LSI LOGIC CORP
Form 8-K
July 27, 2004

Table of Contents

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

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of
the Securities Exchange Act of 1934

Date of Report (date of earliest event reported): July 27, 2004

LSI LOGIC CORPORATION

(Exact name of Registrant as specified in its charter)

Delaware	0-11674	94-2712976
(State or other jurisdiction of incorporation or organization)	(Commission File Number)	(I.R.S. Employer Identification No.)

1621 Barber Lane
Milpitas, California 95035

(Address, including zip code, of principal executive offices)
Registrant s telephone number, including area code:

(408) 433-8000

Not Applicable

(Former name or former address, if changed since last report)

TABLE OF CONTENTS

Table of Contents

Item 5. Other Events and Regulation FD Disclosure

LSI Logic Corporation (LSI Logic or the Company) reported revenues of $448 million in the second quarter of 2004, a 1% sequential decrease compared to the $452 million reported in the first quarter of 2004, and a 10% increase compared to the $407 million reported in the second quarter of 2003.

Cash and short-term investments totaled $847 million at the end of the second quarter of 2004. The Company generated positive operating cash flow for the ninth consecutive quarter.

GAAP (generally accepted accounting principles) net income for the second quarter of 2004 was $7 million or 2 cents per diluted share, compared to GAAP net loss for the second quarter of 2003 of $162 million or 43 cents per diluted share and compared to GAAP net income of $9 million or 2 cents per diluted share in the first quarter of 2004.

Safe Harbor for Forward Looking Statements:

This filing and the news release contain forward-looking statements, which include the following: projected revenues of $435 million to $465 million in the third quarter of 2004; projected GAAP range of break-even to net loss of 3 cents per diluted share in the third quarter of 2004; projected net income, excluding special items, of 3-6 cents per diluted share in the third quarter of 2004; the Company s expectation that the second half of the year will be stronger than the first, driven by continued growth in consumer electronics and an improvement in IT spending by the Company s customer base; the Company s expectation of a steady growth ramp for RapidChip Platform ASICs in the second half of 2004, leading to volume production in 2005; projected capital spending of approximately $25 in the third quarter of 2004 and approximately $100 million in 2004; and expected third quarter depreciation and software amortization of approximately $25 million. These forward-looking statements are based on the opinions and estimates of management at the time the statements are made and are subject to certain risks and uncertainties that could cause actual results to differ materially from those anticipated in the forward-looking statements. Factors that could cause LSI Logic s actual results to differ materially from those set forth in the forward-looking statements include, but are not limited to: fluctuations in the timing and volumes of customer demand; the rate of depletion of customer inventory buildup and the company s achievement of revenue objectives; ability to meet financial targets; the company s ability to develop new products; the timing and the success of new product introductions; and the continued availability of appropriate levels of manufacturing capacity. For additional information, readers are referred to the documents filed by LSI Logic with the SEC, and specifically the risk factors set forth in the company s most recent reports on Form 10-K, 10-Q and 8-K.

Item 7. Financial Statements and Exhibits

The following exhibit is furnished pursuant to Item 12:

Exhibit 99.1* LSI Logic Corporation News Release issued July 27, 2004.

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* Furnished, not filed

Item 12. Results of Operations and Financial Condition

On July 27, 2004, the Company issued a press release regarding its financial results for the fiscal quarter ended July 4, 2004. A copy of the news release is furnished as Exhibit 99.1 to this Form 8-K and is incorporated by reference herein.

Table of Contents

Use of Non-GAAP Financial Information

LSI Logic has referenced non-GAAP financial information in the news release. LSI Logic management believes that the results of operations excluding special items presented herein for the three and six month periods ended June 30, 2004 and 2003*, provides useful information to investors regarding results of operations, as it excludes charges, expenses, gains and losses that are not directly related to the ongoing business results and/or stem from purchase business combinations. These business results are used by management for evaluating historical performance in addition to being used for the Company s forecasting and planning for future periods. Restructuring of operations, acquisition related amortization including intangibles and non-cash deferred stock compensation and other special items are examples of charges that are not directly related to the Company s ongoing business and/or stem from purchase business combinations. For a complete reconciliation of special items excluded from our results of operations for the three and six month periods ended June 30, 2004 and 2003*, refer to the tables furnished in the news release attached as Exhibit 99.1.

Results of operations excluding special items for the period presented are provided for illustrative purposes only and should be read in conjunction with the comparable information presented in accordance with generally accepted accounting principles in the United States and the Company s most recent annual report on Form 10-K for the twelve months ended December 31, 2003.

* The current quarter ended July 4, 2004. For presentation purposes, the consolidated financial statements refer to the quarter s calendar month end for convenience.

Table of Contents

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

LSI LOGIC CORPORATION
a Delaware Corporation

Dated: July 27, 2004

By: /s/ David G. Pursel

David G. Pursel
Vice President, General Counsel and
Corporate Secretary

Table of Contents

EXHIBIT INDEX

Exhibit Number	Description
99.1	LSI Logic Corporation News Release issued July 27, 2004

INTRODUCTION

In this Annual Information Form, the term "Company" refers to Pan American Silver Corp. and the term "Pan American" refers to the Company and its subsidiaries.

Reporting Currency

Pan American's reporting currency is the United States dollar. Unless otherwise indicated, all currency amounts in this Annual Information Form are stated in United States dollars.

Accounting Policies

Financial information is presented in accordance with accounting principles generally accepted in Canada. Differences between accounting principles generally accepted in Canada and those generally accepted in the United States, as applicable to Pan American, are explained in Note 18 to the Consolidated Financial Statements of the Company. These financial statements, set out on pages 20 through 44, inclusive, of the Company's 2003 Annual Report, are incorporated by reference herein.

Conversion Table

In this Annual Information Form, imperial measures are used with respect to mineral properties located in the United States of America and metric units are used with respect to mineral properties located in Peru, Mexico, Bolivia and elsewhere, unless otherwise indicated. Conversion rates from imperial measures to metric units and from metric units to imperial measures are provided in the table set out below.

Imperial Measure	=	Metric Unit	Metric Unit	=	Imperial Measure
2.47 acres		1 hectare	0.4047 hectares		1 acre
3.28 feet		1 metre	0.3048 metres		1 foot
0.62 miles		1 kilometre	1.609 kilometres		1 mile

0.032 ounces (troy)	1 gram	31.1 grams	1 ounce (troy)
1.102 tons (short)	1 tonne	0.907 tonnes	1 ton
0.029 ounces (troy)/ton	1 gram/tonne	34.28 grams/tonne	1 ounce (troy)/ton

Glossary of Terms

The glossary of terms set forth on pages 68 to 72 of this Annual Information Form contains definitions of certain terms used herein.

Classification of Mineral Reserves and Resources

In this Annual Information Form, the definitions of proven and probable mineral reserves and measured, indicated and inferred resources are those used by Canadian provincial securities regulatory authorities and conform to the definitions utilized by the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") in the CIM Standards on Mineral Resources and Reserves Definitions and Guidelines adopted on August 20, 2000.

Cautionary Note to U.S. Investors Concerning Estimates of Measured, Indicated and Inferred Resources

In this Annual Information Form, the terms "measured" and "indicated resources" are used. The Company advises U.S. investors that while such terms are recognized and permitted under Canadian securities rules, the U.S. Securities and Exchange Commission does not recognize them. **U.S. investors are cautioned not to assume that any part or all of the mineral deposits in these categories will ever be converted into reserves.**

This Annual Information Form also uses the term "inferred resources". The Company advises U.S. investors that while such term is recognized and permitted under provincial Canadian securities rules, the U.S. Securities and Exchange Commission does not recognize it. "Inferred resources" have a great amount of uncertainty as to their existence, and great uncertainty as to their economic and legal feasibility. It cannot be assumed that all or any part of an inferred mineral resource will ever be upgraded to a higher category. Under Canadian securities rules, estimates of inferred mineral resources may not form the basis of feasibility or other economic studies. **U.S. investors are cautioned not to assume that any part or all of an inferred resource exists, or is economically or legally mineable.**

DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Information Form and the documents incorporated by reference herein contain certain forward-looking statements relating to Pan American and its operations. All statements, other than statements of historical fact, are forward-looking statements. When used in this Annual Information Form, the words "anticipate", "believe", "estimate", "expect", "target", "plan", "budget", "may", "schedule" and similar expressions, identify forward-looking statements. Forward-looking statements are necessarily based upon a number of assumptions and estimates that, while considered reasonable by Pan American, are inherently subject to significant uncertainties and contingencies. This Annual Information Form contains forward-looking statements relating to, among other things, the sufficiency of current working capital and anticipated operating cash flow, the sufficiency of mineral reserves and resources at Quiruvilca, Huaron, La Colorada, and Alamo Dorado as well as other properties, the estimated operating costs of Pan American's producing mines, the estimated cost of and availability of funding for ongoing capital improvement programs, the estimated costs of the expansion of the La Colorada and Huaron mine operations and the development of the La Colorada project and proposed development of the Alamo Dorado project, estimated exploration expenditures to be incurred on Pan American's various silver exploration properties and compliance with environmental standards. Management's Discussion and Analysis of Financial Conditions and Results of Operations ("MD&A"), which is set out on pages 6 to 19 in the Company's 2003 Annual Report is incorporated by reference within this Annual Information Form. The MD&A also contains forward-looking statements relating to, among other things, forecast capital and non-operating spending, levels of silver and other metals production, production costs and metal prices. Such statements reflect the current views of Pan American with respect to future events and are subject to known and unknown risks, uncertainties and assumptions. Many factors, both known and unknown, could cause the actual results, performance or achievements of Pan American to be materially different from the results, performance or achievements that are or may be expressed or implied by such forward-looking statements including, without limitation, the factors identified in this Annual Information Form under the headings "Trends and Uncertainties" and "Competitive Conditions". Other such factors include, whether or not referenced in this Annual Information Form, changes in general economic and business conditions and changes in business strategy. Should one or more of these factors or uncertainties materialize, or should underlying assumptions prove incorrect, actual results, performance or achievements may vary materially from those described herein as anticipated, believed, estimated or expected. Pan American does not intend, and does not assume any obligation, to update these forward-looking statements to reflect changes in assumptions or changes in circumstances or any other events affecting such statements.

CORPORATE STRUCTURE

Incorporation

The Company was incorporated under the *Company Act* (British Columbia) on March 7, 1979 under the name Pan American Energy Corporation. On September 10, 1984 the Company's memorandum was amended to change the

Company's name to Pan American Minerals Corp. and on April 11, 1995 the Company's memorandum was again amended to change the Company's name to Pan American Silver Corp.

Since 1979 the memorandum and articles of the Company have been amended on several occasions to increase the share capital of the Company and to update the form of articles.

The Company's head office is situated at 1500 - 625 Howe Street, Vancouver, British Columbia, Canada, V6C 2T6 and its registered and records offices are situated at 1200 Waterfront Centre, 200 Burrard Street, Vancouver, British Columbia, Canada, V7X 1T2. The Company's web site can be found at www.panamericansilver.com. The information on that website is not incorporated by reference into this annual information form.

Subsidiaries

A significant portion of the Company's business is carried on through its various subsidiaries. The following table shows, as at December 31, 2003, the principal subsidiaries of the Company including their respective jurisdictions of incorporation and the Company's percentage ownership in each such subsidiary:

Name	Jurisdiction	Ownership (%)
Aurifera Tres Cruces S.A. ("Tres Cruces S.A.")	Peru	50
Pan American Silver S.A.C. Mina Quiruvilca ("Mina Quiruvilca")	Peru	100 (voting)/ 99.7 (non-voting) [1]
Cia. Minera Huaron S.A. ("Minera Huaron")	Peru	99.85 (voting)
Corner Bay Silver Inc. ("Corner Bay")	Canada	100
Minera Corner Bay S.A. de C.V. ("Minera Corner Bay")	Mexico	100
Pan American Minerals, Inc. ("Pan American U.S.")	Nevada	100
Pan American Silver (Barbados) Corp. ("Pan American Barbados")	Barbados	100
Pan American Silver (Bolivia) S.A. ("Pan American Bolivia")	Bolivia	100 [2]
Pan American Silver (Cyprus) Corp. Limited. ("Pan American Cyprus")	Cyprus	100
Pan American Silver Peru S.A.C. ("Pan American Peru")	Peru	100
Plata Panamericana S.A. de C.V. ("Pan American Mexico")	Mexico	100
Compania Minera Altivale S.A. ("Altivale")	Argentina	50
Minera Triton Argentine S.A. ("Triton")	Argentina	50
Serebro Magadana ("Dukat")	Russia	20

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The Company indirectly owns 99.7% of the total outstanding equity of Mina Quiruvilca.

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Pan American has granted EMUSA, a Bolivian mining company, the right to earn a 49% interest in Pan American Bolivia, by financing $2.5 million in project expenses on the San Vicente property in Bolivia, including a feasibility study.

GENERAL DEVELOPMENT OF THE BUSINESS

Business of Pan American

Pan American is principally engaged in the exploration for, and the acquisition, development and operation of silver properties.

Pan American: (1) owns and operates the producing Quiruvilca silver mine in Peru; (2) owns a 99.85% interest in, and operates, the producing Huaron silver mine in Peru; (3) owns and operates the producing La Colorada silver mine located in Mexico; (4) mines and sells silver-rich pyrite stockpiles at a small-scale operation in central Peru; and (5) owns a 20% non-operating interest in the producing Dukat silver mine located in Russia. Pan American also either holds an interest in or may earn an interest in non-producing silver resource and silver exploration properties in Peru, Argentina, the United States and Mexico, including the significant Alamo Dorado deposit in Mexico and 50% of the Manantial Espejo deposit in Argentina.

Pan American employs a multifaceted strategy to ensure growth in reserves and production. The first part of Pan American's strategy is to increase its silver production profile through the acquisition of silver mines, silver development projects or silver producing companies. The second part of its growth strategy is to focus on exploration in and around existing properties. Finally, Pan American is also seeking to acquire additional silver properties having significant silver reserves or resources or significant exploration potential.

Developments over the Last Three Financial Years

During the last three financial years the Company has undertaken the following:

- In April 2001, Pan American commenced milling operations at the rehabilitated Huaron mine. The Huaron mine reached commercial production levels on May 1, 2001.
- In August 2001, Pan American sold 9,321 hectares of the Huaron property for consideration having a value equal to $3,700,000 to Volcan Compania Minera S.A.A. ("Volcan"). Such consideration consisted of $200,000 in cash, $500,000 in shares of Volcan, the remaining 27.2% interest in Minera Huaron that Pan American did not already own and other consideration. The acquisition of these shares brought Pan American's direct and indirect ownership in Minera Huaron to 99.85%.

- In October 2001, Pan American retired the outstanding balance of the $12,000,000 Standard Bank loan facility taken out to re-start the Huaron mine. The $6,300,000 remaining balance was re-paid by a four-year, $6,500,000 loan provided by Banco de Credito del Peru ("Banco de Credito"). The majority of the assets of Minera Huaron are pledged as security for this loan.
- On January 29, 2002, Pan American updated the feasibility study for production from the La Colorada mine. The updated study indicated that capital costs of $20.0 million would expand the current operations to 800 tonnes of ore per day to yield approximately 3.8 million ounces of silver per year for a minimum 10-year mine life.
- On March 4, 2002, Pan American acquired a 50% interest in the Manantial Espejo silver and gold exploration property in Argentina. Pan American's acquisition cost was $1,912,000 which consisted of cash in the amount of $662,000 and 231,511 common shares of the Company valued at $1,250,000. In addition, Pan American paid 50% of the $200,000 cost to eliminate a 1.2% net smelter return royalty over the property.

- On March 11, 2002 Pan American completed a sale of 3.45 million shares to a syndicate of underwriters for net proceeds of $15,599,000.
- On May 21, 2002 Pan American entered into an agreement to acquire all of the issued and outstanding shares of Corner Bay Silver Inc. ("Corner Bay") which owned the Alamo Dorado deposit in Sonora, Mexico.
- On June 14, 2002 Pan American entered into a $10,000,000 project debt facility with International Finance Corporation ("IFC"), the funds from which are to be used to expand the La Colorada mine. The Company took its first draw from the facility in March of 2003.
- On November 8, 2002 Pan American acquired silver bearing stockpiles (the "Stockpiles") located in central Peru from Volcan for 636,942 common shares of the Company, $500,000 in marketable securities owned by Pan American, and $317,000 in cash.
- In December 2002 Polymetall advised Pan American that they had commenced mine production at Dukat.
- On February 20, 2003 the Company completed its acquisition of Corner Bay and in connection therewith the Company issued 7,636,659 shares and 3,818,329 warrants to former Corner Bay shareholders and granted options to purchase up to 553,847 common shares of the Company to former employees of Corner Bay.
- In July and August 2003 the Company issued $86.25 million of 5.25% convertible, unsecured senior subordinated debentures (the "Debentures") due July 31, 2009. Each US$1,000 principal amount of Debentures is convertible into 104.4932 common shares of the Company (subject to adjustment in certain events) at the option of the holder at any time prior to the earlier of the close of business on July 31, 2009 and the last business day immediately preceding any date fixed for redemption, representing a conversion price of US$9.57. On or after July 31, 2006, the Debentures may be redeemed in whole or in part by the Company, at its option on not more than 60 and not less than 30 days prior notice, at a price equal to par, plus accrued and unpaid interest, provided that the weighted average trading price of the common shares of the Company equals at least 125% of the conversion price. On redemption or upon maturity, the Company may, at its option, elect to satisfy its obligation to repay the principal amount of the Debentures by issuing and delivering freely tradable common shares of the Company. In addition, the interest payable on the Debentures may, at the Company's election, be payable by the application of the proceeds of the sale of the Company's common shares.

- On January 1, 2004 commercial production commenced at La Colorada.
- On January 1, 2004 Pan American assumed the operator role in respect of the Manantial Espejo development project in Argentina.
- On January 20, 2004 Pan American reached an agreement to purchase for approximately $35 million 92.014% of the voting shares of Compania Minera Argentum S.A. ("Argentum"). Argentum will acquire, through a corporate restructuring undertaken pursuant to Peruvian company law, the Anticona and Manuelita mining units and related infrastructure and processing assets of Sociedad Minera

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Corona S.A. located in Central Peru. On February 24, 2004, Pan American entered into a further agreement to purchase all of the issued and outstanding shares of a corporation organized under Peruvian company law which holds mining concessions and operations that are complimentary to the Anticona and Manuelita mining units (collectively these concessions and mining operations and the Anticona and Manuelita mining units are referred to as the "Morococha property") for $1.5 million in cash. These acquisitions are subject to regulatory approval and a number of conditions and are expected to close in June 2004.

- On February 27, 2004 the Company issued 3,333,333 common shares at a price of $16.50 per share for proceeds of $55 million.
- On March 30, 2004 the Company made a formal offer (the "Conversion Offer") to encourage conversion by holders of the Company's $86.25 million outstanding principal amount of Debentures. Pursuant to the Conversion Offer, which is open from April 7, 2004 to May 21, 2004 (the "Conversion Period"), each holder who converts all or a portion of his or her Debentures during the Conversion Period will receive $131.25 in cash plus 106.9290 common shares of the Company per $1,000 principal amount of Debentures converted. To date, holders of approximately $73 million principal amount of Debentures have converted their Debentures pursuant to the terms of the Conversion Offer.
- On April 28, 2004 Pan American repaid the $3.5 million remaining balance on its loan from Banco de Credito relating to the initial development of the Huaron mine and notified IFC of its intention to prepay the $9.5 million outstanding balance under its project debt facility used to expand the La Colorada mine.

Corporate Strategy

Pan American's corporate strategy is to become one of the world's leading primary silver mining companies. The key elements of Pan American's strategy are to:

- **Increase silver production** - Until 2001, Pan American's only source of silver production was its Quiruvilca mine. During 2001, Pan American commenced production at its Huaron and La Colorada mines and in 2002 acquired the right to mine and sell the Stockpiles. For the year ended December 31, 2001, silver production was approximately 6.9 million ounces compared to approximately 3.6 million ounces of silver in 2000. For the year ended December 31, 2002 Pan American increased its silver production to 7.8 million ounces. Pan American's silver production increased further during the year ended December 31, 2003 to 8.6 million ounces, an increase of 11% compared to 2002.

- **Acquire additional non-producing silver resources** - One of Pan American's objectives is to hold one of North America's largest inventories of non-producing silver resources as leverage to higher silver prices. Pan American holds or has control over non-producing silver resources at its Manantial Espejo property in Argentina, its Hog Heaven and Waterloo properties in the United States and its San Vincente property in Bolivia. Pan American actively seeks opportunities to increase its silver resource base by acquiring formerly producing silver mines with silver resources that could be re-opened should silver prices increase sufficiently to justify such a re-opening.
- **Acquire additional silver exploration properties** - One of Pan American's objectives is to acquire a portfolio of silver exploration properties. As at December 31, 2003, Pan American retains an option to acquire the San Vicente property in Bolivia. Pan American also owns a 50% interest in the Manantial Espejo exploration property in Argentina and has 100% interest in the Alamo Dorado development Project in Mexico. In addition, Minera Huaron holds approximately 41,280 hectares of exploration

property in Peru. Finally, in the first quarter of 2004, Pan American entered into an agreement to acquire the Morococha property, which has significant exploration potential. Pan American is actively seeking to acquire additional silver exploration properties with bulk mineable targets that have the possibility of possessing over 50,000,000 ounces of silver mineralization to supplement its existing base of silver exploration properties.

Pan American's current activities are primarily focussed on Peru, Mexico, Bolivia and Argentina, with a secondary focus on the United States and the Americas generally.

Outlook for 2004

In 2004, Pan American will continue to take steps towards its stated corporate strategy of becoming one of the world's leading primary silver mining companies. In 2004, Pan American expects to maintain close to the current level of production at the Quiruvilca and Huaron mines, increase production at the La Colorada mine as its new oxide plant reaches designed capacity, add incremental production from the anticipated Morococha acquisition and continue to produce silver from its pyrite Stockpiles in Peru. The combined operations of these mines, assuming the Morococha property acquisition closes by June 30, 2004, are expected to increase Pan American's silver production to approximately 11.6 million ounces in 2004. Pan American will also advance feasibility studies at the Manantial Espejo and San Vicente projects, complete a mill optimization study at the Alamo Dorado Project and investigate the technical and economic merits of an expansion at Huaron.

Pan American will continue to investigate, evaluate and where appropriate, acquire additional silver production, exploration and development properties.

NARRATIVE DESCRIPTION OF THE BUSINESS

Operations

Pan American's principal products and sources of revenue are silver rich zinc, lead and copper concentrates. In 2003, the Quiruvilca, Huaron, and La Colorada mines and the Stockpiles accounted for all of Pan American's production of concentrates. Information related to Pan American's segment revenues is set forth in Note 15 to the Consolidated Financial Statements and is referred to in the Company's MD&A.

Consolidated production for the year ended December 31, 2003 was as follows:

	Quiruvilca	Huaron[1]	La Colorada	Consolidated
Tonnes milled	442,093	605,790	99,115	1,146,998
Grade				
Grams/tonne silver	201	251	435	248
% Zinc	3.30	3.75	1.96	3.38
% Lead	1.18	2.64	1.02	1.94
% Copper	0.6	0.38	-	0.43
Production				
Ounces silver	2,493,908	5,155,864	992,142	8,641,914
Tonnes zinc	12,509	18,855	433	31,797
Tonnes lead	4,361	14,246	383	18,990
Tonnes copper	1,811	1,332	-	3,143

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includes 790,803 ounces of silver produced from the Stockpiles.

Operating Mines

Quiruvilca Mine

Ownership and Property Description

The Quiruvilca mine is owned by Pan American Peru and operated by Mina Quiruvilca, each a wholly-owned indirect subsidiary of the Company.

The Quiruvilca mine is an underground mine. The Quiruvilca mineral property consists of 158 mining concessions covering 8,581 hectares. Mina Quiruvilca also owns six mining concessions covering 3,472 hectares and holds surface and water rights in the area covering the mill and related workings. On March 25, 2004, Pan American sold mining concessions and surface rights in the vicinity of Quiruvilca mine to Barrick Gold Corporation for $3,582,575 and for the assumption of $67,425 of payments owing in respect of these mining concessions.

Location, Access, Climate and Infrastructure

The Quiruvilca mine is located in the District of Quiruvilca, Province of Santiago de Chuco, Department of La Libertad in northwestern Peru. The Quiruvilca mine is 76 kilometres east of the coastal city of Trujillo. The mine is centred at approximately 8º 00' 57" South Latitude and 78º 20' 33" West Longitude. The Quiruvilca mine lies in the Andean mountain range above the tree line. Elevations in the immediate area of the mine range from 3,450 metres to 4,075 metres above sea level.

Access to the Quiruvilca mine is by a 137 kilometre all weather road east from the city of Trujillo. The first 65 kilometres of the road are paved and the remaining 72 kilometres consist of a dirt road. The last major upgrade to the road was in 2003. Trujillo is connected to Lima by a paved all-weather highway.

The relief at the mine site is hilly and uneven with local slopes of more than sixty degrees, typical of the Peruvian Andes. Natural vegetation is mainly grasses, forming meadows. These meadows have permitted development of varied livestock operations.

The climate at the mine site is classified as "cold climate" or "boreal". Average minimum and maximum temperatures in the region range from 5.7 to 14.8 degrees Celsius. One of the characteristics of this climate is wet summers (highest rainfall occurs from January to April) and dry winters. The Quiruvilca mine operates throughout the entire year.

The primary source of power for the Quiruvilca mine is the Peruvian national power grid via a 65 kilometre 138kV line from the city of Trujillo to the Motil substation. A 20 kilometre 33kV line connects the mine site to the Motil substation. Pan American owns and operates a diesel generating system, which provides a back up source of power for the Quiruvilca mine.

Pan American is permitted to pump water from the Los Angeles Lake, to the east of the Andean divide to two dams east of the town of Quiruvilca as well as to other local rivers and streams in the area. Process water is drawn from these dams.

Peru's economy is dependent on mining and there is a sufficient local source of mining personnel and related infrastructure.

Royalties and Encumbrances

The Quiruvilca property is not subject to any royalties or encumbrances.

Quiruvilca has undetermined environmental liabilities and in connection therewith the Company has taken a charge against operations of approximately $12.5 million.

Taxation

The principal taxes of Peru affecting Pan American include income tax, employee profit sharing taxes, annual fees for holding mineral properties, various payroll and social security taxes and a refundable value added tax. The overall tax burden in Peru is less than the Canadian tax burden.

History

Mineralization was first reported in the area of the Quiruvilca mine in 1789. Small-scale silver mining in the area was carried on from the 1870's until 1924. Between 1924 and 1925, Northern Peru Mining and Smelting Co. ("NPMS"), the predecessor to Mina Quiruvilca, which was formed by ASARCO, acquired certain mining concessions in the area and began mining operations. The operation was shut down in 1931. The Quiruvilca mine was re-opened in 1940 and has been in operation since that time. Since 1940 NPMS claimed additional mineral concessions in the area and purchased several adjacent mining concessions as well as surface and water rights in the area.

Initially, mining by NPMS focused on the copper bearing veins in the Enargite Zone (as defined below) but gradually focus was shifted to veins in the Zinc-Lead Zone (as defined below). In March 1967, the mill started to treat complex ores producing copper, lead and zinc concentrates.

Geology and Mineralization

The Quiruvilca mine is situated within the eastern edge of a major sequence of volcanic rocks, interpreted as part of the Calipuy Volcanic complex of the Mid-Miocene. This volcanic formation, with a thickness of about 2,000 metres, consists of andesite flows and flow breccias inter-layered with thin basalt flows and occasional tuffaceous lacustrine sediments.

The mineralization at Quiruvilca is contained in a series of narrow veins filling the fractures and faults. Over 130 veins have been identified in the mine area. At least three-quarters have been mined at some point in time. Although narrow, the veins at Quiruvilca tend to have an extensive lateral and vertical continuity with abundant splits, cymoid loops, pinch and swell structures. In some places, the veins show some thick ore shoots connected to thinner diagonal sub-economic to non-economic zones. The width varies up to two metres in the central zone to stringers in the Zinc-Lead Zone (as defined below). The average width of veins currently being mined is 0.56 metres. The average dip of the veins is 70^0, but range from vertical to 40^0.

The mineralization exhibits strong metal zoning. The central copper zone, some 700 metres by 2,800 metres in area, consists of predominately enargite-pyrite, with lesser chalcopyrite, tennantite, tetrahedrite, sphalerite and galena (the "Enargite Zone"). The Enargite Zone is surrounded by a relatively narrow transition zone of tennantite, tetrahedrite, sphalerite and galena (the "Transition Zone"). The Transition Zone is in turn surrounded by a zinc-lead zone of predominately sphalerite and galena, which extends some 500 metres beyond the Transition Zone (the "Zinc-Lead Zone"). In recent years some 70% of the Quiruvilca mine's production has come from the Zinc-Lead Zone. An outer zone consists of stibnite, arsenopyrite and pyrite.

Drilling, Sampling and Analysis

Exploration at the Quiruvilca property is conducted using a combination of diamond drilling and underground drifting. Three diamond drills are in continuous operation at the property, drilling BQ (36.4 mm diameter) sized holes between 50 and 350 meters in length. This is generally followed by underground by pass and cross-cutting at a 70 meter spacing. During 2003, 7,189.50 meters of drilling was done, along with 6,250 meters of drifting for reserve delineation and access.

Diamond drill core is split in half, with one half sent for assaying and one half retained in a secure on-site facility. The veins in the cross-cuts are channel sampled, and a two to three kilogram sample is sent for analysis.

Assaying is done at Quiruvilca's laboratory. The laboratory conducts a routine internal quality assurance/quality control program that includes external check samples and the routine submission of standards.

All sampling, whether diamond drilling or cross-cutting, is done under the direct supervision of the Quiruvilca mine geology department.

Mineral Reserves

Pan American's management estimates that proven and probable mineral reserves at the Quiruvilca mine as at December 31, 2003 are 631,000 tonnes with an average grade of 201 grams/tonne silver and 5.0% Zn, details of which are set out in the following table:

Quiruvilca Mineral Reserves [1, 2, 3]

Reserve Category	Tonnes	Grams of Silver per Tonne	% Zinc	% Lead	% Copper
Proven	407,000	209	4.86	1.70	0.44
Probable	224,000	186	5.26	1.60	0.46
TOTAL	631,000	201	5.00	1.66	0.45

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1

Calculated using a price of $5.00 per ounce of silver and $900 per tonne of zinc.

2

Estimates of mineral reserves are calculated on the basis of blocks exposed by underground workings on one or more sides and having an in-place diluted value equal to or above the cutoff grade ($25/tonne). Proven and probable mineral reserves are extrapolated between 15 and 30 metres down dip depending on vein continuity.

3

Mineral reserves were estimated by the engineering and geology staff of the Company's wholly-owned subsidiary, Mina Quiruvilca, under the supervision of an independent "qualified person", Donald F. Earnest, P.Geo. Mr. Earnest has reviewed and tested the information developed by the Company's operating subsidiary and, based upon those tests and reviews, Pan American is satisfied with the accuracy of the reserve calculations.

Management of the Company believes that reserves at the Quiruvilca Mine are sufficient for at least 18 months at current production rates. Management further believes that additional mineral resources will be converted to proven and probable reserves and mining will continue well beyond the 18 month period.

Reconciliation of Mineral Reserves

Mineral reserves are adjusted annually by the amount mined, by additions and deletions resulting from new geological information and interpretation and in connection with changes in operating parameters and metal prices. However, proven and probable mineral reserves are not usually revised in response to short-term cyclical price

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variations of metal markets. The following is a reconciliation of the proven and probable mineral reserves at Quiruvilca to December 31, 2003:

Reconciliation of Mineral Reserves at Quiruvilca

	Tonnes	
Opening balance, December 31, 2002	2,109,100	1
Additions	585,600	2
Losses	1,579,100	3
Tonnes mined from reserves	285,200	
Low grade removed from reserves	199,400	
Closing balance, December 31, 2003	631,000	

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1

December 31, 2002 reserves were calculated using a price of $4.75 per ounce of silver and $900 per tonne of zinc.

2

Additions are from tonnes added through exploration reinterpretation, mostly due to higher metal prices.

3

Losses during 2003 consisted of 1,248,121 tonnes of material that was moved to the resource category due to declining metal prices, 122,897 tonnes of material moved to the resource category due to the north zone shut down, and 314,925 tonnes of material that was moved to the resource category due to reinterpretation.

Mineral Resources

Pan American's management estimates that mineral resources at the Quiruvilca mine as at December 31, 2003 are as follows:

Quiruvilca Mineral Resources [1, 2]

Resource Category	Tonnes	Grams of Silver per Tonne	% Zinc	% Lead	% Copper
Measured	3,124,000	156	3.88	1.49	1.63
Indicated	900,000	179	4.72	1.77	1.11
Inferred	1,881,000	168	5.11	1.77	0.47

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1

These resources are in addition to Quiruvilca mineral reserves.

2

Mineral resources were estimated by the engineering and geology staff of the Company's wholly-owned subsidiary, Mina Quiruvilca, under the supervision of an independent "qualified person" Donald F. Earnest, P.Geo. Mr. Earnest has reviewed and tested the information developed by the Company's operating subsidiary and based upon those reviews and tests, Pan American is satisfied with the accuracy of the resource calculations.

Mining

The Quiruvilca mine extends over an area that is four kilometres east/west by three kilometres north/south and from an elevation of 4,050 metres at the top of the mountain down to the 340 level (elevation 3,528 metres). Access to the mine is from four adits driven into the side of the mountain at elevations ranging from 3,648 metres to 3,870 metres.

Battery locomotives are used to haul ore and waste from the stopes and development headings to ore and waste passes. Ore from the upper levels of the mine is delivered to ore passes, which transfer it to the 220 level main

haulage level. Trolley locomotives with 120 cubic foot mine cars are used to transport ore from the ore passes on the 220 level to coarse ore bins at the Crushing plant.

Of the 61 veins presently being mined, 14 contributed approximately 70% of the production during calendar 2003. These 14 veins average 0.56 metres in width.

There are presently 61 active stopes in the mine using the cut and fill mining method, with approximately one-third in the drilling and blasting phase, one-third in the mucking phase and one-third in the filling phase at any given time. Two stoping methods are presently in use at the Quiruvilca mine. In stopes where the vein's mineable width is less than 1.0 metre, and where hydraulic backfill is not available, resuing is employed. In stopes where the vein's mineable width is more than 1.0 metre, the hydraulic backfill is employed.

Tailings from the mill are directed to the sand-fill plant located near the Santa Catalina tailings pond. The fines are removed with cyclones, and the coarse is directed to the storage tanks in the sand-fill plant. The sand-fill is pumped 2,700 metres to the Luz Angelica distribution plant, or a further 1,600 metres to the Central distribution plant through a 76 millimetre HDPE line. The distribution plants are equipped with 170 cubic metre storage tanks. When backfill is required underground, the fill is re-slurried and pumped underground. The monthly hydraulic backfill volume employed at the mine is 5200 m^2.

Milling

The mill flowsheet consists of three-stage-crushing, ball mill grinding and selective flotation of the ore to produce copper, lead and zinc concentrates, followed by thickening and filtering of the concentrates.

Present daily treatment capacity is 1,350 tonnes, with an operative mill working six days a week. Starting September 1st and according to the closure of the North zone, the daily treatment tonnage was reduced to the above-mentioned level from the prior 2,000 tonnes daily.

Although the mill equipment (with the exception of the primary and secondary crusher, the primary grinding circuit, the primary lead rougher flotation cells and the zinc and lead circuits) dates from the 1950s, it has been adequately maintained and operates well.

Strategic Restructuring

In 2002, the Company wrote down its investment in the Quiruvilca mine by $25,129,000. This decision was reached after an evaluation of the likelihood of recovering the carrying value of Quiruvilca in light of the mine's recent and expected operating and financial performance. As a result of Quiruvilca's high production costs and low metal prices, a significant turnaround at Quiruvilca would be required to avoid the necessity of a shutdown of the mine in 2004.

Accordingly, a strategy to reduce high cost ore production and increase mine grades was implemented during 2003 in order to drastically lower the mine costs and adapt the mine operation to a low metal prices reality. This plan to reduce high cost tonnage was carried out by closing the north zone of the mine, a zone with higher operating costs and lower geological expectations. All the Quiruvilca permanent workers were relocated in the lower cost south zone of the mine and all mine contractors terminated at the end of August 2003. This action reduced the total mine work force from 1,079 (permanent workers and contractors) to 462 permanent workers without any labor conflict. Average production was lowered by 20% to approximately 30,000 tonnes per month. The mine reduced cash costs from US$5.51 per ounce of silver to US$4.11 per ounce of silver. This cost-reduction strategy and improving metal prices have allowed Quiruvilca to generate a positive cashflow from operating activities for the quarter ended March 31, 2004.

These positive operating and financial results have caused Pan American to modify its plans, which contemplated a shut down of the Quiruvilca mine in June 2004. As of today's date, Pan American intends to continue to operate Quiruvilca as long as there are reserves available.

In addition to the 2004 mine life extension, reoriented exploration and development has provided positive results, such as the confirmation of the high silver grade Union Vein on the 340 level, and new reinterpretation demonstrates continuity up to the surface which should enable the Quiruvilca mine to continue operations indefinitely.

Environment, Health and Safety

Environmental regulations are evolving in Peru and it is expected that these requirements will eventually reach North American standards. As part of the developing regulatory framework, mining companies were required to submit environmental evaluation reports summarizing general environmental conditions at their mines and environmental remediation plans. Mina Quiruvilca filed an evaluation report with the Peruvian Ministry of Energy and Mines in 1995 and filed a Program for Environmental Remediation and Management ("PAMA") in 1996 in compliance with Peruvian regulations. The PAMA addressed, among other things, stabilization of tailings impoundments, tailings reclamation, mine acid water neutralization and other effluent treatment, revegetation and a contingency plan. For each of these issues, Pan American provided an implementation schedule and estimates of capital expenditures. The PAMA was approved by the Peruvian Ministry of Energy and Mines in 1997 and the terms of the PAMA were to have been completed by March 2002, however, based on discussions with the auditors, some projects were re-classified as more appropriate for inclusion in a final closure and remediation plan.

Quiruvilca's PAMA projects and expenditures for the years 1997 to 2003 were audited by independent consultants and reviewed by Peruvian environmental regulators. Overall expenditures were greater than budgeted and considerably more than the 1% of gross sales required under the law. While the PAMA process defined remediation projects, expenditures and time frames to achieve compliance primarily with respect to water quality, it explicitly excluded closure projects, and in many cases did not fully consider remediation of historic liabilities, whether caused by third

parties or predecessor companies. In addition, the PAMA process provided no mechanism to review and revise projects based on results achieved to assess whether budgeted programs would still be effective in achieving the results desired. Discussions are currently underway with regulators to better define Pan American's remaining obligations under the PAMA program. In conjunction with this, Pan American sought independent consulting expertise to review closure stategies and options; this work is still underway.

In October 2003, the Peruvian government passed legislation requiring active mining operations to file closure plans within six months of the date of passage of the legislation. To date, accompanying administrative rules that lay out detailed closure requirements, including bonding and tax deductibility of reclamation and rehabilitation expenses are not yet promulgated. Quiruvilca's Closure Plan was filed in early March 2004. Pan American has budgeted $2.9 million for concurrent reclamation and closure related costs at Quiruvilca in calendar 2004 (including closing of adits, rehabilitation of tailings ponds, rehabilitation of waste dumps and water treatment). In the fourth quarter of 2002, Pan American prepared an estimate of the expected future reclamation costs to be incurred at Quiruvilca and charged operations with a $10 million provision for future reclamation.

Pan American's operations at the Quiruvilca mine currently comply in all material respects with applicable Peruvian laws. In 1999, Mina Quiruvilca received the National Society of Mining, Petroleum and Energy's highest environmental award and in 2000 the Latin American Organization of Mining's environmental award for polymetallic deposits.

The most significant environmental issues currently associated with the Quiruvilca mine are metal-laden acid water discharge from the mine, acid rock drainage from the mine's tailings deposit areas and the containment

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and stability of mine tailings ponds. During 2003, water quality at the compliance point has generally met pH standards and a majority of metal compliance standards. The review now underway by independent consultants will define closure and mitigation options for reducing acid water flows and improving the quality of waters exiting the site.

During late 1998 and through early 2002 Pan American implemented a third party safety and training program for employees and contractors; this program was re-started in mid-2003. All mine supervisors completed the first two phases of a multi-phase third party safety program. The safety department was reorganized to provide one dedicated inspector per mine area. All employees are required to undergo safety training and all new underground employees are required to undergo training prior to being assigned to their first position.

From 1998 (when the first third party safety programs began) through 2003 year end, on a cumulative basis, the year-end accident frequency was reduced by 54%, and lost time accidents by 61%.

Capital Expenditures

Since 1995, Pan American has undertaken a program of capital and non-operating expenditures at the Quiruvilca mine to improve its operations, ensure compliance with its PAMA and reduce operating costs.

During 2003, capital expenditures were approximately $664,000 and consisted of:

- Reclamation expenses of $240,000;
- Constancia tailings treatment of $185,000;
- Civil, electromechanic and mine works at level 340 of $181,000; and
- Other minor works totalling $58,000.

During 2002, capital expenditures were approximately $626,000 and consisted of:

- mine and related structures on the mine's 340 level of $519,000; and
- tailings dam expansion at a cost of $98,000.

Pan American has budgeted $0.4 million for 2004 capital expenditures at the Quiruvilca mine consisting of sustaining capital and mine deepening.

Pan American expects to fund future capital expenditures from cash flow from the Quiruvilca mine. In the event that cash flow from the Quiruvilca mine is insufficient to fund the capital expenditure program, Pan American will fund the remainder of the capital expenditure program from working capital.

Marketing

The principal products from the Quiruvilca mine are silver rich zinc, lead and copper concentrates. All of these concentrates are sold under contracts to arm's length metals trading companies or arm's length integrated mining and smelting companies. In 2002, zinc concentrate was sold under the last year of a two-year contract. For 2003, that contract has been replaced with a contract which runs until 2006, which contract has a minimum one-year extension clause at the option of either party. Lead concentrates have been sold under a four-year contract expiring in 2004. In 2003, an agreement with Noranda, one of the metal trading companies to which concentrates are sold, allowed the company to cancel some tonnage that was subsequently sold at market terms in spot contracts to Glencore, Cormin, Doe Run and BHL. Copper concentrate has been sold under a contract

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that also expires at the end of 2004. All contracts are at arms length. Mina Quiruvilca receives payment for an agreed percentage of the silver and lead, zinc, or copper contained in the concentrate, after deduction of smelting and refining costs. Existing lead concentrate contract for 2005 and 2006 with a minimum one-year extension beyond the contract period at the option of either party.

During 2003, the revenue per type of concentrate produced by the Quiruvilca mine was as follows:

	Revenue[1]	Tonnes	Average Price per Tonne
Zinc Concentrate	$5,088,269	25,339	$201
Lead Concentrate	$2,891,538	6,014	$481
Copper Concentrate	$7,389,166	7,188	$1,028

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1

Consists of sales to arm's length customers.

During 2002, the revenue per type of concentrate produced by the Quiruvilca mine was as follows:

	Revenue[1]	Tonnes	Average Price per Tonne
Zinc Concentrate	$6,018,898	27,408	$220
Lead Concentrate	$4,450,154	9,851	$452
Copper Concentrate	$4,975,952	4,710	$1,056

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1

Consists of sales to arm's length customers.

The zinc concentrates produced by the Quiruvilca mine are highly marketable as they contain low levels of impurities and low silver content. The lead concentrates have arsenic and antimony as impurities but are attractive to lead smelters due to their high lead, silver and gold content. Although the silver-rich copper concentrate produced by the Quiruvilca mine contains arsenic and antimony impurities, its marketability is not affected because of the high amount of silver contained in the concentrate. To date, Pan American has not experienced difficulty in securing contracts for the sale of the Quiruvilca mine's zinc, lead or copper concentrates.

Huaron Mine

Ownership and Property Description

The Company owns 99.85% of a private Peruvian company, Minera Huaron, which owns and operates the Huaron mine.

The Huaron mine is an underground silver mine and the property consists of exploitation claims covering approximately 17,075 hectares, 70,000 hectares of exploration claims and 473 hectares of surface rights and a lease over 178 hectares of surface rights covering the main workings.

Location, Access, Climate and Infrastructure

The Huaron mine is located in the Department of Pasco, Province of Pasco, District of Huayllay in central Peru, 320 km northeast of Lima. The property lies on the eastern flank of the western branch of the Andean mountain range

from an elevation of 4,250 metres to 4,800 metres above sea level.

Access to the Huaron property is by a continuously maintained 285 kilometers paved highway between Lima and Unish and a well maintained 35-kilometre gravel road between Unish and the Huaron property.

The relief at the mine site is hilly and uneven with local slopes of more than sixty degrees. Natural vegetation is mainly grasses, forming meadows. These meadows have permitted development of varied livestock operations.

The climate at the mine site is semi-humid with average annual temperatures ranging from three to ten degrees Celsius. The Huaron mine operates throughout the entire year.

The primary source of power for the Huaron mine is the Peruvian national power grid.

Historically, the supply of water has been abundant and is provided by local lakes and rivers.

Peru's economy is dependent on mining and there is a large local source of mining personnel.

Royalties and Encumbrances

The Huaron property was subject to a 3% net smelter return royalty, which was payable after 4,300,000 tonnes of ore from the Huaron property has been recovered. In October 2003, Pan American bought back this 3% net smelter royalty on the Huaron mine from a group of Peruvian companies for a total of $2.5 million in cash. The buyout of the royalty should reduce the mine's cash costs by approximately $850,000 per year, starting 2006.

At December 31, 2003, substantially all of Huaron's plant, equipment and mining rights were subject to a mortgage and charge in favour of Glencore that was acting as guarantor against Banco de Credito del Peru for the liabilities and obligations of Pan American Silver Peru under a $6,500,000 loan facility made available to Minera Huaron for working capital purposes. At December 31, 2003, Pan American's debt balance under this facility was $3.23 million. In April 2004, Pan American repaid its outstanding debt balance under the Banco de Credito facility.

To the best of Pan American's knowledge, the Huaron property is not subject to any royalties or encumbrances other than those set out above.

Huaron has environmental liabilities that have not yet been quantified. However, to date the Company has taken a charge against operations of approximately $606,000 as a reclamation accrual.

Pan American's Acquisition of Huaron

On March 6, 2000, the Company entered into a Stock Purchase Agreement with Cementos Pacasmayo S.A.A., Mauricio Hochschild & Cia Ltda. S.A.C. ("Hochschild") and Cia. Minera Arcata S.A., three Peruvian corporations at

arm's length to Pan American (the "Huaron Vendors"), pursuant to which the Company acquired 71.8% of the common shares of Minera Huaron (which owns 100% of the Huaron property) in consideration for: (i) the issuance of 1,780,389 common shares of the Company; (ii) the issuance of stock options to purchase up to 700,000 common shares of the Company exercisable at $4.00 per common share (expiring March 6, 2010); and (iii) the grant of the Huaron Royalty to the Huaron Vendors. The 700,000 stock options were issued to a representative of the Huaron Vendors, Hannibal International, Inc., a Panamanian corporation arm's length to the Company. All of these options to purchase common shares of the Company have been exercised.

Included in the liabilities of Minera Huaron at the date of acquisition was $3,174,000 payable to former majority shareholders of Minera Huaron. This liability was discharged from the sale proceeds of certain assets of Minera Huaron ($1,980,000) and corporate funds ($1,194,000).

Between March 6, 2000 and December 31, 2000, the Company increased its ownership of Minera Huaron from 71.8% to 72.6% through the purchase of additional common shares of Minera Huaron from minority shareholders at arm's length to the Company for $65,000.

In August 2001, Pan American received an additional 27.2% of the common shares of Minera Huaron, $200,000 in cash, $500,000 in shares of Volcan and 33 Million of Kw/h (worth $1,200,000) to be deliver by two of Volcan's hydroelectric plants in exchange for transferring 9,321 hectares of exploration and exploitation claims to Volcan.

History

The Huaron mine is an underground mine with narrow veins of silver-rich base metal sulphides. The mine, mill and supporting villages were originally built and operated by a subsidiary of the French Penarroya company from 1912 to 1987. In 1987 the mine was sold to Hochschild. Prior to its acquisition by Pan American, approximately 22 million tonnes of silver-rich base metals sulphide ore were mined from the Huaron property. Silver was the main constituent, contributing about 49% of the historic sales value, the rest being zinc 33%, lead 15% and copper 3%. Ore from the mine was processed on-site by crushing, grinding, and differential flotation to produce copper, lead and zinc concentrates.

In April, 1998, a portion of the lakebed of nearby Lake Naticocha collapsed and water from the lake flowed into the adjacent Animon mine, operated by an unrelated company, and through interconnected tunnels the water entered and flooded the Huaron mine, causing its closure.

Before the 1998 closure, between 800 and 1,500 tonnes per day were processed at the Huaron mine, and 700 to 1,200 tonnes per day of tailings were produced. About 60% of the tailings were used as underground backfill. The rest were gravity fed for disposal into tailings containment ponds.

The production rates for the last periods of operation, before the flooding, at the Huaron Mine are set forth in the following table.

	Production Rate	
Year	**Tonnes / year**	**Tonnes / month**
1998 (4 months)	158,000	43,500
1997	442,000	37,000
1996	305,000	25,000
1995	303,000	25,000

After the April 1998 flooding, the Huaron mine operations were shut down, the labour force was terminated, the village closed, and work was undertaken to clean up the flood damage, drain the workings and prepare for an eventual restart of production. Currently the lake, which provided the source of floodwater, is dry and will not be refilled. There is no threat of further flooding. Chungar, in accordance with a settlement agreement reached with Minera Huaron in September 2000, constructed a channel to route water around the lake to provide water for the Huaron's mine operation and to reduce the water in upstream lakes to prevent agricultural flooding which had created local social pressures.

Rehabilitation of Huaron Mine

After Pan American's acquisition of the Huaron mine, a $12 million credit facility with Standard Bank London Limited was obtained in early September 2000 to provide the funding necessary to place the mine back into production. Pan American commenced construction and rehabilitation in September 2000, which was substantially completed by April 2001.

The steps taken to place the mine back in operation included:

- rehabilitation of underground ramps and access ways;

- rehabilitation of existing, or construction of new, underground services in particular ventilation, hydraulic backfill and electrical distribution;
- stope preparation work for initial mining as well as the commencement of longer term development (access and raises);

- rehabilitation of the mill, with the major areas being the installation of a larger ball mill to allow for finer grinding, electrical upgrades and mechanical overhauls; and
- infrastructure upgrades with the major component being earthwork on the tailings dam.

Milling operations at the rehabilitated Huaron mine were started in April 2001. The mine and mill achieved commercial production in May 2001.

Capital costs of the rehabilitation, including preproduction mining and operations were approximately $11.1 million.

The $12 million credit facility with Standard Bank was repaid in 2002, and replaced with the $6,500,000 loan facility from Banco de Credito.

Geology and Mineralization

The main lithology in the Huaron area is a sequence of continental lacustrine "redbeds" consisting of interbedded sandstones, limestones, marls, conglomerates, breccias and limey cherts of the Abigarrada and Casapalca Formations of Upper Cretaceous to Lower Tertiary age. These rocks unconformably overlay massive marine limestones of the Upper Cretaceous Jumasha Formation. To the west of the mine a series of andesites and dacites of the mid to lower Tertiary Calipuy Formation outcrop. A series of sub-vertical porphyritic quartz monzonite dykes, thought to be contemporaneous with the volcanics strike generally north-south and cut across the mine stratigraphy.

The rocks in the central part of the mine and at lower elevations are principally thinly bedded marls and sandstones known as the lower redbeds. In the eastern side of the mine the upper redbeds occur. The upper section of these rocks consists of calcareous Sevilla chert that overlies sandstones and calcareous marls. The bottom of this sequence consists of the Barnabe quartzite conglomerate. In the western side of the mine rocks consist of a series of interbedded conglomerates (San Pedro) and sandstones. The conglomerate contains poorly sorted limestone and quartz clasts in a sandy matrix. Throughout the mine area a series of quartz porphyry monzonite dykes cut the sediments.

The Huaron mine is within an anticline formed by east-west compressional forces. The axis of the anticline is approximately north-south and it plunges gently to the north. There are two series of faults, the principal one formed by a series of compressional faults generally parallel to the axis of the anticline and the secondary tensional faults, which are oriented in an east-west direction. On the western side of the anticline the north-south faults are considered to be reverse faults. The intrusives strike in two principal directions N70^{o}E and S10^{o}E. Later erosion has left most of the area covered with recent soils except where the more resistant cherts and conglomerates form ridges parallel to the flanks of the anticline. These outcrops are discontinuous and frequently offset by the crosscutting east-west faults.

Huaron is a polymetallic deposit (hosting silver, lead, zinc and copper, with silver being the most important) consisting of mineralized structures probably related to Miocene monzonite dykes principally within but not confined to the Huaron anticline. Mineralization is encountered as veins in the north-south and east-west striking fault systems, beds and lenses associated with the calcareous sections of the conglomerates and breccias

where they are intersected by veins, irregular bodies that occur at favourable stratigraphic horizons, and disseminated bodies in the monzonite intrusives surrounding favorable vein intersections.

The first pulse of mineralization was associated with the emplacement of intrusive bodies and subsequent opening of the structures, during which zinc, iron, tin, and tungsten minerals were deposited. This was followed by a copper, lead and silver rich stage, and finally by an antimony/silver phase associated with quartz.

More than 95 minerals have been identified at Huaron with the most important economic minerals being tennantite-tetrahydrite containing most of the silver, sphalerite and galena. The principal gangue minerals are pyrite, quartz, calcite and rhodochrosite. Enargite and pyrrhotite are common in the central copper core of the mine and zinc oxides and silicates are encountered in structures with deep weathering. Silver is also found in sulfosalts, pyrargyrite, proustite, polybasite and pearceite.

There is a definite mineral zoning at Huaron and the mine has been divided into seven separate zones. There is a central copper core (Zone 5) where the principal economic mineral was enargite. The structures contain copper with pyrite and quartz. This area was extensively mined by previous operators but because of the high arsenic and antimony content and poor metal recoveries mining in this area could be problematic. To the east and west of the central core are Zones 2, 3 and 4 where silver, lead and zinc are found in carbonates principally calcite and rhodochrosite. Zone 1 to the north of the central core contains silver, lead and zinc associated with pyrite. Zone 6 is along the west side of the axis of the anticline and south of Zone 2 is principally lead and zinc with lower silver values within carbonates. Zone 7 is a narrow band running north-south along the general axis of the anticline and to the south of Zone 3 and contains principally yellow sphalerite and sulfosalts with rhodochrosite.

The central core of the district has adularia-sericite alteration overprinted with strong silicification and epidote-pyrite. This core is surrounded by a zone containing epidote-pyrite-quartz that grades outwardly to a zone containing chlorite and magnetite. The mineralized structures are concentrated in the central core of the district but important structures continue into the outer zones.

Drilling, Sampling and Analysis

Exploration at Huaron is conducted using a combination of underground drilling and drifting. Generally, underground drillholes that intersect promising ore grade mineralization are followed up by drifting for resource and reserve definition. During 2003, 10,091 metres were drilled using four drill rigs. In addition, there was 4,704 meters of underground drifting for resource and reserve definition.

Drill core is split with half remaining on-site for further reference. Assaying, for both drill samples and underground channel samples, is done at the mine laboratory. The quality assurance/quality control program includes checks run at an outside lab and the submission of standards to the mine lab.

All of the geologic activities, including sampling, are conducted under the direct supervision of the Huaron Chief Geologist.

In October 2003, a $1 million drill program was initiated to upgrade the mine's resources to proven and probably reserves and to identify additional resources.

Mine Expansion

In the fall of 2003, Pan American initiated a technical and economic evaluation of a possible expansion of the Huaron mine to increase the mine's production. In September 2003, a feasibility study on the Huaron expansion was launched. This study is expected to be completed in late 2004. As part of the feasibility study, the $1 million drill program was initiated.

Mineral Reserves

Pan American's management has estimated proven and probable mineral reserves at the Huaron mine, as at December 31, 2003, to be as follows:

	Huaron Reserves [1, 2]				
Reserve Category	Tonnes	Grams of Silver per tonne	% Zinc	% Lead	% Copper
Proven	4,554,000	237	4.22	2.41	0.41
Probable	1,994,000	250	4.06	2.42	0.52
Total	6,548,000	241	4.17	2.41	0.44

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1

Calculated using a price of $5.00 per ounce of silver and $900 per tonne of zinc.

2

Mineral reserves have been calculated by the mine staff of the Company's subsidiary, Minera Huaron, under the supervision of an independent "qualified person", Donald F. Earnest, P.Geo. Mr. Earnest has reviewed and tested the information developed by the Company's operating subsidiary and, based upon those reviews and tests, Pan American is satisfied with the accuracy of the reserve calculations.

Reconciliation of Mineral Reserves

Mineral reserves are adjusted by the amount mined, by additions and deletions resulting from new geological information and interpretation and in connection with changes in operating parameters and metal prices. However, proven and probable mineral reserves are not usually revised in response to short-term cyclical price variations of metal markets. The following is a reconciliation of the proven and probable mineral reserves at Huaron to

December 31, 2003:

Reconciliation of Mineral Reserves at Huaron

	Tonnes
Opening balance, December 31, 2002	5,914,700
Additions [1]	1,097,800
Losses [2]	38,500
Tonnes mined from reserves	426,000
Closing balance, December 31, 2003	6,548,000

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1

Additions are from tonnes added through exploration (431,095) or reinterpretation (666,705) mostly due to higher metal prices.

2

Losses are from 38,500 tonnes lost through reinterpretation.

Management of the company believes that reserves at the Huaron Mine are sufficient for at least ten years at current production rates.

Mineral Resources

Pan American's management estimates that mineral resources at the Huaron mine, as of December 31, 2003, are as follows:

	Huaron Resources[1, 2]
Resource	**Grams of Silver**

Category	Tonnes	per tonne	% Zinc	% Lead	% Copper
Measured	1,810,000	204	4.11	2.37	0.37
Indicated	573,000	228	4.01	2.40	0.47
Inferred	2,341,000	245	3.97	2.46	0.37

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1

Calculated using a price of $5.00 per ounce of silver and $900 per tonne zinc.

2

Mineral resources have been calculated by the mine staff of the Company's subsidiary, Minera Huaron, under the supervision of an independent "qualified person", Donald F. Earnest, P.Geo. Mr. Earnest has reviewed and tested the information developed by the Company's operating subsidiary and, based upon those reviews and tests, Pan American is satisfied with the accuracy of the resource calculations.

Mining

The Huaron mine is located under a mountain range with development from elevation 4,250 metres above sea level to 4,650 metres above sea level. Initially, Pan American's mining activities will extend over an area of two kilometers by two kilometers.

The main mine access is by a four metre by four metre ramp which is used for truck haulage of ore out of the mine. There are two existing shafts on the property but these have not been used since the late 1980's.

In 2004 it is expected that stopes from 15 different veins will be mined with approximately 45 stopes active at any time. The mining method is 100% mechanized cut-and-fill using mill tailings as the backfill material.

The second half of the year 2004, Pan American will assume mining of 20 stopes from one of the working zones, which will mean savings in operating costs.

In the second quarter of year 2004, Pan American will start rehabilitation of the 500 level in order to change the ore haulage system, from commercial 12 cubic meter-capacity trucks to electric locomotives for the ore transport. This will mean savings in operating costs, as well as the possibility to access new zones with ore reserves.

Milling

During the year 2003, the concentrator plant processed 605,790 tonnes of ore. The plant has operated basically the same circuits of crushing, ball mill grinding, selective flotation and filtering since it started in 2001.

The daily mill treatment was improved to an average of 2,020 tonnes of ore per day, processing over 54,000 tonnes of ore in some months of the year. Likewise, some metallurgical indexes have been improved, as silver and lead recoveries (89.21% and 89.19%). Additionally, slightly better quality of concentrates has been obtained, such the copper concentrate with a higher silver content (12,580.96 grams per tonne) and lead and zinc concentrates (53.44% and 50.95%).

Energy consumption has been reduced from 30 Kw-hh per tonne to 28.05 Kw-hr per tonne. The treatment cost has reached an average of $4.16 per tonne.

For the year 2004 it is expected to increase the daily treatment over 2,040 tonnes per day, and to reduce operating costs, as well as to decrease the energy consumption to levels under 28 Kw-hr per tonne.

Environment, Health and Safety

Before Pan American acquired its interest in the Huaron Mine, in compliance with Peruvian regulations, Cia Minera Huaron had filed a program of environmental remediation and management (PAMA) with the government on July 26, 1996. The PAMA addressed, among other things, stability of tailings impoundments, water quality and the fact that liquid effluents from the mine exceeded certain permissible levels of metals, as well as revegetation of a historic tailings area near the adjacent town . The PAMA set forth an implementation time line of nine months for Minera Huaron to make certain expenditures to address the environmental issues raised. In January of 1997 and March of 1998, the Minister of Energy and Environment consented to the modification of certain expenditures under the PAMA and an extension of the implementation time line.

As a result of the 1998 flood of the adjacent Animon mine (held by others), waters inundated portions of the Huaron Mine, causing the closure of the mine. For this reason, Minera Huaron was not able to satisfy all of its obligations under the PAMA in accordance with the established implementation time line. Given the magnitude of the accident at the Huaron mine, in December 2001, the Minister of Energy and Environment granted further modification of the PAMA and an extension of the time for implementation. At the same time, the Minister of Energy and Environment approved a special program of environmental management ("PEMA") to continue until the end of 2005.

Minera Huaron completed requirements under the PAMA program, and compliance and expenditures have been audited by third party consultants. Under the PEMA program, work continues on two projects: remediation of water quality exiting the old workings; and closure of the historic Huayllay tailings impoundment. Expenditures required to complete the first project are to be reviewed at the end of 2004, when the company is to make a final remediation proposal based on results achieved with field tests.

In October 2003, the Peruvian government passed legislation requiring active mining operations to file closure plans within six months of the date of passage of the legislation. To date, accompanying administrative rules which lay out detailed closure requirements, including bonding and tax deductibility of reclamation and rehabilitation expenses are not yet promulgated. Huaron's Closure Plan was filed by mid-year 2004. Pan American has taken a charge against operations of approximately $606,000 as a reclamation accrual for Huaron.

Pan American's operations at the Huaron mine currently comply in all material respects with applicable Peruvian laws. The most significant environmental issues currently associated with the mine are metal-laden neutral waters discharged from the mine, localized areas of acid rock drainage from the mine's tailings deposit areas and the containment and stability of the active tailings ponds. During 2003, water quality at the compliance point has met pH standards and a majority of metal compliance standards. The closure planning process, now underway with the support of an independent consultant, will define closure and mitigation options for improving water quality exiting the site.

Water quality will likely remain as the most important environmental issue at the Huaron mine due to both suspended solids and dissolved metals. More precise information on flows and water quality is required before effective and integrated solutions can be developed to define a site water balance model. Dissolved metals in mine waters and other drainages can be managed using various types of water treatment, such as addition of lime or other reagents to precipitate metals. A program of regular water sampling is ongoing to provide base line data. These data will be used to assist the decision-making process for the development of the appropriate mitigation measures to bring site water quality into compliance with maximum permissible levels.

Following its purchase of the mine, Pan American implemented a modified version of the third party safety and training program for employees and contractors used successfully at its Quiruvilca Mine. All employees are required to undergo safety and environmental training and all new underground employees are required to undergo task specific training prior to being assigned to their first position.

Capital Expenditures

In 2003, capital expenditures at the Huaron mine were approximately $1,862,000 and consisted of:

- Ongoing rehabilitation of the mine's 250 level drainage tunnel of $658,000;
- Exploration plan for Huaron's expansion of $266,000;
- Tailings dam No. 5 works and preparation for expansion of $218,000;
- Purchase of diesel scoop of $150,000; and
- Other mine expenditures totalling $570,000.

During 2002, capital expenditures at the Huaron mine were approximately $887,000 and consisted of:

- Ongoing rehabilitation of the mine's 250 level drainage tunnel of $390,000;
- Purchase of an exploration diamond drill machine and secondary cone crusher for $286,000; and
- Infrastructure and site improvement work of $114,000.

Marketing

The products of value to be produced from the Huaron mine are silver rich zinc, lead and copper concentrates. In 2002, long-term contracts for the sale of Huaron's zinc and lead concentrate were signed with an arm's length metals trading company. These contracts extend through 2006 with an option to extend through 2007. In 2002, a contract for the sale of Huaron's 2003 and 2004 excess lead concentrate production was signed with an arm's length metals trading company. Copper concentrate was sold under a contract that expires at the end of 2005. All contracts are at arms length. Huaron will receive payment for an agreed percentage of the silver, lead, zinc or copper contained in the concentrate after deduction of smelting and refining costs. Also some tonnage under these contracts was cancelled and sold at market terms on a spot basis for 2003 and 2004.

During 2003, 100% of Huaron's zinc concentrate was sold to a metals trading company; 100% of Huaron's lead concentrate was sold to an integrated metals smelter or a metals trading company; and 100% of Huaron's copper concentrate was sold to a Peruvian integrated metals smelter.

In 2002 and 2003, the revenues per type of concentrate produced by the Huaron mine were as follows:

2003	Revenue	Tonnes	Average Price per Tonne
Zinc Concentrate	$5,361,873	31,662	$169
Lead Concentrate	$11,122,849	25,239	$441
Copper Concentrate	$9,817,419	5,064	$1,939

2002	Revenue	Tonnes	Average Price per Tonne
Zinc Concentrate	$8,803,506	43,827	$201
Lead Concentrate	$9,285,097	26,088	$356
Copper Concentrate	$8,596,221	6,022	$1,427

Under the terms of its concentrate sales agreements Huaron is entitled to receive partial payments for the value of concentrate that it has produced but not yet delivered ("Advance Payments"). Minera Huaron is obliged to make deliveries of concentrate in order to discharge these Advance Payments. The Company has guaranteed Minera Huaron's performance, up to $2 million under Huaron's lead concentrate agreement with one purchaser, to discharge this obligation.

La Colorada Mine

Ownership and Property Description

The Pan American Silver's wholly-owned subsidiary, Pan American Mexico, owns and operates the La Colorada property. Pan American acquired La Colorada in March 1998.

The La Colorada property consists of six non-contiguous blocks of exploration permits and exploitation claims totalling approximately 1,947 hectares. Approximately 1,405 hectares of exploration permits, 542 hectares of exploitation claims and 464 hectares of surface rights cover the main mine workings and the mine's ore zones. Additional exploration permits covering an area of approximately 110 hectares and 98 hectares of exploitation claims are located to the north of the main workings. There was a minor boundary dispute between Pan American Mexico and a local landowner regarding less than 1% of the surface rights in the area held by Pan American Mexico. The complaint against Pan American Mexico was dismissed by a Mexican court.

On June 17, 2002 Pan American entered into a $10,000,000 project debt facility with IFC pursuant to which Pan American granted security over its shares of Pan American Mexico and all of the assets of Pan American Mexico of which $9.5 million was drawn down to complete the project expansion by mid-2003. In April 2004, Pan American notified IFC of its intention to prepay the entire amount drawn under the facility.

To the best of Pan American's knowledge, there are no other royalties or encumbrances that affect the La Colorada property.

A technical report on the La Colorada Mine (the "La Colorada Report") dated August 29, 2003 has been prepared for Pan American in accordance with NI 43-101 by Norm Pitcher, P.Geo., John Wright, P.Eng. and Robert Barnes, P.Eng., all of whom were "qualified persons" then employed by the Company. The following summary of the La Colorada Mine is based on and, in some cases, is extracted directly from the La Colorada Report.

The projected capital expenditures, production estimates, cash flow projections and other projections in respect of the La Colorada mine included in this Annual Information Form have been extracted from the La Colorada Report. These projected capital expenditures, production estimates, cash flow projections and other projections have been included in this Annual Information Form based on the requirements of applicable Canadian securities regulations and were not prepared with a view towards compliance with the published guidelines of the United States Securities Exchange Commission, or the guidelines published by the Canadian Institute of Chartered Accountants or the American Institute of Certified Public Accountants for preparation and presentation of prospective financial information. Pan American's current and former auditors have neither examined nor compiled the accompanying prospective financial information and, accordingly, do not express opinions or any other form of assurance with respect thereto.

Location, Access, Climate and Infrastructure

The La Colorada Mine is located in the Chalchihuites district in Zacatecas State, Mexico, approximately 156 kilometres northwest of the city of Zacatecas and 99 kilometres south of the city of Durango. The main municipality

in the district is the city of Chalchihuites, 16 kilometres northwest of the La Colorada Mine, with a population of approximately 1,000. The district's general coordinates are 23º, 23' North Latitude and 103º, 46' West Longitude. The property is situated at elevations between 2,100 and 2,550 metres above sea level.

The La Colorada Mine is accessed primarily from the city of Durango by a continuously maintained 120 kilometre all-weather, paved, two lane highway (Highway 45) and a 23 kilometre public, all weather, gravel road.

The physiography of the region around the mine site resembles a basin and range area with wide flat valleys and narrow relatively low mountains and ranges.

The climate at the project site is arid to semi-arid. Vegetation typically includes mesquite and cactus. The rainy season is from July to September but precipitation in the area is quite low. Average winter temperatures are around 0 degrees Celsius during the night.

La Colorada receives its power through the Mexican national power grid which was upgraded in 2001.

The existing water system at the La Colorada Mine is currently supplied from an underground source. As permitted by Mexican law, underground water is pumped to surface head tanks for use in the mill process and for domestic services. Underground water is also pumped to a water treatment plant, which was constructed in 2002, to provide potable water. Pan American estimates that the current volume of water supply meets the existing and planned future requirements of the project.

There is a long history of silver mining in Zacatecas State and as a result there is adequate infrastructure and an experienced workforce in the area.

All permits and licences required for the conduct of mining operations at La Colorada are currently in good standing.

Taxation

The principal taxes of Mexico affecting Pan American include income tax, assets tax, employee profit sharing taxes, annual fees for holding mineral properties, various payroll and social security taxes and a refundable value added tax. The overall tax burden in Mexico is less than the Canadian tax burden.

History

The production history of the Chalchihuites district began during pre-colonial times when natives produced silver and malachite in primitive ways. During the sixteenth century, the Spaniards founded the village of Chalchihuites and began intermittent exploitation of the mineral deposits in the area. By the nineteenth century, the Spanish operations achieved continuous silver production, which was interrupted by the Mexican War of Independence.

In 1925 the Dorado family operated mines at two locations on the La Colorada property. From 1929 to 1955 Candelaria y Canoas S.A., a subsidiary of Fresnillo S.A., installed a 100 ton per day flotation plant and worked the old dumps of two previous mines on the La Colorada property. From 1933 to the end of World War II La Compania de Industrias Penoles also conducted mining operations on a single breccia pipe on the property. From 1949 to 1993 Compania de Minas Victoria Eugenia S.A. de C.V. operated a number of mines on the La Colorada property.

In 1994 Minas La Colorada S.A. de C.V. ("MLC") acquired the exploration and exploitation claims and surface rights of Compania de Minas Victoria Eugenia S.A. de C.V. Until 1997 MLC conducted mining operations on three of the old mines on the La Colorada property, producing approximately 6,000 tons per month.

Geology and Mineralization

The La Colorada property is located on the eastern flanks of the Sierra Madre Occidental at the contact between the lower volcanic complex and the upper volcanic supergroup.

The oldest rocks exposed in the mine area are Cretaceous carbonates and calcareous clastic rocks. Overlying the calcareous rocks is a conglomerate unit containing clasts derived mostly from the subadjacent sedimentary rocks. Most of the outcrop in the mine area is represented by intermediate to felsic volcanic rocks of the regional lower volcanic complex.

The stratigraphically highest rocks in the mine area are felsic tuffs correlated with the upper volcanic sequence. These tuffs unconformably overlie the trachyte along the southern property boundary, and are distinctly maroon coloured and show varying degrees of welding.

Thirteen breccia pipes have been mapped on the surface or in underground workings. All of the pipes are located along or to the south of the No Conocida (NCP/NC2) vein complex. The pipes are round to ovoid in shape, up to 100 meters in diameter, and can extend vertically more than 400 meters below the surface. The breccias contain clasts of limestone and trachyte (often mineralized) in an altered trachyte matrix. The ratio of limestone to trachyte clasts varies from pipe to pipe.

East to northeast striking faults form the dominant structures in the project area and play a strong role in localizing mineralization. Most of these faults dip moderately to steeply to the south and juxtapose younger hanging wall strata against older footwall rocks. Evidence suggests down-dip motion on these faults, however most of the faults have been reactivated at some point so the movement direction during the initial formation is uncertain. Stratigraphic contacts are displaced from tens to over a hundred meters lower on down dropped blocks.

The trachyte unit displays an eastward tilting that may reflect displacement on regional, orogenparallel structures outside the project area. This tilting probably reflects the final episode of deformation.

La Colorada represents a typical epithermal silver gold deposit, with a transition in the lower reaches of the deposit to a more base metal predominant system. There are indications of what might be skarn style mineralization in the deepest drill holes on the property.

There are four dominant styles of mineralization at La Colorada: (i) breccia pipes; (ii) vein-hosted mineralization; (iii) replacement mantos within limestone; and (iv) deeper seated transitional mineralization (transition zone).

Mineralization in the breccia pipes generally has lower silver values and elevated base metal values. Mineralization is associated with intense silicification and occurs as disseminated galena and sphalerite with minor chalcopyright and bornite. Sulphides are found in the clasts and the matrix.

Most mineralized veins on the property strike east to northeast and dip moderately to steeply to the south. Veins occur in the trachyte and limestone units and cut across the bedding and contacts with little change in the width or grades of

the vein. Mineralized widths in the veins are generally less than two meters but may be wider if there is a halo of replacement or brecciated material. The No Conocida Poniente (NCP) Corridor strikes east west and dips moderately to the south, with average widths of approximately 12 meters.

Vein fillings consist of quartz, calcite, and locally barite and rhodochorosite. Where the veins are unoxidized, galena, sphalerite, pyrite, native silver and silver sulfosalts are present. The major mineralised veins, including the Corridor, are strongly brecciated and locally oxidized, obscuring original textural features. Less deformed veins show mineralogical layering, crystal-lined open vugs, and hydrofracture vein breccias, indicating typical multi-stage growth.

The depth to the surface and the permeability of the mineralized zone control the level of oxidation in the veins. These factors result in an uneven but generally well-defined redox boundary.

Manto style mineralization is found near vein contacts where the primary host rock is limestone. At Recompensa, the mantos appear to be controlled by thrust faulting adjacent to the veins, and can form bodies up to six meters wide. Most commonly they occur in the footwall north of the steeply dipping vein, but depending on the orientation of the fault they can occur in the footwall, the hanging wall, or both. The mineralogy of the mantos is characterized by galena and sphalerite with minor pyrite and chalcopyrite. Gangue minerals are quartz, rhodochorosite, pyrolusite and other manganese oxides.

The deep seated transition mineralization consists of both vein type mineralization and more diffuse stockwork and breccia zones.

The ore zones at La Colorada as well as their orientation (strike/dip) and style of mineralization are as follows.

NCP and NCP Corridor - Average orientation 75/60S. The Corridor consists of the NCP structure west of the Candelaria Breccia. This zone is characterized by a broad mineralised shear within limestone containing one or more quartz veins parallel to the orientation of the shear. The majority of the silver mineralization is found in the quartz veins, however the limestone is mineralised through with grades up to 1,000 grams of silver per tonne. The Corridor is generally oxidised, although there is a poorly defined mixed zone and there are also unoxidized areas, particularly in the extreme western portion. The Corridor is exposed on the 295 level and is unmined below that level. Above 295 some sporadic mining has taken place. The NCP vein is east of the Candelaria Breccia, and is a typical narrow vein structure.

NC2E - Average orientation 45/70S. NC2E is a narrow (one-to-two meter) sulphide vein that contains the bulk of the current sulphide resources. It has a strike length of over 700 meters and is open to the east where there is a wedge of inferred material below the east mine fault. NC2E is exposed on the 295 level and has been drilled to below the 495 level.

NC2W - Average orientation 35/65S. NC2W is probably the faulted, western extension of NC2E. The western portion of NC2W is oxide and averages 2.1 meters wide. The eastern portion is sulphide and averages 1.1 meters wide. NC2W is unmined, and has been exposed on the recently developed 100 and 150 levels. It has a strike length of over 300 meters and extends from the surface to slightly above the 295 level. Below the 295 level the structure becomes more complicated and further work is needed in this area to define additional resources.

4235 - Average orientation 90/75N. 4235 is a narrow (approximately one meter) vein which occurs in the hanging wall of the NCP and NC2 vein systems. It has a strike length of approximately 140 meters, and has been exposed by recent development on the 295 level and by drilling above and below that level. The western half of 4235 is sulphide, the eastern half is oxide.

Recompensa - Average orientation is 90/80N. Recompensa is a combination of vein and manto mineralization located more than a kilometre north and west of the NC2 and NCP vein complex. The vein mineralization is narrow

(less than one meter) but irregular shaped mantos can be up to ten meters thick. Recompensa contains both oxide and sulphide material.

Amolillo - Average orientation 45/70S. Amolillo is a small oxide vein located 500 meters north of the NC2 and NCP vein complex.

Footwall and Hanging Wall Veins - Orientation generally parallel to NC2E. These veins (all sulphide) occur in the footwall and hanging wall of the NC2E structure, and are generally narrow (less than one meter) with limited strike and dip extents.

NC2E Deep - Average orientation variable. This mineralization occurs as the down dip extension of the NC2E structure on the east end. This zone has received limited drilling due to restricted access. The current interpretation of this area, based on work by Pan American geologists and a structural consultant, is that the mineralization represents a transition from typical epithermal veins to a deeper seated, intrusion related system. As a result, this zone shows characteristics of vein-style mineralization as well as thicker, more diffuse, stockwork, breccia, and replacement-type mineralization. The zone tends to have lower silver values and higher lead-zinc values.

Exploration and Drilling

The bulk of Pan American's exploration of the La Colorada property has been surface and underground diamond drilling and underground drifting on the veins and mineralized zones.

From 1997 to 2002 Pan American drilled 49 surface holes and 127 underground holes, for 32,327 total meters of drilling. Surface drilling was done with NQ sized core and underground drilling used BQ, except for certain Corridor drilling in 2000, which was done with HQ core in an attempt to improve recovery.

Prior to Pan American's involvement in the La Colorada project, previous operators had drilled 131 holes for a total of 8,665 meters. These holes were not used in Pan American's reserve or resource calculation, with the exception of four holes where the original core was found and assayed by Pan American.

Drill holes generally ranged in length from 100 to 300 meters with dips of plus 45º to minus 90º. Standard logging and sampling processes were used to record information from the holes drilled by Pan American. Interval samples were cut with a diamond saw and all of the remaining core is stored on-site. Hole collars were surveyed by a total station survey equipment.

Recovery in the drill holes was generally high (plus 80%), with the exception of holes drilled into the Corridor ore zone. In the Corridor zone, the recovery averaged 67%. There was no bias in the poorer recovery drill holes.

The drilling programs were successful in projecting ore below the lowest level of the mine (the 295 level) in NC2E and the Corridor zone, and below the 150 level in NC2W. Drilling was also used as a recognizance tool outside of the main mine area.

Underground drifting along the mineralized structures was the other principal method of exploration. Approximately 4,400 meters of horizontal and ramp development was done in NC2W, NC2E, 5235 and the San Fermin areas. The drifting allowed detailed mapping and structural interpretation of the ore zones, as well as key grade information.

No exploration drilling was conducted during 2003.

Sampling and Analysis

The La Colorada database consists of two types of samples - underground channel samples and diamond drill core samples.

Underground development was channel sampled every four meters. Samples were broken out geologically, and vein and wall rock is sampled separately. Sample size is approximately three kilos. To provide an accurate representation of vein grades, samples are taken regardless of whether the vein appears to be above cut-off or not. Any waste lenses within the vein are included in the vein sample. In almost all cases the vein is usually distinguishable from the wall rock, due to the high quartz and sulphide content of the vein material.

In addition to the samples taken from development, the database now includes stope samples taken from mining during 2001 and 2002. Stope sampling methodology is the same as the development sampling.

Drill holes are sampled and logged accordingly to industry-accepted standards. Holes are logged for lithology, alternation, mineralogy and recovery. As with the underground sampling, the samples are broken out by geology, and

vein and wall rock are sampled separately.

Pan American has used three commercial labs for the exploration assaying at La Colorada: Bondar Clegg (Vancouver, B.C.), Chemex (Vancouver, B.C.) and Luismin (Durango, Mexico). During 2001 and 2002, production samples were also assayed at the La Colorada lab under Pan American's direction. All assaying by the commercial labs for gold and silver has been done using fire assay with either an AA or gravimetric finish on a one-assay tonne charge. Base metals were assayed using acid solution and AA determination. The La Colorada lab uses fire assay for gold and silver on a ten gram charge with a gravimetric finish. Base metals are assayed using acid digestion and titration.

A quality assurance/quality control program consisting of check assays and blank samples at an independent laboratory were used throughout the drilling program. The results of the re-assaying shows variation between the La Colorada lab and the independent laboratory. However, the mean of the assays for both silver and gold are lower from the on-site lab, which would introduce an element of conservatism into the sulphide resource and reserve calculations.

All of the drilling, sampling and quality assurance/quality control programs were conducted under the direct supervision of Pan American's geology staff.