Bay Gold became a wholly owned subsidiary of the Corporation. The Corporation issued to the shareholders of Hope Bay Gold 0.263 of a Common share for each Hope Bay Gold Common share held.

In total the Corporation issued approximately 39.4 million Common shares to Hope Bay Gold Corporation shareholders which represented approximately 38% of the 102.7 million shares then outstanding.

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David Fennell, Peter Nixon, Jonathan Goodman and Peter Steen all of whom had been directors of Hope Bay Gold, were elected to the Corporation's board of directors at its 2002 annual general meeting of the shareholders. David Fennell was appointed Executive Vice-Chairman of the board of directors.

### *Location and Access*

The Hope Bay Project is located in Nunavut, 65km east of Bathurst Inlet and 685km northeast of Yellowknife. The centre of the area lies approximately 160km above the Arctic Circle at latitude 67° 30' N and longitude 107° W. The nearest communities are Umingmaktok, located 65km to the west on the east coast of Bathurst Inlet, and Cambridge Bay located 170 kilometres to the northeast on southern Victoria Island. The area is approximately 380km northeast of the Ekati diamond mine and is accessible by tidewater. Personnel, supplies and equipment are flown into the site, generally from Yellowknife using float or ski-equipped aircraft. In the winter, air strips on the ice are able to accommodate wheeled aircraft as large as Hercules to bring in equipment and supplies. A permanent airstrip that can take Twin Otter sized aircraft has been built at the Boston deposit. Except for the Boston strip, float equipped aircraft must be used in the summer months. The Hope Bay Project area is also accessible by barge or ship to Hope Bay and Roberts Bay on the Arctic Ocean from mid-July to the end of September. In the winter, air strips on the ice are able to accommodate planes as large as a Hercules to bring in equipment and supplies.

The Hope Bay Project has two camps, the Boston camp at Spyder Lake for the Boston deposit and the Windy Lake camp for the Doris and Madrid deposits. The Windy Lake camp is about 10km from Hope Bay on the Arctic Ocean.

*Ownership*

The Hope Bay project area comprises 64 mineral claims, 9 mining leases and 7 Inuit Owned Lands Exploration Agreements. The Hope Bay property comprises an area of 1,078km<sup>2</sup> and forms one continuous block that is approximately 80km long by up to 20km wide in size.

*Exploration History*

Exploration for gold and base metal deposits in the Hope Bay Greenstone Belt was started in 1965 by Roberts Mining Company. During the late 1970s and early 1980s, Noranda Exploration Company explored the area for volcanogenic massive sulphide ( VMS ) deposits. In 1988, Abermin Corporation explored the area and detected gold mineralization, which later became the Boston deposit.

In 1991, BHP Minerals Canada Ltd. ( BHP ) assembled a contiguous block of claims covering approximately 1,016km<sup>2</sup> and carried out systematic exploration airborne and ground geophysical surveys, geological mapping and prospecting, overburden drilling and over 177,000 m of diamond drilling. BHP 's work resulted in the discovery of the Boston, Doris and Madrid deposits. BHP also carried out underground exploration and bulk sampling of the Boston deposit in 1996 and 1997. From 1991 to 1998, BHP spent approximately \$73.5 million in exploring the entire Hope Bay Greenstone Belt. The Hope Bay Joint Venture spent an additional \$17 million in exploration and supplies at Hope Bay in 2000, and \$15.7 million in 2001. An additional \$12.4 million was spent at Hope Bay in 2002.

*Geology and Mineralization*

Hope Bay is a typical Archean greenstone belt comparable to the Yellowknife, Kirkland Lake and other such belts; it extends over 80km in a north-south direction and is between 7 and 20km wide. The belt is comprised of mafic meta-volcanic (mainly meta-basalts) and meta-sedimentary rocks that are bound by

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Archean granite intrusives and gneisses. The greenstone package has been affected by multiple deformation events and is transected by major north-south trending shear zones that appear to exert a significant control on the occurrence of mineralization, particularly where major flexures are apparent and coincident with antiforms. Similar features are the locus for major gold deposits in other Archean greenstone gold camps (e.g. Kirkland Lake).

Three gold deposits have been defined on the belt to date: Boston, Doris and Madrid.

*Boston Deposit*

Gold mineralization at the Boston deposit is present in zones of extensive hydrothermal alteration within a large iron-rich carbonate altered shear zone. Gold occurs within and around structurally controlled quartz-carbonate veins. Gold is associated with sulphide mineralization as clusters of pyrite within the vein, as well as in the wall rocks.

Two major horizons of gold mineralization have been identified at the Boston deposit, the B-2 and B-3 zones. Each zone extends to over 1km in length and is composed of numerous, narrow quartz-carbonate veins commonly with pyrite. The veins are 5cm to 3m in width and at variable lengths, within a 1 m to 40m wide mineralized zone. Gold occurs in the quartz veins as well as in the surrounding sheared and altered volcanic rocks. The B-2 Zone has been drill tested down to 640m below the surface and contains approximately 75% of the total resources at Boston. It is characterized by a series of parallel, en-echelon quartz-carbonate veins along the contact between basaltic and sedimentary rocks.

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Much past exploration has been concentrated along the 1km stretch of the Boston deposit area which contains the currently known resources. Surface drilling in 2001 extended the high-grade mineralization over 225m south of the Boston decline. Mineralization remains open along strike to the south and at depth. Additionally, there is potential north of the deposit and east of Spyder Lake where the mineralized zones appear to be offset by a fault.

### *Doris Deposit*

The Doris deposit is typical of the Archean lode deposit style. It consists of a series of steeply dipping, quartz veins which extend over a 4km strike length in folded and metamorphosed pillow basalts. The Doris veins are situated at an inferred inflexion of a subsidiary shear to the regional Hope Bay break.

The Central and Lakeshore Veins at Doris North are the most important of the veins, and represent the limbs of a shallow northerly plunging anticline. The Lakeshore vein is the most continuous and robust structure in the Doris system and is in excess of 2,200m long, and varies in thickness from 2 to 20m. The Central vein is less extensive, narrower but locally very high grade.

These two veins occur at the contact between the high iron and high magnesium tholeiites, within a narrow envelope of intense dolomite-sericite alteration. Although they appear as separate veins along most of their strike length, at their northern end, they are one continuous vein, folded around an anticline with high magnesium tholeiites at its core. The Doris Hinge mineralization which contain most of the Doris North resources, which occur at this location, are very high grade. The strongest gold grades occur within the Central Vein and Hinge Zone at the crest of the anticline. Detailed in fill drilling in 2002 confirmed the continuity of high grade mineralization along a 300m strike extent of the Hinge, and a feasibility study was completed on it in January, 2003.

Doris Central lies 1.2km to the south of the Doris Hinge, in an area where the Lakeshore Vein intersects with the Stringer Zone and this intersection defines a vertically plunging shoot. The Stringer Zone

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is a zone of quartz stringer mineralization within a dolomite alteration halo. It occurs in the same alteration envelope that hosts a quartz vein, the C2 vein, along strike to the north. At Doris Central, the Lakeshore vein is similar in its appearance to Doris North. In the area of intersection of the Stringer Zone and Lakeshore vein, mineralized widths reach up to 30m.

The veins appear to lie at the contact between the high iron and high magnesium tholeiites, within a narrow envelope of intense dolomite-sericite alteration. At the north end, the veins are folded to create a high-grade anticlinal hinge zone lying close to surface (Doris North), with high magnesium tholeiites at the core of the anticline. The strongest gold grades occur within the Central Vein and Hinge Zone at the crest of the anticline. Detailed infill drilling in 2002 confirmed the continuity of high grade mineralization along a 300m strike extent of the Hinge.

The Doris Connector zone lies between Doris North and Doris Central and spans approximately 500m in strike extent. The 2001 drill results confirmed the presence of a shallow, sub-horizontal high grade shoot within the C2 vein in the Connector area that runs parallel to and approximately 30m east of the Lakeshore vein. Mineralization at Doris Connector appears to be localized in the vicinity of the intersection of the C2 vein with a steep westerly dipping shear zone, as well as in proximity to a sub horizontal, post veining, altered mafic dyke. Alteration is defined by carbonate, paragonite, pyrite and sericite. Gold is found primarily at contacts between quartz vein and wall rock contacts and is associated with dark-coloured troumaline-pyrite septa or ribbons.

### *Madrid Deposit*

A series of five separate mineralized zones (Perrin, Rand, Matrim, Naartok and Suluk) occur at Madrid, a 2km by 1.5km area at the north-eastern part of Patch Lake. It is comprised largely of mineralization associated with interbedded basalt, komatiitic volcanic flows, gabbros and black argillites. In early 2001, discoveries to the west (Naartok) and southeast (Suluk) of Madrid returned significantly higher grade mineralization and led to the realization that the Deformation Zone, which transects the Madrid-Patch Lake area, is the locus of a significant mineralized trend that includes Naartok, Suluk as well as the previously drilled lower grade mineralization. Exploration has since extended the

trace of the Deformation Zone to approximately 11km, with additional mineralized occurrences identified along this trend, including the new discoveries of mineralization in the Marianas and Rand Spur areas.

The Deformation Zone contains highly deformed quartz-dolomite-sericite schist or breccia and possible feldspar porphyry. It is highly altered and brecciated, and defines a steeply dipping, high strain zone over at least 20km from south of Patch Lake until it reaches the Madrid Valley, where it abruptly bends nearly 90 degrees westward and follows the north side of the valley. No significant gold mineralization has been found within the Deformation Zone itself, except where rafts of wall rock are included within it.

Each of the gold deposits and occurrences in the Madrid area has its own unique characteristics, varying from vein or shear-hosted to stock work or breccia-hosted gold mineralization. Most of the deposits are at or near the hanging wall of the Deformation Zone or one of several parallel structures of splays. Most of the deposits, except South Patch, consist of high grade cores surrounded by large halos of lower grade mineralization. The current exploration program is targeting the discovery and delineation of additional high grade mineralization along the Deformation Zone and related structures, and while also allowing MHL to evaluate the potential of the rocks along the Madrid trend to host large scale, lower grade deposits.

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#### *Naartok Zone*

The Naartok zone lies west of the Madrid deposit in an area where drill hole M92 in 2000 encountered 6.9 g/t gold over 51.8m (including 21.4g/t gold over 11.4m) in a previously unrecognized zone of gold mineralization. This zone is located in the hanging wall of the Deformation Zone and characterized by a broad zone of >1g/t gold assays. Recent modeling has resulted in the definition of three north dipping mineralized lenses within this broad halo; a thicker one in the immediate hanging wall of the Deformation Zone and two smaller ones farther into the hanging wall and to the west.

Mineralization at Naartok occurs in a zone of multi-phase brecciation, quartz stock working and silicification on the hanging wall of the Deformation Zone. Better mineralization appears to be localized in an area where the Deformation Zone is flexed, providing a possible dilation zone for the passage of mineralizing fluids. Drilling to date has defined a steeply plunging zone of more intense silicification and higher-grade gold values (15-25 g/t) extending 75-150m along strike, plunging 200+m and averaging 5-25m thick within a broader halo of lower grade alteration and mineralization.

#### *Suluk Zone*

Drilling has also tested an area approximately 600m southeast of Naartok along the Deformation Zone under Patch Lake where previous drilling by BHP intersected further gold mineralization in a setting broadly similar to that of Naartok and the Perrin Bulge. This Suluk Zone mineralization is associated with a flex in the Deformation Zone and comprises four or more parallel and variable altered and mineralized horizons that dip at -80 degrees to the west and have been traced for 350m along strike.

The mineralization at Suluk is similar to Naartok, with silicification, quartz stock works and pyrite within a broader sericite-dolomite alteration halo. However, mineralization is situated 15 to 60m east of the Deformation Zone, not adjacent to it as at Naartok. The steeply west-dipping zones of mineralization at Suluk are included within an intercalated basalt/argillite unit and it is the ductility/rheology contrast between basalt and argillite, causing brittle failure of basalt in the vicinity of argillite layers that is thought to locally control emplacement of mineralization. This mechanism would explain why a majority of high grade basalt samples (15g/t) occur near the contacts with graphitic argillite units or in brecciated basalt with a graphitic argillite matrix. The better gold values seem to be associated with higher percentages (5%) of fine-grained disseminated pyrite within the quartz carbonate-sericite altered horizons, mostly within brecciated, silicified and sulphidized, mafic, volcanic rocks. Lesser amounts of gold mineralization occur in the intercalated, cherty, graphitic argillite. Preliminary metallurgical testing of a sample of

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strongly graphitic sediment from the Suluk deposit has identified active carbon that could potentially adversely affect the recovery of gold in a conventional cyanidation recovery circuit.

### *Other Zones*

Significant gold mineralization is found along the trend of the Deformation Zone outside of Naartok and Suluk including South Suluk, Patch 7, South Patch 14, Perrin, P112, Marianas and Rand Spur Zones, each of which differs somewhat in the style of mineralization but lies in close proximity to the Deformation Zone or, in the case of South Patch 14, within it. These and less explored areas associated with the Deformation Zone, remain important targets for current exploration activities in the Madrid area.

### *Exploration*

MHBL has a focused exploration strategy for the systematic evaluation of the mineral potential of the Hope Bay Greenstone belt, which extends more than 80km north to south and up to 20km east to west. Hope Bay is a typical Archean greenstone belt that encompasses a variety of geologic environments prospective for several different styles of mineralization. To date, exploration has targeted outcropping shear and vein hosted Archean lode gold deposits, such as those discovered at Boston and Doris.

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However, the discovery of the Naartok and Suluk deposits in 2001, the sources for the majority of resource additions on the Hope Bay belt in 2001, illustrates the potential for different styles of deposits including ones that do not outcrop. Exploration in 2003 will include areas with extensive cover and areas with potential for different styles of mineralization to those previously discovered on the belt.

The 2002 strategy at Hope Bay was primarily to further define and extend the resources of the known deposits at Doris North and South Patch and to complete the feasibility study at Doris North. A limited number of exploration holes were drilled in 2002 as, due to limited financial resources, exploration was not a priority for the year. Nonetheless, important new targets were identified in the Madrid area, including new discoveries of significant gold mineralization at Marianas and Rand Spur, adding to the successes at Naartok and Suluk in 2001.

Exploration underway in 2003 focuses on evaluating the potential of the Madrid area, the depth potential at the Boston deposit and includes areas with extensive cover and areas with potential for different styles of mineralization to those previously discovered on the belt.

### *Doris North Development Scenario*

During the latter half of 2001, Steffen Robertson and Kirsten Consulting ( SRK ) undertook a Preliminary Assessment (the Assessment ) to consider the economic potential of a stand alone development of the high grade, near surface Doris North Zone

The following table sets forth certain information contained in the Feasibility Study relating to the base case for bringing the Doris North Project into production.

<u>Assumptions</u>		<i>Base</i>	<i>Case</i>
Gold price (US\$/oz)	<u>\$305</u>	<u>\$325</u>	<u>\$345</u>
Exchange Rate (C\$/US\$)	1.575	1.575	1.575
Gold Price (C\$/oz)	\$480	\$512	\$543

Production

Ore Milled (tonnes)	467,157
Daily Throughput (tonnes/day)	668
Operating Life (years)	2
Diluted Grade (g/t gold)	21.9
Metallurgical Recovery (%)	94.9%
Total Gold Recovered in 2 years (oz)	311,693
Production	
Cash Operating Cost (US\$/oz)	\$109
Total Cost (US\$/oz)	\$190
Production	
Capital Costs (C\$ millions)	(39.3)

The Feasibility Study assumes mining of the Doris North project by underground methods and with ramp access. Underground mining would be carried out by a combination of mechanized cut and fill and open stoping, assuming a minimum mining width of 2.5m and external dilution averaging 17% at zero grade. Mine engineering has been advanced to a point well beyond what is considered normal for a feasibility study. The entire deposit has been planned and scheduled, all required waste and on-ore development has been laid out and individual stopes engineered with ore and grade release schedules. Costs and

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productivity estimates utilize experience from the Corporation's Yellowknife operations, adjusted to site specific conditions.

Ore would be hauled from underground by truck to a crusher located adjacent to the portal that would feed a modular mill pre-constructed off site and transported to site in assembled units. Due to the modular nature of the mill, it requires no foundations but would be set on bedrock and compacted fill and covered with a sprung structure similar to those used at a number of other arctic locations. The ore would undergo conventional crushing and grinding with an integrated gravity gold recovery circuit followed by flotation and cyanidation of flotation concentrates, with gold doré produced on site.

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The Doris North Project will be subject to a 12% net profits royalty which has the effect of a minimum 1.8% Net Smelter Royalty payable to NTI. The actual royalty that will be payable will depend upon the deduction of historical and current explorations costs, capital and operating costs. The amount of historical and current costs that may be deducted is currently being determined by MHBL and NTI as part of the production lease.

Waste rock would largely be used for civil construction projects such as a 4.8km permanent access road to a barge off-loading area on the coast 3.7km to the north, a barge landing site, an airstrip, and for tailings dam construction. Tailings are proposed to be deposited sub-aqueously in a small lake to the east of the Doris Lake, locally known as Tail Lake.

As contemplated in the Feasibility Study, all equipment, bulk supplies and materials would be moved to site by barge from Hay River, although alternatives are being investigated. Other supplies and personnel will be transported to and from site by aircraft. Camp facilities for up to 90 personnel would be constructed, with employees retained on a fly-in, fly-out basis, with hiring from Yellowknife and from the local communities of Cambridge Bay, Taloyoak, Gjoa Haven and Bathurst Inlet in the West Kitikmeot region. Total employment by the project is estimated at 150 persons.

### *Estimated Capital Costs*

The following table sets forth, as estimated in the Feasibility Study, capital costs to bring Doris North into production.

	<b>(C\$ Millions)</b>
Process Plant & Buildings	\$17.75
Site Preparation	\$13.58
Power Plant	\$ 3.80
Underground Equipment	\$ 2.46
Miscellaneous	\$ 1.67
Total	\$39.26m

The total estimated capital requirement of \$39.26 million represents the total net capital required over the life of the project. This includes all anticipated lease/purchase costs for both the mill buildings and the power plant for a 36 month term.

### *Estimated Operating Costs*

The following table sets forth the operating costs of the Doris North Project, as estimated by the Feasibility Study, over the full project life.

	<u>(C\$ Millions)</u>	<u>(C\$ per tonne milled)</u>
Mining	\$20.88m	\$44.71/t
Milling	\$18.88m	\$40.42/t
General & administration	\$13.92m	\$29.81/t
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Total	\$53.68m	\$114.94/t
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*Future Development Opportunities*

The Feasibility Study is based solely on mining in the Doris North area, however there is potential to extend the mine life through the development and mining of other resources in the Hope Bay belt, such as the Doris Connector and Doris Central areas. Additional infill drilling and other work is required to define a mineral reserve and establish the feasibility from the Doris Connector and Doris Central areas. These two deposits could potentially be developed with minimal additional surface disturbance and with limited capital, utilizing the same infrastructure proposed for the Doris North Zone.

The Corporation plans to develop underground access from the Doris North workings extending south to Doris Central to enable detailed underground drilling of these areas. Additional resources are also contained in the Boston and Madrid areas that could provide mill feed in future years.

*Development Schedule*

Subject to permitting, the Corporation plans to develop the Doris North project with a single major mobilization in the summer of 2004. This assumes that ongoing permitting activities support a fourth quarter 2003 production decision and placement of orders for the mill, followed by air-supported mobilization of the underground mining equipment required for ramp development in the late first quarter of 2004. Once permits are in place, underground development would commence in mid-2004, with the major equipment and supplies mobilization scheduled for the third quarter of 2004 to allow site construction to begin in the late third quarter of 2004. Process plant operations would then begin in the first quarter of 2005.

*2002 Resource Estimate*

The following table sets forth the mineral resources at the Hope Bay Project as at December 31, 2002.

<b>Category/Deposit</b>	<b>Tonnes (000's)</b>	<b>Gold Grade (g/t)</b>	<b>Contained Gold (000's oz)</b>
Measured & Indicated Resources			
Boston	1,387	15.4	687
Doris	305	27.8	262
Madrid	1,090	10.3	363

Category/Deposit	Tonnes (000's)	Gold Grade (g/t)	Contained Gold (000's oz)
Total Measured & Indicated Resources	2,782	15.4	1,664
Additional Inferred Resources			
Boston	2,574	10.9	901
Doris	1,675	14.7	795
Madrid	2,608	12.0	1,007
Total Additional Inferred Resources*	6,857	12.3	2,703

\*Inferred resources are in addition to measured and indicated resources.

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- All resource and reserve estimates were prepared by the MHLB staff in accordance with NI 43-101 and reviewed by Dean McDonald, P. Geo. Ph.D., former Exploration Manager for the Corporation. Resource estimation models for the Boston, Doris (excluding the Doris Hinge and Doris Central zones) and Madrid (excluding Naartok and Suluk) were estimated utilizing a two dimensional polygonal approach. The Doris Hinge, Doris Central, Naartok and Suluk deposits were block modelled using ordinary kriging methods, whereas other zones applied inverse distance methods. Capping and cut off grades were applied as set out in the attached tables. Measured resources were estimated only in the Boston B2 Zone where the resource blocks have been undercut. Indicated resources for all the deposits generally lie within 25 metres of a drill hole within detail drilled areas and inferred resources generally lie no more than 50 metres from a drill hole. The estimates for Doris Central, Boston, Suluk and Naartok have been audited by independent resource consultants The resource estimates for Doris Hinge, Doris North and South Patch were audited by independent resource consultant SRK Engineering of Toronto.
- The mineral resources were determined by the use of mapping, drilling, sampling, assaying and evaluation methods generally applied in the mining industry. Inferred and Indicated resource estimates were estimated using different cut-off grades depending on each deposit's properties. The term cut-off grade means the lowest grade of mineralized rock that can be included in the resource estimate in a given deposit. Cut-off grades vary between deposits depending upon prevailing economic conditions, mineability of the deposit, amenability of the ore to gold extraction, and milling or leaching facilities available. This classification does not endeavour to describe the reserves, if any, but merely describes the mineralization that lies within the drilled area.
- All mineral resource estimate figures presented herein are estimates, and do not constitute reserves. There is no assurance that a commercially viable ore deposit (if any) exists on the Boston or Madrid properties until further exploration work and a comprehensive evaluation based upon unit cost, grade, recoveries and other factors conclude economic feasibility.
- The 230,000 ounces that lie within 30m of lake bottoms (pillars) are unlikely to be mined without significant economic and permitting challenges. The regulations for pillars under lakes in Nunavut require the Mines Inspection Branch to provide a variance for mining within 100m of a lake bottom.
- Mineral resources that are not mineral reserves do not have demonstrated economic viability. Mineral resource estimates do not account for mineability, selectivity, mining loss and dilution. These mineral resource estimates include inferred mineral resources that are normally considered too speculative geologically to have economic considerations applied to them that could enable them to be categorized as mineral reserves. There is also no certainty that these inferred resources will be converted to measured and indicated categories through further drilling, or into mineral reserves once economic considerations are applied.

*Regulatory Requirements*

The territory of Nunavut was created on April 1, 1999. There are a variety of federal and territorial regulatory authorities that have jurisdiction in Nunavut, including four resource management boards have operated since July 1996: the Nunavut Water Board ( NWB ), the Nunavut Impact Review Board ( NIRB ), the Nunavut Wildlife Management Board ( NWMB ) and the Nunavut Planning Commission ( NPC ).

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Receiving overall project approval and operating permits will be dependent upon an environmental assessment process coupled with community consultation and, in the case of major developments, the successful negotiation of an acceptable Inuit Impact and Benefit Agreement ( IIBA ) made under the Nunavut Land Claims Agreement ( NLCA ). It is expected that between 18 and 24 months may be required to obtain approvals and licenses for construction and operation of a mine. To date, there has been no precedent case to assess the time or efficiency of the process in Nunavut.

Any use of Inuit surface land requires a land use permit, licence or lease. Such permits are issued and administered by the Kitikmeot Inuit Association ( KIA ). Applications are reviewed by the KIA, NIRB and local communities. Land-use licences are valid for up to three years. Amendments describing proposed work must be submitted on an annual basis and are subject to local community review.

Any water use on Inuit lands requires permitting. The NWB issues all water licenses and permits within Nunavut subject to a review by NIRB, which could provide recommendations to the Nunavut Water Board respecting permit issuances.

*Doris North Permitting Progress*

The majority of the contemplated activities on the Doris North Project will be located on land on which the Inuit retain both surface and sub-surface rights. NIRB is the principal permitting regulatory agency for the Doris North Project under Part 5 of Article 12 of the NLCA ( Part 5 ).

MHBL filed a preliminary project description with the NWB and KIA which referred it to NIRB in March 2002, based on which NIRB issued guidelines for the preparation of a draft environmental impact statement ( EIS ) under Part 5. The Corporation filed a draft EIS with NIRB in January 2003. The draft EIS details the Doris North Project and includes the project description, environmental baseline studies, impact assessments, socio-economic considerations, environmental management plans and reclamation and closure plans. NIRB distributed the draft EIS to the various territorial and federal agencies which have jurisdiction over the Doris North Project.

MHBL held public information meetings in the communities of Cambridge Bay, Kugluktuk, Gjoa Haven and Talayoak in February 2003 to review the project and the draft EIS.

NIRB held pre-hearing conferences in Cambridge Bay, Kugluktuk, Goja Haven and Talayoak in April 2003 to ensure that all major issues in relation to the Doris North Project had been identified and that there were no major parties which were not in consultation with NIRB. NIRB has advised MHBL that it expects to provide comments to MHBL on the draft EIS in early June 2003. MHBL plans to prepare a final EIS as quickly as possible and subject to the final EIS being filed with adequate time for public and regulatory review, NIRB has indicated that it could hold hearings in September 2003 to review the final EIS in order to determine whether the project should proceed. MHBL expects that all other required approvals will be coordinated through the NIRB review process. These include an authorization under the Fisheries Act to deposit tailings into Tail Lake, a federal lease of a portion of Robert s Bay to allow construction of an offloading jetty, and a water licence from NWB. MHBL will also require a production lease from NTI allowing the removal of minerals, various surface leases from the KIA and an IIBA.

MHBL is currently negotiating the terms of these agreements.

Depending upon receipt of the comments on the draft EIS from NIRB and MHBL being able to address the comments in a timely manner, the Corporation anticipates that NIRB approval of the project could be obtained in the fourth quarter of 2003. This should allow all other necessary permits to be obtained in time to permit MHBL to commence construction and order major equipment to allow operations to commence in early 2005.

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### **Sherwood Mining Corporation**

The Corporation owns 10,000,000 shares of Sherwood Mining Corporation ( Sherwood ) representing a 40.21% interest, together with warrants exercisable until August 2003, to purchase an additional 10,000,000 shares at \$0.25 per share. The shares and warrants were issued in conjunction with the sale by the Corporation to Sherwood in August 2001 of the Elu property comprising approximately 10,000 hectares in 11 Crown mineral claims on the Elu greenstone belt in Nunavut. The Elu Property is located approximately 30 kilometres northeast of the Hope Bay belt. Given the large number of prospective targets identified within the Hope Bay belt, no work was planned for the Elu belt in 2001 and the Corporation and Hope Bay Gold determined that the potential of the Elu belt could be better evaluated by separately funding these activities.

Sherwood has the right to acquire any additional mineral claims staked within a perimeter of 7 km east and west and 20 km north and south of the Elu property, but Sherwood cannot acquire any properties within 10 km of the existing Hope Bay properties.

Exploration work on the Elu belt is carried out by MHBL personnel under the terms of a services agreement with Sherwood which provides for recovery of all costs plus a management fee of 5%. Prospecting, mapping, drilling and detailed whole rock analysis of the Elu belt by Sherwood in 2002 has shown that the 8km long Eastern Felsic Volcanic Trend is favourable for hosting volcanogenic massive sulphide ( VMS ) deposits. Mapping of the trend suggests the presence of several stacked horizons of felsic and sedimentary rocks with sulphide mineralization and associated alteration. The presence within favourable volcanic stratigraphy of strong alteration and mineralization indicates that hydrothermal activity although widespread was locally focused in a situation favourable for the formation of VMS deposits. The exploration programs conducted in 2002 defined two prospective zones in the Eastern Elu area that appear to occur within three structurally separated domains, each with its own felsic volcanic center and associated hydrothermal discharge areas. The most prospective targets remain within overburden-covered areas related to recessive weathering of sedimentary rocks, debris flows and volcanic breccias and their contact with the andesite-dacite package below. Detailed ground geophysical surveys were proposed as these specific mineralized horizons and massive sulphide mineralization have not yet been observed in outcrop. However, the presence of graphite, brackish lakes and proximity to tidewater limit the effectiveness of conventional EM geophysical techniques to outline sulphide bedrock conductors at the Elu belt. Gravity surveys measure density contrasts and are unaffected by conductivity providing an alternative method that is totally independent of spurious conductivity problems. As graphitic argillite is known to be present within this corridor, a gravity survey is the preferred geophysical method. Such a survey is currently underway.

### *Diamond Rights*

On March 27, 2002, Sherwood signed an agreement with the Corporation's wholly owned subsidiaries Miramar Hope Bay Ltd. and Miramar HBG Ltd. whereby the Corporation agreed to grant to Sherwood an option to earn up to a 70% interest in any diamondiferous bodies discovered in the Hope Bay Belt. The terms of the agreement contemplate that Sherwood can earn up to a 50% interest in any diamondiferous bodies on the Hope Bay Belt by incurring \$2,000,000 in diamond exploration expenditures on the belt over a period of four years. At Sherwood's election, it could increase its interest to 70% by solely funding a 20 tonne bulk sample on any diamondiferous body located within the Hope Bay Belt.

Results from sixty-three surficial till sample concentrates selected for Diamond Indicator Mineral picking have been received. Of the 63 samples reviewed, 49 yielded possible diamond indicator minerals including garnets, chromites, ilmenites, chrome-diopsides and olivines. The picked

grains were

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microprobed for confirmation. Microprobe results conclude that five chromites from four samples are possibly derived from kimberlite or related intrusions. One garnet was found to be eclogitic and is possibly from a kimberlitic or related intrusion. Ten chrome-diopsides may possibly be low chrome kimberlitic diopsides. Four of the till samples were found to contain more than one microprobe confirmed indicator minerals.

Based on encouraging data from prior programs, 239 additional till samples were collected from the Elu and Hope Bay belts during the summer of 2002 and processed for diamond indicator minerals to further evaluate the potential for the discovery of Kimberlites in the area.

Of the 239 samples collected, 15 yielded possible diamond indicator minerals. Microprobe analysis of the grains confirmed that one chrome diopside and one chromite are mantle derived and likely from kimberlitic or related intrusions. Mineral chemistry from five other indicators was inconclusive as to possible source. Although the results from the latest program are generally discouraging, Sherwood is considering several recommendations for follow up work based on the results of all three sampling programs in hopes of discovering kimberlites and/or diamonds in the vicinity of the Hope Bay and Elu belts.

Quality control for all Diamond Exploration conducted on the Hope Bay and Elu Belts is under the supervision of Dean Besserer, P.Geol of Apex Geoscience Ltd. of Edmonton Alberta.

#### **Northern Orion Explorations Ltd.**

At April 30, 2003, the Corporation owned 22,012,471 shares of Northern Orion Explorations Ltd. ( Northern Orion ), which represents an approximate 9.6% interest in a publicly traded company listed for trading on the Toronto Stock Exchange.

The Corporation also holds a net smelter and proceeds agreement ( Proceeds Agreement ) requiring Northern Orion to pay to the Corporation an amount equal to 2.5% of the net smelter returns from all products sold from the Agua Rica and Mantua properties (described below). The Proceeds Agreement also requires Northern Orion to pay to the Corporation 50% of the net proceeds of sale of any interest in the Agua Rica or Mantua properties. The maximum amount payable under the Proceeds Agreement is \$15 million.

In June 2002, the Corporation sold to a syndicate of investors, 48 million shares of Northern Orion and Northern Orion convertible notes in the principal amount of \$6.9 million for a total purchase price of \$3.84 million. On February 12, 2003, the Corporation granted to an arms length private company (the Optionee ) for consideration of C\$150,000 an option (the Option ) to purchase the Corporation s remaining 22 million shares of Northern Orion exercisable at a price of C\$0.20 per share on or before August 5, 2003. The expiry date of the Option may be extended to November 5, 2003 by the Optionee paying an additional C\$50,000 to the Corporation. However, if the closing price of the common shares of Northern Orion equals or exceeds \$0.25 per share for ten consecutive trading days, the Corporation may accelerate the expiry date of the Option to three clear business days following notice to the Optionee. If the Option is not exercised by the accelerated expiry date, the Coporation will pay to the Optionee C\$200,000 on termination of the Option.

Northern Orion s principal assets are a 100% interest in the Agua Project in Argentina and a 50% interest in the Mantua project in Cuba.

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The Agua Rica copper/gold property is a large copper porphyry deposit located on a group of exploitation concessions and mining claims located in Catamarca Province, Argentina. The Agua Rica project was held in a joint venture with BHP Minerals International Inc. which owned an approximate 72% interest and is the operator of the project. In November 1997, the joint venture released a positive initial feasibility study on the Agua Rica Project which recommended proceeding with the work to complete a final feasibility study and development plan for the project. As a result of low copper prices the project is currently on care and maintenance. During May 2003 Northern Orion announced it had acquired a 100% interest in the Agua Rica project.

The Mantua copper project consists of a secondary enriched copper deposit located in Pinar del Rio Province, Cuba, 240 kilometres west of Havana. The Mantua Project consists of an 8 square kilometre production concession and an adjoining 11.2 square kilometre area of interest. During 1998 and 1999 Northern Orion operated a gold heap leaching operation at the Mantua project producing 31,389 ounces of gold, of which Northern Orion's share was 15,694.5 ounces. Revenues from gold sales were US\$4.8 million of which Northern Orion's share was \$2.4 million, against a capital cost of \$14 million. In 2002 Northern Orion announced that it had granted an option to allow Newport Explorations (Newport) to purchase the Mantua property. Newport issued 400,000 common shares to Northern Orion on granting the option and the Corporation is entitled to receive 200,000 of these shares.

#### SELECTED CONSOLIDATED FINANCIAL INFORMATION

The following table sets forth selected consolidated financial information for the last five completed fiscal periods:

(in thousands of dollars, except per share amounts)

As at or for the year ended December 31,

	2002	2001	2000	1999	1998
Revenue	54,067	55,821	52,703	28,893	35,561
Net earnings (loss)	604	(5,899)	(43,391)	(20,143)	(10,313)
- per share	0.01	(0.10)	(0.76)	(0.35)	(0.04)
Total assets	203,423	102,266	152,517	202,951	242,657
Liabilities and Non-controlling Interest	40,755	21,535	67,768	65,006	84,569

#### MANAGEMENT'S DISCUSSION AND ANALYSIS

Management's Discussion and Analysis of Financial Condition and Results of Operations included in pages 13 to 17 of the annual report to shareholders of the Corporation for the year ended December 31, 2002 is incorporated herein by reference.

The following table sets forth selected consolidated financial information for the last eight quarters ended December 31, 2002 (in thousands of dollars except per share amounts) is set forth below:

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(in thousands of dollars, except per share amounts)	<b>Dec 31, 2002</b>	<b>Sept 30, 2002</b>	<b>June 30, 2002</b>	<b>Mar 31, 2002</b>	<b>Dec 31, 2001</b>	<b>Sept 30, 2001</b>	<b>June 30, 2001</b>	<b>Mar 31, 2001</b>
Revenue	11,543	15,096	12,593	14,835	14,296	14,122	15,562	11,841
Net Earnings (loss)	(3,554)	1,206	2,387	565	(1,433)	(727)	(1,712)	(2,027)
- per share	(0.03)	0.01	0.03	0.01	(0.03)	(0.01)	(0.03)	(0.03)

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### MARKET FOR SECURITIES

The Common Shares are listed for trading on The Toronto Stock Exchange and the American Stock Exchange.

### DIVIDEND POLICY

The Corporation has not paid dividends on the Common Shares since its incorporation, nor has it any present intention of paying dividends, as it anticipates that the cash resources of the Corporation will be used to undertake exploration, development and expansion programs on its mineral properties as well as the acquisition of additional mineral resource properties.

### DIRECTORS AND OFFICERS

The following table sets forth the names and municipalities of residence of the directors and officers of the Corporation, their positions held with the Corporation and their principal occupations.

Name and Municipality of Residence	Positions Held	Principal Occupation
Elaine Bennett, North Vancouver, BC	Officer	Vice-President & Controller, Miramar Mining Corporation
David Fennell(2) Nassau, Bahamas	Executive Vice-Chairman, and Director	Mining Executive
Jonathan Goodman(3)(4) Toronto, Ontario	Director	President and Chief Executive Officer, Dundee Resources Ltd.
Brian Labadie	Officer	Senior Vice-President,

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Maple Ridge, BC

Operation, Miramar Mining Corporation

A. David Long,  
West Vancouver, BC

Corporate Secretary

General Counsel, Miramar Mining Corporation

Catherine McLeod-Seltzer(1)(3)  
West Vancouver, B.C

Director

President & Director, Pacific Rim Mining Corporation

Peter Nixon(1)(5)  
Keswick, Ontario

Director

Corporate Director

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**Name and  
Municipality of  
Residence**

**Positions Held**

**Principal Occupation**

Anthony J. Petrina(2)(4)(5)  
Vancouver, B.C

Chairman of the Board  
and Director

Mining Engineer, Corporate  
Director

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Christopher J. Pollard(1)(4) Vancouver, B.C	Director	Associate Counsel, Clark Wilson, law firm
Stephen P. Quin, West Vancouver, BC	Officer	Executive Vice-President, Miramar Mining Corporation
William E. Stanley(1)(2)(3)(4) West Vancouver, B.C	Director	Mining Engineer, Industry Consultant
Peter Steen(3)(4)(5) Tappen, British Columbia	Director	President, Peter Steen Consulting Inc.
Anthony P. Walsh(2) West Vancouver, B.C	Chief Executive Officer and Director	President & Chief Executive Officer, Miramar Mining Corporation

- (1) Member of the Audit & Risk Management Committee
- (2) Member of the Executive committee
- (3) Member of Human Resources Committee
- (4) Member of the Safety & Environmental committee
- (5) Member of the Corporate Governance, Nominating Committee

Each of the foregoing individuals has been engaged in the principal occupation set forth opposite his name during the past five years except for: Elaine Bennett who, prior to 2002, was the Corporate Controller of the Corporation; Christopher J. Pollard who, prior to December 1998, was the President of Pollard Management Ltd.; Anthony Walsh who, prior to August 1999, was the Vice-President and Chief Financial Officer of the Corporation; David Fennell who, prior to December 1998, was the President of Golden Star Resources Ltd. and Guyanor Resources S.A.; Jonathan Goodman who, prior to November 2001, was President and Chief Executive Officer of Dynamic Mutual Funds Ltd. and, prior to 1999, was portfolio manager and analyst with Goodman & Company, Investment Counsel, the investment manager for Dynamic Mutual Funds; and Peter Nixon who, prior to 2000, was President of Dundee Securities (U.S.A.) Inc., Institutional Sales Trading and, prior to June 1998 was

Vice-President and Director of Goepel, Shields and Partners.

Management of the Corporation has nominated Lawrence Bell for election to the board of directors at the 2003 annual general meeting of the shareholders of the Corporation. Mr. Bell is currently the Chairman and Chief Executive Officer of BC Hydro, a utility company and, prior to 2001, was the President of Shato Holdings Ltd., a food service manufacturer and management company.

Directors are elected at each annual meeting of shareholders and serve until the next annual meeting or until their successors are elected or appointed.

The directors and senior officers of the Corporation beneficially own, directly or indirectly, or exercise control or direction over, approximately 2.19% of the outstanding Common Shares of the Corporation.

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## ADDITIONAL INFORMATION

### **Tax Reassessment**

In 1995, the Corporation entered into a joint exploration transaction with an investor that resulted in the sale of an interest in the assets comprising the Con Mine as detailed below. The transaction was based upon an independent valuation prepared for the Corporation. In 2000, Canada Customs and Revenue Agency (the "CCRA") issued a re-assessment notice challenging the valuation that formed the basis for the transaction. This re-assessment does not give rise to any taxes payable by the Corporation. As part of the transaction in 1995, the Corporation agreed to compensate the investor for any shortfall in the value of the assets transferred, to a maximum of \$2.7 million, plus accrued interest of approximately \$1.5 million (at December 31, 2002), such amounts to be payable should a ruling denying the transfer of certain tax pools be made against the Corporation. At present the Corporation has requested information from CCRA and is awaiting a response. While management intends to strenuously defend the independent valuation, the outcome of the matter is not determinable.

### **Risk Factors**

#### *Gold Price Volatility*

The profitability of the Corporation's operations is significantly affected by changes in the gold price. The gold price can fluctuate widely and is affected by numerous factors beyond the Corporation's control, including industrial and jewellery demand, inflation and expectations with respect to the rate of inflation, the strength of the Canadian and U.S. dollar, interest rates, gold sales by central banks, forward sales by producers, global or regional political or economical events, and production and cost levels in major gold producing regions. In addition, the gold price is sometimes subject to rapid short term changes because of speculative activities. The supply of gold consists of a combination of new production from mining and existing stocks of bullion and fabricated gold held by governments, public and private financial institutions, industrial organizations and private individuals. As the amounts produced in any single year constitute a small portion of the total potential supply of gold, typical variations in current production do not necessarily have a significant impact on the supply of gold or its price.

#### *Foreign Currency Exposure*

All of the Corporation's revenues from sales of and costs of producing gold are denominated in US dollars. The Corporation has sold forward contracts for gold in Canadian dollars to hedge against changes in currency. The Corporation monitors the economic environment, including foreign exchange rates, on an ongoing basis. In order to manage its exposure to currency fluctuations, the Corporation periodically enters into currency forward sales to establish fixed exchange rates.

### **Risk Factors**

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### *Gold Refining, Sales and Hedging Activities*

To mitigate the risk of adverse price fluctuations and to ensure that the Yellowknife operations achieve cash flow projections necessary to complete the planned closure and in accordance with the hedging policy authorized by the Corporation's Board of Directors, the Corporation has entered into spot deferred forward sales contracts and written call options for a portion of the Yellowknife mines' expected future production. This is in part because the mining operations have been historically high cost and the mines are not considered core assets. The Corporation has hedged in Canadian dollar terms to benefit from the weak Canadian dollar. The Corporation does not hold these financial instruments for speculative or trading purposes, nor is the Corporation subject to any margin requirements on any of its hedging lines.

On July 11, 2002, the Corporation completed a transaction with the financial institution holding the gold forward contracts and the gold call options to revise the delivery schedule for a portion of the hedge

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position and recalculate pricing based on interest rates at the time of the transaction. The settlement dates for the call options were rescheduled, beginning in January 2004 for monthly 3,000 ounces allotments at \$478 per ounce strike price. The new schedule for gold forward contracts is October 2002 to December 2004 at monthly deliveries of 2,200 ounces at \$478 for a total of 52,800 ounces. The unchanged portion of the hedge program outstanding on July 11, 2002 was 33,000 ounces at average prices of \$456 per ounce and the Corporation delivered 19,200 ounces to these contracts in the third and fourth quarters of 2002.

As at December 31, 2002, the Corporation had entered into the following gold contracts:

	<b>Ounces</b>	<b>Average Price Per Ounce</b>	<b>Anticipated Delivery/Expiry</b>	<b>Fair Value in C\$000</b>
Gold forward sales contracts	40,200	\$470	2003	
Gold forward sales contracts	26,400	\$478	2004	
Subtotal	66,600			(\$5,382)
Gold Call options sold	14,000	US\$307	2003	
Gold call options sold	36,000	\$478	2004	
Subtotal	50,000			(\$4,300)

*Environmental*

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The Corporation has been granted various licences and permits relating to the operation of the Con and Giant mines and the exploration activities at Hope Bay. As a condition of these licences and permits, the Corporation has an obligation to reclaim and restore areas of operation and disturbance to acceptable standards as established by the government agencies responsible. Under the terms of various permits and licences, the Corporation has established cash collateral security deposits totalling \$6.3 million (\$3.8 million in 2001). For the Con Mine, Con Ltd. has pledged the proceeds from the sale of the Bluefish Power Plant as security for the annual increments (see Con Mine *Mining Operations* ). As a condition of the acquisition of the Giant mine assets, Giant Ltd. has issued promissory notes totalling \$4.8 million as security against the reclamation costs of the Giant mine. These promissory notes are secured solely by the assets of the Giant Mine and is only due from Giant Ltd. upon default of the Giant Mine water licence.

### *Competition*

The Corporation competes with other mining companies for the acquisition of mineral claims, permits, concessions and other mineral concessions as well as for the recruitment and retention of qualified employees. There is a significant competition for the limited number of gold acquisition opportunities and, as a result, the Corporation may be unable to acquire attractive gold mining properties on terms it considers acceptable.

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### *Production Estimates*

Estimates of future production for the Con Mine and Giant Mine are derived from the Corporation's five year mining plans. The plans are developed based on, among other things, mining experience, reserve estimates, assumptions regarding ground conditions and physical characteristics of ores (such as harness and presence or absence of certain metallurgical characteristics) and estimated rates and costs of production. Actual production may vary from estimates for a variety of reasons, including risks and hazards of the types discussed previously, actual ore mined varying from estimates in grade and metallurgical and other characteristics, mining dilution, wall failures or cave-ins, strike and other actions by labour at unionized locations, restriction imposed by government agencies and other factors. Estimates of production from properties not yet in production or from operations that are to be extended are based on similar factors (including in some instances, feasibility studies prepared by the Corporation or external consultants) but it is possible that actual cash operating costs and economic return will differ significantly from those currently estimated. It is not unusual in new mining operations to experience unexpected problems during the start-up phase. Delays often can occur in the commencement of production.

### *Aboriginal Land Claims*

Negotiations are ongoing between the Federal Government of Canada and various native groups relating to aboriginal land claims in the Northwest Territories. The Corporation is not aware of any aboriginal land claims having been made or threatened in relation to the Con Mine or the Giant Mine. Based on indications from the Federal Government, the Corporation is of the view that it is unlikely that any such claims will affect the Con Mine or the Giant Mine. However, there can be no assurance that such aboriginal land claims will not be brought in the future in relation to, or that may affect, the Con Mine or the Giant Mine.

Aboriginal land claims in Nunavut were settled by the creation of the territory of Nunavut. A number of the Corporation's interests in the Hope Bay Project are held directly with the relevant aboriginal representative bodies with the remainder being issued by the relevant department of the Federal Government of Canada.

*Speculative Nature of Gold Exploration and Uncertainty of Development Projects*

Gold exploration is highly speculative in nature, involves many risks and frequently is not productive. There can be no assurance that the Corporation's gold exploration efforts will be successful. Success in increasing reserves is the result of a number of factors, including the quality of a Company's management, its level of geological and technical expertise, the quality of land available for exploration and other factors. Once gold mineralization is discovered, it may take several years in the initial phases of drilling until production is possible, during which time the economic feasibility of production may change. Substantial expenditures are required to establish proven and probable reserves through drilling, to determine the optimal metallurgical process to extract the metals from the ore and, in the case of new properties, to construct mining and processing facilities. As a result of these uncertainties, no assurance can be given that the Corporation's exploration programs will result in the expansion or replacement of current reserves with new reserves.

Development projects have no operating history upon which to base estimates of future cash operating costs. Particularly for development projects, estimates of proven and probable reserves and cash operating costs are, to a large extent, based upon the interpretation of geologic data obtained from drill holes and other sampling techniques, and feasibility studies which derive estimates of cash operating

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costs based upon anticipated tonnage and grades of ore to be mined and processed, the configuration of the ore body, expected recovery rates of gold from the ore, estimated operating costs, anticipated climatic conditions and other factors. As a result, it is possible that actual cash operating costs and economic returns will differ significantly from those currently estimated for a project prior to production. It is not unusual in new mining operations to experience unexpected problems during the start-up phase, and delays often can occur in the commencement of production.

*Mining/Operations Risks*

The business of gold mining is subject to a number of risks and hazards including environmental hazards, industrial accidents, labour disputes, encountering unusual or unexpected geologic formation or other geological or grade problems, unanticipated changes in metallurgical characteristics and gold recovery, encountering unanticipated ground or water conditions, cave-ins, pit wall failures, flooding, rock bursts, periodic interruptions due to inclement or hazardous weather conditions, and other acts of God or unfavourable operating conditions and bullion losses. Such risks could result in damage to, or destruction of mineral properties or processing facilities, personal injury or death, loss of key employees, environmental damage, delays in mining, monetary losses and possible legal liability.

*Risks of Non-Availability of Insurance*

Where considered practical to do so, the Corporation maintains insurance against risks in the operation of its business in amount which it believes to be reasonable. Such insurance, however, contains exclusions and limitations on coverage. There can be no assurance that such insurance will continue to be available, will be available at economically acceptable premiums or will be adequate to cover any resulting liability. In some cases, coverage is not available or considered too expensive relative to the perceived risk.

*Dilution*

There are a number of outstanding securities and agreements pursuant to which common shares of the Corporation may be issued in the future. This would result in further dilution to the Corporation's shareholders.

*Additional Funding Requirements*

Although the Corporation currently has sufficient financial resources to undertake its presently planned exploration and development program, further exploration on, and development of, the Corporation's mineral resource property in Nunavut will require additional capital. In addition, a positive production decision on the Corporation's development project would require capital for project engineering and construction. Accordingly, the continuing development of the Corporation's project will depend upon the Corporation's ability to obtain financing on reasonable terms. There is no assurance the Corporation will be successful in obtaining the required financing.

*Title Matters*

While the Corporation has investigated title to all of its mineral claims and to the best of its knowledge, title to all such properties is in good standing, the properties may be subject to prior unregistered agreements or transfers and title may be affected by undetected defects.

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*Reserves and Resources*

The proven and probable reserve figures set forth in this AIF are estimates and there is not certainty that the indicated levels of gold production will be realized. Reserve estimates may require revision based on various factors such as actual production experience, market price fluctuation of gold, production costs or recovery rates. Mineral resources which are not mineral reserves do not have demonstrated economic viability. All reserve and resource estimates included herein are in accordance with NI 43-101.

The terms *Mineral Reserve*, *Proven Mineral Reserve* and *Probable Mineral Reserve* used in this AIF are Canadian mining terms as defined in accordance with NI 43-101 under the guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum (the *CIM*) Standards on *Mineral Resources and Mineral Reserves Definitions and guidelines* adopted by the CIM Council on August 20, 2000.

In the United States, a mineral reserve is defined as a part of a mineral deposit which could be economically and legally extracted or produced at the time the mineral reserve determination is made. Under United States standards: *Reserve* means that part of a mineral deposit which can be economically and legally extracted or produced at the time of the reserve determination.

*Economically*, as used in the definition of reserve, implies that profitable extraction or production has been established or analytically demonstrated to be viable and justifiable under reasonable investment and market assumptions.

*Legally*, as used in the definition of reserve, does not imply that all permits needed for mining and processing have been obtained or that other legal issues have been completely resolved. However, for a reserve to exist, there should be a reasonable certainty based on applicable laws and regulations that issuance of permits or resolution of legal issues can be accomplished in a timely manner.

Mineral Reserves are categorized as follows on the basis of the degree of confidence in the estimate of the quantity and grade of the deposit.

*Proven Mineral Reserve* means, in accordance with CIM Standards, for the part of a deposit which is being mined, or which is being developed and for which there is a detailed mining plan, the estimated quantity and grade or quality of that part of a measured mineral resource for which the size, configuration and grade or quality and distribution of values are so well established, and for which economic viability has been demonstrated by adequate information on engineering, operating, economic and other relevant factors, so that there is the highest degree of confidence in the estimate.

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The definition for proven mineral reserves CIM standards differs from the standards in the United States, where proven or measured reserves are defined as reserves which (a) quantity is computed from dimensions revealed in outcrops, trenches, workings or drill holes; (b) grade and/or quality are computed from the results of detailed sampling and (c) the sites for inspection, sampling and measurement are spaced so closely and the geographic character is so well defined that size, shape, depth and mineral content of reserves are well established.

Probable Mineral Reserve: means, in accordance with CIM Standards, the estimated quantity and grade or quality of that part of an indicated mineral resource for which economic viability has been demonstrated by adequate information on engineering, operating, economic and other relevant factors, at a confidence level which would serve as a basis for decisions on major expenditures.

The definition for probable mineral reserves under Canadian standards differs from the standards in the United States, where probable mineral reserves are defined as reserves for which quantity and grade

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and/or quality are computed from information similar to that of proven reserves (under United States standards), but the sites for inspection, sampling, and measurement are further apart or are otherwise less adequately spaced, and the degree of assurance, although lower than that for proven mineral reserves, is high enough to assume continuity between points of observation. The degree of assurance, although lower than that for proven mineral reserves, is high enough to assume continuity between points of observation.

The terms Mineral Resource , Measured Mineral Resource , Indicated Mineral Resource , Inferred Mineral Resource used in this report are Canadian mining terms as defined in accordance with NI 43-101 under the guidelines set out in the CIM Standards.

Inferred Mineral Resource: Under CIM Standards, an Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

Indicated Mineral Resource: Under CIM Standards, an Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

Measured Mineral Resource: Under CIM standards is that part of a mineral resource for which quantity, grade or quality, densities, shape and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

**Note to U.S. Investors.** While the terms mineral reserve , proven mineral reserve , probable mineral reserve , mineral resource, measured mineral resource, indicated mineral resource, and inferred mineral resource are recognized and required by Canadian regulations, they are not defined terms under standards in the United States. As such, information contained in this report concerning descriptions of mineralization and resources under Canadian standards may not be comparable to similar information made public by U.S. companies subject to the reporting and disclosure requirements of the Securities and Exchange Commission. Indicated mineral resource and inferred mineral resource have a great amount of uncertainty as to their existence and a great uncertainty as to their economic and legal feasibility. It can not be assumed that all or any part of an indicated mineral resource or inferred mineral resource will ever be upgraded to a higher category. Investors are cautioned not to assume that any part or all of mineral deposits in these categories will ever be converted into reserves.

**SUPPLEMENTARY INFORMATION**

The Corporation will provide to any person, upon request to the Secretary of the Corporation:

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- (a) when the securities of the Corporation are in the course of a distribution under a preliminary short form prospectus or a short form prospectus;
    - (i) one copy of this AIF, together with one copy of any document, or the pertinent pages of any document, incorporated by reference in this AIF;
    - (ii) one copy of the comparative financial statements of the Corporation for its most recently completed financial year for which financial statements have been filed together with the accompanying report of the auditor and one copy of the most recent interim financial statements of the Corporation that have been filed, if any, for any period after the end of its most recently completed financial year;
    - (iii) one copy of the information circular of the Corporation in respect of its most recent annual meeting of shareholders that involved the election of directors or one copy of any annual filing prepared in lieu of that information circular, as appropriate; and
    - (iv) one copy of any other documents that are incorporated by reference into the preliminary short form prospectus or the short form prospectus and are not required to be provided under (i), (ii) or (iii) above; or
  - (b) at any other time, one copy of any other document referred to in (a)(i), (ii) and (iii) above, provided the Corporation may require the payment of a reasonable charge if the request is made by a person who is not a security holder of the Corporation.

Additional information including directors and officers remuneration and indebtedness, principal holders of securities of the Corporation, options to purchase securities and interests of insiders in material transactions, where applicable, is contained in the management information circular of the Corporation for its most recent annual meeting of shareholders that involved the election of directors. Additional financial information is provided in the comparative financial statements of the Corporation for its most recently completed financial year.

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**2. AUDITED CONSOLIDATED FINANCIAL STATEMENTS OF MIRAMAR MINING CORPORATION**

Consolidated Financial Statements of

**MIRAMAR MINING CORPORATION**

For the years ended December 31, 2002 and 2001

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[KPMG LOGO]

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Chartered Accountants  
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Vancouver BC V7Y 1K3  
Canada

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REPORT OF INDEPENDENT ACCOUNTANTS

To the Board of Directors  
Miramar Mining Corporation

Under date of February 21, 2003, we reported on the consolidated balance sheets of Miramar Mining Corporation (the "Company") as at December 31, 2002 and 2001, and the consolidated statements of operations and cash flows for the years then ended, as contained in the Annual Report of the Company. These consolidated financial statements and our report thereon are incorporated by reference in the Annual Report on Form 40-F for the year 2002. In connection with our audits of the aforementioned consolidated financial statements, we also have audited the related supplemental information entitled "Reconciliation with United States Generally Accepted Accounting Principles". This supplemental information is the responsibility of the Company's management. Our responsibility is to express an opinion on this supplemental information based on our audits.

In our opinion, such supplemental information, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

/s/ KPMG LLP

Chartered Accountants

Vancouver, Canada  
February 21, 2003**MIRAMAR MINING CORPORATION****Consolidated Balance Sheets**

(expressed in thousands of dollars)

December 31, 2002 and December 31, 2001

	<b>2002</b>	<b>2001</b>
<b>Assets</b>		
Current assets		
Cash and cash equivalents	16,085	\$ 13,493
Short-term investments	23,694	--
Accounts receivable	1,157	1,124
Inventory (note 6)	11,163	9,310
Prepaid expenses	162	571
	52,261	24,498
Property, plant and equipment (note 7)	128,732	54,584
Cash collateral deposits (note 8)	6,338	3,827
Investment in Northern Orion Explorations Ltd. (note 3)	15,173	19,332
Investment in Sherwood Mining Corporation (note 4)	803	--
Other assets (note 9)	116	25
	\$ 203,423	\$ 102,266
<b>Liabilities and Shareholders' Equity</b>		
Current liabilities		
Accounts payable and accrued liabilities	\$ 11,229	\$ 8,429
Provision for site reclamation and closure costs	9,142	7,962
Deferred post-retirement benefits (note 12)	1,509	1,696
Future income tax liability (note 11)	18,875	3,448

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	40,755	21,535
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Shareholders' equity: (note 10)		
Share capital	313,808	230,463
Special warrants	--	2,700
Contributed surplus	688	--
Deficit	(151,828)	(152,432)
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	162,668	80,731
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	\$ 203,423	\$ 102,266
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Commitments and contingencies (note 16),  
 Subsequent event (note 17).  
 See accompanying notes to consolidated financials statements.

**ON BEHALF OF THE BOARD:**

/s/ Anthony P. Walsh  
 Anthony P. Walsh  
 Director

/s/ David Fennell  
 David Fennell  
 Director

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**MIRAMAR MINING CORPORATION**

**Consolidated Statements of Operations**

(expressed in thousands of dollars except per share amounts)  
 Years ended December 31, 2002 and 2001

	2002	2001
Revenue		
Sales	\$ 53,122	\$ 54,919
Other income	945	902
	54,067	55,821
Expenses		
Cost of sales	41,262	47,455
Depreciation and depletion	6,381	8,895
General and administration	3,260	3,130
Foreign exchange gain (loss)	18	(129)
Reclamation	1,916	1,772
	52,837	61,123
Earnings (loss) from operations before items noted below	1,230	(5,302)
Equity loss	(372)	(571)
Non-controlling interest	--	134

ON BEHALF OF THE BOARD:

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Earnings (loss) before income taxes	858	(5,739)
Current income taxes (note 11)	(254)	(160)
<hr/>		
Net earnings (loss) for the year	604	(5,899)
Deficit, beginning of the year	(152,432)	(146,533)
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Deficit, end of the year	\$ (151,828)	\$ (152,432)
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Net earnings (loss) per share, basic and fully diluted	\$ 0.01	\$ (0.10)
Weighted average number of common shares and special warrants outstanding	95,841,089	61,682,152
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See accompanying notes to consolidated financial statements.

**MIRAMAR MINING CORPORATION****Consolidated Statements of Cash Flows**

(expressed in thousands of dollars)

Years ended December 31, 2002 and 2001

	2002	2001
Cash provided by (used in):		
Operations		
Net earnings (loss) for the year	\$ 604	\$(5,899)
Items not involving cash:		
Depreciation and depletion	6,381	8,895
Gain on sale of assets	(98)	(265)
Provision for reclamation	530	309
Equity loss	372	571
Non-controlling interest	--	(134)
Other	(163)	319
Net change in non-cash working capital:		
Decrease in accounts receivable	784	997
Increase in inventory	(1,853)	(103)
Decrease in prepaid expenses	28	494
Increase in accounts payable and accrued liabilities	1,440	306
	8,025	5,490
Investments:		
Expenditures on plant, equipment and deferred exploration	(18,158)	(14,576)
Investment in Hope Bay Gold Corporation, net of cash acquired (note 2)	(2,317)	--
Purchase of short-term investments	(23,694)	--
Collateral deposits	156	719
Net proceeds on sale of Northern Orion shares (note 3)	3,822	541
	(40,191)	(13,316)
Financing:		
Issue of common shares and warrants for cash, net	34,758	3,649
	34,758	3,649
Increase (decrease) in cash and cash equivalents	2,592	(4,177)
Cash and cash equivalents, beginning of the year	13,493	17,670
Cash and cash equivalents, end of the year	\$ 16,085	\$ 13,493
Supplementary information:		
Income taxes paid	\$ 254	\$ 160
Non-cash investing and financing activities		
Common shares issued for acquisition of Hope Bay Gold	\$ 49,843	--

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Common shares received for disposition of mineral property

\$ 98

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See accompanying notes to consolidated financial statements.

**1. Significant accounting policies:****(a) Basis of preparation:**

The consolidated financial statements include the accounts of the Company, its subsidiaries and its proportionate share of the accounts of unincorporated joint ventures. Investments in entities when the Company's interest is less than 20% are accounted for by the cost method from the date significant influence could no longer be applied. Investments in other entities are accounted for by the equity method. The Company's subsidiaries and joint venture and its percentage ownership in each at December 31, are as follows:

Miramar Con Mine Ltd.	100.0%
Miramar Giant Mine Ltd.	100.0%
Miramar Hope Bay Ltd.	100.0%
Miramar Hope Bay Gold Corporation Ltd.	100.0% (2001-na)
Hope Bay Joint Venture (note 5)	100.0% (2001-50.0%)
Northern Orion Explorations Ltd. ("Northern Orion") (note 3)	11.7% (2001-61.5%)
Miramar Gold Corporation	100.0%
Golden Eagle Mine	100.0%
Orcana Resources Corporation	100.0%
Talapoosa Mining Corp.	100.0%
Miramar Finance Corporation	na (2001-100.0%)

The preparation of financial statements in accordance with Canadian generally accepted accounting principles requires management to make estimates that affect the reported values of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant areas requiring the use of management estimates relate to the determination of impairment of assets, reclamation and closure obligations, future income taxes and rates for amortization of property, plant and equipment. Actual results could differ from these estimates.

**(b) Cash and cash equivalents:**

Cash and cash equivalents include investments with terms to maturity of 90 days or less when purchased.

**(c) Short-term investments:**

Short-term investments with terms to maturity of greater than 90 days but not more than one year are recorded at the lower of cost and market determined on an aggregate portfolio basis.

**(d) Revenue recognition and inventory:**

Revenue is recognized on production and product inventories are recorded at estimated net realizable value. Materials and supplies inventories are valued at average cost less appropriate allowances for obsolescence.

**(e) Property, plant and equipment:**

Property, plant and equipment, which include mine plant and equipment and mineral properties, are recorded at the lower of cost and estimated net recoverable amount. Plant and equipment are depreciated over their estimated useful lives, not to exceed the estimated proven and probable ore reserves. Mining equipment and vehicles are depreciated on a straight-line basis over estimated useful lives of two to 15 years. Hydro-electric assets are depreciated on a straight-line basis over 95 years (2001 - 25 years). Office

furniture and computer equipment are depreciated using the declining balance method at 20% and 30%, respectively. The cost of mineral properties and related exploration and development costs are deferred until the properties are placed into production, sold or abandoned. Capitalized costs are amortized over the estimated useful life of the properties following the

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commencement of production or written off if the properties are sold, allowed to lapse or abandoned. It is management's policy to review the carrying value of all mineral properties on an ongoing basis.

(f) Provision for site reclamation and closure costs:

Costs related to ongoing site restoration programs are expensed as incurred. Estimated costs of mine closure and site restoration are accrued and expensed over the estimated remaining life of the mineral properties on a unit-of-production basis. Estimates of the ultimate site reclamation and closure costs are based on current laws and regulations and expected costs to be incurred.

(g) Pension expenses and obligation:

The Company maintains defined benefit pension plans and provides certain non-pension post-retirement benefits consisting of extended health and other benefits. The cost of providing pension and other post-retirement benefits is actuarially determined and charged to earnings using the projected unit credit actuarial method based upon management's best estimate assumptions. Pension fund assets are valued at fair value. The pension expense for the year includes adjustments for plan amendments, experience gains and losses, and changes in assumptions that are being amortized on a straight-line basis over the expected average remaining service lives of the plan members. Any differences between the cumulative amounts expensed and the funding contributions are reflected as either an asset or a liability.

(h) Stock-based compensation plan:

Effective January 1, 2002, the Company adopted the new recommendations of the Canadian Institute of Chartered Accountants with respect to the accounting for stock-based compensation and other stock-based payments. The new recommendations are applied prospectively to all stock-based payments to non-employees, and to employee awards that are direct awards of stock, call for settlement in cash or other assets, or are stock appreciation rights that call for settlement by the issuance of equity instruments, granted on or after January 1, 2002 using the fair value based method. For grants outstanding at January 1, 2002 that call for settlement in cash or other assets or stock appreciation rights that call for settlement in equity instruments, the new recommendations are applied retroactively, without restatement.

The Company's stock option plan is described in note 10 (c). On May 28, 2002, the Company retroactively to January 1, 2002 removed the stock appreciation rights of all outstanding employee stock options. Under the transition provisions of the new recommendations, such options are not considered to be stock appreciation rights at the date of adoption. The Company has elected not to use the fair value method of accounting for stock options for employees. As a result, it does not recognize compensation expense or the fair value of the options issued to its employees. The Company discloses the pro forma effect of accounting for these awards using the fair value based method.

(i) Translation of foreign currency:

The accounts of foreign operations are translated into Canadian dollars as follows:

monetary assets and liabilities at the rates of exchange prevailing at the balance sheet date

other assets and liabilities at applicable historical exchange rates

revenues and expenses at the average rate of exchange for the period covering the statement of operations except for expenses related to non-monetary assets which are at the rates used for the translation of the related assets.

Translation gains and losses are included in earnings.

(j) Derivative financial instruments:

The Company uses forward sales agreements and options for the purpose of managing price and currency exposures on its anticipated gold sales. The Company assesses, both at the hedge inception and on an ongoing basis, whether the derivatives that are used in hedging transactions are highly effective. Gains and losses relating to such instruments are recorded in income the same period as gold is produced to meet the hedged commitment. Realized and unrealized gains or losses associated with derivative instruments, which have been terminated or cease to be effective prior to maturity, are deferred under other current, or non-current, assets or liabilities on the balance sheet and recognized in income in the period in which the underlying transaction is recognized. In the event a designated hedged item is sold, extinguished or matures prior to the termination of the related derivative instrument, any realized or unrealized gain or loss on such derivative instrument is recognized in income.

The Company sells written call options. For written call options sold subsequent to October 24, 2000, the premiums received at the inception of the written call options are recorded as a liability. Changes in the fair value of the liability are recognized in the statement of operations at each reporting period. For written call options sold prior to October 24, 2000 changes in fair value are recognized in the statement of operations when settled.

(k) Income taxes:

The Company uses the asset and liability method of accounting for future income taxes. Under the asset and liability method, future income tax assets and liabilities are determined based on differences between the financial statement carrying values and their respective income tax bases (temporary difference) and loss carryforwards. Future income tax assets and liabilities are measured using the substantially enacted or enacted tax rates expected to be in effect when the temporary differences are likely to reverse. The effect on future income tax assets and liabilities of a change in tax rates is included in the results of operations in the period in which the change is substantially enacted. The amount of future tax assets recognized is limited to the amount that is more likely than not to be realized.

(k) Net earnings (loss) per share:

Basic earnings (loss) per share is calculated by dividing earnings (loss) available to common shareholders by the weighted average number of common shares and unrestricted special warrants outstanding in the period. For all periods presented, earnings (loss) available to common shareholders equals the reported earnings (loss). Diluted earnings (loss) per share is calculated by the treasury stock method. Under the treasury stock method, the weighted average number of common shares outstanding for the calculation of diluted earnings (loss) per share assumes that the proceeds to be received on the exercise of dilutive stock options are applied to repurchase common share at the average market price for the period.

**2. Acquisition of Hope Bay Gold Corporation:**

On May 23, 2002, the Company acquired Hope Bay Gold Corporation ( Hope Bay Gold ). Under the terms of the agreement, the Company issued 39,464,430 common shares to shareholders of Hope Bay Gold on the basis of 0.263 of the Company share for each one Hope Bay Gold share outstanding at April 4, 2002. In addition, the Company issued

2,353,850 stock options and 3,923,872 share purchase warrants as outlined in note 10 (c) and 10 (d). In 2002 during the period prior to acquisition, the Company loaned Hope Bay Gold approximately \$2.5 million, which was used to fund its requirements for the Hope Bay project and to pay general corporate costs.

The fair value of the common shares and warrants and stock options to be issued by the Company was determined based on the average closing price of the Company's stock at the time the terms of the acquisition were agreed to and announced. The assets acquired and liabilities assumed of Hope Bay Gold have been recorded at their fair value at the acquisition date as follows:

<b>Consideration:</b>	
Share consideration	\$49,173
Acquisition costs	1,900
Stock options and warrants	670
<b>Total Consideration:</b>	<b>\$51,743</b>
<b>Fair value of net assets acquired:</b>	
Current assets	\$ 1,013
Equipment	42
Investment in Sherwood Mining Corporation	838
Resource properties	64,690
Reclamation deposits	1,804
	68,387
<b>Less:</b>	
Current liabilities	3,854
Reclamation liability	650
Future income taxes	12,140
<b>Fair Value of Net Assets Acquired</b>	<b>\$51,743</b>

### 3. Northern Orion shares:

During the year end December 31, 2001, as part of a financial restructuring of Northern Orion, the Company granted an option to an unrelated party allowing the holder to purchase up to 60 million shares of Northern Orion from the Company for \$0.08 per share. The Company has also agreed to sell the remaining amounts it has receivable from Northern Orion, which had a face value of \$6.9 million, to the option holders for nominal consideration. This option granted voting rights over the shares under option to the holder effective April 30, 2001. As a result, the Company no longer controlled Northern Orion and ceased consolidation of its investment in Northern Orion. Commencing May 1, 2001, the Company accounted for its investment in Northern Orion using the equity method of accounting.

The carrying amounts for the assets and liabilities of Northern Orion at May 1, 2001 removed from the balance sheet were as follows:

Current assets	\$ 102
Property, plant and equipment	53,681
	53,783
Less:	
Current liabilities	846
Reclamation liabilities	36
Future income taxes	15,990
Non-controlling interest	32,008
Net assets being the equity carrying value at May 1, 2001	\$ 4,903

On June 28, 2002, the unrelated party assigned a portion of its option described above. The option holders exercised the option to acquire 48 million shares of Northern Orion and Northern Orion convertible notes having a face value of \$6.9 million for a total purchase price of \$3.84 million. The Company has retained 22 million shares of Northern Orion, which represents approximately 11.7% of Northern Orion (note 17), and a net proceeds interest royalty ( NPI ) in certain Northern Orion mineral properties which it acquired pursuant to a restructuring agreement with Northern Orion. The NPI entitles the Company to receive the economic equivalent of a 2.5% net smelter return on all of Northern Orion s mineral properties as well as 50% of the proceeds from the disposition of certain Northern Orion mineral properties, all to a maximum of \$15 million. The Company has recorded the proceeds as a reduction of the carrying values of its interests in Northern Orion. As a result of this transaction, the Company no longer has significant influence over Northern Orion and has ceased equity accounting as of June 30, 2002. Recovery of the carrying value of the combined investment amounting to \$15.173 million is dependant upon the sale of Northern Orion shares and receipt of net proceeds from eventual production from the properties or their sale by Northern Orion.

#### 4. Investment in Sherwood Mining Corporation:

As a result of the acquisition of Hope Bay Gold Corporation during the year, the Company holds 40.21% of Sherwood Mining Corporation ( Sherwood ) and commenced equity accounting in June 2002. The Company supplied services on a cost recovery basis to Sherwood totaling \$916,341 during the year ended December 31, 2002. As at December 31, 2002, the Company had received advances of \$133,022 related to the planned exploration program in 2003.

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#### 5. Investment in Joint Venture:

The Company s proportionate share of the financial position of Hope Bay Joint Venture at December 31, 2001 is summarized as follows:

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	<b>2001</b>
Current assets	\$ 1,263
Deferred exploration and development	13,239
	14,502
Current liabilities	(320)
Site reclamation liability	(650)
	\$ 13,532

The Company supplied services to Hope Bay Joint Venture totaling \$548,000 during the year ended December 31, 2001. All transactions are at market prices and on normal business terms. On May 23, 2002, the Company acquired Hope Bay Gold's 50% interest in the Hope Bay Joint Venture as outlined in note 2.

**6. Inventory:**

	<b>2002</b>	<b>2001</b>
Gold and silver	\$ 4,074	\$3,202
Materials and supplies	7,089	6,108
	\$11,163	\$9,310

**7. Property, plant and equipment:**

	<b>2002</b>	<b>2001</b>
Producing:		
Property, plant and equipment	\$ 77,064	\$ 74,959
Deferred exploration and development	52,584	48,019
Accumulated depreciation, depletion and write-downs	(109,846)	(103,664)
	19,802	19,314
Non-Producing:		
Property, plant and equipment	1,977	1,884
Mineral properties	107,983	34,744
Accumulated depreciation and depletion	(1,030)	(1,358)
	108,930	35,270
	\$ 128,732	\$ 54,584

**8. Cash collateral deposits:**

The Company has established the following cash deposits with chartered banks to serve as collateral for letters of credit pledged in favour of various governmental agencies under several water licenses and mineral exploration and mining agreements. The deposits are invested in guaranteed investment certificates and bear interest at market rates. These funds will be returned to the Company upon completion of reclamation of the properties to which they relate.

	2002	2001
Con Mine water license (note 16(d))	\$1,500	\$1,500
Bluefish water license	100	200
Giant Mine water license	200	200
Con Mine road permit	50	50
Golden Eagle reclamation	405	434
Talapoosa reclamation	233	218
Hope Bay water licenses and land permits	3,850	1,225
	\$6,338	\$3,827

**9. Other assets:**

	2002	2001
Investments	\$106	\$14
Other	10	11
	\$116	\$25

**10. Share capital:**

(a) Authorized:

500,000,000 common shares without par value.

(b) Issued:

	<u>Common shares</u>		<u>Special warrants</u>	
	Number of Shares	Amount	Number of shares	Amount
Balance December 31, 2000	60,165,447	\$ 231,282	--	--

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Issued:

Special warrants, net of costs	--	--	3,076,838	3,628
Conversion of special warrants into common shares	786,623	928	(786,623)	(928)
Future income tax effect of flow through shares	--	(1,768)		
On exercise of stock appreciation rights	35,713	--		
On exercise of stock options	22,000	21		
Balance December 31, 2001	61,009,783	230,463	2,290,215	2,700

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	<u>Common shares</u>		<u>Special warrants</u>	
	<u>Number of Shares</u>	<u>Amount</u>	<u>Number of shares</u>	<u>Amount</u>
Balance December 31, 2001 forward	61,009,783	230,463	2,290,215	2,700
Issued:				
Common shares, net of costs	19,973,365	34,501		
Conversion of special warrants into common shares	2,290,215	2,700	(2,290,215)	(2,700)
Future income tax effect of flow through shares	--	(3,286)		
Common shares issued for acquisition of Hope Bay Gold (note 2)	39,369,688	49,055		
Common shares to be issued for acquisition of Hope Bay Gold	94,742	118		
On exercise of warrants	19,282	26		
On exercise of stock appreciation rights	138,598	--		
On exercise of stock options	248,000	231		
Balance December 31, 2002	123,143,673	\$ 313,808	\$ --	\$ --

In May 2001, the Company completed a private placement of 3,076,838 Special Warrants at a price of \$1.30 per Special Warrant. Each Special Warrant was converted, without additional payment, into one flow-through common share. The agent for the Special Warrants offering received commissions of \$259,993 on closing and an option to purchase 206,116 common shares at \$1.30 per share that expired in May 2003.

On March 11, 2002, the Company completed a private placement of 2,666,666 flow-through common shares at a price of \$1.50 per common share. The Company must incur Canadian exploration expenditures as defined by the Canadian Income Tax Act on the Hope Bay project in the amount of \$3,999,999 by December 31, 2003. The agent for the flow through share offering received commissions of \$260,000 on closing and an option to purchase 186,666 common shares at \$1.50 per share that expires on March 11, 2004. The fair value of these options at the grant date was \$30,000 and has been shown on a net basis in share capital.

On June 20, 2002, the Company completed a private equity placement consisting of 12,500,000 units at a price of \$2.00 per unit plus 2,500,000 flow-through common shares at a price of \$2.00 per share for gross proceeds of \$30,000,000 through a syndicate of

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underwriters. Each unit consists of one common share and one-half of one common share purchase warrant. Each whole common share purchase warrant entitles the holder to acquire one additional common share at a price of \$2.50 until June 20, 2003. The gross proceeds of \$30,000,000 will be used to advance the Hope Bay project and general corporate purposes. The Company must incur Canadian exploration expenditures in the amount of \$5,000,000 as defined by the Canadian Income Tax Act on the Hope Bay project by December 31, 2003. The syndicate of underwriters received a 6% commission totaling \$1,800,000 on closing and an option to purchase 900,000 common shares at \$2.00 per share that expires on June 20, 2003. The fair value of these options at the grant date was \$125,000 and has been recorded on a net basis in share capital.

On December 19, 2002, the Company completed a private placement of 2,306,699 flow-through common shares at a price of \$1.50 per common share. The Company must incur Canadian exploration expenditures in the amount of \$3,460,049 as defined by the Canadian Income Tax Act on the Hope Bay project by December 31, 2003. The agent for the flow through share offering received commissions of \$192,000 on closing and an option to purchase 128,000 common shares at \$1.50 per share that expires on December 19, 2003. The fair value of these options at the grant date was \$33,000 and has been recorded on a net basis in share capital.

(c) Stock options:

Stock options are granted at the closing market price of the common shares on the last trading day before the date of grant. Options have a maximum term of ten years and usually terminate 30 days following the termination of the optionee's employment. The vesting period of stock options granted vary with terms determined by the board of directors.

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At December 31, the Company had stock options outstanding as follows:

	2002		2001	
	Shares options	Average exercise price	Shares options	Average exercise price
Outstanding, beginning of year	1,722,121	\$1.33	1,855,000	\$4.01
Granted	1,009,500	1.24	991,121	1.00
Converted on acquisition of Hope Bay Gold (note 2)	2,353,850	1.37		
Exercised	(574,000)	0.88	(192,000)	0.92
Forfeited and expired	(234,750)	3.99	(932,000)	6.40
Outstanding, end of year	4,276,721	\$1.25	1,722,121	\$1.33

During the year, no compensation costs were recorded in the statement of operations for options granted to employees. Had compensation costs been determined using the fair value based method at the grant dates for awards under the Plan, the Company's pro forma net earnings, earnings per share and fully diluted earnings per share would have been as follows:

2002

Pro forma net earnings	\$ 204
Pro forma earnings per share Basic and fully diluted	\$ 0.00

The compensation costs reflected in these pro forma amounts were calculated using the Black-Scholes option pricing model assuming a risk-free interest rate of 5.3%, a dividend yield of 0%, an expected volatility of 55% and expected lives of stock options of 5 years. As at December 31, 2002, 3,750,721 options were fully vested and expire as follows:

Year	Number	Exercise price
2003	150,000	\$ 1.33
2004	684,600	0.96
2005	944,200	1.61
2006	1,176,421	1.16
2007	795,500	1.23

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(d) Warrants and brokers compensation options:

At December 31, the Company had warrants and brokers compensation options outstanding as follows:

	Warrants	Average exercise price
Outstanding at the beginning of the year	206,116	\$ 1.30
Granted	7,464,666	2.40
Converted on acquisition of Hope Bay Gold (note 2)	3,923,872	7.53
Exercised	(19,282)	1.37
Expired	(1,095,833)	11.24
Outstanding, December 31, 2002	10,479,539	\$ 6.13

**11. Income and resource taxes:**

At December 31, 2002, the Company has unused tax loss carry forwards in Canada of \$29.0 million (2001 \$19.3 million) expiring between the years 2003 and 2009 which are available to reduce taxable income and capital losses of \$43.7 million (2001 \$22.6 million) which are available indefinitely, but can only be utilized against capital gains. The ability of the Company to utilize the loss carry forwards and the capital losses is not considered more likely than not and therefore a valuation allowance has been provided against the

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tax assets. The Company also has U.S.\$5.9 million (2001 U.S. \$5.9 million) of U.S. tax loss carry-forwards that expire between the years 2003 and 2018. These U.S. tax losses relate primarily to operations that have been suspended or abandoned. The ability of the Company to utilize these losses is considered unlikely and a valuation allowance has been provided against this asset.

The tax effect of the significant components within the Company's future tax asset (liability) at December 31 were as follows:

	2002	2001
Loss carry-forwards	\$ 10,864	\$ 10,402
Capital losses	7,780	4,027
Property, plant and equi	11,736	13,675
Canadian mining royalty	14,232	21,066
Canadian resource deduct	4,378	6,069
Reclamation liabilities	2,535	2,363
Equity investment	3,637	7,305
Other	1,701	1,151
	56,863	66,058
Valuation allowance	(56,863)	(66,058)
Net future tax asset	--	--

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	2002	2001
Future income tax liability of Hope Bay Gold (no	(12,140)	--
Future income tax liability on flow-through shar	(6,735)	(3,448)
Net future income tax liability	\$(18,875)	\$(3,448)

The income tax expense differs from the amounts computed by applying the combined federal and provincial income tax rate of 43.1% (2001 43.6%) to pretax losses as a result of the following:

	2002	2001
Earnings (losses) before equity loss and income taxes	\$ 1,230	\$(5,302)
Computed "expected" tax (expense) recovery	\$ (530)	\$ 2,312
Adjustment to income taxes resulting from change in valuation allowance	530	(2,312)
Capital taxes	254	160

Income taxes	\$ 254	\$ 160
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## 12. Pension plan and other post-retirement benefits:

The Company has four defined benefit pension plans covering substantially all of the employees at the Con Mine and the Giant Mine. These plans are funded on an ongoing basis, based on periodic actuarial valuations and statutory requirements. In addition, the Company by practice provides for other post-retirement benefits. The ultimate liability for these benefits is estimated for accounting purposes on an ongoing basis using periodic actuarial calculations.

Summary information related to the defined benefit pension plans and other benefits are as follows:

	<u>Pension benefit plans</u>		<u>Other benefit plans</u>	
	2002	2001	2002	2001
Accrued benefit obligation	\$ 16,394	\$ 14,305	\$ 1,010	\$ 947
Fair value of plan assets	12,969	14,625	--	--
Funded status surplus (deficit)	(3,425)	320	(1,010)	(947)
Unamortized past service costs	857	76	(499)	(749)
Unamortized experience loss (gain)	2,244	(700)	--	--
Net accrued liability	\$ (324)	\$ (304)	\$(1,509)	\$(1,696)

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Reconciliation of accrued benefit obligation:

	<u>Pension benefit plans</u>		<u>Other benefit plans</u>	
	2002	2001	2002	2001
Balance, beginning of year	\$ 14,305	\$ 13,256	\$ 947	\$ 1,556
Current service cost	730	643	27	24
Interest cost	1,062	924	65	61
Benefits paid	(827)	(613)	(29)	(27)
Plan improvement	864	--	--	--
Actuarial gains (losses)	260	95	--	(667)
Accrued benefit obligation, end of year	\$ 16,394	\$ 14,305	\$ 1,010	\$ 947

ON BEHALF OF THE BOARD:

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Reconciliation of plan assets:

	<u>Pension benefit plans</u>		<u>Other benefit plans</u>	
	2002	2001	2002	2001
Fair value, beginning of year	\$ 14,625	\$ 14,481	\$ --	\$ --
Actual return on plan assets	(1,309)	144	--	--
Employer contributions	480	613	29	27
Benefits paid	(827)	(613)	(29)	(27)
Fair value of plan assets, end of year	\$ 12,969	\$ 14,625	\$ --	\$ --

Pension expense during the year for the pension plans was \$803,000 (2001 \$498,000). Other benefit (credit) expense for the year is (\$158,400) (2001 \$144,000). Pension expense for the year was comprised of the following:

	2002	2001
Current service cost	\$ 730	\$ 643
Interest cost	1,062	923
Expected return on plan assets	(1,083)	(1,087)
Amortization of experience gains/losses	11	--
Amortization of past service costs	83	19
	\$ 803	\$ 498

In two (2001 one) of the defined benefit pension plans, the accrued benefit obligation exceeds the fair value of plan assets at year-end by \$4,433,000 (2001 \$1,366,200). Payments are being made to fund the excess of the accrued benefit obligation over the fair value of plan assets in accordance with applicable legislation. For purposes of measuring other benefits, an 80% probability was assigned to termination of employees in five years due to mine closure.

The significant actuarial assumptions used in 2002 and 2001 in the measurement of the Company's benefit obligation are shown in the following table:

	Pension benefits	Other benefits
Discount rate	6.75	6.75%
Expected long-term rate of return on plan assets	7.50	n/a
Weighted average rate of compensation increase	2.00	n/a

**13. Business segments:**

- (a) **Reportable Segments** The Company's two operating mines produce gold and are located in Canada. Hope Bay is an exploration stage gold property located in Canada. Reportable assets and revenues do not differ materially from the amounts disclosed in these consolidated financial statements, as there are no material inter-segment sales.
- (b) **Geographic Segments** The Company operates in Canada.

The Company's property, plant and equipment and expenditures, revenues and earnings (loss) before equity loss and income taxes by operating and geographic segment are as follows:

2002	Property, plant and equipment	Expenditures on property, plant and equipment	Revenues	Earnings (loss before equity loss and income taxes
Gold operations	\$ 19,802	\$ 6,669	\$53,122	\$ 3,668
Gold exploration	107,983	73,815	--	--
Other	947	94	945	(2,438)
	\$128,732	\$80,578	\$54,067	\$ 1,230

2002	Property, plant and equipment	Expenditures on property, plant and equipment	Revenues	Earnings (loss before equity loss and income taxes
Gold operations	\$19,314	\$ 6,383	\$ 54,919	\$(2,502)
Gold exploration	33,601	8,053	--	--
Other	1,669	140	902	(2,800)
	\$54,584	\$14,576	\$ 55,821	\$(5,302)

**14. Financial risk management:**

## (a) Gold hedging:

In order to manage its exposure to fluctuations in the price of gold, the Company enters into fixed forward, spot deferred and options contracts in the course of its business. Forward sales agreements obligate the Company to sell gold at a specified price on a specified date. Spot deferred contracts allow the Company to defer the delivery of gold under the contracts to a later date at the original contract price plus the prevailing premium (contango) at the time of the deferral, thereby allowing the Company to participate in current market price increases while providing future downside protection. Put options provide the holder with the right, but not the obligation, to sell gold at the contract price. Call options written provide the holder with the right, but not the obligation to purchase gold at the contract price.

The Board of Directors has approved a hedging policy and reviews the Company's hedging position periodically. As at December 31, 2002, the Company had entered into the following gold contracts:

Anticipated delivery/expiry	Hedged Ounces	Average Price per ounce	Call Options Sold	Average Price per ounce
2003	40,200	CAD \$ 470		
2003	--		14,000	US \$307
2004	26,400	CAD \$ 478	36,000	CAD \$478
	<b>66,600</b>		<b>50,000</b>	

## (b) Foreign currency hedging:

All of the Company's mineral revenues are denominated in US dollars. In order to manage its exposure to currency fluctuations, the Company may enter into currency forward sales or options contracts. The Board of Directors has approved a hedging policy and reviews the Company's hedging position periodically.

As at December 31, 2002, the Company had no outstanding currency contracts.

## (c) Credit risks:

The Company's ability to realize on the above contracts is dependent upon the ability of the counter-parties to perform in accordance with the terms of the agreements. The Company deals only with major financial institutions with investment grade credit ratings and does not expect any counter-parties to fail to meet their obligations.

**15. Financial instruments:**

Fair value estimates are made at the balance sheet date, based upon relevant market information and information about the financial instrument. These estimates are subjective in nature and involve uncertainties in significant matters of judgment. Changes in assumptions and market conditions could significantly affect these estimates. Factors used in determining the fair value of gold call options are the contracted sales price of gold in comparison to current spot price and the probability of movements in the price of gold over the term of the option. As at December 31, 2002, the combination of the spot price of U.S.\$ 347 per ounce and the probability of future price changes has had a significant effect on the fair value of gold call options sold. However, the effect of the probability of future price changes on the fair value estimate diminishes over the life of the option. The carrying values of all financial instruments approximated fair values, except the investment in Sherwood and derivative instruments.

The fair value excess (deficit) of derivative instruments and investment in Sherwood, based on the quoted market value, at December 31 are as follows:

	2002		2001	
	Carrying value	Fair value	Carrying value	Fair value
Investment in Sherwood	\$ 803	\$ 1,200	\$ --	\$ 2,500
Derivatives:				
Gold forward sales contracts	\$(1,225)	\$(5,382)	\$ --	\$ (28)
Gold calls sold	(940)	(4,300)	(112)	(1,017)

The Company has an agreement with a financial institution for the purchase and sale of swaps and derivatives that contains certain financial covenants that the Company must maintain with respect to net tangible assets, current ratio, total liabilities, trade creditors and liquid assets. If the Company fails to meet any of these covenants, the financial institution has the right to demand payment of the net value of any contracts that are outstanding at the time of default. At December 31, 2002, the Company was in compliance with these financial covenants.

#### 16. Commitments and contingencies:

- (a) Miramar Con Mine Ltd. ( MCML ) is committed to the purchase of \$780,000 of liquid oxygen per annum through 2007, subject to an ongoing purchase option in the Company's favour at the discounted value of the remaining payments.
- (b) MCML has granted a \$20 million fixed charge demand debenture secured by its assets in favour of a private company in return for certain environmental indemnities provided by the private company to a previous owner of the Con Mine. The charge is only enforceable by the private company if it is required to indemnify the previous owner for actual environmental liabilities.
- (c) As a condition of the acquisition of the Giant Mine assets, Miramar Giant Mine Ltd. ( MGML ) has established cash collateral security of \$200,000 (note 8) and has issued promissory notes in the total amount of \$6.8 million as security under the existing water licence. The promissory notes are secured solely by the Giant Mine assets and are due only from MGML upon default of the Reclamation Security Agreement ( RSA ). These notes are provided as security solely against the ultimate reclamation costs of the Giant Mine. The amendment to the RSA completed in November 2001 provided that MGML continue to operate the mine and hold the property in compliance with environmental requirements for an indefinite term. In compensation for environmental and holding costs, MGML will be reimbursed \$300,000 monthly. Termination of the RSA agreement by MGML requires written notice one month prior to termination date.
- (d) On August 8, 2000, MCML received a renewal water licence for the Con Mine issued under the Northwest Territories Waters Act. This licence expires on July 29, 2006. A condition of the licence is that Con Mine maintains a security deposit in a form acceptable to the issuer. The security deposit of \$1.5 million (note 8) is subject to an increase of \$1.5 million on each subsequent anniversary of the licence until \$9 million is available. As MCML has proposed to post an encumbrance on the potential sale proceeds for the Bluefish hydroelectric facility as security, additional deposits have not been made. The proposed encumbrance is currently being negotiated with the issuer. Reductions in the security deposit may be granted based upon the annual estimates of the remaining reclamation liability for the Con Mine.
- (e) In 1995, the Company entered into a joint exploration transaction with an investor that resulted in the sale of an interest in the assets comprising the Con Mine. The transaction was based upon an independent valuation prepared for the Company. In 2000,

Canada Customs and Revenue Agency (the Agency ) issued a re-assessment notice challenging the valuation that formed the basis for this transaction. This re-assessment does not give rise to any taxes payable by the Company. However, as part of the transaction in 1995, the Company agreed to compensate the investor for any shortfall in the value of the assets transferred to a maximum of \$2.7

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million plus accrued interest, which amounts to approximately \$1.5 million, such amounts to be payable should a ruling denying the transfer of certain tax pools be made against the Company. The Company has requested certain information from the Agency and is awaiting a response. While management intends to strenuously defend the independent valuation, the outcome of this issue is not yet determinable. No provision for these costs has been recorded at December 31, 2002.

- (f) In October 2002, the Company entered into a long-term lease for office space for its corporate and exploration office. The Company has minimum commitments under operating leases for its premises totaling approximately \$225,000 annually for the next ten years.

**17. Subsequent event:**

On February 12, 2003, the Company granted an option to a third-party to purchase 22 million shares of its shares of Northern Orion for consideration of \$150,000. The option is exercisable at a price of \$0.20 per share for total proceeds of \$4.4 million, on or before August 5, 2003, which can be extended to November 5, 2003 for additional consideration of \$50,000. If the closing price of the common shares of Northern Orion equals or exceeds \$0.25 per share for ten consecutive trading days, the Company may accelerate the expiry date of the option to three business days following notification to the third-party. If the option is not exercised by the accelerated expiry date, the Company can terminate the option on payment of \$200,000. The Company will retain the net proceeds royalty interest with Northern Orion as described in note 3.

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**3. Supplementary Information**  
**Reconciliation with United States Generally Accepted Accounting Principles**

MIRAMAR MINING CORPORATION  
Supplementary Information, Page 5  
Reconciliation with United States Generally Accepted Accounting Principles  
(Dollar amounts expressed in thousands of Canadian dollars,  
except per share amounts)

Years ended December 31, 2002 and 2001  
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Miramar Mining Corporation (the "Company") follows generally accepted accounting principles in Canada ("Canadian GAAP") which are different in certain respects from those applicable in the United States ("U.S. GAAP") and from practices

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prescribed by the United States Securities and Exchange Commission. The material measurement differences between Canadian GAAP and U.S. GAAP with respect to the Company's consolidated financial statements are as follows:

(a) Stock-based compensation:

Under U.S. GAAP, entities are encouraged to adopt a fair value methodology of accounting for stock-based compensation. As permitted by U.S. GAAP, the Company has elected to continue measuring employees stock-based compensation costs using the intrinsic value based method of accounting.

Under the intrinsic value method, compensation cost is the excess, if any, of the quoted market value of the stock at grant date over the amount an employee must pay to acquire the stock. As the exercise prices of options granted by the Company to employees and directors approximate market value at the grant date, the Company has determined that the adoption of this accounting policy for U.S. GAAP purposes does not result in a Canadian/U.S. GAAP difference.

Stock options granted to non-employees for services rendered to the Company are required to be accounted for based on the fair value of the consideration issued measured as the services are provided and the options earned. This method is similar to the Canadian GAAP standard adopted commencing January 1, 2002. As no material stock options to non-employees were earned during the years presented, the Company has determined that the adoption of this accounting policy for U.S. GAAP purposes does not result in a Canadian/U.S. GAAP difference.

The Company had issued stock options that could be exercised as share appreciation rights providing for an optionee to elect to terminate options and to receive an amount in common shares equal to the difference between the fair market value at the time of termination and the exercise price for those options terminated. Under U.S. GAAP, such rights are considered to be compensatory in nature and the changes in the value of shares issuable as stock appreciation rights are recognized on an ongoing basis by a charge or credit to income. During 2002, the Company removed the stock appreciation rights from its stock option plan for all outstanding employee stock options. Accordingly, under Canadian GAAP, such options are not considered to be stock appreciation rights at the date of adoption of the new Canadian standard. However, a charge (credit) to operations of \$1,234 (2001 - (\$23)) would be required under U.S. GAAP reflecting the effect of changes in the market price of the Company's shares to the date of the removal of the rights.

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#### 4. MANAGEMENT DISCUSSION AND ANALYSIS OF FINANCIAL CONDITIONS AND RESULTS OF OPERATIONS

### MIRAMAR MINING CORPORATION MANAGEMENT'S DISCUSSION AND ANALYSIS

ON BEHALF OF THE BOARD:

## OVERVIEW

### 2002 Highlights

Acquisition of Hope Bay Gold Corporation in May 2002.

Advanced the Hope Bay project with a feasibility study on the Doris North deposit.

Equity financings completed during the year for a total of \$34.5 million in net proceeds.

Production of 115,134 ounces of gold at cash costs of US \$246 per ounce.

Positive cash flow from operations of \$8.0 million.

Earnings of \$0.6 million or \$0.01 per share.

During the second quarter of 2002, the Company completed the acquisition of Hope Bay Gold Corporation, the Company's 50% co-venturer on the Hope Bay project. The Company issued 39,464,430 common shares to shareholders of Hope Bay Gold on the basis of 0.263 Miramar share for each one Hope Bay Gold share outstanding at April 4, 2002. In addition, Miramar issued warrants to purchase 3,923,872 common shares at an average exercise price of \$7.53 per share and options to purchase 2,353,850 common shares at an average exercise price of \$1.37 per share. Also under the terms of the agreement, Hope Bay Gold disposed of its assets in French Guyana as a distribution to existing Hope Bay Gold shareholders. The details of the acquisition are described in note 2.

During 2002, the major focus of the Company was the Hope Bay project, which was advanced through exploration drilling programs and the undertaking of a feasibility study for the development of the Doris North deposit. The feasibility study was initiated after a preliminary assessment completed by SRK Engineering defined positive economics for a small-scale operation on this high-grade deposit. Highlights of exploration activities included a number of intercepts from the Madrid area that resulted in extended strike length of the Deformation Zone and identification of possible parallel, mineralized trends.

In Yellowknife, mine site management concluded a difficult year in which they worked to recover from lost production time due to the collapse of the roof of the oxygen plant, completed contract negotiations with labour unions at both mines, and implemented a revised operating plan in an attempt to optimize gold production from two mines that have been operating for more than 60 years. Despite their efforts, total production from the camp ended the year below forecast, delivering a total of 115,134 ounces at cash costs of \$246 per ounce. This was 14,473 ounces or 11% lower than 2001 production. The revised mine plan that was implemented has extended planned production to the end of the first quarter of 2005.

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## EARNINGS AND CASH FLOW

For the twelve months ended December 31, 2002, net earnings were \$0.6 million or \$0.01 per share compared with a net loss of \$5.9 million or \$0.10 per share for the same period in 2001, an improvement of \$6.5 million. While gold production decreased in 2002, higher gold prices and lower operating expenses offset the decrease in production. The average gold price realized in 2002 was CAD \$461 per ounce compared to CAD \$424 per ounce in 2001, a \$37 per ounce or 9% increase. Gold shipments were down 14,473 ounces or 11%, the net result being a decrease in sales revenue of \$1.8 million, or 3%. Cost-of-sales, on the other hand, decreased from 2001, down \$6.2 million or 13%; the result of: (1) reimbursement of \$3.6 million of environmental expenditures from the Department of Indian and Northern Affairs ( DIAND ) for the Giant mine; (2) lower development activity required to support current production, down \$1.5 million over 2001; and (3) a reduction of 6% in material processed reducing operating costs. Additionally, depreciation and amortization expense was lower in 2002, down \$2.5 million over 2001. In 2002, the forecast life for the mines was extended to the end of the first quarter of 2005 and amortization of deferred development costs was slowed accordingly. Additionally, depreciation was reduced by \$0.5 million on the Bluefish hydroelectric power plant ( Bluefish ) to bring it in

line with industry standards for this type of asset.

Cash from operations for year 2002 was \$8.0 million compared to \$5.5 million for the same period in 2001. The Company's gold operations business segment generated free cash during the year even after deducting mine capital and development, and corporate general and administrative costs. Free cash generated from operations is a non-GAAP measure of financial performance which the Company uses to measure the net cash generated or used by its gold mining operations, and is derived by subtracting cash invested in mine capital and development at the Company's operating mines from cash from operations as shown in the following table.

	<b>2002</b>	<b>2001</b>
Cash from operations (Includes corporate general and administration)	8,025	5,490
Less: mine capital and development	(6,669)	(6,383)
<b>Net free cash flow from gold operations</b>	<b>1,356</b>	<b>(893)</b>

## OPERATIONS OVERVIEW

### *Revenues*

For the twelve months ended December 31, 2002, the Company produced 115,134 ounces of gold compared to 129,607 ounces in 2001. Revenue from gold sales was \$53.1 million in 2002, net of an unrealized loss of \$2.2 million on gold spot deferred contracts and call options. This compares to sales revenue of \$54.9 million in 2001. During 2002, the Company realized US\$293 per ounce of gold sold compared US\$274 per ounce realized in 2001. The average price for gold in the spot market was US\$311 per ounce in 2002. In Canadian dollar terms, the realized price per ounce was \$461 in 2002 as compared to \$488 per ounce on the spot market and \$424 in the same period of 2001. Other income was \$0.9 million in 2002, unchanged from the same period of 2001 and was largely comprised of interest income.

### *Mining Operations*

The Yellowknife mining operations, comprised of the Con and Giant mines, fell short of production targets with shipments of 115,134 ounces at cash costs of US\$246 per ounce during 2002. For the corresponding period in 2001, operations produced and shipped 129,607 ounces at a cash cost of US\$256 per ounce.

<b>Yellowknife Operations</b>	<b>2002</b>	<b>2001</b>
<b>Giant - Refractory</b>		
Tons of ore processed	<b>71,536</b>	73,247
Average grade (ounce per ton)	<b>0.379</b>	0.393
Average recovery rate (%)	<b>88.07</b>	88.2
Ounces of gold recovered	<b>23,899</b>	25,361
<b>Con - Free Milling</b>		
Tons of ore processed	<b>203,029</b>	203,716
Average grade (ounce per ton)	<b>0.405</b>	0.408
Average recovery rate (%)	<b>92.21</b>	90.92
Ounces of gold recovered	<b>75,799</b>	75,512

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<b>Con - Refractory</b>		
Tons of ore processed	76,609	94,739
Average grade (ounce per ton)	0.297	0.311
Average recovery rate (%)	86.59	86.55
Ounces of gold recovered	19,714	25,480
<b>Arsenic tailings</b>		
Tons of tailings processed	5,307	9,187
Ounces of gold recovered	2,524	3,806
<b>Total ounces of gold recovered</b>	<b>121,935</b>	<b>130,160</b>
<hr/>		
<b>Total ounces of gold shipped</b>	<b>115,134</b>	<b>129,607</b>
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<b>Production Cost per Ounce Shipped \$US</b>		
Direct mining expense	\$ 257	\$ 263
Deferred mining expense (net)	(2)	(2)
Work-in-progress inventory and other	(9)	(4)
	<hr/>	
<i>Cash operating cost</i>	\$ 246	\$ 257
	<hr/>	
Depreciation	14	20
Reclamation and mine closure	7	5
Other	6	4
	<hr/>	
<i>Total production cost</i>	\$ 273	\$ 287
<hr/>		

The production shortfall resulted from several operational factors. Most notably, the roof of the oxygen plant building collapsed on March 18, 2002 causing extensive damage to the structure and equipment housed in the building. No injuries resulted from the collapse; however, as a result of the incident the autoclave circuit had to be suspended for a four-month period. The direct cost impact to the Company for the repairs to the oxygen plant building was approximately \$0.3 million. The oxygen supplier was responsible for the repairs to the equipment. Although a stockpile of gold-bearing refractory flotation concentrates was created throughout the shutdown and plans were implemented to process the concentrates during the second half of 2002, gold production was lower than planned.

Production in the third and fourth quarters was negatively impacted by lower than anticipated grades, primarily from the Con free mill and refractory zones and from reduced mine tonnages due to a series of production interruptions resulting from unscheduled maintenance on the main production hoist in the Robertson shaft. Also in the fourth quarter of 2002, the Company implemented a revised mine plan at the Con to facilitate accelerated mining of the remaining free milling ore sources and shutdown of the Robertson Shaft complex. This plan involved the temporary cessation of all Con refractory ore mining and redeployment of manpower resources to the lower parts of the free milling ore zones. However, unscheduled down time on the main hoist adversely impacted this plan and, consequently no increase in free mill tonnages was realized. In addition to the mining shortfalls, the work-in-progress inventory of gold-bearing refractory flotation concentrates was not fully processed by the end of the year as planned. At the end of the year, approximately 6,449 ounces remained in this flotation concentrate inventory that will be processed in 2003.

The decrease in direct mining expenses per ounce of gold shipped in 2002 compared to 2001 resulted from the reimbursement of environmental costs from DIAND for Giant mine, lower mine development costs at the Con and reduced autoclave operating costs offset by increased labour rates. The increase in work-in-progress inventory per ounce over 2001 is the result of the build up of flotation concentrates for which costs were deferred during the refractory circuit shutdown as a result of the oxygen plant roof failure. Depreciation costs decreased year over year due to reduced capital spending and deferred development costs as discussed in the section above on earnings. The increase in reclamation costs per

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ounce in 2002 reflects increased concurrent reclamation efforts at the Con mine including removal of obsolete oil tanks, re-contouring the Negus tailing pond and general site cleanup.

During the third quarter of 2002, negotiations were completed between the Company and the United Steel Workers Association (USWA) at the Con mine. On July 18th, USWA members voted in favour of a new three-year collective agreement that includes improvements to severance and relocation provisions and a staged annual wage increase of 7%, 5% and 3% over the term of the agreement. The incremental cost impact of the new 3-year contract is estimated to be \$2.7 million in wages and \$2.7 million in severance, relocation and pension benefits. During the fourth quarter of 2002, negotiations were also completed between the Company and the Canadian Auto Workers at the Giant mine with wage increase similar to those negotiated with the Con mine employees. The incremental cost for the Giant mine contract is estimated to be \$.8 million for the three-year period.

### *Operating Costs*

The cost of sales in 2002 was \$41.3 million compared to \$47.5 million 2001. The lower cost of sales was the result of: (1) reimbursement of \$3.6 million of environmental expenditures from DIAND for the Giant mine, which commenced on December 15, 2001; (2) development activity required to support current production was \$1.5 million lower than 2001; and (3) a reduction of 6% in material processed, which reduced gross operating costs. General and administrative expenses in 2002 were \$3.2 million compared to \$3.1 million in 2001. Of note were fees of \$0.1 million for the new listing on the

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American Stock Exchange and certain additional costs related to the acquisition of Hope Bay Gold. Depreciation and depletion expense in 2002 was \$6.4 million compared to \$8.9 million in 2001. Capital reinvestment in mine equipment and mine development has declined in recent years at the Yellowknife mines as the mines approach the end of their operating life and, as a consequence depreciation has decreased. In 2002, the forecast life for the Con and Giant mines was extended to the end of the first quarter of 2005 and amortization of deferred development costs was reduced accordingly. Additionally, depreciation was reduced on the Bluefish assets by \$0.5 million to bring it in line with industry standards for hydroelectric generation facilities. Reclamation expense in 2002 was \$1.9 million compared to \$1.8 million in 2001.

### *Exploration Activities*

The prime focus for the Company is the Hope Bay project. The Company has undertaken a two-prong strategy to explore the belt and to advance to a production decision. Results from exploration activities completed during the year were positive in particular from the Madrid area, and included extension of the narrow, high-grade South Patch Zone, discovery of gold in the Marianas area, and discovery of wide zones of gold mineralization in the Rand Spur area. Furthermore, exploration in the Madrid area extended the known strike length of the prospective Deformation Zone and identified possible parallel, mineralized trends.

During the year, the majority of the drilling concentrated on infill drilling of the Doris North resource area in sufficient detail to support a feasibility study. Work on the Doris North feasibility study was completed, including an external review of the resource model, development of a detailed mine design, metallurgical testing to develop process design criteria and onsite geo-technical assessment for tailings impoundment and site infrastructure design. With the assistance of SRK Engineering, Bateman Engineering, and Nuna Logistics, the Company worked to complete the overall feasibility document by the end of the year. The results of the feasibility study were released on January 9, 2003.

Work to advance permitting also continued, most notably with completion of the Nunavut Impact Review Board's (NIRB) review of the preliminary project description and receipt of the determination that the project is now subject to a Part 5 review under the Canada Mining Regulations. As a result, NIRB issued draft guidelines for the environmental impact study (EIS). Preparation of the draft EIS was completed and submitted to NIRB in February 2003.

### *Capital Programs*

During fiscal 2002, the Company had capital expenditures of \$73.8 million for the acquisition of Hope Bay Gold and exploration and project activities at Hope Bay. Direct expenditures on the Hope Bay project in the year totaled \$12.4 million. Additionally, the Company incurred \$6.7 million on mine capital and development at the Yellowknife operations. This compares with capital expenditures of \$8.1 million for the Company's then 50% share of the Hope Bay expenditures and \$6.4 million for

mine capital and development in the same period of 2001. In 2002, the Company completed exploration work for total drilling of 30,119 meters of drilling as described above, compared to 39,832 meters drilled in the same period last year.

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### **IMPACT OF RECENTLY ISSUED ACCOUNTING STANDARDS**

In December 2001, the Canadian Institute of Chartered Accountants issued new recommendations that establish standards for the recognition, measurement, and disclosure of stock-based compensation. The Company has adopted these new recommendations as described in note 1 (h).

The recommendations set out a fair value based method of accounting that is required for certain, but not all, stock-based transactions. The standard must be applied to all stock-based payments to non-employees and to employee awards that are direct awards of stock, that call for settlement in cash or other assets, or are stock appreciation rights that call for settlement by the issuance of equity instruments.

The Company has elected to retroactively remove the stock appreciation rights for all outstanding employee stock options. Consequently, the Company is permitted to and has elected, to continue its existing policy that no compensation cost is recorded on the grant of stock options to employees. Consideration paid by employees on the exercise of stock options is recorded as share capital.

The recommendations also require additional disclosure for options granted to employees, including disclosure of pro forma earnings and pro forma earnings per share as if the fair value based accounting method had been used to account for employee stock options. This disclosure can be found in note 10 (c).

### **FINANCING AND LIQUIDITY**

#### **Financing**

On March 11, 2002, the Company completed a private placement of 2,666,666 flow-through common shares at a price of \$1.50 per share. The gross proceeds of the financing of approximately \$4 million must be used by the Company to incur Canadian exploration expenditures as defined by the Income Tax Act (Canada) by December 31, 2003. The agent for the flow through share offering received commissions of \$260,000 on closing and an option to purchase 186,666 common shares at \$1.50 per share that expires on March 11, 2004. The fair value of these options at the grant date was \$30,000 and has been shown on a net basis in share capital.

On June 20, 2002, the Company completed an equity financing consisting of 12,500,000 units at a price of \$2.00 per unit, plus 2,500,000 flow-through common shares at a price of \$2.00 per share, for gross proceeds of \$30 million. Each unit consists of one common share and one-half of one common share purchase warrant. Each whole common share purchase warrant entitles the holder to purchase one additional common share at a price of \$2.50 and until June 20, 2003. The gross proceeds of \$30 million are being used to advance the Hope Bay project and for general corporate purposes. Included in the total proceeds of the financing is \$5 million, which must be used by the Company to incur Canadian exploration expenditures as defined by the Income Tax Act (Canada) by December 31, 2003. The equity financing was made through a syndicate of underwriters, which received a 6% commission totaling \$1.8 million on closing and an option to purchase 900,000

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common shares at \$2.00 per share that expires June 20, 2003. The fair value of these options at the grant date was \$125,000 and has been accounted for as a net basis in share capital.

On December 19, 2002, the Company completed a private placement of 2,306,699 flow-through common shares at a price of \$1.50 per share. The gross proceeds of the financing of approximately \$3.5 million must be used by the Company to incur Canadian exploration expenditures as defined by the Income Tax Act (Canada) by December 31, 2003. The agent for the financing received a commission of \$192,000 on closing and an option to purchase 128,000 common shares at \$1.50 per share that expires on December 19, 2003. The fair value of these options at the grant date was \$33,000 and has been recorded on a net basis in share capital.

During 2002, the Company agreed to terms of a credit facility with a financial institution to finance the estimated feasibility costs of the Doris North project at Hope Bay. The facility provides for borrowing of up to \$4 million repayable on or before June 2004. At the end of the year, the final agreement was not yet completed and no funds had been drawn on the facility. The final agreement should be completed in the first quarter of 2003.

### *Liquidity*

At December 31, 2002, the Company had consolidated working capital of \$41.0 million as compared to \$16.1 million at the end of 2001. Of the \$41.0 million working capital \$39.8 million was cash and cash equivalents and short-term investments as compared to \$13.5 million in 2001. In addition to the working capital, at December 31, 2002 the Company had \$6.3 million in cash collateral deposits for reclamation bonds as compared to \$3.8 million at the end of 2001. The increase is the result of the business combination with Hope Bay Gold Corporation completed in the second quarter of 2002.

On June 28, 2002, a third-party exercised its option to purchase from the Company 48 million shares of Northern Orion Explorations Ltd. and \$6.9 million principal amount of Northern Orion convertible notes. The purchase price of \$3.84 million was received on July 11, 2002.

On September 20, 2002, the Company's subsidiary signed an agreement to sell Bluefish hydroelectric power plant to the Northwest Territories Power Corporation ( NTPC ) for total consideration of approximately \$14 million, as follows.

Cash payment of \$10 million on December 31, 2004,

Operating cost savings, and

NTPC will assume ownership of Bluefish upon closing of the transaction, and responsibility for operating costs of the facility, estimated to be \$400,000 per year and will continue to supply power equal to the historic generation profile of Bluefish to the Con mine, free of charge, until December 31, 2004;

Free power

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For the five-year period 2005-2009, NTPC will provide power to the Con mine, free of charge, at an annual rate of 5 million kilowatts and 1,500 KVA of demand.

Bluefish is a 7.0 mega volt-ampere hydroelectric power generating facility, located 25 miles northwest of Yellowknife, which supplies power for use by the Con mine. The agreement is conditional upon release by Red Lion Management Ltd. of its security interest in Bluefish, which it holds as collateral for an indemnity against environmental liability given by Red Lion to the previous owner of the Con mine. Failing release of the security interest by Red Lion, the Company may offer an indemnity of similar nature to the previous owner of the mine. While there is uncertainty that the condition will be met, the Company expects to resolve the matter and finalize the transaction in the first quarter of 2003.

The Company believes it has sufficient cash resources and liquidity to sustain its planned operations for the near term. The Company further believes that projected cash generated from Yellowknife operations is sufficient to meet its current and future closure obligations. The ongoing exploration and development of the Hope Bay project will require the Company to raise additional capital through one or a combination of project financing and equity offerings.

## Liabilities and Contingencies

As a condition of a water license held by the Con mine, the Company maintains a security deposit for the cost of future reclamation as required by the licensing agency and in a form acceptable to DIAND. Currently, the Company has a security deposit of \$1.5 million held by DIAND. The license requires annual increases to the security of \$1.5 million until a total of \$9 million is on deposit. The annual increments for 2001 and 2002, for a total of \$3.0 million, have not been posted; instead the Company has proposed to post an encumbrance on proceeds from the sale of Bluefish as security for the annual increments. Negotiations are currently underway on the terms of this arrangement with DIAND.

In 1995, the Company entered into a joint exploration transaction with an investor that resulted in the sale of an interest in the assets comprising the Con mine. The transaction was based upon an independent valuation prepared for the Company. In 2000, Canada Customs and Revenue Agency ( CCRA ) issued a re-assessment notice challenging the valuation that formed the basis for this transaction. This re-assessment does not give rise to any taxes payable by the Company. However, as part of the transaction in 1995, the Company agreed to compensate the investor for any shortfall in the value of the assets transferred to a maximum of \$2.7 million plus accrued interest, which amounts to approximately \$1.5 million, such amounts to be payable should a ruling denying the transfer of certain tax pools be made against the Company. At present, the Company has requested information from CCRA and is awaiting a response. While management intends to strenuously defend the independent valuation, the outcome of this issue is not yet determinable. No provision for these costs has been recorded at December 31, 2002.

### Commitments

To mitigate the risk of adverse price fluctuations and to ensure that the Yellowknife operations achieve cash flow projections necessary to complete the planned closure, and in accordance with the hedging policy authorized by the Company's Board of Directors, the Company has entered into spot deferred forward sales contracts and written call options for a portion of the Yellowknife mines' expected future production. This is in part because the mining operations have been historically high cost and the mines are not considered core assets. The Company has hedged in Canadian dollar terms to benefit from the weak Canadian dollar. The Company does not hold these financial instruments for speculative or trading purposes, nor is the Company subject to margin requirements on any of its hedging lines.

On July 11, 2002, the Company completed a transaction with the financial institution holding the gold forward contracts and the gold call options to revise the delivery schedule for a portion of the hedge position and recalculate pricing based on interest rates at the time of the transaction. The settlement dates for the call options were rescheduled, beginning in January 2004 for monthly 3,000 ounces allotments at CAD \$478 strike price. The new schedule for gold forward contracts is October 2002 to December 2004 at monthly deliveries of 2,200 ounces at CAD \$478 for a total of 52,800 ounces. The unchanged portion of the hedge program outstanding on July 11, 2002, was 33,000 ounces at average prices of CAD \$456 per ounce and the Company delivered 19,200 ounces to these contracts in the third and fourth quarters.

The following table set out the outstanding number of contract ounces, average expected realized prices and maturities for the gold commodity derivative contracts as at December 31, 2002:

Period	Hedged Ounces	Average Price	Call Options Sold	Average Strike Price
2003	40,200	CAD \$ 470		
2003			14,000	US \$307
2004	26,400	CAD \$ 478	36,000	CAD \$478
	<b>66,600</b>		<b>50,000</b>	

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The fair value of certain call options sold is recorded in the financial statements at each measurement date, which at December 31, 2002 was negative \$0.9 million. The fair value of unrecorded call options was negative \$3.4 million. The changes in the fair value of these call options have not been recorded and is in accordance with accounting recommendations, as the contracts were written prior to the date of issuance of the accounting recommendations for written call options. The fair value of the gold forward sales and spot deferred forward sales contracts was negative \$5.4 million, of which the Company recorded an unrealized loss of \$1.2 million as of December 31, 2002.

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### **OUTLOOK**

The outlook for the Company continues to be heavily weighted to the successful exploitation and development of the Hope Bay project. As a result of the acquisition of Hope Bay Gold, the Company owns 100% of the Hope Bay project, which has total resources in excess of 4.3 million ounces of gold. The Company's strategy is to build a small, low capital cost mining operation. The feasibility study on Doris North projected positive economics; at \$325 gold the project has a 136% rate of return and generates \$69 million in undiscounted cash flow.

In 2003, the Company plans to continue to work towards making a construction decision on the Doris North project, including advancement of the permitting process and negotiation of an Inuit Impact Benefits agreement. It is expected that at the end of 2003 these processes will be completed and the Company will decide whether to commit to the construction process. Exploration programs planned for 2003 for Hope Bay are comprised of two major components. The first is focused on the Deformation Zone trend in the Madrid area and related structures and consists of 43,000 meters of core drilling and 4,500 meters of reverse circulation drilling. The other component targeting the deep potential below the Boston deposit will see 9,000 meters of core drilling. The total expenditures at Hope Bay in 2003 are planned to be \$18.3 million, including \$1.8 million on permitting and feasibility work related to the Doris North development project.

In 2003, Yellowknife operations are forecast to produce between 105,000-110,000 ounces at cash costs of approximately US\$250 per ounce. Depletion of the free mill reserves and subsequent shutdown of the Robertson shaft facilities is planned for the third quarter, after which operations will be converted to refractory ore processing only. Future production for 2004 and 2005 is planned at 80,000-85,000 ounces and 20,000-25,000 ounces respectively at average cash costs of approximately US\$250 per ounce. The Company expects that the reclamation of arsenic tailings from the Con and Negus ponds will be completed in 2003 with final pond closure scheduled for 2004. Full mine closure activities are now forecast to commence in the second quarter of 2005. The focus of Con mine operating plans over the last several years has been to complete the treatment of the arsenic tailings, as the cost of treatment is significantly lower to the Company if completed concurrently with gold operations. With the forecast completion of this cleanup process in 2003, the future production at the Yellowknife operations will be solely dependent on its ability to generate positive cash flow. The mine plans will be reassessed regularly to ensure the operations are meeting this objective.

### **RISKS AND UNCERTAINTIES**

The Company must obtain additional capital to pursue its exploration and development work at Hope Bay. Given the nature of capital market demand for speculative investment opportunities, there is no assurance that additional financing will be available for the appropriate amounts and at the times required. The Company has developed a cash management plan that will enable it to invest on a priority basis in projects likely to generate favourable results in the near-to-medium term.

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The impact of fluctuations in the price of gold is a risk to the Company's future profitability and cash flow. The Company is also at financial risk as the currency exchange rate between Canadian and U.S. dollars can fluctuate and impact the reported earnings and resulting cash flow.

**EXHIBIT 99.1**

**FORM F-X**

U.S. Securities and Exchange Commission  
Washington, D.C. 20549  
**Form F-X**

**APPOINTMENT OF AGENT FOR SERVICE OF PROCESS  
AND UNDERTAKING**

- A. Name of issuer or person filing ( Filer ): **Miramar Mining Corporation**
- B. This is
- an original filing for the Filer
- an amended filing for the Filer
- C. Identify the filing in conjunction with which this Form is being filed:
- Name of registrant: Miramar Mining Corporation
- Form type: Form 40-F
- File Number: 001-34436
- Filed by: Miramar Mining Corporation
- Date Filed: Filed concurrently herewith
- D. The Filer is incorporated or organized under the laws of the Province of British Columbia, Canada and has its principal place of business at **300 - 889 HARBOURSIDE DRIVE, NORTH VANCOUVER, BRITISH COLUMBIA V7P 3S1**, telephone number **(604) 985-2572**.
- E. The Filer designated and appoints **CT Corporation System located at 111 Eighth Avenue, 13<sup>th</sup> Floor, New York, New York 10011, telephone number (212) 894-8940**, as the agent of the Filer upon whom may be served any process, pleadings, subpoenas, or other papers in
- (a) any investigation or administrative proceeding conducted by the Commission; and
- (b) any civil suit or action brought against the Filer or to which the Filer has been joined as defendant or respondent, in any appropriate court in any place subject to the jurisdiction of any state or of the United States or of any of its territories or possessions or of the District of Columbia, where the investigation, proceeding or cause of action arises out of or relates to or concerns (i) any offering made or purported to be made in connection with the securities registered or qualified by the Filer on Form 8/A filed on August 12, 2002 or any purchases or sales of any security in connection therewith; (ii) the securities in relation to which the obligation to file an annual report on Form 20-F or Form 40-F arises, or any purchases or sales of such securities; (iii) any tender offer for the securities of a Canadian issuer with respect to which filings are made by the Filer with the Commission on Schedule 13E-4F, 14D-1F or 14D-9F; or (iv) the securities in relation to which the Filer acts as trustee pursuant to Rule 10a-5 under the Trust Indenture Act of 1939. The Filer stipulates and agrees that any such civil suit or action or administrative proceeding may be commenced by the service of process upon, and that service of an administrative subpoena shall be effected by service upon such agent for service of process, and that service as aforesaid shall be taken and held in all courts and administrative tribunals to be valid and binding as if personal service thereof had been made.

F. Each person filing this Form in connection with:

- (a) the use of Form F-9, F-10, 40-F, or SB-2 or Schedule 13E-4F, 14D-1F or 14D-9F stipulates and agrees to appoint a successor agent for service of process and file an amended Form F-X if the Filer discharges the Agent or the Agent is unwilling or unable to accept service on behalf of the Filer at any time until six years have elapsed from the date the issuer of the securities to which such Forms and Schedules relate has ceased reporting under the Exchange Act;
- (b) the use of Form F-8, Form F-80 or Form CB stipulates and agrees to appoint a successor agent for service of process and file an amended Form F-X if the Filer discharges the Agent or the Agent is unwilling or unable to accept service on behalf of the Filer at any time until six years have elapsed following the effective date of the latest amendment to such Form F-8, Form F-80 or Form CB;
- (c) its status as trustee with respect to securities registered on Form F-7, F-8, F-9, F-10, F-80, or SB-2 stipulates and agrees to appoint a successor agent for service of process and file an amended Form F-X if the Filer discharges the Agent or the Agent is unwilling or unable to accept service on behalf of the Filer at any time during which any of the securities subject to the indenture remain outstanding; and
- (d) the use of Form 1-A or other Commission form for an offering pursuant to Regulation A stipulates and agrees to appoint a successor agent for service of process and file an amended Form F-X if the Filer discharges the Agent or the Agent is unwilling or unable to accept service on behalf of the Filer at any time until six years have elapsed from the date of the last sale of securities in reliance upon the Regulation A exemption.

Each filer further undertakes to advise the Commission promptly of any change to the Agent's name and address during the applicable period by amendment of this Form, referencing the file number of the relevant form in conjunction with which the amendment is being filed.

- G. Each person filing this Form, other than a trustee filing in accordance with General Instruction I.(a) of this Form, undertakes to make available, in person or by telephone, representatives to respond to inquiries made by the Commission staff, and to furnish promptly, when requested to do so by the Commission staff, information relating to: the Forms, Schedules and offering statements described in General Instructions I.(a), I.(b), I.(c), I.(d) and I.(f) of this Form, as applicable; the securities to which such Forms, Schedules and offering statements relate; and the transactions in such securities.
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The Filer certifies that it has duly caused this power of attorney, consent, stipulation and agreement to be signed on its behalf by the undersigned, thereunto duly authorized, in Vancouver, British Columbia, Canada on May \_\_\_\_, 2003.

**MIRAMAR MINING CORPORATION**

By: /s/ David Long  
Name: David Long  
Title: Corporate Secretary

This statement has been signed by the following persons in the capacities and on the dates indicated.

**CT CORPORATION SYSTEM**

By: \_\_\_\_\_  
Name: Jack Caskey  
Title: Assistant Vice President

Date: May 16, 2003

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**EXHIBIT 99.2**

**CERTIFICATE OF CHIEF EXECUTIVE OFFICER  
PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

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CERTIFICATION PURSUANT TO  
18 U.S.C. §1350,  
AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Miramar Mining Corporation (the Company) on Form 40-F for the period ended December 31, 2002 as filed with the Securities and Exchange Commission on the date hereof (the Report), I, Anthony P. Walsh, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in this Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

May 16, 2003

/s/ Anthony P. Walsh  
Anthony P. Walsh  
Chief Executive Officer

A signed original of this written statement required by Section 906 has been provided to Miramar Mining Corporation and will be retained by Miramar Mining Corporation and furnished to the Securities and Exchange Commission or its staff upon request.

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**EXHIBIT 99.3**

**CERTIFICATE OF CHIEF EXECUTIVE OFFICER  
PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

---

CERTIFICATION PURSUANT TO  
18 U.S.C. §1350,  
AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Miramar Mining Corporation (the Company) on Form 40-F for the period ended December 31, 2002 as filed with the Securities and Exchange Commission on the date hereof (the Report), I, Elaine Bennett, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in this Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

May 16, 2003

/s/ Elaine Bennett  
Elaine Bennett  
Chief Financial Officer

A signed original of this written statement required by Section 906 has been provided to Miramar Mining Corporation and will be retained by Miramar Mining Corporation and furnished to the Securities and Exchange Commission or its staff upon request.

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**EXHIBIT 99.4**

**CONSENT OF**

**KPMG LLP**

[KPMG LOGO]

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KPMG LLP  
Chartered Accountants  
Box 10426, 777 Dunsmuir Street  
Vancouver BC V7Y 1K3  
Canada

Telephone (604) 691-3000  
Telefax (604) 691-3031  
www.kpmg.ca

CONSENT OF INDEPENDENT ACCOUNTANTS

The Board of Directors  
Miramar Mining Corporation

We consent to the use of the following reports in this annual report on Form 40-F (the Form 40-F") of Miramar Mining Corporation to be filed with the United States Securities and Exchange Commission.

1. Auditors' Report to the Shareholders of Miramar Mining Corporation dated February 21, 2003 included in the Annual Report of the Company and incorporated by reference in the Form 40-F; and
2. Auditors' Report to the Board of Directors of Miramar Mining Corporation dated February 21, 2003 included herein.

We also consent to the incorporation by reference of such reports in the Registration Statement (No. 33-92742) on Form S-8 of Miramar Mining Corporation.

/s/ KPMG LLP

Chartered Accountants

Vancouver, Canada

May 20, 2003

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**EXHIBIT 99.5**

**MIRAMAR MINING CORPORATION**

*889 Harbourside Drive, North Vancouver, B.C. V7P 3S1  
604-985-2572 fax 604-980-0731*

To: Anthony P. Walsh, President and Chief Executive Officers  
Elaine Bennett, Vice President, Corporate Controller and Chief Financial Officer

**Re: Con and Giant Mine sections of Miramar Mining Corporation Annual Report**

I am providing this letter in connection with the annual report filing (the Report ) by Miramar Mining Corporation (the Company ). I understand that:

1. the Report will contain the sections respecting the Con and Giant mines which I have reviewed (the Sections );
2. the Company and you will be relying upon the accuracy of the Sections and on this certificate in preparation and certification of the Report; and
3. the Report will be provided to the public and securities regulators and as a result the Company and its directors and officers face liability as a result of a material error in the Report.

I hereby certify that I have reviewed the Sections and that based on my knowledge, the Sections do not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading; except for information relating to charges brought in May, 2003 respecting operations of the Con Mine which have not yet been included in the Sections.

Signature: /s/ David Arthur

Name: David Arthur

Date: May 16, 2003

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**EXHIBIT 99.6**

**MIRAMAR MINING CORPORATION**

*889 Harbourside Drive, North Vancouver, B.C. V7P 3S1  
604-985-2572 fax 604-980-0731*

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To: Anthony P. Walsh, President and Chief Executive Officers  
Elaine Bennett, Vice President, Corporate Controller and Chief Financial Officer

**Re: Con and Giant Mine sections of Miramar Mining Corporation Annual Report**

I am providing this letter in connection with the annual report filing (the Report ) by Miramar Mining Corporation (the Company ). I understand that:

1. the Report will contain the sections respecting the Con and Giant mines which I have reviewed (the Sections );
2. the Company and you will be relying upon the accuracy of the Sections and on this certificate in preparation and certification of the Report; and
3. the Report will be provided to the public and securities regulators and as a result the Company and its directors and officers face liability as a result of a material error in the Report.

I hereby certify that I have reviewed the Sections and that based on my knowledge, the Sections do not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading; except for information relating to charges brought in May, 2003 respecting operations of the Con Mine which have not yet been included in the Sections.

Signature: /s/ Robert L. Hauser  
Name: Robert L. Hauser  
Date: May 15, 2003

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**EXHIBIT 99.7**

**MIRAMAR MINING CORPORATION**

*889 Harbourside Drive, North Vancouver, B.C. V7P 3S1  
604-985-2572 fax 604-980-0731*

To: Anthony P. Walsh, President and Chief Executive Officers  
Elaine Bennett, Vice President, Corporate Controller and Chief Financial Officer

**Re: Con and Giant Mine sections of Miramar Mining Corporation Annual Report**

I am providing this letter in connection with the annual report filing (the Report ) by Miramar Mining Corporation (the Company ). I understand that:

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1. the Report will contain the sections respecting the Con and Giant mines which I have reviewed (the Sections );
2. the Company and you will be relying upon the accuracy of the Sections and on this certificate in preparation and certification of the Report; and
3. the Report will be provided to the public and securities regulators and as a result the Company and its directors and officers face liability as a result of a material error in the Report.

I hereby certify that I have reviewed the Sections and that based on my knowledge, the Sections do not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading; except for information relating to charges brought in May, 2003 respecting operations of the Con Mine which have not yet been included in the Sections.

Signature: /s/ Daniel Rousseau

Name: Daniel Rousseau

Date: May 16, 2003

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**EXHIBIT 99.8**

**CONSENT OF  
Dean McDonald, Ph.D., P. Geol.**

To the Board of Directors of Miramar Mining Corporation.

I consent to the incorporation by reference in this annual report on Form 40-F of Miramar Mining Corporation for the year ended December 31, 2002, of the description of the reports, which were prepared under my direct supervision, the description of certain mineral reserves of the Con Mine as at December 31, 2001 and December 31, 2002; the information that forms the summary of the Giant Gold Mine and the description of certain mineral reserves of the Giant Gold Mine as at December 31, 2001 and December 31, 2002; and the description of certain mineral resource estimates and other information pertaining to the Hope Bay project and to the use of my name under in this annual report as a named expert.

Dated as of the 9th day of May 2003

**Dean McDonald, Ph.D., P. Geol.**

/s/ Dean McDonald

**EXHIBIT 99.9**

**CONSENT OF  
SRK**

[LOGO]

***SRK CONSULTING***  
***Engineers and Scientists***

Steffen, Robertson and Kirsten (Canada), Inc.  
Suite 800 - 1086 West Hastings Street  
Vancouver, B.C. V6E 3X2  
Canada

vancouver@srk.com  
www.srk.com

Tel: 604.681.4198  
Fax: 604.687.6632

May 15, 2003

Canadian Securities Regulatory Authorities c/o  
British Columbia Securities Commission  
P.O. Box 10142, Pacific Centre  
701 West Georgia Street  
Vancouver, BC V7Y 1L2

United States Securities and Exchange Commission  
Washington, D.C.  
20549

Dear Sirs:

**Re: Miramar Mining Corporation Form 40F / Annual Information Form**

We hereby:

1. consent to the use of our name as the entity who prepared the preliminary assessment to consider the economic potential of the Hope Bay Belt and who participated in the preparation of a feasibility study of the Doris North Project as set out in Miramar Mining Corporation's Form 40F / Annual Information Form to be dated on or about May 19, 2003 and which is to be filed with you (the AIF); and
2. confirm that we have read the section dealing with the Doris North Project and do not have any reason to believe that the section in the AIF which relates to the Doris North Project contains any misrepresentation.

Yours truly,

**STEFFEN ROBERTSON AND KIRSTEN (CANADA) INC.**

/s/ E. Maritz Rykaart  
E. Maritz Rykaart, Ph.D., P.Eng.  
Senior Geo-Environmental Engineer

/s/ Cameron Scott  
Cameron Scott, P.Eng.  
Principal

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**EXHIBIT 99.10**

**CONSENT OF  
Dean Besserer, P. Geol**

To the Board of Directors of Miramar Mining Corporation.

I consent to the incorporation by reference in this annual report on Form 40-F of Miramar Mining Corporation for the year ended December 31, 2002, of the reports, and the summary of the information which forms the description of diamond exploration work done for the Corporation on the Hope Bay and Elu belts, and to the use of my name under in this annual report as a named expert.

Dated as of the 15 day of May 2003

**Dean Besserer, P.Geol**

/s/ Dean Besserer

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