

PHELPS DODGE CORP
Form 10-K
February 26, 2004

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

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

For the fiscal year ended December 31, 2003

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period _____ to _____

Commission file number 1-82

PHELPS DODGE CORPORATION
(Exact name of registrant as specified in its charter)

New York
(State or other jurisdiction of
incorporation or organization)

13-1808503
(I.R.S. Employer
Identification No.)

Securities registered pursuant to Section 12(b) of the Act:

<u>Title of each class</u>	<u>Name of each exchange on which registered</u>
Common Shares, \$6.25 par value per share	New York Stock Exchange
Mandatory Convertible Preferred Shares, \$1.00 par value per share	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes No .

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements

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incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [x]

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of Common Shares of the issuer held by nonaffiliates at June 30, 2003, was approximately \$3,411,878,210.

Number of Common Shares outstanding at February 23, 2004: 92,747,818 shares.

Documents Incorporated by Reference:

<u>Document</u>	<u>Location in 10-K</u>
Proxy Statement for 2004 Annual Meeting	Part III

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PHELPS DODGE CORPORATION
Annual Report on Form 10-K

For the Year Ended December 31, 2003

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PHELPS DODGE CORPORATION
2003 Annual Report on Form 10-K

PART I

Items 1. and 2. Business and Properties

Phelps Dodge Corporation (the Company, which also may be referred to as Phelps Dodge, PD, we, us or our) is the world's second largest producer of copper, among the world's largest carbon black and magnet wire producers, and is the world's largest producer of continuous-cast copper rod. On October 16, 1999, we acquired Cyprus Amax Minerals Company (Cyprus Amax or Cyprus). As a result of that acquisition, we also became one of the world's largest producers/processors of molybdenum and molybdenum products.

The Company consists of two major divisions: (i) Phelps Dodge Mining Company (PDMC) and (ii) Phelps Dodge Industries (PDI).

(i) PDMC includes our worldwide, vertically integrated copper operations from mining through rod production, marketing and sales; molybdenum operations from mining through conversion, marketing and sales; other mining operations and investments; and worldwide mineral exploration, technology and development programs. PDMC comprises 11 reportable segments—Morenci, Bagdad/Sierrita, Miami/Bisbee, Chino/Cobre and Tyrone (located in the United States), Candelaria/Ojos del Salado, Cerro Verde and El Abra (located in South America), Manufacturing and Sales, Primary Molybdenum and Other Mining.

In 2003, PDMC produced 1,059,300 tons of copper for our account from worldwide mining operations, and an additional 246,300 tons of copper for the accounts of our minority-interest, joint-venture partners. Gold, silver, molybdenum, rhenium and sulfuric acid are by-products of our copper and molybdenum operations. Production of copper for our own account from our U.S. operations constituted approximately 53 percent of the copper mined in the United States in 2003. Much of our U.S. cathode copper production, together with additional copper purchased from others, is used to produce continuous-cast copper rod, the basic feed for the electrical wire and cable industry. Our South American mining operations produce a variety of metals and minerals, including copper, gold and silver. We explore for metals and minerals throughout the world.

In 2003, PDMC produced 52 million pounds of molybdenum for our account from mining operations. High-purity, chemical-grade molybdenum concentrate is produced at our Henderson mine in Colorado. Most of the concentrate produced at Henderson is roasted at our Fort Madison, Iowa, roasters, and is further processed at the facility's chemical plant into value-added molybdenum chemical products. In addition, some of the concentrate is processed into salable molysulfide for use primarily in the lubricant industry.

Molybdenum concentrate is also produced as a by-product at two of our U.S. copper operations. This concentrate is generally roasted at one of our three roasting operations to produce technical grade molybdenic oxide for sale into the metallurgical markets (i.e., steel industries).

We also have research and development and process technology facilities primarily at our Process Technology Center in Safford, Arizona; and a research and development facility for engineered molybdenum products at our Climax Technology Center near Sahuarita, Arizona.

(ii) PDI is our manufacturing division comprising two reportable segments Specialty Chemicals and Wire and Cable. PDI produces engineered products principally for the global energy, telecommunications, transportation and specialty chemicals sectors.

We produce specialty chemicals at operations in North America, Europe, South America and Asia through Columbian Chemicals Company, one of the world's largest producers of carbon black. Carbon black is a reinforcing agent in natural and synthetic rubber that increases the service life of tires, hoses, belts and other products for the rubber industry. We also produce specialty carbon black for other industrial applications such as pigments for printing, coatings, plastics and other non-rubber applications.

Our Wire and Cable segment has operations in the United States, Latin America, Asia, Europe and Africa. This segment produces magnet wire, copper and aluminum energy cables, telecommunications cables, specialty conductors and other products for sale principally to original equipment manufacturers for use in electrical motors, generators, transformers, medical applications and public utilities.

In 2001, we initiated *Quest for Zero*, our comprehensive, lean-production program designed to, among other things, improve operating income. PDMC chartered business improvement teams to drive performance improvement projects and best practices. The elimination of variance and waste, and control of all critical processes are key factors in this process. *Quest for Zero* was designed to foster the rapid transfer of best practices to all business units.

The Company's *Quest for Zero* stretch goal was to achieve annual operating income improvements of \$400 million by the end of 2003 when compared with the results that were then expected for 2001. In the fourth quarter of 2003, we achieved \$91 million in improvements bringing the current annualized run rate to approximately \$365 million, which is approximately 91 percent of the stretch goal.

Note 23 to our Consolidated Financial Statements contained herein includes financial data for each of the last three years relating to our business segments, including data by geographic area.

Phelps Dodge was incorporated as a business corporation under the laws of the state of New York in 1885. Our world headquarters is located in Phoenix, Arizona, and is a leased property. We employed approximately 13,000 people worldwide on December 31, 2003.

Throughout this document, unless otherwise stated, all references to tons are to short tons, and references to ounces are to troy ounces.

Available Information. Phelps Dodge files annual, quarterly and current reports, proxy statements and other information with the U.S. Securities and Exchange Commission (the SEC). You may read and copy any document we file at the SEC's Public Reference Room at Room 1024, 450 Fifth Street, NW, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for information on the Public Reference Room. The SEC maintains a Web site that contains annual, quarterly and current reports, proxy statements and other information that issuers (including Phelps Dodge) file electronically with the SEC. The SEC's Web site is <http://www.sec.gov>.

Phelps Dodge's Web site is <http://www.phelpsdodge.com>. Phelps Dodge makes available free of charge through its Internet site, via a link to the SEC's Web site at <http://www.sec.gov>, its annual reports

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on Form 10K; quarterly reports on Form 10-Q; current reports on Form 8-K; Forms 3, 4 and 5 filed on behalf of directors and executive officers; and any amendments to those reports filed or furnished pursuant to the Securities Exchange Act of 1934 as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC.

Phelps Dodge makes available free of charge on <http://www.phelpsdodge.com> its most recent annual report on Form 10-K, its quarterly reports on Form 10-Q for the current fiscal year, its most recent proxy statement and its most recent summary annual report to shareholders, although in some cases these documents are not available on our site as soon as they are available on the SEC's site. You will need to have on your computer the Adobe Acrobat Reader software to view some of these documents, which are in PDF format. If you do not have Adobe Acrobat, a link to Adobe's Internet site, from which you can download the software, is provided. The information on Phelps Dodge's Web site is not incorporated by reference into this report.

PHELPS DODGE MINING COMPANY

Our copper mines comprise five reportable segments in the United States (Morenci, Bagdad/Sierrita, Miami/Bisbee, Chino/Cobre and Tyrone) and three reportable segments in South America (Candelaria/Ojos del Salado, Cerro Verde and El Abra). These segments include open-pit mining, sulfide ore concentrating, leaching, solution extraction and electrowinning. In addition, they produce gold and silver, and the Bagdad and Sierrita mines also produce molybdenum as by-products.

Our Manufacturing and Sales segment consists of conversion facilities, including our smelters, refineries and rod mills, as well as sales and marketing. The Manufacturing and Sales segment sells copper to others primarily as rod, cathode or concentrate, and as rod to our Wire and Cable segment. In addition, at times it smelts and refines copper and produces copper rod for customers on a toll basis. Toll arrangements require the tolling customer to deliver appropriate copper-bearing material to our facilities, which we then process into a product that is returned to the customer. The customer pays PDMC for processing its material into the specified products.

Our Primary Molybdenum segment consists of the Henderson and Climax mines and related conversion facilities. This segment is an integrated producer of molybdenum, with mining, roasting and processing facilities producing high-purity, molybdenum-based chemical and metallurgical products. In addition, at times it roasts and/or processes material on a toll basis. Toll arrangements require the tolling customer to deliver appropriate molybdenum-bearing material to our facilities, which we then process into a product that is returned to the customer. The customer pays PDMC for processing its material into the specified products.

Our Other Mining segment includes our worldwide mineral exploration and development programs, a process technology center that directs its activities at improving existing processes and developing new cost-competitive technologies, and other ancillary operations.

Our five reportable U.S. Mines segments, the Manufacturing and Sales segment and Other Mining segment are discussed herein together, where appropriate, as U.S. Mining Operations.

Our U.S. Mining Operations and our South American Mines are discussed herein together, where appropriate, as our Worldwide Copper Mining Operations.

Properties, Facilities and Production

Following is a map indicating the approximate location of PDMC's U.S. copper and molybdenum mines:

United States Mines

U.S. Mines

We produce electrowon copper cathode at solution extraction/electrowinning (SX/EW) operations near Tyrone and Silver City, New Mexico (Tyrone (partially curtailed) and Chino (partially curtailed) mines, respectively) and Morenci, Miami (curtailed since 2002), Bagdad (partially curtailed since 2002) and Green Valley, Arizona (Sierrita, curtailed in the 2003 fourth quarter). We produce copper concentrate from open-pit mines and concentrators located at Bagdad (partially curtailed) and Green Valley, Arizona (partially curtailed since 2002) (Bagdad and Sierrita mines, respectively) and Silver City, New Mexico (Chino mine).

We are the world's leading producer of copper using the SX/EW process. In 2003, we produced a total of 569,600 tons of cathode copper at our SX/EW facilities in the United States, compared with 578,700 tons in 2002 and 585,300 tons in 2001. SX/EW is a cost-effective process for extracting copper from certain types of ores. SX/EW is a major factor in our continuing efforts to maintain internationally competitive costs. Our total annual capacity of electrowon copper cathode production currently is 410,000 tons at Morenci, 105,000 tons at Miami, 75,000 tons at Chino, 84,000 tons at Tyrone, 25,000 tons at Sierrita (although we currently are evaluating alternatives as the lease for land on which the facility is located has expired) and 15,000 tons at Bagdad. Additionally, Bagdad has 17,500 tons of concentrate leach capacity.

The Morenci complex in southeastern Arizona comprises an open-pit mine, a concentrator, four solution extraction facilities and three electrowinning tankhouses. We operate Morenci and own an 85 percent undivided interest; the remaining 15 percent interest is owned by Sumitomo Metal Mining Arizona, Inc. (Sumitomo), a jointly owned subsidiary of Sumitomo Metal Mining Co., Ltd., and Sumitomo Corporation. Each partner takes in kind its share of Morenci produc-

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tion. Morenci is the largest copper producing operation in North America.

In 2001, the Company completed its \$220 million mine-for-leach project at Morenci. As a result, the Morenci concentrator was placed on care-and-maintenance status. The crushing facility at the Metcalf concentrator continues to process approximately 85,000 tons of ore daily for the expanded leach operation. The new mine-for-leach facilities increased Morenci's annual electrowon cathode production capacity to 410,000 tons. Under certain favorable economic circumstances, Morenci may produce concentrates from primary sulfide ores.

In 1999, the Metcalf concentrator was permanently closed as a result of rebalancing PDMC operations. After the 1999 acquisition of Cyprus Amax and the Company's decision to convert Morenci to mine-for-leach processing, it became clear that the Metcalf concentrator would not likely operate in the future. This resulted in a pre-tax impairment of \$88 million recorded in 1999.

We are presently a party to litigation that could adversely impact the allocation of available water supplies for the Morenci operation and our other properties in Arizona. (Refer to Item 3, Legal Proceedings, for information concerning the status of these proceedings.)

Our wholly owned Bagdad mine in northwestern Arizona primarily mines copper sulfide ore. It produces copper and molybdenum concentrates and minor amounts of silver. The operation consists of an open-pit mine, sulfide ore concentrator producing copper and molybdenum concentrates, and a leaching system with an SX/EW operation producing copper cathode. In January 2002, as a result of the then-current economic environment, Bagdad's mill throughput was curtailed temporarily to approximately one-half capacity. At the time of this curtailment, we estimated that approximately 70,500 tons of annual copper production and 7 million pounds of annual by-product molybdenum production would be reduced. In 2003 and 2002, copper production at Bagdad exceeded our estimates due to improved production from our SX/EW operation, higher ore grades from normal mine planning improvements, and improvements in copper recovery and improved milling efficiency resulting from our *Quest for Zero* program. As a result, 2003 and 2002 annual copper production was only reduced by approximately 27,400 tons and 44,600 tons, respectively, when compared with 2001. Throughput at Bagdad also exceeded half capacity at various times during 2002, primarily driven by smelter and sulfuric acid supply requirements. In January 2003, Bagdad's mill throughput increased to approximately 80 percent of capacity. Based upon the rapid increase in copper prices, our view of market fundamentals for copper and molybdenum over the next several years, and our internal concentrate and sulfuric acid balance, Bagdad began increasing production in January 2004 with an expectation that it will be producing at full capacity in the 2004 second quarter.

In February 2002, we announced that Bagdad would construct a \$40 million copper concentrate leaching demonstration plant designed to recover commercial-grade copper cathode from chalcopyrite concentrates. The plant was commissioned in the 2003 first quarter and achieved full production in the 2003 second quarter. During nine months of operation (April to December 2003), the plant processed 44,200 tons of concentrate and produced approximately 24.4 million pounds of copper cathode. At full capacity, the plant can produce 35 million pounds of copper cathode from concentrate annually. This technology could assist in our long-term cost reduction strategy.

We own the Sierrita mine near Green Valley, Arizona. The facility consists of an open-pit mine, sulfide ore concentrator producing copper and molybdenum concentrates, two molybdenum roasters and a rhenium processing facility. Sierrita also uses an oxide and low-grade sulfide ore stockpile leaching system with an SX/EW operation to produce copper cathode. The Sierrita operation leases property adjacent to its mine upon which its electrowinning tankhouse is located. The current lease agreement expired in 2003. Future alternatives, including extension of the lease, are being considered. As a result, Sierrita's electrowon copper cathode production has been curtailed since the

2003 fourth quarter.

Sierrita's on-site roasters process molybdenum concentrates produced at Sierrita and Bagdad as well as purchased concentrates or concentrates tolled for third parties. The resulting metallurgical grade molybdic oxide and related products are either packaged for shipment to customers worldwide or transported to other Phelps Dodge facilities for further processing.

At year-end 2001, as a result of the then-current economic environment, mill throughput at the Sierrita mine was reduced temporarily to approximately one-half of its capacity. Our estimates at the time were that these actions would eliminate approximately 49,600 tons of annual copper production and 7 million pounds of by-product molybdenum. In 2003 and 2002, copper production at Sierrita exceeded our estimates due to improved production from higher ore grades from normal mine planning improvements, improvements in copper recovery and improved milling efficiency resulting from *Quest for Zero* actions, and smelter and acid supply requirements. As a result, 2003 and 2002 annual copper production was only reduced by approximately 35,400 tons and 44,200 tons, respectively, when compared with 2001. Based upon the rapid increase in copper prices, our view of market fundamentals for copper and molybdenum over the next several years, and our internal concentrate and sulfuric acid balance, Sierrita began increasing production in January 2004 with an expectation that it will be producing at full capacity in the 2004 fourth quarter.

Our wholly owned operations at Miami, Arizona, consist of an open-pit copper mine, an SX/EW operation producing copper cathode, a smelter, an acid plant, an electrolytic refinery and a copper rod plant. In January 2002, as a result of the then-current economic environment, the Miami mine and refinery were closed temporarily. Our estimate at the time was that this curtailment action would eliminate approximately 49,600 tons of annual copper production. In 2003 and 2002, Miami's copper production was improved by higher than expected output from residual leach stockpiles, various other improvements resulting from *Quest for Zero* actions, and the use of smelter weak acid in leaching operations. As a result, 2003 and 2002 annual copper production was only reduced by approximately 32,000 tons and 30,400 tons, respectively, when compared with 2001. Based upon the rapid increase in copper prices, our view of market fundamentals for copper over the next several years, and our internal concentrate and sulfuric acid balance, the Miami smelter should resume operating at full capacity by the 2004 third quarter.

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We operate an open-pit copper mine, concentrator and SX/EW facility near Silver City, New Mexico, and a smelter in Hurley, New Mexico, that are owned by Chino Mines Company (Chino), a general partnership in which we held a two-thirds interest through December 18, 2003. Heisei Minerals Corporation (Heisei), a subsidiary of Mitsubishi Materials Corporation and Mitsubishi Corporation, owned the remaining one-third interest in Chino. On December 19, 2003, we purchased Heisei's interest in Chino. Prior to December 19, 2003, each partner purchased its proportionate share of Chino's copper production each month. Beginning in late 1998 and through the first half of 1999, production was curtailed resulting in a reduction of approximately 35,000 tons of annual copper production. In March 2001, the concentrator was temporarily shut down, and in January 2002, the Chino mine and smelter were closed temporarily. Our estimates at the time were that these actions would eliminate approximately 144,400 tons of annual copper production. We anticipated that residual leaching operations at Chino would become uneconomic by mid-year 2002. However, copper recoveries from leach stockpiles have been better than anticipated and leaching operations are now expected to remain economic for several more years, even with the mine curtailed. As a result, 2002 annual copper production was only reduced by approximately 97,400 tons. We restarted mining for leach material on a limited basis at Chino in April 2003. In September 2003, we resumed a full mine-for-leach operation. Based upon the rapid increase in copper prices, our view of market fundamentals for copper over the next several years, and our internal concentrate and sulfuric acid balance, Chino's milling operations will commence in the 2004 third quarter at one-half capacity.

On December 19, 2003, a wholly owned subsidiary of the Company acquired Heisei's one-third general partnership interest in Chino. In connection with this transaction, Heisei paid on behalf of Chino approximately \$64 million in cash to a trust to fund closure, closeout and reclamation obligations of Chino. That amount represents a one-third share of an estimate by the state of New Mexico of the amount of financial assurance Chino must provide in connection with its current permits. In addition, Heisei paid \$50 million to the Company's subsidiary to cover other Heisei obligations. Due to our business expectations and plans, which result in significant differences in the operating life of Chino as compared with Heisei, we recognized an extraordinary gain of approximately \$68.3 million upon completing the transaction.

Phelps Dodge operates its wholly owned Tyrone open-pit mine and SX/EW plant near Tyrone, New Mexico. Tyrone has been a mine-for-leach operation since 1992. We partially curtailed production at Tyrone in September 2003.

Cobre Mining Company Inc. (Cobre), acquired in 1998, is located in southwestern New Mexico adjacent to our Chino operations. The primary assets of Cobre include an open-pit copper mine, two mills, and the surrounding 12,000 acres of land, including mineral rights. Subsequently, production was indefinitely suspended, reducing copper production by approximately 35,000 tons per year. The entire Cobre operation remained on care-and-maintenance status as of December 31, 2003. Based upon the rapid increase in copper prices, our view of market fundamentals for copper over the next several years, and our internal concentrate and sulfuric acid balance, Cobre is expected to resume open-pit mining and milling operations by the 2004 third quarter. In December 2002, the Company recognized an impairment charge to write down Cobre's assets by \$115.5 million (before and after taxes). We took this action after revising mine plans and assessing recoverability.

The recommencement of our curtailed mines, in conjunction with the one-third share of Chino acquired in December 2003, will increase our 2004 production by approximately 240 million pounds, and approximately 370 million pounds in 2005 when we achieve full run rates. This will bring production in 2004 and 2005 to approximately 2.35 billion pounds and 2.5 billion pounds, respectively. As a result of increased production at Sierrita and Bagdad, our molybdenum by-product production is expected to increase by approximately 3 million pounds to a total of 33 million pounds in 2004. A \$15 million increase in capital expenditures is projected to result from the

production ramp-up.

Even though we remain optimistic about the copper upturn, we will remain disciplined about our production profile. We will continue to configure our operations so that we can quickly respond to both positive and negative market swings.

South American Mines

We produce electrowon copper cathode at SX/EW operations near Arequipa, Peru, and near Calama, Chile. We produce copper concentrate from open-pit mines and concentrators located near Copiapó, Chile. We also plan to produce copper concentrate in 2004 from two underground mines and a concentrator located near Copiapó, Chile (curtailed since 1998).

Following is a map indicating the approximate location of PDMC's South American mines:

South American Mines

We operate the Candelaria mine located near Copiapó in the Atacama Desert of northern Chile. The operation consists of an open-pit copper mine, concentrator, port and associated facilities. We own an 80 percent partnership interest in Candelaria, a Chilean contractual mining company, through Phelps Dodge Candelaria, Inc., a wholly owned subsidiary. Sumitomo Metal Mining Co., Ltd. and Sumitomo Corporation own the remaining 20 percent interest.

Phelps Dodge owns a 51 percent partnership interest in Sociedad Contractual Minera El Abra (El Abra), a Chilean contractual mining company. El Abra holds mining concessions over more than 33,000 acres of land near Calama in the copper-rich Second Region of northern Chile. The remaining 49 percent is owned by the state-owned copper enterprise Corporación Nacional del Cobre de Chile (CODELCO). The El Abra operation consists of a mine-for-leach,

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open-pit mining operation that uses three stages of crushing prior to leaching, an on/off leach pad, and an SX/EW operation to produce copper cathode. In 2001, El Abra completed a project to leach uncrushed, run-of-mine (ROM) material. The ROM project allows El Abra to maintain tankhouse design capacity. ROM production began in January 2002, with full production from the project achieved in the second half of 2002.

We own approximately 82 percent of the common stock of Sociedad Minera Cerro Verde S.A.A. (Cerro Verde). Compañía de Minas Buenaventura S.A., a long-established Peruvian mining concern, owns approximately 9 percent and the employees of Cerro Verde and other shareholders own approximately 9 percent. The Cerro Verde operation, located approximately 30 kilometers southwest of Arequipa, Peru, consists of two open pits, Cerro Verde and Santa Rosa, a heap-leach operation and an SX/EW operation to produce copper cathode. The ore is processed through primary, secondary and tertiary crushers and placed on a leach pad after agglomeration.

Until the fourth quarter of 1998, we produced copper concentrate from two underground mines and a concentrator located near Copiapó, Chile, through our wholly owned Chilean subsidiary, Compañía Contractual Minera Ojos del Salado (Ojos del Salado). We suspended operations indefinitely at Ojos del Salado in October 1998, resulting in a reduction of more than 22,000 tons of annual copper production. The Ojos del Salado operations remained on care-and-maintenance status through December 31, 2003. Based upon the rapid increase in copper prices, our view of market fundamentals for copper over the next several years, and our internal concentrate and sulfuric acid balance, Ojos del Salado is expected to resume underground mining and milling operations by the second quarter of 2004.

In 2003, we produced a total of 346,100 tons of cathode copper at our SX/EW facilities in South America, compared with 343,500 tons in 2002 and 324,700 tons in 2001. Our total annual design capacity of electrowon copper cathode production is 248,000 tons at El Abra and 96,000 tons at Cerro Verde.

Manufacturing and Sales Segment

We own and operate copper smelters in Miami, Arizona, and, through Chino Mines Company (in which we held a two-thirds partnership interest through December 18, 2003, and a 100 percent interest effective December 19, 2003), the Chino smelter in Hurley, New Mexico. In January 2002, the Chino smelter was temporarily closed. We smelt virtually all of our share of our U.S. copper concentrate production and, depending on market circumstances and internal production requirements, some concentrate production from Candelaria. In addition, we may purchase concentrate to keep our smelters operating at efficient levels.

In September 1999, we suspended operations at our Hidalgo smelter in Hidalgo County, New Mexico, due to a general lack of concentrate availability in the United States and depressed copper market fundamentals. This suspension was coincident with the closure of the Metcalf concentrator as previously discussed. As a result of the successful acquisition of Cyprus Amax and the decision to convert Morenci to a mine-for-leach operation, we concluded that Hidalgo would probably not be operated in its historic configuration in the foreseeable future. Accordingly, a pre-tax write-down of the Hidalgo assets of \$201.5 million was taken in 1999. However, it was anticipated at the time that Hidalgo may have a future use for sulfuric acid production for the Company's leach operations. As a result of the Company's ability to use acid more efficiently and an updated assessment of PDMC's long-term acid production and consumption balance, the Company determined that Hidalgo probably will not be reconfigured to produce acid as originally anticipated and that the net book value of Hidalgo assets probably would not be recovered. In December 2002, the Company recognized an impairment charge to write down Hidalgo's assets by an additional \$12.9 million (before and after taxes). Hidalgo's power facilities will continue to generate electricity when needed, and the facility will continue to be a backup alternative as a reliable producer of acid if conditions

warrant. The remaining Hidalgo assets were written down to their estimated fair value. The Company also recognized a \$7.0 million (before and after taxes) charge for the estimated remaining costs of its closure obligation at Hidalgo.

We refine our share of anode copper production from our smelters at our refineries in El Paso, Texas, and Miami, Arizona. During 2003, 2002 and 2001, the El Paso refinery operated significantly below capacity due to the late 1999 third quarter closing of the Hidalgo smelter. The closure of the Hidalgo smelter resulted not only in a curtailment of operations at our El Paso refinery, but also a reduction of approximately 200 refinery jobs. Our Miami refinery has an annual production capacity of about 200,000 tons of copper cathode, and the El Paso refinery has an annual production capacity of about 450,000 tons of copper cathode. The total combined capacity of about 650,000 tons of electrolytic copper per year is sufficient to refine all the anode copper we produce for our account at our operating smelters, as well as anodes from other customers that we refine on a toll basis. As a result of production curtailments announced in the fourth quarter of 2001, the Miami refinery was temporarily closed. Our El Paso refinery also produces copper sulfate, nickel sulfate, copper telluride, and autoclaved slimes material containing gold, silver, selenium, platinum and palladium.

We are the world's largest producer of continuous-cast copper rod, the basic feed for the electrical wire and cable industry. Most of our refined copper, and additional purchased copper, is converted into rod at our continuous-cast copper rod facilities in El Paso, Texas; Norwich, Connecticut; Miami, Arizona; and Chicago, Illinois. Our four plants have a collective annual capacity to convert more than 1.1 million tons of refined copper into rod and other refined copper products.

Primary Molybdenum Segment

See the United States Mines map on page 2 for the location of our molybdenum mines.

Phelps Dodge owns the underground Henderson molybdenum mine near Empire, Colorado. The operation consists of an underground block-caving mine where molybdenite ore is mined and transported to a conventional sulfide concentrator. The concentrator is capable of operating at a rate of 32,000 tons of ore per day, producing molybdenum disulfide concentrate containing up to 58 percent molybdenum. Most of the concentrate is shipped to our Fort Madison roasting and chemical processing facility in Iowa where a number of different high-purity products are made for final sale to

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customers. A portion of Henderson's production is further refined and sold to customers as molybdenum disulfide.

In May 2000, as a result of an oversupply of molybdenum and continued low prices in the world market, Phelps Dodge announced a plan to curtail molybdenum production by approximately 20 percent and reduce its Henderson workforce by approximately 130 workers. In 2003, the previously announced production curtailment essentially remained in place.

Phelps Dodge also owns the Climax molybdenum mine near Leadville, Colorado. The operation consists of both an underground and open-pit mine, and a 16,000-ton-per-day concentrator. The Climax molybdenum mine had been placed on care-and-maintenance in 1995 by the predecessor owner. At year-end 2003, as well as at the acquisition, we expected to bring Climax into production concurrent with the exhaustion of the Henderson molybdenum mine reserves for continued long-term primary molybdenum supply for the chemicals business. The property comprises more than 14,000 acres.

Phelps Dodge processes molybdenum concentrates at its conversion plants in the United States and Europe into such products as technical grade molybdenic oxide, ferromolybdenum, pure molybdenic oxide, ammonium molybdates and molybdenum disulfide. The Company operates molybdenum roasters at Green Valley, Arizona; Fort Madison, Iowa; and Rotterdam, the Netherlands.

The Fort Madison, Iowa, facilities consist of two molybdenum roasters, a sulfuric acid plant, a metallurgical (technical oxide) packaging facility, and a chemical conversion plant, which includes a wet chemicals plant and sublimation equipment. In the chemical plant, molybdenic oxide is further refined into various high-purity molybdenum chemicals for a wide range of uses by chemical and catalyst manufacturers. In addition to metallurgical oxide products, the Fort Madison facilities produce ammonium dimolybdate, pure molybdenic oxide, ammonium heptamolybdate, ammonium octamolybdate, sodium molybdate, sublimed pure molybdenic oxide and molybdenum disulfide.

The Rotterdam conversion plant consists of a molybdenum roaster, sulfuric acid plant, a metallurgical packaging facility and a chemical conversion plant. The plant produces metallurgical products primarily for third parties. Ammonium dimolybdate and pure molybdenic oxide are produced in a wet chemical plant.

We also produce ferromolybdenum and molybdenum disulfide for worldwide customers at our conversion plant located in Stowmarket, United Kingdom. The plant is operated both as an internal and external customer tolling facility.

Worldwide Copper Production by Source, Other Metal Production and Sales Data, and Manufacturing and Sales Production

The following tables show our worldwide copper production by source for the years 1999 through 2003; aggregate production and sales data for copper, gold, silver, molybdenum and sulfuric acid from these sources for the same years; annual average copper and molybdenum prices; and production from our smelters and refineries. Major changes in operations during the five-year period included:

curtailment of Chino operations beginning in the 1998 fourth quarter, followed by temporary shut-down of the concentrator in March 2001 and temporary closure of the mine and smelter in January 2002, a partial restart of mining for leach material in April 2003 with a full restart of mining for leach materials in September 2003;

partial curtailment at Tyrone in September 2003;

completion of the run-of-mine leach project at El Abra with production commencing January 2002;

temporary closure of the Miami mine and refinery in January 2002;

curtailment of mill throughput at Sierrita and Bagdad to approximately one-half capacity in January 2002, followed by an increase in Bagdad's mill throughput to approximately 80 percent in January 2003;

conversion of Morenci operations to mine-for-leach during 1999 and 2000, with completion in the 2001 first quarter;

partial curtailment of Henderson operations beginning in the 2000 second quarter;

acquisition of Cyprus Amax on October 16, 1999 (the primary assets acquired included the Bagdad, Sierrita, Miami, El Abra and Cerro Verde copper mines; the Henderson and Climax molybdenum mines; a copper smelter, refinery and two rod plants; three molybdenum roasting operations and four molybdenum conversion facilities);

permanent closure of Morenci's Metcalf concentrator at the end of 1999;

temporary closure of the Hidalgo smelter facilities in September 1999; and

acquisition of Cobre in February 1998 followed by suspension of operations in March 1999.

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Phelps Dodge Copper Production Data, by Source (a)

(thousand tons)

	2003	2002	2001	2000	1999
Material mined (b)					
Morenci	237,338	248,505	281,474	274,871	297,872
Bagdad	48,935	42,912	63,680	69,101	16,233
Sierrita	35,525	23,066	60,869	75,319	15,875
Miami			32,702	46,446	13,787
Chino	12,299	220	59,277	61,519	44,562
Cobre					4,558
Tyrone	16,319	45,515	73,990	113,937	113,422
Candelaria	108,442	109,211	126,509	128,464	139,886
Cerro Verde	72,965	75,982	68,685	61,400	11,459
El Abra	87,682	76,831	82,737	67,786	10,029
Total material mined	619,505	622,242	849,923	898,843	667,683
Less minority participants shares (c):					
Morenci	35,601	37,276	42,220	41,231	44,681
Chino (m)	3,785	73	19,758	20,506	14,854
Candelaria	21,688	21,842	25,302	25,693	27,977
El Abra	42,964	37,647	40,541	33,215	4,914
Net Phelps Dodge share	515,467	525,404	722,102	778,198	575,257
Mill ore processed					
Morenci			4,301	26,698	38,283
Bagdad	26,103	19,783	31,667	29,846	6,211
Sierrita	26,654	21,439	38,133	38,319	8,046
Chino			3,109	13,889	16,056
Cobre					654
Candelaria	26,407	28,507	27,365	26,165	22,405
Total mill ore processed	79,164	69,729	104,575	134,917	91,655
Less minority participants shares (c):					
Morenci			645	4,004	5,742
Chino (m)			1,036	4,630	5,352
Candelaria	5,281	5,701	5,473	5,233	4,481
Net Phelps Dodge share	73,883	64,028	97,421	121,050	76,080

Leach ore placed in stockpiles

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Morenci	228,940	241,955	258,202	236,696	250,680
Bagdad		328	696		
Sierrita	375	170	14,347	18,386	4,307
Miami			10,208	11,032	2,379
Chino	11,066	198	31,009	12,875	12,400
Tyrone	10,722	34,835	27,513	51,446	55,693
Cerro Verde	21,014	24,096	23,436	17,833	2,642
El Abra	80,604	71,224	75,875	62,042	8,678
Total leach ore placed in stockpiles	352,721	372,806	441,286	410,310	336,779
Less minority participants' shares (c):					
Morenci	34,341	36,293	38,729	35,503	37,602
Chino (m)	3,376	66	10,336	4,292	4,133
El Abra	39,496	34,900	37,179	30,401	4,252
Net Phelps Dodge share	275,508	301,547	355,042	340,114	290,792

See footnote explanations on page 10.

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Phelps Dodge Copper Production Data, by Source (a)

(thousand tons)

	2003	2002	2001	2000	1999
Grade of ore mined percent copper					
Morenci mill			0.78	0.71	0.68
Morenci leach	0.28	0.28	0.30	0.26	0.26
Bagdad mill	0.43	0.43	0.43	0.43	0.43
Bagdad leach		0.29	0.28		
Sierrita mill	0.29	0.32	0.29	0.29	0.29
Sierrita leach	0.26	0.21	0.22	0.20	0.20
Miami leach			0.41	0.71	0.52
Chino mill			0.79	0.83	0.59
Chino leach	0.80	0.29	0.48	0.22	0.25
Cobre mill					1.00
Tyrone leach	0.34	0.35	0.29	0.26	0.28
Candelaria mill	0.97	0.84	0.96	0.93	1.22
Cerro Verde leach	0.60	0.55	0.53	0.59	0.78
El Abra leach	0.49	0.50	0.60	0.56	0.79
Average copper grade mill	0.56	0.56	0.54	0.59	0.75
Average copper grade leach	0.37	0.35	0.38	0.33	0.28

Copper Production

Morenci:

Concentrate			23.5	132.3	195.2
Electrowon	421.2	412.7	368.1	284.7	284.7

Bagdad:

Concentrate	82.5	68.4	118.1	111.5	22.3
Electrowon	24.5	15.6	10.5	11.8	2.9

Sierrita:

Concentrate	66.3	60.0	94.6	95.9	19.7
Electrowon	9.3	16.2	26.3	26.5	5.8

Miami:

Electrowon	17.8	10.5	44.1	59.3	13.2
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Bisbee:

Precipitate		0.1	0.2	0.1	0.1
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Chino:

Concentrate and precipitate			18.3	87.0	74.3
Electrowon	39.9	53.8	59.9	48.6	55.8

Cobre:

Concentrate					6.6
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Tyrone:

Electrowon	56.9	69.9	76.4	79.3	80.1
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Candelaria:

Concentrate	234.5	219.5	243.2	224.7	250.1
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Cerro Verde:					
Electrowon	96.3	95.3	84.9	78.7	16.2
El Abra:					
Electrowon	249.8	248.2	239.8	217.4	52.8
Manufacturing and Sales (d)	6.6	5.4	3.0	1.2	1.5
Total copper production	1,305.6	1,275.6	1,410.9	1,459.0	1,081.3
Less minority participants shares (c):					
Morenci	63.3	61.9	58.8	62.5	72.0
Chino (m)	12.5	17.9	26.1	45.2	43.3
Candelaria	46.9	43.9	48.6	45.0	50.0
El Abra	122.4	121.7	117.5	106.5	25.9
Manufacturing and Sales (d)	1.2	1.4	(0.2)	(0.5)	
Net Phelps Dodge share	1,059.3	1,028.8	1,160.1	1,200.3	890.1

See footnote explanations on page 10.

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Phelps Dodge Copper Sales Data, by Source (a)

(thousand tons)

	2003	2002	2001	2000	1999
Copper sales net Phelps Dodge share from own mines (e):					
Morenci	357.9	350.8	333.0	354.4	415.5
Bagdad	111.0	92.3	132.9	123.3	25.2
Sierrita	79.3	83.8	125.1	122.4	25.6
Miami	20.0	15.2	46.6	59.2	13.2
Bisbee		0.1	0.3	0.1	0.1
Chino	27.4	35.8	52.1	90.4	89.3
Cobre					6.6
Tyrone	56.9	69.9	76.4	79.2	81.7
Candelaria	187.4	174.6	190.1	181.5	187.4
Cerro Verde	95.6	94.9	84.7	78.8	16.5
El Abra	128.4	129.6	126.7	109.5	29.3
Manufacturing and Sales (d)	5.4	4.1	2.9	1.8	1.5
Total copper sales net Phelps Dodge share from own mines	1,069.3	1,051.1	1,170.8	1,200.6	891.9
Purchased copper:					
Morenci					0.1
Candelaria	22.1	35.8	37.0	5.0	
El Abra	7.3	56.5	5.8		
Manufacturing and Sales (d)	345.1	350.7	418.4	490.0	289.6
Total purchased copper	374.5	443.0	461.2	495.0	289.7
Total sales	1,443.8	1,494.1	1,632.0	1,695.6	1,181.6

Phelps Dodge Other Metal Production and Sales (a)

	2003	2002	2001	2000	1999
Gold (thousand ounces)					
Total production	129	132	140	151	173
Less minority participants shares (c)	26	24	31	33	37
Net Phelps Dodge share	103	108	109	118	136
Sales (e)	108	136	77	120	138

Silver (thousand ounces)

Total production	2,754	2,582	3,773	4,985	4,284
Less minority participants shares (c)	265	225	490	657	877
Net Phelps Dodge share	2,489	2,357	3,283	4,328	3,407
Sales (e)	2,292	3,317	2,504	4,813	3,415

Molybdenum (thousand pounds)

Primary Molybdenum:

Henderson	22,247	20,517	18,603	19,727	1,718
By-product	29,747	24,448	36,912	31,751	6,585
Total production	51,994	44,965	55,515	51,478	8,303
Less minority participant s shares (c):					
Chino			50	419	241
Net Phelps Dodge share	51,994	44,965	55,465	51,059	8,062
Sales Net Phelps Dodge share from own mines (e)	54,158	46,665	55,105	57,988	11,391
Purchased molybdenum	8,199	7,393	1,609		26
Total sales	62,357	54,058	56,714	57,988	11,417

Sulfuric acid (thousand tons)

Total production from copper smelters (f)	647.6	748.6	1,236.7	1,231.8	1,172.1
Less minority participant s shares (c)		1.6	190.2	186.3	212.5
Net Phelps Dodge share	647.6	747.0	1,046.5	1,045.5	959.6
Sales from copper smelters (f)	45.5	14.5	15.9	35.0	625.5

See footnote explanations on page 10.

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Prices

(per pound)

	2003	2002	2001	2000	1999
COMEX copper price (g)	\$0.81	0.72	0.73	0.84	0.72
LME copper price (h)	\$0.81	0.71	0.72	0.82	0.71
Metals Week - molybdenum Dealer Oxide mean price (i)	\$5.32	3.77	2.36	2.56	2.65

Phelps Dodge Manufacturing and Sales Production (a)

	2003	2002	2001	2000	1999
Smelters (j)					
Total copper (thousand tons)	200.8	243.8	463.5	439.8	267.4
Less minority participants shares (c)		0.5	36.7	49.5	57.0
Net Phelps Dodge share	200.8	243.3	426.8	390.3	210.4
Refineries (k)					
Copper (thousand tons)	284.6	319.6	502.6	471.2	422.6
Gold (thousand ounces) (n)		79.0	86.6	52.6	72.9
Silver (thousand ounces) (n)		1,786.0	3,719.1	3,838.9	3,681.5
Rod (l)					
Total copper (thousand tons)	825.8	850.6	879.8	1,153.9	805.1

Footnotes to tables on pages 7 through 10:

- (a) Includes Cyprus Amax production and sales from the time it was acquired on October 16, 1999.
- (b) Includes material mined for leaching operations.
- (c) Interests in mining joint ventures in which we own more than 50 percent are reported using the proportional consolidation method.
Cerro Verde, in which we own 82 percent of its common stock, is reported using the full consolidation method.
- (d) Includes smelter production from custom receipts and fluxes as well as tolling gains or losses.
- (e) Excludes sales of purchased copper, molybdenum, silver and gold.
- (f) Sulfuric acid production results from smelter air quality control operations; sales do not include internal usage.
- (g) New York Commodity Exchange annual average spot price per pound cathodes.
- (h) London Metal Exchange annual average spot price per pound cathodes.
- (i) Annual *Metals Week* molybdenum Dealer Oxide mean price per pound as quoted in *Platts Metals Week*.
- (j) Includes production from purchased concentrates and copper smelted for others on a toll basis.
- (k) Includes production from purchased material and copper refined for others on a toll basis.
- (l) Includes rod, wire, oxygen-free billets/cakes, scrap and other shapes.

- (m) Reflects a one-third partnership interest from January 1, 2003 to December 18, 2003.
 - (n) El Paso closed its precious metals processing facility in the fourth quarter of 2002.
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Table of Contents**Other Mining Segment**

This segment includes our worldwide mineral exploration and development programs, a process technology center that directs its activities at improving existing processes and developing new cost-competitive technologies, and other ancillary operations.

Exploration

Our exploration group's primary objectives are to increase PDMC's reserve base through discoveries and joint ventures and, where appropriate, to diversify into other metals, minerals and geographic areas. Exploration is focused on finding large-scale copper, and copper/gold deposits in the four principal copper-producing regions of the world: southwest U.S./Mexico, South American Cordillera, Central Africa, and Australia, as well as in other highly prospective areas. This group operates in more than 12 countries and maintains offices in Australia, Brazil, Canada, Chile, India, Mexico, Peru and the United States.

In 2003, Phelps Dodge expended \$25.8 million on worldwide exploration, compared with \$20.0 million in 2002 and \$36.8 million in 2001. Approximately 29 percent of the 2003 expenditures occurred in the United States with 25 percent being spent at our U.S. mine sites. This compares with 33 percent in 2002 (24 percent at U.S. mine sites) and 14 percent in 2001 (13 percent at U.S. mine sites). The balance of our exploration expenditures was spent principally in Australasia, Brazil, Chile, Mexico, Canada, Peru and Central Africa, including 6 percent at our South American mine sites.

During 2003, exploration efforts continued at our existing copper operations. Work continued on an underground decline at Candelaria to provide exploration drilling access to a high-grade underground zone of mineralization at depth adjacent to the Candelaria open pit. At our Morenci mine, the first phase drilling of two district targets intersected promising mineralized intercepts.

Environmental permitting continues at our Safford project in eastern Arizona to enable development of the Dos Pobres and San Juan deposits. The Final Environmental Impact Study for the Safford project was published by the Bureau of Land Management in December 2003. The two deposits contain an estimated total of 533 million tons of leachable reserves with an ore grade of 0.37 percent copper.

Phelps Dodge Australasia, Inc., a subsidiary of Phelps Dodge Corporation, sold its Australian exploration property portfolio to Red Metal Limited, a newly formed junior mining exploration company that listed on the Australian Stock Exchange in October 2003. As consideration, Phelps Dodge Australasia acquired a 15 percent shareholding in Red Metal Limited and rights to acquire interests in properties explored.

In August 2003, the Ambatovy nickel/cobalt deposit in central Madagascar was optioned to Dynatec Corporation in consideration for a cash payment of \$0.5 million and completion of a feasibility study that will earn it a 53 percent interest in the project. Previous studies estimated mineralized material of 210 million tons at an estimated grade of 1.1 percent nickel and 0.1 percent cobalt.

In August 2002, Phelps Dodge announced it had replaced BHP Billiton as option holder under an existing agreement among BHP Billiton, Tenke Mining Corp. and others to acquire a controlling interest and operatorship in the Tenke Fungurume Mining (TFM) copper/cobalt project in the Democratic Republic of the Congo. On January 16,

2004, Phelps Dodge Exploration Corporation entered into a joint venture with Tenke Holdings Limited with respect to the exploration, development and, if warranted, commercial production associated with the TFM copper/cobalt mineral deposit. Phelps Dodge has a 70 percent interest in the joint venture, which has a 55 percent ownership in TFM.

In December 2001, we recorded a charge of \$3.9 million to write off the net book value of the Piedras Verdes project in Sonora, Mexico, as it no longer met our development criteria. In March 2002, Phelps Dodge reached an agreement with Frontera Copper Corporation to sell its interest in the Piedras Verdes project in Mexico. In accordance with the agreement, Phelps Dodge received \$0.5 million in cash plus other consideration, which are subject to a number of conditions, not to exceed \$16 million.

In October 2001, Phelps Dodge sold its 50 percent interest in Mineração Serra do Sossego to Companhia Vale do Rio Doce (CVRD) for \$42.5 million in cash. Sossego is a copper-gold deposit in the Carajas region of Brazil.

Process Technology

The objective of PDMC's process technology center (PTC) in Safford, Arizona, is to enhance and strengthen Phelps Dodge's competitive position in the world copper market. PTC was established in 1996 to provide metallurgical process development capabilities, process optimization services, metallurgical testing and advanced material characterization services to meet the needs of PDMC and its operations. PTC is ISO-9001 certified. The activities at PTC are directed at continuous improvement of existing processes and the development of new cost-competitive technologies, and are an integral part of our *Quest for Zero* program. PTC employs approximately 78 engineers, scientists and technical support staff. The facilities include:

- a large-diameter column leach facility for testing run-of-mine material, which is capable of processing up to approximately 600 tons of ore annually;

- a continuous SX/EW test facility capable of producing 1.5 tons of cathode copper per day;

- a small-diameter column leach facility with a capacity of 250 individual tests per year for crushed material;

- a metallurgical laboratory for the development of biological leaching processes and enhancements and other biological applications; and

- a state-of-the-art material characterization laboratory with advanced mineralogy, analytical chemistry and metallography capabilities.

The principal areas of activity include hydrometallurgy, mineral processing (grinding and flotation), material characterization and technical information services. Some of the most important projects and milestones in 2003 were:

- The commissioning of a new concentrate pressure leaching demonstration plant at the Bagdad mine. The facility is the first of its kind in the world to use high-temperature pressure leaching to process chalcopyrite concentrates.

- The technology is proprietary and is covered under a Technology Development Agreement between Phelps Dodge and Placer Dome Inc. The plant was de-

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signed to produce 35 million pounds of copper cathode annually. The plant was commissioned in the first quarter of 2003 and achieved full production in the second quarter of 2003. During nine months of operation (April to December 2003), the plant processed 44,200 tons of concentrate and produced approximately 24.4 million pounds of copper cathode. Average extraction of copper from concentrate was 98.5 percent, slightly more than design recovery. Plant availability averaged 85 percent during the nine-month period of operation.

The continued development of a new medium-temperature pressure leaching process for copper concentrate treatment at the Hazen Research facility in Golden, Colorado. This process is designed to minimize acid production and has potential application for the processing of concentrates where sulfuric acid cannot be beneficially used in stockpile or heap leaching operations.

The continued development of a direct electrowinning technology for use in conjunction with the pressure leaching technology described above.

The continued advancement of proprietary technology for heap and stockpile leaching of low-grade chalcopyrite ores.

The investigation of alternative technologies to reduce the cost of copper electrowinning.

The investigation of alternative sulfuric acid production techniques.

The successful installation and commissioning of a third QemSCAN scanning electron microscope in the second quarter of 2003.

Total expenditures for PTC in 2003 were approximately \$18 million, compared with \$13 million in 2002 and \$11 million in 2001. PDMC intends to advance all of these research and development projects aggressively in 2004; however, there is no assurance that any of these technologies will be commercialized.

Other

Additionally, this segment includes our Tohono copper operation in south central Arizona, which includes an SX/EW facility capable of producing copper cathode. The facility is located on lands leased from the Tohono O odham Nation. Although mining of ore ceased in July 1997, production of copper continued from existing leach stockpiles until February 1999 when the facility was placed on care-and-maintenance status. The property has mineralized material for which, at higher copper prices, various alternatives could be considered.

Other Mining Investments

We own a 14.0 percent interest in Southern Peru Copper Corporation (SPCC), which operates two open-pit copper mines, two concentrators, an SX/EW operation, a smelter and a refinery in Peru. SPCC's other principal shareholders are a subsidiary of Grupo Mexico, S.A. de C.V., with a 54.2 percent interest, and Cerro Trading Company, Inc., with a 14.2 percent interest. A total of 17.6 percent interest is publicly held. SPCC's results are not included in our earnings because we account for our investment in SPCC on the cost basis. Based on the composition of SPCC's board of directors, Grupo Mexico has majority control, and the two principal minority shareholders cannot override Grupo Mexico's decisions. On January 29, 2004, the two directors of SPCC that we nominated resigned from SPCC's board of directors. During 2003, we received dividend payments of \$6.3 million from SPCC, compared with \$4.0 million in 2002 and 2001.

In May 1997, we acquired an indirect 40 percent voting interest, representing a 26.67 percent economic interest, in a Peruvian zinc mining company, Compañía San Ignacio de Morococha S.A. (SIMSA) and its San Vicente mine. SIMSA's other shareholder with voting shares was the Jesus Arias family. We accounted for our investment in SIMSA on the equity basis. During the fourth quarter of 2001, the investment was written down by \$9.1 million due to the impact of low zinc prices on the operation's ability to generate cash flows to cover operational and debt costs and our belief that we could not recover our investment. In November 2002, we sold our interest in SIMSA to the Arias family for \$0.2 million.

Ore Reserves

Ore reserves are those estimated quantities of proven and probable material that may be economically mined and processed for extraction of their constituent values. Estimates of our ore reserves are based upon engineering evaluations of assay values derived from sampling of drill holes and other openings. In our opinion, the sites for such samplings are spaced sufficiently close and the geologic characteristics of the deposits are sufficiently well defined to render the estimates reliable. The ore reserve estimates include assessments of the resource, mine and metallurgy as well as consideration of economic, marketing, legal, environmental, social and governmental factors.

Phelps Dodge uses several additional factors to determine mine design limits that it believes maximize the value of future cash flows including time-valued concepts to recognize, for example, any elapsed time between mining of overburden and the mining of ore. Our mine designs recognize capital and other expenditures required to extract the ore reserves over the life of the mine. Cutoff grade strategies are implemented to maximize time-valued cash flows. Phelps Dodge believes its ore reserve estimation methodology is prudent and consistent with appropriate industry standards.

Proven and probable ore reserves at December 31, 2003, and 2002, for each of our operating, curtailed and development properties are summarized on the following page.

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	Total Reserves Estimated at December 31, 2003 (1)							Phelps Dodge Interest (%)
	Millable Reserves			Leachable Reserves				
	Million Tons	% Copper	% Moly	Crushed Leach Million Tons	% Copper	Run-of-Mine (ROM) Million Tons	% Copper	
Operating and Curtailed Operations								
Morenci (2)	178.7	0.46		575.3	0.54	2,044.6	0.18	85.0
Bagdad (3)	797.9	0.36	0.02			14.8	0.28	100.0
Sierrita (4)	1,199.9	0.26	0.03			35.8	0.18	100.0
Miami (5)						126.3	0.37	100.0
Chino (6)	182.1	0.61	0.02			239.0	0.42	100.0
Cobre (5)	57.6	0.55				77.8	0.26	100.0
Tyrone						252.2	0.31	100.0
Candelaria (7)	332.2	0.76						80.0
Ojos del Salado (5) (7)	18.7	1.32						100.0
Cerro Verde (8)				156.8	0.69	104.0	0.32	82.0
El Abra				267.8	0.53	269.5	0.29	51.0
Primary Molybdenum:								
Climax (5) (9)	156.4		0.19					100.0
Henderson	165.8		0.21					100.0
Undeveloped Copper Reserves	require substantial capital investments to bring into production							
Cerro Verde	464.0	0.61	0.02					82.0
Safford				447.2	0.40	86.1	0.20	100.0

	Total Reserves Estimated at December 31, 2002 (1)							Phelps Dodge Interest (%)
	Millable Reserves			Leachable Reserves				
	Million Tons	% Copper	% Moly	Crushed Leach Million Tons	% Copper	Run-of-Mine (ROM) Million Tons	% Copper	
Operating and Curtailed Operations								
Morenci	181.5	0.47		587.7	0.57	2,303.0	0.19	85.0
Bagdad	873.6	0.36	0.02			17.2		