

**STATE OF NEW MEXICO  
BEFORE THE WATER QUALITY CONTROL COMMISSION**

**In the Matter of:**

**PROPOSED AMENDMENT  
TO 20.6.2 NMAC (Copper Rule)**

**No. WQCC 12-01(R)**

**EXHIBIT BRACK – 2**

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

**FORM 10-K**

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**  
For the fiscal year ended December 31, 2011

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**  
For the transition period from \_\_\_\_\_ to \_\_\_\_\_  
Commission File Number: 001-11307-01



**Freeport-McMoRan Copper & Gold Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**74-2480931**  
(I.R.S. Employer Identification No.)

**333 North Central Avenue**  
**Phoenix, Arizona**  
(Address of principal executive offices)

**85004-2189**  
(Zip Code)

**(602) 366-8100**  
(Registrant's telephone number, including area code)

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

<b>Title of each class</b>	<b>Name of each exchange on which registered</b>
Common Stock, par value \$0.10 per share	New York Stock Exchange

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act ☒ Yes ☐ No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. ☐ Yes ☒ No

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 whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). ☒ Yes ☐ No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. ☒ Large accelerated filer ☐ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). ☐ Yes ☒ No

The aggregate market value of common stock held by non-affiliates of the registrant was \$39.9 billion on February 15, 2012, and \$50.1 billion on June 30, 2011.

Common stock issued and outstanding was 948,358,926 shares on February 15, 2012, and 947,880,420 shares on June 30, 2011.

**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of our proxy statement for our 2012 annual meeting of stockholders are incorporated by reference into Part III (Items 10, 11, 12, 13 and 14) of this report.

FREEPORT-McMoRan COPPER & GOLD INC.

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## PART I

### Items 1. and 2. Business and Properties.

*All of our periodic reports filed with the Securities and Exchange Commission (SEC) pursuant to Section 13(a) or 15 (d) of the Securities Exchange Act of 1934, as amended, are available, free of charge, through our website, [www.fcx.com](http://www.fcx.com), including our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports. These reports and amendments are available through our website as soon as reasonably practicable after we electronically file or furnish such material to the SEC.*

*References to “we,” “us” and “our” refer to Freeport-McMoRan Copper & Gold Inc. (FCX) and its consolidated subsidiaries, including, except as otherwise stated, Phelps Dodge Corporation and its subsidiaries, which we acquired on March 19, 2007. In 2008, we changed Phelps Dodge Corporation’s legal name to Freeport-McMoRan Corporation (FMC). References to “Notes” refer to the Notes to Consolidated Financial Statements included herein (refer to Item 8), and references to “MD&A” refer to Management’s Discussion and Analysis of Financial Condition and Results of Operations included herein (refer to Item 7).*

## GENERAL

We are a leading international mining company with headquarters in Phoenix, Arizona, and we were incorporated under the laws of the state of Delaware on November 10, 1987. We are one of the world’s largest copper, gold and molybdenum mining companies in terms of reserves and production. Our portfolio of assets includes the Grasberg minerals district in Indonesia, significant mining operations in North and South America, and the Tenke Fungurume minerals district in the Democratic Republic of Congo (DRC). The Grasberg minerals district contains the largest single recoverable copper reserve and the largest single gold reserve of any mine in the world based on the latest available reserve data provided by third-party industry consultants.

We have significant reserves, resources and future development opportunities within our portfolio of assets. At December 31, 2011, consolidated recoverable proven and probable reserves totaled 119.7 billion pounds of copper, 33.9 million ounces of gold, 3.42 billion pounds of molybdenum, 330.3 million ounces of silver and 0.86 billion pounds of cobalt. Approximately 34 percent of our copper reserves are in North America, 33 percent are in South America, 26 percent are in Indonesia and 7 percent are in Africa. Approximately 95 percent of our gold reserves are in Indonesia, with our remaining gold reserves primarily in South America. Approximately 79 percent of our molybdenum reserves are in North America, with our remaining molybdenum reserves in South America. Refer to “Ore Reserves” for further discussion.

We currently operate seven copper mines in North America – Morenci, Bagdad, Safford, Sierrita and Miami in Arizona, and Tyrone and Chino in New Mexico. Certain of our North America copper mines (primarily Sierrita, Bagdad and Morenci) also produce molybdenum concentrates.

We operate four copper mines in South America – Cerro Verde in Peru, and El Abra, Candelaria and Ojos del Salado in Chile. In addition to copper, the Cerro Verde mine also produces molybdenum concentrates, and the Candelaria and Ojos del Salado mines produce gold and silver.

In Indonesia, PT Freeport Indonesia operates the mines in the Grasberg minerals district. In addition to copper, the Grasberg minerals district also produces significant quantities of gold and silver.

In Africa, Tenke Fungurume Mining S.A.R.L. (TFM) operates the mine in the Tenke Fungurume minerals district (the Tenke mine). In addition to copper, Tenke produces cobalt hydroxide.

During 2011, 34 percent of our consolidated copper production was from North America, 35 percent from South America, 23 percent from Grasberg and 8 percent from Tenke. The Grasberg minerals district also accounted for 92 percent of our consolidated gold production for 2011. Refer to “Production Data” for further information.

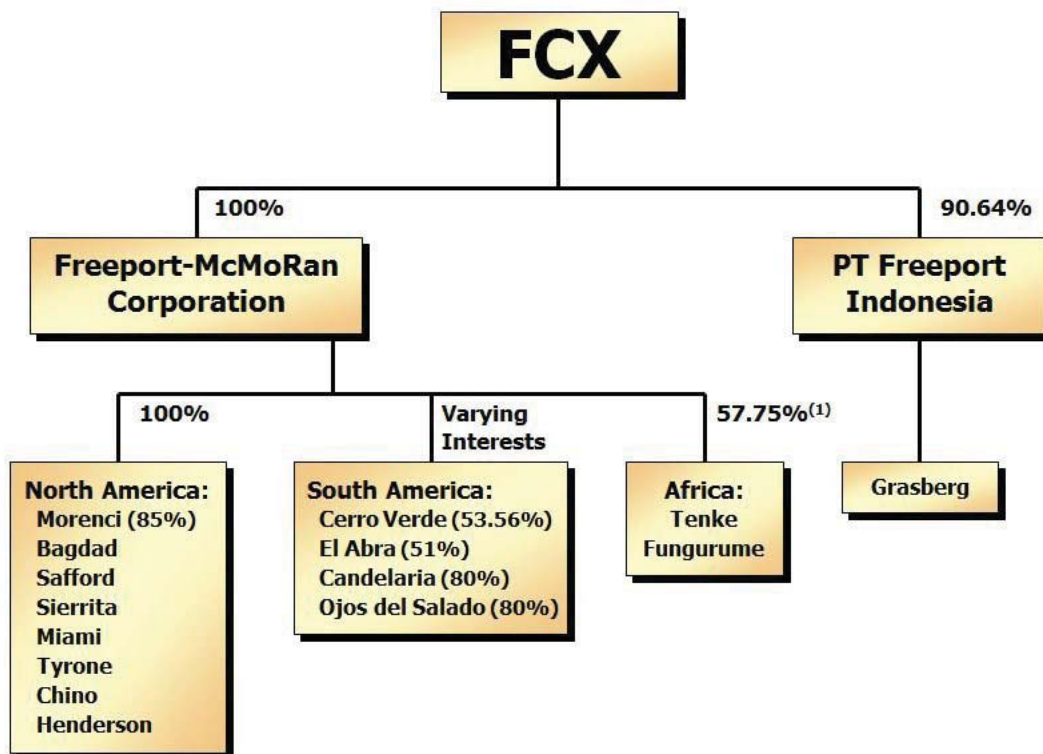
We produce molybdenum at our Henderson molybdenum mine in Colorado. During 2011, 46 percent of our consolidated molybdenum production was from the Henderson molybdenum mine, 42 percent was produced at certain of our North America copper mines and 12 percent was produced at our Cerro Verde copper mine. Refer to “Production Data” for further information.

The locations of our operating mines are shown on the map below. For information about our operating segments and financial data by geographic area refer to Note 17.

### FCX Operating Mine Locations



The diagram below shows our ownership interest in our operating mines at December 31, 2011.



(1) FCX's interest in TFM will be reduced to 56 percent after receiving the required government approval of the modifications to TFM's bylaws that reflect the agreement reached in December 2010 with the DRC government (refer to Note 14).

## COPPER, GOLD AND MOLYBDENUM

A brief discussion of our primary metals appears below. For further discussion of the markets and prices of these metals refer to MD&A.

### Copper

Copper is an internationally traded commodity, and its prices are determined by the major metals exchanges – the London Metal Exchange (LME), New York Mercantile Exchange (COMEX) and Shanghai Futures Exchange (SHFE). Prices on these exchanges generally reflect the worldwide balance of copper supply and demand and can be volatile and cyclical. During 2011, LME spot copper prices ranged from \$3.08 per pound to a record high of \$4.60 per pound, averaged \$4.00 per pound and closed at \$3.43 per pound on December 30, 2011.

In general, demand for copper reflects the rate of underlying world economic growth, particularly in industrial production and construction. According to Brook Hunt, a widely followed independent metals market consultant, copper's end-use markets (and their estimated shares of total consumption) are:

Construction	33%
Electrical applications	33%
Industrial machinery	13%
Transportation	13%
Consumer products	8%

### Gold

Gold is used for jewelry, coinage and bullion as well as various industrial and electronic applications. Gold can be readily sold on numerous markets throughout the world. Benchmark prices are generally based on London Bullion Market Association quotations. During 2011, London PM gold prices ranged from \$1,319 per ounce to a record high of \$1,895 per ounce, averaged \$1,572 per ounce and closed at \$1,575 per ounce on December 30, 2011.

### Molybdenum

Molybdenum is a key alloying element in steel and the raw material for several chemical-grade products used in catalysts, lubrication, smoke suppression, corrosion inhibition and pigmentation. Molybdenum, as a high-purity metal, is also used in electronics such as flat-panel displays and in super alloys used in aerospace. Molybdenum's end-use markets (and their estimated shares of total consumption) according to the International Molybdenum Association are:

Construction steel	40%
Stainless steel	20%
Chemicals	14%
Tool and high-speed steel	10%
Cast iron	7%
Molybdenum metal	5%
Super alloys	4%

Reference prices for molybdenum are available in several publications, including *Metals Week*, *Ryan's Notes* and *Metal Bulletin*. During 2011, the weekly average price of molybdenum quoted by *Metals Week* ranged from \$12.70 per pound to \$17.88 per pound, averaged \$15.49 per pound and was \$13.35 per pound on December 30, 2011.

## PRODUCTS AND SALES

FCX's consolidated revenues for 2011 primarily included sales of copper (78 percent), gold (12 percent) and molybdenum (6 percent). PT Freeport Indonesia's sales to PT Smelting (PT Freeport Indonesia's 25 percent owned copper smelter and refinery in Indonesia - refer to "Smelting Facilities" for further discussion) represented 11 percent of our consolidated revenues for 2011, 12 percent in 2010 and 13 percent in 2009. No other customer accounted for more than 10 percent of our consolidated revenues in any of the past three years.

Refer to Note 17 for a summary of our consolidated revenues and operating income by business segment and geographic area.

## **Copper Products**

We are one of the world's leading producers of copper concentrate, cathode and continuous cast copper rod. During 2011, 51 percent of our mined copper was sold in concentrate, 26 percent as cathodes and 23 percent as rod (principally from our North America operations).

Our copper ores are generally processed either by smelting and refining or by solution extraction and electrowinning (SX/EW). Before being subject to the smelting and refining process, ore is crushed and treated to produce a copper concentrate with copper content of approximately 20 to 30 percent. Copper concentrate is then smelted (*i.e.*, subjected to extreme heat) to produce copper anodes, which weigh between 800 and 900 pounds each and have an average copper content of 99.5 percent. The anodes are further treated by electrolytic refining to produce copper cathodes, which weigh between 100 and 350 pounds each and have an average copper content of 99.99 percent. Our copper cathodes are used as the raw material input for copper rod, brass mill products and for other uses. For ore subject to the SX/EW process, copper is extracted from the ore by dissolving it with a weak sulphuric acid solution. The copper content of the solution is increased in two additional solution-extraction stages and then the copper-bearing solution undergoes an electrowinning process to produce cathode that is 99.99 percent copper.

*Copper Concentrate.* We produce copper concentrate at eight of our mines, of which PT Freeport Indonesia is our largest producer. In North America, copper concentrate is produced at our Morenci, Bagdad, Sierrita and Chino mines, and is generally shipped to our Miami smelter in Arizona. In South America, we produce copper concentrate at our Cerro Verde, Candelaria and Ojos del Salado mines.

*Copper Cathode.* We produce copper cathode at two electrolytic refineries (located in El Paso, Texas, and Huelva, Spain) and at 10 of our mines. In North America, SX/EW cathode is produced from our Morenci, Bagdad, Safford, Sierrita, Miami, Tyrone and Chino mines; in South America from our Cerro Verde and El Abra mines; and from our Tenke mine in Africa. PT Smelting also produces copper cathode.

*Continuous Cast Copper Rod.* We manufacture continuous cast copper rod at our facilities in El Paso, Texas; Norwich, Connecticut; and Miami, Arizona, primarily using copper cathode produced at our North America mines.

*Other Copper Products.* We produce specialty copper products at our Bayway operations in Elizabeth, New Jersey. These products include specialty copper alloys in the forms of rod, bar and strip. We manufacture electrode wire for use in welding steel cans at our Norwich, Connecticut, and El Paso, Texas, facilities. We also produce copper sulfate pentahydrate for use in agricultural and industrial applications at our facility in Sierrita, Arizona. These facilities primarily use copper cathode produced at our North America mines to manufacture their end products.

## **Copper Sales**

*North America.* The majority of the copper produced at our North America copper mines and refined in our El Paso, Texas, refinery is consumed at our rod plants. The remainder of our North America copper production is sold in the form of copper cathode or copper concentrate to third parties. Generally, copper rod and cathode are sold to wire and cable fabricators and brass mills under United States (U.S.) dollar-denominated, annual contracts. Cathode and rod contract prices are generally based on the prevailing COMEX monthly average spot price for the month of shipment and include a premium.

*South America.* Production from our South America mines is sold as copper concentrate or copper cathode to third parties under U.S. dollar-denominated, annual and multi-year contracts. Our South America mines generally sell approximately 60 to 70 percent of their copper production in concentrate and the rest as cathode. During 2011, 16 percent of our South America mines' copper concentrate was shipped to Atlantic Copper S.L. (Atlantic Copper - our wholly owned copper smelting and refining unit in Spain).

Substantially all of South America's copper concentrate and cathode sales contracts provide final copper pricing in a specified future month (generally one to four months from the shipment date) based primarily on quoted LME monthly average spot copper prices. Revenues from South America's concentrate sales are recorded net of treatment and refining charges (*i.e.*, fees paid to smelters and refiners that are generally negotiated annually), including any applicable price participation charges that are based on the market price of copper. In addition, because a portion of the metals contained in copper concentrates is unrecoverable from the smelting process, revenues from South America's concentrate sales are also recorded net of allowances for unrecoverable metals. These allowances are a negotiated term of our contracts and vary by customer.



Indonesia. PT Freeport Indonesia sells its production in the form of copper concentrate, which contains significant quantities of gold and silver, under U.S. dollar-denominated, long-term contracts. PT Freeport Indonesia also sells a small amount of copper concentrates in the spot market.

During 2011, 54 percent of PT Freeport Indonesia's concentrate was sold to affiliated smelters, Atlantic Copper and PT Smelting. A summary of PT Freeport Indonesia's aggregate percentage concentrate sales to PT Smelting, Atlantic Copper and to third parties for the last three years follows:

	2011	2010	2009
PT Smelting	44%	36%	32%
Atlantic Copper	10%	21%	18%
Third parties	46%	43%	50%
	<u>100%</u>	<u>100%</u>	<u>100%</u>

Substantially all of PT Freeport Indonesia's concentrate sales contracts provide final copper pricing in a specified future month (generally one to four months from the shipment date) based primarily on quoted LME monthly average spot copper prices. Revenues from PT Freeport Indonesia's concentrate sales are recorded net of royalties and treatment and refining charges. PT Freeport Indonesia's concentrate sales are also net of allowances for unrecoverable metals.

Africa. TFM sells its production in the form of copper cathode under U.S. dollar-denominated contracts. Substantially all of TFM's cathode sales provide final copper pricing in the month after the shipment date based on quoted LME monthly average spot prices. Revenues from TFM's cathode sales are recorded net of royalties and also include adjustments for point-of-sale transportation costs that are negotiated in customer contracts.

Europe. Atlantic Copper sells copper cathode directly to rod and brass mills, primarily located in Europe. Atlantic Copper has occasionally sold copper cathode to merchants. Copper cathode is generally sold under annual contracts and priced based on the LME monthly average spot price for the month of arrival at the buyer's facilities.

Our copper mining operations provide Atlantic Copper with approximately 50 to 60 percent of its concentrate requirements at market prices. Following is a summary of Atlantic Copper's concentrate purchases from our copper mining operations and third parties for the last three years:

	2011	2010	2009
South America mining	30%	25%	35%
Indonesia mining	17% <sup>a</sup>	28%	25%
Morenci mine	2%	—%	—%
Third parties	51%	47%	40%
	<u>100%</u>	<u>100%</u>	<u>100%</u>

- a. The decrease in 2011 primarily reflects the impact of labor disruptions and the temporary suspension of milling operations in fourth-quarter 2011 because of damage to PT Freeport Indonesia's concentrate and fuel pipelines (refer to MD&A for further discussion).

### Gold Products and Sales

We also produce gold, primarily from the Grasberg minerals district. Gold is primarily sold as a component of our copper concentrate or in slimes, which are a by-product of the smelting and refining process. Gold generally is priced at the average London Bullion Market Association price for a specified month near the month of shipment. Revenues from gold sold as a component of our copper concentrate are recorded net of treatment and refining charges. Revenues from gold sold in slimes are recorded net of refining charges.

### Molybdenum Products and Sales

We are the world's largest producer of molybdenum and molybdenum-based chemicals. In addition to production from our Henderson molybdenum mine, we produce molybdenum concentrate at certain of our North America copper mines, and at our Cerro Verde copper mine in Peru.

The majority of our molybdenum concentrates are processed in our own conversion facilities. Technical-grade oxide is produced from molybdenum concentrates in Sierrita, Arizona; Fort Madison, Iowa; and Rotterdam, the Netherlands. Ferromolybdenum is produced from technical-grade oxide in Stowmarket, United Kingdom, through a metallothermic reduction process. High-quality molybdenum concentrates are converted into molybdenum



chemicals at Fort Madison and Rotterdam. Molybdenum generally is priced based on the average *Metals Week* price for the month prior to the month of shipment.

### **Cobalt, Silver and Other Products and Sales**

We produce cobalt hydroxide at the Tenke mine. Cobalt hydroxide is priced at a discount to the average monthly low price published by *Metal Bulletin* for a specified month near the month of shipment. We produce silver as a component of our copper concentrate or in slimes. Silver generally is priced at the average London Bullion Market Association price for a specified month near the month of shipment. Sales of cobalt hydroxide, silver and other metals, such as rhenium and magnetite, do not represent a significant component of our total consolidated revenues.

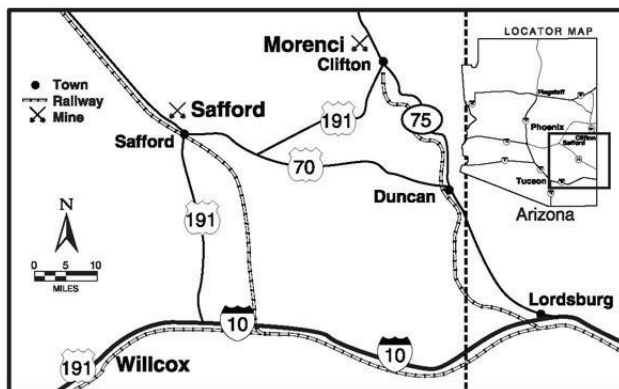
## **MINES**

Following are maps and descriptions of our mining operations in North America (including both copper and molybdenum operations), South America, Indonesia and Africa.

### **North America**

In the U.S., most of the land occupied by our copper and molybdenum mines, concentrators, SX/EW facilities, smelter, refinery, rod mills, molybdenum roasters and processing facilities is generally owned by us or is located on unpatented mining claims owned by us. Certain portions of our Bagdad, Sierrita, Miami, Tyrone, Chino, Cobre and Henderson operations are located on government-owned land and are operated under a Mine Plan of Operations or other use permit. Various federal and state permits or leases on government land are held for purposes incidental to mine operations.

### **Morenci**



We own an 85 percent undivided interest in Morenci, with the remaining 15 percent owned by affiliates of Sumitomo Corporation. Each partner takes in kind its share of Morenci's production.

Morenci is an open-pit copper mining complex that has been in continuous operation since 1939 and previously was mined through underground workings. Morenci is located in Greenlee County, Arizona, approximately 50 miles northeast of Safford on U.S. Highway 191. The site is accessible by a paved highway and a railway spur.

The Morenci mine is a porphyry copper deposit that has oxide and secondary sulfide mineralization, and primary sulfide mineralization. The predominant oxide copper mineral is chrysocolla. Chalcocite is the most important secondary copper sulfide mineral with chalcopyrite as the dominant primary copper sulfide.

The Morenci operation consists of a 50,000 metric ton-per-day concentrator, that produces copper and molybdenum concentrates; a 68,000 metric ton-per-day crushed-ore leach pad and stacking system; a low-grade run-of-mine (ROM) leaching system; four SX plants; and three EW tank houses that produce copper cathode. Total EW tank house capacity is approximately 900 million pounds of copper per year. Morenci's concentrate leach, direct-electrowinning facility was commissioned in third-quarter 2007 and processed copper concentrate until early 2009 when it was placed on care-and-maintenance status. The available mining fleet consists of 102 235-metric ton haul trucks loaded by 11 shovels with bucket sizes ranging from 42 to 55 cubic meters, which are capable of moving over 750,000 metric tons of material per day.

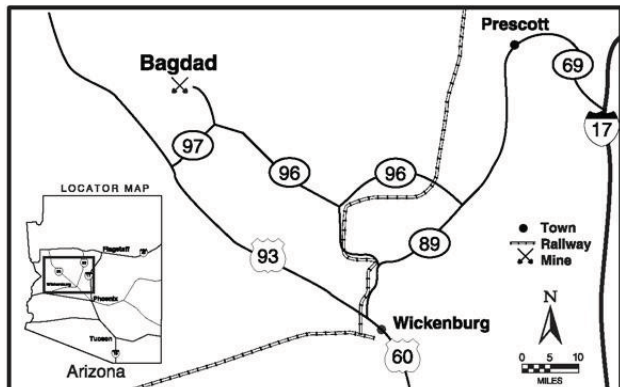
After reducing rates at Morenci in late 2008 and early 2009 because of weak market conditions, during 2011, we completed the ramp up of Morenci's mining rates to 635,000 metric tons of ore per day and milling rates to approximately 50,000 metric tons of ore per day, resulting in increased copper production of approximately 125 million pounds of copper per year. We are also advancing a feasibility study to expand mining and milling capacity at Morenci to process additional sulfide ore identified through exploratory drilling (refer to "Development Projects and Exploration" for further discussion).

Morenci's copper production, including our joint venture partner's share, totaled 614 million pounds in 2011, 514 million pounds in 2010 and 504 million pounds in 2009. In 2011, Morenci also had molybdenum production, including our joint venture partner's share, totaling 2 million pounds.

Morenci is located in a desert environment with rainfall averaging 13 inches per year. The highest bench elevation is 2,000 meters above sea level and the ultimate pit bottom is expected to have an elevation of 840 meters above sea level. The Morenci operation encompasses approximately 56,732 acres, comprising 50,235 acres of patented mining claims and other fee lands, 6,002 acres of unpatented mining claims, and 495 acres of land held by state or federal permits, easements and rights-of-way.

The Morenci operation's electrical power is primarily sourced from Tucson Electric Power Company, Arizona Public Service Company and the Luna Energy facility in Deming, New Mexico (in which we own a one-third interest). Although we believe the Morenci operation has sufficient water sources to support current operations, we are a party to litigation that may impact our water rights claims or rights to continued use of currently available water supplies, which could adversely affect our water supply for the Morenci operation. Refer to Item 1A. "Risk Factors" and Item 3. "Legal Proceedings," for further discussion.

## Bagdad



Our wholly owned Bagdad mine is an open-pit copper and molybdenum mining complex located in Yavapai County in west-central Arizona. It is approximately 60 miles west of Prescott and 100 miles northwest of Phoenix. The property can be reached by Arizona Highway 96, which ends at the town of Bagdad. The closest railroad is at Hillside, Arizona, approximately 24 miles southeast on Arizona Highway 96. The open-pit mining operation has been ongoing since 1945, and prior mining was conducted through underground workings.

The Bagdad mine is a porphyry copper deposit containing both sulfide and oxide mineralization. Chalcopyrite and molybdenite are the dominant primary sulfides and are the primary economic minerals in the mine. Chalcocite is the most common secondary copper sulfide mineral, and the predominant oxide copper minerals are chrysocolla, malachite and azurite.

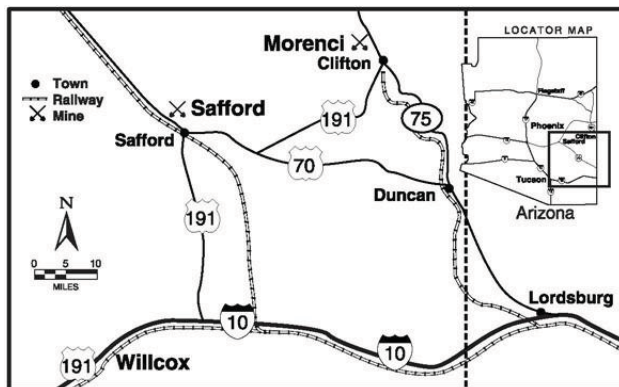
The Bagdad operation consists of a 75,000 metric ton-per-day concentrator that produces copper and molybdenum concentrates, an SX/EW plant that can produce up to 25 million pounds per year of copper cathode from solution generated by low-grade stockpile leaching and a pressure leach plant to process molybdenum concentrates. The available mining fleet consists of 30 235-metric ton haul trucks loaded by five shovels with bucket sizes ranging from 40 to 56 cubic meters, which are capable of moving over 200,000 metric tons of material per day.

Bagdad's production totaled 194 million pounds of copper and 10 million pounds of molybdenum in 2011, 203 million pounds of copper and 7 million pounds of molybdenum in 2010, and 225 million pounds of copper and 6 million pounds of molybdenum in 2009.

Bagdad is located in a desert environment with rainfall averaging 15 inches per year. The highest bench elevation is 1,200 meters above sea level and the ultimate pit bottom is expected to be 310 meters above sea level. The Bagdad operation encompasses approximately 21,743 acres, comprising 21,143 acres of patented mining claims and other fee lands, and 600 acres of unpatented mining claims.

Bagdad receives electrical power from Arizona Public Service Company. Although we believe the Bagdad operation has sufficient water sources to support current operations, we are a party to litigation that may set legal precedents, which could adversely affect our water rights at Bagdad and at our other properties in Arizona. Refer to Item 3. "Legal Proceedings," for information concerning the status of these proceedings.

## Safford



Our wholly owned Safford mine has been in operation since 2007 and is an open-pit copper mining complex located in Graham County, Arizona, approximately eight miles north of the town of Safford and 170 miles east of Phoenix. The site is accessible by paved county road off U.S. Highway 70.

The Safford mine includes two copper deposits that have oxide mineralization overlaying primary copper sulfide mineralization. The predominant oxide copper minerals are chrysocolla and copper-bearing iron oxides with the predominant copper sulfide material being chalcopyrite.

The property is a mine-for-leach project and produces copper cathodes. The operation consists of two open pits feeding a crushing facility with a capacity of 103,000 metric tons per day of crushed ore. The crushed ore is delivered to a single leach pad by a series of overland and portable conveyors. Leach solutions feed an SX/EW facility with a capacity of 240 million pounds of copper per year. The available mining fleet consists of 20 235-metric ton haul trucks loaded by four shovels with bucket sizes ranging from 31 to 34 cubic meters, which are capable of moving an average of approximately 225,000 metric tons of material per day.

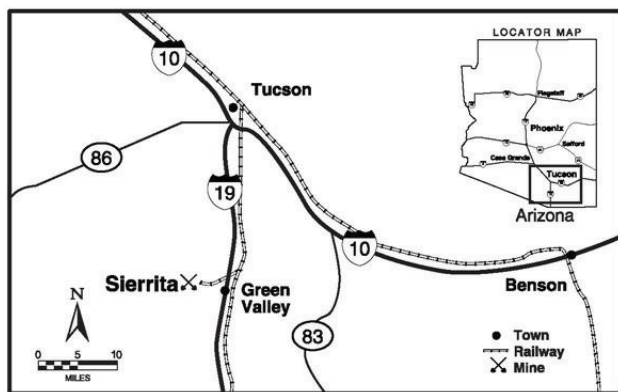
During 2011, we completed construction of a sulphur burner at Safford, which is providing a more cost-effective source of sulphuric acid used in SX/EW operations and lower transportation costs.

Safford's copper production totaled 151 million pounds in 2011, 143 million pounds in 2010 and 184 million pounds in 2009.

Safford is located in a desert environment with rainfall averaging 10 inches per year. The highest bench elevation is 1,250 meters above sea level and the ultimate pit bottom is expected to have an elevation of 750 meters above sea level. The Safford operation encompasses approximately 24,957 acres, comprising 20,994 acres of patented lands, 3,932 acres of unpatented lands and 31 acres of land held by federal permit.

The Safford operation's electrical power is primarily sourced from Tucson Electric Power Company, Arizona Public Service Company and the Luna Energy facility. Although we believe the Safford operation has sufficient water sources to support current operations, we are a party to litigation that may impact our water right claims or rights to continued use of currently available water supplies, which could adversely affect our water supply for the Safford operation. Refer to Item 1A. "Risk Factors" and Item 3. "Legal Proceedings," for further discussion.

## Sierrita



Our wholly owned Sierrita mine has been in operation since 1959 and is an open-pit copper and molybdenum mining complex located in Pima County, Arizona, approximately 20 miles southwest of Tucson and seven miles west of the town of Green Valley and Interstate Highway 19. The site is accessible by a paved highway and by rail.

The Sierrita mine is a porphyry copper deposit that has oxide and secondary sulfide mineralization, and primary sulfide mineralization. The predominant oxide copper minerals are malachite, azurite and chrysocolla. Chalcocite is the most important secondary copper sulfide mineral, and chalcopyrite and molybdenite are the dominant primary sulfides.

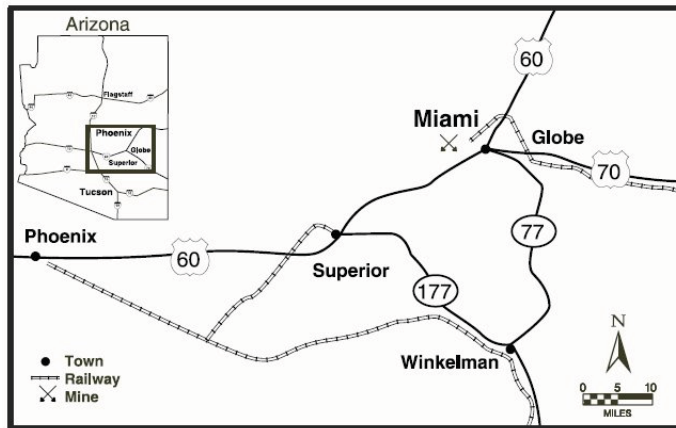
The Sierrita operation includes a 102,000 metric ton-per-day concentrator that produces copper and molybdenum concentrates. Sierrita also produces copper from a ROM oxide-leaching system. Cathode copper is plated at the Twin Buttes EW facility, which has a design capacity of approximately 50 million pounds of copper per year. In 2004, a copper sulfate crystal plant began production, which has the capacity to produce 40 million pounds of copper sulfate per year. The Sierrita operation also has molybdenum facilities consisting of a leaching circuit, two molybdenum roasters and a packaging facility. The molybdenum facilities process molybdenum concentrate produced by Sierrita, from our other mines and from third-party sources. The available mining fleet consists of 25 235-metric ton haul trucks loaded by four shovels with bucket sizes ranging from 34 to 56 cubic meters, which are capable of moving an average of 200,000 metric tons of material per day.

Sierrita's production totaled 177 million pounds of copper and 23 million pounds of molybdenum in 2011, 147 million pounds of copper and 18 million pounds of molybdenum in 2010, and 170 million pounds of copper and 19 million pounds of molybdenum in 2009.

Sierrita is located in a desert environment with rainfall averaging 12 inches per year. The highest bench elevation is 1,160 meters above sea level and the ultimate pit bottom is expected to be 440 meters above sea level. The Sierrita operation, including the adjacent Twin Buttes site (refer to "Development Projects and Exploration" for further discussion), encompasses approximately 27,000 acres, comprising 13,282 acres of patented mining claims and other fee lands, 11,694 acres of unpatented mining claims and 2,024 acres of leased lands.

Sierrita receives electrical power through long-term contracts with the Tucson Electric Power Company. Although we believe the Sierrita operation has sufficient water sources to support current operations, we are a party to litigation that may impact our water rights claims or rights to continued use of currently available water supplies, which could adversely affect our water supply for the Sierrita operation. Refer to Item 1A. "Risk Factors" and Item 3. "Legal Proceedings," for further discussion.

## Miami



Our wholly owned Miami mine is an open-pit copper mining complex located in Gila County, Arizona, approximately 90 miles east of Phoenix and six miles west of the city of Globe on U.S. Highway 60. The site is accessible by a paved highway and by rail.

The Miami mine is developed on a porphyry copper deposit that has leachable oxide and secondary sulfide mineralization. The predominant oxide copper minerals are chrysocolla, copper-bearing clays, malachite and azurite. Chalcocite and covellite are the most important secondary copper sulfide minerals.

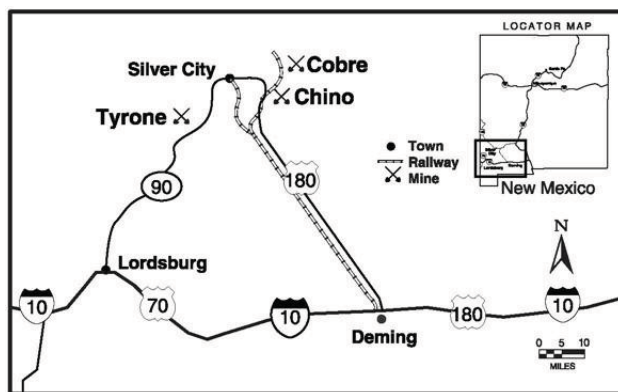
Since about 1915, the Miami mining operation had processed copper ore using both flotation and leaching technologies. Current operations include leaching with copper recovered (from solution) by the SX/EW process. The design capacity of the SX/EW plant is 200 million pounds of copper per year. The available mining fleet consists of 24 227-metric ton haul trucks loaded by 3 shovels with bucket sizes ranging from 31 to 34 cubic meters, which are capable of moving an average of approximately 155,000 metric tons of material per day.

Miami's copper production totaled 66 million pounds in 2011, 18 million pounds in 2010 and 16 million pounds in 2009.

Miami is located in a desert environment with rainfall averaging 18 inches per year. The highest bench elevation is 1,390 meters above sea level, and the ultimate pit bottom will have an elevation of 810 meters above sea level. The Miami operation encompasses approximately 9,058 acres, comprising 8,725 acres of patented mining claims and other fee lands and 333 acres of unpatented mining claims.

Miami receives electrical power through long-term contracts with the Salt River Project and natural gas through long-term contracts with El Paso Natural Gas as the transporter. Although we believe the Miami operation has sufficient water sources to support current operations, we are a party to litigation that may impact our water right claims or rights to continued use of currently available water supplies, which could adversely affect our water supply for the Miami operation. Refer to Item 1A. "Risk Factors" and Item 3. "Legal Proceedings," for further discussion.

## Tyrone and Chino



### *Tyrone*

Our wholly owned Tyrone mine is an open-pit copper mining complex which has been in operation since 1967. It is located in southwestern New Mexico in Grant County, approximately 10 miles south of Silver City, New Mexico, along State Highway 90. The site is accessible by paved road and rail.

The Tyrone mine is a porphyry copper deposit. Mineralization is predominantly secondary sulfide consisting of chalcocite with leachable oxide mineralization consisting of chrysocolla.

Copper processing facilities consist of a SX/EW operation with a maximum capacity of 153 million pounds of copper cathodes per year. The available mining fleet consists of 20 240-metric ton haul trucks loaded by three shovels with bucket sizes ranging from 17 to 47 cubic meters, which are capable of moving an average of 136,000 metric tons of material per day.

Tyrone's copper production totaled 76 million pounds in 2011, 82 million pounds in 2010 and 86 million pounds in 2009.

Tyrone is located in a desert environment with rainfall averaging 16 inches per year. The highest bench elevation is 2,000 meters above sea level and the ultimate pit bottom is expected to have an elevation of 1,500 meters above sea level. The Tyrone operation encompasses approximately 35,200 acres, comprising 18,755 acres of patented mining claims and other fee lands, and 16,445 acres of unpatented mining claims.

Tyrone receives electrical power from the Luna Energy facility and from the open market. We believe the Tyrone operation has sufficient water resources to support current operations.

### *Chino*

Our wholly owned Chino mine is an open-pit copper mining complex located in southwestern New Mexico in Grant County, approximately 15 miles east of the town of Silver City off of State Highway 180. The mine is accessible by paved roads and by rail. Chino has been in operation since 1910.

The Chino mine is a porphyry copper deposit with adjacent copper skarn deposits. There is leachable oxide and secondary sulfide mineralization, and millable primary sulfide mineralization. The predominant oxide copper minerals are chrysocolla and azurite. Chalcocite is the most important secondary copper sulfide mineral, and chalcopyrite and molybdenite the dominant primary sulfides.

The Chino operation consists of a 39,000 metric ton-per-day concentrator that produces copper and molybdenum concentrates, and a 150 million pound-per-year SX/EW plant that produces copper cathode from solution generated by ROM leaching. The available mining fleet consists of 34 240-metric ton haul trucks loaded by four shovels with bucket sizes ranging from 42 to 48 cubic meters, which are capable of moving an average of 218,000 metric tons of material per day.

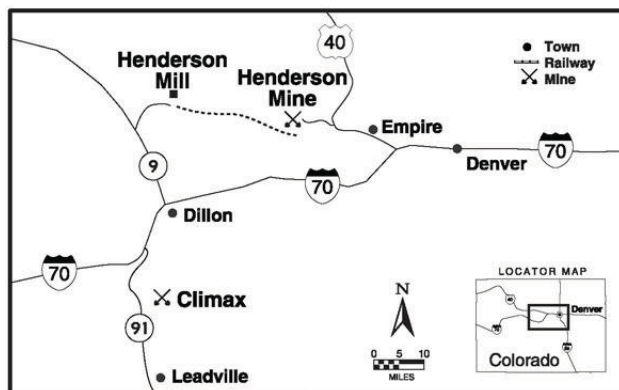
During 2011, we restarted mining and milling activities at the Chino mine, which were suspended in late 2008. Chino's copper production totaled 69 million pounds in 2011 and is expected to increase to approximately 200 million pounds of copper per year by 2014. Chino's copper production totaled 34 million pounds in 2010 and 36 million pounds in 2009.



Chino is located in a desert environment with rainfall averaging 16 inches per year. The highest bench elevation is 2,250 meters above sea level, and the ultimate pit bottom is expected to be 1,500 meters above sea level. The Chino operation encompasses approximately 118,623 acres comprising 113,221 acres of patented mining claims and other fee lands, and 5,402 acres of unpatented mining claims.

Chino receives power from the Luna Energy Facility and from the open market. We believe Chino has sufficient water resources to support current operations.

## Henderson



Our wholly owned Henderson molybdenum mine has been in operation since 1976 and is located approximately 42 miles west of Denver, Colorado, off U.S. Highway 40. Nearby communities include the towns of Empire, Georgetown and Idaho Springs. The Henderson mill site is located approximately 15 miles west of the mine and is accessible from Colorado State Highway 9. The Henderson mine and mill are connected by a 10-mile conveyor tunnel under the Continental Divide and an additional five-mile surface conveyor. The tunnel portal is located five miles east of the mill.

The Henderson mine is a porphyry molybdenum deposit with molybdenite as the primary sulfide mineral.

The Henderson operation consists of a large block-cave underground mining complex feeding a concentrator with a current capacity of approximately 32,000 metric tons per day. Henderson has the capacity to produce approximately 40 million pounds of molybdenum per year. The majority of the molybdenum concentrate produced is shipped to our Fort Madison, Iowa, processing facility. The available underground mining equipment fleet consists of 13 nine-metric ton load-haul-dump (LHD) units and six 73-metric ton haul trucks, which deliver ore to a gyratory crusher feeding a series of three overland conveyors to the mill stockpiles.

Henderson's molybdenum production totaled 38 million pounds in 2011, 40 million pounds in 2010 and 27 million pounds in 2009.

The Henderson mine is located in a mountain region with the main access shaft at 3,180 meters above sea level. The main production levels are currently at elevations of 2,200 and 2,350 meters above sea level. This region experiences significant snowfall during the winter months.

The Henderson mine and mill operations encompass approximately 11,878 acres, comprising 11,843 acres of patented mining claims and other fee lands, and a 35-acre easement with the U.S. Forest Service for the surface portion of the conveyor corridor.

Henderson operations receive electrical power through long-term contracts with Xcel Energy and natural gas through long-term contracts with Anadarko Energy Services Company, with Xcel Energy as the transporter. We believe the Henderson operation has sufficient water resources to support current operations.



## Other North America Mines

In addition to the currently operating mines described above, we have four non-operating copper mines: Ajo, Bisbee and Tohono in Arizona, and Cobre in New Mexico; and the Climax molybdenum mine in Colorado.

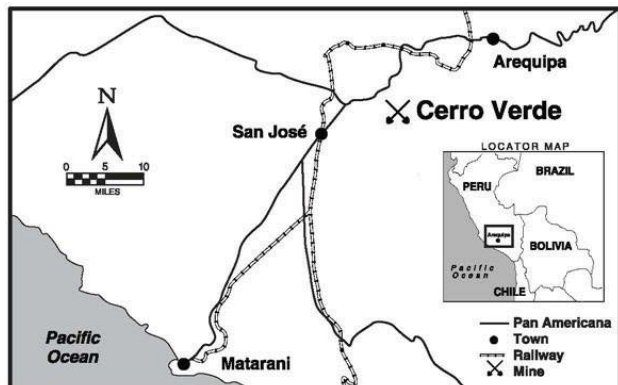
Our four non-operating copper mines have been on care-and-maintenance status for several years and would require significant capital investment to return them to operating status.

Construction activities at the Climax molybdenum mine are substantially complete, and we expect to commence production during 2012. Production from the Climax molybdenum mine is expected to ramp up to a rate of 20 million pounds of molybdenum per year during 2013 and, depending on market conditions, may be increased to 30 million pounds of molybdenum per year. We intend to operate our Climax and Henderson molybdenum mines in a flexible manner to meet market requirements.

## South America

At our operations in South America, mine properties and facilities are controlled through mining claims or concessions under the general mining laws of the relevant country. The claims or concessions are owned or controlled by the operating companies in which we or our subsidiaries have a controlling ownership interest. Roads, power lines and aqueducts are controlled by easements.

### Cerro Verde



We have a 53.56 percent ownership interest in Cerro Verde, with the remaining 46.44 percent held by SMM Cerro Verde Netherlands B.V. (21.0 percent), Compañía de Minas Buenaventura S.A.A. (19.3 percent) and other stockholders whose shares are publicly traded on the Lima Stock Exchange (6.14 percent).

Cerro Verde is an open-pit copper and molybdenum mining complex that has been in operation since 1976 and is located 20 miles southwest of Arequipa, Peru. The site is accessible by paved highway. Approximately one-third of Cerro Verde's copper cathode production is sold locally and the remaining copper cathodes and concentrate production are transported approximately 70 miles by truck and rail to the Port of Matarani for shipment to international markets.

The Cerro Verde mine is a porphyry copper deposit that has oxide and secondary sulfide mineralization, and primary sulfide mineralization. The predominant oxide copper minerals are brochantite, chrysocolla, malachite and copper "pitch." Chalcocite and covellite are the most important secondary copper sulfide minerals. Chalcopyrite and molybdenite are the dominant primary sulfides.

Cerro Verde's current operation consists of an open-pit copper mine, a 120,000 metric tons of ore per day concentrator and SX/EW leaching facilities. Leach copper production is derived from a 39,000 metric ton-per-day crushed leach facility and a ROM leach system. This leaching operation has a capacity of approximately 200 million pounds of copper per year. The available fleet consists of 32 230-metric ton haul trucks loaded by five shovels with bucket sizes ranging in size from 21 to 53 cubic meters, which are capable of moving an average of approximately 308,000 metric tons of material per day.

Cerro Verde's production totaled 647 million pounds of copper and 10 million pounds of molybdenum in 2011, 668 million pounds of copper and 7 million pounds of molybdenum in 2010, and 662 million pounds of copper and 2 million pounds of molybdenum in 2009.

Refer to "Development Projects and Exploration" for further discussion of the large-scale concentrator expansion project at Cerro Verde.

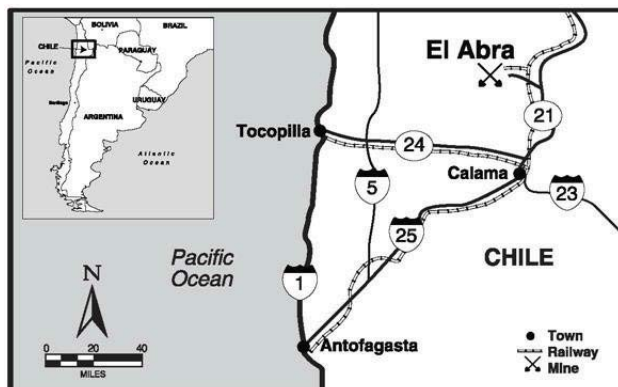
Cerro Verde is located in a desert environment with rainfall averaging 1.5 inches per year and is in an active seismic zone. The highest bench elevation is 2,900 meters above sea level and the ultimate pit bottom is expected to be 2,000 meters above sea level. Cerro Verde has a mining concession covering approximately 157,007 acres plus 24 acres of owned property and 79 acres of rights-of-way outside the mining concession area.

Cerro Verde receives electrical power under long-term contracts with Kallpa Generación SA and Empresa de Generación Eléctrica de Arequipa. Water for our Cerro Verde processing operations comes from renewable sources through a series of storage reservoirs on the Rio Chili watershed that collect water primarily from seasonal precipitation. Cerro Verde's participation in the Pillones Reservoir Project has secured water rights that we believe will be sufficient to support Cerro Verde's current operations.

In 2011, Cerro Verde reached an agreement with the Regional Government of Arequipa, the National Government, Servicio de Agua Potable y Alcantarillado de Arequipa S.A. (SEDAPAR) and other local institutions to allow it to finance the engineering and construction of a wastewater treatment plant, should Cerro Verde proceed with plans for a large-scale concentrator expansion. Once Cerro Verde obtains a license for the treated water, it would be used to supplement its existing water supplies to support the potential concentrator expansion.

For further discussion of risks associated with the availability of water, see Item 1A. "Risk Factors."

## El Abra



We own a 51 percent interest in El Abra, and the remaining 49 percent interest is held by the state-owned copper enterprise Corporación Nacional del Cobre de Chile (CODELCO).

El Abra is an open-pit copper mining complex that has been in operation since 1996 and is located 47 miles north of Calama in Chile's El Loa province, Region II. The site is accessible by paved highway and by rail.

The El Abra mine is a porphyry copper deposit that has sulfide and oxide mineralization. The predominant primary sulfide copper minerals are bornite and chalcopyrite. There is a minor amount of secondary sulfide mineralization as chalcocite. The oxide copper minerals are chrysocolla and pseudomalachite. There are lesser amounts of copper-bearing clays and tenorite.

The El Abra operation consists of an open-pit copper mine and an SX/EW facility with a capacity of 500 million pounds of copper cathode per year from a 115,000 metric ton-per-day crushed leach circuit and a similar-sized ROM leaching operation. The available fleet consists of 34 220-metric ton haul trucks loaded by four shovels with buckets ranging in size from 26 to 41 cubic meters, which are capable of moving an average of 223,000 metric tons of material per day.

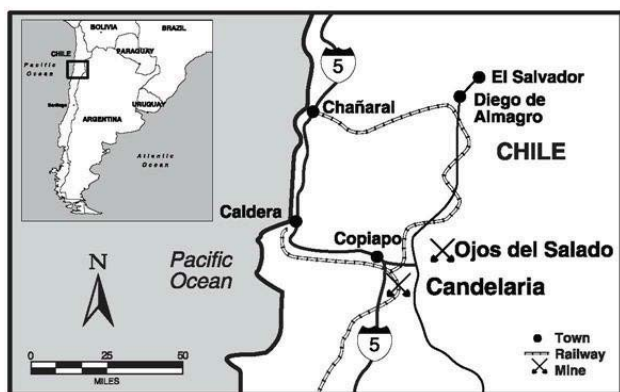
During 2011, we commenced production from El Abra's newly commissioned stacking and leaching facilities to begin transitioning from production of oxide to sulfide ores. Production from the sulfide ore will approximate 300 million pounds of copper per year, replacing the depleting oxide copper production.

El Abra's copper production totaled 274 million pounds in 2011, 320 million pounds in 2010 and 358 million pounds in 2009.

El Abra is located in a desert environment with rainfall averaging less than one inch per year and is in an active seismic zone. The highest bench elevation is 4,180 meters above sea level and the ultimate pit bottom is expected to be 3,410 meters above sea level. El Abra controls a total of 151,272 acres of mining claims covering the ore deposit, stockpiles, process plant, and water wellfield and pipeline. In addition, El Abra has acquired land surface rights for the road between the processing plant and the mine, the water wellfield, power transmission lines and for the water pipeline from the Salar de Ascotán.

El Abra currently receives electrical power under a long-term contract with Electroandina. Water for our El Abra processing operations comes from pumping of groundwater from the Salar de Ascotán aquifer pursuant to regulatory approval. We believe El Abra has sufficient water rights to support current operations. For a discussion of risks associated with the availability of water, see Item 1A. "Risk Factors."

### Candelaria and Ojos del Salado



#### Candelaria

We have an 80 percent ownership interest in Candelaria, with the remaining 20 percent interest owned by affiliates of Sumitomo Corporation.

Candelaria's open-pit copper mine has been in operation since 1993 and the underground mine has been in operation since 2005. The Candelaria copper mining complex is located approximately 12 miles south of Copiapo in northern Chile's Atacama province, Region III. The site is accessible by two maintained dirt roads, one coming through the Tierra Amarilla community and the other off of Route 5 of the International Pan-American Highway. Copper concentrates are transported by truck to the Punta Padrones port facility located in Caldera, approximately 50 miles northwest of the mine.

The Candelaria mine is an iron oxide, copper and gold deposit. Primary sulfide mineralization consists of chalcopyrite.

The Candelaria operation consists of an open-pit copper mine and a 6,000 metric ton-per-day underground copper mine, which is mined by sublevel stoping, feeding a 75,000 metric ton-per-day concentrator. The available fleet consists of 46 225-metric ton haul trucks loaded by six shovels with bucket sizes ranging from 28 to 43 cubic meters, which are capable of moving 250,000 metric tons of material per day.

Candelaria's production totaled 327 million pounds of copper and 85 thousand ounces of gold in 2011, 300 million pounds of copper and 76 thousand ounces of gold in 2010, and 296 million pounds of copper and 74 thousand ounces of gold in 2009.

Candelaria is located in a desert environment with rainfall averaging less than one inch per year and is in an active seismic zone. The highest bench elevation is 675 meters above sea level and the ultimate pit bottom is expected to

be 32 meters below sea level. The Candelaria property encompasses approximately 13,390 acres, including approximately 125 acres for the port facility in Caldera. The remaining property consists of mineral rights owned by us in which the surface is not owned but controlled by us, which is consistent with Chilean law.

Candelaria receives electrical power through long-term contracts with Empresa Eléctrica Guacolda S.A., a local energy company. Candelaria's water supply comes from well fields in the area of Tierra Amarilla and Copiapó that draw water from the Copiapó River aquifer. Because of rapid depletion of that aquifer in recent years, Candelaria is expanding its sources of water supply. During 2010, we completed construction of a pipeline to bring water from a nearby water treatment facility. We have also completed engineering and began construction for a desalination plant near the Pacific Ocean that will supply all of Candelaria's longer term water needs. The plant is expected to be completed in early 2013. For further discussion of risks associated with the availability of water, see Item 1A. "Risk Factors."

#### *Ojos del Salado*

We have an 80 percent ownership interest in Ojos del Salado, with the remaining 20 percent interest owned by affiliates of Sumitomo Corporation.

The Ojos del Salado operation began commercial production in 1929 and consists of two underground copper mines (Santos and Alcaparrosa) and a 3,800 metric ton-per-day concentrator. The operation is located approximately 10 miles east of Copiapó in northern Chile's Atacama province, Region III, and is accessible by paved highway. The Ojos del Salado mines are iron oxide and copper and gold deposits. Primary sulfide mineralization consists of chalcopyrite.

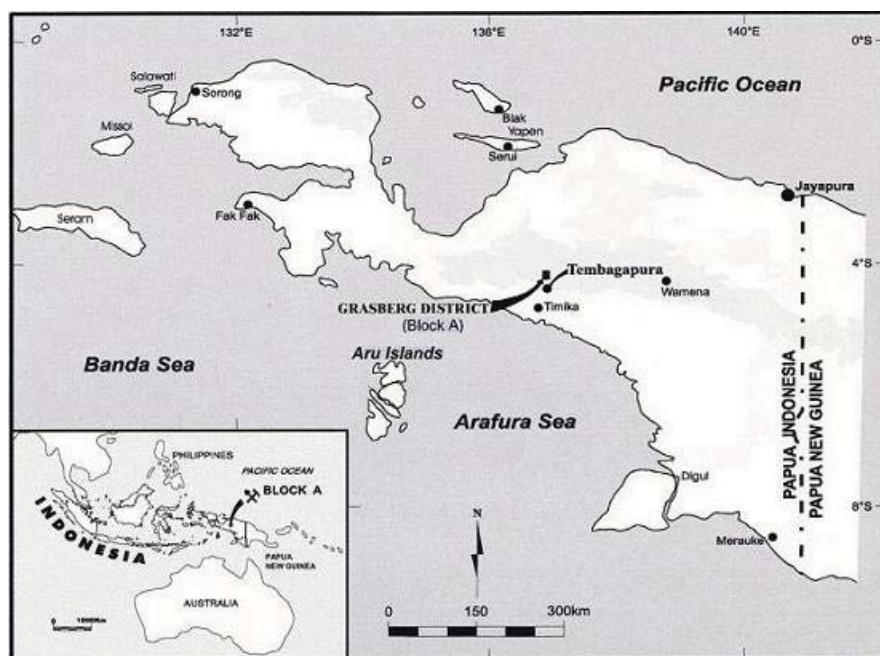
The Ojos del Salado operation has a capacity of 3,800 metric tons per day of ore from the Santos underground mine and 4,000 metric tons of ore per day from the Alcaparrosa underground mine. The ore from both mines is mined by sublevel stoping since both the ore and enclosing rocks are competent. The broken ore is removed from the stopes using scoops and loaded into an available fleet of 26 28-metric ton trucks, which transport the ore to the surface. The ore from the Santos mine is hauled directly to the Ojos del Salado mill for processing, and the ore from the Alcaparrosa mine is reloaded into six 54-metric ton trucks and hauled seven miles to the Candelaria mill for processing. The Ojos del Salado concentrator has the capacity to produce over 30 million pounds of copper and 9,000 ounces of gold per year. Tailings from the Ojos del Salado mill are pumped to the Candelaria tailings facility for final deposition. The Candelaria facility has sufficient capacity for the remaining Ojos del Salado tailings.

Ojos del Salado's production totaled 58 million pounds of copper and 16 thousand ounces of gold in 2011, 66 million pounds of copper and 17 thousand ounces of gold in 2010, and 74 million pounds of copper and 18 thousand ounces of gold in 2009.

Ojos del Salado is located in a desert environment with rainfall averaging less than one inch per year and is in an active seismic zone. The highest underground level is at an elevation of 500 meters above sea level, with the lowest underground level at 150 meters above sea level. The Ojos del Salado mineral rights encompass approximately 15,815 acres, which includes approximately 6,784 acres of owned land in and around the Ojos del Salado underground mines and plant site. The remaining property consists of mineral rights owned by us in which the surface is not owned but controlled by us, which is consistent with Chilean law.

Ojos del Salado receives electrical power through long-term contracts with Empresa Eléctrica Guacolda S.A. Ojos del Salado's water supply comes from well fields in the area of Tierra Amarilla and Copiapó that draw water from the Copiapó River aquifer. For a discussion of risks associated with the availability of water, see Item 1A. "Risk Factors."

## Indonesia



**Ownership.** PT Freeport Indonesia is a limited liability company organized under the laws of the Republic of Indonesia and incorporated in Delaware. We directly own 81.28 percent of PT Freeport Indonesia and 9.36 percent indirectly through our wholly owned subsidiary, PT Indocopper Investama; the Government of Indonesia owns the remaining 9.36 percent.

We have established certain unincorporated joint ventures with Rio Tinto plc (Rio Tinto). Under the joint venture arrangements, Rio Tinto has a 40 percent interest in PT Freeport Indonesia's Contract of Work (COW) and the option to participate in 40 percent of any other future exploration projects in Papua, Indonesia. Refer to Note 2 for further discussion.

**Contract of Work.** PT Freeport Indonesia conducts its current exploration and mining operations in Indonesia through a COW with the Government of Indonesia. The COW governs our rights and obligations relating to taxes, exchange controls, royalties, repatriation and other matters, and was concluded pursuant to the 1967 Foreign Capital Investment Law, which expresses Indonesia's foreign investment policy and provides basic guarantees of remittance rights and protection against nationalization, a framework for economic incentives and basic rules regarding other rights and obligations of foreign investors. Specifically, the COW provides that the Government of Indonesia will not nationalize or expropriate PT Freeport Indonesia's mining operations. Any disputes regarding the provisions of the COW are subject to international arbitration. We have experienced no disputes requiring arbitration during the more than 40 years we have operated in Indonesia.

PT Freeport Indonesia's original COW was entered into in 1967 and was replaced by a new COW in 1991. The initial term of the current COW expires in 2021, but can be extended for two 10-year periods subject to Indonesian government approval, which pursuant to the COW cannot be withheld or delayed unreasonably. The COW allows us to conduct exploration, mining and production activities in the 24,700-acre Block A area, which is where all of PT Freeport Indonesia's proven and probable mineral reserves and current mining operations are located. Under the COW, PT Freeport Indonesia also conducts exploration activities in the Block B area. We expect the Block B area to be reduced to approximately 413,000 acres once the Department of Energy and Mineral Resources (DEMR) formally accepts PT Freeport Indonesia's relinquishment of approximately 89,000 acres. As further discussed in Note 14, PT Freeport Indonesia pays copper royalties under its COW, and has agreed to pay additional royalties to the Government of Indonesia that are not required under its COW. The additional royalties provide further support to the local governments and to the people of the Indonesian province of Papua. PT Freeport Indonesia's share of the combined royalties totaled \$137 million in 2011, \$156 million in 2010 and \$147 million in 2009.

PT Iria Eastern Minerals (Eastern Minerals), of which we own 100 percent, conducts exploration in Papua through a joint venture agreement under a separate COW. We expect Eastern Minerals' exploration area to be reduced to approximately 283,000 acres once the DEMR formally accepts Eastern Minerals' relinquishment of approximately



164,000 acres.

Under a joint venture agreement through PT Nabire Bakti Mining (PTNBM), we conduct exploration activities under a separate COW in an area in three parcels contiguous to PT Freeport Indonesia's Block B and one of Eastern Minerals' blocks. We expect PTNBM's exploration area to be reduced to approximately 301,000 acres once the DEMR formally accepts PTNBM's relinquishment of approximately 192,000 acres.

In 2009, Indonesia enacted a new mining law, which will operate under a licensing system as opposed to the contract of work system that applies to PT Freeport Indonesia, Eastern Minerals and PTNBM. In 2011 and 2010, the Government of Indonesia promulgated regulations under the 2009 mining law and certain provisions that address existing contracts of work. The laws and regulations provide that contracts of work will continue to be honored until their expiration. However, the regulations attempt to apply certain provisions of the new law to existing contracts of work and may seek to apply the licensing system to any extension periods of contracts of work, even though our COW provides for two 10-year extension periods subject to Indonesian government approval, which pursuant to the COW cannot be withheld or delayed unreasonably. In February 2012, a new regulation was adopted that would require mining companies in Indonesia to process all minerals domestically and possibly ban export of concentrates and other unrefined minerals. PT Freeport Indonesia's existing COW includes specific provisions that define PT Freeport Indonesia's rights to export product and obligate it to develop domestic smelting facilities, if commercially feasible, or to contract with other domestic smelters on a market basis. In connection with the obligations under its COW, in 1995, PT Freeport Indonesia constructed the only copper smelter and refinery in Indonesia, which is owned and operated by PT Smelting.

In January 2012, the President of Indonesia issued a decree calling for the creation of a team to evaluate contracts of work for adjustment to the 2009 Mining Law, and accordingly, to take steps to assess and negotiate size of work areas, government revenues and domestic processing of minerals (refer to Item 1A. "Risk Factors" for further discussion). We intend to continue to work cooperatively with the Government of Indonesia to complete this review and to seek extension of the COW beyond 2021, as provided under the terms of the COW. The COW can only be modified by mutual agreement between PT Freeport Indonesia and the Government of Indonesia.

Grasberg Minerals District. PT Freeport Indonesia operates in the remote highlands of the Sudirman Mountain Range in the province of Papua, Indonesia, which is on the western half of the island of New Guinea. We and our predecessors have been the only operator of exploration and mining activities in Block A since 1967. The Grasberg minerals district currently has three mines in operation: the Grasberg open pit, the Deep Ore Zone (DOZ) mine and the Big Gossan mine. We also have significant development projects in the Grasberg minerals district, which are discussed in more detail in "Development Projects and Exploration" and in MD&A.

PT Freeport Indonesia's production, including our joint venture partner's share, totaled 882 million pounds of copper and 1.4 million ounces of gold in 2011, 1.3 billion pounds of copper and 2.0 million ounces of gold in 2010 and 1.6 billion pounds of copper and 3.0 million ounces of gold in 2009.

Our principal source of power for all our Indonesian operations is a coal-fired power plant that we built in 1998. Diesel generators supply peaking and backup electrical power generating capacity. A combination of naturally occurring mountain streams and water derived from our underground operations provides water for our operations. Our Indonesian operations are in an active seismic zone and experience average annual rainfall of approximately 200 inches.

#### *Grasberg Open Pit*

We began open-pit mining of the Grasberg ore body in 1990. Open-pit operations are expected to continue through mid-2016, at which time underground mining operations are scheduled to begin at our Grasberg Block Cave mine, which is currently in development. Production in the open-pit is currently at the 3,220- to 3,940- meter elevation level and totaled 42 million metric tons of ore in 2011, which provided approximately 70 percent of PT Freeport Indonesia's 2011 mill feed.

The current equipment fleet consists of over 500 units. The larger mining equipment directly associated with production includes an available fleet of 163 haul trucks with payloads ranging from approximately 215 metric tons to 330 metric tons and 18 shovels with bucket sizes ranging from 30 cubic meters to 42 cubic meters, which moved an average of 486,000 metric tons of material per day during 2011 and 701,000 metric tons per day in 2010. The decrease in 2011 primarily reflects the impact of labor disruptions and the temporary suspension of milling operations in fourth-quarter 2011 because of damage to the concentrate and fuel pipelines (refer to MD&A for

further discussion).

Grasberg crushing and conveying systems are integral to the mine and provide the capacity to transport up to 225,000 metric tons per day of Grasberg ore to the mill and 135,000 metric tons per day of overburden to the overburden stockpiles. The remaining overburden is moved by haul trucks.

#### *DOZ mine*

The DOZ ore body lies vertically below the now depleted Intermediate Ore Zone. We began production from the DOZ ore body in 1989 using open stope mining methods, but suspended production in 1991 in favor of production from the Grasberg deposit. Production resumed in September 2000 using the block-cave method. Production is at the 3,110-meter elevation level and totaled 19 million metric tons of ore in 2011. Production at the DOZ mine is expected to continue through 2019. Beginning in 2015, we plan to ramp up production at our Deep Mill Level Zone (DMLZ) block cave mine, which lies below the DOZ mine and is currently under development.

The DOZ mine fleet consists of over 195 pieces of mobile heavy equipment, which is capable of moving an average of 80,000 metric tons of material per day. The primary mining equipment directly associated with production and development includes an available fleet of 52 LHD units and 25 haul trucks. Our production LHD units typically carry approximately 11 metric tons of ore. Using ore passes and chutes, the LHD units transfer ore into 55-metric ton capacity haul trucks. The trucks dump into two gyratory crushers and the ore is then conveyed to the surface stockpiles.

During 2011, we completed over 5,000 meters of development drifting in support of the block-cave mining method for the DOZ mine. The success of the development of the DOZ mine, one of the world's largest underground mines, provides confidence in the future development of PT Freeport Indonesia's large-scale undeveloped underground ore bodies.

#### *Big Gossan mine*

The Big Gossan mine lies underground and adjacent to the current mill site. It is a tabular, near vertical ore body with approximate dimensions of 1,200 meters along strike and 800 meters down dip with varying thicknesses from 20 meters to 120 meters. The mine utilizes a blasthole stoping method with delayed paste backfill. Stopes of varying sizes are mined and the ore dropped down passes to a truck haulage level. Trucks are chute loaded and transport the ore to a jaw crusher. The crushed ore is then hoisted vertically via a two skip production shaft to a level where it is loaded onto a conveyor belt. The belt carries the ore to one of the main underground conveyors where the ore is transferred and carried to the surface mill stockpile for processing.

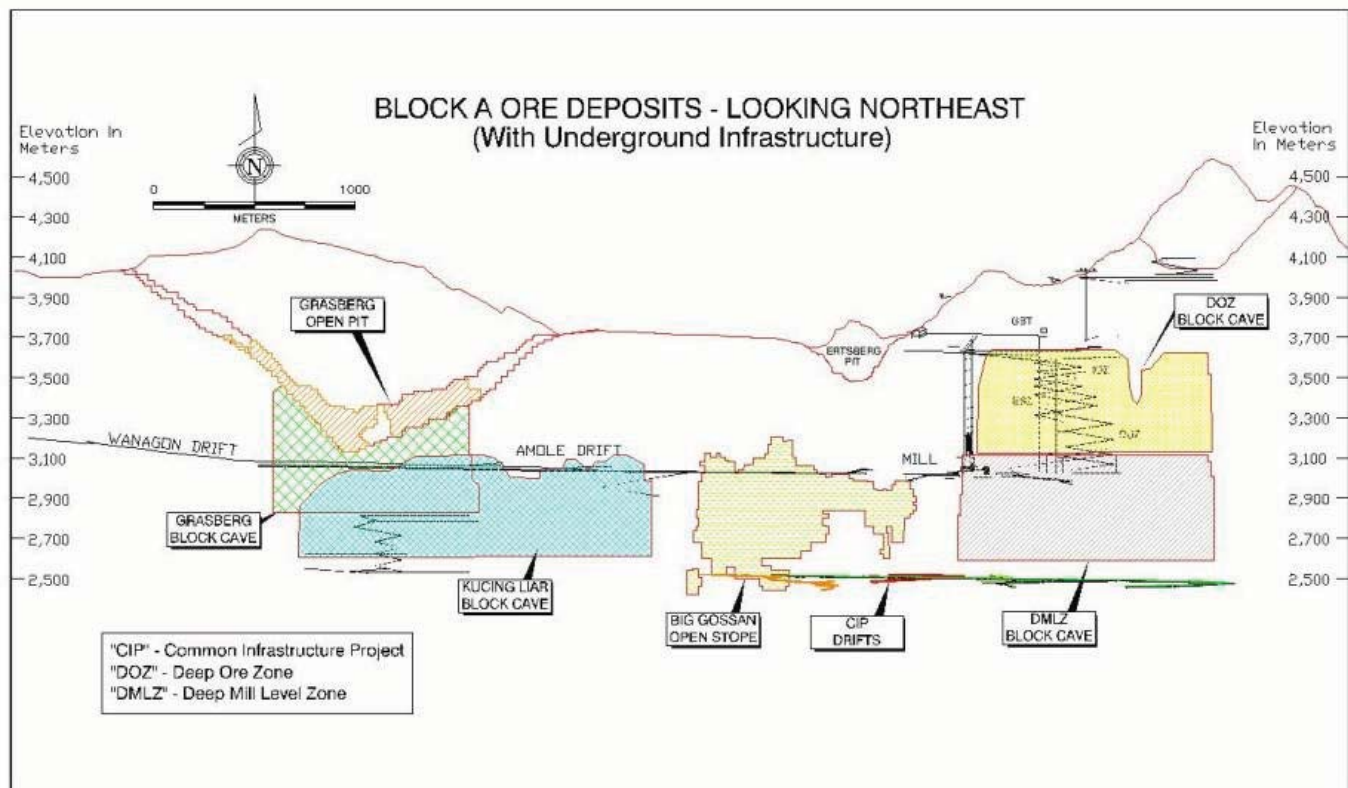
Production from the Big Gossan mine began in fourth-quarter 2010 and is designed to ramp up to 7,000 metric tons of ore per day by mid-2013, which will result in average annual aggregate incremental production of 125 million pounds of copper and 65,000 ounces of gold, with PT Freeport Indonesia receiving 60 percent of these amounts.

Description of Ore Bodies. Our Indonesia ore bodies are located within and around two main igneous intrusions, the Grasberg monzodiorite and the Ertsberg diorite. The host rocks of these ore bodies include both carbonate and clastic rocks that form the ridge crests and upper flanks of the Sudirman Range, and the igneous rocks of monzonitic to dioritic composition that intrude them. The igneous-hosted ore bodies (the Grasberg open pit and block cave, and portions of the DOZ block cave) occur as vein stockworks and disseminations of copper sulfides, dominated by chalcopyrite and, to a much lesser extent, bornite. The sedimentary-rock hosted ore bodies (portions of the DOZ and all of the Big Gossan) occur as "magnetite-rich, calcium/magnesian skarn" replacements, whose location and orientation are strongly influenced by major faults and by the chemistry of the carbonate rocks along the margins of the intrusions.

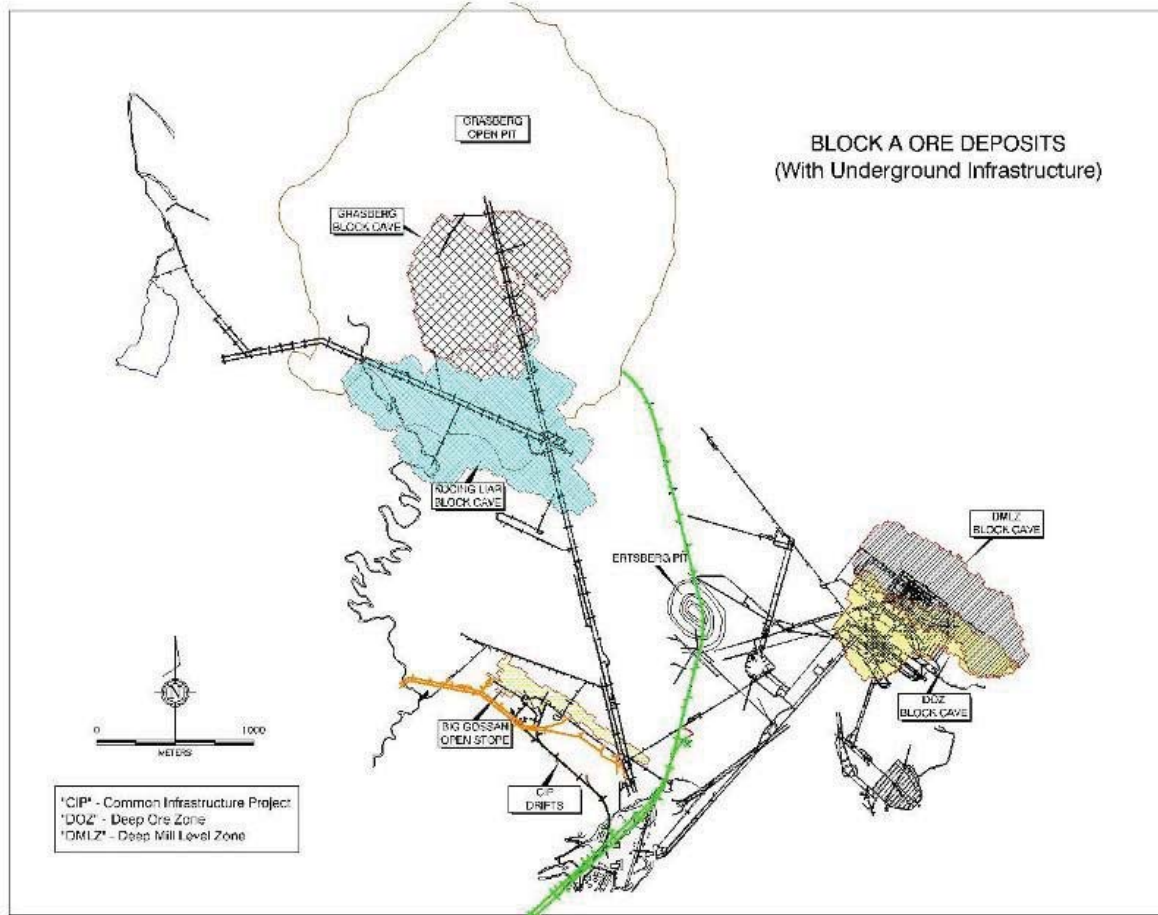
The copper mineralization in these skarn deposits is dominated by chalcopyrite, but higher bornite concentrations are common. Moreover, gold occurs in significant concentrations in all of the district's ore bodies, though rarely visible to the naked eye. These gold concentrations usually occur as inclusions within the copper sulfide minerals, though, in some deposits, these concentrations can also be strongly associated with pyrite.



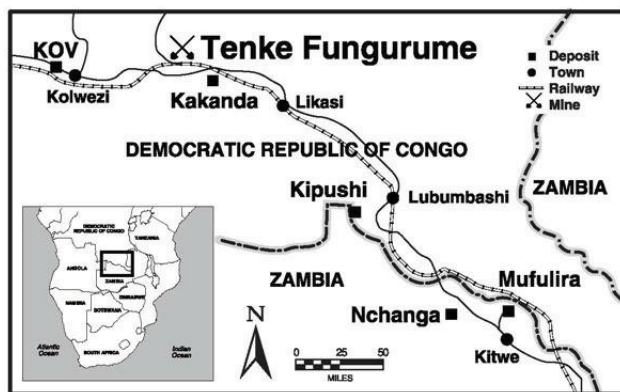
The following diagram indicates the relative elevations (in meters) of our reported ore bodies.



The following map, which encompasses an area of approximately 42 square kilometers (approximately 16 square miles), indicates the relative positions and sizes of our reported ore bodies and their locations.



## Africa



TFM is organized under the laws of the DRC, and we currently own an effective 57.75 percent interest. The remaining ownership interests are held by Lundin Mining Corporation (Lundin) (currently an effective 24.75 percent interest) and La Générale des Carrières et des Mines (Gécamines), which is wholly owned by the Government of the DRC (currently a 17.5 percent non-dilutable interest).

TFM is entitled to mine in the DRC under an Amended and Restated Mining Convention (ARMC) with the Government of the DRC. The original Mining Convention was entered into in 1996 and was replaced with the ARMC in 2005. As further discussed in Note 14, in October 2010, the Government of the DRC concluded its review of TFM's existing mining contracts and confirmed that they are in good standing. In connection with the review, TFM made several commitments that have been reflected in amendments to its mining contracts, which were signed by the parties in December 2010. In March 2011, the amendments were approved by a ministerial council, and a Presidential Decree, signed by the President and Prime Minister of the DRC, was issued in April 2011. After receiving the required government approval of the modifications to TFM's bylaws that reflect agreement with the Government of the DRC, our effective ownership interest in the project will be reduced to 56.0 percent, Lundin's effective ownership interest will be reduced to 24.0 percent and Gécamines' ownership interest will increase to 20.0 percent (non-dilutable), prospectively.

TFM pays a royalty of 2 percent of net revenues under the ARMC, which totaled \$24 million in 2011, \$20 million in 2010 and \$7 million in 2009.

The Tenke Fungurume deposits are located in the Katanga province of the DRC approximately 110 miles northwest of Lubumbashi and are accessible by unpaved roads and by rail. The deposits are sediment-hosted copper and cobalt deposits with oxide, mixed oxide-sulfide and sulfide mineralization. The dominant oxide minerals are malachite, pseudomalachite and heterogenite. Important sulfide minerals consist of bornite, carrollite, chalcocite and chalcopyrite.

Initial copper production commenced at the Tenke mine in late March 2009. Targeted copper production rates were achieved in September 2009 and the cobalt and sulphuric acid plants were commissioned in third-quarter 2009. Copper and cobalt are recovered through an agitation-leach plant. The milling facilities at the Tenke mine, which were designed to process ore at a rate of 8,000 metric tons of ore per day, have been performing above capacity, with mill throughput averaging 11,100 metric tons of ore per day in 2011. Mining rates have been increased to enable additional copper production from the initial project capacity of 250 million pounds of copper per year to ramp up to approximately 290 million pounds of copper per year. The current equipment fleet includes one 10-cubic meter mass excavator, two 12-cubic meter front-end loaders, eleven 7-cubic meter front-end loaders, six 91-metric ton haul trucks, 28 45-metric ton haul trucks, surface miners, production drills, sampling machines and crawler dozers.

Production from the Tenke mine totaled 281 million pounds of copper and 25 million pounds of cobalt in 2011, 265 million pounds of copper and 20 million pounds of cobalt in 2010 and 154 million pounds of copper in 2009.

We are undertaking a second phase of the project, which would include optimizing the current plant and increasing capacity (refer to "Development Projects and Exploration" for further discussion of the Tenke mill expansion project). We continue to engage in drilling activities, exploration analyses and metallurgical testing to evaluate the potential of the highly prospective Tenke Fungurume minerals district. These analyses are being incorporated into future

plans to evaluate opportunities for expansion. Future expansions are subject to a number of factors, including economic and market conditions and the business and investment climate in the DRC.

The Tenke Fungurume minerals district is located in a tropical region; however, temperatures are moderated by its higher altitudes. Weather in this region is characterized by a dry season and a wet season, each lasting about six months with average rainfall of 47 inches per year. The highest bench elevation is expected to be 1,518 meters above sea level and the ultimate pit bottom is expected to be 1,110 meters above sea level. The Tenke Fungurume deposits are covered by six exploitation permits totaling 394,455 acres.

TFM has entered into long-term power supply and infrastructure funding agreements with La Société Nationale d'Electricité, the state-owned electric utility company serving the region. The results of a recent water exploration program, as well as the regional geological and hydro-geological conditions, indicate that adequate water is available for the project, and for hydro-electric generation during the expected life of the operation.

For comparative purposes, production and sales data shown below for the year ended December 31, 2007, combines our historical data with FMC's pre-acquisition data. As the pre-acquisition operating data represents the results of operations under FMC management, such combined data is not necessarily indicative of what past results would have been under FCX management or of future operating results.

## PRODUCTION DATA

	Years Ended December 31,				
	2011	2010	2009	2008	2007 <sup>a</sup>
<b>COPPER</b> (millions of recoverable pounds)					
(FCX's net interest in %)					
<u>North America</u>					
Morenci (85%) <sup>b</sup>	522	437	428	626	687
Bagdad (100%)	194	203	225	227	202
Safford (100%)	151	143	184	133	1
Sierrita (100%)	177	147	170	188	150
Miami (100%)	66	18	16	19	20
Tyrone (100%)	76	82	86	76	50
Chino (100%)	69	34	36	155	190
Other (100%)	3	3	2	6	20
Total North America	1,258	1,067	1,147	1,430	1,320 <sup>c</sup>
<u>South America</u>					
Cerro Verde (53.56%)	647	668	662	694	594
El Abra (51%)	274	320	358	366	366
Candelaria/Ojos del Salado (80%)	385	366	370	446	453
Total South America	1,306	1,354	1,390	1,506	1,413 <sup>c</sup>
<u>Indonesia</u>					
Grasberg (90.64%) <sup>d</sup>	846	1,222	1,412	1,094	1,151
<u>Africa</u>					
Tenke Fungurume (57.75%)	281	265	154	—	—
<b>Consolidated</b>	<b>3,691</b>	<b>3,908</b>	<b>4,103</b>	<b>4,030</b>	<b>3,884</b>
Less noncontrolling interests	710	766	754	693	653
<b>Net</b>	<b>2,981</b>	<b>3,142</b>	<b>3,349</b>	<b>3,337</b>	<b>3,231</b>
<b>GOLD</b> (thousands of recoverable ounces)					
(FCX's net interest in %)					
North America (100%) <sup>b</sup>	10	7	4	14	15
South America (80%)	101	93	92	114	116
Indonesia (90.64%) <sup>d</sup>	1,272	1,786	2,568	1,163	2,198
<b>Consolidated</b>	<b>1,383</b>	<b>1,886</b>	<b>2,664</b>	<b>1,291</b>	<b>2,329<sup>c</sup></b>
Less noncontrolling interests	139	186	258	132	229
<b>Net</b>	<b>1,244</b>	<b>1,700</b>	<b>2,406</b>	<b>1,159</b>	<b>2,100</b>
<b>MOLYBDENUM</b> (millions of recoverable pounds)					
(FCX's net interest in %)					
Henderson (100%)	38	40	27	40	39
North America copper mines (100%)	35 <sup>b</sup>	25	25	30 <sup>b</sup>	30 <sup>b</sup>
Cerro Verde (53.56%)	10	7	2	3	1
<b>Consolidated</b>	<b>83</b>	<b>72</b>	<b>54</b>	<b>73</b>	<b>70<sup>c</sup></b>
Less noncontrolling interest	5	3	1	1	—
<b>Net</b>	<b>78</b>	<b>69</b>	<b>53</b>	<b>72</b>	<b>70</b>

- a. For comparative purposes, operating data for the year ended December 31, 2007, combines our historical data with FMC's pre-acquisition data. As the pre-acquisition data represents the results of operations under FMC management, such combined data is not necessarily indicative of what past results would have been under FCX management or of future operating results.
- b. Amounts are net of Morenci's 15 percent joint venture partner interest.
- c. Includes FMC's pre-acquisition results of 258 million pounds of copper in North America, 259 million pounds of copper in South America, 21 thousand ounces of gold and 14 million pounds of molybdenum.
- d. Amounts are net of Grasberg's joint venture partner's interest, which varies in accordance with terms of the joint venture agreement.

## SALES DATA

	Years Ended December 31,				
	2011	2010	2009	2008	2007 <sup>a</sup>
<b>COPPER</b> (millions of recoverable pounds)					
(FCX's net interest in %)					
<u>North America</u>					
Morenci (85%) <sup>b</sup>	521	434	459	646	693
Bagdad (100%)	201	206	225	226	200
Safford (100%)	147	155	176	107	—
Sierrita (100%)	175	152	172	184	157
Miami (100%)	59	17	16	20	24
Tyrone (100%)	79	83	85	71	53
Chino (100%)	62	35	52	174	186
Other (100%)	3	3	2	6	19
Total North America	1,247	1,085	1,187	1,434	1,332 <sup>c</sup>
<u>South America</u>					
Cerro Verde (53.56%)	657	654	667	701	587
El Abra (51%)	276	315	361	365	365
Candelaria/Ojos del Salado (80%)	389	366	366	455	447
Total South America	1,322	1,335	1,394	1,521	1,399 <sup>c</sup>
<u>Indonesia</u>					
Grasberg (90.64%) <sup>d</sup>	846	1,214	1,400	1,111	1,131
<u>Africa</u>					
Tenke Fungurume (57.75%)	283	262	130	—	—
<b>Consolidated sales from mines</b>	<b>3,698</b>	<b>3,896</b>	<b>4,111</b>	<b>4,066</b>	<b>3,862</b>
Less noncontrolling interests	717	756	746	699	647
<b>Net</b>	<b>2,981</b>	<b>3,140</b>	<b>3,365</b>	<b>3,367</b>	<b>3,215</b>
Consolidated sales from mines	3,698	3,896	4,111	4,066	3,862
Purchased copper	223	182	166	483	650
<b>Total copper sales, including purchases</b>	<b>3,921</b>	<b>4,078</b>	<b>4,277</b>	<b>4,549</b>	<b>4,512<sup>e</sup></b>
Average realized price per pound	\$ 3.86	\$ 3.59	\$ 2.60	\$ 2.69	\$ 3.22 <sup>e</sup>
<b>GOLD</b> (thousands of recoverable ounces)					
(FCX's net interest in %)					
North America (100%) <sup>b</sup>	7	5	6	16	21
South America (80%)	101	93	90	116	114
Indonesia (90.64%) <sup>d</sup>	1,270	1,765	2,543	1,182	2,185
<b>Consolidated sales from mines</b>	<b>1,378</b>	<b>1,863</b>	<b>2,639</b>	<b>1,314</b>	<b>2,320<sup>c</sup></b>
Less noncontrolling interests	139	184	256	134	228
<b>Net</b>	<b>1,239</b>	<b>1,679</b>	<b>2,383</b>	<b>1,180</b>	<b>2,092</b>
Consolidated sales from mines	1,378	1,863	2,639	1,314	2,320
Purchased gold	1	1	1	2	6
<b>Total gold sales, including purchases</b>	<b>1,379</b>	<b>1,864</b>	<b>2,640</b>	<b>1,316</b>	<b>2,326</b>
Average realized price per ounce	\$ 1,583	\$ 1,271	\$ 993	\$ 861	\$ 682
<b>MOLYBDENUM</b> (millions of recoverable pounds)					
<b>Consolidated sales from mines</b>	<b>79</b>	<b>67</b>	<b>58</b>	<b>71</b>	<b>69<sup>c</sup></b>
Less noncontrolling interests	4	3	1	1	—
<b>Net</b>	<b>75</b>	<b>64</b>	<b>57</b>	<b>70</b>	<b>69</b>
Consolidated sales from mines	79	67	58	71	69
Purchased molybdenum	—	2	6	8	9
<b>Total molybdenum sales, including purchases</b>	<b>79</b>	<b>69</b>	<b>64</b>	<b>79</b>	<b>78</b>
Average realized price per pound	\$ 16.98	\$ 16.47	\$ 12.36	\$ 30.55	\$ 25.87

- a. For comparative purposes, operating data for the year ended December 31, 2007, combines our historical data with FMC's pre-acquisition data. As the pre-acquisition data represents the results of operations under FMC management, such combined data is not necessarily indicative of what past results would have been under FCX management or of future operating results.
- b. Amounts are net of Morenci's joint venture partner's 15 percent interest.
- c. Includes FMC pre-acquisition results of 283 million pounds of copper in North America, 222 million pounds of copper in South America, 18 thousand ounces of gold and 17 million pounds of molybdenum.
- d. Amounts are net of Grasberg's joint venture partner's interest, which varies in accordance with terms of the joint venture agreement.
- e. Before charges for hedging losses related to copper price protection programs, amount was \$3.27 per pound.

## DEVELOPMENT PROJECTS AND EXPLORATION

We have increased production at several of our copper mines and have several projects and potential opportunities to expand production volumes, extend mine lives and develop large-scale underground ore bodies. Our near-term major development projects, which will require substantial additional capital investment, are presented below (refer to MD&A for further discussion of these projects, our other development projects and exploration activities).

Morenci. We are advancing a feasibility study at Morenci to process additional sulfide ore identified through exploratory drilling. This project would increase milling rates from the current level of 50,000 metric tons of ore per day to 115,000 metric tons of ore per day and targets incremental annual copper production of approximately 225 million pounds within a three-year timeframe. Completion of the feasibility study is expected in the first half of 2012.

Twin Buttes. In December 2009, we purchased the Twin Buttes copper mine, which ceased operations in 1994 and is adjacent to our Sierrita mine. The purchase provides significant synergies in the Sierrita minerals district, including the potential for expanded mining activities and access to material that can be used for Sierrita tailings and stockpile reclamation purposes. We are conducting drilling on the property and metallurgical studies to support a feasibility study expected to commence in 2012.

Cerro Verde. Plans for a large-scale concentrator at Cerro Verde continue to be advanced. The project will expand the concentrator facilities from the current level of 120,000 metric tons per day to 360,000 metric tons of ore per day, targeting incremental annual production of approximately 600 million pounds of copper and 15 million pounds of molybdenum beginning in 2016. An environmental impact assessment was filed in fourth-quarter 2011.

El Abra. We are engaged in pre-feasibility studies for a potential large-scale milling operation at El Abra to process additional sulfide material and to achieve higher recoveries. Exploration results at El Abra indicate the potential for a significant additional sulfide resource.

Grasberg. We have several projects in progress in the Grasberg minerals district, primarily related to the development of the large-scale, high-grade underground ore bodies located beneath and nearby the Grasberg open pit. In aggregate, these ore bodies are expected to ramp up to approximately 240,000 metric tons of ore per day following the currently anticipated transition from the Grasberg open pit in 2016.

Tenke. We are undertaking a second phase of the project in the Tenke minerals district, which includes optimizing the current plant and increasing capacity. As part of the second phase, we plan to expand the mill rate to 14,000 metric tons of ore per day and to construct related processing facilities that would target the addition of approximately 150 million pounds of copper per year. The project, which includes mill upgrades, additional mining equipment and a new tankhouse and sulphuric acid plant expansion, is targeted for completion in 2013.

In addition to the near-term development projects in progress in the Grasberg minerals district, we also have an additional long-term underground mine development project in the Grasberg minerals district for the Kucing Liar ore body, which lies on the southern flank of and underneath the southern portion of the Grasberg open pit at the 2,605-meter elevation level. We expect to mine the Kucing Liar ore body using the block-cave method; aggregate capital cost estimates for development of the Kucing Liar ore body are projected to approximate \$2 billion (which are expected to be made between 2019 and 2031). Additionally, our current mine development plans include approximately \$3 billion of capital expenditures at our processing facilities to optimize the handling of underground ore types once the Grasberg open-pit operations cease (we expect substantially all of these expenditures to be made between 2016 and 2030).

Considering the long-term nature and large size of our development projects, actual costs and timing could differ materially from our estimates. We continue to review our mine development and processing plans to maximize the value of our reserves.



## SMELTING FACILITIES

Atlantic Copper, S.L. Our wholly owned Atlantic Copper smelter and refinery is located on land concessions from the Huelva, Spain, port authorities, which expire in 2027.

The design capacity of the smelter is 290,000 metric tons of copper per year and the refinery currently has a capacity of 285,000 metric tons of copper per year. During 2011, Atlantic Copper treated 935,700 metric tons of concentrate and scrap and produced 253,000 metric tons of copper anodes and 247,400 metric tons of copper cathodes. During 2010, Atlantic Copper treated 980,700 metric tons of concentrate and scrap and produced 255,000 metric tons of copper anodes and 253,000 metric tons of copper cathodes.

In May 2011, Atlantic Copper successfully completed a scheduled 26-day maintenance turnaround. Major maintenance turnarounds typically are expected to occur approximately every eight years for Atlantic Copper, with short-term maintenance turnarounds in the interim. The next long-term maintenance turnaround is scheduled for 2013.

During 2011, we made capital contributions of \$202 million to Atlantic Copper; no capital contributions were made for the years 2005 through 2010. We loan funds to Atlantic Copper from time to time, and at December 31, 2011, these loans totaled \$586 million.

PT Smelting. PT Freeport Indonesia's 1991 COW required us to construct or cause to be constructed a smelter in Indonesia if we and the Indonesian government determined that such a project would be economically viable. In 1995, following the completion of a feasibility study, we entered into agreements relating to the formation of PT Smelting, an Indonesian company, and the construction of the copper smelter and refinery in Gresik, Indonesia. PT Smelting owns and operates the smelter and refinery. PT Freeport Indonesia, Mitsubishi Materials Corporation (Mitsubishi Materials), Mitsubishi Corporation Unimetals Ltd. (Mitsubishi) and JX Nippon Mining & Metals Corporation (Nippon) own 25 percent, 60.5 percent, 9.5 percent, and 5 percent, respectively, of the outstanding PT Smelting common stock.

PT Freeport Indonesia's contract with PT Smelting provides for the supply of 100 percent of the copper concentrate requirements (subject to a minimum or maximum rate) necessary for PT Smelting to produce 205,000 metric tons of copper annually on a priority basis. PT Freeport Indonesia also sells copper concentrate to PT Smelting (at market rates) for quantities in excess of 205,000 metric tons of copper annually. Refer to Note 2 for further discussion of our investment in PT Smelting.

During 2011, PT Smelting treated 1,087,300 metric tons of concentrate and produced 276,200 metric tons of copper anodes and 274,900 metric tons of copper cathodes. During 2010, PT Smelting treated 1,034,800 metric tons of concentrate and produced 262,700 metric tons of copper anodes and 277,500 metric tons of copper cathodes.

In 2008, PT Smelting completed a scheduled 25-day maintenance turnaround. Major maintenance turnarounds typically are expected to occur approximately every four years for PT Smelting, with significantly shorter term maintenance turnarounds in the interim. The next major maintenance turnaround is scheduled for May 2012.

Miami Smelter. We own and operate a smelter at our Miami, Arizona, mining operation. The smelter has been in production for over 80 years and has been upgraded numerous times during that period to implement new technologies, to improve production and to comply with air quality requirements. Additionally, there are new air regulations that may require the Miami smelter to implement additional new technologies to meet these requirements (refer to Item 1A. "Risk Factors" for further discussion).

The Miami smelter processes copper concentrate primarily from our Arizona copper mines. Concentrate processed through the smelter totaled approximately 625,000 metric tons in each of 2011 and 2010. In addition, because sulphuric acid is a by-product of smelting concentrates, the Miami smelter is also the most significant source of sulphuric acid for our North America leaching operations.

Major maintenance turnarounds typically occur approximately every 14 months for the Miami smelter, with shorter term maintenance turnarounds in the interim.



## OTHER PROPERTIES AND INVESTMENTS

Rod & Refining Operations. Our Rod & Refining operations consist of conversion facilities located in North America, including a refinery in El Paso, Texas; rod mills in El Paso, Texas, Norwich, Connecticut, and Miami, Arizona; and a specialty copper products facility in Bayway, New Jersey. We refine our copper anode production from our Miami smelter, along with purchased anodes, at our El Paso refinery. The El Paso refinery has the potential to operate at an annual production capacity of about 900 million pounds of copper cathode, which is sufficient to refine all of the copper anode we produce at Miami. Our El Paso refinery also produces nickel carbonate, copper telluride, and autoclaved slimes material containing gold, silver, platinum and palladium.

Molybdenum Conversion Facilities. We process molybdenum concentrates at our conversion plants in the U.S. and Europe into such products as technical-grade molybdic oxide, ferromolybdenum, pure molybdic oxide, ammonium molybdates, molybdenum disulfide and molybdenum metal powder. We operate molybdenum roasters in Sierrita, Arizona; Fort Madison, Iowa; and Rotterdam, the Netherlands.

The conversion facility located at our Sierrita mine consists of two molybdenum roasters that process molybdenum concentrates produced at our mines and on a toll basis for third parties. The facility produces molybdenum oxide and related products.

The Fort Madison facility consists of two molybdenum roasters, a sulphur dioxide conversion plant, a metallurgical (technical oxide) packaging facility, and a chemical conversion plant, which includes a wet-chemicals plant, sublimation equipment and molybdenum disulfide processing and packaging. In the chemical plant, molybdic 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 facility produces ammonium dimolybdate, pure molybdic oxide, ammonium heptamolybdate, ammonium octamolybdate, sodium molybdate, sublimed pure molybdic oxide and molybdenum disulfide.

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

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

McMoRan Exploration Co. (MMR). In December 2010, we purchased 500,000 shares of MMR's 5¾% Convertible Perpetual Preferred Stock for an aggregate purchase price of \$500 million (refer to Note 6 for further discussion). In connection with the purchase, we entered into a registration rights agreement and a stockholder agreement with MMR.

MMR is engaged in the exploration, development and production of oil and natural gas in the shallow waters of the Gulf of Mexico Shelf. MMR is currently undertaking a major capital program to fund recent and planned additional exploration. Our investment allows us to participate in MMR's highly prospective North American exploration and development activities, which have the potential to general significant value.

Several of our directors and executive officers also serve as directors or executive officers of MMR, and our wholly owned subsidiary FM Services Company (FM Services) provides certain executive, technical administrative, accounting, financial, tax and other services to us and to MMR on a cost-reimbursement basis. Refer to Part III, Item 13. "Certain Relationships and Related Transactions, and Director Independence," for additional information.

## SOURCES AND AVAILABILITY OF RAW MATERIALS

Our copper mining operations require significant energy, principally diesel, electricity, coal and natural gas, most of which is obtained from third parties under long-term contracts. Energy represented approximately 21 percent of our 2011 consolidated copper production costs and included purchases of approximately 225 million gallons of diesel fuel; 6,475 gigawatt hours of electricity at our North America, South America and Africa copper mining operations (we generate all of our power at our Indonesia mining operation); 650 thousand metric tons of coal for our coal power plant in Indonesia; and 1 million MMBTU (million British thermal units) of natural gas at certain of our North America mines. For 2012, we estimate energy costs will approximate 23 percent of our consolidated copper production costs.

Sulphuric acid is used in the SX/EW process and is produced as a by-product of the smelting process at our smelters and from our sulphur burners at the Safford and Tenke mines. Sulphuric acid needs in excess of the sulphuric acid produced by our operations are purchased from third parties as required.

Our mining operations also require significant quantities of water for mining, ore processing and related support facilities. Although we believe our mining operations have sufficient water rights, the loss of water rights for any of our mines, in whole or in part, or shortages of water to which we have rights, could require us to curtail or shut down mining operations. For a further discussion of risks and legal proceedings associated with the availability of water, refer to Item 1A. "Risk Factors" and Item 3. "Legal Proceedings."

## COMPETITION

The top 10 producers of copper comprise approximately 50 percent of total worldwide mined copper production. We currently rank second among those producers at approximately nine percent of total worldwide estimated mined copper production. Our competitive position is based on the quality and grade of our ore bodies and our ability to manage costs compared with other producers. We have a diverse portfolio of mining operations with varying ore grades and cost structures. Our costs are driven by the location, grade and nature of our ore bodies and the level of input costs, including energy, labor and equipment. The metals markets are cyclical and our ability to maintain our competitive position over the long term is based on our ability to acquire and develop quality deposits, hire and retain a skilled workforce and to manage our costs.

## LABOR MATTERS

At December 31, 2011, we employed approximately 31,800 people (approximately 12,300 in Indonesia, 11,000 in North America, 4,800 in South America, 2,800 in Africa and 900 in Europe and other locations). Additionally, we have contractors that have personnel at many of our operations, including approximately 10,500 at our Grasberg minerals district, 11,500 at our South America mining operations, 3,900 at our Tenke Fungurume minerals district, 1,500 in North America and 400 at Atlantic Copper.

Employees represented by unions are listed below, with the approximate number of employees represented and the expiration date of the applicable union agreements. Refer to Item 1A. "Risk Factors" for further information on labor agreements.

Location	Number of Unions	Number of Union-Represented Employees	Expiration Date
PT Freeport Indonesia – Indonesia	1	8,712	September 2013
Tenke Fungurume – DRC	6	2,750	August 2013
Cerro Verde – Peru	1	1,407	August 2014
El Abra – Chile	2	925	December 2015
Candelaria – Chile	2	805	July 2013
Atlantic Copper – Spain	2	427	December 2011 <sup>a</sup>
Chino – New Mexico	1	286	November 2014
Rotterdam – The Netherlands	2	48	March 2013
Bayway – New Jersey	1	43	April 2013
Aurex – Chile	1	39	December 2013
Stowmarket – United Kingdom	1	31	May 2014

a. Negotiations are in progress while employees continue to work under the provisions of the expired contract.

## ENVIRONMENTAL AND RECLAMATION MATTERS

The cost of complying with environmental laws is a fundamental and substantial cost of our business. For information about environmental regulation, litigation and related costs, refer to Item 1A. "Risk Factors", and Notes 1 and 13.

## COMMUNITY AND HUMAN RIGHTS

We have adopted policies that govern our working relationships with the communities where we operate and are designed to guide our practices and programs in a manner that respects basic human rights and the culture of the local people impacted by our operations. We continue to make significant expenditures on community development, education, training and cultural programs, which include:

- comprehensive job training programs
- basic education programs
- public health programs, including malaria control and HIV testing
- agricultural assistance programs
- small and medium enterprise development programs
- cultural preservation programs
- water and sewage treatment projects
- clean water access
- charitable donations

In December 2000, we endorsed the joint U.S. State Department-British Foreign Office Voluntary Principles on Human Rights and Security (Voluntary Principles). Several major natural resources companies and international human rights organizations participated in developing the Voluntary Principles and have endorsed them. We participated in developing these principles and they are incorporated into our human rights policy.

We believe that our social and economic development programs are responsive to the issues raised by the local communities near our areas of operation and should help us maintain good relations with the surrounding communities and avoid disruptions of mining operations. Nevertheless, social and political instability in the areas of our operations may adversely impact our mining operations. Refer to Item 1A. "Risk Factors" for further discussion.

South America. Cerro Verde has provided a variety of community support projects over the years. During 2006, as a result of discussions with local mayors in the Arequipa region, Cerro Verde agreed to contribute to the design and construction of domestic water and sewage treatment plants for the benefit of the region. These facilities are being designed in a modular fashion so that initial installations can be readily expanded in the future.

Additionally, during 2006, the Peruvian government announced that all mining companies operating in Peru would be required to make annual contributions to local development funds for a five-year period (covering the years 2006 through 2010) when copper prices exceeded certain levels that were adjusted annually. The contribution, which expired in 2010, was equal to 3.75 percent of after-tax profits and totaled \$41 million in 2010 and \$28 million in 2009. Refer to Note 14 for further discussion.

Indonesia. In 1996, PT Freeport Indonesia established the Freeport Partnership Fund for Community Development (the Partnership Fund), through which PT Freeport Indonesia has made available funding and technical assistance to support community development initiatives in the areas of health, education and economic development of the area. PT Freeport Indonesia has committed through 2016 to provide one percent of its annual revenue for the development of the local people in its area of operation through the Partnership Fund. Our share of contributions to the Partnership Fund totaled \$50 million in 2011, \$64 million in 2010 and \$59 million in 2009.

The Amungme and Kamoro Community Development Organization (*Lembaga Pembangunan Masyarakat Amungme dan Kamoro* or LPMak) oversees disbursement of the program funds we contribute to the Partnership Fund. LPMak is governed by a board of commissioners and a board of directors, which are comprised of representatives from the local Amungme and Kamoro tribal communities, government leaders, church leaders, and one representative of PT Freeport Indonesia on each board. The Amungme and Kamoro people are original inhabitants of the land in our area of operations.

Security Matters. Consistent with our COW in Indonesia and the requirement to protect our employees and property, we have taken appropriate steps to provide a safe and secure working environment. As part of its security program, PT Freeport Indonesia maintains its own internal security department, which is unarmed and performs functions such as protecting company facilities, monitoring the shipment of company supplies and products, assisting in traffic control and aiding in emergency response operations. The security department has received human rights training and each member is required to certify his or her compliance with our human rights policy. PT Freeport Indonesia's share of costs for its internal civilian security department totaled \$37 million for 2011, \$28

million for 2010 and \$18 million for 2009.

PT Freeport Indonesia, and all businesses and residents of Indonesia, rely on the Indonesian government for the maintenance of public order, upholding the rule of law and the protection of personnel and property. The Grasberg minerals district has been designated by the Indonesian government as one of Indonesia's vital national assets. This designation results in the police and to a lesser extent, the military, playing a significant role in protecting the area of our operations. The Indonesian government is responsible for employing police and military personnel and directing their operations.

From the outset of PT Freeport Indonesia's operations, the Indonesian government has looked to PT Freeport Indonesia to provide logistical and infrastructure support and assistance for these necessary services because of the limited resources of the Indonesian government and the remote location of and lack of development in Papua. PT Freeport Indonesia's financial support for the Indonesian government security institutions assigned to the operations area represents a prudent response to its requirements to protect its workforce and property, better ensuring that personnel are properly fed and lodged, and have the logistical resources to patrol PT Freeport Indonesia's roads and secure its operating area. In addition, the provision of such support is consistent with PT Freeport Indonesia's obligations under the COW, reflects our philosophy of responsible corporate citizenship, and is in keeping with our commitment to pursue practices that will promote human rights.

PT Freeport Indonesia's share of support costs for the government-provided security was \$14 million for each of the years 2011 and 2010, and \$10 million for 2009. This supplemental support consists of various infrastructure and other costs, such as food, housing, fuel, travel, vehicle repairs, allowances to cover incidental and administrative costs, and community assistance programs conducted by the military and police.

Refer to Item 1A. "Risk Factors" for further discussion of security risks in Indonesia.

Africa. TFM has committed to assist the communities living within its concession in the Katanga province of the DRC. Initiatives include an integrated malaria control program, construction and operational support for six elementary schools, as well as renovation and construction of an additional four schools, installation of over 70 clean water wells, a public sanitation (latrines and hand washing) program reaching over 2,000 households, a mobile clinic for rural villages, and economic development programs supporting micro-credit and development of local entrepreneurs, contractors, and farmers. We have also made significant investments in infrastructure in the region that will have lasting benefits to the country, including upgrading a portion of a national road and the regional power generation and transmission systems.

TFM has also committed to contribute 0.3 percent of net sales revenue from production to a community development fund to assist the local communities with development of local infrastructure and related services. This fund will be a platform to work jointly with the local government and community to further assist them to fulfill their local development plans, meet basic community needs and promote good governance. Community development fund contributions totaled \$4 million in 2011, \$3 million in 2010 and \$1 million in 2009.

*Security Matters.* TFM maintains an unarmed internal security department. The national government also has assigned Mines Police to the TFM concession area. The Mines Police are a division of the Congolese National Police and are responsible for maintaining security in mining concessions throughout the DRC. TFM provides food, housing, monetary allowances and logistical support as well as direct payments to the government for the provision of the security assigned to the concession area. The total cost to TFM for this support, including in-kind support, totaled less than \$1 million in each of the years 2011, 2010 and 2009.

TFM also participates in monthly security coordination meetings with host country security personnel, other mining companies, and representatives from the United Nations to discuss security issues and concerns.

## ORE RESERVES

Recoverable proven and probable reserves summarized below and detailed on the following pages have been calculated as of December 31, 2011, in accordance with Industry Guide 7 as required by the Securities Exchange Act of 1934. Proven and probable reserves may not be comparable to similar information regarding mineral reserves disclosed in accordance with the guidance of other countries. Proven and probable reserves were determined by the use of mapping, drilling, sampling, assaying and evaluation methods generally applied in the mining industry, as more fully discussed below. The term “reserve,” as used in the reserve data presented here, means that part of a mineral deposit that can be economically and legally extracted or produced at the time of the reserve determination. The term “proven reserves” means reserves for which (1) quantity is computed from dimensions revealed in outcrops, trenches, workings or drill holes; (2) grade and/or quality are computed from the results of detailed sampling; and (3) the sites for inspection, sampling and measurements are spaced so closely and the geologic character is sufficiently defined that size, shape, depth and mineral content of reserves are well established. The term “probable reserves” means reserves for which quantity and grade are computed from information similar to that used for proven reserves but the sites for sampling are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for proven reserves, is high enough to assume continuity between points of observation.

Our reserve estimates are based on the latest available geological and geotechnical studies. We conduct ongoing studies of our ore bodies to optimize economic values and to manage risk. We revise our mine plans and estimates of recoverable proven and probable mineral reserves as required in accordance with the latest available studies. Our estimates of recoverable proven and probable reserves are prepared by and are the responsibility of our employees; a majority of these estimates are reviewed and verified by independent experts in mining, geology and reserve determination.

Estimated recoverable proven and probable reserves at December 31, 2011, were determined using long-term average prices of \$2.00 per pound for copper, \$750 per ounce for gold, \$10 per pound for molybdenum, \$15 per ounce for silver and \$10 per pound for cobalt. For the three-year period ended December 31, 2011, LME spot copper prices averaged \$3.25 per pound, London PM gold prices averaged \$1,245 per ounce, and the weekly average price of molybdenum quoted by *Metals Week* averaged \$14.06 per pound. The recoverable proven and probable reserves presented in the table below represent the estimated metal quantities from which we expect to be paid after application of estimated metallurgical recovery rates and smelter recovery rates, where applicable. Recoverable reserves are the part of a mineral deposit that we estimate can be economically and legally extracted or produced at the time of the reserve determination.

	<b>Recoverable Proven and Probable Reserves at December 31, 2011</b>				
	<b>Copper<sup>a</sup></b>	<b>Gold</b>	<b>Molybdenum</b>	<b>Silver</b>	<b>Cobalt</b>
	(billion pounds)	(million ounces)	(billion pounds)	(million ounces)	(billion pounds)
North America	40.6	0.4	2.71	98.2	—
South America	39.1	1.3	0.71	113.4	—
Indonesia	31.6	32.2	—	118.7	—
Africa	8.4	—	—	—	0.86
<b>Consolidated basis<sup>b</sup></b>	<b>119.7</b>	<b>33.9</b>	<b>3.42</b>	<b>330.3</b>	<b>0.86</b>
<b>Net equity interest<sup>c</sup></b>	<b>96.1</b>	<b>30.6</b>	<b>3.09</b>	<b>272.1</b>	<b>0.49</b>

- a. Recoverable copper reserves include 3.1 billion pounds in leach stockpiles and 1.3 billion pounds in mill stockpiles (refer to “Mill and Leach Stockpiles” for further discussion).
- b. Consolidated basis reserves represent estimated metal quantities after reduction for joint venture partner interests at the Morenci mine in North America and at the Grasberg minerals district in Indonesia.
- c. Net equity interest reserves represent estimated consolidated basis metal quantities further reduced for noncontrolling interest ownership.

**Recoverable Proven and Probable Reserves**  
**Estimated at December 31, 2011**

	Processing Method	Proven Reserves						Probable Reserves					
		Million metric tons	Average Ore Grade				Cobalt %	Million metric tons	Average Ore Grade				Cobalt %
			Copper %	Gold g/t	Moly %	Silver g/t			Copper %	Gold g/t	Moly %	Silver g/t	
<b>North America</b>													
Morenci	Mill	443	0.48	—	0.025	—	—	5	0.48	—	0.022	—	—
	Crushed leach	594	0.58	—	—	—	—	9	0.45	—	—	—	—
	ROM leach	3,103	0.18	—	—	—	—	96	0.15	—	—	—	—
Bagdad	Mill	1,038	0.35	— <sup>a</sup>	0.021	1.75	—	229	0.32	— <sup>a</sup>	0.017	1.70	—
	ROM leach	218	0.12	—	—	—	—	144	0.11	—	—	—	—
Safford	Crushed leach	129	0.44	—	—	—	—	77	0.42	—	—	—	—
Sierrita	Mill	2,420	0.24	— <sup>a</sup>	0.026	1.42	—	346	0.21	— <sup>a</sup>	0.020	1.25	—
	ROM leach	7	0.20	—	—	—	—	4	0.22	—	—	—	—
Miami	ROM leach	50	0.49	—	—	—	—	10	0.38	—	—	—	—
Tyrone	ROM leach	141	0.30	—	—	—	—	7	0.19	—	—	—	—
Chino	Mill	110	0.59	0.04	0.011	0.48	—	69	0.55	0.03	0.006	0.44	—
	ROM leach	186	0.33	—	—	—	—	56	0.25	—	—	—	—
Henderson	Mill	118	—	—	0.174	—	—	3	—	—	0.171	—	—
Climax	Mill	75	—	—	0.189	—	—	112	—	—	0.137	—	—
Cobre <sup>b</sup>	ROM leach	71	0.40	— <sup>a</sup>	—	—	—	2	0.23	— <sup>a</sup>	—	—	—
		<b>8,703</b>	<b>0.27</b>	—	<b>0.015</b>	<b>0.61</b>	—	<b>1,169</b>	<b>0.23</b>	—	<b>0.023</b>	<b>0.73</b>	—
<b>South America</b>													
Cerro Verde	Mill	888	0.41	—	0.016	1.75	—	2,864	0.39	—	0.015	1.64	—
	Crushed leach	91	0.52	—	—	—	—	55	0.45	—	—	—	—
	ROM leach	37	0.21	—	—	—	—	42	0.21	—	—	—	—
El Abra	Crushed leach	386	0.52	—	—	—	—	131	0.49	—	—	—	—
	ROM leach	218	0.32	—	—	—	—	146	0.27	—	—	—	—
Candelaria	Mill	317	0.57	0.13	—	2.05	—	22	0.64	0.16	—	2.25	—
Ojos del Salado	Mill	3	1.17	0.28	—	4.44	—	3	0.81	0.22	— <sup>a</sup>	3.50	—
		<b>1,940</b>	<b>0.45</b>	<b>0.02</b>	<b>0.007</b>	<b>1.14</b>	—	<b>3,263</b>	<b>0.39</b>	—	<b>0.013</b>	<b>1.46</b>	—
<b>Indonesia</b>													
Grasberg open pit	Mill	204	0.91	1.05	—	2.35	—	108	0.74	0.64	—	1.87	—
Deep Ore Zone	Mill	62	0.58	0.68	—	2.50	—	144	0.56	0.69	—	2.33	—
Big Gossan	Mill	14	2.34	1.14	—	15.41	—	42	2.12	0.91	—	12.80	—
Grasberg Block Cave <sup>b</sup>	Mill	335	1.21	1.04	—	3.46	—	684	0.88	0.64	—	3.29	—
Kucing Liar <sup>b</sup>	Mill	149	1.31	1.15	—	8.00	—	271	1.18	1.06	—	6.47	—
Deep Mill Level Zone <sup>b</sup>	Mill	65	0.95	0.76	—	4.70	—	445	0.83	0.71	—	4.11	—
		<b>829</b>	<b>1.10</b>	<b>1.01</b>	—	<b>4.22</b>	—	<b>1,694</b>	<b>0.91</b>	<b>0.73</b>	—	<b>4.08</b>	—
<b>Africa</b>													
Tenke Fungurume	Agitation leach	<b>54</b>	<b>3.26</b>	—	—	—	<b>0.36</b> <sup>a</sup>	<b>87</b>	<b>2.84</b>	—	—	—	<b>0.30</b> <sup>a</sup>
<b>Total FCX - 100% Basis</b>		<b>11,526</b>	<b>0.38</b>	<b>0.08</b>	<b>0.013</b>	<b>0.96</b>	—	<b>6,213</b>	<b>0.53</b>	<b>0.20</b>	<b>0.011</b>	<b>2.01</b>	—

a. Grade not shown because of rounding.

b. Undeveloped reserves that would require significant capital investment to bring into production.

The reserve table above and the tables on the following pages utilize the abbreviations described below:

- g/t – grams per metric ton
- Moly – Molybdenum
- ROM – Run of Mine

**Recoverable Proven and Probable Reserves**  
**Estimated at December 31, 2011**  
 (continued)

		Average Ore Grade							Recoveries <sup>a</sup>				
		Proven and Probable Million metric tons	Processing Method	Copper %	Gold g/t	Moly %	Silver g/t	Cobalt %	Copper %	Gold %	Moly %	Silver %	Cobalt %
North America													
Morenci	Mill	448		0.48	—	0.025	—	—	79.1	—	38.9	—	—
	Crushed leach	603		0.58	—	—	—	—	77.8	—	—	—	—
	ROM leach	3,199		0.18	—	—	—	—	43.3	—	—	—	—
Bagdad	Mill	1,267		0.35	— <sup>b</sup>	0.020	1.74	—	85.6	59.1	70.7	49.3	—
	ROM leach	362		0.12	—	—	—	—	25.4	—	—	—	—
Safford	Crushed leach	206		0.43	—	—	—	—	67.2	—	—	—	—
Sierrita	Mill	2,766		0.23	— <sup>b</sup>	0.025	1.39	—	83.0	60.6	80.7	49.3	—
Miami	ROM leach	11		0.21	—	—	—	—	52.7	—	—	—	—
	ROM leach	60		0.47	—	—	—	—	60.5	—	—	—	—
Tyrone	ROM leach	148		0.29	—	—	—	—	61.1	—	—	—	—
Chino	Mill	179		0.57	0.04	0.009	0.47	—	78.7	78.0	41.8	78.5	—
	ROM leach	242		0.31	—	—	—	—	43.1	—	—	—	—
Henderson	Mill	121		—	—	0.174	—	—	—	—	85.4	—	—
Climax	Mill	187		—	—	0.158	—	—	—	—	88.8	—	—
Cobre <sup>c</sup>	ROM leach	73		0.39	—	—	—	—	50.7	—	—	—	—
		9,872											
South America													
Cerro Verde	Mill	3,752		0.39	—	0.015	1.67	—	86.0	—	54.4	44.9	—
	Crushed leach	146		0.50	—	—	—	—	79.8	—	—	—	—
	ROM leach	79		0.21	—	—	—	—	41.0	—	—	—	—
El Abra	Crushed leach	517		0.51	—	—	—	—	58.3	—	—	—	—
	ROM leach	364		0.30	—	—	—	—	24.0	—	—	—	—
Candelaria	Mill	339		0.58	0.13	—	2.06	—	89.2	71.9	—	76.3	—
Ojos del Salado	Mill	6		1.00	0.25	—	3.99	—	90.4	60.6	—	65.8	—
		5,203											
Indonesia													
Grasberg open pit	Mill	312		0.85	0.91	—	2.19	—	83.4	80.2	—	43.1	—
	Deep Ore Zone	206		0.57	0.69	—	2.38	—	86.5	77.3	—	64.2	—
Big Gossan	Mill	56		2.18	0.97	—	13.44	—	91.6	65.0	—	63.8	—
Grasberg Block Cave <sup>c</sup>	Mill	1,019		0.98	0.77	—	3.34	—	84.3	64.9	—	57.9	—
Kucing Liar <sup>c</sup>	Mill	420		1.23	1.09	—	7.01	—	85.6	46.1	—	38.5	—
Deep Mill Level Zone <sup>c</sup>	Mill	510		0.85	0.72	—	4.19	—	87.0	79.3	—	64.7	—
		2,523											
Africa													
Tenke Fungurume	Agitation leach	141		3.00	—	—	—	0.32	86.3	—	—	—	75.2
Total FCX - 100% Basis		17,739											

a. Recoveries are net of estimated mill and smelter losses.

b. Grade not shown because of rounding.

c. Undeveloped reserves that would require significant capital investment to bring into production.



**Recoverable Proven and Probable Reserves**  
**Estimated at December 31, 2011**  
(continued)

			Recoverable Reserves				
	FCX's Interest	Processing Method	Copper billion lbs.	Gold million ozs.	Moly billion lbs.	Silver million ozs.	Cobalt billion lbs.
<b>North America</b>							
Morenci	85%	Mill	3.7	—	0.09	—	—
		Crushed leach	6.0	—	—	—	—
		ROM leach	5.4	—	—	—	—
Bagdad	100%	Mill	8.3	0.1	0.40	35.0	—
		ROM leach	0.3	—	—	—	—
Safford	100%	Crushed leach	1.3	—	—	—	—
Sierrita	100%	Mill	11.8 <sup>a</sup>	0.1	1.24	61.1	—
		ROM leach	—	—	—	—	—
Miami	100%	ROM leach	0.4	—	—	—	—
Tyrone	100%	ROM leach	0.6	—	—	—	—
Chino	100%	Mill	1.8	0.2	0.01	2.1	—
		ROM leach	0.7	—	—	—	—
Henderson	100%	Mill	—	—	0.40	—	—
Climax	100%	Mill	—	—	0.58	—	—
Cobre	100%	ROM leach	0.3	—	—	—	—
			40.6	0.4	2.72 <sup>a</sup>	98.2	—
Recoverable metal in stockpiles <sup>b</sup>			2.4	—	—	—	—
<b>100% operations</b>			<b>43.0</b>	<b>0.4</b>	<b>2.72</b>	<b>98.2</b>	—
<b>Consolidated<sup>c</sup></b>			<b>40.6</b>	<b>0.4</b>	<b>2.71</b>	<b>98.2</b>	—
<b>Net equity interest<sup>d</sup></b>			<b>40.6</b>	<b>0.4</b>	<b>2.71</b>	<b>98.2</b>	—
<b>South America</b>							
Cerro Verde	53.56%	Mill	28.0	—	0.69	90.2	—
		Crushed leach	1.3	—	—	—	—
		ROM leach	0.2	—	—	—	—
El Abra	51%	Crushed leach	3.4	—	—	—	—
		ROM leach	0.5	—	—	—	—
Candelaria	80%	Mill	3.8	1.0	—	17.1	—
Ojos del Salado	80%	Mill	0.1	0.1	—	0.5	—
			37.3	1.1	0.69	107.8	—
Recoverable metal in stockpiles <sup>b</sup>			1.8	0.2	0.02	5.6	—
<b>100% operations</b>			<b>39.1</b>	<b>1.3</b>	<b>0.71</b>	<b>113.4</b>	—
<b>Consolidated<sup>c</sup></b>			<b>39.1</b>	<b>1.3</b>	<b>0.71</b>	<b>113.4</b>	—
<b>Net equity interest<sup>d</sup></b>			<b>22.1</b>	<b>1.0</b>	<b>0.38</b>	<b>66.4</b>	—
<b>Indonesia</b>							
Grasberg open pit	e	Mill	4.9	7.3	—	9.5	—
Deep Ore Zone	e	Mill	2.2	3.5	—	10.1	—
Big Gossan	e	Mill	2.4	1.2	—	15.4	—
Grasberg Block Cave	e	Mill	18.7	16.3	—	63.3	—
Kucing Liar	e	Mill	9.7	6.8	—	36.5	—
Deep Mill Level Zone	e	Mill	8.3	9.3	—	44.4	—
<b>100% operations</b>			<b>46.2</b>	<b>44.4</b>	—	<b>179.2</b>	—
<b>Consolidated<sup>c</sup></b>			<b>31.6</b>	<b>32.2</b>	—	<b>118.7</b>	—
<b>Net equity interest<sup>d</sup></b>			<b>28.6</b>	<b>29.2</b>	—	<b>107.5</b>	—
<b>Africa</b>							
Tenke Fungurume	57.75%	Agitation leach	8.1	—	—	—	0.75
Recoverable metal in stockpiles <sup>b</sup>			0.3	—	—	—	0.11
<b>100% operations</b>			<b>8.4</b>	—	—	—	<b>0.86</b>
<b>Consolidated<sup>c</sup></b>			<b>8.4</b>	—	—	—	<b>0.86</b>
<b>Net equity interest<sup>d</sup></b>			<b>4.8</b>	—	—	—	<b>0.49</b>
<b>Total FCX – 100% basis</b>			<b>136.7</b>	<b>46.1</b>	<b>3.43</b>	<b>390.8</b>	<b>0.86</b>
<b>Total FCX – Consolidated basis<sup>c</sup></b>			<b>119.7</b>	<b>33.9</b>	<b>3.42</b>	<b>330.3</b>	<b>0.86</b>
<b>Total FCX – Net equity interest<sup>d</sup></b>			<b>96.1</b>	<b>30.6</b>	<b>3.09</b>	<b>272.1</b>	<b>0.49</b>

a. Amounts not shown because of rounding.

b. Refer to "Mill and Leach Stockpiles" for additional information.

c. Consolidated basis represents estimated metal quantities after reduction for joint venture partner interests at the Morenci mine in North America and at the Grasberg minerals district in Indonesia.

d. Net equity interest represents estimated consolidated basis metal quantities further reduced for noncontrolling interest ownership.

e. Our joint venture agreement with Rio Tinto provides that PT Freeport Indonesia will receive cash flow from specified annual amounts of copper, gold and silver through 2021, calculated by reference to its proven and probable reserves as of December 31, 1994, and 60 percent of all remaining cash flow.

In defining our open-pit reserves, we apply a “variable cutoff grade” strategy. The objective of this strategy is to maximize the net present value of our operations. We use a break-even cutoff grade to define the in-situ reserves for our underground ore bodies. The break-even cutoff grade is defined for a metric ton of ore as that equivalent copper grade, once produced and sold, that generates sufficient revenue to cover all operating and administrative costs associated with our production.

Our copper mines may contain other commercially recoverable metals, such as gold, molybdenum, silver and cobalt. We value all commercially recoverable metals in terms of a copper equivalent percentage to determine a single cutoff grade. Copper equivalent percentage is used to express the relative value of multi-metal ores in terms of one metal. The calculation expresses the relative value of the ore using estimates of contained metal quantities, metals prices as used for reserve determination, recovery rates, treatment charges and royalties. Our molybdenum properties use a molybdenum cutoff grade.

The table below shows the minimum cutoff grade by process for each of our existing ore bodies as of December 31, 2011:

	<b>Copper Equivalent Cutoff Grade (Percent)</b>			<b>Molybdenum Cutoff Grade (Percent)</b>
	Mill	Crushed or Agitation Leach	ROM Leach	Mill
<b><u>North America</u></b>				
Morenci	0.25	0.19	0.03	N/A
Bagdad	0.20	N/A	0.01	N/A
Safford	N/A	0.12	N/A	N/A
Sierrita	0.18	N/A	0.09	N/A
Miami	N/A	N/A	0.05	N/A
Tyrone	N/A	N/A	0.05	N/A
Chino	0.20	N/A	0.08	N/A
Henderson	N/A	N/A	N/A	0.12
Climax	N/A	N/A	N/A	0.06
Cobre	N/A	N/A	0.17	N/A
<b><u>South America</u></b>				
Cerro Verde	0.20	0.20	0.14	N/A
El Abra	N/A	0.16	0.06	N/A
Candelaria	0.23	N/A	N/A	N/A
Ojos del Salado	0.64	N/A	N/A	N/A
<b><u>Indonesia</u></b>				
Grasberg open pit	0.25	N/A	N/A	N/A
Deep Ore Zone	0.62	N/A	N/A	N/A
Big Gossan	1.55	N/A	N/A	N/A
Grasberg Block Cave	0.58	N/A	N/A	N/A
Kucing Liar	0.68	N/A	N/A	N/A
Deep Mill Level Zone	0.62	N/A	N/A	N/A
<b><u>Africa</u></b>				
Tenke Fungurume	N/A	1.11	N/A	N/A

Drill hole spacing data is used by mining professionals, such as geologists and geological engineers, in determining the suitability of data coverage (on a relative basis) in a given deposit type and mining method scenario so as to achieve a given level of confidence in the resource estimate. Drill hole spacing is only one of several criteria necessary to establish resource classification. Drilling programs are typically designed to achieve an optimum sample spacing to support the level of confidence in results that apply to a particular stage of development of a mineral deposit.

The following table sets forth the average drill hole spacing based on average sample distance or drill pattern spacing for proven and probable ore reserves by process type:

		Average Drill Hole Spacing (in Meters)			
		Proven		Probable	
		Mining Unit	Mill	Leach	Mill
<b><u>North America</u></b>					
Morenci	Open Pit	86	86	122	122
Bagdad	Open Pit	86	86	122	122
Safford	Open Pit	N/A	86	N/A	122
Sierrita	Open Pit	73	37	120	75
Miami	Open Pit	N/A	61	N/A	91
Tyrone	Open Pit	N/A	86	N/A	86
Chino	Open Pit	43	86	86	122
Henderson	Block Cave	38	N/A	85	N/A
Climax	Open Pit	61	N/A	122	N/A
Cobre	Open Pit	N/A	61	N/A	91
<b><u>South America</u></b>					
Cerro Verde	Open Pit	50	50	100	100
El Abra	Open Pit	N/A	75	N/A	120
Candelaria	Open Pit	35	N/A	70	N/A
Ojos del Salado	Sublevel Stopping	25	N/A	50	N/A
<b><u>Indonesia</u></b>					
Grasberg	Open Pit	37	N/A	114	N/A
Deep Ore Zone	Block Cave	23	N/A	56	N/A
Big Gossan	Open Stope	12	N/A	39	N/A
Grasberg	Block Cave	32	N/A	97	N/A
Kucing Liar	Block Cave	39	N/A	107	N/A
Deep Mill Level Zone	Block Cave	21	N/A	84	N/A
<b><u>Africa</u></b>					
Tenke Fungurume	Open Pit	N/A	50	N/A	100

[illegible]

## Mill and Leach Stockpiles

Because it is generally impracticable to determine copper contained in mill and leach stockpiles by physical count, reasonable estimation methods are employed. The quantity of material delivered to mill and leach stockpiles is based on surveyed volumes of mined material and daily production records. Sampling and assaying of blasthole cuttings determine the estimated copper grades of material delivered to mill and leach stockpiles.

Expected copper recovery rates for mill stockpiles are determined by metallurgical testing. The recoverable copper in mill stockpiles, once entered into the production process, can be produced into copper concentrate almost immediately.

Expected copper recovery rates for leach stockpiles are determined using small-scale laboratory tests, small- to large-scale column testing (which simulates the production-scale process), historical trends and other factors, including mineralogy of the ore and rock type. Ultimate recovery of copper contained in leach stockpiles can vary

significantly from a low percentage to more than 90 percent depending on several variables, including type of copper recovery, mineralogy and particle size of the rock. For newly placed material on active stockpiles, as much as 70 percent of the copper ultimately recoverable may be extracted during the first year, and the remaining copper may be recovered over many years.

Processes and recovery rates are monitored continuously, and recovery rate estimates are adjusted periodically as additional information becomes available and as related technology changes. Following are our stockpiles and the estimated recoverable copper contained within those stockpiles as of December 31, 2011:

	Millions of Metric Tons	Average Grade (%)	Recovery Rate (%)	Recoverable Copper (billion pounds)
<b><u>Mill stockpiles</u></b>				
Cerro Verde	86	0.42	81.4	0.6
Candelaria	96	0.37	83.1	0.7
	<u>182</u>	<u>0.39</u>	<u>82.3</u>	<u>1.3</u>
<b><u>Leach stockpiles</u></b>				
Morenci	4,957	0.25	1.9	0.5
Bagdad	427	0.27	2.7	0.1
Safford	114	0.44	23.1	0.3
Sierrita	649	0.15	12.4	0.3
Miami	460	0.38	2.0	0.1
Tyrone	1,029	0.28	2.4	0.1
Chino	1,602	0.26	11.4	1.0
Cerro Verde	411	0.53	2.6	0.1
El Abra	373	0.36	11.7	0.4
Tenke Fungurume	14	1.10	92.4	0.3
	<u>10,036</u>	<u>0.27</u>	<u>5.2</u>	<u>3.2</u>
<b>Total FCX - 100% basis</b>				<b>4.5</b>
<b>Total FCX - Consolidated basis<sup>a</sup></b>				<b>4.4</b>
<b>Total FCX - Net equity interest<sup>b</sup></b>				<b>3.6</b>

a. Consolidated basis represents estimated metal quantities after reduction for our joint venture partner's interest in the Morenci mine in North America.

b. Net equity interest represents estimated consolidated basis metal quantities further reduced for noncontrolling interest ownership.

### MINERALIZED MATERIAL

We hold various properties containing mineralized material that we believe could be brought into production should market conditions warrant. However, permitting and significant capital expenditures would be required before operations could commence at these properties. Mineralized material is a mineralized body that has been delineated by appropriately spaced drilling and/or underground sampling to support the reported tonnage and average metal grades. Such a deposit cannot qualify as recoverable proven and probable reserves until legal and economic feasibility are confirmed based upon a comprehensive evaluation of development costs, unit costs, grades, recoveries and other material factors. Estimated mineralized materials as presented on the following page were assessed using prices of \$2.20 per pound for copper, \$1,000 per ounce for gold and \$12 per pound for molybdenum.

**Mineralized Material  
Estimated at December 31, 2011**

	FCX's Interest	Milling Material				Leaching Material				Total Mineralized Material			
		Million metric tons	Copper %	Gold g/t	Moly %	Million metric tons	Copper %	Million metric tons	Copper %	Gold g/t	Moly %		
North America													
Morenci	85%	508	0.37	—	0.018	1,893	0.22	2,401	0.26	—	0.004		
Bagdad <sup>a</sup>	100%	301	0.30	— <sup>b</sup>	0.019	31	0.12	332	0.29	— <sup>b</sup>	0.017		
Safford <sup>a</sup>	100%	685	0.45	0.08	0.004	118	0.26	803	0.43	0.07	0.004		
Sierrita <sup>a</sup>	100%	1,587	0.18	— <sup>b</sup>	0.022	15	0.15	1,602	0.18	— <sup>b</sup>	0.022		
Miami	100%	—	—	—	—	27	0.47	27	0.47	—	—		
Tyrone	100%	—	—	—	—	84	0.32	84	0.32	—	—		
Chino	100%	177	0.45	—	0.013	179	0.32	356	0.39	—	0.006		
Henderson	100%	158	—	—	0.148	—	—	158	—	—	0.148		
Climax	100%	332	—	—	0.147	—	—	332	—	—	0.147		
Cobre	100%	45	0.57	—	—	12	0.29	57	0.51	—	—		
Ajo <sup>a</sup>	100%	915	0.33	0.06	0.007	—	—	915	0.33	0.06	0.007		
Cochise/Bisbee	100%	—	—	—	—	280	0.44	280	0.44	—	—		
Lone Star	100%	—	—	—	—	645	0.45	645	0.45	—	—		
Sanchez	100%	—	—	—	—	178	0.29	178	0.29	—	—		
Tohono	100%	220	0.70	—	—	261	0.65	481	0.67	—	—		
Twin Buttes <sup>a</sup>	100%	595	0.40	—	0.026	59	0.21	654	0.38	—	0.024		
South America													
Cerro Verde <sup>a</sup>	53.56%	919	0.37	—	0.014	12	0.35	931	0.37	—	0.014		
El Abra	51%	929	0.45	—	—	383	0.26	1,312	0.40	—	—		
Candelaria <sup>a</sup>	80%	77	0.58	0.13	—	—	—	77	0.58	0.13	—		
Indonesia													
Grasberg minerals district <sup>a</sup>	54.38% <sup>c</sup>	2,386	0.62	0.57	—	—	—	2,386	0.62	0.57	—		
Africa													
Tenke Fungurume <sup>d</sup>	57.75%	83	3.44	—	—	22	2.81	105	3.31	—	—		
Kisanfu <sup>d</sup>	95%	55	2.32	—	—	50	3.00	105	2.64	—	—		
Total FCX - 100% basis		9,972				4,249		14,221					
Total FCX - Consolidated basis <sup>e</sup>		8,941				3,965		12,906					
Total FCX - Net equity interest <sup>f</sup>		7,872				3,759		11,631					

a. Stated tonnage also includes silver at Bagdad (0.6 g/t), Safford (1.5 g/t), Sierrita (1.1 g/t), Ajo (0.9 g/t), Twin Buttes (2.3 g/t), Cerro Verde (1.6 g/t), Candelaria (1.9 g/t) and the Grasberg minerals district (3.5 g/t).

b. Amounts not shown because of rounding.

c. FCX's interest in the Grasberg minerals district reflects our 60 percent joint venture ownership further reduced by noncontrolling interest ownership.

d. Stated tonnage also includes cobalt at Tenke Fungurume (0.29 percent) and Kisanfu (1.08 percent).

e. Consolidated basis represents estimated mineralized materials after reduction for our joint venture partners' interest in the Morenci mine and the Grasberg minerals district.

f. Net equity interest represents estimated consolidated basis mineralized material further reduced for noncontrolling interest ownership.



## COPPER, GOLD AND MOLYBDENUM MARKETS

World prices for copper, gold and molybdenum can fluctuate significantly. During the period from January 2002 through January 2012, the London Metal Exchange (LME) spot copper price varied from a low of \$0.64 per pound in 2002 to a record high of \$4.60 per pound in February 2011; the London gold price fluctuated from a low of \$278 per ounce in 2002 to a record high of \$1,895 per ounce in September 2011; and the *Metals Week* Molybdenum Dealer Oxide weekly average price ranged from a low of \$2.40 per pound in 2002 to a high of \$39.25 per pound in 2005. Copper, gold and molybdenum prices are affected by numerous factors beyond our control as described further in our “Risk Factors” contained in Part I, Item 1A of our Form 10-K for the year ended December 31, 2011.

### Historical LME Copper Prices

Through January 31, 2012



\* Excludes Shanghai stocks, producer, consumer and merchant stocks.

This graph presents LME spot copper prices and reported stocks of copper at the LME and the New York Mercantile Exchange (COMEX) from January 2002 through January 2012. From 2006 through most of 2008, limited supplies, combined with growing demand from China and other emerging economies, resulted in high copper prices and low levels of inventories. In late 2008, slowing consumption, turmoil in the U.S. financial markets and concerns about the global economy led to a sharp decline in copper prices, which reached a low of \$1.26 per pound in December 2008. Copper prices have since improved from the 2008 lows, attributable to a combination of strong demand from emerging markets and limitations on available supply. During 2011, LME spot copper prices ranged from \$3.08 per pound to \$4.60 per pound, averaged \$4.00 per pound and closed at \$3.43 per pound on December 30, 2011. Combined LME and COMEX inventories rose somewhat in 2011, compared to year-end 2010 levels, primarily as a result of reduced Chinese imports.

We believe the underlying fundamentals of the copper business remain positive, supported by the significant role of copper in the global economy, limited supplies from existing mines and the absence of significant new development projects. Future copper prices are expected to be volatile and are likely to be influenced by demand from China (which represented approximately 40 percent of global consumption in 2011), economic activity in the U.S. and other industrialized countries, the timing of the development of new supplies of copper and production levels of mines and copper smelters. The LME spot copper price closed at \$3.81 per pound on February 15, 2012.