

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, 2016

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 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:

Title of each class	Name of each exchange on which registered
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 \$19.8 billion on February 15, 2017, and \$14.6 billion on June 30, 2016.

Common stock issued and outstanding was 1,445,380,168 shares on February 15, 2017, and 1,317,877,473 shares on June 30, 2016.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of our proxy statement for our 2017 annual meeting of stockholders are incorporated by reference into Part III (Items 10, 11, 12, 13 and 14) of this report.

FREEMPORT-McMoRan INC.

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PART I

Items 1. and 2. Business and Properties.

All of our periodic reports filed with the United States (U.S.) 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, 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 Inc. (FCX) and its consolidated subsidiaries. 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

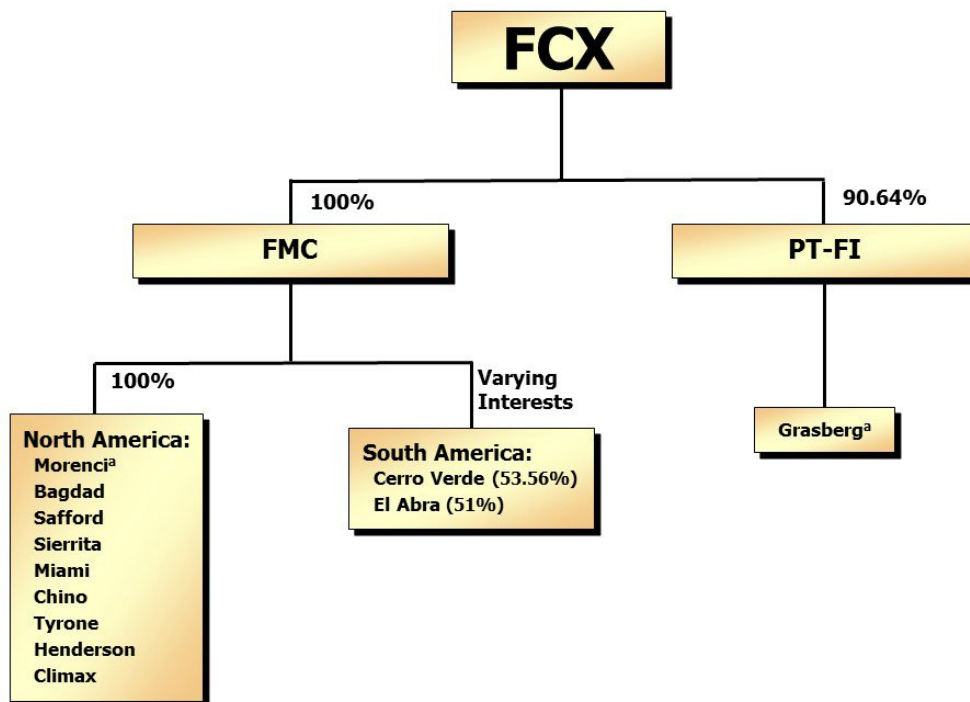
We are a leading international mining company with headquarters in Phoenix, Arizona. Our company was incorporated under the laws of the state of Delaware on November 10, 1987. We operate large, long-lived geographically diverse assets with significant proven and probable reserves of copper, gold and molybdenum, and we are the world’s largest publicly traded copper producer. Our portfolio of assets includes the Grasberg minerals district in Indonesia, one of the world’s largest copper and gold deposits, and significant mining operations in the Americas, including the large-scale Morenci minerals district in North America and the Cerro Verde operation in South America.

During 2016, we took actions to restore our balance sheet strength through a combination of asset sale transactions, cash flow from operations and capital market transactions. During the year, we completed \$6.6 billion in asset sale transactions, including the sale of our interest in TF Holdings Limited (TFHL), the sale of an additional 13 percent undivided interest in the Morenci minerals district and the sales of our Deepwater Gulf of Mexico (GOM), onshore California and Haynesville oil and gas properties (refer to Note 2 for further discussion of dispositions). In November 2016, we completed a registered at-the-market offering of our common stock that was announced in July 2016, which generated \$1.5 billion in gross proceeds through the sale of 116.5 million shares of our common stock (refer to Note 10 for further discussion). During 2016, we also redeemed \$369 million in senior notes for 27.7 million shares of our common stock in a series of privately negotiated transactions and purchased \$38 million in senior notes in open-market transactions (refer to Note 8 for further discussion), and in second-quarter 2016, we terminated contracts for deepwater drillships, settling aggregate commitments totaling \$1.1 billion for \$755 million, of which \$540 million was funded with shares of our common stock (refer to Note 10 for further discussion).

We continue to manage production, exploration and administrative costs and capital spending and, subject to commodity prices and operational results, expect to generate cash flows for further debt reduction during 2017.

We believe the underlying long-term fundamentals of the copper business remain positive and have retained a high-quality portfolio of long-lived copper assets positioned to generate long-term value. In addition to debt reduction plans, we are pursuing opportunities to enhance net present values, and we continue to advance studies for future development of our copper resources, the timing of which will be dependent on market conditions.

Following are our ownership interests at December 31, 2016, in operating mines through our subsidiaries, Freeport Minerals Corporation (FMC) and PT Freeport Indonesia (PT-FI):



- a. Effective May 31, 2016, FMC's undivided interest in Morenci via an unincorporated joint venture was prospectively reduced from 85 percent to 72 percent (refer to Note 2 for further discussion). Additionally, PT-FI has an unincorporated joint venture with Rio Tinto plc (Rio Tinto) related to our Indonesia operations. Refer to Note 3 for further discussion of our ownership in subsidiaries and joint ventures.

In November 2016, we completed the sale of our interest in TFHL (through which we held an effective 56 percent interest in the Tenke Fungurume (Tenke) mine in the Democratic Republic of Congo (DRC)) and in November 2014, we completed the sale of our 80 percent ownership interests in the Candelaria and Ojos del Salado copper mining operations in Chile.

During 2016, we also completed the sales of our Deepwater GOM, onshore California and Haynesville oil and gas properties, and during 2014, we completed the sale of our Eagle Ford shale assets.

Refer to Note 2 for further discussion of dispositions.

Mining

At December 31, 2016, our estimated consolidated recoverable proven and probable mineral reserves totaled 86.8 billion pounds of copper, 26.1 million ounces of gold and 2.95 billion pounds of molybdenum. Following is a summary of our consolidated recoverable proven and probable mineral reserves at December 31, 2016, by geographic location (refer to "Mining Operations" for further discussion):

	Copper	Gold	Molybdenum
North America	35%	1%	78%
South America	34	—	22
Indonesia	31	99	—
	<u>100%</u>	<u>100%</u>	<u>100%</u>

In North America, we operate seven copper mines - Morenci, Bagdad, Safford, Sierrita and Miami in Arizona, and Chino and Tyrone in New Mexico, and two molybdenum mines - Henderson and Climax in Colorado. In addition to copper, certain of our North America copper mines also produce molybdenum concentrate, gold and silver. In South America, we operate two copper mines - Cerro Verde in Peru and El Abra in Chile. In addition to copper, the Cerro Verde mine also produces molybdenum concentrate and silver. In Indonesia, our subsidiary PT-FI operates the

mines in the Grasberg minerals district. In addition to copper, the Grasberg minerals district also produces gold and silver.

Following is a summary of the geographic location of our consolidated copper, gold and molybdenum production (excluding copper production from Tenke, which is reported as a discontinued operation) for the year 2016 (refer to "Mining Operations" for further information):

	Copper	Gold	Molybdenum
North America	43%	2%	74% ^a
South America	32	—	26
Indonesia	25	98	—
	<u>100%</u>	<u>100%</u>	<u>100%</u>

- a. Our Henderson and Climax molybdenum mines produced 33 percent of consolidated molybdenum production, and our North America copper mines produced 41 percent.

The locations of our operating mines are shown on the world map below.



Oil and Gas

In December 2016, we completed the sales of our Deepwater GOM and onshore California oil and gas properties and in July 2016, we completed the sale of our Haynesville shale assets (refer to Note 2 for further discussion). In January 2017, we entered into an agreement to sell our property interests in the Madden area in central Wyoming. Following completion of the Madden transaction, our portfolio of oil and gas assets would include oil and natural gas production onshore in South Louisiana and on the GOM Shelf and oil production offshore California.

At December 31, 2016, our estimated proved developed oil and natural gas reserves (all of which are located in the U.S.) totaled 18 million barrels of oil equivalents (MMBOE), comprised of 4 million barrels (MMBbls) of oil and natural gas liquids (NGLs) and 87 billion cubic feet (Bcf) of natural gas, and included 7 MMBOE associated with our property interests in the Madden area. We had no proved undeveloped reserves at December 31, 2016. Refer to Note 21 for further discussion of our proved oil and gas reserves.

COPPER, GOLD AND MOLYBDENUM

Following provides a brief discussion of our primary natural resources – copper, gold and molybdenum. For further discussion of historical and current market prices of these commodities refer to MD&A and Item 1A. "Risk Factors."

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 (NYMEX) and Shanghai Futures Exchange. Prices on these exchanges generally reflect the worldwide balance of copper supply and demand, and can be volatile and cyclical. During 2016, the LME spot copper price averaged \$2.21 per pound, ranging from a low of \$1.96 per pound to a high of \$2.69 per pound, and was \$2.50 per pound at December 31, 2016.

In general, demand for copper reflects the rate of underlying world economic growth, particularly in industrial production and construction. According to Wood Mackenzie, a widely followed independent metals market consultant, copper's end-use markets (and their estimated shares of total consumption) are construction (31 percent), consumer products (24 percent), electrical applications (24 percent), transportation (11 percent) and industrial machinery (10 percent).

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 (London) PM quotations. During 2016, the London PM gold price averaged \$1,250 per ounce, ranging from a low of \$1,077 per ounce to a high of \$1,366 per ounce, and was \$1,159 per ounce at December 31, 2016.

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. Reference prices for molybdenum are available in several publications, including *Metals Week*, *CRU Report* and *Metal Bulletin*. During 2016, the weekly average price of molybdenum quoted by *Metals Week* averaged \$6.47 per pound, ranging from a low of \$5.15 per pound to a high of \$8.47 per pound, and was \$6.74 per pound at December 31, 2016.

PRODUCTS AND SALES

FCX's consolidated revenues for 2016 primarily included sales of copper (70 percent), gold (10 percent), oil (9 percent) and molybdenum (4 percent). Oil and gas sales to Phillips 66 Company represented 12 percent of our consolidated revenues in 2014; no other customer accounted for more than 10 percent of our consolidated revenues in any of the past three years. Refer to Note 16 for a summary of our consolidated revenues and operating income (loss) 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 2016, 58 percent of our mined copper was sold in concentrate, 21 percent as cathode and 21 percent as rod from North America operations.

The copper ore from our mines is 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 anode, which weighs between 800 and 900 pounds and has an average copper content of 99.5 percent. The anode is further treated by electrolytic refining to produce copper cathode, which weighs between 100 and 350 pounds and has an average copper content of 99.99 percent. 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, on average, 99.99 percent copper. Our copper cathode is used as the raw material input for copper rod, brass mill products and for other uses.

Copper Concentrate. We produce copper concentrate at six of our mines. In North America, copper concentrate is produced at the Morenci, Bagdad, Sierrita and Chino mines, and a significant portion is shipped to our Miami smelter in Arizona. Copper concentrate is also produced at the Cerro Verde mine in Peru and the Grasberg minerals district in Indonesia.

Copper Cathode. We produce copper cathode at our electrolytic refinery located in El Paso, Texas, and at nine of our mines. SX/EW cathode is produced from the Morenci, Bagdad, Safford, Sierrita, Miami, Chino and Tyrone mines in North America, and from the Cerro Verde and El Abra mines in South America. Copper cathode is also produced at Atlantic Copper (our wholly owned copper smelting and refining unit in Spain) and PT Smelting (PT-FI's 25-percent-owned copper smelter and refinery in Indonesia). Refer to "Mining Operations - Smelting Facilities and Other Mining Properties" for further discussion of Atlantic Copper and PT Smelting.

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 copper mines.

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 under U.S. dollar-denominated annual contracts. Cathode and rod contract prices are generally based on the prevailing Commodity Exchange Inc. (COMEX - a division of NYMEX) monthly average spot price for the month of shipment and include a premium. Generally, copper rod is sold to wire and cable manufacturers, while cathode is sold to rod, brass or tube fabricators. During 2016, 12 percent of our North America mines' copper concentrate sales volumes were shipped to Atlantic Copper.

South America. Production from our South America mines is sold as copper concentrate or copper cathode under U.S. dollar-denominated, annual and multi-year contracts. During 2016, our South America mines sold approximately 75 percent of their copper production in concentrate and 25 percent as cathode. During 2016, four percent of our South America mines' copper concentrate sales volumes were shipped to Atlantic Copper.

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) primarily based on quoted LME monthly average spot copper prices. Revenues from South America's concentrate sales are recorded net of royalties and treatment charges (*i.e.*, fees paid to smelters that are generally negotiated annually). In addition, because a portion of the metals contained in copper concentrate is unrecoverable from the smelting process, revenues from South America's concentrate sales are also recorded net of allowances for unrecoverable metals, which are a negotiated term of the contracts and vary by customer.

Indonesia. PT-FI 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-FI also sells a small amount of copper concentrate in the spot market. Following is a summary of PT-FI's aggregate percentage concentrate sales to third parties, PT Smelting and Atlantic Copper for the years ended December 31:

	2016	2015	2014
Third parties	56%	61%	36%
PT Smelting	42	37	58
Atlantic Copper	2	2	6
	<u>100%</u>	<u>100%</u>	<u>100%</u>

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

Gold Products and Sales

We produce gold mostly from the Grasberg minerals district. Gold is primarily sold as a component of our copper concentrate or in slimes, which are a product of the smelting and refining process at Atlantic Copper. Gold generally is priced at the average London 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 the Henderson and Climax molybdenum mines, we produce molybdenum concentrate at certain of the North America copper mines and the Cerro Verde copper mine in Peru. The majority of our molybdenum concentrate is processed in our own conversion facilities. During 2016, our molybdenum sales were generally priced based on the average published *Metals Week* price for the month prior to the month of shipment. We have incorporated changes in the commercial pricing structure for our molybdenum-based chemical products to enable continuation of chemical-grade production.

LABOR MATTERS

At December 31, 2016, we employed approximately 30,000 people (12,200 in Indonesia, 11,000 in North America, 5,400 in South America and 1,400 in Europe and other locations). We also had contractors that employ personnel at many of our operations, including approximately 21,300 at the Grasberg minerals district in Indonesia, 3,700 at our South America mining operations, 3,700 in North America and 400 in Europe and other locations. Employees represented by unions at December 31, 2016, are listed below, with the number of employees represented and the expiration date of the applicable union agreements:

Location	Number of Unions	Number of Union-Represented Employees	Expiration Date
PT-FI – Indonesia	2	9,456	September 2017
Cerro Verde – Peru	1	3,023	August 2018
El Abra – Chile	2	583	April 2020
Atlantic Copper – Spain	2	422	December 2015 ^a
Kokkola - Finland	3	409	November 2017
Rotterdam – The Netherlands	1	61	September 2018
Stowmarket – United Kingdom	1	39	May 2017

- a. The Collective Labor Agreement between Atlantic Copper and its workers' unions expired in December 2015, but has been extended through December 2017 by mutual agreement from both parties in accordance with Spanish law.

Refer to Item 1A. "Risk Factors" for further information on labor matters.

ENVIRONMENTAL AND RECLAMATION MATTERS

The cost of complying with environmental laws is fundamental to and a substantial cost of our business. For information about environmental regulation, litigation and related costs, refer to Item 1A. "Risk Factors" and Notes 1 and 12.

COMPETITION

The top 10 producers of copper comprise approximately half of total worldwide mined copper production. We currently rank second among those producers, with approximately nine percent of estimated total worldwide mined copper production. Our competitive position is based on the size, 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.

MINING OPERATIONS

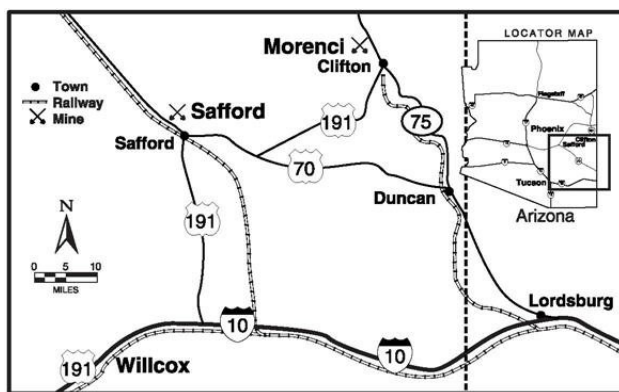
Following are maps and descriptions of our mining operations in North America (including both copper and molybdenum operations), South America and Indonesia.

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, Chino, Tyrone, Henderson and Climax 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.

In response to market conditions, beginning in the second half of 2015, we revised operating plans for our North America copper mines to reduce operating and capital costs and adjust production to reflect market conditions. In addition, we operated the Henderson molybdenum mine at reduced rates, resulting in an approximate 65 percent reduction in its annual production volumes. These operating plans will continue to be reviewed and additional adjustments may be made as market conditions warrant.

Morenci



We own a 72 percent undivided interest in Morenci, with the remaining 28 percent owned by Sumitomo Metal Mining Arizona, Inc. (15 percent) and SMM Morenci, Inc. (13 percent). 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, secondary sulfide 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 two concentrators capable of milling 115,000 metric tons of ore per day, which produce copper and molybdenum concentrate; 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. During second-quarter 2015, Morenci's concentrate leach, direct-electrowinning facility (which was placed on care-and-maintenance status in early 2009) resumed operation. Morenci's available mining fleet consists of one hundred and eleven 236-metric ton haul trucks loaded by 12 shovels with bucket sizes ranging from 47 to 57 cubic meters, which are capable of moving an average of 815,000 metric tons of material per day.

The Morenci mill expansion project, which achieved full rates in second-quarter 2015, expanded mill capacity from 50,000 metric tons of ore per day to approximately 115,000 metric tons of ore per day, which results in incremental annual production of approximately 225 million pounds of copper and an improvement in Morenci's cost structure.

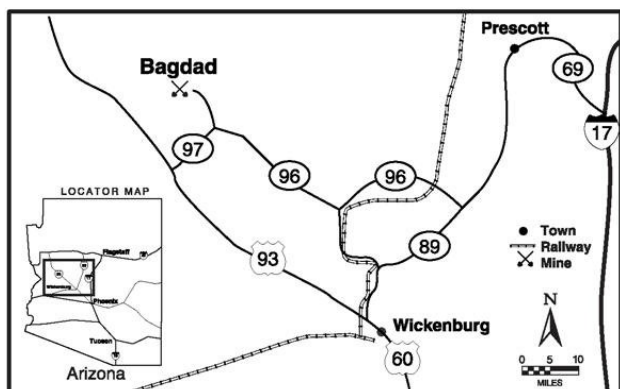
Over the next five years, Morenci's copper production, including our joint venture partner share, is expected to average approximately one billion pounds per year.

Morenci's production, including our joint venture partner's share, totaled 1.1 billion pounds of copper and 15 million pounds of molybdenum in 2016, 1.1 billion pounds of copper and 7 million pounds of molybdenum in 2015, and 812 million pounds of copper and less than 1 million pounds of molybdenum in 2014.

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 68,310 acres, comprising 51,170 acres of patented mining claims and other fee lands, 14,420 acres of unpatented mining claims and 2,720 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. 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 concentrate, an SX/EW plant that can produce up to 32 million pounds per year of copper cathode from solution generated by low-grade stockpile leaching, and a pressure-leach plant to process molybdenum concentrate. The available mining fleet consists of thirty 235-metric ton haul trucks loaded by six shovels with bucket sizes ranging from 30 to 48 cubic meters, which are capable of moving an average of 250,000 metric tons of material per day.

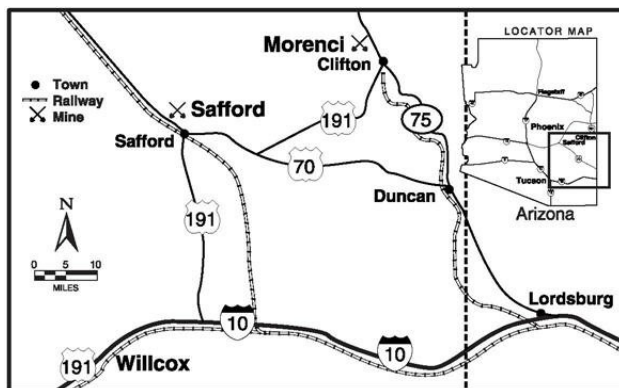
Bagdad's production totaled 177 million pounds of copper and 8 million pounds of molybdenum in 2016, 210 million pounds of copper and 9 million pounds of molybdenum in 2015, and 237 million pounds of copper and 9 million pounds of molybdenum in 2014.

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 21,750 acres, comprising 21,150 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. We believe the Bagdad operation has sufficient water sources to support current operations.

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 8 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.

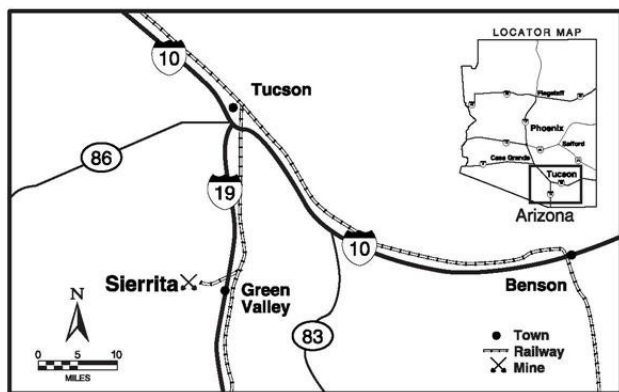
The property is a mine-for-leach project and produces copper cathode. The operation consists of two open pits feeding a crushing facility with a capacity of 103,000 metric tons per day. The crushed ore is delivered to leach pads by a series of overland and portable conveyors. Leach solutions feed a SX/EW facility with a capacity of 240 million pounds of copper per year. A sulfur burner plant is also in operation at Safford, providing a cost-effective source of sulphuric acid used in SX/EW operations. The available mining fleet consists of sixteen 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 225,000 metric tons of material per day.

Safford's copper production totaled 230 million pounds in 2016, 202 million pounds in 2015 and 139 million pounds in 2014.

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 25,000 acres, comprising 21,000 acres of patented lands, 3,950 acres of unpatented lands and 50 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 7 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, secondary sulfide 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.

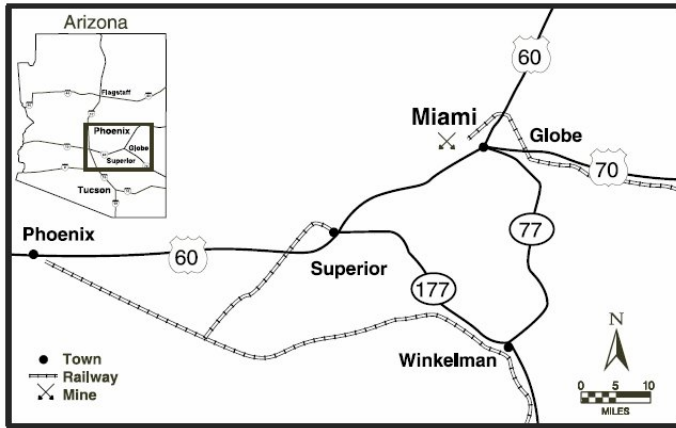
The Sierrita operation includes a 102,000 metric ton-per-day concentrator that produces copper and molybdenum concentrate. Sierrita also produces copper from a ROM oxide-leaching system. Cathode copper is plated at the Twin Buttes EW facility, which has a design capacity of approximately 50 million pounds of copper per year. 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 twenty-five 235-metric ton haul trucks loaded by three 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 162 million pounds of copper and 14 million pounds of molybdenum in 2016, 189 million pounds of copper and 21 million pounds of molybdenum in 2015, and 195 million pounds of copper and 24 million pounds of molybdenum in 2014.

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 "Smelting Facilities and Other Mining Properties" for further discussion), encompasses approximately 37,650 acres, comprising 13,300 acres of patented mining claims and 24,350 acres of split-estate 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 6 miles west of the city of Globe on U.S. Highway 60. The site is accessible by a paved highway and by rail.

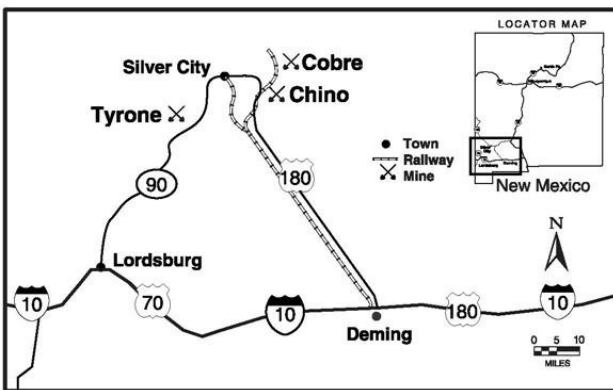
The Miami mine is a porphyry copper deposit that has leachable oxide and secondary sulfide mineralization. The predominant oxide copper minerals are chrysocolla, copper-bearing clays, malachite and azurite. Chalcocite and covellite are the most important secondary copper sulfide minerals.

Since about 1915, the Miami mining operation had processed copper ore using both flotation and leaching technologies. The design capacity of the SX/EW plant is 200 million pounds of copper per year. During 2015, Miami’s operating plans were revised to suspend mining operations and produce copper through leaching material already placed on stockpiles. Miami’s copper production totaled 25 million pounds in 2016, 43 million pounds in 2015 and 57 million pounds in 2014.

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 pit bottom has an elevation of 810 meters above sea level. The Miami operation encompasses approximately 9,100 acres, comprising 8,750 acres of patented mining claims and other fee lands and 350 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. We believe the Miami operation has sufficient water sources to support current operations.

Chino and Tyrone



Chino

Our wholly owned Chino mine is an open-pit copper mining complex located in Grant County, New Mexico, 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, secondary sulfide and millable primary sulfide mineralization. The predominant oxide copper mineral is chrysocolla. Chalcocite is the most important secondary copper sulfide mineral, and chalcopyrite and molybdenite the dominant primary sulfides.

The Chino operation consists of a 36,000 metric ton-per-day concentrator that produces copper and molybdenum concentrate, 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 thirty-seven 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 235,000 metric tons of material per day.

Chino's copper production totaled 308 million pounds in 2016, 314 million pounds in 2015 and 250 million pounds in 2014.

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 118,600 acres, comprising 113,200 acres of patented mining claims and other fee lands and 5,400 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.

Tyrone

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

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

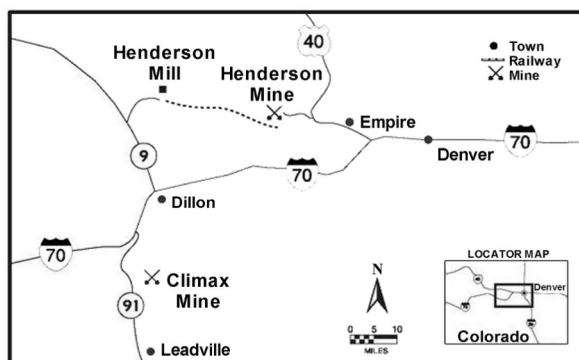
Copper processing facilities consist of a SX/EW operation with a maximum capacity of approximately 100 million pounds of copper cathode per year. The available mining fleet consists of seven 240-metric ton haul trucks loaded by one shovel with a bucket size of 47 cubic meters, which is capable of moving an average of 49,000 metric tons of material per day.

Tyrone's copper production totaled 76 million pounds in 2016, 84 million pounds in 2015 and 94 million pounds in 2014.

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 18,750 acres of patented mining claims and other fee lands and 16,450 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.

Henderson and Climax



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 35 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 seventeen 9-metric ton load-haul-dump (LHD) units and seven 73-metric ton haul trucks, which deliver ore to a gyratory crusher feeding a series of three overland conveyors to the mill stockpiles.

In response to market conditions, the Henderson molybdenum mine operated at reduced rates during 2016. Henderson's molybdenum production totaled 10 million pounds in 2016, 25 million pounds in 2015 and 30 million pounds in 2014.

The Henderson mine is located in a mountainous 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 11,900 acres, comprising 11,850 acres of patented mining claims and other fee lands and a 50-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 BP Energy Company (with Xcel Energy as the transporter). We believe the Henderson operation has sufficient water resources to support current operations.

Climax

Our wholly owned Climax mine is located 13 miles northeast of Leadville, Colorado, off Colorado State Highway 91 at the top of Fremont Pass. The mine is accessible by paved roads.

The Climax ore body is a porphyry molybdenum deposit, with molybdenite as the primary sulfide mineral.

The Climax open-pit mine includes a 25,000 metric ton-per-day mill facility. Climax has the capacity to produce approximately 30 million pounds of molybdenum per year. The available mining fleet consists of nine 177-metric ton haul trucks loaded by two hydraulic shovels with bucket sizes of 34 cubic meters, which are capable of moving an average of 90,000 metric tons of material per day.

Molybdenum production from Climax totaled 16 million pounds in 2016, 23 million pounds in 2015 and 21 million pounds in 2014.

The Climax mine is located in a mountainous region. The highest bench elevation is approximately 4,050 meters above sea level, and the ultimate pit bottom is expected to have an elevation of approximately 3,100 meters above sea level. This region experiences significant snowfall during the winter months.

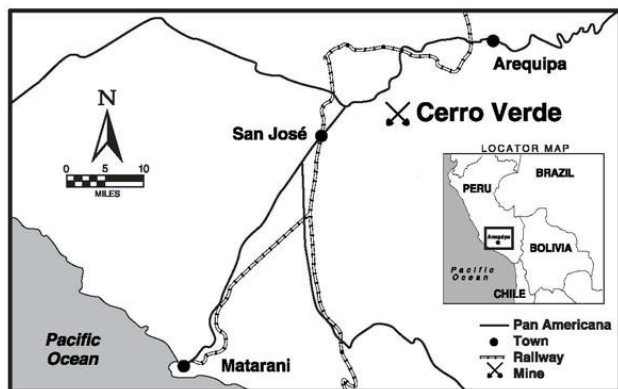
The operations encompass approximately 14,350 acres, consisting primarily of patented mining claims and other fee lands.

Climax operations receive electrical power through long-term contracts with Xcel Energy and natural gas through long-term contracts with Andarko Energy and BP Energy Company (with Xcel Energy as the transporter). We believe the Climax operation has sufficient water resources to support current operations.

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. (19.58 percent) and other stockholders whose shares are publicly traded on the Lima Stock Exchange (5.86 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. A majority of Cerro Verde's copper cathode production is sold locally, and the remaining copper cathode and concentrate production are transported approximately 70 miles by truck and by rail to the Port of Matarani for shipment to international markets.

The Cerro Verde mine is a porphyry copper deposit that has oxide, secondary sulfide 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 operation consists of an open-pit copper mine, a 360,000 metric ton-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 SX/EW leaching operation has a capacity of approximately 200 million pounds of copper per year.

The Cerro Verde expansion project, which commenced operations in September 2015, achieved capacity operating rates during first-quarter 2016. Cerro Verde's expanded operations benefit from its large-scale, long-lived reserves and cost efficiencies. The project expanded the concentrator facilities from 120,000 metric tons of ore per day to 360,000 metric tons of ore per day.

The available fleet consists of eleven 290-metric ton haul trucks and ninety 230-metric ton haul trucks loaded by nine electric shovels with bucket sizes ranging in size from 33 to 57 cubic meters and two hydraulic shovels with a bucket size of 21 cubic meters. This fleet is capable of moving an average of approximately 735,000 metric tons of material per day.

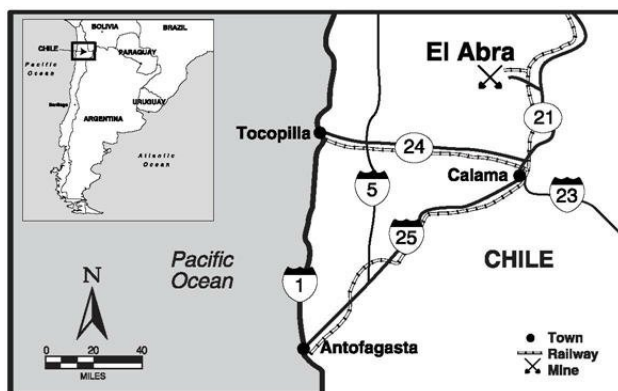
Cerro Verde's production totaled 1.1 billion pounds of copper and 21 million pounds of molybdenum in 2016, 545 million pounds of copper and 7 million pounds of molybdenum in 2015, and 500 million pounds of copper and 11 million pounds of molybdenum in 2014.

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 2,750 meters above sea level, and the ultimate pit bottom is expected to be 1,570 meters above sea level. The Peruvian general mining law and Cerro Verde's mining stability agreement grant the surface rights of mining concessions located on government land. Additional government land if obtained prior to 1997, must be leased or purchased. Cerro Verde has a mining concession covering approximately 157,000 acres, including 14,500 acres rented from the Regional Government of Arequipa, plus 71 acres of owned property, and 80 acres of rights-of-way outside the mining concession area.

Cerro Verde receives electrical power under long-term contracts with Kallpa Generación SA, ElectroPeru and Engie Energia Peru S.A.

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. In 2015, Cerro Verde completed the construction of a wastewater treatment plant that intercepts raw sewage that would otherwise be discharged into the Rio Chili and processes it for both use at the Cerro Verde mine and for recharge of treated water into the Rio Chili. We believe the Cerro Verde operation has sufficient water resources to support current operations. 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 a SX/EW facility with a capacity of 500 million pounds of copper cathode per year from a 125,000 metric ton-per-day crushed leach circuit and a similar-sized ROM leaching operation. The available fleet consists of thirty-six 220-metric ton haul trucks loaded by four shovels with buckets ranging in size from 34 to 63 cubic meters, which are capable of moving an average of 214,000 metric tons of material per day.

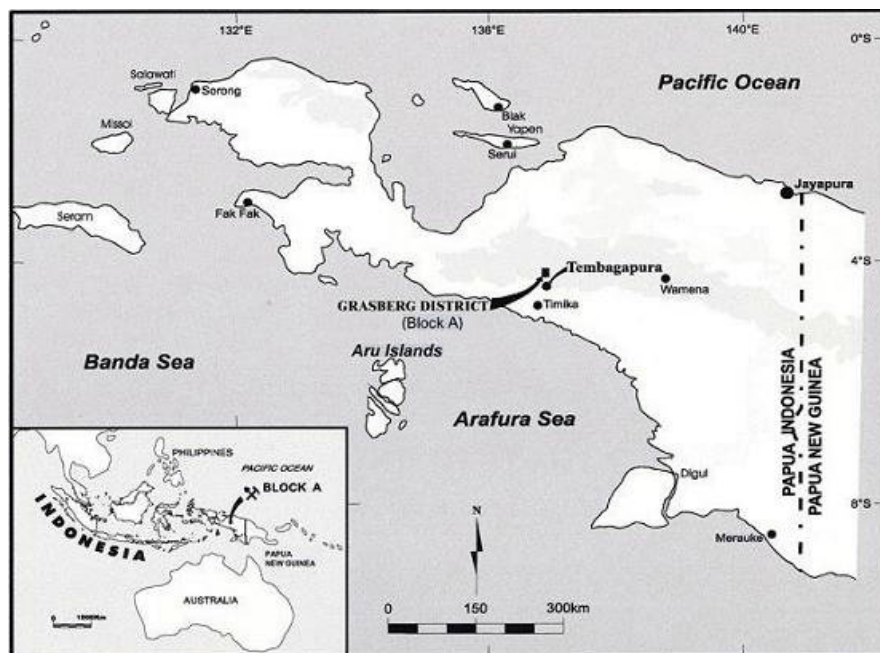
In response to market conditions, in the second half of 2015, we adjusted operations at El Abra to reduce mining and stacking rates by approximately 50 percent to achieve lower operating and labor costs, defer capital expenditures and extend the life of the existing operations. El Abra's copper production totaled 220 million pounds in 2016, 324 million pounds in 2015 and 367 million pounds in 2014.

We continue to evaluate a potential large-scale milling operation at El Abra to process additional sulfide material and to achieve higher recoveries. Exploration results in recent years at El Abra indicate a significant sulfide resource, which could potentially support a major mill project. Future investments will be dependent on technical studies, economic factors and market conditions.

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 3,430 meters above sea level. El Abra controls a total of approximately 151,300 acres of mining claims covering the ore deposit, stockpiles, process plant, and water wellfield and pipeline. In addition, El Abra has 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 aquifer.

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

Indonesia



Ownership. PT-FI is a limited liability company organized under the laws of the Republic of Indonesia. We directly own 81.28 percent of the outstanding common stock of PT-FI and indirectly own 9.36 percent through our wholly owned subsidiary, PT Indocopper Investama; the Indonesian government owns the remaining 9.36 percent.

PT-FI has an unincorporated joint venture with Rio Tinto, under which Rio Tinto has a 40 percent interest in certain assets and future production exceeding specified annual amounts of copper, gold and silver through 2022 in Block A of PT-FI's Contract of Work (COW), and after 2022, a 40 percent interest in all production from Block A. The Block A area is where all of PT-FI's proven and probable mineral reserves and all of its current mining operations are located. Refer to Note 3 for further discussion of the joint venture agreement.

Contract of Work. PT-FI conducts its current exploration and mining operations in Indonesia through a COW with the Indonesian government. 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 Indonesian government will not nationalize or expropriate PT-FI's mining operations. Any disputes regarding the provisions of the COW are subject to international arbitration.

PT-FI's original COW was entered into in 1967 and was replaced by the current COW in 1991. The initial term of the current COW expires in 2021, but the COW explicitly provides that it 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. Under the COW, PT-FI also conducts exploration activities in the Block B area currently covering 502,000 acres.

Under the COW, PT-FI pays royalties on copper, gold and silver in the concentrate it sells (refer to Note 13 for further discussion of the royalty rates). A large part of the mineral royalties under Indonesian government regulations is designated to the provinces from which the minerals are extracted. In connection with its fourth concentrator mill expansion completed in 1998, PT-FI agreed to pay the Indonesian government additional royalties, which were not required by the COW, to provide further support to the local governments and to the people of the Indonesian province of Papua. PT-FI's royalties totaled \$131 million in 2016, \$114 million in 2015 and \$115 million in 2014.

Regulatory Matters. PT-FI continues to seek approval from Indonesian authorities for the export of its copper concentrate, consistent with its rights under the COW.

In January 2014, the Indonesian government published regulations that among other things imposed a progressive export duty on copper concentrate and restricts concentrate exports after January 12, 2017. Despite PT-FI's rights under its COW to export concentrate without the payment of duties, PT-FI was unable to obtain administrative approval for exports and operated at approximately half of its capacity from mid-January 2014 through July 2014.

In July 2014, PT-FI and the Indonesian government entered into a Memorandum of Understanding (MOU) in which, subject to concluding an agreement to extend PT-FI's operations beyond 2021 on acceptable terms, PT-FI agreed to construct new smelter capacity in Indonesia and to divest an additional 20.64 percent interest in PT-FI at fair market value. Under the MOU, PT-FI provided a \$115 million assurance bond to support its commitment for smelter development, agreed to increase royalty rates and agreed to pay export duties until certain smelter development milestones were met. The MOU also anticipated an amendment of the COW within six months to address other matters; however, no terms of the COW other than those relating to the smelter bond, increased royalties and export duties were changed. In January 2015, the MOU was extended to July 25, 2015, and it expired on that date. The Indonesian government has continued to impose the increased royalty rates, export duties and smelter assurance bond. PT-FI paid export duties totaling \$95 million in 2016, \$109 million in 2015 and \$77 million in 2014.

In October 2015, the Indonesian government provided a letter of assurance to PT-FI indicating that it would revise regulations allowing it to approve the extension of PT-FI's operations beyond 2021, and provide the same rights and the same level of legal and fiscal certainty provided under the current COW.

In January and February 2017, the Indonesian government issued new regulations to address exports of unrefined metals, including copper concentrate and anode slimes, and other matters related to the mining sector. The new regulations permit the continuation of copper concentrate exports for a five-year period through January 2022, subject to various conditions, including conversion from a contract of work to a special operating license (known as an IUPK, which provides virtually none of the protections of a contract of work), commitment to completion of smelter construction in five years and payment of export duties to be determined by the Ministry of Finance. In addition, the new regulations enable application for extension of operating rights five years before expiration of the IUPK and require foreign IUPK holders to divest 51 percent to Indonesian interests no later than the tenth year of production. Export licenses would be valid for one-year periods, subject to review every six months, depending on smelter construction progress.

The January 2017 regulations permit the export of anode slimes, which is necessary for PT Smelting (PTFI's 25-percent-owned copper smelter and refinery located in Gresik, Indonesia) to continue operating. PT Smelting is seeking to renew its anode slimes export license; however, we cannot predict when PT Smelting's anode slimes export license may be renewed. In addition, a labor strike at PT Smelting has resulted in a shutdown of its operations since January 19, 2017. Although PTFI is taking near-term actions to reduce production to match available processing capacity at PT Smelting, or approximately 40 percent of PTFI's concentrate production capacity, on February 10, 2017, PTFI was forced to suspend production as a result of limited storage capacity at PTFI and PT Smelting. PT Smelting has indicated that it expects to resume operations in March 2017. Delays in PT Smelting obtaining its anode slimes export license or restarting operations could further impact PTFI's operations.

Following the issuance of the January and February 2017 regulations and discussions with the government, PTFI advised the Indonesian government that it was prepared to convert its COW to an IUPK, subject to obtaining an investment stability agreement providing equivalent rights with the same level of legal and fiscal certainty enumerated under its COW, and provided that the COW would remain in effect until it is replaced by a mutually satisfactory alternative. PTFI also committed to commence construction of a new smelter during a five-year timeframe after approval of the extension of its long-term operating rights.

Under its COW, PTFI has specified rights to export copper concentrate without restriction or payment of export duties. PTFI has requested that concentrate exports be permitted without the imposition of export duties while the new license and stability agreement are negotiated. The Indonesia government has indicated that in order to export its concentrate production, PTFI would be required to immediately convert to an IUPK, forgo its current rights to fiscal and legal certainty and commit to a new smelter prior to completing a long-term investment stability agreement. PTFI has advised the Indonesian government that attempts to enforce the new regulations on PTFI violates its COW and that it is unwilling to terminate its COW unless replaced by a mutually acceptable form of agreement providing fiscal and legal assurances to support its long-term investment plans in Papua, Indonesia.

As of February 24, 2017, PTFI has not obtained approval to export concentrate and production remains suspended. PTFI is taking near-term actions to reduce production to match available processing capacity at PT Smelting, or approximately 40 percent of PTFI's concentrate production capacity (assuming that PT Smelting's export license is approved and its operations are resumed in March 2017). PTFI has begun to significantly adjust its cost structure, reduce its workforce and spending with local suppliers, and suspend investments in its underground development projects and new smelter.

On February 17, 2017, pursuant to the COW's dispute resolution provisions, PTFI provided formal notice to the Indonesian government of an impending dispute listing the government's breaches and violations of the COW, which are described in Item 1A. "Risk Factors."

We cannot predict whether or when PTFI will be able to resume exporting copper concentrate. For each month of delay in obtaining approval to export, PTFI's share of production is projected to be reduced by approximately 70 million pounds of copper and 70 thousand ounces of gold. The inability of either PTFI to export copper concentrate, or PT Smelting to export anode slimes or restart operations, for any extended period of time would lead to the continued suspension of production in Indonesia. We also cannot predict whether PTFI will be successful in reaching a satisfactory agreement on the terms of PTFI's long-term mining rights. If PTFI is unable to reach agreement with the Indonesian government on its long-term mining rights, we may be required to reduce or defer investments in underground development projects.

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

Grasberg Minerals District. PTFI 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 has three operating mines, the Grasberg open pit, the Deep Ore Zone (DOZ) underground mine and the Big Gossan underground mine where operations restarted in fourth-quarter 2016. In addition, in September 2015, PTFI initiated pre-commercial production at the Deep Mill Level Zone (DMLZ) underground mine. PTFI also has several projects in progress in the Grasberg minerals district related to the development of the large-scale, long-lived, high-grade underground ore bodies located beneath and nearby the Grasberg open pit, including the Grasberg Block Cave underground mine (refer to MD&A for further discussion). In aggregate, these underground ore bodies are expected to produce large-scale quantities of copper and gold

following the transition from the Grasberg open pit. Our current plans and mineral reserves at PT-FI assume that the COW will be extended beyond 2021 (refer to "Regulatory Matters" above for discussion of matters that could impact PT-FI's development plans).

PT-FI's production, including our joint venture partner's share, totaled 1.1 billion pounds of copper and 1.1 million ounces of gold in 2016, 752 million pounds of copper and 1.2 million ounces of gold in 2015 and 651 million pounds of copper and 1.1 million ounces of gold in 2014.

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

PT-FI began open-pit mining of the Grasberg ore body in 1990 and is currently mining the final phase of the Grasberg open pit, which contains high copper and gold ore grades. PT-FI expects to mine high-grade ore over the next several quarters prior to transitioning to the Grasberg Block Cave underground mine during 2018. Additionally, production from the ore stockpiles, which are located outside of the pit limits, is expected to continue until early 2019. Production in the open pit is currently at the 3,310- to 3,520-meter elevation level and totaled 44 million metric tons of ore in 2016, which provided 72 percent of PT-FI's 2016 mill feed.

The current open-pit equipment fleet consists of over 500 units. The larger mining equipment directly associated with production includes an available fleet of 132 haul trucks with payloads ranging from 218 to 276 metric tons and 16 shovels with bucket sizes ranging from 17 to 42 cubic meters, which mined an average of 180,500 metric tons of material per day in 2016, 250,400 metric tons per day in 2015 and 298,400 metric tons per day in 2014.

Crushing and conveying systems are integral to the Grasberg mine and provide the capacity to transport more than 250,000 metric tons of ore per day. During 2016, Grasberg's crushing and conveying systems delivered an average of 121,000 metric tons of ore per day to the mill. From January 2016 to May 2016, the Grasberg overburden handling system delivered 1.9 million metric tons of overburden to the overburden stockpiles. The remaining overburden moved by haul trucks averaged 16,100 metric tons per day during 2016. Ore milled from the Grasberg open pit averaged 119,700 metric tons per day in 2016, 115,900 metric tons per day in 2015 and 69,100 metric tons per day in 2014.

DOZ Underground Mine

The DOZ ore body lies vertically below the now depleted Intermediate Ore Zone. PT-FI 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 open pit. Production resumed in September 2000 using the block-cave method and is at the 3,110-meter elevation level.

The DOZ is a mature block-cave mine that previously operated at 80,000 metric tons of ore per day. Current operating rates from the DOZ underground mine are driven by the value of the incremental DOZ ore grade compared to the ore from the Grasberg open pit and ore grade material from the development of the DMLZ and Grasberg Block Cave underground mines. Ore milled from the DOZ underground mine averaged 38,000 metric tons of ore per day in 2016, 43,700 metric tons of ore per day in 2015 and 50,500 metric tons of ore per day in 2014. Production at the DOZ underground mine is expected to continue through 2021 and to ramp up to 60,000 metric tons of ore per day in 2017.

The DOZ mine fleet consists of over 180 pieces of mobile equipment. The primary mining equipment directly associated with production and development includes an available fleet of 46 LHD units and 22 haul trucks. Each production LHD unit typically carries 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 for processing.

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-FI's large-scale, underground ore bodies.

DMLZ Underground Mine

The DMLZ ore body lies below the DOZ underground mine at the 2,590-meter elevation and represents the downward continuation of mineralization in the Ertsberg East Skarn system and neighboring Ertsberg porphyry. In September 2015, PT-FI initiated pre-commercial production at the DMLZ underground mine, which represents ore extracted during the development phase for the purpose of obtaining access to the ore body. Ore milled from the DMLZ underground mine averaged 4,400 metric tons of ore per day in 2016 and 2,900 metric tons per day in 2015. Targeted production rates once the DMLZ underground mine reaches full capacity are expected to approximate 80,000 metric tons of ore per day in 2022. Production at the DMLZ underground mine is expected to continue through 2041.

The DMLZ mine fleet consists of over 210 pieces of mobile equipment, which includes 24 LHD units and 16 haul trucks used in production and development activities.

Big Gossan Underground Mine

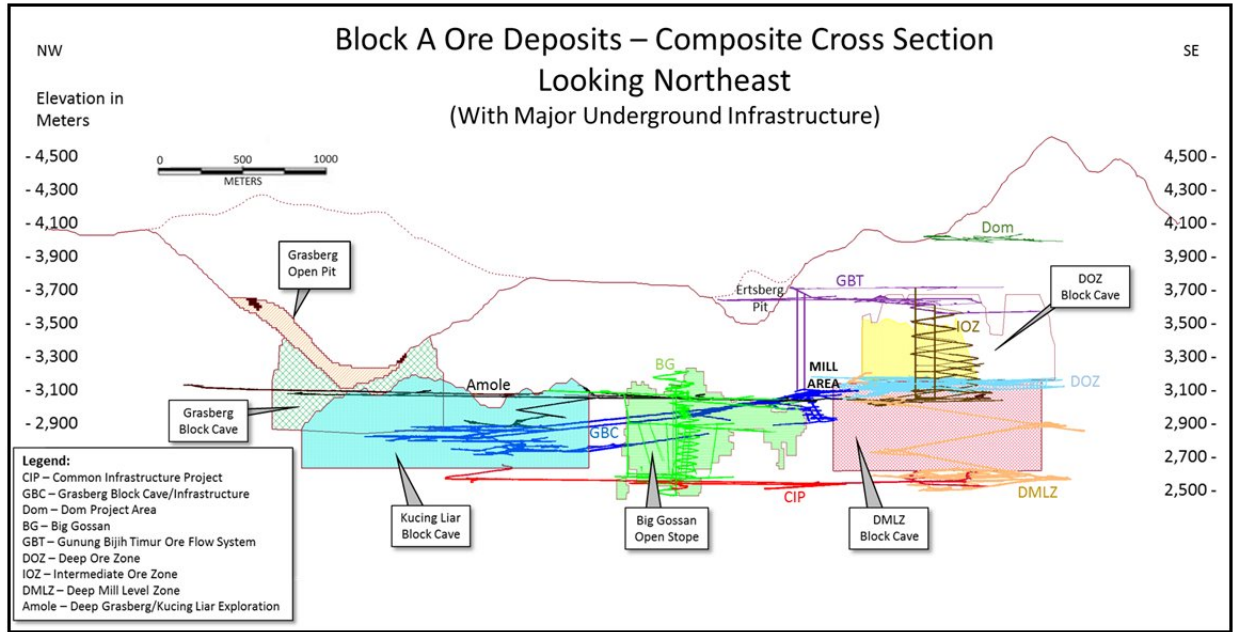
Production from the Big Gossan ore body, which restarted in fourth-quarter 2016, is expected to ramp up to 7,000 metric tons of ore per day in 2022. The Big Gossan mine lies underground and adjacent to the current mill site. It is a tabular, near vertical ore body with approximate dimensions of 1,200 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 conveyed to the surface stockpiles for processing.

The Big Gossan mine fleet consists of over 71 pieces of mobile equipment, which includes 8 LHD units and 9 haul trucks used in development and production activities.

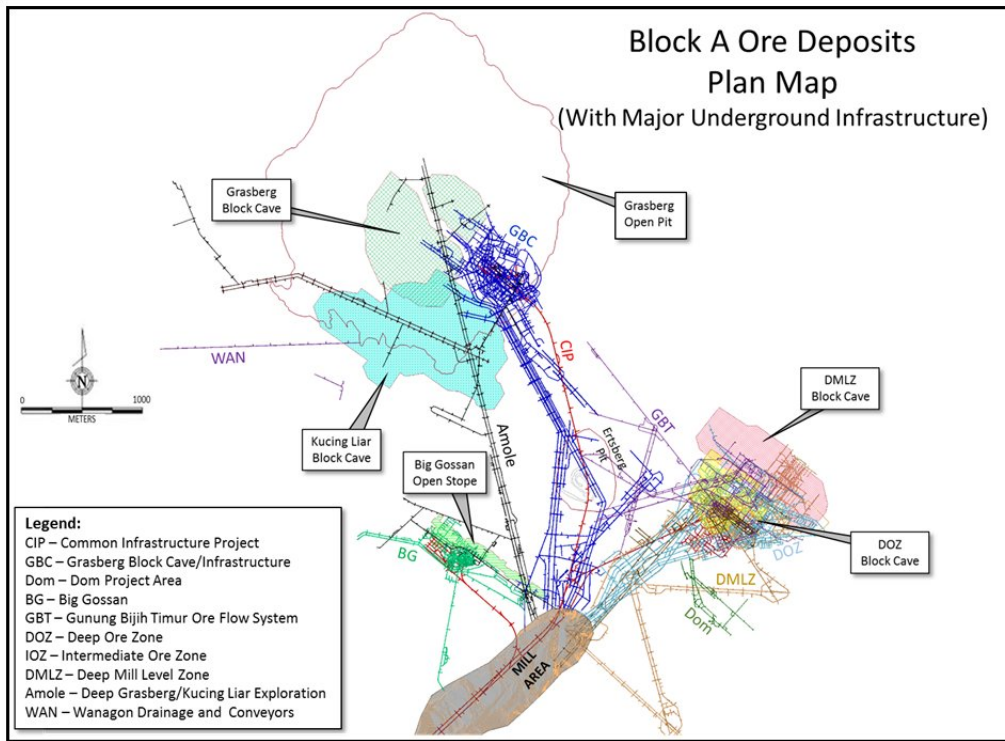
Description of Ore Bodies. Our Indonesia ore bodies are located within and around two main igneous intrusions, the Grasberg monzodiorite and the Ertsberg diorite. The host rocks of these ore bodies include both carbonate and clastic rocks that form the ridge crests and upper flanks of the Sudirman Range, 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 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 Indonesia 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 Indonesia ore bodies and their locations.



Smelting Facilities and Other Mining Properties

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

The design capacity of the smelter is approximately 295,000 metric tons of copper per year, and the refinery has a capacity of 285,000 metric tons of copper per year. Atlantic Copper produced 296,900 metric tons of copper anode from its smelter and 285,800 metric tons of copper cathode from its refinery in 2016; 293,100 metric tons of copper anode from its smelter and 284,800 metric tons of copper cathode from its refinery in 2015; and 294,100 metric tons of copper anode from its smelter and 283,800 metric tons of copper cathode from its refinery in 2014.

Following is a summary of Atlantic Copper's concentrate purchases from third parties and our copper mining operations for the years ended December 31:

	2016	2015	2014
Third parties	77%	71%	50%
North America copper mines	13	23	21
South America mining	7	3 ^a	21
Indonesia mining	3	3	8
	<u>100%</u>	<u>100%</u>	<u>100%</u>

- a. Lower purchases from the South America mines primarily reflect the impact of the November 2014 sale of the Candelaria and Ojos del Salado mines.

Atlantic Copper's major maintenance turnarounds typically occur approximately every eight years, with shorter-term maintenance turnarounds in the interim. Atlantic Copper completed a 68-day major maintenance turnaround in 2013 and a 13-day shorter-term maintenance in 2015. The next 21-day maintenance turnaround is scheduled for second-quarter 2017.

PT Smelting. PT-FI's 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-FI owns 25 percent of PT Smelting, with the remainder owned by Mitsubishi Materials Corporation (60.5 percent), Mitsubishi Corporation Unimetals Ltd. (9.5 percent) and JX Nippon Mining & Metals Corporation (5 percent).

PT-FI's contract with PT Smelting requires PT-FI to supply 100 percent of the copper concentrate requirements (at market rates subject to a minimum or maximum treatment charge rate) necessary for PT Smelting to produce 205,000 metric tons of copper annually on a priority basis. An extension of the minimum and maximum treatment charge rate, which expires in April 2017, is currently being negotiated. PT-FI may also sell copper concentrate to PT Smelting at market rates for quantities in excess of 205,000 metric tons of copper annually. PT-FI supplied 88 percent of PT Smelting's concentrate requirements in 2016 and approximately 80 percent in both 2015 and 2014.

PT Smelting produced 255,700 metric tons of copper anode from its smelter and 241,700 metric tons of copper cathode from its refinery in 2016; 199,700 metric tons of copper anode from its smelter and 198,400 metric tons of copper cathode from its refinery in 2015; and 236,900 metric tons of copper anode from its smelter and 231,800 metric tons of copper cathode from its refinery in 2014. Following a temporary suspension in July 2015, PT Smelting operated at approximately 80 percent capacity from September 2015 to November 2015 when required repairs of an acid plant cooling tower that was damaged during the suspension were completed.

PT Smelting's maintenance turnarounds (which range from two weeks to a month to complete) typically are expected to occur approximately every two years, with short-term maintenance turnarounds in the interim. PT Smelting completed a 25-day maintenance turnaround during 2016, and the next major maintenance turnaround is scheduled for 2018.

In January and February 2017, the Indonesian government issued new regulations to address exports of unrefined metals, including copper concentrate and anode slimes, and other matters related to the mining sector. These regulations permit the export of anode slimes, which is necessary for PT Smelting to continue operating. PT Smelting is seeking to renew its anode slimes export license; however, we cannot predict when PT Smelting's anode slimes export license may be renewed. In addition, a labor strike at PT Smelting has resulted in a shutdown of its operations since January 19, 2017. PT Smelting has indicated that it expects to resume operations in March 2017. Refer to Item 1A. "Risk Factors" for further discussion of Indonesia regulatory matters.

Miami Smelter. We own and operate a smelter at our Miami mining operation in Arizona. The smelter has been operating for approximately 100 years and has been upgraded numerous times during that period to implement new technologies, to improve production and to comply with air quality requirements. The Miami smelter is installing emission control equipment that will allow it to operate in compliance with adopted air quality standards (refer to Item 1A. "Risk Factors" for further discussion).

The Miami smelter processes copper concentrate primarily from our North America copper mines. Concentrate processed through the smelter totaled 673,300 metric tons in 2016, 686,700 metric tons in 2015 and 603,700 metric tons in 2014. In addition, because sulphuric acid is a by-product of smelting concentrate, the Miami smelter is also the most significant source of sulphuric acid for our North America leaching operations (refer to Item 1A. "Risk Factors" for further discussion).

Major maintenance turnarounds (which take approximately three weeks to complete) typically occur approximately every 14 months for the Miami smelter, with short-term maintenance turnarounds in the interim. The Miami smelter completed a major maintenance turnaround in third-quarter 2016, and the next major maintenance turnaround is scheduled for second-quarter 2017.

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 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 our Miami smelter. 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 concentrate at our conversion plants in the U.S. and Europe into such products as technical-grade molybdic oxide, ferromolybdenum, pure molybdic oxide, ammonium molybdates and molybdenum disulfide. We operate molybdenum roasters in Sierrita, Arizona; Fort Madison, Iowa; and Rotterdam, the Netherlands, and we operate a molybdenum pressure-leach plant in Bagdad, Arizona. We also produce ferromolybdenum for customers worldwide at our conversion plant located in Stowmarket, United Kingdom.

Freeport Cobalt. In March 2013, we acquired a cobalt chemical refinery in Kokkola, Finland, and the related sales and marketing business which provided direct end-market access for the cobalt hydroxide production at the Tenke mine. The joint venture operates under the name Freeport Cobalt, and we are the operator with an effective 56 percent ownership interest. The remaining effective ownership interest is held by Lundin Mining Corporation (24 percent) and La Générale des Carrières et des Mines (20 percent). The Kokkola refinery has an annual refining capacity of approximately 15,000 metric tons of cobalt.

As further discussed in Note 2, we have agreed to negotiate exclusively with China Molybdenum Co., Ltd. until February 28, 2017, to enter into a definitive agreement to sell our interest in Freeport Cobalt for \$100 million.

Other North America Copper Mines. We also have five non-operating copper mines in North America – Ajo, Bisbee, Twin Buttes and Tohono in Arizona, and Cobre in New Mexico – that have been on care-and-maintenance status for several years and would require new or updated environmental studies, new permits, and additional capital investment, which could be significant, to return them to operating status.

Mining Development Projects and Exploration

Capital expenditures for mining operations totaled \$1.6 billion (including \$1.2 billion for major projects) in 2016, \$3.3 billion (including \$2.4 billion for major projects) in 2015 and \$4.0 billion (including \$2.9 billion for major projects) in 2014. Capital expenditures for major projects during the three years ended December 31, 2016, were primarily associated with expansion projects at Morenci and Cerro Verde, and underground development activities at Grasberg. Refer to MD&A for projected capital expenditures for the year 2017. PT-FI has begun suspending investments in its underground development projects, pending resolution of its long-term mining rights. If PT-FI is unable to reach agreement with the Indonesian government on its long-term mining rights, we may be required to further reduce or defer investments in underground development projects.

We have several projects and potential opportunities to expand production volumes, extend mine lives and develop large-scale underground ore bodies. As further discussed in MD&A, our near-term major development projects primarily include the underground development activities in the Grasberg minerals district. Considering the long-

term nature and large size of our development projects, actual costs and timing could vary from estimates. Additionally, in response to market conditions and Indonesian regulatory uncertainty, the timing of our expenditures will continue to be reviewed. As further discussed in "Mining Operations - Indonesia," PT-FI also committed to commence construction of a new smelter during a five year timeframe after obtaining an investment stability agreement providing equivalent rights with the same level of legal and fiscal certainty enumerated under PT-FI's COW, which has not been received as of February 24, 2017. As a result, PT-FI has begun suspending investments in its underground development projects and new smelter. Refer to Item 1A. "Risk Factors" for further discussion of Indonesia regulatory matters. We continue to review our mine development and processing plans to maximize the value of our mineral reserves.

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 \$2.6 billion (which are expected to be made between 2019 and 2031). Additionally, our current mine development plans include approximately \$5.7 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 2019 and 2034. If PT-FI is unable to reach agreement with the Indonesian government on its long-term mining rights, we may be required to reduce or defer investments in underground development projects.

Our mining exploration activities are generally associated with our existing mines focusing on opportunities to expand reserves and resources to support development of additional future production capacity. Exploration results continue to indicate opportunities for significant future potential reserve additions in North and South America. Exploration spending associated with mining operations totaled \$44 million in 2016, \$96 million in 2015 and \$182 million in 2014. Exploration spending is expected to approximate \$47 million for the year 2017.

Sources and Availability of Energy, Natural Resources and 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 20 percent of our copper mine site operating costs in 2016 and included purchases of approximately 214 million gallons of diesel fuel; 8,400 gigawatt hours of electricity at our North and South America copper mining operations (we generate all of our power at our Indonesia mining operation); 780 thousand metric tons of coal for our coal power plant in Indonesia; and 1 million MMBtu (British thermal units) of natural gas at certain of our North America mines. Based on current cost projections, we estimate energy will approximate 20 percent of our copper mine site operating costs in 2017.

Our mining operations also require significant quantities of water for mining, ore processing and related support facilities. 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."

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 sulfur burners at the Safford mine. Sulphuric acid needs in excess of the sulphuric acid produced by our operations are purchased from third parties. As further discussed in Item 1A. "Risk Factors," if production were to be curtailed at the Miami smelter, we would be required to export concentrate rather than process it ourselves and to purchase sulphuric acid from third parties, thereby increasing our operating costs.

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 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 human immunodeficiency virus
- agricultural assistance programs
- small and medium enterprise development programs

- cultural promotion and preservation programs
- clean water and sanitation projects
- community infrastructure development
- 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). We participated in developing these Voluntary Principles with other major natural resource companies and international human rights organizations and they are incorporated into our human rights policy. The Voluntary Principles provide guidelines for our security programs, including interaction with host-government security personnel, private security contractors and our internal security employees.

We completed a corporate level human rights impact assessment in 2014, the results of which were used to evaluate our human rights program, including a review of our human rights policy. In February 2015, we updated our human rights policy to, among other things, reflect our commitment to integrating the United Nations Guiding Principles on Business and Human Rights into our human rights program. We have embarked on a program to plan and conduct site-level human rights impact assessments at operations with higher potential risks. We also participate in a multi-industry human rights working group to gain insight from peer companies and are integrating human rights due diligence into our business practices.

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 help us maintain good relations with the surrounding communities and avoid disruptions of mining operations. As part of our ongoing commitment to sustainable community development, we make significant investments in social programs, including in-kind support and administration, across our global operations. Over the last five years, these investments have averaged \$170 million per year. 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. Following engagements with regional and local governments, civic leaders and development agencies, in 2006, Cerro Verde committed to support the costs for a new potable water treatment plant to serve Arequipa. In addition, an agreement was reached with the Peruvian government for development of a water storage network that was financed by Cerro Verde and a distribution network that was financed by the Cerro Verde Civil Association (the Association). The Association manages contributions made by Cerro Verde for projects that focus on education, training, health, cultural preservation and basic infrastructure.

Cerro Verde reached an agreement with the Regional Government of Arequipa, the National Government, SEDAPAR and other local institutions to allow it to finance, engineer and construct a wastewater treatment plant for the city of Arequipa, which was completed in 2015. The wastewater treatment plant supplements existing water supplies to support Cerro Verde's concentrator expansion and also improves the regional water quality, enhances agriculture products grown in the area and reduces waterborne illnesses. In addition to these projects, Cerro Verde annually makes significant community development investments in the Arequipa region.

Security Matters. Consistent with our operating permits in Peru and our commitment to protect our employees and property, we have taken steps to provide a safe and secure working environment. As part of its security program, Cerro Verde maintains its own internal security department. Both employees and contractors perform functions such as protecting company facilities, monitoring shipments of supplies and products, assisting in traffic control and aiding in emergency response operations. The security department receives human rights and Voluntary Principles training annually. Some contractors assigned to protection of expatriate personnel are armed. These contractors receive training in motivation and defensive driving weekly; human rights and Voluntary Principles monthly; and firearms quarterly. Cerro Verde's costs for its internal civilian security department totaled \$6 million in both 2016 and 2015 and \$7 million in 2014.

Cerro Verde, and all businesses and residents of Peru, rely on the Peruvian government for the maintenance of public order, upholding the rule of law and the protection of personnel and property. The Peruvian government is responsible for employing police and military personnel and directing their operations. Since 1997, the Peruvian government has relied on Cerro Verde to provide logistical and infrastructure support and assistance for these necessary services because of the limited resources of the Peruvian government. Cerro Verde's financial support for the Peruvian 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 secure Cerro Verde's operating area. In addition, providing such support reflects our philosophy of responsible corporate citizenship, and is in keeping with our commitment to pursue practices that promote human rights.

Cerro Verde's share of support costs for the government-provided security approximated \$1 million in each of the years 2016, 2015 and 2014. 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.

Indonesia. In 1996, PT-FI established the Freeport Partnership Fund for Community Development (the Partnership Fund) through which PT-FI 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-FI has committed through 2018 to provide one percent of its annual revenue for the development of the local people in its area of operations through the Partnership Fund. PT-FI recognized \$33 million in 2016, \$27 million in 2015 and \$31 million in 2014 for this commitment.

The Amungme and Kamoro Community Development Organization (*Lembaga Pengembangan Masyarakat Amungme dan Kamoro* or LPMMAK) oversees disbursement of the program funds we contribute to the Partnership Fund. LPMMAK 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-FI on each board. The Amungme and Kamoro people are original inhabitants of the land in our area of operations. In addition to the Partnership Fund, PT-FI annually makes significant investments in public health, education, community infrastructure and economic development.

Security Matters. Consistent with our COW in Indonesia and our commitment to protect our employees and property, we have taken steps to provide a safe and secure working environment. As part of its security program, PT-FI maintains its own internal security department. Both employees and contractors are unarmed and perform functions such as protecting company facilities, monitoring shipments of supplies and products, assisting in traffic control and aiding in emergency response operations. The security department receives human rights training annually.

PT-FI's share of costs for its internal civilian security department totaled \$58 million for both 2016 and 2015 and \$57 million for 2014.

PT-FI, 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-FI's operations, the Indonesian government has looked to PT-FI 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-FI'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-FI's roads and secure its operating area. In addition, the provision of such support is consistent with PT-FI'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-FI's share of support costs for the government-provided security was \$20 million in 2016, \$21 million in 2015 and \$27 million in 2014. 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.

Mining Production and Sales Data

	Years Ended December 31,					
	Production			Sales		
	2016	2015	2014	2016	2015	2014
COPPER (millions of recoverable pounds)						
(FCX's net interest in %)						
North America						
Morenci (72%) ^a	848	902	691	855	915	680
Bagdad (100%)	177	210	237	180	222	240
Safford (100%)	230	202	139	229	198	142
Sierrita (100%)	162	189	195	162	196	196
Miami (100%)	25	43	57	27	46	60
Chino (100%)	308	314	250	308	319	243
Tyrone (100%)	76	84	94	75	89	96
Other (100%)	5	3	7	5	3	7
Total North America	1,831	1,947	1,670	1,841	1,988	1,664
South America						
Cerro Verde (53.56%)	1,108	545	500	1,105	544	501
El Abra (51%)	220	324	367	227	327	366
Candelaria/Ojos del Salado (80%) ^b	—	—	284	—	—	268
Total South America	1,328	869	1,151	1,332	871	1,135
Indonesia						
Grasberg (90.64%) ^c	1,063	752	636	1,054	744	664
Consolidated - continuing operations	4,222	3,568	3,457	4,227 ^d	3,603 ^d	3,463 ^d
Discontinued operations ^e	425	449	447	424	467	425
Total	4,647	4,017	3,904	4,651	4,070	3,888
Less noncontrolling interests	909	680	725	910	688	715
Net	3,738	3,337	3,179	3,741	3,382	3,173
Average realized price per pound (continuing operations)				\$ 2.28	\$ 2.42	\$ 3.09
GOLD (thousands of recoverable ounces)						
North America (100%)	27	25	12	25	23	13
South America (80%) ^b	—	—	72	—	—	67
Indonesia (90.64%) ^c	1,061	1,232	1,130	1,054	1,224	1,168
Consolidated	1,088	1,257	1,214	1,079	1,247	1,248
Less noncontrolling interests	99	115	120	99	115	123
Net	989	1,142	1,094	980	1,132	1,125
Average realized price per ounce				\$ 1,238	\$ 1,129	\$ 1,231
MOLYBDENUM (millions of recoverable pounds)						
Henderson (100%)	10	25	30	N/A	N/A	N/A
Climax (100%)	16	23	21	N/A	N/A	N/A
North America copper mines (100%) ^a	33	37	33	N/A	N/A	N/A
Cerro Verde (53.56%)	21	7	11	N/A	N/A	N/A
Consolidated	80	92	95	74	89	95
Less noncontrolling interest	9	3	5	6	4	5
Net	71	89	90	68	85	90
Average realized price per pound				\$ 8.33	\$ 8.70	\$ 12.74

- Amounts are net of Morenci's undivided joint venture partners' interest; effective May 31, 2016, FCX's undivided interest in Morenci was prospectively reduced from 85 percent to 72 percent.
- In November 2014, we completed the sale of our 80 percent interests in the Candelaria and Ojos del Salado mines.
- Amounts are net of Grasberg's joint venture partner interest, which varies in accordance with terms of the joint venture agreement (refer to Note 3). Under the joint venture agreement, PT-FI's share of copper production and sales was 100 percent in 2016 and 2015 and 98 percent in 2014. PT-FI's share of gold production and sales was 100 percent in 2016, 2015 and 2014.
- Consolidated sales volumes exclude purchased copper of 188 million pounds for 2016, 121 million pounds for 2015 and 125 million pounds for 2014.
- In November 2016, we completed the sale of our interest in TFHL, through which we held an interest in the Tenke mine, which is reported as a discontinued operation for all periods presented (refer to Note 2 for further discussion).

Mineral Reserves

Recoverable proven and probable reserves have been calculated 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 in 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 (i) quantity is computed from dimensions revealed in outcrops, trenches, workings or drill holes; (ii) grade and/or quality are computed from the results of detailed sampling; and (iii) 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 mineral 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.

Estimated recoverable proven and probable reserves at December 31, 2016, were determined using long-term average prices of \$2.00 per pound for copper, \$1,000 per ounce for gold and \$10 per pound for molybdenum. For the three-year period ended December 31, 2016, LME spot copper prices averaged \$2.60 per pound, London PM gold prices averaged \$1,226 per ounce and the weekly average price for molybdenum quoted by *Metals Week* averaged \$8.18 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 that part of a mineral deposit that we estimate can be economically and legally extracted or produced at the time of the reserve determination.

	Recoverable Proven and Probable Mineral Reserves		
	Copper ^a (billion pounds)	Gold (million ounces)	Molybdenum (billion pounds)
North America	30.4	0.3	2.31
South America	29.5	—	0.64
Indonesia ^b	26.9	25.8	—
Consolidated basis^c	86.8	26.1	2.95
Net equity interest^d	70.5	23.7	2.65

- Consolidated recoverable copper reserves include 2.2 billion pounds in leach stockpiles and 1.0 billion pounds in mill stockpiles (refer to “Mill and Leach Stockpiles” for further discussion).
- Recoverable proven and probable reserves from Indonesia reflect estimates of minerals that can be recovered through the end of 2041. Refer to Note 13 and to Item 1A. “Risk Factors” for discussion of PT-FI’s COW and Indonesian regulatory matters.
- Consolidated reserves represent estimated metal quantities after reduction for joint venture partner interests at the Morenci mine in North America and the Grasberg minerals district in Indonesia (refer to Note 3 for further discussion of our joint ventures). Excluded from the table above were our estimated recoverable proven and probable reserves of 281.8 million ounces of silver in North America, South America and Indonesia, which were determined using a long term average price of \$15 per ounce.
- Net equity interest reserves represent estimated consolidated metal quantities further reduced for noncontrolling interest ownership (refer to Note 3 for further discussion of our ownership in subsidiaries). Excluded from the table above were our estimated recoverable proven and probable reserves of 226.0 million ounces of silver in North America, South America and Indonesia.

Recoverable Proven and Probable Mineral Reserves
Estimated at December 31, 2016

	Processing Method	Proven Reserves					Probable Reserves				
		Million metric tons	Average Ore Grade				Million metric tons	Average Ore Grade			
			Copper %	Gold g/t	Moly %	Silver g/t		Copper %	Gold g/t	Moly %	Silver g/t
North America											
Morenci	Mill	591	0.43	—	0.02	—	93	0.40	—	0.02	—
	Crushed leach	290	0.52	—	—	—	66	0.46	—	—	—
	ROM leach	1,711	0.18	—	—	—	523	0.16	—	—	—
Bagdad	Mill	969	0.35	— ^a	0.02	1.46	136	0.32	— ^a	0.02	1.36
	ROM leach	88	0.17	—	—	—	51	0.14	—	—	—
Safford	Crushed leach	50	0.31	— ^a	—	—	25	0.31	— ^a	—	—
Sierrita	Mill	2,220	0.23	—	0.03	1.39	214	0.19	—	0.02 ^a	1.10
Chino	Mill	87	0.61	0.04	0.01	0.51	48	0.56	0.04	—	0.49
	ROM leach	73	0.28	—	—	—	18 ^a	0.29	—	—	—
Tyrone	ROM leach	6	0.51	—	—	—	—	1.23	—	—	—
Henderson	Mill	63	—	—	0.18	—	14	—	—	0.14	—
Climax	Mill	146	—	—	0.16	—	24 ^a	—	—	0.09	—
Cobre ^b	Mill	13	0.57	—	—	—	—	0.49	—	—	—
	ROM leach	72	0.30	—	—	—	1	0.22	—	—	—
		6,379					1,213				
South America											
Cerro Verde	Mill	854	0.38	—	0.01	1.92	2,698	0.37	—	0.01	1.88
	Crushed leach	32	0.50	—	—	—	40	0.34	—	—	—
	ROM leach	11	0.21	—	—	—	38	0.20	—	—	—
El Abra	Crushed leach	333	0.46	—	—	—	86	0.43	—	—	—
	ROM leach	9	0.19	—	—	—	3	0.21	—	—	—
		1,239					2,865				
Indonesia											
DMLZ	Mill	73	1.00	0.83	—	4.75	366	0.88	0.74	—	4.27
Grasberg open pit	Mill	20	1.81	3.65	—	5.14	36	0.95	1.25	—	2.76
DOZ	Mill	30	0.54	0.71	—	2.25	70	0.50	0.69	—	2.04
Big Gossan	Mill	18	2.33	1.00	—	14.62	42	2.13	0.96	—	12.69
Grasberg Block Cave ^b	Mill	374	1.14	0.89	—	4.12	590	0.96	0.70	—	3.26
Kucing Liar ^b	Mill	152	1.34	1.16	—	7.09	256	1.22	1.06	—	5.94
		667					1,360				
Total FCX - 100% Basis		8,285					5,438				

a. Grade not shown because of rounding.

b. Would require additional capital investment, which could be significant, 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 Mineral Reserves
Estimated at December 31, 2016
(continued)

	Processing Method	Proven and Probable Million metric tons	Average Ore Grade				Recoveries ^a			
			Copper %	Gold g/t	Moly %	Silver g/t	Copper %	Gold %	Moly %	Silver %
North America										
Morenci	Mill	684	0.42	—	0.02	—	81.4	—	49.3	—
	Crushed leach	356	0.51	—	—	—	78.5	—	—	—
	ROM leach	2,234	0.18	—	—	—	43.0	—	—	—
Bagdad	Mill	1,105	0.34	— ^b	0.02	1.45	86.3	59.1	70.8	49.3
	ROM leach	139	0.16	—	—	—	27.3	—	—	—
Safford	Crushed leach	75	0.31	— ^b	—	—	70.4	—	—	—
Sierrita	Mill	2,434	0.23	—	0.02	1.36	83.1	59.3	79.5	49.3
Chino	Mill	135	0.59	0.04	0.01	0.50	82.1	86.6	40.7	87.3
	ROM leach	91	0.28	—	—	—	29.2	—	—	—
Tyrone	ROM leach	6	0.51	—	—	—	67.8	—	—	—
Henderson	Mill	77	—	—	0.17	—	—	—	86.3	—
Climax	Mill	170	—	—	0.15	—	—	—	89.6	—
Cobre ^c	Mill	13	0.57	—	—	—	81.7	—	—	—
	ROM leach	73	0.30	—	—	—	47.7	—	—	—
		7,592								
South America										
Cerro Verde	Mill	3,552	0.37	—	0.01	1.89	86.3	—	54.3	44.8
	Crushed leach	72	0.41	—	—	—	79.9	—	—	—
	ROM leach	49	0.20	—	—	—	52.5	—	—	—
El Abra	Crushed leach	419	0.46	—	—	—	59.0	—	—	—
	ROM leach	12	0.20	—	—	—	42.6	—	—	—
		4,104								
Indonesia										
DMLZ	Mill	439	0.90	0.75	—	4.35	86.9	79.3	—	64.3
Grasberg open pit	Mill	56	1.26	2.11	—	3.62	89.0	86.5	—	45.2
DOZ	Mill	100	0.51	0.70	—	2.10	90.2	81.9	—	67.1
Big Gossan	Mill	60	2.19	0.97	—	13.29	91.5	67.2	—	63.7
Grasberg Block Cave ^c	Mill	964	1.03	0.78	—	3.60	84.4	65.3	—	56.9
Kucing Liar ^c	Mill	408	1.26	1.10	—	6.37	85.3	46.5	—	39.5
		2,027								
Total FCX - 100% Basis		13,723								

- a. Recoveries are net of estimated mill and smelter losses.
b. Grade not shown because of rounding.
c. Would require additional capital investment, which could be significant, to bring into production.

Recoverable Proven and Probable Mineral Reserves
Estimated at December 31, 2016
(continued)

	FCX's Interest	Processing Method	Recoverable Reserves			
			Copper billion lbs.	Gold million ozs.	Moly billion lbs.	Silver million ozs.
North America						
Morenci	72%	Mill	5.2	—	0.15	—
		Crushed leach	3.1	—	—	—
		ROM leach	3.8	—	—	—
Bagdad	100%	Mill	7.2	0.1	0.36	25.4
		ROM leach	0.2	—	—	—
Safford	100%	Crushed leach	0.3	—	—	—
Sierrita	100%	Mill	10.2	0.1	1.04	52.5
Chino	100%	Mill	1.4	0.1	0.01	1.9
		ROM leach	0.2	—	—	—
Tyrone	100%	ROM leach	0.1	—	—	—
Henderson	100%	Mill	—	—	0.25	—
Climax	100%	Mill	—	—	0.52	—
Cobre	100%	Mill	0.1	—	—	—
		ROM leach	0.3	—	—	—
			32.1	0.3	2.33	79.8
Recoverable metal in stockpiles ^a			1.9	—	0.02	—
100% operations			34.0	0.3	2.35	79.8
Consolidated^b			30.4	0.3	2.31	79.8
Net equity interest^c			30.4	0.3	2.31	79.8
South America						
Cerro Verde	53.56%	Mill	25.0	—	0.62	96.7
		Crushed leach	0.5	—	—	—
		ROM leach	0.2	—	—	—
El Abra	51%	Crushed leach	2.5	—	—	—
		ROM leach	— ^d	—	—	—
			28.2	—	0.62	96.7
Recoverable metal in stockpiles ^a			1.3	—	0.02	2.9
100% operations			29.5	—	0.64	99.6
Consolidated^b			29.5	—	0.64	99.6
Net equity interest^c			15.7	—	0.34	53.4
Indonesia						
DMLZ	e	Mill	7.6	8.4	—	39.5
Grasberg open pit	e	Mill	1.4	3.3	—	2.9
DOZ	e	Mill	1.0	1.8	—	4.5
Big Gossan	e	Mill	2.6	1.3	—	16.3
Grasberg Block Cave	e	Mill	18.5	15.7	—	63.5
Kucing Liar	e	Mill	9.7	6.7	—	33.0
			40.8	37.2	—	159.7
Recoverable metal in stockpiles ^a			0.3	0.1	—	0.6
100% operations			41.1	37.3	—	160.3
Consolidated^b			26.9	25.8	—	102.4
Net equity interest^c			24.4	23.4	—	92.8
Total FCX – 100% basis			104.6	37.6	2.99	339.7
Total FCX – Consolidated basis^b			86.8	26.1	2.95	281.8
Total FCX – Net equity interest^c			70.5	23.7	2.65	226.0

- a. Refer to "Mill and Leach Stockpiles" for additional information.
- b. Consolidated reserves represent estimated metal quantities after reduction for joint venture partner interests at the Morenci mine in North America and the Grasberg minerals district in Indonesia. Refer to Note 3 for further discussion of our joint ventures.
- c. Net equity interest represents estimated consolidated metal quantities further reduced for noncontrolling interest ownership. Refer to Note 3 for further discussion of our ownership in subsidiaries.
- d. Amount not shown because of rounding.
- e. Our joint venture agreement with Rio Tinto provides that PT-FI will receive cash flow from specified annual amounts of copper, gold and silver through 2022, 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 and silver. 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, 2016:

	Copper Equivalent Cutoff Grade (Percent)			Molybdenum Cutoff Grade (Percent)
	Mill	Crushed or Agitation Leach	ROM Leach	Mill
North America				
Morenci	0.27	0.17	0.03	—
Bagdad	0.20	—	0.06	—
Safford	—	0.12	—	—
Sierrita	0.17	—	—	—
Chino	0.23	—	0.08	—
Tyrone	—	—	0.11	—
Henderson	—	—	—	0.12
Climax	—	—	—	0.05
Cobre	0.28	—	0.10	—
South America				
Cerro Verde	0.17	0.14	0.14	—
El Abra	—	0.10	0.08	—
Indonesia				
DMLZ	0.85	—	—	—
Grasberg open pit	0.25	—	—	—
DOZ	0.92	—	—	—
Big Gossan	1.52	—	—	—
Grasberg Block Cave	0.78	—	—	—
Kucing Liar	1.01	—	—	—

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.

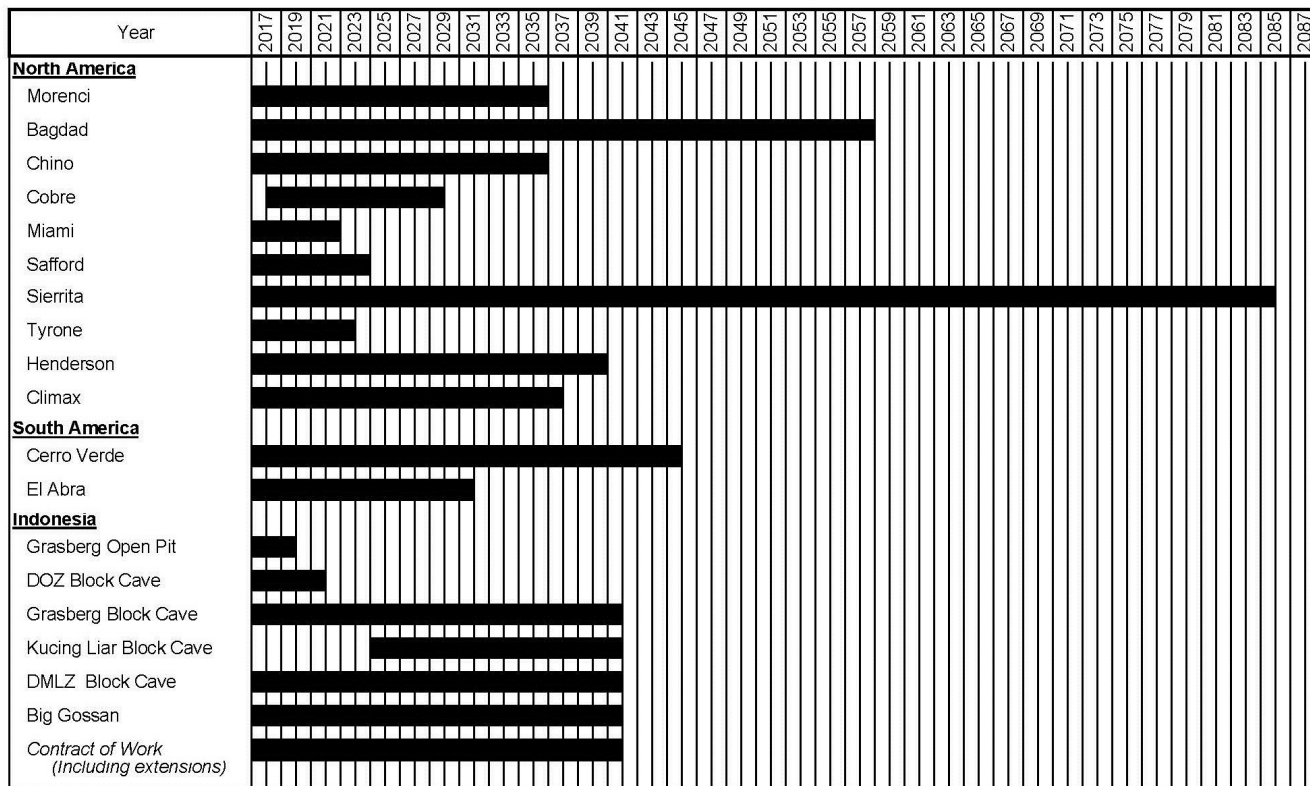
The following table sets forth the average drill hole spacing based on average sample distance or drill pattern spacing for proven and probable ore reserves by process type:

		Average Drill Hole Spacing (in Meters)				
		Proven		Probable		
		Mill	Leach	Mill	Leach	
<u>North America</u>	Mining Unit					
	Morenci	Open Pit	86	86	122	122
	Bagdad	Open Pit	86	86	122	122
	Safford	Open Pit	—	86	—	122
	Sierrita	Open Pit	73	—	104	—
	Miami	Open Pit	—	61	—	91
	Chino	Open Pit	43	86	86	122
	Tyrone	Open Pit	—	86	—	86
	Henderson	Block Cave	47	—	96	—
	Climax	Open Pit	61	—	91	—
	Cobre	Open Pit	61	61	91	91
	<u>South America</u>					
	Cerro Verde	Open Pit	55	55	100	100
	El Abra	Open Pit	—	75	—	120
	<u>Indonesia</u>					
	DMLZ	Block Cave	21	—	65	—
	Grasberg open pit	Open Pit	34	—	68	—
	DOZ	Block Cave	23	—	58	—
	Big Gossan	Open Stope	12	—	35	—
	Grasberg Block Cave	Block Cave	34	—	79	—
	Kucing Liar	Block Cave	33	—	88	—

Production Sequencing

The following chart illustrates our current plans for sequencing and producing our proven and probable reserves at each of our ore bodies and the years in which we currently expect production from each ore body and from related stockpiles. The chart also shows the term of PT-FI's COW. Production volumes are typically lower in the first few years for each ore body as development activities are ongoing and as the mine ramps up to full production and production volumes may also be lower as the mine reaches the end of its life. The sequencing dates shown in the chart below include development activity that results in metal production. The ultimate timing of the start of production from our undeveloped mines is dependent upon a number of factors, including the results of our exploration and development efforts, and may vary from the dates shown below. In addition, we develop our mine plans based on maximizing the net present value from the ore bodies. Significant additional capital expenditures will be required at many of these mines in order to achieve the life-of-mine plans reflected below.

Production Sequencing
Based on life-of-mine plans as of January 1, 2017



Mill and Leach Stockpiles

Mill and leach stockpiles generally contain lower grade ores that have been extracted from an ore body and are available for copper recovery. Mill stockpiles contain sulfide ores and recovery of metal is through milling, concentrating, smelting and refining or, alternatively, by concentrate leaching. Leach stockpiles contain oxide ores and certain secondary sulfide ores and recovery of metal is through exposure to acidic solutions that dissolve contained copper and deliver it in solution to extraction processing facilities.

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 process), historical trends and other factors, including mineralogy of the ore and rock type. Total copper recovery in leach stockpiles can vary significantly from a low

percentage to more than 90 percent depending on several variables, including processing methodology, processing variables, mineralogy and particle size of the rock. For newly placed material on active stockpiles, as much as 80 percent of total copper recovery may be extracted during the first year, and the remaining copper may be recovered over many years. Processes and recovery rates are monitored regularly, 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, 2016:

	Million Metric Tons	Average Ore Grade (%)	Recovery Rate (%)	Recoverable Copper (billion pounds)
<u>Mill stockpiles</u>				
Cerro Verde	151	0.32	73.1	0.8
Grasberg minerals district	33	0.53	65.8	0.3
	184			1.1
<u>Leach stockpiles</u>				
Morenci	6,204	0.24	2.2	0.7
Bagdad	499	0.24	0.9	— ^a
Safford	237	0.47	10.9	0.3
Sierrita	650	0.15	10.7	0.2
Miami	498	0.39	2.3	0.1
Chino	1,722	0.25	4.9	0.5
Tyrone	1,130	0.28	1.9	0.1
Cerro Verde	436	0.50	4.8	0.2
El Abra	670	0.44	4.9	0.3
	12,046			2.4
Total FCX - 100% basis				3.5
Total FCX - Consolidated basis^b				3.2
Total FCX - Net equity interest^c				2.6

a. Amounts not shown because of rounding.

b. Consolidated stockpiles represent estimated metal quantities after reduction for joint venture partner interests at the Morenci mine in North America and the Grasberg minerals district in Indonesia. Refer to Note 3 for further discussion of our joint ventures.

c. Net equity interest represents estimated consolidated metal quantities further reduced for noncontrolling interest ownership. Refer to Note 3 for further discussion of our ownership in subsidiaries.

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, \$12 per pound for molybdenum and \$20 per ounce for silver.

Mineralized Material
Estimated at December 31, 2016

	FCX's Interest	Milling Material				Leaching Material		Total Mineralized Material	
		Million metric tons	Copper %	Gold g/t	Moly %	Silver g/t	Million metric tons	Million metric tons	
North America									
Morenci	72%	551	0.30	—	0.02	—	905	0.22	1,456
Bagdad	100%	839	0.27	— ^a	0.02	1.2	4	0.19	843
Safford	100%	226	0.63	0.12	—	2.4	116	0.26	342
Sierrita	100%	1,768	0.18	— ^a	0.02	1.1	—	—	1,768
Chino	100%	146	0.48	0.03	0.01	0.4	11	0.26	157
Tyrone	100%	—	—	—	—	—	18	0.38	18
Henderson	100%	77	—	—	0.14	—	—	—	77
Climax	100%	414	—	—	0.15	—	—	—	414
Cobre	100%	30	0.46	0.07	—	1.1	4	0.29	34
Ajo	100%	438	0.40	0.06	0.01	0.9	—	—	438
Cochise/Bisbee	100%	—	—	—	—	—	255	0.46	255
Lone Star	100%	—	—	—	—	—	642	0.47	642
Sanchez	100%	—	—	—	—	—	153	0.29	153
Tohono	100%	230	0.71	—	—	—	271	0.67	501
Twin Buttes	100%	76	0.61	—	0.04	6.3	42	0.23	118
Christmas	100%	203	0.40	0.05	— ^a	1.0	—	—	203
South America									
Cerro Verde	53.56%	972	0.36	—	0.02	1.8	8	0.34	980
El Abra	51%	1,999	0.45	0.02	0.01	1.4	188	0.28	2,187
Indonesia									
Grasberg minerals district	54.38% ^b	2,004	0.72	0.64	—	3.7	—	—	2,004
Total FCX - 100% basis		9,973					2,617		12,590 ^c
Total FCX - Consolidated basis^d		9,017					2,363		11,380
Total FCX - Net equity interest^e		7,474					2,267		9,741

a. Amounts not shown because of rounding.

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

c. Excludes mineralized material of 89 million metric tons associated with Kisanfu, which in accordance with accounting guidelines is included in assets held for sale.

d. Consolidated basis represents estimated mineralized materials after reduction for joint venture partner interests in the Morenci mine in North America and the Grasberg minerals district in Indonesia. Refer to Note 3 for further discussion of our joint ventures.

e. Net equity interest represents estimated consolidated mineralized material further reduced for noncontrolling interest ownership. Refer to Note 3 for further discussion of our ownership in subsidiaries.

OIL AND GAS OPERATIONS

As further discussed in Note 2, during 2016, we completed the sales of our Deepwater GOM, onshore California and Haynesville oil and gas properties, which represented 90 percent of our total proved reserves as of December 31, 2015, and 83 percent of our total oil and natural gas production for the year ended December 31, 2016. In January 2017, we entered into an agreement to sell our property interests in the Madden area in central Wyoming. Following the completion of the Madden transaction, our portfolio of oil and gas assets would include oil and natural gas production onshore in South Louisiana and on the GOM Shelf and oil production offshore California, which had total oil and gas sales volumes of 6.4 MMBOE in 2016.

Acreage

At December 31, 2016, we owned interests in oil and gas leases covering 411 thousand gross acres (218 thousand acres net to our interest), consisting of 325 thousand gross (160 thousand net) of developed acres and 86 thousand gross (58 thousand net) of undeveloped acres. Developed acres are acres spaced or assigned to productive wells and do not include undrilled acreage held by production under the terms of the lease. Undeveloped acres are acres on which wells have not been drilled or completed to a point that would permit the production of commercial quantities of oil or gas, regardless of whether such acreage contains proved reserves.

Exploration and Development Activities

Capital expenditures for our oil and gas operations totaled \$1.2 billion in 2016 (including \$0.6 billion incurred for GOM and \$0.5 billion for changes in capital expenditure accruals), \$3.0 billion in 2015 (including \$2.6 billion incurred for GOM) and \$3.2 billion in 2014 (including \$2.6 billion incurred for GOM). During second-quarter 2016, we terminated contracts for deepwater drillships and settled aggregate commitments totaling \$1.1 billion for \$755 million, of which \$540 million was funded with shares of our common stock. We currently have no plans to incur oil and gas exploration expenditures in future periods.

Production and Sales Data

The following table presents summary oil and gas production and sales data for the years ended December 31:

	2016	2015	2014
GOM^a			
Oil (MMBbls)	22.9 ^b	22.2 ^b	19.7
Natural gas (Bcf)	39.0	35.9	28.7
NGLs (MMBbls)	1.7	2.2	2.0
MMBOE	31.1	30.3	26.5
California^c			
Oil (MMBbls)	11.4	12.9	13.7
Natural gas (Bcf)	1.8 ^b	2.2 ^b	2.4 ^b
NGLs (MMBbls)	0.1	0.2	0.2
MMBOE	11.8	13.5	14.3
Haynesville/Madden/Other^d			
Oil (MMBbls)	0.1	0.2	0.2
Natural gas (Bcf)	24.3	51.6	42.4
MMBOE	4.2	8.8	7.3
Eagle Ford^e			
Oil (MMBbls)	—	—	6.5
Natural gas (Bcf)	—	—	7.4
NGLs (MMBbls)	—	—	1.0
MMBOE	—	—	8.7
Total U.S. oil and gas operations			
Oil (MMBbls)	34.4	35.3	40.1
Natural gas (Bcf)	65.1	89.7	80.9
NGLs (MMBbls)	1.8	2.4	3.2
MMBOE	47.1	52.6	56.8
Average cost per BOE:			
Production costs ^f	\$ 14.51	\$ 17.14	\$ 18.00
Production and ad valorem taxes	0.68	1.45	2.08
Cash production costs ^g	\$ 15.19	\$ 18.59	\$ 20.08

- a. Includes properties in the Deepwater GOM and on the Shelf. In December 2016, we completed the sale of the Deepwater GOM properties, which had sales volumes of 26.4 MMBOE in 2016.
- b. Natural gas sales from GOM are net of fuel used in operations totaling 3.8 Bcf in 2016 and 1.1 Bcf in 2015. Natural gas sales from California are net of fuel used in operations totaling 0.1 Bcf in 2016, 0.6 Bcf in 2015 and 1.2 Bcf in 2014.
- c. Includes properties onshore and offshore California. In December 2016, we completed the sale of the onshore California properties, which had sales volumes of 10.2 MMBOE in 2016.
- d. In July 2016, we completed the sale of the Haynesville shale assets, which had sales volumes of 2.7 MMBOE in 2016. In January 2017, we entered into an agreement to sell our property interests in the Madden area, which had sales volumes of 1.2 MMBOE in 2016.
- e. In June 2014, we completed the sale of Eagle Ford shale assets.
- f. Reflects costs incurred to operate and maintain wells and related equipment and facilities.
- g. Refer to MD&A for further discussion of cash production costs per BOE and for a reconciliation to production costs reported in our consolidated financial statements.

Oil and Gas Reserves

At December 31, 2016, our estimated proved developed oil and gas reserves (all of which are located in the U.S.) totaled 18 MMBOE, comprised of 4 MMBbls of oil and NGLs and 87 Bcf of natural gas, and included 7 MMBOE associated with our property interests in the Madden area. We had no proved undeveloped reserves at December 31, 2016. Refer to Note 21 for further discussion of our proved oil and gas reserves.

Drilling Activities

The following table provides the total number of wells that we drilled during the years ended December 31:

	2016		2015		2014	
	Gross	Net	Gross	Net	Gross	Net
Exploratory						
Productive:						
Oil	2	2	2	1	25	21
Gas	1	—	31	5	21	2
Dry	—	—	4	3	10	7
	<u>3</u>	<u>2</u>	<u>37</u>	<u>9</u>	<u>56</u>	<u>30</u>
Development						
Productive:						
Oil	8	5	7	3	184	174
Gas	1	—	17	2	75	10
Dry	—	—	2	2	2	—
	<u>9</u>	<u>5</u>	<u>26</u>	<u>7</u>	<u>261</u>	<u>184</u>
	<u>12</u>	<u>7</u>	<u>63</u>	<u>16</u>	<u>317</u>	<u>214</u>

In addition to the wells drilled, there was one gross exploratory and one gross development well (zero net exploratory and zero net development wells) in progress at December 31, 2016.

Productive Wells

We had working interests in 120 gross (94 net) active producing oil wells and 640 gross (100 net) active producing natural gas wells at December 31, 2016 (of which 293 gross (40 net) active producing natural gas wells were in the Madden area); 3,060 gross (2,976 net) active producing oil wells and 1,759 gross (213 net) active producing natural gas wells at December 31, 2015; and 3,069 gross (2,991 net) active producing oil wells and 1,710 gross (211 net) active producing natural gas wells at December 31, 2014. One or more completions in the same well bore are considered one well. If any well in which one of the multiple completions is an oil completion, such well is classified as an oil well. At December 31, 2016, we owned interests in two gross wells containing multiple completions.

Item 1A. Risk Factors.

This report contains "forward-looking statements" within the meaning of United States (U.S.) federal securities laws. Forward-looking statements are all statements other than statements of historical facts, such as projections or expectations relating to ore grades and milling rates; production and sales volumes; unit net cash costs; operating cash flows; capital expenditures; exploration efforts and results; development and production activities and costs; liquidity; tax rates; the impact of copper, gold and molybdenum price changes; the impact of deferred intercompany profits on earnings; reserve estimates; future dividend payments; and share purchases and sales.

We undertake no obligation to update any forward-looking statements. We caution readers that forward-looking statements are not guarantees of future performance and our actual results may differ materially from those anticipated, projected or assumed in the forward-looking statements. Important factors that can cause our actual results to differ materially from those anticipated in the forward-looking statements include the following:

Financial risks

Declines in the market prices of copper and molybdenum have adversely affected our earnings, cash flows and asset values and, if sustained, may adversely affect our ability to repay debt. Fluctuations in the market prices of copper, gold and molybdenum have caused and may continue to cause significant volatility in our financial performance and in the trading prices of our debt and common stock.

Our financial results will vary with fluctuations in the market prices of the commodities we produce, primarily copper and gold, and to a lesser extent molybdenum. As described below, beginning in 2015, copper prices declined significantly, before recovering in fourth-quarter 2016. If prices decline in the future, they may have a material adverse effect on our financial results, the value of our assets and/or our ability to repay our debt and meet our other fixed obligations; and may depress the trading prices of our common stock and of our publicly traded debt securities.

In response to market-conditions, beginning in the second half of 2015, we made adjustments to operating plans for our mining operations, including reducing operating and capital costs and adjusting production at our North America copper mines; reducing mining and stacking rates at our El Abra mine in Chile by approximately 50 percent to achieve lower operating and labor costs, defer capital expenditures and extend the life of the operation; and operating the Henderson molybdenum mine in Colorado at reduced rates. If market prices for our primary commodities decline or persist at low levels, we may have to further revise our operating plans, including curtailing production, reducing operating costs and capital expenditures and discontinuing certain exploration and development programs. We may be unable to decrease our costs in an amount sufficient to offset reductions in revenues, in which case we may incur additional losses, and those losses may be material.

Fluctuations in commodities prices are caused by varied and complex factors beyond our control, including global supply and demand balances and inventory levels; global economic and political conditions; international regulatory, trade and tax policies; commodities investment activity and speculation; the price and availability of substitute products; and changes in technology.

Copper prices may be affected by demand from China, which has become the largest consumer of refined copper in the world, and by changes in demand for industrial, commercial and residential products containing copper. Copper prices declined significantly during 2015 and remained low throughout most of 2016, with London Metal Exchange (LME) spot copper prices averaging \$2.21 per pound in 2016, \$2.49 per pound in 2015 and \$3.11 per pound in 2014. During fourth-quarter 2016, copper prices improved, with the LME spot price averaging \$2.39 per pound. The LME spot copper price was \$2.50 per pound on December 31, 2016, and \$2.73 per pound on February 15, 2017.

Factors affecting gold prices may include the relative strength of the U.S. dollar to other currencies, inflation and interest rate expectations, purchases and sales of gold by governments and central banks, demand from China and India, two of the world's largest consumers of gold, and global demand for jewelry containing gold. The London PM gold price averaged \$1,250 per ounce in 2016, \$1,160 per ounce in 2015 and \$1,266 per ounce in 2014. The London PM gold price was \$1,224 per ounce on February 15, 2017.

Molybdenum prices also declined significantly during 2015 and have remained low throughout 2016, with the *Metals Week* Molybdenum Dealer Oxide weekly average price averaging \$6.47 per pound in 2016, \$6.66 per pound in 2015 and \$11.41 per pound in 2014. The *Metals Week* Molybdenum Dealer Oxide weekly average price was \$7.59 per pound on February 15, 2017.

Lower copper and molybdenum prices during 2016 and 2015 resulted in non-cash charges for inventory adjustments (\$36 million for the year 2016 and \$338 million for the year 2015) and long-lived mining asset impairments (\$37 million for the year 2015). Refer to Notes 4 and 5 for additional information. Declines in copper and/or molybdenum prices could result in additional metals inventory adjustments and impairment charges for our long-lived assets. Other events that could result in impairment of our long-lived assets include, but are not limited to, decreases in estimated proven and probable mineral reserves and any event that might have a material adverse effect on mine production costs.

Our debt and other financial commitments may limit our financial and operating flexibility.

At December 31, 2016, our total consolidated debt was \$16.0 billion (see Note 8) and our total consolidated cash was \$4.2 billion. We also have various other financial commitments, including reclamation and environmental obligations, take-or-pay contracts and leases. Our level of indebtedness and other financial commitments could have important consequences to our business, including the following:

- Limiting our flexibility in planning for, or reacting to, changes in the industries in which we operate;
- Increasing our vulnerability to general adverse economic and industry conditions;
- Limiting our ability to fund future working capital, capital expenditures and/or material contingencies, to engage in future development activities, or to otherwise realize the value of our assets and opportunities fully because of the need to dedicate a substantial portion of our cash flows from operations to payments on our debt;
- Requiring us to sell assets to reduce debt; or
- Placing us at a competitive disadvantage compared to our competitors that have less debt and/or fewer financial commitments.

Any failure to comply with the financial and other covenants in our debt agreements may result in an event of default that would allow the creditors to accelerate maturities of the related debt, which in turn may trigger cross-acceleration or cross-default provisions in other debt agreements. Our available cash and liquidity would not be sufficient to fully repay borrowings under our debt instruments that are accelerated upon an event of default.

From August 2015 through November 2016, we sold 326.5 million shares of our common stock under registered at-the-market equity programs, which generated \$3.5 billion in gross proceeds (refer to Note 10). In addition, during 2016, we issued 48.1 million shares of our common stock in connection with the settlement of two drilling rig contracts (refer to Note 13) and 27.7 million shares of our common stock in exchange for \$369 million of FCX senior notes (refer to Note 10). Any additional issuance of equity capital to fund operations, reduce debt, improve our financial position or for other purposes, may have a negative impact on our stock price.

As of February 15, 2017, our senior unsecured debt was rated "BB-" with a stable outlook by Standard & Poor's (S&P), "BBB-" with a negative outlook by Fitch Ratings (Fitch), and "B1" with a positive outlook by Moody's Investors Service (Moody's). There is no assurance that our credit ratings will not be downgraded in the future. For more information, refer to the risk factor below relating to mine closure and reclamation regulations and plugging and abandonment obligations related to our remaining oil and gas operations.

Mine closure and reclamation regulations impose substantial costs on our operations and include requirements that we provide financial assurance supporting those obligations. We also have plugging and abandonment obligations related to our remaining oil and gas properties, and are required to provide bonds or other forms of financial assurance in connection with those operations. Changes in or the failure to comply with these requirements could have a material adverse effect on us.

We are required by U.S. federal and state laws and regulations to provide financial assurance sufficient to allow a third party to implement approved closure and reclamation plans for our mining properties if we are unable to do so. The U.S. Environmental Protection Agency (EPA) and state agencies may also require financial assurance for investigation and remediation actions that are required under settlements of enforcement actions under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) or similar state laws. Refer to Note 12 for additional information regarding our financial assurance obligations.

With respect to our mining operations, most of our financial assurance obligations are imposed by state laws that vary significantly by jurisdiction, depending on how each state regulates land use and groundwater quality. Although Section 108(b) of CERCLA has required EPA to identify classes of facilities that must establish evidence of financial responsibility since it was adopted in 1980, currently there are no financial assurance requirements for active mining operations under CERCLA. In August 2014, several environmental organizations initiated litigation against EPA to require it to set a schedule for adopting financial assurance regulations under CERCLA governing the hard rock mining industry. EPA and the environmental organizations reached a joint agreement and submitted it to the U.S. Court of Appeals for the District of Columbia Circuit for approval. Notwithstanding industry objections, the court approved the agreement on January 29, 2016, thereby requiring the EPA to propose financial assurance regulations for the hard rock mining industry by December 1, 2016, and to provide notice of its final action by December 1, 2017. The proposed regulations were published on January 11, 2017, subject to a 60-day comment period. The proposed rules, if promulgated without material modification, would result in onerous financial responsibility obligations for our U.S. hard rock mining operations, and the form, cost and availability of financial mechanisms necessary to meet such obligations is uncertain (if they could be met at all). In addition, complying with these obligations could be very costly, harm the international competitiveness of our U.S. hard rock mining operations and could have a material adverse effect on our cash flows, results of operations and financial condition.

We are also subject to financial assurance requirements in connection with our remaining oil and gas operations under both state and federal laws, including financial responsibility required under the Oil Pollution Act of 1990 to cover containment and cleanup costs resulting from an oil spill. In 2016, the U.S. Bureau of Ocean Energy Management issued revised requirements for lessees operating in federal waters to secure the cost of plugging, abandoning, decommissioning and/or removing wells, platforms and pipelines at the end of production. The revised requirements eliminate previously provided waivers from requirements to post security. The new requirements to post significant amounts of security in the form of bonds or similar assurances could have a material adverse effect on our cash flows, results of operations and financial condition. The cost for bonds or assurances can be substantial, and there is no assurance that they can be obtained in all cases.

As of December 31, 2016, our financial assurance obligations totaled \$1.1 billion for closure and reclamation/restoration costs of U.S. mining sites, and \$0.7 billion for plugging and abandonment obligations of our remaining oil and gas operations (refer to Note 12). A substantial portion of our financial assurance obligations are satisfied by FCX guarantees and financial capability demonstrations. As a result of the downgrade of our credit ratings on our debt to below investment grade by S&P and Moody's, we may be required to provide additional or alternative forms of financial assurance, such as letters of credit, surety bonds or collateral. These other forms of assurance are costly to provide and, depending on our financial condition and market conditions, may be difficult or impossible to obtain. Failure to provide the required financial assurance could result in the closure of the affected properties.

Refer to Notes 1 and 12, for further discussion of our environmental and asset retirement obligations.

Unanticipated litigation or negative developments in pending litigation or with respect to other contingencies could have a material adverse effect on our cash flows, results of operations and financial condition.

We are involved in numerous legal proceedings and subject to other contingencies that have arisen or may arise in the ordinary course of our business or are associated with environmental issues arising from legacy operations conducted over the years by Freeport Minerals Corporation (FMC) and its affiliates, including those described in

Note 12 and in Item 3. "Legal Proceedings" involving matters such as remediation, restoration and reclamation of environmental contamination, claims of personal injury or property damage arising from such contamination or from exposure to substances such as lead, arsenic, asbestos, talc and other allegedly toxic substances, disputes over water rights, and disputes with foreign governments or regulatory authorities over royalties, taxes, rights and obligations under concession or other agreements, or other matters. We are also involved periodically in other reviews, inquiries, investigations and other proceedings initiated by or involving government agencies, some of which may result in adverse judgments, settlements, fines, penalties, injunctions or other relief. In addition, from time to time we are involved in disputes over the allocation of environmental remediation obligations at Superfund and other sites. The outcome of litigation is inherently uncertain and adverse developments or outcomes can result in significant monetary damages, penalties, other sanctions or injunctive relief against us, limitations on our property rights, or regulatory interpretations that increase our operating costs. Management does not believe, based on currently available information, that the outcome of any individual legal proceeding will have a material adverse effect on our financial condition, although individual or cumulative outcomes could be material to our operating results for a particular period, depending on the nature and magnitude of the outcome and the operating results for the period.

With respect to the asbestos exposure cases described in Note 12, there has been an increase in the number of cases against FMC and its affiliates alleging exposure to talc contaminated with asbestos and to talc that is not alleged to be contaminated with asbestos. Recently, there have been a limited number of large jury awards in single plaintiff cases primarily brought by consumers against makers of common consumer products containing talc and alleging serious health risks, including ovarian cancer associated with long-term use of such products. Prior affiliates were involved in talc mining, and some of those affiliates have been named as defendants in some of those cases. We have indemnification rights against a successor to those businesses, and the successor has acknowledged those indemnification obligations and has taken responsibility for all cases we have tendered to it. However, the indemnitor may have limited financial resources and limited amounts of insurance available to meet those obligations.

International risks

Our international operations are subject to political, social and geographic risks of doing business in countries outside the U.S.

We are a U.S.-based mining company with substantial assets located outside of the U.S. We conduct international mining operations in Indonesia, Peru and Chile. Accordingly, in addition to the usual risks associated with conducting business in countries outside the U.S., our business may be adversely affected by political, economic and social uncertainties in each of these countries. Risks of conducting business in countries outside of the U.S. include:

- Renegotiation, cancellation or forced modification of existing contracts;
- Expropriation or nationalization of property;
- Changes in the host country's laws, regulations and policies, including those relating to labor, taxation, royalties, divestment, imports, exports, trade regulations, currency and environmental matters, which because of rising "resource nationalism" in countries around the world, may impose increasingly onerous requirements on foreign operations and investment;
- Political instability, bribery, extortion, corruption, civil strife, acts of war, guerrilla activities, insurrection and terrorism;
- Changes in the aspirations and expectations of local communities in which we operate with respect to our contributions to employee health and safety, infrastructure and community development and other factors that may affect our social license to operate, all of which lead to increased costs;
- Changes in U.S. trade, tax, immigration or other policies that may harm relations with foreign countries or result in retaliatory policies;
- Foreign exchange controls and movements in foreign currency exchange rates; and

- The risk of having to submit to the jurisdiction of an international court or arbitration panel or having to enforce the judgment of an international court or arbitration panel against a sovereign nation within its own territory.

Our insurance does not cover most losses caused by the above described risks. Accordingly, our exploration, development and production activities outside of the U.S. may be substantially affected by many unpredictable factors beyond our control, some of which could have a material adverse effect on our cash flows, results of operations and financial condition.

Our international operations must comply with the U.S. Foreign Corrupt Practices Act and similar anti-corruption and anti-bribery laws of the other jurisdictions in which we operate. There has been a substantial increase in the global enforcement of these laws in recent years, and a steadily increasing focus on enforcement of those laws continues. Any violation of those laws could result in significant criminal or civil fines and penalties, litigation, and loss of operating licenses or permits, and may damage our reputation, which could have a material adverse effect on our cash flows, results of operations and financial condition.

We are involved in several significant tax proceedings and other tax disputes with the Indonesian and Peruvian tax authorities (refer to Note 12 for further discussion of these matters). Other risks specific to certain countries in which we operate are discussed in more detail below.

Because our Grasberg mining operation in Indonesia is a significant operating asset, our business may continue to be adversely affected by political, economic and social uncertainties in Indonesia.

Our mining operations in Indonesia are conducted by our subsidiary PT Freeport Indonesia (PT-FI) pursuant to a Contract of Work (COW) with the Indonesian government. Maintaining a good working relationship with the Indonesian government is important to us because of the significance of our Indonesia operations to our business, and because our mining operations there are among Indonesia's most significant business enterprises. Partially because of their significance to Indonesia's economy, the environmentally sensitive area in which they are located, and the number of people employed, our Indonesia operations have been the subject of political debates and of criticism in the Indonesian press, and have been the target of protests and occasional violence. For further discussion of the history of PT-FI's COW, refer to Note 13.

The initial term of PT-FI's COW expires in 2021, but the COW explicitly provides that it can be extended for two 10-year periods subject to Indonesian government approval, which cannot be withheld or delayed unreasonably. PT-FI has been engaged in discussions with officials of the Indonesian government since 2012 regarding various provisions of its COW, including extending its term. Notwithstanding provisions in the COW prohibiting it from doing so, the Indonesian government has sought to modify existing mining contracts, including PT-FI's COW, to address provisions contained in the mining law enacted in 2009; and mining regulations adopted thereunder, including provisions that conflict with the COW, such as the size of contract concessions, government revenues, domestic processing of minerals, divestment, provision of local goods and services, conversion from a COW to a licensing framework for extension periods, and a requirement that extensions may be applied for only within two years prior to a COW's expiration.

Regulations published in January 2014 imposed, among other things, a progressive export duty on copper concentrate and restricted exports of copper concentrate and anode slimes (a by-product of the copper refining process containing metals, including gold) after January 12, 2017. Despite PT-FI's rights under its COW to export concentrate without the payment of duties, PT-FI was unable to obtain administrative approval for exports and operated at approximately half of its capacity from mid-January 2014 through July 2014.

In July 2014, PT-FI entered into a Memorandum of Understanding (MOU) with the Indonesian government, in which, subject to concluding an agreement to extend PT-FI's operations beyond 2021 on acceptable terms, PT-FI agreed to construct new smelter capacity in Indonesia and to divest an additional 20.64 percent interest at fair value. Under the MOU, PT-FI provided a \$115 million assurance bond to support its commitment for smelter development, agreed to pay higher royalty rates and agreed to pay export duties until certain smelter development milestones were met. The MOU also anticipated an amendment of the COW within six months to address other matters; however, no terms of the COW other than those relating to the smelter bond, increased royalties and export duties were changed. In January 2015, the MOU was extended to July 25, 2015, and it expired on that date. The Indonesian government has continued to impose the increased royalty rates, export duties and smelter assurance bond.

In October 2015, the Indonesian government provided a letter of assurance to PT-FI indicating that it would revise regulations allowing it to approve the extension of PT-FI's operations beyond 2021, and provide the same rights and the same level of legal and fiscal certainty provided under the current COW.

In January and February 2017, the Indonesian government issued new regulations to address exports of unrefined metals, including copper concentrate and anode slimes, and other matters related to the mining sector. The new regulations permit the continuation of copper concentrate exports for a five-year period through January 2022, subject to various conditions, including conversion from a contract of work to a special operating license (known as an IUPK, which provides virtually none of the protections of a contract of work), commitment to completion of smelter construction in five years and payment of export duties to be determined by the Ministry of Finance. In addition, the new regulations enable application for extension of operating rights five years before expiration of the IUPK and require foreign IUPK holders to divest 51 percent to Indonesian interests no later than the tenth year of production. Export licenses would be valid for one-year periods, subject to review every six months, depending on smelter construction progress.

The January 2017 regulations permit the export of anode slimes, which is necessary for PT Smelting (PTFI's 25-percent-owned copper smelter and refinery located in Gresik, Indonesia) to continue operating. PT Smelting is seeking to renew its anode slimes export license; however, we cannot predict when PT Smelting's anode slimes export license may be renewed. In addition, a labor strike at PT Smelting has resulted in a shutdown of its operations since January 19, 2017. Although PT-FI is taking near-term actions to reduce production to match available processing capacity at PT Smelting, or approximately 40 percent of PT-FI's concentrate production capacity, on February 10, 2017, PT-FI was forced to suspend production as a result of limited storage capacity at PT-FI and PT Smelting. PT Smelting has indicated that it expects to resume operations in March 2017. Delays in PT Smelting obtaining its anode slimes export license or restarting operations could further impact PT-FI's operations.

Following the issuance of the January and February 2017 regulations and discussions with the government, PT-FI advised the Indonesian government that it was prepared to convert its COW to an IUPK, subject to obtaining an investment stability agreement providing equivalent rights with the same level of legal and fiscal certainty enumerated under its COW, and provided that the COW would remain in effect until it is replaced by a mutually satisfactory alternative. PT-FI also committed to commence construction of a new smelter during a five-year timeframe after approval of the extension of its long-term operating rights.

Under its COW, PT-FI has specified rights to export copper concentrate without restriction or payment of export duties. PT-FI has requested that concentrate exports be permitted without the imposition of export duties while the new license and stability agreement are negotiated. The Indonesia government has indicated that in order to export its concentrate production, PT-FI would be required to immediately convert to an IUPK, forgo its current rights to fiscal and legal certainty and commit to a new smelter prior to completing a long-term investment stability agreement. PT-FI has advised the Indonesian government that attempts to enforce the new regulations on PT-FI violates its COW and that it is unwilling to terminate its COW unless replaced by a mutually acceptable form of agreement providing fiscal and legal assurances to support its long-term investment plans in Papua, Indonesia.

As of February 24, 2017, PT-FI has not obtained approval to export concentrate and production remains suspended. PT-FI is taking near-term actions to reduce production to match available processing capacity at PT Smelting, or approximately 40 percent of PT-FI's concentrate production capacity (assuming that PT Smelting's export license is approved and its operations are resumed in March 2017). PT-FI has begun to significantly adjust its cost structure, reduce its workforce and spending with local suppliers, and suspend investments in its underground development projects and new smelter.

On February 17, 2017, pursuant to the COW's dispute resolution provisions, PT-FI provided formal notice to the Indonesian government of an impending dispute listing the government's breaches and violations of the COW as described in the risk factor below "PT-FI's COW may be subject to termination if we do not comply with our contractual obligations, and if a dispute arises, we may have to submit to the jurisdiction of an international arbitration panel."

We cannot predict whether or when PT-FI will be able to resume exporting copper concentrate. For each month of delay in obtaining approval to export, PT-FI's share of production is projected to be reduced by approximately 70 million pounds of copper and 70 thousand ounces of gold. The inability of either PT-FI to export copper concentrate, or PT Smelting to export anode slimes or restart operations, for any extended period of time would lead to the

continued suspension of production in Indonesia, which would have a material adverse effect on our cash flow, results of operations and financial position, and could result in asset impairments, inventory write downs, difficulty in meeting covenants under our credit facilities, and a significant reduction in our reported mineral reserves.

We also cannot predict whether PT-FI will be successful in reaching a satisfactory agreement on the terms of its long-term mining rights. If PT-FI is unable to reach agreement with the Indonesian government on its long-term rights, we may be required to reduce or defer investments in underground development projects, which would have a material adverse effect on our future production, cash flow, results of operations and financial position, and could result in asset impairments, inventory write downs, difficulty in meeting covenants under our credit facilities, and a significant reduction in our reported mineral reserves.

In October 2016, a new Minister of Energy and Mineral Resources was appointed, and is the fourth person to hold the office since July 2016. We cannot predict what impact the transition will have on the progress or outcome of PT-FI's license and stability agreement negotiations.

PT-FI's COW may be subject to termination if we do not comply with our contractual obligations, and if a dispute arises, we may have to submit to the jurisdiction of an international arbitration panel.

PT-FI's COW was entered into under Indonesia's 1967 Foreign Capital Investment Law, which provides guarantees of remittance rights and protection against nationalization. The COW may be subject to termination by the Indonesian government if we do not satisfy our contractual obligations, which include the payment of royalties and taxes to the government and the satisfaction of certain mining, environmental, safety and health requirements.

Recently adopted Indonesian laws and regulations conflict with the mining rights established under the COW. Although the COW grants to PT-FI the unencumbered right to operate in accordance with the COW, government agencies have sought and continue to seek to impose additional restrictions on PT-FI that could affect exploration and operating requirements. For further discussion, refer to the above risk factor "Because our Grasberg mining operation in Indonesia is a significant operating asset, our business may continue to be adversely affected by political, economic and social uncertainties in Indonesia."

PT-FI's COW requires that disputes with the Indonesian government be submitted to international arbitration. On February 17, 2017, pursuant to the COW's formal dispute resolution provisions, PT-FI provided formal notice to the Indonesian government of an impending dispute listing the government's breaches and violations of the COW, including, but not limited to, the following:

- Restrictions on PT-FI's basic right to export mining products in violation of the COW;
- Imposition of export duties other than those taxes and other charges expressly provided for in the COW;
- Imposition of surface water taxes in excess of the restrictions imposed by the COW (refer to Note 12 for further discussion of these assessments);
- Requirement for PT-FI to build a smelter, while such requirements are not contained in the COW;
- Unreasonable withholding and delay in granting approval of two successive ten-year extensions of the term of the COW; and
- Imposition of divestment requirements that are not provided for in the COW.

If the dispute is not resolved by June 17, 2017, PT-FI may commence arbitration under the United Nations Commission on International Trade Law (UNCITRAL) Arbitration Rules to enforce all provisions of the COW and seek damages, specifically in respect of the issuance of the January 11, 2017, regulations which are not in accordance with honoring the contractual commitments of the Indonesian government and PT-FI under the COW. The arbitration proceedings would take place in Jakarta, Indonesia, and for limited purposes, would be overseen by the Indonesian courts under the Indonesian Arbitration Act. The international arbitration process is complex and could take considerable time to complete and there is no assurance that we will prevail. If we prevail, we will face the additional risk of having to enforce the judgment of an international arbitration panel against Indonesia within its own territory. Additionally, our operations may be materially and adversely affected while resolution of a dispute is pending.

At times, certain government officials and others in Indonesia have questioned the validity of contracts entered into by the Indonesian government prior to May 1998 (*i.e.*, during the Suharto regime, which lasted over 30 years), including PT-FI's COW, which was signed in December 1991. We cannot provide assurance that the validity of, or our compliance with, the COW will not be challenged for political or other reasons.

We will not mine all of our ore reserves in Indonesia before the initial term of our COW expires.

Our proven and probable ore reserves in Indonesia reflect estimates of minerals that can be recovered through the end of 2041, and our current mine plan and planned operations are based on the assumption that we will receive the two 10-year extensions. As a result, we will not mine all of these ore reserves during the initial term of the current COW. Prior to the end of 2021, we expect to mine 17 percent of aggregate proven and probable recoverable ore at December 31, 2016, representing 22 percent of PT-FI's share of recoverable copper reserves and 33 percent of its share of recoverable gold reserves. There can be no assurance that the Indonesian government will approve our COW extensions. For further discussion, refer to the above risk factors "Because our Grasberg mining operation in Indonesia is a significant operating asset, our business may continue to be adversely affected by political, economic and social uncertainties in Indonesia" and "PT-FI's COW may be subject to termination if we do not comply with our contractual obligations, and if a dispute arises, we may have to submit to the jurisdiction of an international arbitration panel."

Operational risks

Our mining operations are subject to operational risks that could adversely affect our business.

Our mines are very large in scale and, by their nature are subject to significant operational risks, some of which are outside of our control, and many of which are not covered fully, or in some cases even partially, by insurance. These operational risks, which could materially and adversely affect our business, operating results and cash flow, include earthquakes, rainstorms, floods, and other natural disasters; equipment failures; accidents; wall failures and rock slides in our open-pit mines, and structural collapses of our underground mines or tailings impoundments; and lower than expected ore grades or recovery rates.

The waste rock (including overburden) and tailings produced in our mining operations represent our largest volume of waste. Managing the volume of waste rock and tailings presents significant environmental, safety and engineering challenges and risks. We maintain large leach pads and tailings impoundments containing viscous material, which are effectively large dams that must be engineered, constructed and monitored to assure structural stability and avoid leakages or structural collapse. Our tailings impoundments in arid areas must have effective programs to suppress fugitive dust emissions, and we must effectively monitor and treat acid rock drainage at all of our operations. In Indonesia, we use a river transport system for tailings management, which presents other risks, as discussed below.

The failure of tailings and other impoundments at any of our mining operations could cause severe property and environmental damage and loss of life, and we apply significant financial resources and both internal and external technical resources to the effective, safe management of all those facilities. The importance of careful design, management and monitoring of large impoundments was emphasized in recent years by large scale tailings dam failures at unaffiliated mines, which caused extensive property and environmental damage and resulted in the loss of life. As a member company of the International Council on Mining and Metals (ICMM), we intend to augment our existing practices to be consistent with the ICMM's Tailings Governance Framework adopted in December 2016 in an effort to reduce the risk of catastrophic failure of tailings storage facilities.

Labor unrest, activism and civil and religious strife could disrupt our operations and may adversely affect our business, financial condition, results of operations and prospects.

As of December 31, 2016, approximately half of our global labor force was covered by collective bargaining agreements and approximately one third of our global labor force was covered by agreements that have expired and are currently being negotiated or will expire during 2017, including the agreement covering employees at our PT-FI operations in Indonesia.

Labor agreements are negotiated on a periodic basis, and may not be renewed on reasonably satisfactory terms to us or at all. If we do not successfully negotiate new collective bargaining agreements with our union workers, we

may incur prolonged strikes and other work stoppages at our mining operations, which could adversely affect our financial condition and results of operations. Additionally, if we enter into a new labor agreement with any union that significantly increases our labor costs relative to our competitors, our ability to compete may be materially and adversely affected. Refer to Items 1. and 2., "Business and Properties," for additional information regarding labor matters, and expiration dates of such agreements.

We could also experience labor disruptions such as work stoppages, work slowdowns, union organizing campaigns, strikes, or lockouts that could adversely affect our operations. For example, in October 2014, a large percentage of Grasberg open-pit operators did not report to their scheduled shifts and during third-quarter 2016, PT-FI experienced labor productivity issues and a 10-day work stoppage that began in late September 2016. These labor productivity issues have continued during fourth-quarter 2016 and early 2017, and could be heightened by the workforce reductions that began in February 2017. Significant reductions in productivity or protracted work stoppages at one or more of our operations could significantly reduce our production and sales volumes, which could adversely affect our cash flow, results of operations and financial condition.

Indonesia has long faced separatist movements and civil and religious strife in a number of provinces. Several separatist groups have sought increased political independence for the province of Papua, where our Grasberg minerals district is located. In Papua, there have been sporadic attacks on civilians by separatists and sporadic but highly publicized conflicts between separatists and the Indonesian military. In addition, illegal miners have periodically clashed with police who have attempted for years to move them away from our facilities. Social, economic and political instability in Papua could materially and adversely affect us if it results in damage to our property or interruption of our Indonesia operations.

In 2009, a series of shooting incidents occurred within the PT-FI project area, including along the road leading to our mining and milling operations. The shooting incidents have continued on a sporadic basis with the last incident occurring on January 1, 2015. During this time, there were 20 fatalities and 59 injuries to our employees, contractor employees, government security personnel and civilians. To date, no one person or group has claimed responsibility for the shootings. The safety of our workforce is a critical concern, and PT-FI continues to work with the Indonesian government to address security issues. The investigation of these incidents is ongoing. We also continue to limit the use of the road leading to our mining and milling operations to secured convoys.

We cannot predict whether additional incidents will occur that could disrupt or suspend our Indonesian operations. If other disruptive incidents occur, they could adversely affect our results of operations and financial condition in ways that we cannot predict at this time.

Our mining operations depend on the availability of secure water supplies.

Our mining operations require physical availability and secure legal rights to significant quantities of water for mining and ore processing activities, and related support facilities. Most of our North and South America mining operations are in areas where competition for water supplies is significant. Continuous production at our mines is dependent on many factors, including our ability to maintain our water rights and claims, and the continuing physical availability of the water supplies.

In Arizona, where our operations use both surface and ground water, we are a participant in an active general stream adjudication in which the Arizona courts have been attempting, for over 40 years, to quantify and prioritize surface water claims for the Gila River, one of the state's largest river systems, which primarily affects our Morenci, Safford and Sierrita mines. The adjudication is addressing the state law claims of thousands of competing users, including us, as well as significant federal water claims that are potentially adverse to the state law claims of both surface water and groundwater users. Groundwater is treated differently from surface water under Arizona law, which historically allowed land owners to pump unlimited quantities of subsurface water, subject only to the requirement of putting it to "reasonable use." However, court decisions in the adjudication have concluded that underground water is often hydrologically connected to surface water so that it actually is surface water and is therefore subject to the Arizona doctrine of prior appropriation, as a result of which it would be subject to the adjudication and potentially unavailable to groundwater pumpers in the absence of valid surface water claims, which historic groundwater pumpers typically do not have. Any re-characterization of groundwater as surface water could affect the ability of consumers, farmers, ranchers, municipalities, and industrial users like us to continue to access water supplies that have been relied on for decades. Because we are a user of both groundwater and surface water in Arizona, we are an active participant in the adjudication proceeding.

Water for our Cerro Verde operation in Peru comes from renewable sources through a series of storage reservoirs on the Rio Chili watershed that collects water primarily from seasonal precipitation. As a result of occasional drought conditions, temporary supply shortages are possible that could affect our Cerro Verde operations. In January 2016, the Peruvian government declared a temporary state of emergency with respect to the water supply in the Rio Chili Basin because of drought conditions. As a result, the Cerro Verde water rights from the Rio Chili were temporarily decreased during February 2016.

Water for our El Abra mining operation in Chile comes from the continued pumping of groundwater from the Salar de Ascotán aquifer. In 2010, El Abra obtained regulatory approval for the continued pumping of groundwater from the Salar de Ascotán aquifer for its sulfide processing plant, which began operations in 2011. The agreement to pump from this aquifer is subject to continued monitoring of the aquifer level to ensure that environmentally sensitive areas are not impacted by our pumping. If impact occurs, we would have to reduce pumping to restore water levels, which could have an adverse effect on production from El Abra.

Although we typically have sufficient water for our Indonesian operations, lower rainfall resulting from El Niño weather conditions affected operations in the second half of 2015 and may do so again in the future.

Although each of our mining operations currently has access to sufficient water supplies to support current operational demands, as discussed above some supplies are subject to adjudication proceedings, the outcome of which we cannot predict, and the availability of additional supplies that may be required for potential future expansions is uncertain. While we are taking actions to acquire additional back-up water supplies, such supplies may not be available at acceptable cost, or at all, so that the loss of a water right or currently available water supply could force us to curtail operations or force premature closures, thereby increasing and/or accelerating costs or foregoing profitable operations.

In addition to the usual risks encountered in the mining industry, our Indonesia mining operations involve additional risks because they are located in very remote areas and on unusually difficult terrain.

The Grasberg minerals district is located in steep mountainous terrain in a remote area of Indonesia. These conditions have required us to overcome special engineering difficulties and develop extensive infrastructure facilities. In addition, the area receives considerable rainfall, which has led to periodic floods and mudslides. The mine site is also in an active seismic area and has experienced earth tremors from time to time. Our insurance may not sufficiently cover an unexpected natural or operating disaster.

Underground mining operations can be particularly dangerous, and in May 2013, a tragic accident, which resulted in 28 fatalities and 10 injuries, occurred at PT-FI when the rock structure above the underground ceiling of a training facility collapsed. PT-FI temporarily suspended mining and processing activities at the Grasberg complex to conduct inspections and resumed open-pit mining and concentrating activities on June 24, 2013, and underground operations on July 9, 2013. No assurance can be given that similar events will not occur in the future.

We must continually replace reserves depleted by production, but our exploration activities may not result in additional discoveries.

Our existing mineral reserves will be depleted over time by production from our operations. Because our profits are primarily derived from our mining operations, our ability to replenish our mineral reserves is essential to our long-term success. Our exploration projects involve many risks, require substantial expenditures and may not result in the discovery of additional deposits that can be produced profitably. We may not be able to discover, enhance, develop or acquire reserves in sufficient quantities to maintain or grow our current reserve levels, which could negatively affect our cash flow, results of operations and financial condition.

Development projects are inherently risky and may require more capital than anticipated, which could adversely affect our business.

Consolidated capital expenditures are expected to approximate \$1.8 billion for 2017, including \$1.1 billion for major projects primarily associated with underground development activities at Grasberg and \$0.7 billion for sustaining capital. Refer to the risk factor "Because our Grasberg mining operation in Indonesia is a significant operating asset, our business may continue to be adversely affected by political, economic and social uncertainties in Indonesia" for further discussion of regulatory matters in Indonesia that may impact future investments in PT-FI's underground development projects.

There are many risks and uncertainties inherent in all development projects. The economic feasibility of development projects is based on many factors, including the accuracy of estimated reserves, estimated capital and operating costs, and estimated future prices of the relevant commodity. The capital expenditures and time required to develop new mines or other projects are considerable, and changes in costs or timing can adversely affect project economics.

New development projects have no operating history upon which to base estimates of future cash flow. The actual costs, production rates and economic returns of our development projects may differ materially from our estimates, which may have a material adverse impact on our cash flows, results of operations and financial condition.

Our operations are subject to extensive regulations, some of which require permits and other approvals. These regulations increase our costs and in some circumstances may delay or suspend our operations.

Our operations are subject to extensive and complex laws and regulations that are subject to change and to changing interpretation by governmental agencies and other bodies vested with broad supervisory authority. As a natural resource company, compliance with environmental legal requirements is an integral and costly part of our business. For additional information, see "Environmental risks" below. We are also subject to extensive regulation of worker health and safety, including the requirements of the U.S. Occupational Safety and Health Act and similar laws of other jurisdictions. In the U.S., the operation of our mines is subject to regulation by the U.S. Mine Safety and Health Administration (MSHA) under the Federal Mine Safety and Health Act of 1977. MSHA inspects our mines on a regular basis and issues citations and orders when it believes a violation has occurred. If such inspections result in an alleged violation, we may be subject to fines and penalties and, in instances of alleged significant violations, our mining operations could be subject to temporary or extended closures.

Many other governmental bodies regulate other aspects of our operations, and our failure to comply with these legal requirements can result in substantial penalties. In addition, new laws and regulations or changes to existing laws and regulations and new interpretations of existing laws and regulations by courts or regulatory authorities occur regularly, but are difficult to predict. Any such variations could have a material adverse effect on our cash flow, results of operations and financial condition.

Our business may be adversely affected by information technology disruptions.

Cybersecurity incidents are increasing in frequency, evolving in nature and include, but are not limited to, installation of malicious software, unauthorized access to data and other electronic security breaches that could lead to disruptions in systems, unauthorized release of confidential or otherwise protected information and the corruption of data. We have experienced cybersecurity incidents in the past and may experience them in the future. We believe we have implemented appropriate measures to mitigate potential risks. However, given the unpredictability of the timing, nature and scope of information technology disruptions, we could be subject to manipulation or improper use of our systems and networks or financial losses from remedial actions, any of which could have a material adverse effect on our cash flow, results of operations and financial condition.

Environmental risks

Our operations are subject to complex, evolving and increasingly stringent environmental laws and regulations. Compliance with environmental regulatory requirements involves significant costs and may constrain existing operations or expansion opportunities.

Our operations, both in the U.S. and internationally, are subject to extensive environmental laws and regulations governing the generation, storage, treatment, transportation and disposal of hazardous substances; solid waste disposal; air emissions; wastewater discharges; remediation, restoration and reclamation of environmental contamination, including mine closures and reclamation; well plug and abandonment requirements; protection of endangered and protected species and designation of critical habitats; and other related matters. In addition, we must obtain regulatory permits and approvals to start, continue and expand operations.

Our Miami, Arizona smelter processes approximately half of the aggregate copper concentrate produced by our North America copper mines. EPA regulations require us to invest in new pollution control equipment to reduce sulfur dioxide (SO₂) to meet both regional haze requirements and to allow the state of Arizona to demonstrate compliance with EPA's SO₂ ambient air quality standards. The deadline for the smelter to install the SO₂ pollution

control equipment to comply with the regional haze rules is January 1, 2018. Arizona regulators have promulgated rules for complying with the national ambient air quality standards, which must be approved by the EPA to become effective, but it is possible that they will be effective prior to January 1, 2018. In order to meet both regulatory requirements, we expect capital expenditures to approximate \$250 million, and we expect those expenditures to be made through 2018. If these expenditures are delayed or deferred for technical, financial or any other reasons, we may be forced to curtail production at the Miami smelter, which would require us to export concentrate rather than process it ourselves and to purchase sulphuric acid that would otherwise be generated during the smelting process, which would result in increased production costs.

Laws such as CERCLA and similar state laws may expose us to joint and several liability for environmental damages caused by our operations, or by previous owners or operators of properties we acquired or are currently operating or at sites where we sent materials for processing, recycling or disposal. As discussed in more detail in the next risk factor, we have substantial obligations for environmental remediation on mining properties previously owned or operated by FMC and certain of its affiliates. Noncompliance with these laws and regulations could result in material penalties or other liabilities. In addition, compliance with these laws may from time to time result in delays in or changes to our development or expansion plans. Compliance with these laws and regulations imposes substantial costs, which we expect will continue to increase over time because of increased regulatory oversight, adoption of increasingly stringent environmental standards, as well as other factors.

New or revised environmental regulatory requirements are frequently proposed, many of which result in substantially increased costs for our business, including those regarding financial assurance in the financial risk factor above. In addition, in 2015, the EPA promulgated rules that could reclassify certain mineral processing materials as "hazardous waste" under the federal Resource Conservation and Recovery Act and subject the industry to significant new and costly waste management requirements. These rules are currently being challenged by multiple parties in court; however, if the legal challenges are unsuccessful, and the regulatory agencies reclassify certain mineral processing materials as "hazardous waste," costs at our U.S. copper and molybdenum processing facilities could materially increase.

The EPA has also adopted rules that bring remote "tributaries" into the regulatory definition of "waters of the United States" that are protected by the Clean Water Act, thereby imposing significant additional restrictions on waterway discharges and land uses, and is in many ways aggressively attempting to expand its regulatory authority over air quality, water quality and solid wastes, among other things. These rules are being litigated by multiple parties. Regulations are also being considered at various governmental levels to increase federal financial responsibility requirements both for mine closure and reclamation and for oil and gas decommissioning, and to increase regulation of or prohibit hydraulic fracturing. Adoption of these or similar new environmental regulations or more stringent application of existing regulations may materially increase our costs, threaten certain operating activities and constrain our expansion opportunities.

In February 2016, the Department of the Interior's Fish & Wildlife Service (FWS) adopted final rules that broaden the regulatory definitions of "critical habitat" and "destruction or adverse modification," both of which are integral to the FWS's implementation of the Endangered Species Act, which protects federally-listed endangered and threatened species. The new rules increase FWS's discretion to limit uses of land and water courses that may become suitable habitat for listed species in the future, or that are occasionally used by protected species. The new rules may limit the ability of landowners, including us, to obtain federal permits or authorizations needed for expansion of our operations, and may also affect our ability to obtain, retain or deliver water to some operations.

We incurred environmental capital expenditures and other environmental costs (including our joint venture partners' shares) to comply with applicable environmental laws and regulations that affect our operations totaling \$0.4 billion in each of 2016, 2015 and 2014. For 2017, we expect to incur approximately \$0.6 billion of aggregate environmental capital expenditures and other environmental costs, which includes expenditures for the Miami smelter pollution control equipment discussed above. The timing and amounts of estimated payments could change as a result of changes in regulatory requirements, changes in scope and costs of reclamation and plug and abandonment activities, the settlement of environmental matters and the rate at which actual spending occurs on continuing matters.

We incur significant costs for remediating environmental conditions on properties that have not been operated in many years.

FMC and its subsidiaries, and many of their affiliates and predecessor companies, have been involved in exploration, mining, milling, smelting and manufacturing in the U.S. for more than a century. Activities that occurred in the late 19th century and the 20th century prior to the advent of modern environmental laws were not subject to environmental regulation and were conducted before American industrial companies fully understood the long-term effects of their operations on the surrounding environment.

With the passage of CERCLA in 1980, companies like FMC became legally responsible for remediating hazardous substances released into the environment from properties owned or operated by them as well as properties where they arranged for disposal of such substances, irrespective of when the release to the environment occurred or who caused it. That liability is often asserted on a joint and several basis with other prior and subsequent owners, operators and arrangers, meaning that each owner or operator of the property is, and each arranger may be, held fully responsible for the remediation, although in many cases some or all of the other responsible parties no longer exist, do not have the financial ability to respond or cannot be found. As a result, because of our acquisition of FMC in 2007, many of the subsidiary companies we now own are potentially responsible for a wide variety of environmental remediation projects throughout the U.S., and we expect to spend substantial sums annually for many years to address those remediation issues. We are also subject to claims where the release of hazardous substances is alleged to have damaged natural resources. At December 31, 2016, we had more than 100 active remediation projects in 26 U.S. states. In addition, FMC and certain affiliates and predecessor companies were parties to agreements relating to the transfer of businesses or properties that contained indemnification provisions relating to environmental matters, and from time to time these provisions become the source of claims against us.

At December 31, 2016, we had \$1.2 billion recorded in our consolidated balance sheet for environmental obligations attributable to CERCLA or analogous state programs and for estimated future costs associated with environmental matters at closed facilities or closed portions of operating facilities. Our environmental obligation estimates are primarily based upon:

- Our knowledge and beliefs about complex scientific and historical facts and circumstances that in many cases occurred many decades ago;
- Our beliefs and assumptions regarding the nature, extent and duration of remediation activities that we will be required to undertake and the estimated costs of those remediation activities, which are subject to varying interpretations; and
- Our beliefs regarding the requirements that are imposed on us by existing laws and regulations and, in some cases, the clarification of uncertain regulatory requirements that could materially affect our environmental obligation estimates.

Significant adjustments to these estimates are likely to occur in the future as additional information becomes available. The actual environmental costs may exceed our current and future accruals for these costs, and any such changes could be material.

In addition, remediation standards imposed by the EPA and state environmental agencies have generally become more stringent over time and may become even more stringent in the future. Imposition of more stringent remediation standards, particularly for arsenic and lead in soils, poses a risk that additional remediation work could be required at our active remediation sites and at sites that we have already remediated to the satisfaction of the responsible governmental agencies, and may increase the risk of toxic tort litigation.

Refer to Note 12 for further discussion of our environmental obligations.

Our Indonesia mining operations create difficult and costly environmental challenges, and future changes in environmental laws, or unanticipated environmental impacts from those operations, could require us to incur increased costs.

Mining operations on the scale of our Indonesia operations involve significant environmental risks and challenges. Our primary challenge is to dispose of the large amount of crushed and ground rock material, called tailings, that results from the process by which we physically separate the copper-, gold- and silver-bearing materials from the

ore that we mine. Our tailings management plan, which has been approved by the Indonesian government, uses the unnavigable river system in the highlands near our mine to transport the tailings to an engineered area in the lowlands where the tailings and natural sediments are managed in a deposition area. Lateral levees have been constructed to help contain the footprint of the tailings and to limit their impact in the lowlands.

Another major environmental challenge is managing overburden, which is the rock that must be moved aside in the mining process to reach the ore. In the presence of air, water and naturally occurring bacteria, some overburden can generate acid rock drainage, or acidic water containing dissolved metals that, if not properly managed, can adversely affect the environment. In addition, overburden stockpiles are subject to erosion caused by the large amounts of rainfall, with the eroded stockpile material eventually being deposited in the lowlands tailings management area; this additional material, while predicted in our environmental studies, influences the deposition of finer tailings material in the estuary.

From time to time, certain Indonesian government officials have raised questions with respect to our tailings and overburden management plans, including a suggestion that we implement a pipeline system rather than the river transport system for tailings management and disposition. Because our Indonesia mining operations are remotely located in steep mountainous terrain and in an active seismic area, a pipeline system would be costly, difficult to construct and maintain, and more prone to catastrophic failure, and could therefore involve significant potentially adverse environmental issues. Based on our own studies and others conducted by third parties, we do not believe that a pipeline system is necessary or practical.

Regulation of greenhouse gas emissions and climate change issues may increase our costs and adversely affect our operations.

Carbon-based energy is a significant input in our operations, and our revenues include sales of oil, natural gas liquids and natural gas, and other carbon-based energy products. The potential physical impacts of climate change on our operations are highly uncertain, and would vary by operation based on particular geographic circumstances. As a result of the Paris Agreement reached during the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change in 2015, a number of governments have pledged "Nationally Determined Contributions" to control and reduce greenhouse gas emissions. In the U.S., EPA has finalized regulations governing greenhouse gas emissions from new, modified, and existing power plants. While these rules are being challenged in court, increased regulation of greenhouse gas emissions may increase our costs.

Other risks

Our holding company structure may impact our ability to service debt and our stockholders' ability to receive dividends.

We are a holding company with no material assets other than the capital stock and intercompany receivables of our subsidiaries. As a result, our ability to repay our indebtedness and pay dividends is dependent on the generation of cash flow by our subsidiaries and their ability to make such cash available to us, by dividend, loan, debt repayment or otherwise. Our subsidiaries do not have any obligation to make funds available to us to repay our indebtedness or pay dividends. Dividends from subsidiaries that are not wholly owned are shared with other equity owners. Cash at our international operations is also typically subject to foreign withholding taxes upon repatriation into the U.S.

In addition, our subsidiaries may not be able to, or be permitted to, make distributions to us or repay loans to us, to enable us to repay our indebtedness or pay dividends. Each of our subsidiaries is a distinct legal entity and, under certain circumstances, legal restrictions, as well as the financial condition and operating requirements of our subsidiaries, may limit our ability to obtain cash from our subsidiaries. Certain of our subsidiaries are parties to credit agreements that restrict their ability to make distributions or loan repayments to us if such subsidiary is in default under such agreements, to repay any subordinated loan we may make to such subsidiary unless specified conditions are met, or to transfer substantially all of the assets of such subsidiary without the consent of the lenders. Our rights to participate in any distribution of our subsidiaries' assets upon their liquidation, reorganization or insolvency would generally be subject to the prior claims of the subsidiaries' creditors, including any trade creditors.

Anti-takeover provisions in our charter documents and Delaware law may make an acquisition of us more difficult.

Anti-takeover provisions in our charter documents and Delaware law may make an acquisition of us more difficult. These provisions:

- Authorize the Board to issue preferred stock without stockholder approval and to designate the rights, preferences and privileges of each class; if issued, such preferred stock would increase the number of outstanding shares of our capital stock and could include terms that may deter an acquisition of us;
- Establish advance notice requirements for nominations to the Board or for proposals that can be presented at stockholder meetings;
- Limit who may call stockholder meetings; and
- Require the approval of the holders of two thirds of our outstanding common stock to enter into certain business combination transactions, subject to certain exceptions, including if the consideration to be received by our common stockholders in the transaction is deemed to be a fair price.

These provisions may discourage potential takeover attempts, discourage bids for our common stock at a premium over market price or adversely affect the market price of, and the voting and other rights of the holders of, our common stock. These provisions could also discourage proxy contests and make it more difficult for stockholders to elect directors other than the candidates nominated by the Board.

In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which may prohibit large stockholders from consummating a merger with, or acquisition of, us.

These provisions may deter an acquisition of us that might otherwise be attractive to stockholders.

Item 1B. Unresolved Staff Comments.

Not applicable.

Item 3. Legal Proceedings.

We are involved in numerous legal proceedings that arise in the ordinary course of our business or are associated with environmental issues arising from legacy operations conducted over the years by Freeport Minerals Corporation (FMC) and its affiliates. We are also involved periodically in reviews, inquiries, investigations and other proceedings initiated by or involving government agencies, some of which may result in adverse judgments, settlements, fines, penalties, injunctions or other relief. Management does not believe, based on currently available information, that the outcome of any legal proceeding will have a material adverse effect on our financial condition; although individual outcomes could be material to our operating results for a particular period, depending on the nature and magnitude of the outcome and the operating results for the period. Below is a discussion of our material water rights legal proceedings. Refer to Note 12 for discussion of our other material legal proceedings.

Water Rights Legal Proceedings

Our operations in the western United States (U.S.) require significant secure quantities of water for mining, ore processing and related support facilities. Continuous operation of our mines is dependent on, among other things, our ability to maintain our water rights and claims and the continuing physical availability of the water supplies. In the arid western U.S., where certain of our mines are located, water rights are often contested, and disputes over water rights are generally time-consuming, expensive and not necessarily dispositive unless they resolve both actual and potential claims. The loss of a water right, or a currently available water supply could force us to curtail operations, or force premature closures, thereby increasing and/or accelerating costs or foregoing profitable operations.

At our North America operations, certain of our water supplies are supported by surface water rights, which give us the right to use public waters for a statutorily defined beneficial use at a designated location. In Arizona, where our

operations use both surface and groundwater, we are a participant in an active general stream adjudication in which the Arizona courts have been attempting, for over 40 years, to quantify and prioritize surface water claims for the Gila River, one of the state's largest river systems, which primarily affect our Morenci, Safford, and Sierrita mines. The adjudication is addressing the state law claims of thousands of competing users, including us, as well as significant federal water claims that are potentially adverse to the state law claims of both surface water and groundwater users. Groundwater is treated differently from surface water under Arizona law, which historically allowed land owners to pump unlimited quantities of subsurface water, subject only to the requirement of putting it to "reasonable use." However, court decisions in the adjudication have concluded that underground water is often hydrologically connected to surface water so that it actually is surface water and is therefore subject to the Arizona doctrine of prior appropriation, as a result of which it would be subject to the adjudication and potentially unavailable to groundwater pumpers in the absence of valid surface water claims, which historic groundwater pumpers typically do not have. Any re-characterization of groundwater as surface water could affect the ability of consumers, farmers, ranchers, municipalities, and industrial users like us to continue to access water supplies that have been relied on for decades. Because we are a user of both groundwater and surface water in Arizona, we are an active participant in the adjudication proceeding.

In Re The General Adjudication of All Rights to Use Water in the Gila River System and Sources, Maricopa County, Superior Court, Cause Nos. W-1 (Salt), W-2 (Verde), W-3 (Upper Gila), and W-4 (San Pedro). This case was originally initiated in 1974 with the filing of a petition with the Arizona State Land Department and was consolidated and transferred to the Maricopa County Superior Court in 1981. The principal parties, in addition to us, include: the state of Arizona; the Gila Valley Irrigation District; the Franklin Irrigation District; the San Carlos Irrigation and Drainage District; the Salt River Project; the San Carlos Apache Tribe; the Gila River Indian Community (GRIC); and the U.S. on behalf of those tribes, on its own behalf, and on behalf of the White Mountain Apache Tribe, the Fort McDowell Mohave-Apache Indian Community, the Salt River Pima-Maricopa Indian Community, and the Payson Community of Yavapai Apache Indians.

Prior to January 1, 1983, various Indian tribes filed suits in the U.S. District Court in Arizona claiming superior rights to water being used by many other water users, including us, and claiming damages for prior use in derogation of their allegedly superior rights. These federal proceedings have either been stayed pending the Arizona Superior Court adjudications or have been settled.

The Maricopa County Superior Court issued a decision in 2005 in the Gila River adjudication that directed the Arizona Department of Water Resources (ADWR) to prepare detailed recommendations regarding the delineation of the "sub-flow" zone of the San Pedro River Basin, a tributary of the Gila River. According to the court, the sub-flow zone is the subsurface area adjacent to the river where the court may find that groundwater is connected to the surface water such that groundwater pumping may reduce surface flows in violation of rights of holders of surface water rights. Although we have minimal interests in the San Pedro River Basin, a decision that re-characterizes groundwater in that basin as surface water may set a precedent for other river systems in Arizona that could have material implications for many commercial, industrial, municipal and agricultural users of groundwater, including our Arizona operations.

ADWR produced its recommendations in June 2009 which were objected to by numerous parties. Following this and other court rulings in 2012 and 2013, ADWR submitted a revised report in 2014. The court held hearings in 2015 to address the parties' comments and objections, and the issue is currently under advisement with the court. Also in 2014, ADWR submitted a proposal for the next projects that it believes should be undertaken in the case, including the development of procedures for "cone of depression" analyses to determine whether a well located outside of the subflow zone creates a cone of depression that intersects the subflow zone and causes a drawdown in the subflow of the river. Based on the cone of depression analyses, wells outside of the subflow zone could be subject to the jurisdiction of the adjudication court, which might then require the owners of those wells to either demonstrate a valid surface water claim to support the pumping, refrain from pumping or pay damages. On January 27, 2017, ADWR issued a report containing its recommendations on cone of depression methodologies, and on January 31, 2017, the Special Master issued an order initiating proceedings on the Cone of Depression Test Methodology developed by ADWR. Parties have until March 6, 2017, to file objections to the proposed methodology contained in ADWR's report. A status conference has been set for March 15, 2017, to schedule any proceedings necessary to resolve any objections filed to the ADWR report.

As part of the Gila River adjudication, the U.S. has asserted numerous claims for express and implied "reserved" surface water and groundwater rights on non-Indian federal lands throughout Arizona. These claims are related to reservations of federal land for specific purposes (e.g., national parks, military bases and wilderness areas). Unlike

state law-based water rights, federal reserved water rights are given priority in the prior appropriation system based on the date the land was reserved, not the date that water was first used on the land. In addition, federal reserved water rights, if recognized by the court, may enjoy greater protection from groundwater pumping than is accorded to state law-based water rights.

Because federal reserved water rights have not yet been quantified, the task of determining how much water each federal reservation may use has been left to the Gila River adjudication court. Several “contested cases” to quantify reserved water rights for particular federal reservations in Arizona are currently pending in the adjudication. For instance, In re Aravaipa Canyon Wilderness Area is a contested case to resolve the U.S.’s claims to water for the Aravaipa Canyon Wilderness Area. These claims went to trial in 2015 and the parties are awaiting a decision. In Re Fort Huachuca concerns the U.S.’s claims to water for an Army base. Trial began in October 2016 and has been continued into February 2017. In Re Redfield Canyon Wilderness Area and In Re San Pedro Riparian National Conservation Area concern the U.S.’s claims to two other federal reservations, and these cases are expected to go to trial in 2017.

In multiple instances, the U.S. asserts a right to all water in a particular watershed that was not effectively appropriated under state law prior to the establishment of the federal reservation. This creates risks for both surface water users and groundwater users because such expansive claims may severely impede current and future uses of water within the same watershed. Federal reserved rights present additional risks to water users aside from the significant quantities of water claimed by the U.S. Of particular significance, federal reserved rights enjoy greater protection from groundwater pumping than is accorded to state law-based water rights.

Because there are numerous federal reservations in watersheds across Arizona, the reserved water right claims of the U.S. pose a significant risk to multiple operations, including Morenci and Safford in the Upper Gila River watershed, and Sierrita in the Santa Cruz watershed. Because federal reserved water rights may adversely affect water uses at each of these operations, we have been actively involved in litigation over these claims.

Given the legal and technical complexity of these adjudications, their long history, and their long-term legal, economic and political implications, it is difficult to predict the timing or the outcome of these proceedings. If we are unable to satisfactorily resolve the issues being addressed in the adjudications, our ability to pump groundwater could be diminished or curtailed, and our operations at Morenci, Safford and Sierrita mines could be adversely affected unless we are able to acquire alternative resources.

Item 4. Mine Safety Disclosures.

The safety and health of all employees is our highest priority. Management believes that safety and health considerations are integral to, and compatible with, all other functions in the organization and that proper safety and health management will enhance production and reduce costs. Our approach towards the health and safety of our workforce is to continuously improve performance through implementing robust management systems and providing adequate training, safety incentive and occupational health programs.

Our objective is zero work place injuries and occupational illnesses. We measure progress toward achieving our objective against regularly established benchmarks, including measuring company-wide Total Recordable Incident Rates (TRIR). Our TRIR (including contractors) was 0.64 per 200,000 man-hours worked in 2016 and 0.56 per 200,000 man-hours worked in both 2015 and 2014. The metal mining sector industry average reported by the U.S. Mine Safety and Health Administration (MSHA) was 2.02 per 200,000 man-hours worked in 2015 and 2.23 per 200,000 man-hours worked in 2014. The metal mining sector industry average for 2016 was not available at the time of this filing.

Refer to Exhibit 95.1 for mine safety disclosures required in accordance with Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 104 of Regulation S-K.

Executive Officers of the Registrant.

Certain information as of February 15, 2017, about our executive officers is set forth in the following table and accompanying text:

Name	Age	Position or Office
Richard C. Adkerson	70	Vice Chairman of the Board, President and Chief Executive Officer
Kathleen L. Quirk	53	Executive Vice President, Chief Financial Officer and Treasurer
Harry M. "Red" Conger, IV	61	President and Chief Operating Officer - Americas
Michael J. Arnold	64	Executive Vice President and Chief Administrative Officer

Richard C. Adkerson has served as Vice Chairman of the Board since June 2013, President since January 2008 and also from April 1997 to March 2007, Chief Executive Officer since December 2003 and a director since October 2006. Mr. Adkerson previously served as Chief Financial Officer from October 2000 to December 2003. Mr. Adkerson served as Co-Chairman of the Board of McMoRan Exploration Co. (MMR) from September 1998 until FCX's acquisition of MMR in 2013.

Kathleen L. Quirk has served as Executive Vice President since March 2007, Chief Financial Officer since December 2003 and Treasurer since February 2000. Ms. Quirk previously served as Senior Vice President from December 2003 to March 2007. Ms. Quirk served as Senior Vice President of MMR from April 2002 and as Treasurer from January 2000 until FCX's acquisition of MMR in 2013.

Harry M. "Red" Conger, IV has served as Chief Operating Officer - Americas since July 2015, and as President - Americas since 2007. Mr. Conger has also served as President and Chief Operating Officer - Rod and Refining since 2014. He served as Chief Operating Officer - Africa Mining from July 2015 to December 2016. Prior to 2007, he served in a number of senior operations positions at Phelps Dodge Corporation.

Michael J. Arnold has served as Executive Vice President since March 2007 and Chief Administrative Officer since December 2003.

PART II**Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.****Unregistered Sales of Equity Securities**

None.

Common Stock

Our common shares trade on the New York Stock Exchange (NYSE) under the symbol "FCX." The FCX share price is reported daily in the financial press under "FMCG" in most listings of NYSE securities. The table below shows the NYSE composite tape common share price ranges during 2016 and 2015:

	2016		2015	
	High	Low	High	Low
First Quarter	\$11.45	\$3.52	\$23.72	\$16.43
Second Quarter	\$14.06	\$8.76	\$23.97	\$18.11
Third Quarter	\$13.59	\$9.43	\$18.84	\$7.76
Fourth Quarter	\$16.42	\$9.24	\$14.20	\$6.08

At February 15, 2017, there were 14,665 holders of record of our common stock.

Common Stock Dividends

In February 2012, the FCX Board of Directors (the Board) authorized an increase in the cash dividend on our common stock to an annual rate of \$1.25 per share (\$0.3125 per share quarterly). The Board declared a one-time special cash dividend of \$0.1105 per share related to the settlement of the shareholder derivative litigation, which was paid in August 2015. In March 2015, the Board reduced the annual common stock dividend to \$0.20 per share (\$0.05 per share quarterly), and in December 2015, the Board suspended the annual common stock dividend. Accordingly, there were no common stock dividends paid in 2016.

Below is a summary of FCX common stock dividends declared and paid during 2015:

	Per Share Amount	Record Date	Payment Date
First Quarter	\$0.3125	01/15/2015	02/02/2015
Second Quarter	\$0.0500	04/15/2015	05/01/2015
Special Dividend	\$0.1105	07/15/2015	08/03/2015
Third Quarter	\$0.0500	07/15/2015	08/03/2015
Fourth Quarter	\$0.0500	10/15/2015	11/02/2015

The declaration of dividends is at the discretion of our Board and will depend upon our financial results, cash requirements, future prospects and other factors deemed relevant by our Board. Additionally, in connection with the February 2016 amendment to the revolving credit facility, we are not permitted to pay dividends on our common stock on or prior to March 31, 2017. The Board reviews its financial policy on an ongoing basis.

Issuer Purchases of Equity Securities

The following table sets forth information with respect to shares of FCX common stock purchased by us during the three months ended December 31, 2016:

Period	(a) Total Number of Shares Purchased	(b) Average Price Paid Per Share	(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs ^a	(d) Maximum Number of Shares That May Yet Be Purchased Under the Plans or Programs ^a
October 1-31, 2016	—	\$ —	—	23,685,500
November 1-30, 2016	—	—	—	23,685,500
December 1-31, 2016	—	—	—	23,685,500
Total	—	—	—	23,685,500

- a. On July 21, 2008, the Board approved an increase in our open-market share purchase program for up to 30 million shares. The program does not have an expiration date.

Item 6. Selected Financial Data.**FREEPORT-McMoRan INC.****SELECTED FINANCIAL AND OPERATING DATA**

	Years Ended December 31,				
	2016	2015	2014	2013 ^a	2012
CONSOLIDATED FINANCIAL DATA	(In millions, except per share amounts)				
Revenues	\$ 14,830 ^b	\$ 14,607 ^b	\$ 20,001 ^b	\$ 19,331 ^b	\$ 16,661
Operating (loss) income ^c	\$ (2,792) ^d	\$ (13,512) ^e	\$ (298) ^f	\$ 4,820 ^g	\$ 5,299 ^h
Net (loss) income from continuing operations	\$ (3,832) ^{ij}	\$ (12,180) ^k	\$ (1,022) ^{ij}	\$ 3,053 ^{ij,l}	\$ 3,578 ^{ij}
Net (loss) income from discontinued operations ^m	\$ (193)	\$ 91	\$ 277	\$ 388	\$ 402
Net (loss) income attributable to common stock	\$ (4,154) ⁿ	\$ (12,236)	\$ (1,308)	\$ 2,658	\$ 3,041
Basic net (loss) income per share attributable to common stock:					
Continuing operations	\$ (2.96)	\$ (11.32)	\$ (1.37)	\$ 2.45	\$ 2.96
Discontinued operations	(0.20)	0.01	0.11	0.20	0.24
	\$ (3.16)	\$ (11.31)	\$ (1.26)	\$ 2.65	\$ 3.20
Basic weighted-average common shares outstanding	1,318	1,082	1,039	1,002	949
Diluted net (loss) income per share attributable to common stock:					
Continuing operations	\$ (2.96)	\$ (11.32)	\$ (1.37)	\$ 2.44	\$ 2.94
Discontinued operations	(0.20)	0.01	0.11	0.20	0.25
	\$ (3.16)	\$ (11.31)	\$ (1.26)	\$ 2.64	\$ 3.19
Diluted weighted-average common shares outstanding	1,318	1,082	1,039	1,006	954
Dividends declared per share of common stock	\$ —	\$ 0.2605	\$ 1.25	\$ 2.25	\$ 1.25
Operating cash flows	\$ 3,729	\$ 3,220	\$ 5,631	\$ 6,139	\$ 3,774
Capital expenditures	\$ 2,813	\$ 6,353	\$ 7,215	\$ 5,286	\$ 3,494
At December 31:					
Cash and cash equivalents	\$ 4,245	\$ 177	\$ 298	\$ 1,864	\$ 3,567
Property, plant, equipment and mine development costs, net	\$ 23,219	\$ 23,986	\$ 22,649	\$ 20,401	\$ 17,499
Oil and gas properties, net	\$ 74	\$ 7,093	\$ 19,274	\$ 23,359	\$ —
Assets held for sale, including current portion ^o	\$ 344	\$ 5,306	\$ 5,339	\$ 5,128	\$ 4,717
Total assets	\$ 37,317	\$ 46,577	\$ 58,674	\$ 63,385	\$ 35,421
Total debt, including current portion	\$ 16,027	\$ 20,324	\$ 18,741	\$ 20,476	\$ 3,340
Redeemable noncontrolling interest	\$ —	\$ 764	\$ 751	\$ 716	\$ —
Total stockholders' equity	\$ 6,051	\$ 7,828	\$ 18,287	\$ 20,934	\$ 17,543

The selected consolidated financial data shown above is derived from our audited consolidated financial statements. These historical results are not necessarily indicative of results that you can expect for any future period. You should read this data in conjunction with Items 7. and 7A. Management's Discussion and Analysis of Financial Condition and Results of Operations and Quantitative and Qualitative Disclosures about Market Risks (MD&A) and Item 8. Financial Statements and Supplementary Data thereto contained in our annual report on Form 10-K for the year ended December 31, 2016. All references to income or losses per share are on a diluted basis, unless otherwise noted. Additionally, in accordance with accounting guidelines, TF Holdings Limited (TFHL), through which we held an interest in the Tenke Fungurume (Tenke) mine until it was sold on November 16, 2016, is reported as discontinued operations for all periods presented.

- Includes the results of oil and gas operations beginning June 1, 2013.
- Includes net noncash mark-to-market (losses) gains associated with crude oil and natural gas derivative contracts totaling \$(41) million (\$(41) million to net loss attributable to common stock or \$(0.03) per share) in 2016, \$(319) million (\$(198) million to net loss attributable to common stock or \$(0.18) per share) in 2015, \$627 million (\$389 million to net loss attributable to common stock or \$0.37 per share) in 2014 and \$(312) million (\$(194) million to net income attributable to common stock or \$(0.19) per share) for the seven-month period from June 1, 2013, to December 31, 2013.
- Includes net (credits) charges for adjustments to environmental obligations and related litigation reserves of \$(16) million (\$(16) million to net loss attributable to common stock or \$(0.01) per share) in 2016, \$43 million (\$28 million to net loss attributable to common stock or \$0.03 per share) in 2015, \$76 million (\$50 million to net loss attributable to common stock or \$0.05 per share) in 2014, \$19 million (\$17 million to net income attributable to common stock or \$0.02 per share) in 2013 and \$(62) million (\$(40) million to net income attributable to common stock or \$(0.04) per share) in 2012.
- The year 2016 includes net charges totaling \$4.9 billion to operating loss (\$4.8 billion to net loss attributable to common stock or \$3.67 per share) consisting of (i) \$4.3 billion for impairment of oil and gas properties, (ii) \$926 million for drillship settlements/idle

rig and contract termination costs, (iii) \$196 million for other charges at oil and gas operations primarily associated with inventory adjustments, asset impairment and other restructuring charges and (iv) \$69 million for charges at mining operations for metals inventory adjustments, PT Freeport Indonesia (PT-FI) asset retirement and Cerro Verde social commitments, partly offset by (v) net gains on sales of assets totaling \$649 million mostly associated with the Morenci and Timok transactions, partly offset by estimated losses associated with assets held for sale.

- e. The year 2015 includes net charges totaling \$13.8 billion to operating loss (\$12.0 billion to net loss attributable to common stock or \$11.10 per share) consisting of (i) \$13.1 billion for impairment of oil and gas properties, (ii) \$338 million for metals inventory adjustments, (iii) \$188 million for charges at oil and gas operations primarily associated with other asset impairment and inventory adjustments, idle/terminated rig costs and prior year mineral tax assessments related to the California properties, (iv) \$145 million for charges at mining operations primarily associated with asset impairment, restructuring and other net charges and (v) \$18 million for executive retirement benefits, partly offset by (vi) a net gain of \$39 million for the sale of our interest in the Luna Energy power facility.
- f. The year 2014 includes net charges totaling \$4.8 billion to operating loss (\$3.6 billion to net loss attributable to common stock or \$3.46 per share) consisting of (i) \$3.7 billion for impairment of oil and gas properties, (ii) \$1.7 billion to impair the full carrying value of goodwill, (iii) \$46 million for charges at oil and gas operations primarily associated with idle/terminated rig costs and inventory adjustments and (iv) \$6 million for adjustments to molybdenum inventories, partly offset by (v) net gains on sales of assets of \$717 million primarily from the sale of our 80 percent interests in the Candelaria and Ojos del Salado mining operations.
- g. The year 2013 includes net charges totaling \$232 million to operating income (\$137 million to net income attributable to common stock or \$0.14 per share) consisting of (i) \$80 million for transaction and related costs principally associated with oil and gas acquisitions, (ii) \$76 million associated with updated mine plans at Morenci that resulted in a loss in recoverable leach stockpiles, (iii) \$37 million for restructuring an executive employment arrangement, (iv) \$36 million associated with a labor agreement at Cerro Verde and (v) \$3 million for adjustments to molybdenum inventories.
- h. The year 2012 includes net charges totaling \$16 million to operating income (\$8 million to net income attributable to common stockholders or \$0.01 per share) associated with a labor agreement at Candelaria.
- i. Includes after-tax net gains (losses) on exchanges and early extinguishment of debt totaling \$26 million (\$0.02 per share) in 2016, \$3 million (less than \$0.01 per share) in 2014, \$(28) million (\$(0.03) per share) in 2013 and \$(149) million (\$(0.16) per share) in 2012.
- j. As further discussed in "Consolidated Results - Income Taxes" contained in MD&A, amounts include net tax credits (charges) of \$370 million (\$374 million net of noncontrolling interests or \$0.28 per share) in 2016 and \$(121) million (\$(103) million net of noncontrolling interests or \$(0.10) per share) in 2014. In addition, the year 2013 includes a net tax benefit of \$199 million (\$0.20 per share) for reductions in our valuation allowances resulting from the oil and gas acquisitions and the year 2012 includes a net tax benefit of \$205 million (\$98 million net of noncontrolling interests or \$0.11 per share) primarily for adjustments to Cerro Verde's deferred income taxes.
- k. The year 2015 includes a gain of \$92 million (\$92 million to net loss attributable to common stock or \$0.09 per share) related to net proceeds received from insurance carriers and other third parties related to the shareholder derivative litigation settlement.
- l. The year 2013 includes a gain of \$128 million (\$0.13 per share) related to our preferred stock investments in and the subsequent acquisition of McMoRan Exploration Co.
- m. Reflects the results of TFHL through November 16, 2016, and includes charges for allocated interest expense associated with the portion of the term loan that was required to be repaid as a result of the sale of our interest in TFHL. The year 2016 also includes a net charge of \$198 million for the loss on disposal.
- n. The year 2016 includes a gain on redemption of a redeemable noncontrolling interest of \$199 million (\$0.15 per share) associated with the settlement of a preferred stock obligation at our Plains Offshore Operations Inc. subsidiary.
- o. In accordance with accounting guidelines, the assets and liabilities of TFHL, Freeport Cobalt and the Kisanfu exploration project have been presented as held for sale in the consolidated balance sheets for all periods presented.

FREEPORT-McMoRan INC.
SELECTED FINANCIAL AND OPERATING DATA (Continued)

	Years Ended December 31,				
	2016	2015	2014	2013	2012
CONSOLIDATED MINING (CONTINUING OPERATIONS)^{a,b}					
Copper (millions of recoverable pounds)					
Production	4,222	3,568	3,457	3,669	3,315
Sales, excluding purchases	4,227	3,603	3,463	3,632	3,312
Average realized price per pound	\$ 2.28	\$ 2.42	\$ 3.09	\$ 3.32	\$ 3.61
Gold (thousands of recoverable ounces)					
Production	1,088	1,257	1,214	1,250	958
Sales, excluding purchases	1,079	1,247	1,248	1,204	1,010
Average realized price per ounce	\$ 1,238	\$ 1,129	\$ 1,231	\$ 1,315	\$ 1,665
Molybdenum (millions of recoverable pounds)					
Production	80	92	95	94	85
Sales, excluding purchases	74	89	95	93	83
Average realized price per pound	\$ 8.33	\$ 8.70	\$ 12.74	\$ 11.85	\$ 14.26
NORTH AMERICA COPPER MINES					
Operating Data, Net of Joint Venture Interest					
Copper (millions of recoverable pounds)					
Production	1,831	1,947	1,670	1,431	1,363
Sales, excluding purchases	1,841	1,988	1,664	1,422	1,351
Average realized price per pound	\$ 2.24	\$ 2.47	\$ 3.13	\$ 3.36	\$ 3.64
Molybdenum (millions of recoverable pounds)					
Production	33	37	33	32	36
100% Operating Data					
<u>Solution extraction/electrowinning (SX/EW) operations</u>					
Leach ore placed in stockpiles (metric tons per day)	739,200	909,900	1,005,300	1,003,500	998,600
Average copper ore grade (percent)	0.31	0.26	0.25	0.22	0.22
Copper production (millions of recoverable pounds)	1,224	1,134	963	889	866
<u>Mill operations</u>					
Ore milled (metric tons per day)	300,500	312,100	273,800	246,500	239,600
Average ore grade (percent):					
Copper	0.47	0.49	0.45	0.39	0.37
Molybdenum	0.03	0.03	0.03	0.03	0.03
Copper recovery rate (percent)	85.5	85.4	85.8	85.3	83.9
Copper production (millions of recoverable pounds)	854	972	828	642	592
SOUTH AMERICA MINING^b					
Copper (millions of recoverable pounds)					
Production	1,328	869	1,151	1,323	1,257
Sales	1,332	871	1,135	1,325	1,245
Average realized price per pound	\$ 2.31	\$ 2.38	\$ 3.08	\$ 3.30	\$ 3.58
Molybdenum (millions of recoverable pounds)					
Production	21	7	11	13	8
<u>SX/EW operations</u>					
Leach ore placed in stockpiles (metric tons per day)	151,600	193,900	275,200	274,600	229,300
Average copper ore grade (percent)	0.41	0.44	0.48	0.50	0.55
Copper production (millions of recoverable pounds)	328	430	491	448	457
<u>Mill operations</u>					
Ore milled (metric tons per day)	353,400	152,100	180,500	192,600	191,400
Average ore grade:					
Copper (percent)	0.43	0.46	0.54	0.65	0.60
Molybdenum (percent)	0.02	0.02	0.02	0.02	0.02
Copper recovery rate (percent)	85.8	81.5	88.1	90.9	90.1
Copper production (millions of recoverable pounds)	1,000	439	660	875	800

FREEMPORT-McMoRan INC.
SELECTED FINANCIAL AND OPERATING DATA (Continued)

	Years Ended December 31,				
	2016	2015	2014	2013	2012
INDONESIA MINING					
Operating Data, Net of Joint Venture Interest					
Copper (millions of recoverable pounds)					
Production	1,063	752	636	915	695
Sales	1,054	744	664	885	716
Average realized price per pound	\$ 2.32	\$ 2.33	\$ 3.01	\$ 3.28	\$ 3.58
Gold (thousands of recoverable ounces)					
Production	1,061	1,232	1,130	1,142	862
Sales	1,054	1,224	1,168	1,096	915
Average realized price per ounce	\$ 1,237	\$ 1,129	\$ 1,229	\$ 1,312	\$ 1,664
100% Operating Data					
Ore milled (metric tons per day)	165,700	162,500	120,500	179,200	165,000
Average ore grade:					
Copper (percent)	0.91	0.67	0.79	0.76	0.62
Gold (grams per metric ton)	0.68	0.79	0.99	0.69	0.59
Recovery rates (percent):					
Copper	91.0	90.4	90.3	90.0	88.7
Gold	82.2	83.4	83.2	80.0	75.7
Production:					
Copper (millions of recoverable pounds)	1,063	752	651	928	695
Gold (thousands of recoverable ounces)	1,061	1,232	1,132	1,142	862
MOLYBDENUM MINES^c					
Molybdenum production (millions of recoverable pounds)	26	48	51	49	41
Ore milled (metric tons per day)	18,300	34,800	39,400	35,700	20,800
Average molybdenum ore grade (percent)	0.21	0.20	0.19	0.19	0.23
OIL AND GAS OPERATIONS^d					
Sales Volumes:					
Oil (million barrels)	34.4	35.3	40.1	26.6	—
Natural gas (billion cubic feet)	65.1	89.7	80.8	54.2	—
Natural gas liquids (NGLs) (million barrels)	1.8	2.4	3.2	2.4	—
Million barrels of oil equivalents	47.1	52.6	56.8	38.1	—
Average Realizations:					
Oil (per barrel)	\$ 39.13	\$ 57.11	\$ 90.00	\$ 98.32	—
Natural gas (per million British thermal units)	\$ 2.38	\$ 2.59	\$ 4.23	\$ 3.99	—
NGLs (per barrel)	\$ 18.11	\$ 18.90	\$ 39.73	\$ 38.20	—
AFRICA MINING (DISCONTINUED OPERATIONS)^e					
Copper (millions of recoverable pounds)					
Production	425	449	447	462	348
Sales	424	467	425	454	336
Average realized price per pound	\$ 2.10	\$ 2.42	\$ 3.06	\$ 3.21	\$ 3.51
Cobalt (millions of contained pounds)					
Production	32	35	29	28	26
Sales	33	35	30	25	25
Average realized price per pound	\$ 7.45	\$ 8.21	\$ 9.66	\$ 8.02	\$ 7.83
Ore milled (metric tons per day)	15,200	14,900	14,700	14,900	13,000
Average ore grade (percent):					
Copper	4.18	4.00	4.06	4.22	3.62
Cobalt	0.44	0.43	0.34	0.37	0.37
Copper recovery rate (percent)	93.6	94.0	92.6	91.4	92.4

a. Excludes the results from Africa mining, which is reported as discontinued operations.

b. Includes the results of the Candelaria and Ojos del Salado mines prior to their sale in November 2014.

c. Includes production from the Climax molybdenum mine beginning in May 2012.

d. Represents the results of FM O&G beginning June 1, 2013. In June 2014, we completed the sale of the Eagle Ford shale assets, in July 2016, we completed the sale of the Haynesville shale assets and in December 2016, we completed the sales of the Deepwater Gulf of Mexico and onshore California oil and gas properties.

e. On November 16, 2016, we completed the sale of our interest in TFHL, through which we held an interest in the Tenke mine.

Ratio of Earnings to Fixed Charges

For the ratio of earnings to fixed charges calculation, earnings consist of (loss) income from continuing operations before income taxes, noncontrolling interests in consolidated subsidiaries, equity in affiliated companies' net (losses) earnings, cumulative effect of accounting changes and fixed charges. Fixed charges include interest and that portion of rent deemed representative of interest. The ratio of earnings to fixed charges and preferred stock dividends is the same as the ratio of earnings to fixed charges for the years presented because no shares of FCX preferred stock were outstanding during these years. Our ratio of earnings to fixed charges was as follows for the years presented:

	Years Ended December 31,				
	2016	2015	2014	2013	2012
Ratio of earnings to fixed charges	— ^a	— ^a	— ^a	6.8x	18.3x

- a. As a result of the losses recorded in 2016, 2015 and 2014, the ratio coverage was less than 1:1. To achieve coverage of 1:1, FCX would have needed to generate additional earnings of \$3.5 billion in 2016, \$14.3 billion in 2015 and \$1.0 billion in 2014.

Items 7. and 7A. Management's Discussion and Analysis of Financial Condition and Results of Operations and Quantitative and Qualitative Disclosures About Market Risk.

In Management's Discussion and Analysis of Financial Condition and Results of Operations and Quantitative and Qualitative Disclosures About Market Risk, "we," "us" and "our" refer to Freeport-McMoRan Inc. (FCX) and its consolidated subsidiaries. The results of operations reported and summarized below are not necessarily indicative of future operating results (refer to "Cautionary Statement" for further discussion). References to "Notes" are Notes included in our Notes to Consolidated Financial Statements. Throughout Management's Discussion and Analysis of Financial Condition and Results of Operations and Quantitative and Qualitative Disclosures About Market Risk, all references to earnings or losses per share are on a diluted basis, unless otherwise noted. Additionally, in accordance with accounting guidelines, TF Holdings Limited (TFHL), through which we held an interest in the Tenke Fungurume (Tenke) mine until it was sold on November 16, 2016, is reported as a discontinued operation for all periods presented.

OVERVIEW

We are a leading international mining company with headquarters in Phoenix, Arizona. We operate large, long-lived, geographically diverse assets with significant proven and probable reserves of copper, gold and molybdenum. We are the world's largest publicly traded copper producer. Our portfolio of assets includes the Grasberg minerals district in Indonesia, one of the world's largest copper and gold deposits; and significant mining operations in the Americas, including the large-scale Morenci minerals district in North America and the Cerro Verde operation in South America.

Net loss attributable to common stock totaled \$4.2 billion in 2016, \$12.2 billion in 2015 and \$1.3 billion in 2014, which included charges for the impairment of oil and gas properties totaling \$4.3 billion in 2016, \$11.6 billion in 2015 and \$2.3 billion in 2014. In addition to lower charges for the impairment of oil and gas properties, our results for 2016, compared to 2015, reflected higher net gains on the sales of assets, and a gain on redemption of a redeemable noncontrolling interest, net tax credits, higher copper sales volumes and lower metals inventory adjustments, partly offset by charges at our oil and gas operations for the termination and settlements of drillship and other contracts, a loss on discontinued operations and lower copper prices. Refer to "Consolidated Results" for discussion of items impacting our consolidated results for the three years ended December 31, 2016.

During 2016, we took actions to restore our balance sheet strength through a combination of asset sale transactions, cash flow from operations and capital market transactions. During the year, we completed \$6.6 billion in asset sale transactions and generated gross proceeds of \$1.5 billion from a registered at-the-market offering of common stock. Refer to Notes 2 and 10 for further discussion.

At December 31, 2016, we had \$4.2 billion in consolidated cash and cash equivalents and \$16.0 billion in total debt, compared with consolidated cash and cash equivalents of \$177 million and total debt of \$20.3 billion at December 31, 2015. We had no borrowings and \$3.5 billion available under our \$3.5 billion revolving credit facility at year-end 2016.

During 2016, we also terminated contracts for deepwater drillships and settled aggregate commitments totaling \$1.1 billion for \$755 million (excluding contingent consideration), of which \$540 million was funded with shares of our common stock (refer to Notes 10 and 13 for further discussion).

We continue to manage production, exploration and administrative costs and capital spending and, subject to commodity prices and operational results, expect to generate cash flows for further debt reduction during 2017.

We have retained a high-quality portfolio of long-lived copper assets positioned to generate long-term value. In addition to debt reduction plans, we are pursuing opportunities to enhance net present values, and we continue to advance studies for future development of our copper resources, the timing of which is dependent on market conditions.

We have significant mineral reserves, resources and future development opportunities within our portfolio of mining assets. At December 31, 2016, our estimated consolidated recoverable proven and probable mineral reserves totaled 86.8 billion pounds of copper, 26.1 million ounces of gold and 2.95 billion pounds of molybdenum, which were determined using long-term average prices of \$2.00 per pound for copper, \$1,000 per ounce for gold and \$10 per pound for molybdenum. Refer to “Critical Accounting Estimates – Mineral Reserves” for further discussion.

A summary of the sources of our consolidated copper, gold and molybdenum production (excluding copper production from Tenke) for the year 2016 by geographic location follows:

	<u>Copper</u>	<u>Gold</u>	<u>Molybdenum</u> ^a
North America	43%	2%	74%
South America	32	—	26
Indonesia	25	98	—
	<u>100%</u>	<u>100%</u>	<u>100%</u>

a. Our Henderson and Climax molybdenum mines produced 33 percent of consolidated molybdenum production, and our North America copper mines produced 41 percent.

Copper production from the Grasberg mine in Indonesia, Morenci mine in North America and Cerro Verde mine in Peru together totaled 72 percent of our consolidated copper production in 2016.

As further discussed in “Operations - Indonesia Mining,” in January and February 2017, the Indonesian government issued new regulations to address exports of unrefined metals, including copper concentrate and anode slimes, and other matters related to the mining sector. Following the issuance of the January and February 2017 regulations and discussions with the government, PT Freeport Indonesia (PT-FI) advised the Indonesian government that it was prepared to convert its Contract of Work (COW) to a special operating license (known as an IUPK), subject to obtaining an investment stability agreement providing equivalent rights with the same level of legal and fiscal certainty enumerated under its COW, and provided that the COW would remain in effect until it is replaced by a mutually satisfactory alternative. PT-FI has requested that concentrate exports be permitted without the imposition of export duties while the new license and stability agreement are negotiated. The Indonesia government has indicated that in order to export its concentrate production, PT-FI would be required to immediately convert to an IUPK, forgo its current rights to fiscal and legal certainty and commit to a new smelter prior to completing a long-term investment stability agreement. PT-FI has advised the Indonesian government attempts to enforce the new regulations on PT-FI violates its COW and that it is unwilling to terminate its COW unless replaced by a mutually acceptable form of agreement providing fiscal and legal assurances to support its long-term investment plans in Papua, Indonesia.

As of February 24, 2017, PT-FI has not obtained approval to export concentrate. Although PT-FI is taking near-term actions to reduce production to match available processing capacity at PT Smelting, or approximately 40 percent of PT-FI's concentrate production capacity, on February 10, 2017, PT-FI was forced to suspend production as a result of limited storage capacity at PT-FI and PT Smelting (PT-FI's 25-percent-owned copper smelter and refinery located in Gresik, Indonesia). PT-FI has also begun to significantly adjust its cost structure, reduce its workforce and spending with local suppliers, and suspend investments in its underground development projects and new smelter.

On February 17, 2017, pursuant to the COW's dispute resolution provisions, PT-FI provided formal notice to the Indonesian government of an impending dispute listing the government's breaches and violations of the COW.

Refer to "Risk Factors" contained in Part I, Item 1A of our annual report on Form 10-K for the year ended December 31, 2016, for further discussion.

OUTLOOK

We view the long-term outlook for our business positively, supported by limitations on supplies of copper and by the requirements for copper in the world's economy. Our financial results vary as a result of fluctuations in market prices primarily for copper, gold and molybdenum, as well as other factors. World market prices for these commodities have fluctuated historically and are affected by numerous factors beyond our control. Because we cannot control the price of our products, the key measures that management focuses on in operating our business are sales volumes, unit net cash costs, operating cash flow and capital expenditures.

The below projections for 2017 were prepared in January 2017 and assumed the resumption of concentrate exports by PT-FI in February 2017 and the renewal of PT Smelting's anode slimes export license, neither of which has occurred as of February 24, 2017. As a result of regulations passed by the Indonesian government in January and February 2017, PT-FI has been unable to export concentrate and is proceeding with its plan to suspend investments in Papua, Indonesia, reduce its production by approximately 60 percent from normal levels and implement cost savings plans involving significant reductions in its workforce and spending levels with local suppliers, which are not reflected in our projections for 2017.

Sales Volumes

Following are projected consolidated sales volumes for 2017, as prepared in January 2017 based on the assumptions described above, and actual consolidated sales volumes from continuing operations for 2016:

	2017 (Projected)	2016 (Actual)
Copper (millions of recoverable pounds):		
North America copper mines	1,465	1,841
South America mining	1,315	1,332
Indonesia mining	1,325	1,054
	<u>4,105</u>	<u>4,227</u>
Gold (thousands of recoverable ounces)	<u>2,170</u>	<u>1,079</u>
Molybdenum (millions of recoverable pounds)	<u>92^a</u>	<u>74</u>

- a. Projected molybdenum sales include 36 million pounds produced by our Molybdenum mines and 56 million pounds produced by our North and South America copper mines.

Consolidated sales for first-quarter 2017 were expected to approximate 1.0 billion pounds of copper, 460 thousand ounces of gold and 23 million pounds of molybdenum. First-quarter 2017 production has been adversely impacted by the suspension of concentrate exports from PT-FI and a labor strike at PT Smelting, which resulted in a shutdown of its operations since January 19, 2017. PT Smelting has advised PT-FI that it expects to resume operations in March 2017. Assuming resumption of PT Smelting's operations in March 2017 and a continuation of the ban on PT-FI's copper concentrate exports, we estimate our first-quarter 2017 sales will be reduced, resulting in deferrals of approximately 170 million pounds of copper and 270 thousand ounces of gold, representing a 17 percent reduction in first-quarter 2017 consolidated copper sales and a 59 percent reduction in first-quarter 2017 consolidated gold sales. For each month of delay in obtaining approval to export, PT-FI's share of production is projected to be reduced by approximately 70 million pounds of copper and 70 thousand ounces of gold.

Projected sales volumes are dependent on operational performance and other factors. For other important factors that could cause results to differ materially from projections, refer to "Cautionary Statement."

Unit Net Cash Costs

Assuming average prices of \$1,200 per ounce of gold and \$7.00 per pound of molybdenum, and achievement of the volume and cost estimates included in our January 2017 projections (including the resumption of concentrate exports by PT-FI in February 2017, which has not occurred as of February 24, 2017), consolidated unit net cash costs (net of by-product credits) for our copper mines were expected to average \$1.06 per pound in 2017. The impact of price changes in 2017 on consolidated unit net cash costs would approximate \$0.025 per pound for each

\$50 per ounce change in the average price of gold and \$0.025 per pound for each \$2 per pound change in the average price of molybdenum. Quarterly unit net cash costs vary with fluctuations in volumes and average realized prices, primarily for gold and molybdenum. Refer to “Consolidated Results – Production and Delivery Costs” for further discussion of consolidated production costs for our mining operations.

Consolidated Operating Cash Flow

Our consolidated operating cash flows vary with volumes, prices realized from copper, gold and molybdenum, production costs, income taxes, other working capital changes and other factors. Based on the sales volume and cost estimates included in our January 2017 projections (including the resumption of concentrate exports by PT-FI in February 2017, which has not occurred as of February 24, 2017), and assuming average prices of \$2.50 per pound of copper, \$1,200 per ounce of gold and \$7.00 per pound of molybdenum, we estimated consolidated operating cash flows for 2017 of \$4.3 billion (including \$1.0 billion for working capital sources and changes in other tax payments). Projected consolidated operating cash flows for 2017 also reflected an estimated income tax provision of \$1.4 billion primarily associated with income from our international mining operations (refer to “Consolidated Results - Income Taxes” for further discussion of projected income taxes). The impact of price changes in 2017 on consolidated operating cash flows would approximate \$385 million for each \$0.10 per pound change in the average price of copper, \$95 million for each \$50 per ounce change in the average price of gold and \$100 million for each \$2 per pound change in the average price of molybdenum.

Consolidated Capital Expenditures

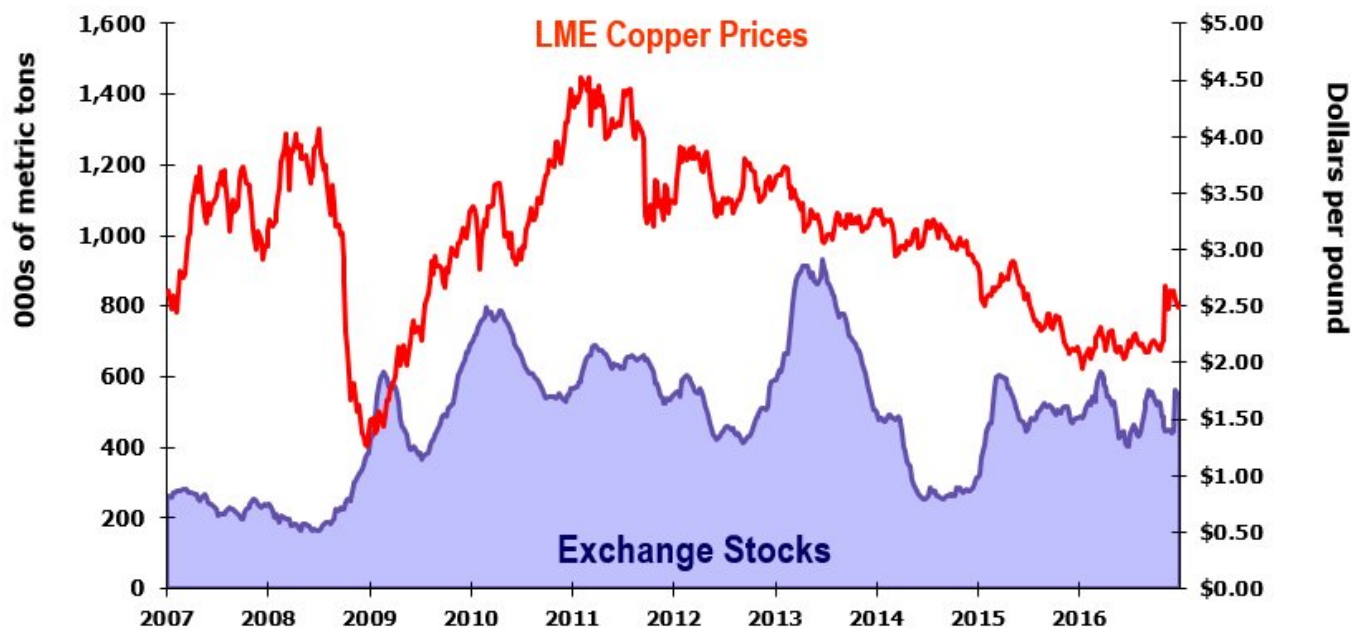
Consolidated capital expenditures were expected to approximate \$1.8 billion for 2017, including \$1.1 billion for major mining projects primarily for underground development activities at Grasberg. PT-FI has begun suspending investments in its underground development projects, pending resolution of its long-term mining rights. If PT-FI is unable to reach agreement with the Indonesian government on its long-term mining rights, we may be required to further reduce or defer investments in underground development projects. For further discussion of regulatory matters in Indonesia, which may impact future investment in PT-FI’s underground development projects, refer to “Operations - Indonesia Mining.”

MARKETS

Metals

World prices for copper, gold and molybdenum can fluctuate significantly. During the period from January 2007 through December 2016, the London Metal Exchange (LME) spot copper price varied from a low of \$1.26 per pound in 2008 to a record high of \$4.60 per pound in 2011; the London Bullion Market Association (London) PM gold price fluctuated from a low of \$608 per ounce in 2007 to a record high of \$1,895 per ounce in 2011, and the *Metals Week* Molybdenum Dealer Oxide weekly average price ranged from a low of \$4.46 per pound in 2015 to a high of \$33.88 per pound in 2008. 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 annual report on Form 10-K for the year ended December 31, 2016.

LME Copper Prices Through December 31, 2016



This graph presents LME spot copper prices and combined reported stocks of copper at the LME, Commodity Exchange Inc. (COMEX), a division of the New York Mercantile Exchange (NYMEX), and the Shanghai Futures Exchange from January 2007 through December 2016. Since mid-2014, copper prices have declined because of concerns about slowing growth rates in China, a stronger U.S. dollar and a broad-based decline in commodity prices. During fourth-quarter 2016, copper prices improved with the LME spot copper prices averaging \$2.39 per pound and closing at \$2.50 per pound on December 31, 2016. For the year 2016, LME spot copper prices ranged from a low of \$1.96 per pound to a high of \$2.69 per pound and averaged \$2.21 per pound. The LME spot copper price closed at \$2.73 per pound on February 15, 2017.

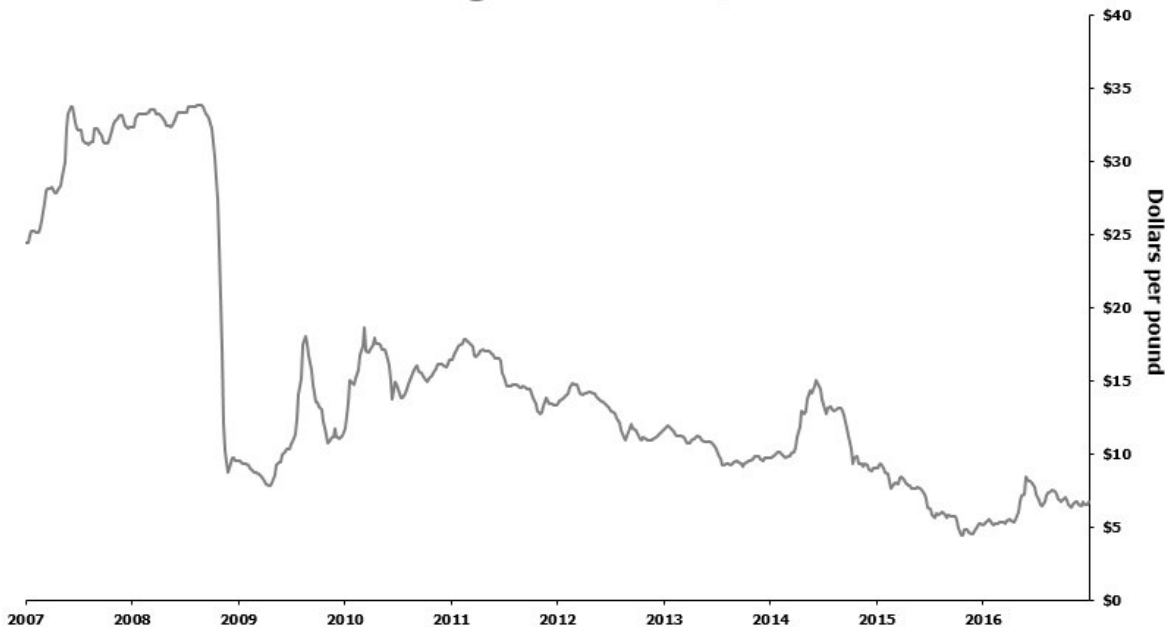
We believe the underlying long-term fundamentals of the copper business remain positive, supported by the significant role of copper in the global economy and a challenging long-term supply environment attributable to difficulty in replacing existing large mines' output with new production sources. Future copper prices are expected to be volatile and are likely to be influenced by demand from China and emerging markets, as well as 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.

London Gold Prices Through December 31, 2016



This graph presents London PM gold prices from January 2007 through December 2016. An improving economic outlook, stronger U.S. dollar and positive equity performance contributed to lower demand for gold since 2014. During 2016, London PM gold prices ranged from a low of \$1,077 per ounce to a high of \$1,366 per ounce, averaged \$1,250 per ounce and closed at \$1,159 per ounce on December 31, 2016. Gold prices closed at \$1,224 per ounce on February 15, 2017.

Metals Week Molybdenum Dealer Oxide Prices Through December 31, 2016



This graph presents the *Metals Week* Molybdenum Dealer Oxide weekly average price from January 2007 through December 2016. Molybdenum prices have declined since mid-2014 because of weaker demand from global steel and stainless steel producers. During 2016, the weekly average price for molybdenum ranged from a low of \$5.15 per pound to a high of \$8.47 per pound, averaged \$6.47 per pound and was \$6.74 per pound on December 31, 2016. The *Metals Week* Molybdenum Dealer Oxide weekly average price was \$7.59 per pound on February 15, 2017.

Oil and Gas

Our results for the three years ended December 31, 2016, were impacted by market prices for crude oil, and to a lesser extent natural gas, which can fluctuate significantly. Crude oil prices reached a record high of \$146.08 per barrel in 2008 as economic growth in emerging economies and the U.S. created high global demand for oil and lower inventories. Beginning mid-2014, oil prices significantly declined because of concerns of global oversupply and reached a low of \$27.88 per barrel in January 2016. During 2016, the Brent crude oil price ranged from a low of \$27.88 per barrel to a high of \$56.82 per barrel, averaged \$45.13 per barrel and was \$56.82 per barrel on December 31, 2016.

CRITICAL ACCOUNTING ESTIMATES

Management's Discussion and Analysis of Financial Condition and Results of Operations is based on our consolidated financial statements, which have been prepared in conformity with generally accepted accounting principles (GAAP) in the U.S. The preparation of these statements requires that we make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. We base these estimates on historical experience and on assumptions that we consider reasonable under the circumstances; however, reported results could differ from those based on the current estimates under different assumptions or conditions. The areas requiring the use of management's estimates are also discussed in Note 1 under the subheading "Use of Estimates." Management has reviewed the following discussion of its development and selection of critical accounting estimates with the Audit Committee of our Board of Directors (Board).

Mineral Reserves

Recoverable proven and probable reserves are the part of a mineral deposit that can be economically and legally extracted or produced at the time of the reserve determination. The determination of reserves involves numerous uncertainties with respect to the ultimate geology of the ore bodies, including quantities, grades and recovery rates. Estimating the quantity and grade of mineral reserves requires us to determine the size, shape and depth of our ore bodies by analyzing geological data, such as samplings of drill holes, tunnels and other underground workings. In addition to the geology of our mines, assumptions are required to determine the economic feasibility of mining these reserves, including estimates of future commodity prices and demand, the mining methods we use and the related costs incurred to develop and mine our reserves. Our estimates of recoverable proven and probable mineral reserves are prepared by and are the responsibility of our employees. A majority of these estimates are reviewed annually and verified by independent experts in mining, geology and reserve determination.

At December 31, 2016, our consolidated estimated recoverable proven and probable reserves were determined using long-term average prices of \$2.00 per pound for copper, \$1,000 per ounce for gold and \$10 per pound for molybdenum. The following table summarizes changes in our estimated consolidated recoverable proven and probable copper, gold and molybdenum reserves during 2016 and 2015:

	Copper^a (billion pounds)	Gold (million ounces)	Molybdenum (billion pounds)
Consolidated reserves at December 31, 2014	103.5	28.5	3.11
Net additions/revisions	—	(0.1)	0.03
Production	(4.0)	(1.3)	(0.09)
Consolidated reserves at December 31, 2015	99.5	27.1	3.05
Net additions	0.5	0.1	—
Production	(4.6)	(1.1)	(0.08)
Sale of interest in Tenke	(6.8)	—	—
Sale of 13 percent interest in Morenci	(1.8)	—	(0.02)
Consolidated reserves at December 31, 2016	<u>86.8</u>	<u>26.1</u>	<u>2.95</u>

a. Includes estimated recoverable metals contained in stockpiles. See below for additional discussion of recoverable copper in stockpiles.

b. Includes copper production of 0.4 billion pounds from the Tenke mine.

Refer to Note 20 for further information regarding estimated recoverable proven and probable mineral reserves.

As discussed in Note 1, we depreciate our life-of-mine mining and milling assets and values assigned to proven and probable mineral reserves using the unit-of-production (UOP) method based on our estimated recoverable proven

and probable mineral reserves. Because the economic assumptions used to estimate mineral reserves may change from period to period and additional geological data is generated during the course of operations, estimates of reserves may change, which could have a significant impact on our results of operations, including changes to prospective depreciation rates and impairments of long-lived asset carrying values. Excluding impacts associated with changes in the levels of finished goods inventories and based on projected copper sales volumes, if estimated copper reserves at our mines were 10 percent higher at December 31, 2016, we estimate that our annual depreciation, depletion and amortization (DD&A) expense for 2017 would decrease by \$53 million (\$29 million to net income attributable to common stockholders), and a 10 percent decrease in copper reserves would increase DD&A expense by \$64 million (\$36 million to net income attributable to common stockholders). We perform annual assessments of our existing assets in connection with the review of mine operating and development plans. If it is determined that assigned asset lives do not reflect the expected remaining period of benefit, any change could affect prospective depreciation rates.

As discussed below and in Note 1, we review and evaluate our long-lived assets for impairment when events or changes in circumstances indicate that the related carrying amount of such assets may not be recoverable, and changes to our estimates of recoverable proven and probable mineral reserves could have an impact on our assessment of asset recoverability. Refer to "Risk Factors" contained in Part I, Item 1A of our annual report on Form 10-K for the year ended December 31, 2016, for further discussion of Indonesian regulatory matters that could have a material adverse effect on our cash flow, results of operations and financial position, and could result in asset impairments at PT-FI.

Recoverable Copper in Stockpiles

We record, as inventory, applicable costs for copper contained in mill and leach stockpiles that are expected to be processed in the future based on proven processing technologies. Mill and leach stockpiles are evaluated periodically to ensure that they are stated at the lower of weighted-average cost or net realizable value (refer to Note 4 and "Consolidated Results" for further discussion of inventory adjustments recorded for the three years ended December 31, 2016). Accounting for recoverable copper from mill and leach stockpiles represents a critical accounting estimate because (i) it is generally impracticable to determine copper contained in mill and leach stockpiles by physical count, thus requiring management to employ reasonable estimation methods and (ii) recovery rates from leach stockpiles can vary significantly. Refer to Note 1 for further discussion of our accounting policy for recoverable copper in stockpiles.

At December 31, 2016, estimated consolidated recoverable copper was 2.2 billion pounds in leach stockpiles (with a carrying value of \$2.2 billion) and 1.0 billion pounds in mill stockpiles (with a carrying value of \$746 million), compared with 2.6 billion pounds in leach stockpiles (with a carrying value of \$2.6 billion) and 1.0 billion pounds in mill stockpiles (with a carrying value of \$617 million) at December 31, 2015.

Impairment of Long-Lived Assets

Mining. As discussed in Note 1, we assess the carrying values of our long-lived mining assets when events or changes in circumstances indicate that the related carrying amounts of such assets may not be recoverable. In evaluating our long-lived mining assets for recoverability, we use estimates of pre-tax undiscounted future cash flows of our individual mines. Estimates of future cash flows are derived from current business plans, which are developed using near-term metal price forecasts reflective of the current price environment and management's projections for long-term average metal prices. In addition to near- and long-term metal price assumptions, other key assumptions include estimates of commodity-based and other input costs; proven and probable mineral reserves estimates, including the timing and cost to develop and produce the reserves; value beyond proven and probable mineral reserve estimates (refer to Note 1); and the use of appropriate discount rates in the measurement of fair value. We believe our estimates and models used to determine fair value are similar to what a market participant would use. As quoted market prices are unavailable for our individual mining operations, fair value is determined through the use of after-tax discounted estimated future cash flows.

As a result of declining copper and molybdenum prices, during 2015, we evaluated our long-lived mining assets for impairment, which resulted in charges of \$37 million at our Tyrone mine, net of a revision to asset retirement obligations (AROs). The December 31, 2015, evaluations of the recoverability of our copper mines were based on near-term price assumptions reflecting prevailing copper futures prices, ranging from \$2.15 per pound to \$2.17 per pound for COMEX and from \$2.13 per pound to \$2.16 per pound for LME, and a long-term average price of \$3.00 per pound. The December 31, 2015, evaluations of the recoverability of our molybdenum mines used near-term price assumptions that were consistent with then-current market prices for molybdenum and a long-term average of \$10 per pound.

During the year 2016, we concluded there were no events or changes in circumstances that would indicate that the carrying amount of our long-lived mining assets might not be recoverable. Additionally, copper and molybdenum prices have improved. The LME copper spot price of \$2.50 per pound at December 31, 2016, was 17 percent higher than the LME spot price of \$2.13 per pound at December 31, 2015, and the weekly average price for molybdenum of \$6.74 per pound on December 31, 2016, was 29 percent higher than the weekly average price of \$5.23 per pound at December 31, 2015.

In addition to decreases in future metal price assumptions, other events that could result in future impairment of our long-lived mining assets include, but are not limited to, decreases in estimated recoverable proven and probable mineral reserves and any event that might otherwise have a material adverse effect on mine site production levels or costs. Refer to "Risk Factors" contained in Part I, Item 1A of our annual report on Form 10-K for the year ended December 31, 2016, for further discussion of Indonesian regulatory matters that could have a material adverse effect on our cash flow, results of operations and financial position, and could result in asset impairments at PT-FI.

Oil and Gas Properties. As discussed in Note 1, we follow the full cost method of accounting for our oil and gas operations, whereby all costs associated with oil and gas property acquisition, exploration and development activities are capitalized and amortized to expense under the UOP method on a country-by-country basis using estimates of proved oil and natural gas reserves relating to each country where such activities are conducted. The costs of unproved oil and gas properties are excluded from amortization until the properties are evaluated.

Under full cost accounting rules, a "ceiling test" is conducted each quarter to review the carrying value of our oil and gas properties for impairment (refer to Note 1 for further discussion). The U.S. Securities and Exchange Commission (SEC) requires that the twelve-month average of the first-day-of-the-month historical reference prices be used to determine the ceiling test limitation. The reference pricing in ceiling test impairment calculations may cause results that do not reflect current market conditions that exist at the end of an accounting period. For example, in periods of increasing oil and gas prices, the use of a twelve-month historical average price in the ceiling test calculation may result in an impairment. Conversely, in times of declining prices, ceiling test calculations may not result in an impairment.

Using West Texas Intermediate (WTI) as the reference oil price, the average price was \$42.75 per barrel at December 31, 2016, compared with \$50.28 per barrel at December 31, 2015, and \$94.99 per barrel at December 31, 2014. The combined impact of the reduction in twelve-month historical prices and reserve revisions caused net capitalized costs with respect to our proved U.S. oil and gas properties to exceed the ceiling test limitation specified by the SEC's full cost accounting rules, which resulted in the recognition of impairment charges totaling \$4.3 billion in 2016, \$13.0 billion in 2015 and \$3.7 billion in 2014. Impairment charges were also recognized for our international oil and gas properties, primarily related to Morocco, totaling \$18 million in 2016 and \$164 million in 2015.

Following the completion of the sales of our Deepwater Gulf of Mexico (GOM) and onshore California oil and gas properties, at December 31, 2016, we had \$74 million remaining in our consolidated balance sheet for proved oil and gas properties, and no amounts recorded for unproved oil and gas properties.

Environmental Obligations

Our current and historical operating activities are subject to various national, state and local environmental laws and regulations that govern the protection of the environment, and compliance with those laws requires significant expenditures. Environmental expenditures are charged to expense or capitalized, depending upon their future economic benefits. The guidance provided by U.S. GAAP requires that liabilities for contingencies be recorded when it is probable that obligations have been incurred, and the cost can be reasonably estimated. At December 31, 2016, environmental obligations recorded in our consolidated balance sheet totaled \$1.2 billion, which reflect obligations for environmental liabilities attributed to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) or analogous state programs and for estimated future costs associated with environmental matters. Refer to Notes 1 and 12 for further discussion of environmental obligations, including a summary of changes in our estimated environmental obligations for the three years ended December 31, 2016.

Accounting for environmental obligations represents a critical accounting estimate because changes to environmental laws and regulations and/or circumstances affecting our operations could result in significant changes to our estimates, which could have a significant impact on our results of operations. We perform a

comprehensive annual review of our environmental obligations and also review changes in facts and circumstances associated with these obligations at least quarterly. Judgments and estimates are based upon currently available facts, existing technology, presently enacted laws and regulations, remediation experience, whether or not we are a potentially responsible party (PRP), the ability of other PRPs to pay their allocated portions and take into consideration reasonably possible outcomes. Our cost estimates can change substantially as additional information becomes available regarding the nature or extent of site contamination, updated cost assumptions (including increases and decreases to cost estimates), changes in the anticipated scope and timing of remediation activities, the settlement of environmental matters, required remediation methods and actions by or against governmental agencies or private parties.

Asset Retirement Obligations

We record the fair value of our estimated AROs associated with tangible long-lived assets in the period incurred. Fair value is measured as the present value of cash flow estimates after considering inflation and a market risk premium. Our cost estimates are reflected on a third-party cost basis and comply with our legal obligation to retire tangible long-lived assets in the period incurred. These cost estimates may differ from financial assurance cost estimates for reclamation activities because of a variety of factors, including obtaining updated cost estimates for reclamation activities, the timing of reclamation activities, changes in scope and the exclusion of certain costs not considered reclamation and closure costs. At the end of 2016, PT-FI revised its estimates for the overburden stockpile to address ongoing erosion that occurred during 2016, a design change that increased the volume and updated cost estimates reflecting more recent productivity and costs at the stockpile, which resulted in an increase in the ARO of \$372 million. At December 31, 2016, AROs recorded in our consolidated balance sheet totaled \$2.6 billion, including \$0.6 billion associated with our remaining oil and gas operations. Refer to Notes 1 and 12 for further discussion of reclamation and closure costs, including a summary of changes in our AROs for the three years ended December 31, 2016.

Generally, ARO activities are specified by regulations or in permits issued by the relevant governing authority, and management judgment is required to estimate the extent and timing of expenditures. Accounting for AROs represents a critical accounting estimate because (i) we will not incur most of these costs for a number of years, requiring us to make estimates over a long period, (ii) reclamation and closure laws and regulations could change in the future and/or circumstances affecting our operations could change, either of which could result in significant changes to our current plans, (iii) the methods used or required to plug and abandon non-producing oil and gas wellbores, remove platforms, tanks, production equipment and flow lines, and restore the wellsite could change, (iv) calculating the fair value of our AROs requires management to estimate projected cash flows, make long-term assumptions about inflation rates, determine our credit-adjusted, risk-free interest rates and determine market risk premiums that are appropriate for our operations and (v) given the magnitude of our estimated reclamation, mine closure and wellsite abandonment and restoration costs, changes in any or all of these estimates could have a significant impact on our results of operations.

Taxes

In preparing our annual consolidated financial statements, we estimate the actual amount of income taxes currently payable or receivable as well as deferred income tax assets and liabilities attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred income tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which these temporary differences are expected to be recovered or settled. The effect on deferred income tax assets and liabilities of a change in tax rates or laws is recognized in income in the period in which such changes are enacted.

Our operations are in multiple jurisdictions where uncertainties arise in the application of complex tax regulations. Some of these tax regimes are defined by contractual agreements with the local government, while others are defined by general tax laws and regulations. We and our subsidiaries are subject to reviews of our income tax filings and other tax payments, and disputes can arise with the taxing authorities over the interpretation of our contracts or laws. Final taxes paid may be dependent upon many factors, including negotiations with taxing authorities. In certain jurisdictions, we must pay a portion of the disputed amount to the local government in order to formally appeal an assessment. Such payment is recorded as a receivable if we believe the amount is collectible.

A valuation allowance is provided for those deferred income tax assets for which the weight of available evidence suggests that the related benefits will not be realized. In determining the amount of the valuation allowance, we consider estimated future taxable income or loss as well as feasible tax planning strategies in each jurisdiction. If we determine that we will not realize all or a portion of our deferred income tax assets, we will increase our

valuation allowance. Conversely, if we determine that we will ultimately be able to realize all or a portion of the related benefits for which a valuation allowance has been provided, all or a portion of the related valuation allowance will be reduced.

Our valuation allowances totaled \$6.1 billion at December 31, 2016, which covered U.S. federal and state deferred tax assets, including all of our U.S. foreign tax credit carryforwards, U.S. federal net operating loss carryforwards, U.S. federal capital loss carryforwards, foreign net operating loss carryforwards, and substantially all of our U.S. minimum tax credit carryforwards and U.S. state net operating loss carryforwards. Refer to Note 11 for further discussion.

CONSOLIDATED RESULTS

	Years Ended December 31,		
	2016	2015	2014 ^a
(in millions, except per share amounts)			
SUMMARY FINANCIAL DATA			
Revenues ^{b,c,d}	\$ 14,830 ^j	\$ 14,607 ^j	\$ 20,001 ^k
Operating loss ^{b,e,f,g,h,i}	\$ (2,792) ^{m,n}	\$ (13,512) ^{j,o}	\$ (298) ^{k,m,n}
Net loss from continuing operations ^l	\$ (3,832)	\$ (12,180)	\$ (1,022)
Net (loss) income from discontinued operations ^p	\$ (193)	\$ 91	\$ 277
Net loss attributable to common stock	\$ (4,154) ^q	\$ (12,236)	\$ (1,308)
Diluted net (loss) income per share attributable to common stock:			
Continuing operations	\$ (2.96)	\$ (11.32)	\$ (1.37)
Discontinued operations	(0.20)	0.01	0.11
	<u>\$ (3.16)</u>	<u>\$ (11.31)</u>	<u>\$ (1.26)</u>
Diluted weighted-average common shares outstanding	1,318	1,082	1,039
Operating cash flows ^r	\$ 3,729	\$ 3,220	\$ 5,631
Capital expenditures	\$ 2,813	\$ 6,353	\$ 7,215
At December 31:			
Cash and cash equivalents	\$ 4,245	\$ 177	\$ 298
Total debt, including current portion	\$ 16,027	\$ 20,324	\$ 18,741

a. Includes the results of the Candelaria and Ojos del Salado mines prior to their sale in November 2014, and the results of the Eagle Ford shale assets prior to their sale in June 2014.

b. As further detailed in Note 16, following is a summary of revenues and operating income (loss) by operating division (in millions):

	Years Ended December 31,		
	2016	2015	2014
<u>Revenues</u>			
North America copper mines	\$ 4,374	\$ 5,126	\$ 5,616
South America mining	2,938	1,934	3,532
Indonesia mining	3,295	2,653	3,071
Molybdenum mines	186	348	587
Rod & Refining	3,862	4,154	4,655
Atlantic Copper Smelting & Refining	1,830	1,970	2,412
U.S. Oil & Gas operations	1,513	1,994	4,710
Other mining, corporate, other & eliminations	(3,168)	(3,572)	(4,582)
Total revenues	<u>\$ 14,830</u>	<u>\$ 14,607</u>	<u>\$ 20,001</u>
<u>Operating income (loss)</u>			
North America copper mines	\$ 1,479	\$ 648	\$ 1,698
South America mining	618	67	1,220
Indonesia mining	1,027	449	719
Molybdenum mines	(96)	(72)	167
Rod & Refining	16	16	12
Atlantic Copper Smelting & Refining	72	67	(2)
U.S. Oil & Gas operations	(5,711)	(14,189)	(4,479)
Other mining, corporate, other & eliminations	(197)	(498)	367
Total operating loss	<u>\$ (2,792)</u>	<u>\$ (13,512)</u>	<u>\$ (298)</u>

- c. Includes favorable (unfavorable) adjustments to provisionally priced concentrate and cathode copper sales recognized in prior periods totaling \$5 million (\$2 million to net loss attributable to common stock or less than \$0.01 per share) in 2016, \$(100) million (\$(50) million to net loss attributable to common stock or \$(0.05) per share) in 2015 and \$(117) million (\$(65) million to net loss attributable to common stock or \$(0.06) per share) in 2014. Refer to "Revenues" for further discussion.
- d. Includes net noncash mark-to-market (losses) gains associated with crude oil and natural gas derivative contracts totaling \$(41) million (\$(41) million to net loss attributable to common stock or \$(0.03) per share) in 2016, \$(319) million (\$(198) million to net loss attributable to common stock or \$(0.18) per share) in 2015 and \$627 million (\$389 million to net loss attributable to common stock or \$0.37 per share) in 2014. Refer to "Revenues" for further discussion.
- e. Includes the following charges to reduce the carrying value of oil and gas properties pursuant to full cost accounting rules (in millions except per share amounts):

	Years Ended December 31,		
	2016	2015	2014
Operating loss	\$ 4,317	\$ 13,144	\$ 3,737
Net loss attributable to common stock	4,317	11,598	2,324
Net loss per share of common stock	3.28	10.72	2.24

As a result of the impairment to U.S. oil and gas properties, we recorded tax charges totaling \$1.6 billion in 2016 and \$3.3 billion in 2015 to establish valuation allowances against U.S. federal and state deferred tax assets that are not expected to generate a future benefit, which have been reflected in the above after-tax impacts for the impairment of oil and gas properties.

- f. Includes net charges at oil and gas operations totaling \$1.1 billion (\$1.1 billion to net loss attributable to common stock or \$0.84 per share) in 2016, primarily for drillship settlements/idle rig costs, the termination of contracts for support vessels and equipment, inventory adjustments, asset impairment and restructuring charges, \$188 million (\$117 million to net loss attributable to common stock or \$0.11 per share) in 2015, primarily for asset impairments, inventory adjustments and idle rig costs, and \$46 million (\$29 million to net loss attributable to common stock or \$0.03 per share) in 2014, primarily for idle rig costs and inventory adjustments.
- g. Includes charges for metals inventory adjustments totaling \$36 million (\$36 million to net loss attributable to common stock or \$0.03 per share) in 2016, \$338 million (\$217 million to net loss attributable to common stock or \$0.20 per share) in 2015 and \$6 million (\$4 million to net loss attributable to common stock or less than \$0.01 per share) in 2014.
- h. Includes net (credits) charges for adjustments to environmental obligations and related litigation reserves of \$(16) million (\$(16) million to net loss attributable to common stock or \$(0.01) per share) in 2016, \$43 million (\$28 million to net loss attributable to common stock or \$0.03 per share) in 2015 and \$76 million (\$50 million to net loss attributable to common stock or \$0.05 per share) in 2014.
- i. Includes net gains on sales of assets of \$649 million (\$649 million to net loss attributable to common stock or \$0.49 per share) in 2016, \$39 million (\$25 million to net loss attributable to common stock or \$0.02 per share) in 2015 and \$717 million (\$481 million to net loss attributable to common stockholders or \$0.46 per share) in 2014. Refer to Note 2 and "Net Gain on Sales of Assets" below for further discussion.
- j. Includes net charges at mining operations totaling \$33 million (\$14 million to net loss attributable to common stock or \$0.01 per share) in 2016 for an asset retirement at PT-FI and social commitments at Cerro Verde and \$145 million (\$90 million to net loss attributable to common stock or \$0.08 per share) in 2015 for asset impairment, restructuring and other net charges. The year 2015 also includes \$18 million (\$12 million to net loss attributable to common stock or \$0.01 per share) for executive retirement benefits.
- k. Includes an impairment charge of \$1.7 billion (\$1.7 billion to net loss attributable to common stockholders or \$1.65 per share) for the full carrying value of goodwill associated with our 2013 oil and gas acquisitions.
- l. We defer recognizing profits on intercompany sales until final sales to third parties occur. Refer to "Operations - Smelting & Refining" for a summary of net impacts from changes in these deferrals.
- m. Includes net gains on exchanges and early extinguishment of debt totaling \$26 million (\$26 million to net loss attributable to common stock or \$0.02 per share) in 2016 and \$73 million (\$3 million to net loss attributable to common stock or less than \$0.01 per share) in 2014. Refer to Note 8 for further discussion.
- n. Includes net tax credits (charges) of \$374 million (\$0.28 per share) in 2016 and \$(103) million (\$(0.10) per share) in 2014. Refer to "Income Taxes" below for further discussion.
- o. The year 2015 includes a gain of \$92 million (\$92 million to net loss attributable to common stock or \$0.09 per share) related to net proceeds received from insurance carriers and other third parties related to the shareholder derivative litigation settlement.
- p. Reflects the results of TFHL through November 16, 2016, and includes charges for allocated interest expense associated with the portion of our term loan that was required to be repaid as a result of the sale of our interest in TFHL. The year

2016 also includes \$198 million for the loss on disposal. Refer to Note 2 and "Net (Loss) Income from Discontinued Operations" below for further discussion.

- q. Includes a gain on redemption of noncontrolling interest of \$199 million for the settlement of our preferred stock obligation at our Plains Offshore Operations Inc. (Plains Offshore) subsidiary.
- r. Includes net working capital sources (uses) and changes in other tax payments of \$57 million in 2016, \$373 million in 2015 and \$(632) million in 2014.

	Years Ended December 31,		
	2016	2015	2014 ^{a,b}
SUMMARY OPERATING DATA			
Copper (millions of recoverable pounds) ^c			
Production	4,222	3,568	3,457
Sales, excluding purchases	4,227	3,603	3,463
Average realized price per pound	\$ 2.28	\$ 2.42	\$ 3.09
Site production and delivery costs per pound ^d	\$ 1.42	\$ 1.81	\$ 1.95
Unit net cash costs per pound ^d	\$ 1.26	\$ 1.57	\$ 1.55
Gold (thousands of recoverable ounces)			
Production	1,088	1,257	1,214
Sales, excluding purchases	1,079	1,247	1,248
Average realized price per ounce	\$ 1,238	\$ 1,129	\$ 1,231
Molybdenum (millions of recoverable pounds)			
Production	80	92	95
Sales, excluding purchases	74	89	95
Average realized price per pound	\$ 8.33	\$ 8.70	\$ 12.74
Oil Equivalents			
Sales volumes:			
Million barrels of oil equivalent (MMBOE)	47.1	52.6	56.8
Thousand BOE (MBOE) per day	128	144	156
Cash operating margin per BOE: ^e			
Realized revenues ^f	\$ 32.59	\$ 43.54	\$ 71.83
Cash production costs	(15.19)	(18.59)	(20.08)
Cash operating margin	<u>\$ 17.40</u>	<u>\$ 24.95</u>	<u>\$ 51.75</u>

- a. Includes the results of the Candelaria and Ojos del Salado mines prior to their sale in November 2014. Sales volumes from the Candelaria and Ojos del Salado mines totaled 268 million pounds of copper and 67 thousand ounces of gold in 2014.
- b. Includes the results of the Eagle Ford shale assets prior to their sale in June 2014. Sales volumes from Eagle Ford totaled 8.7 MMBOE (24 MBOE per day) in 2014; excluding Eagle Ford, oil and gas cash production costs were \$21.36 per BOE for the year 2014.
- c. Excludes results from the Tenke mine, which is reported as a discontinued operation. Refer to "Discontinued Operations" for further discussion of Tenke's operating results.
- d. Reflects per pound weighted-average production and delivery costs and unit net cash costs (net of by-product credits) for all copper mines, before net noncash and other costs. For reconciliations of the per pound unit costs by operating division to production and delivery costs applicable to sales reported in our consolidated financial statements, refer to "Product Revenues and Production Costs."
- e. Cash operating margin for oil and gas operations reflects realized revenues less cash production costs. Realized revenues exclude noncash mark-to-market adjustments on derivative contracts, and cash production costs exclude accretion and other costs. For reconciliations of realized revenues and cash production costs per BOE to revenues and production and delivery costs reported in our consolidated financial statements, refer to "Product Revenues and Production Costs."
- f. Includes realized cash gains (losses) on crude oil and natural gas derivative contracts of \$0.13 per BOE in 2016, \$7.72 per BOE in 2015 and \$(2.15) per BOE in 2014. We do not have any oil and gas derivative contracts in place for future periods.

Revenues

Consolidated revenues totaled \$14.8 billion in 2016, \$14.6 billion in 2015 and \$20.0 billion in 2014. Revenues from our mining operations primarily include the sale of copper concentrate, copper cathode, copper rod, gold and molybdenum. Revenue from our oil and gas operations include the sale of oil, natural gas and natural gas liquids (NGLs). Following is a summary of changes in our consolidated revenues between periods (in millions):

	2016	2015
Consolidated revenues - prior year	\$ 14,607	\$ 20,001
Mining operations:		
Higher (lower) sales volumes:		
Copper	1,508	433
Gold	(190)	(1)
Molybdenum	(128)	(72)
(Lower) higher averaged realized prices:		
Copper	(592)	(2,414)
Gold	117	(127)
Molybdenum	(27)	(360)
Net adjustments for prior year provisionally priced copper sales	105	17
Higher (lower) revenues from purchased copper	117	(95)
Lower Atlantic Copper revenues	(140)	(442)
Oil and gas operations:		
Lower oil sales volumes	(40)	(451)
Lower oil average realized prices, excluding derivative contracts	(228)	(1,663)
Net mark-to-market adjustments on derivative contracts	(122)	(418)
Other, including intercompany eliminations	(157)	199
Consolidated revenues - current year	<u>\$ 14,830</u>	<u>\$ 14,607</u>

Mining Operations

Sales Volumes. Consolidated copper sales volumes totaled 4.2 billion pounds in 2016, 3.6 billion pounds in 2015 and 3.5 billion pounds in 2014. Higher copper sales volumes in 2016, compared to 2015, primarily reflect higher volumes from Cerro Verde and PT-FI, partly offset by lower sales volumes in North America primarily reflecting reduced mining rates and the impact of the May 2016 sale of an additional 13 percent undivided interest in Morenci. Higher copper sales volumes in 2015, compared to 2014, primarily reflect higher volumes from North America associated with increased production from the Morenci mill expansion project and higher ore grades at the Chino mine, and higher volumes from Indonesia associated with higher mill throughput because of export restrictions in 2014, partly offset by lower volumes from South America as a result of the sale of the Candelaria and Ojos del Salado mines in November 2014.

Consolidated gold sales volumes totaled 1.1 million ounces in 2016 and 1.25 million ounces in both 2015 and 2014. Lower gold sales volumes in 2016, compared with 2015, primarily reflect lower ore grades at PT-FI.

Consolidated molybdenum sales volumes totaled 74 million pounds in 2016, 89 million pounds in 2015 and 95 million pounds in 2014. Lower molybdenum sales volumes in 2016, compared with 2015, primarily reflect reduced operating rates in response to weak demand.

Refer to "Operations" for further discussion of sales volumes at our operating divisions.

Metals Realized Prices. Our consolidated revenues can vary significantly as a result of fluctuations in the market prices of copper, gold and molybdenum. Our average realized prices were 6 percent lower for copper, 10 percent higher for gold and 4 percent lower for molybdenum in 2016, compared with 2015. In 2015, our average realized prices were 22 percent lower for copper, 8 percent lower for gold and 32 percent lower for molybdenum, compared with 2014.

Provisionally Priced Copper Sales. Impacts of net adjustments for prior year provisionally priced sales primarily relate to copper sales. Substantially all of our 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 (refer to "Disclosures About Market Risks-Commodity Price Risk" for further discussion). Revenues include favorable (unfavorable) net adjustments to prior years' provisionally priced copper sales totaling \$5 million in 2016, \$(100) million in 2015 and \$(117) million in 2014.

Purchased Copper. We purchased copper cathode primarily for processing by our Rod & Refining operations. Purchased copper volumes totaled 188 million pounds in 2016, 121 million pounds in 2015 and 125 million pounds in 2014.

Atlantic Copper Revenues. Atlantic Copper revenues totaled \$1.8 billion in 2016, \$2.0 billion in 2015 and \$2.4 billion in 2014. Lower Atlantic Copper revenues in 2016, compared with 2015, and in 2015, compared with 2014, primarily reflect lower copper prices.

Oil & Gas Operations

Oil Sales Volumes. Oil sales volumes totaled 34.4 million barrels (MMBbls) in 2016, 35.3 MMBbls in 2015 and 40.1 MMBbls in 2014. Lower oil sales volumes in 2016, compared with 2015, primarily reflect lower volumes from California. Lower oil sales volumes in 2015, compared with 2014, primarily reflect the sale of the Eagle Ford shale assets in June 2014, partly offset by higher volumes in the GOM. Refer to "Operations" for further discussion of sales volumes at our oil and gas operations.

Realized Oil Prices Excluding Derivative Contracts. Our average realized price for oil (excluding the impact of derivative contracts) of \$38.96 per barrel in 2016 was 15 percent lower than our average realized price of \$45.58 per barrel in 2015. Our average realized price for oil (excluding the impact of derivative contracts) in 2015 was 51 percent lower than our average realized price of \$92.76 per barrel for 2014.

Oil and Gas Derivative Contracts. During 2016, 2015 and 2014, we had derivative contracts that were not designated as hedging instruments; accordingly, they were recorded at fair value with the mark-to-market gains and losses recorded in revenues each period (refer to Note 14 for further discussion of oil and gas derivative contracts). Net mark-to-market (losses) gains on oil and gas derivative contracts totaled \$(35) million in 2016, compared with \$87 million in 2015 and \$505 million in 2014. We currently have no derivative contracts in place for future periods.

Production and Delivery Costs

Consolidated production and delivery costs totaled \$10.7 billion in both 2016 and 2015 and \$11.1 billion in 2014. Production and delivery costs for mining operations were \$640 million lower in 2016, compared to 2015, primarily reflecting the impact of cost reduction initiatives. Production and delivery costs for our U.S. oil and gas operations were \$590 million higher in 2016, compared to 2015, primarily reflecting higher charges for drillship settlements/ idle rig and contract termination costs (which totaled \$926 million in 2016, compared to \$26 million in 2015), partly offset by the impact of cost reduction efforts.

Production and delivery costs from mining operations were \$394 million lower in 2015, compared with 2014, primarily reflecting lower costs at our South America mines as a result of the sale of the Candelaria and Ojos del Salado mines in November 2014 and lower diesel costs in Indonesia, partly offset by higher costs at our North America mines associated with higher volumes. Production and delivery costs for our U.S. oil and gas operations were \$26 million lower in 2015, compared with 2014, primarily reflecting the sale of the Eagle Ford shale assets in June 2014 and lower well workover expense and steam gas costs in California.

Mining Unit Site Production and Delivery Costs

Site production and delivery costs for our copper mining operations primarily include labor, energy and commodity-based inputs, such as sulphuric acid, reagents, liners, tires and explosives. Consolidated unit site production and delivery costs (before net noncash and other costs) for our copper mines averaged \$1.42 per pound of copper in 2016, \$1.81 per pound in 2015 and \$1.95 per pound in 2014. Lower consolidated unit site production and delivery costs in 2016, compared with 2015, primarily reflect higher sales volumes and the impact of cost reduction initiatives. Lower consolidated unit site production and delivery costs in 2015, compared with 2014, primarily reflect higher copper sales volumes in North America and Indonesia. Refer to "Operations – Unit Net Cash Costs" for further discussion of unit net cash costs associated with our operating divisions, and to "Product Revenues and

Production Costs” for reconciliations of per pound costs by operating division to production and delivery costs applicable to sales reported in our consolidated financial statements.

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 20 percent of our copper mine site operating costs in 2016, including purchases of approximately 214 million gallons of diesel fuel; 8,400 gigawatt hours of electricity at our North America and South America copper mining operations (we generate all of our power at our Indonesia mining operation); 780 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. Based on current cost estimates, energy will approximate 20 percent of our copper mine site operating costs for 2017.

Oil and Gas Production Costs per BOE

Production costs for our oil and gas operations primarily include costs incurred to operate and maintain wells and related equipment and facilities, such as lease operating expenses, steam gas costs, electricity, production and ad valorem taxes, and gathering and transportation expenses. Cash production costs for our oil and gas operations averaged \$15.19 per BOE in 2016, \$18.59 per BOE in 2015 and \$20.08 per BOE in 2014. Lower cash production costs in 2016, compared with 2015, primarily resulted from cost reduction efforts. Lower cash production costs in 2015, compared with 2014, primarily reflect lower well workover expense and steam gas costs in California. Refer to "Operations" for further discussion of cash production costs at our oil and gas operations.

Depreciation, Depletion and Amortization

Depreciation will vary under the UOP method as a result of changes in sales volumes and the related UOP rates at our mining and oil and gas operations. Consolidated DD&A totaled \$2.5 billion in 2016, \$3.2 billion in 2015 and \$3.6 billion in 2014.

DD&A from our mining operations was \$225 million higher in 2016, compared with 2015, primarily associated with higher sales volumes at Cerro Verde. DD&A from U.S. oil and gas operations was \$935 million lower in 2016, compared with 2015, primarily reflecting lower DD&A rates as a result of impairment of our oil and gas properties.

DD&A from our mining operations was \$92 million higher in 2015, compared with 2014, primarily associated with higher sales volumes in North America and Indonesia. DD&A from U.S. oil and gas operations was \$487 million lower in 2015, compared with 2014, primarily reflecting lower DD&A rates as a result of impairment of our oil and gas properties.

Impairment of Oil and Gas Properties

Under the full cost accounting rules, a "ceiling test" is conducted each quarter to review the carrying value of our U.S. oil and gas properties for impairment, which resulted in the recognition of impairment charges totaling \$4.3 billion in 2016, \$13.0 billion in 2015 and \$3.7 billion in 2014. We also recognized impairment charges of \$18 million in 2016 and \$164 million in 2015 for international oil and gas properties, primarily related to Morocco. Refer to Note 1 and "Critical Accounting Estimates" for further discussion.

Metals Inventory Adjustments

Lower copper and molybdenum prices resulted in adjustments to related inventory carrying values totaling \$36 million in 2016, \$338 million in 2015 and \$6 million in 2014. Refer to Notes 1 and 4 for further discussion.

Selling, General and Administrative Expenses

Consolidated selling, general and administrative expenses totaled \$607 million in 2016, \$558 million in 2015 and \$580 million in 2014. Selling, general and administrative expenses included net restructuring charges of \$85 million in 2016 associated with oil and gas operations and \$18 million in 2015 for executive retirement benefits.

Consolidated selling, general and administrative expenses were net of capitalized general and administrative expenses at our oil and gas operations totaling \$78 million in 2016, \$124 million in 2015 and \$143 million in 2014.

Mining Exploration and Research Expenses

Consolidated exploration and research expenses for our mining operations totaled \$64 million in 2016, \$107 million in 2015 and \$106 million in 2014. Our mining exploration activities are generally associated with our existing mines focusing on opportunities to expand reserves and resources to support development of additional future production capacity. Exploration results continue to indicate opportunities for significant future potential reserve additions in

North and South America. Exploration spending continues to be constrained by market conditions and is expected to approximate \$47 million in 2017.

Environmental Obligations and Shutdown Costs

Environmental obligation costs reflect net revisions to our long-term environmental obligations, which vary from period to period because of changes to environmental laws and regulations, the settlement of environmental matters and/or circumstances affecting our operations that could result in significant changes in our estimates (refer to "Critical Accounting Estimates - Environmental Obligations" for further discussion). Shutdown costs include care-and-maintenance costs and any litigation, remediation or related expenditures associated with closed facilities or operations. Net charges for environmental obligations and shutdown costs totaled \$20 million in 2016, \$78 million in 2015 and \$119 million in 2014. Refer to Note 12 for further discussion of environmental obligations and litigation matters.

Goodwill Impairment

As further discussed in Note 1, the fourth-quarter 2014 goodwill assessment resulted in an impairment charge of \$1.7 billion for the full carrying value of goodwill associated with the 2013 oil and gas acquisitions.

Net Gain on Sales of Assets

Net gain on sales of assets totaled \$649 million in 2016, primarily related to the gains recognized for the Morenci and Timok transactions, partly offset by estimated losses on assets held for sale related to the potential Freeport Cobalt and Kisanfu transactions. Net gain on sales of assets for the year 2016 also reflects \$183 million for contingent consideration, including \$150 million associated with the sale of the Deepwater GOM oil and gas properties, which is payable to us as the buyer realizes future cash flows in connection with a third-party production handling agreement and \$33 million for the fair value of the potential \$150 million in contingent consideration from the sale of the onshore California oil and gas properties, which in accordance with accounting guidelines will continue to be adjusted to fair value through December 31, 2020.

Net gain on sales of assets totaled \$39 million in 2015 related to the sale of our one-third interest in the Luna Energy power facility in New Mexico and \$717 million in 2014 primarily related to the sale of our 80 percent interests in the Candelaria and Ojos del Salado mines.

Refer to Note 2 for further discussion of dispositions.

Interest Expense, Net

Consolidated interest expense (excluding capitalized interest and interest expense allocated to discontinued operations) totaled \$854 million in 2016, \$832 million in 2015 and \$842 million in 2014. Refer to Note 2 for a summary of interest allocated to discontinued operations.

Capitalized interest varies with the level of expenditures for our development projects and average interest rates on our borrowings, and totaled \$99 million in 2016, \$215 million in 2015 and \$236 million in 2014. Refer to "Operations" and "Capital Resources and Liquidity - Investing Activities" for further discussion of current development projects.

Net Gain on Exchanges and Early Extinguishment of Debt

Net gains on exchanges and early extinguishment of debt totaled \$26 million in 2016, primarily related to the redemption of certain senior notes in exchange for common stock, partly offset by losses associated with prepayments of the term loan and fees associated with the exchange of Freeport-McMoRan Oil & Gas LLC senior notes for new FCX senior notes. Net gains on exchanges and early extinguishment of debt totaled \$73 million in 2014, primarily related to senior note redemptions and tender offers. Refer to Note 8 for further discussion.

Other Income, Net

Other income, net, primarily includes foreign currency translation adjustments and interest income, and totaled \$49 million in 2016, \$1 million in 2015 and \$31 million in 2014. The year 2015 also includes a gain of \$92 million associated with net proceeds received from insurance carriers and other third parties related to the shareholder derivative litigation.

Income Taxes

Following is a summary of the approximate amounts used in the calculation of our consolidated income tax (provision) benefit from continuing operations for the years ended December 31 (in millions, except percentages):

	2016			2015		
	Income (Loss) ^a	Effective Tax Rate	Income Tax (Provision) Benefit	Income (Loss) ^a	Effective Tax Rate	Income Tax (Provision) Benefit
U.S.	\$ (865)	41%	\$ 357 ^b	\$ (1,626) ^c	44%	\$ 720
South America	501	43%	(216) ^d	(40)	(10)%	(4)
Indonesia	1,058	42%	(442)	430	45%	(195)
Impairment of oil and gas properties	(4,317)	38%	1,632	(13,144)	37%	4,884
Valuation allowance, net ^e	—	N/A	(1,632)	—	N/A	(3,338)
Eliminations and other	151	N/A	(70)	252	N/A	(116)
Consolidated FCX	<u>\$ (3,472)</u>	(11)%	<u>\$ (371)</u>	<u>\$ (14,128)</u>	14%	<u>\$ 1,951</u>
	2014					
	Income (Loss) ^a	Effective Tax Rate	Income Tax (Provision) Benefit			
U.S.	\$ 1,881	28%	\$ (527) ^f			
South America	1,221	43%	(531) ^g			
Indonesia	709	41%	(293)			
Impairment of oil and gas properties	(3,737)	38%	1,413			
Gain on sale of Candelaria and Ojos del Salado mines	671	33%	(221)			
Eliminations and other	172	N/A	(66)			
	917 ^h	25%	(225)			
Adjustments	(1,717)	N/A	—			
Consolidated FCX	<u>\$ (800)</u>	(28)%	<u>\$ (225)</u>			

- a. Represents income (loss) by geographic location before income taxes and equity in affiliated companies' net earnings (losses).
- b. Includes net tax credits of \$357 million associated with alternative minimum tax credits, changes to valuation allowances and net operating loss carryback claims.
- c. Includes a gain of \$92 million related to net proceeds received from insurance carriers and other third parties related to the shareholder derivative litigation settlement for which there was no related tax provision.
- d. Includes a net tax credit of \$13 million (\$17 million net of noncontrolling interests) related to changes in Peruvian tax rules.
- e. As a result of the impairment to U.S. oil and gas properties, we recorded tax charges to establish valuation allowances against U.S. federal and state deferred tax assets that will not generate a future benefit.
- f. Includes a charge of \$84 million for deferred taxes recorded in connection with the allocation of goodwill to the sale of Eagle Ford shale assets; partly offset by a net benefit of \$41 million (comprised of \$57 million related to changes in U.S. state income tax filing positions and a charge of \$16 million for a change in U.S. federal income tax law regulations).
- g. Includes charges of \$78 million (\$60 million net of noncontrolling interests) related to changes in Chilean and Peruvian tax rules.
- h. Reflects goodwill impairment charges, which were non-deductible for tax purposes.

Our consolidated effective income tax rate is a function of the combined effective tax rates for the jurisdictions in which we operate. Accordingly, variations in the relative proportions of jurisdictional income result in fluctuations to our consolidated effective income tax rate. Assuming achievement of current sales volume and cost estimates and average prices of \$2.50 per pound for copper, \$1,200 per ounce for gold and \$7.00 per pound for molybdenum for 2017, we estimate our consolidated effective tax rate for the year 2017 will approximate 46 percent and would decrease with higher prices.

Refer to Note 11 for further discussion of income taxes.

Net (Loss) Income from Discontinued Operations

As further discussed in Note 2, in November 2016, we completed the sale of our interest in TFHL, through which we had an effective 56 percent interest in the Tenke copper and cobalt concessions in the Southeast region of the Democratic Republic of Congo (DRC). In accordance with accounting guidelines, the results of TFHL through November 16, 2016, have been reported as discontinued operations for all periods presented.

Net (loss) income from discontinued operations totaled \$(193) million in 2016, \$91 million in 2015 and \$277 million in 2014, and included allocated interest expense of \$39 million in 2016, \$28 million in 2015 and \$24 million in 2014 associated with the portion of the term loan that was required to be repaid as a result of the sale of our interest in TFHL. The year 2016 also included \$198 million for the loss on disposal, which includes (i) a charge of \$33 million for our share of the settlement agreement entered into with La Générale des Carrières et des Mines (Gécamines), which is wholly owned by the DRC government, resulting in the resolution of all claims brought by Gécamines against us (refer to Note 2 for further discussion) and (ii) a gain of \$13 million recognized for the fair value of contingent consideration, which in accordance with accounting guidelines will continue to be adjusted through December 31, 2019.

Gain on Redemption and Preferred Dividends Attributable to Redeemable Noncontrolling Interest

In connection with the December 2016 sale of the Deepwater GOM oil and gas properties, we settled a preferred stock obligation at our Plains Offshore subsidiary, which resulted in the recognition of a \$199 million gain on redemption. Refer to Note 2 for further discussion.

OPERATIONS

North America Copper Mines

We operate seven open-pit copper mines in North America – Morenci, Bagdad, Safford, Sierrita and Miami in Arizona, and Chino and Tyrone in New Mexico. All of the North America mining operations are wholly owned, except for Morenci.

We record our undivided joint venture interest in Morenci using the proportionate consolidation method. On May 31, 2016, we completed the sale of an additional 13 percent undivided interest in Morenci. As a result of the transaction, our undivided interest in Morenci was prospectively reduced from 85 percent to 72 percent. Refer to Note 2 for further discussion.

The North America copper mines include open-pit mining, sulfide ore concentrating, leaching and solution extraction/electrowinning (SX/EW) operations. A majority of the copper produced at our North America copper mines is cast into copper rod by our Rod & Refining segment. The remainder of our North America copper sales is in the form of copper cathode or copper concentrate, a portion of which is shipped to Atlantic Copper (our wholly owned smelter). Molybdenum concentrate, gold and silver are also produced by certain of our North America copper mines.

Operating and Development Activities. We have significant undeveloped reserves and resources in North America and a portfolio of long-term development projects. Future investments will be undertaken based on the results of economic and technical feasibility studies, and market conditions.

In response to market conditions, beginning in the second half of 2015, we took actions to reduce operating and capital costs and adjusted production to reflect market conditions. These operating plans will continue to be reviewed and additional adjustments may be made as market conditions warrant.

Operating Data. Following is summary operating data for the North America copper mines for the years ended December 31:

	2016	2015	2014
Operating Data, Net of Joint Venture Interest			
Copper (millions of recoverable pounds)			
Production	1,831	1,947	1,670
Sales, excluding purchases	1,841	1,988	1,664
Average realized price per pound	\$ 2.24	\$ 2.47	\$ 3.13
Molybdenum (millions of recoverable pounds)			
Production ^a	33	37	33
100% Operating Data			
<u>SX/EW operations</u>			
Leach ore placed in stockpiles (metric tons per day)	739,200	909,900	1,005,300
Average copper ore grade (percent)	0.31	0.26	0.25
Copper production (millions of recoverable pounds)	1,224	1,134	963
<u>Mill operations</u>			
Ore milled (metric tons per day)	300,500	312,100	273,800
Average ore grade (percent):			
Copper	0.47	0.49	0.45
Molybdenum	0.03	0.03	0.03
Copper recovery rate (percent)	85.5	85.4	85.8
Copper production (millions of recoverable pounds)	854	972	828

- a. Refer to "Consolidated Results" for our consolidated molybdenum sales volumes, which includes sales of molybdenum produced at the North America copper mines.

Copper sales volumes from our North America copper mines decreased to 1.8 billion pounds in 2016, compared with 2.0 billion pounds in 2015, primarily reflecting the impact of the May 2016 sale of an additional 13 percent undivided interest in Morenci and reduced mining rates.

Copper sales volumes from our North America copper mines increased to 2.0 billion pounds in 2015, compared with 1.7 billion pounds in 2014, primarily because of higher mining and milling rates at Morenci and higher ore grades at Morenci, Chino and Safford.

Copper sales from North America are expected to approximate 1.5 billion pounds in 2017. Refer to "Outlook" for projected molybdenum sales volumes.

Unit Net Cash Costs. Unit net cash costs per pound of copper is a measure intended to provide investors with information about the cash-generating capacity of our mining operations expressed on a basis relating to the primary metal product for our respective operations. We use this measure for the same purpose and for monitoring operating performance by our mining operations. This information differs from measures of performance determined in accordance with U.S. GAAP and should not be considered in isolation or as a substitute for measures of performance determined in accordance with U.S. GAAP. This measure is presented by other metals mining companies, although our measure may not be comparable to similarly titled measures reported by other companies.

Gross Profit per Pound of Copper and Molybdenum

The following tables summarize unit net cash costs and gross profit per pound of copper at our North America copper mines for the years ended December 31. Refer to "Product Revenues and Production Costs" for an explanation of the "by-product" and "co-product" methods and a reconciliation of unit net cash costs per pound to production and delivery costs applicable to sales reported in our consolidated financial statements.

	2016			2015		
	By-Product Method	Co-Product Method		By-Product Method	Co-Product Method	
		Copper	Molybdenum ^a		Copper	Molybdenum ^a
Revenues, excluding adjustments	\$ 2.24	\$ 2.24	\$ 6.34	\$ 2.47	\$ 2.47	\$ 7.02
Site production and delivery, before net noncash and other costs shown below	1.42	1.35	4.93	1.68	1.59	5.61
By-product credits	(0.12)	—	—	(0.13)	—	—
Treatment charges	0.11	0.10	—	0.12	0.12	—
Unit net cash costs	1.41	1.45	4.93	1.67	1.71	5.61
DD&A	0.29	0.27	0.60	0.28	0.27	0.53
Metals inventory adjustments	—	—	—	0.07 ^b	0.07	0.07
Noncash and other costs, net	0.05	0.05	0.06	0.12	0.11	0.16
Total unit costs	1.75	1.77	5.59	2.14	2.16	6.37
Revenue adjustments, primarily for pricing on prior period open sales	—	—	—	(0.01)	(0.01)	—
Gross profit per pound	\$ 0.49	\$ 0.47	\$ 0.75	\$ 0.32	\$ 0.30	\$ 0.65
Copper sales (millions of recoverable pounds)	1,836	1,836		1,985	1,985	
Molybdenum sales (millions of recoverable pounds) ^a			33			37

- a. Reflects sales of molybdenum produced by certain of the North America copper mines to our molybdenum sales company at market-based pricing.
- b. Includes \$99 million (\$0.05 per pound) in 2015 for asset impairment, restructuring and other net charges.

Our North America copper mines have varying cost structures because of differences in ore grades and characteristics, processing costs, by-product credits and other factors. During 2016, average unit net cash costs (net of by-product credits) for the North America copper mines ranged from \$1.28 per pound to \$2.01 per pound at the individual mines and averaged \$1.41 per pound. Lower average unit net cash costs (net of by-product credits) in 2016, compared with \$1.67 per pound in 2015, reflects cost reduction initiatives.

Because certain assets are depreciated on a straight-line basis, North America's average unit depreciation rate may vary with asset additions and the level of copper production and sales.

Average unit net cash costs (net of by-product credits) for our North America copper mines are expected to approximate \$1.55 per pound of copper for the year 2017, based on achievement of current sales volume and cost estimates, and assuming an average molybdenum price of \$7.00 per pound. North America's average unit net cash costs for the year 2017 would change by approximately \$0.04 per pound for each \$2 per pound change in the average price of molybdenum.

	2015			2014		
	By-Product Method	Co-Product Method		By-Product Method	Co-Product Method	
		Copper	Molybdenum ^a		Copper	Molybdenum ^a
Revenues, excluding adjustments	\$ 2.47	\$ 2.47	\$ 7.02	\$ 3.13	\$ 3.13	\$ 11.74
Site production and delivery, before net noncash and other costs shown below	1.68	1.59	5.61	1.85	1.73	6.85
By-product credits	(0.13)	—	—	(0.24)	—	—
Treatment charges	0.12	0.12	—	0.12	0.12	—
Unit net cash costs	1.67	1.71	5.61	1.73	1.85	6.85
DD&A	0.28	0.27	0.53	0.29	0.27	0.60
Metals inventory adjustments	0.07	0.07	0.07	—	—	—
Noncash and other costs, net	0.12	0.11	0.16	0.09	0.09	0.07
Total unit costs	2.14	2.16	6.37	2.11	2.21	7.52
Revenue adjustments, primarily for pricing on prior period open sales	(0.01)	(0.01)	—	—	—	—
Gross profit per pound	\$ 0.32	\$ 0.30	\$ 0.65	\$ 1.02	\$ 0.92	\$ 4.22
Copper sales (millions of recoverable pounds)	1,985	1,985		1,657	1,657	
Molybdenum sales (millions of recoverable pounds) ^a			37			33

a. Reflects sales of molybdenum produced by certain of the North America copper mines to our molybdenum sales company at market-based pricing.

b. Includes \$99 million (\$0.05 per pound) in 2015 for asset impairment, restructuring and other net charges.

Unit net cash costs (net of by-product credits) for our North America copper mines decreased to \$1.67 per pound of copper in 2015, compared with \$1.73 per pound in 2014, primarily reflecting favorable impacts from higher copper sales volumes, partly offset by lower by-product credits.

South America Mining

We operate two copper mines in South America – Cerro Verde in Peru (in which we own a 53.56 percent interest) and El Abra in Chile (in which we own a 51 percent interest), which are consolidated in our financial statements.

South America mining includes open-pit mining, sulfide ore concentrating, leaching and SX/EW operations. Production from our South America mines is sold as copper concentrate or cathode under long-term contracts. Our South America mines also ship a portion of their copper concentrate and cathode to Atlantic Copper. In addition to copper, the Cerro Verde mine produces molybdenum concentrate and silver.

As further discussed in Note 2, in November 2014, we completed the sale of our 80 percent ownership interests in the Candelaria and Ojos del Salado mines.

Operating and Development Activities. The Cerro Verde expansion project commenced operations in September 2015 and achieved capacity operating rates during first-quarter 2016. Cerro Verde's expanded operations benefit from its large-scale, long-lived reserves and cost efficiencies. The project expanded the concentrator facilities from 120,000 metric tons of ore per day to 360,000 metric tons of ore per day and is expected to provide incremental annual production of approximately 600 million pounds of copper and 15 million pounds of molybdenum. Cerro Verde's copper production totaled 1.1 billion pounds in 2016, compared with 545 million pounds in 2015.

In response to market conditions, in the second half of 2015, we adjusted operations at our El Abra mine to reduce mining and stacking rates by approximately 50 percent to achieve lower operating and labor costs, defer capital expenditures and extend the life of the existing operations.

We continue to evaluate a potential large-scale milling operation at El Abra to process additional sulfide material and to achieve higher recoveries. Exploration results in recent years at El Abra indicate a significant sulfide resource, which could potentially support a major mill project. Future investments will depend on technical studies, economic factors and market conditions.

Operating Data. Following is summary operating data for our South America mining operations for the years ended December 31.

	2016	2015	2014 ^a
Copper (millions of recoverable pounds)			
Production	1,328	869	1,151
Sales	1,332	871	1,135
Average realized price per pound	\$ 2.31	\$ 2.38	\$ 3.08
Molybdenum (millions of recoverable pounds)			
Production ^b	21	7	11
<u>SX/EW operations</u>			
Leach ore placed in stockpiles (metric tons per day)	151,600	193,900	275,200
Average copper ore grade (percent)	0.41	0.44	0.48
Copper production (millions of recoverable pounds)	328	430	491
<u>Mill operations</u>			
Ore milled (metric tons per day)	353,400	152,100	180,500
Average ore grade:			
Copper (percent)	0.43	0.46	0.54
Molybdenum (percent)	0.02	0.02	0.02
Copper recovery rate (percent)	85.8	81.5	88.1
Copper production (millions of recoverable pounds)	1,000	439	660

- a. Includes the results of the Candelaria and Ojos del Salado mines prior to their sale in November 2014; sales volumes from the Candelaria and Ojos del Salado mines totaled 268 million pounds of copper in 2014.
- b. Refer to "Consolidated Results" for our consolidated molybdenum sales volumes, which includes sales of molybdenum produced at Cerro Verde.

Higher consolidated copper sales volumes from South America of 1.3 billion pounds in 2016, compared with 871 million in 2015, primarily reflect Cerro Verde's expanded operations.

Copper sales volumes from our South America mining operations totaled 871 million pounds in 2015, and were lower compared with 1.1 billion pounds in 2014, primarily reflecting the November 2014 sale of the Candelaria and Ojos del Salado mines and lower ore grades at El Abra, partly offset by higher mining and milling rates at Cerro Verde.

For the year 2017, consolidated sales volumes from South America mines are expected to approximate 1.3 billion pounds of copper. Refer to "Outlook" for projected molybdenum sales volumes.

Unit Net Cash Costs. Unit net cash costs per pound of copper is a measure intended to provide investors with information about the cash-generating capacity of our mining operations expressed on a basis relating to the primary metal product for our respective operations. We use this measure for the same purpose and for monitoring operating performance by our mining operations. This information differs from measures of performance determined in accordance with U.S. GAAP and should not be considered in isolation or as a substitute for measures of performance determined in accordance with U.S. GAAP. This measure is presented by other metals mining companies, although our measure may not be comparable to similarly titled measures reported by other companies.

Gross Profit per Pound of Copper

The following tables summarize unit net cash costs and gross profit per pound of copper at our South America mining operations for the years ended December 31. Unit net cash costs per pound of copper are reflected under the by-product and co-product methods as the South America mining operations also had sales of molybdenum, gold and silver. Refer to “Product Revenues and Production Costs” for an explanation of the “by-product” and “co-product” methods and a reconciliation of unit net cash costs per pound to production and delivery costs applicable to sales reported in our consolidated financial statements.

	2016		2015		2014	
	By-Product Method	Co-Product Method	By-Product Method	Co-Product Method	By-Product Method	Co-Product Method
Revenues, excluding adjustments	\$ 2.31	\$ 2.31	\$ 2.38	\$ 2.38	\$ 3.08	\$ 3.08
Site production and delivery, before net noncash and other costs shown below	1.26	1.20	1.60	1.56	1.62	1.51
By-product credits	(0.10)	—	(0.05)	—	(0.22)	—
Treatment charges	0.24	0.24	0.19	0.19	0.17	0.17
Royalty on metals	0.01	—	—	—	0.01 ^a	—
Unit net cash costs	1.41	1.44	1.74	1.75	1.58	1.68
DD&A	0.41	0.39	0.40	0.39	0.32	0.31
Metals inventory adjustments	—	—	0.08	0.08	—	—
Noncash and other costs, net	0.03	0.03	0.05	0.05	0.06	0.06
Total unit costs	1.85	1.86	2.27	2.27	1.96	2.05
Revenue adjustments, primarily for pricing on prior period open sales	0.01	0.01	(0.03)	(0.03)	(0.05)	(0.05)
Gross profit per pound	\$ 0.47	\$ 0.46	\$ 0.08	\$ 0.08	\$ 1.07	\$ 0.98
Copper sales (millions of recoverable pounds)	1,332	1,332	871	871	1,135	1,135

- a. Excluding the results of Candelaria and Ojos del Salado mines, South America mining's unit net cash costs averaged \$1.57 per pound of copper in 2014.

During 2016, unit net cash costs (net of by-product credits) for the South America mines were \$1.33 per pound of copper for the Cerro Verde mine and \$1.77 per pound for the El Abra mine and averaged \$1.41 per pound. Lower average unit net cash costs (net of by-product credits) for our South America mining operations in 2016, compared with \$1.74 per pound in 2015, primarily reflect higher copper sales volumes and efficiencies associated with the Cerro Verde expansion.

Unit net cash costs (net of by-product credits) for our South America mining operations increased to \$1.74 per pound of copper in 2015, compared with \$1.58 per pound in 2014, primarily reflecting lower by-product credits.

Revenues from Cerro Verde's concentrate sales are recorded net of treatment charges. Accordingly, treatment charges will vary with Cerro Verde's sales volumes and the price of copper.

Because certain assets are depreciated on a straight-line basis, South America's unit depreciation rate may vary with asset additions and the level of copper production and sales.

Revenue adjustments primarily result from changes in prices on provisionally priced copper sales recognized in prior periods. Refer to “Consolidated Results - Revenues” for further discussion of adjustments to prior period provisionally priced copper sales.

Average unit net cash costs (net of by-product credits) for our South America mining operations are expected to approximate \$1.61 per pound of copper for the year 2017, based on current sales volume and cost estimates, and assuming average prices of \$7.00 per pound of molybdenum in 2017.

Indonesia Mining

Indonesia mining includes PT-FI's Grasberg minerals district, one of the world's largest copper and gold deposits, in Papua, Indonesia. We own 90.64 percent of PT-FI, including 9.36 percent owned through our wholly owned subsidiary, PT Indocopper Investama.

PT-FI proportionately consolidates an unincorporated joint venture with Rio Tinto plc (Rio Tinto), under which Rio Tinto has a 40 percent interest in certain assets and a 40 percent interest through 2022 (previously 2021 before recent adjustments caused by production shortfalls) in production exceeding specified annual amounts of copper, gold and silver. After 2022, all production and related revenues and costs are shared 60 percent PT-FI and 40 percent Rio Tinto. Refer to Note 3 for further discussion of our joint venture with Rio Tinto. Under the joint venture arrangements, PT-FI was allocated nearly 100 percent of copper, gold and silver production and sales for each of the three years ended December 31, 2016. At December 31, 2016, the amounts allocated 100 percent to PT-FI remaining to be produced totaled 5.7 billion pounds of copper, 8.6 million ounces of gold and 15.7 million ounces of silver. Based on the current mine plans, PT-FI anticipates that it will be allocated most of the production and related revenues and costs through 2022.

PT-FI produces copper concentrate that contains significant quantities of gold and silver. Substantially all of PT-FI's copper concentrate is sold under long-term contracts, and in 2016, approximately 42 percent of PT-FI's copper concentrate was sold to PT Smelting.

Regulatory Matters. PT-FI continues to seek approval from Indonesian authorities for the export of its copper concentrate, consistent with its rights under the COW.

In January 2014, the Indonesian government published regulations that among other things imposed a progressive export duty on copper concentrate and restricts concentrate exports after January 12, 2017. Despite PT-FI's rights under its COW to export concentrate without the payment of duties, PT-FI was unable to obtain administrative approval for exports and operated at approximately half of its capacity from mid-January 2014 through July 2014.

In July 2014, PT-FI and the Indonesian government entered into a Memorandum of Understanding (MOU) in which, subject to concluding an agreement to extend PT-FI's operations beyond 2021 on acceptable terms, PT-FI agreed to construct new smelter capacity in Indonesia and to divest an additional 20.64 percent interest in PT-FI at fair market value. Under the MOU, PT-FI provided a \$115 million assurance bond to support its commitment for smelter development, agreed to increase royalty rates and agreed to pay export duties until certain smelter development milestones were met. The MOU also anticipated an amendment of the COW within six months to address other matters; however, no terms of the COW other than those relating to the smelter bond, increased royalties and export duties were changed. In January 2015, the MOU was extended to July 25, 2015, and it expired on that date. The Indonesian government has continued to impose the increased royalty rates, export duties and smelter assurance bond.

In October 2015, the Indonesian government provided a letter of assurance to PT-FI indicating that it would revise regulations allowing it to approve the extension of PT-FI's operations beyond 2021, and provide the same rights and the same level of legal and fiscal certainty provided under the current COW.

In January and February 2017, the Indonesian government issued new regulations to address exports of unrefined metals, including copper concentrate and anode slimes, and other matters related to the mining sector. The new regulations permit the continuation of copper concentrate exports for a five-year period through January 2022, subject to various conditions, including conversion from a contract of work to a special operating license (known as an IUPK, which provides virtually none of the protections of a contract of work), commitment to completion of smelter construction in five years and payment of export duties to be determined by the Ministry of Finance. In addition, the new regulations enable application for extension of operating rights five years before expiration of the IUPK and require foreign IUPK holders to divest 51 percent to Indonesian interests no later than the tenth year of production. Export licenses would be valid for one-year periods, subject to review every six months, depending on smelter construction progress.

The January 2017 regulations permit the export of anode slimes, which is necessary for PT Smelting to continue operating. PT Smelting is seeking to renew its anode slimes export license; however, we cannot predict when PT Smelting's anode slimes export license may be renewed. In addition, a labor strike at PT Smelting has resulted in a shutdown of its operations since January 19, 2017. Although PT-FI is taking near-term actions to reduce production to match available processing capacity at PT Smelting, or approximately 40 percent of PT-FI's concentrate

production capacity, on February 10, 2017, PT-FI was forced to suspend production as a result of limited storage capacity at PT-FI and PT Smelting. PT Smelting has indicated that it expects to resume operations in March 2017. Delays in PT Smelting obtaining its anode slimes export license or restarting operations could further impact PT-FI's operations.

Following the issuance of the January and February 2017 regulations and discussions with the government, PT-FI advised the Indonesian government that it was prepared to convert its COW to an IUPK, subject to obtaining an investment stability agreement providing equivalent rights with the same level of legal and fiscal certainty enumerated under its COW, and provided that the COW would remain in effect until it is replaced by a mutually satisfactory alternative. PT-FI also committed to commence construction of a new smelter during a five-year timeframe after approval of the extension of its long-term operating rights.

Under its COW, PT-FI has specified rights to export copper concentrate without restriction or payment of export duties. PT-FI has requested that concentrate exports be permitted without the imposition of export duties while the new license and stability agreement are negotiated. The Indonesia government has indicated that in order to export its concentrate production, PT-FI would be required to immediately convert to an IUPK, forgo its current rights to fiscal and legal certainty and commit to a new smelter prior to completing a long-term investment stability agreement. PT-FI has advised the Indonesian government that attempts to enforce the new regulations on PT-FI violates its COW and that it is unwilling to terminate its COW unless replaced by a mutually acceptable form of agreement providing fiscal and legal assurances to support its long-term investment plans in Papua, Indonesia.

As of February 24, 2017, PT-FI has not obtained approval to export concentrate and production remains suspended. PT-FI is taking near-term actions to reduce production to match available processing capacity at PT Smelting, or approximately 40 percent of PT-FI's concentrate production capacity (assuming that PT Smelting's export license is approved and its operations are resumed in March 2017). PT-FI has begun to significantly adjust its cost structure, reduce its workforce and spending with local suppliers, and suspend investments in its underground development projects and new smelter.

On February 17, 2017, pursuant to the COW's dispute resolution provisions, PT-FI provided formal notice to the Indonesian government of an impending dispute listing the government's breaches and violations of the COW, which are described in "Risk Factors" contained in Part 1, Item 1A. of our annual report on Form 10-K for the year ended December 31, 2016.

In January 2017, the Indonesia Tax Court issued a ruling against PT-FI with respect to assessments from the local regional tax authority in Papua, Indonesia, for additional taxes and penalties related to surface water taxes for the period from January 2011 through July 2015 in the amount of \$376 million (based on the exchange rate as of December 31, 2016, and including \$227 million in penalties). The aggregate amount of assessments received from August 2015 through December 2016 was an additional \$93 million, including penalties (based on the exchange rate as of December 31, 2016). PT-FI continues to believe that its COW exempts it from these payments, and that PT-FI has the right to contest these assessments by appeal to the Indonesia Supreme Court and/or by instituting dispute resolution proceedings under the COW. In addition, on February 17, 2017, PT-FI provided formal notice to the Indonesian government of an impending dispute listing the government's breaches and violations of the COW, including the imposition of surface water taxes in excess of the restrictions imposed by the COW. As of February 24, 2017, PT-FI has not paid and does not intend to pay amounts to the local regional tax authority related to these assessments for additional taxes and penalties. Refer to Note 12 for further discussion.

Refer to "Risk Factors" contained in Part I, Item 1A. of our annual report on Form 10-K for the year ended December 31, 2016, for discussion of risks associated with our operations in Indonesia.

Operating and Development Activities. PT-FI is currently mining the final phase of the Grasberg open pit, which contains high copper and gold ore grades. PT-FI expects to mine high-grade ore over the next several quarters prior to transitioning to the Grasberg Block Cave underground mine during 2018.

PT-FI has several projects in progress in the Grasberg minerals district related to the development of its large-scale, long-lived, high-grade underground ore bodies. In aggregate, these underground ore bodies are expected to produce large-scale quantities of copper and gold following the transition from the Grasberg open pit. From 2017 to 2021, estimated aggregate capital spending on these projects was expected to average \$1.0 billion per year (\$0.8 billion per year net to PT-FI). Considering the long-term nature and size of these projects, actual costs could vary from these estimates. Additionally, in response to market conditions and Indonesian regulatory uncertainty, the

timing of these expenditures continues to be reviewed. PT-FI has begun suspending investments in its underground development projects, pending resolution of its long-term mining rights. If PT-FI is unable to reach agreement with the Indonesian government on its long-term mining rights, we may be required to further reduce or defer investments in underground development projects.

The following provides additional information on the continued development of the Common Infrastructure project, the Grasberg Block Cave underground mine and the Deep Mill Level Zone (DMLZ) ore body that lies below the Deep Ore Zone (DOZ) underground mine. Our current plans and mineral reserves in Indonesia assume that PT-FI's COW will be extended beyond 2021.

Common Infrastructure and Grasberg Block Cave Mine. In 2004, PT-FI commenced its Common Infrastructure project to provide access to its large undeveloped underground ore bodies located in the Grasberg minerals district through a tunnel system located approximately 400 meters deeper than its existing underground tunnel system. In addition to providing access to our underground ore bodies, the tunnel system will enable PT-FI to conduct future exploration in prospective areas associated with currently identified ore bodies. The tunnel system was completed to the Big Gossan terminal, and the Big Gossan mine was brought into production in 2010. Production from the Big Gossan mine restarted in fourth-quarter 2016 and is expected to ramp up to 7,000 metric tons of ore per day in 2022. Development of the DMLZ and Grasberg Block Cave underground mines is advancing using the Common Infrastructure project tunnels as access.

The Grasberg Block Cave underground mine accounts for approximately half of our recoverable proven and probable reserves in Indonesia. Production from the Grasberg Block Cave mine is expected to commence in 2018, following the end of mining of the Grasberg open pit. Targeted production rates once the Grasberg Block Cave mining operation reaches full capacity are expected to approximate 160,000 metric tons of ore per day. As a result of current market conditions, PT-FI is reviewing its operating plans to determine the optimum mine plan for the Grasberg Block Cave.

Previous estimates for aggregate mine development capital for the Grasberg Block Cave mine and associated Common Infrastructure approximated \$6.3 billion (incurred between 2008 to 2022), with PT-FI's share totaling approximately \$5.8 billion. Aggregate project costs totaling \$2.8 billion have been incurred through December 31, 2016 (\$0.6 billion during 2016). PT-FI has begun suspending investments in its underground development projects, pending resolution of its long-term mining rights. If PT-FI is unable to reach agreement with the Indonesian government on its long-term mining rights, we may be required to further reduce or defer investments in underground development projects.

DMLZ. The DMLZ ore body lies below the DOZ mine at the 2,590-meter elevation and represents the downward continuation of mineralization in the Ertsberg East Skarn system and neighboring Ertsberg porphyry. In September 2015, PT-FI initiated pre-commercial production that represents ore extracted during the development phase for the purpose of obtaining access to the ore body. Targeted production rates once the DMLZ underground mine reaches full capacity are expected to approximate 80,000 metric tons of ore per day in 2022.

Drilling efforts continue to determine the extent of the ore body. Aggregate mine development capital costs for the DMLZ underground mine are expected to approximate \$3.2 billion (incurred between 2009 and 2021), with PT-FI's share totaling approximately \$1.9 billion. Aggregate project costs totaling \$1.8 billion have been incurred through December 31, 2016 (\$0.3 billion during 2016). PT-FI has begun suspending investments in its underground development projects, pending resolution of its long-term mining rights. If PT-FI is unable to reach agreement with the Indonesian government on its long-term mining rights, we may be required to further reduce or defer investments in underground development projects.

Operating Data. Following is summary operating data for our Indonesia mining operations for the years ended December 31.

	2016	2015	2014
Operating Data, Net of Joint Venture Interest			
Copper (millions of recoverable pounds)			
Production	1,063	752	636
Sales	1,054	744	664
Average realized price per pound	\$ 2.32	\$ 2.33	\$ 3.01
Gold (thousands of recoverable ounces)			
Production	1,061	1,232	1,130
Sales	1,054	1,224	1,168
Average realized price per ounce	\$ 1,237	\$ 1,129	\$ 1,229
100% Operating Data			
Ore milled (metric tons per day): ^a			
Grasberg open pit	119,700	115,900	69,100
DOZ underground mine ^b	38,000	43,700	50,500
DMLZ underground mine	4,400	2,900	—
Grasberg Block Cave underground mine	2,700	—	—
Big Gossan underground mine	900	—	900
Total	<u>165,700</u>	<u>162,500</u>	<u>120,500</u>
Average ore grade:			
Copper (percent)	0.91	0.67	0.79
Gold (grams per metric ton)	0.68	0.79	0.99
Recovery rates (percent):			
Copper	91.0	90.4	90.3
Gold	82.2	83.4	83.2
Production (recoverable):			
Copper (millions of pounds)	1,063	752	651
Gold (thousands of ounces)	1,061	1,232	1,132

a. Amounts represent the approximate average daily throughput processed at PT-FI's mill facilities from each producing mine and from development activities that result in metal production.

b. Ore milled from the DOZ underground mine is expected to ramp up to over 60,000 metric tons of ore per day in 2017.

Sales volumes from our Indonesia mining operations totaled 1.1 billion pounds of copper and 1.1 million ounces of gold in 2016, compared with 744 million pounds of copper and 1.2 million ounces of gold in 2015. Higher copper sales volumes in 2016 primarily reflect higher copper ore grades. Lower gold sales volumes in 2016 primarily reflect lower gold ore grades.

Sales volumes from our Indonesia mining operations totaled 744 million pounds of copper and 1.2 million ounces of gold in 2015, compared with 664 million pounds of copper and 1.2 million ounces of gold in 2014, reflecting higher mill rates because of the 2014 export restrictions, partly offset by lower ore grades.

At the Grasberg mine, the sequencing of mining areas with varying ore grades causes fluctuations in quarterly and annual production of copper and gold. Consolidated sales volumes from Indonesia mining operations included in our January 2017 projections (assuming the resumption of concentrate exports in February 2017, which has not occurred as of February 24, 2017) were expected to approximate 1.3 billion pounds of copper and 2.2 million ounces of gold for 2017. PT-FI's first-quarter 2017 production has been adversely impacted by the suspension of its concentrate exports and a labor strike at PT Smelting, which resulted in a shutdown of its operations since January 19, 2017. PT Smelting has advised PT-FI that it expects to resume operations in March 2017. Assuming resumption of PT Smelting's operations in March 2017 and a continuation of the ban on PT-FI's copper concentrate exports, we estimate our first-quarter 2017 sales will be reduced, resulting in deferrals of approximately 170 million pounds of copper and 270 thousand ounces of gold. For each month of delay in obtaining approval to export, PT-FI's share of production is projected to be reduced by approximately 70 million pounds of copper and 70 thousand ounces of gold.

Unit Net Cash Costs. Unit net cash costs per pound of copper is a measure intended to provide investors with information about the cash-generating capacity of our mining operations expressed on a basis relating to the primary metal product for our respective operations. We use this measure for the same purpose and for monitoring operating performance by our mining operations. This information differs from measures of performance determined in accordance with U.S. GAAP and should not be considered in isolation or as a substitute for measures of performance determined in accordance with U.S. GAAP. This measure is presented by other metal mining companies, although our measure may not be comparable to similarly titled measures reported by other companies.

Gross Profit per Pound of Copper and per Ounce of Gold

The following tables summarize the unit net cash costs and gross profit per pound of copper and per ounce of gold at our Indonesia mining operations for the years ended December 31. Refer to “Product Revenues and Production Costs” for an explanation of “by-product” and “co-product” methods and a reconciliation of unit net cash costs per pound to production and delivery costs applicable to sales reported in our consolidated financial statements.

	2016			2015		
	By-Product	Co-Product Method		By-Product	Co-Product Method	
	Method	Copper	Gold	Method	Copper	Gold
Revenues, excluding adjustments	\$ 2.32	\$ 2.32	\$ 1,237	\$ 2.33	\$ 2.33	\$ 1,129
Site production and delivery, before net noncash and other costs shown below	1.63	1.05	559	2.39	1.32	638
Gold and silver credits	(1.30)	—	—	(1.91)	—	—
Treatment charges	0.28	0.18	97	0.31	0.17	83
Export duties	0.09	0.06	31	0.15	0.08	39
Royalty on metals	0.13	0.07	47	0.15	0.09	41
Unit net cash costs	0.83	1.36	734	1.09	1.66	801
DD&A	0.36	0.24	125	0.39	0.22	105
Noncash and other costs, net	0.05	0.03	17	0.05	0.03	14
Total unit costs	1.24	1.63	876	1.53	1.91	920
Revenue adjustments, primarily for pricing on prior period open sales	—	—	16	(0.07)	(0.06)	7
PT Smelting intercompany (loss) profit	(0.02)	(0.02)	(8)	0.01	0.01	4
Gross profit per pound/ounce	\$ 1.06	\$ 0.67	\$ 369	\$ 0.74	\$ 0.37	\$ 220
Copper sales (millions of recoverable pounds)	1,054	1,054		744	744	
Gold sales (thousands of recoverable ounces)			1,054			1,224

A significant portion of PT-FI's costs are fixed and unit costs vary depending on volumes and other factors. Indonesia's unit net cash costs (including gold and silver credits) of \$0.83 per pound of copper in 2016 were lower than unit net cash costs of \$1.09 per pound in 2015, primarily reflecting higher copper sales volumes, partly offset by lower gold and silver credits.

Treatment charges vary with the volume of metals sold and the price of copper, and royalties vary with the volume of metals sold and the prices of copper and gold.

Export duties were initially set at 7.5 percent in July 2014 and were reduced to 5.0 percent in July 2015 as a result of smelter development progress. Export duties totaled \$95 million in 2016, \$109 million in 2015 and \$77 million in 2014.

PT-FI's royalties totaled \$131 million in 2016, \$114 million in 2015 and \$115 million in 2014. Refer to Note 13 for further discussion of PT-FI's royalties.

Because certain assets are depreciated on a straight-line basis, PT-FI's unit depreciation rate varies with the level of copper production and sales.

Revenue adjustments primarily result from changes in prices on provisionally priced copper sales recognized in prior periods. Refer to “Consolidated Results - Revenues” for further discussion of adjustments to prior period provisionally priced copper sales.

PT Smelting intercompany (loss) profit represents the change in the deferral of 25 percent of PT-FI's profit on sales to PT Smelting. Refer to "Operations - Smelting & Refining" for further discussion.

Anticipated higher ore grades from the Grasberg mine are expected to result in lower unit net cash costs in 2017. Assuming an average gold price of \$1,200 per ounce for 2017 and achievement of the sales volume and cost estimates included in our January 2017 projections (including the resumption of concentrate exports by PT-FI in February 2017, which has not occurred as of February 24, 2017), unit net cash credits (net of gold and silver credits) for Indonesia mining were expected to approximate \$0.03 per pound of copper for the year 2017. Indonesia mining's unit net cash credits would change by approximately \$0.075 per pound for each \$50 per ounce change in the average price of gold during 2017. Because of the fixed nature of a large portion of Indonesia's costs, unit costs vary from quarter to quarter depending on copper and gold volumes.

	2015			2014		
	By-Product Method	Co-Product Method		By-Product Method	Co-Product Method	
		Copper	Gold		Copper	Gold
Revenues, excluding adjustments	\$ 2.33	\$ 2.33	\$ 1,129	\$ 3.01	\$ 3.01	\$ 1,229
Site production and delivery, before net noncash and other costs shown below	2.39	1.32	638	2.76 ^a	1.59	648
Gold and silver credits	(1.91)	—	—	(2.25)	—	—
Treatment charges	0.31	0.17	83	0.26	0.15	61
Export duties	0.15	0.08	39	0.12	0.06	27
Royalty on metals	0.15	0.09	41	0.17	0.10	41
Unit net cash costs	1.09	1.66	801	1.06	1.90	777
DD&A	0.39	0.22	105	0.40 ^a	0.23	94
Noncash and other costs, net	0.05	0.03	14	0.29	0.17	68
Total unit costs	1.53	1.91	920	1.75	2.30	939
Revenue adjustments, primarily for pricing on prior period open sales	(0.07)	(0.06)	7	(0.08)	(0.08)	15
PT Smelting intercompany profit	0.01	0.01	4	0.05	0.03	12
Gross profit per pound/ounce	\$ 0.74	\$ 0.37	\$ 220	\$ 1.23	\$ 0.66	\$ 317
Copper sales (millions of recoverable pounds)	744	744		664	664	
Gold sales (thousands of recoverable ounces)			1,224			1,168

- a. Fixed costs totaling \$0.22 per pound of copper charged directly to cost of sales as a result of the impact of export restrictions on PT-FI's operating rates are excluded from site production and delivery and included in net noncash and other costs in 2014.

Unit net cash costs (net of gold and silver credits) for our Indonesia mining operations of \$1.09 per pound of copper in 2015 were higher than unit net cash costs of \$1.06 per pound in 2014, primarily reflecting lower gold and silver credits, partly offset by lower site production and delivery mostly associated with lower diesel costs and foreign exchange impacts.

Molybdenum Mines

We have two wholly owned molybdenum mines in North America – the Henderson underground mine and the Climax open-pit mine, both in Colorado. The Henderson and Climax mines produce high-purity, chemical-grade molybdenum concentrate, which is typically further processed into value-added molybdenum chemical products. The majority of the molybdenum concentrate produced at the Henderson and Climax mines, as well as from our North and South America copper mines, is processed at our own conversion facilities.

Operating and Development Activities. In response to market conditions, the Henderson molybdenum mine operated at reduced rates during 2016, resulting in an approximate 65 percent reduction in its annual production volumes. During 2016, we incorporated changes in the commercial pricing structure for our molybdenum-based chemical products to enable continuation of chemical-grade production.

Production from the Molybdenum mines totaled 26 million pounds of molybdenum in 2016, 48 million pounds in 2015 and 51 million pounds in 2014. Refer to "Consolidated Results" for our consolidated molybdenum operating

data, which includes sales of molybdenum produced at our Molybdenum mines, and from our North and South America copper mines, and refer to "Outlook" for projected consolidated molybdenum sales volumes.

Unit Net Cash Costs Per Pound of Molybdenum. Unit net cash costs per pound of molybdenum is a measure intended to provide investors with information about the cash-generating capacity of our mining operations expressed on a basis relating to the primary metal product for our respective operations. We use this measure for the same purpose and for monitoring operating performance by our mining operations. This information differs from measures of performance determined in accordance with U.S. GAAP and should not be considered in isolation or as a substitute for measures of performance determined in accordance with U.S. GAAP. This measure is presented by other metals mining companies, although our measure may not be comparable to similarly titled measures reported by other companies.

Average unit net cash costs for our molybdenum mines totaled \$8.36 per pound of molybdenum in 2016, \$7.11 per pound in 2015 and \$7.08 per pound in 2014. The increase in the average unit net cash costs for molybdenum in 2016, compared to 2015 and 2014, primarily reflects lower volumes. Assuming achievement of current sales volume and cost estimates, we estimate unit net cash costs for the Molybdenum mines to average \$7.75 per pound of molybdenum for the year 2017. Refer to "Product Revenues and Production Costs" for a reconciliation of unit net cash costs per pound to production and delivery costs applicable to sales reported in our consolidated financial statements.

Smelting & Refining

We wholly own and operate a smelter in Arizona (Miami smelter) and a smelter and refinery in Spain (Atlantic Copper). Additionally, PT-FI owns 25 percent of a smelter and refinery in Gresik, Indonesia (PT Smelting). Treatment charges for smelting and refining copper concentrate consist of a base rate per pound of copper and per ounce of gold and are generally fixed. Treatment charges represent a cost to our mining operations and income to Atlantic Copper and PT Smelting. Thus, higher treatment charges benefit our smelter operations and adversely affect our mining operations. Our North America copper mines are less significantly affected by changes in treatment charges because these operations are largely integrated with our Miami smelter. Through this form of downstream integration, we are assured placement of a significant portion of our concentrate production.

Atlantic Copper smelts and refines copper concentrate and markets refined copper and precious metals in slimes. Following is a summary of Atlantic Copper's concentrate purchases from our copper mining operations and third parties for the years ended December 31:

	2016	2015	2014
North America copper mines	13%	23%	21%
South America mining	7	3 ^a	21
Indonesia mining	3	3	8
Third parties	77	71	50
	<u>100%</u>	<u>100%</u>	<u>100%</u>

- a. The decrease in purchases from the South America mines, compared to 2014, primarily reflects the impact of the November 2014 sale of the Candelaria and Ojos del Salado mines.

PT-FI's contract with PT Smelting provides for PT-FI to supply 100 percent of the copper concentrate requirements (subject to a minimum or maximum treatment charge rate) necessary for PT Smelting to produce 205,000 metric tons of copper annually on a priority basis. An extension of the minimum and maximum treatment charge rate, which expires in April 2017, is currently being negotiated. PT-FI may also sell copper concentrate to PT Smelting at market rates for quantities in excess of 205,000 metric tons of copper annually. PT-FI supplied 88 percent of PT Smelting's concentrate requirements in 2016 and approximately 80 percent in both 2015 and 2014. PT Smelting processed 42 percent in 2016, 37 percent in 2015 and 58 percent in 2014 of PT-FI's concentrate production.

Refer to "Operations - Indonesia Mining" and "Risk Factors" contained in Part I, Item 1A. of our annual report on Form 10-K for the year ended December 31, 2016, for information regarding Indonesia regulatory matters that impact the export of anode slimes by PT Smelting.

We defer recognizing profits on sales from our mining operations to Atlantic Copper and on 25 percent of PT-FI's sales to PT Smelting until final sales to third parties occur. Changes in these deferrals attributable to variability in intercompany volumes resulted in net (reductions) additions to net income attributable to common stock of \$(8) million (\$(0.01) per share) in 2016, \$42 million (\$0.04 per share) in 2015 and \$43 million (\$0.04 per share) in 2014.

Our net deferred profits on our inventories at Atlantic Copper and PT Smelting to be recognized in future periods' net income attributable to common stock totaled \$43 million at December 31, 2016. Quarterly variations in ore grades, the timing of intercompany shipments and changes in product prices will result in variability in our net deferred profits and quarterly earnings.

Oil and Gas Operations

In December 2016, we completed the sales of the Deepwater GOM and onshore California oil and gas properties and, in July 2016, completed the sale of the Haynesville shale assets (refer to Note 2 for further discussion). In January 2017, we entered into an agreement to sell our property interests in the Madden area. Following the completion of the Madden transaction, our portfolio of oil and gas assets would include oil and natural gas production onshore in South Louisiana and on the GOM Shelf and oil production offshore California, which had total oil and gas sales volumes of 6.4 MMBOE during 2016.

Impairment of Oil and Gas Properties. Under the SEC's full cost accounting rules, a "ceiling test" is conducted each quarter to review the carrying value of the oil and gas properties for impairment. Refer to Note 1 and "Critical Accounting Estimates" for further discussion. The combined impact of the reduction in twelve-month historical prices and reserve revisions caused net capitalized costs with respect to FM O&G's proved U.S. oil and gas properties to exceed the ceiling test limitation specified by full cost accounting rules, which resulted in the recognition of impairment charges totaling \$4.3 billion in 2016, \$13.0 billion in 2015 and \$3.7 billion in 2014. We also recognized impairment charges of \$18 million in 2016 and \$164 million in 2015 for international oil and gas properties, primarily related to unsuccessful exploration activities in Morocco.

Following completion of the sales of our Deepwater GOM and onshore California oil and gas properties, at December 31, 2016, we had \$74 million remaining in our consolidated balance sheet for proved oil and gas properties, and no amounts recorded for unproved oil and gas properties.

U.S. Oil and Gas Operations. Following is summary operating results for the U.S. oil and gas operations for the years ended December 31:

	2016	2015	2014 ^a
Sales Volumes			
Oil (MMBbls)	34.4	35.3	40.1
Natural gas (Bcf)	65.1	89.7	80.8
NGLs (MMBbls)	1.8	2.4	3.2
MMBOE	47.1	52.6	56.8
Average Realizations^b			
Oil (per barrel)	\$ 39.13	\$ 57.11	\$ 90.00
Natural gas (per MMBtu)	\$ 2.38	\$ 2.59	\$ 4.23
NGLs (per barrel)	\$ 18.11	\$ 18.90	\$ 39.73
Gross Loss per BOE			
Realized revenues ^b	\$ 32.59	\$ 43.54	\$ 71.83
Cash production costs ^b	(15.19)	(18.59)	(20.08)
Cash operating margin ^b	17.40	24.95	51.75
DD&A	(18.47)	(34.28)	(40.34)
Impairment of oil and gas properties	(91.35)	(246.67)	(65.80)
Accretion and other costs	(23.10) ^c	(4.41) ^c	(1.69)
Net noncash mark-to-market (losses) gains on derivative contracts	(0.87)	(6.07)	11.03
Other revenues	0.44	0.43	0.06
Gross loss	<u>\$ (115.95)</u>	<u>\$ (266.05)</u>	<u>\$ (44.99)</u>

- a. Includes results of the Eagle Ford shale assets prior to their sale in June 2014.
- b. Cash operating margin for oil and gas operations reflects realized revenues less cash production costs. Realized revenues exclude noncash mark-to-market adjustments on derivative contracts, and cash production costs exclude accretion and other costs. For reconciliations of realized revenues (including average realizations for oil, natural gas and NGLs) and cash production costs to revenues and production and delivery costs reported in our consolidated financial statements, refer to the supplemental schedule, "Product Revenues and Production Costs."

- c. Includes \$21.63 per BOE in 2016 and \$3.58 per BOE in 2015 primarily for drillship settlements/idle rig and contract termination costs, inventory adjustments and other asset impairments.

Excluding the impact of realized cash gains (losses) on derivative contracts of \$0.17 per barrel in 2016, \$11.53 per barrel in 2015 and \$(2.76) per barrel in 2014, the average realized price for crude oil was \$38.96 per barrel in 2016 (86 percent of the average Brent crude oil price of \$45.13 per barrel), \$45.58 per barrel in 2015 (85 percent of the average Brent crude oil price of \$53.64 per barrel) and \$92.76 per barrel in 2014 (93 percent of the average Brent crude oil price of \$99.45 per barrel).

The average realized price for natural gas was \$2.38 per MMBtu in 2016, \$2.59 per MMBtu in 2015 and \$4.23 per MMBtu in 2014 (\$4.37 per MMBtu excluding the impact of derivative contracts), compared to the NYMEX natural gas price average of \$2.46 per MMBtu for the year 2016 contracts, \$2.26 per MMBtu for the year 2015 contracts, and \$4.41 per MMBtu for the year 2014 contracts.

Realized revenues for oil and gas operations of \$32.59 per BOE for 2016 were lower than realized revenues of \$43.54 per BOE for 2015, primarily reflecting lower oil prices and the impact of realized cash gains on derivative contracts in 2015 (cash gains of \$0.13 per BOE in 2016, compared with \$7.72 per BOE in 2015). Realized revenues for oil and gas operations of \$43.54 per BOE for 2015 were lower than realized revenues of \$71.83 per BOE for 2014, primarily reflecting lower oil prices and higher cash gains on derivative contracts (cash gains of \$7.72 per BOE in 2015, compared with cash losses of \$2.15 per BOE in 2014).

Cash production costs for oil and gas operations of \$15.19 per BOE for 2016 were lower than cash production costs of \$18.59 for 2015, primarily reflecting the impact of cost reduction efforts. Cash production costs of \$18.59 per BOE for 2015 were lower than cash production costs of \$20.08 per BOE for 2014, primarily reflecting lower well workover expense and steam gas costs in California.

Daily Sales Volumes. Following is a summary of average sales volumes per day by region for oil and gas operations for the years ended December 31:

	2016	2015	2014
Sales Volumes (MBOE per day):			
GOM ^a	85	83	73
California ^a	32	37	39
Haynesville/Madden/Other ^b	11	24	20
Eagle Ford ^c	—	—	24
Total oil and gas operations	<u>128</u>	<u>144</u>	<u>156</u>

- a. In December 2016, we completed the sales of the Deepwater GOM and onshore California oil and gas properties, which had average sales volumes of 100 MBOE per day in 2016.
- b. In July 2016, we completed the sale of the Haynesville shale assets, which contributed 7 MBOE per day to the 2016 average daily sales volumes.
- c. In June 2014, we completed the sale of the Eagle Ford shale assets.

Daily sales volumes averaged 128 MBOE for 2016, including 94 MBbls of crude oil, 178 MMcf of natural gas and 5 MBbls of NGLs; 144 MBOE for 2015, including 96 MBbls of crude oil, 246 MMcf of natural gas and 7 MBbls of NGLs; and 156 MBOE for 2014, including 110 MBbls of crude oil, 221 MMcf of natural gas and 9 MBbls of NGLs.

DISCONTINUED OPERATIONS**Africa Mining**

In November 2016, we completed the sale of our interest in TFHL, through which we held an effective 56 percent interest in the Tenke copper and cobalt mining concessions in the Southeast region of the DRC. In accordance with accounting guidelines, the operating results of Africa mining have been separately reported as discontinued operations in the consolidated statements of operations for all periods presented.

Operating Data. Following is summary operating data for our Africa mining operations for the years ended December 31:

	2016 ^a	2015	2014
Copper (millions of recoverable pounds)			
Production	425	449	447
Sales	424	467	425
Average realized price per pound ^b	\$ 2.10	\$ 2.42	\$ 3.06
Cobalt (millions of contained pounds)			
Production	32	35	29
Sales	33	35	30
Average realized price per pound	\$ 7.45	\$ 8.21	\$ 9.66
Ore milled (metric tons per day)	15,200	14,900	14,700
Average ore grade (percent):			
Copper	4.18	4.00	4.06
Cobalt	0.44	0.43	0.34
Copper recovery rate (percent)	93.6	94.0	92.6

a. Includes the results of Tenke through November 16, 2016.

b. Includes point-of-sale transportation costs as negotiated in customer contracts.

Sales volumes from TFM decreased to 424 million pounds of copper and 33 million pounds of cobalt in 2016, compared with 467 million pounds of copper and 35 million pounds of cobalt in 2015, primarily reflecting the November 2016 sale of our interest in TFHL.

Sales volumes from TFM increased to 467 million pounds of copper and 35 million pounds of cobalt in 2015, compared with 425 million pounds of copper and 30 million pounds of cobalt in 2014. Higher copper sales volumes primarily reflect timing of shipments and higher cobalt sales volumes primarily reflect higher ore grades.

Unit Net Cash Costs. Unit net cash costs per pound of copper is a measure intended to provide investors with information about the cash-generating capacity of our mining operations expressed on a basis relating to the primary metal product for our respective operations. We use this measure for the same purpose and for monitoring operating performance by our mining operations. This information differs from measures of performance determined in accordance with U.S. GAAP and should not be considered in isolation or as a substitute for measures of performance determined in accordance with U.S. GAAP. This measure is presented by other metals mining companies, although our measure may not be comparable to similarly titled measures reported by other companies.

Gross Profit per Pound of Copper and Cobalt. The following tables summarize the unit net cash costs and gross profit per pound of copper and cobalt at our Africa mining operations for the period from January 1, 2016, through November 16, 2016, and for the years ended December 31, 2015 and 2014. Refer to "Product Revenues and Production Costs" for an explanation of "by-product" and "co-product" methods and a reconciliation of unit net cash costs per pound to production and delivery costs applicable to sales reported in our consolidated financial statements.

	2016			2015		
	By-Product	Co-Product Method		By-Product	Co-Product Method	
	Method	Copper	Cobalt	Method	Copper	Cobalt
Revenues, excluding adjustments ^a	\$ 2.10	\$ 2.10	\$ 7.45	\$ 2.42	\$ 2.42	\$ 8.21
Site production and delivery, before net noncash and other costs shown below	1.58	1.37	5.25	1.58	1.37	5.40
Cobalt credits ^b	(0.39)	—	—	(0.42)	—	—
Royalty on metals	0.05	0.04	0.12	0.05	0.04	0.14
Unit net cash costs	1.24	1.41	5.37	1.21	1.41	5.54
DD&A	0.50	0.41	1.16	0.55	0.46	1.26
Noncash and other costs, net	0.05	0.04	0.12	0.07	0.06	0.16
Total unit costs	1.79	1.86	6.65	1.83	1.93	6.96
Revenue adjustments, primarily for pricing on prior period open sales	(0.01)	(0.01)	0.12	(0.01)	(0.01)	(0.02)
Gross profit per pound	\$ 0.30	\$ 0.23	\$ 0.92	\$ 0.58	\$ 0.48	\$ 1.23
Copper sales (millions of recoverable pounds)	424	424		467	467	
Cobalt sales (millions of contained pounds)			33			35

- a. Includes point-of-sale transportation costs as negotiated in customer contracts.
b. Net of cobalt downstream processing and freight costs.

Higher unit net cash costs (net of cobalt credits) for Africa mining of \$1.24 per pound of copper in 2016, compared with \$1.21 per pound of copper in 2015, primarily reflects lower cobalt credits.

	2015			2014		
	By-Product	Co-Product Method		By-Product	Co-Product Method	
	Method	Copper	Cobalt	Method	Copper	Cobalt
Revenues, excluding adjustments ^a	\$ 2.42	\$ 2.42	\$ 8.21	\$ 3.06	\$ 3.06	\$ 9.66
Site production and delivery, before net noncash and other costs shown below	1.58	1.37	5.40	1.56	1.39	5.30
Cobalt credits ^b	(0.42)	—	—	(0.48)	—	—
Royalty on metals	0.05	0.04	0.14	0.07	0.06	0.16
Unit net cash costs	1.21	1.41	5.54	1.15	1.45	5.46
DD&A	0.55	0.46	1.26	0.54	0.46	1.13
Noncash and other costs, net	0.07	0.06	0.16	0.05	0.04	0.11
Total unit costs	1.83	1.93	6.96	1.74	1.95	6.70
Revenue adjustments, primarily for pricing on prior period open sales	(0.01)	(0.01)	(0.02)	—	—	0.07
Gross profit per pound	\$ 0.58	\$ 0.48	\$ 1.23	\$ 1.32	\$ 1.11	\$ 3.03
Copper sales (millions of recoverable pounds)	467	467		425	425	
Cobalt sales (millions of contained pounds)			35			30

- a. Includes point-of-sale transportation costs as negotiated in customer contracts.
b. Net of cobalt downstream processing and freight costs.

Higher unit net cash costs (net of cobalt credits) for Africa mining of \$1.21 per pound of copper in 2015, compared with \$1.15 per pound of copper in 2014, primarily reflects lower cobalt credits.

CAPITAL RESOURCES AND LIQUIDITY

Our consolidated operating cash flows vary with prices realized from copper, gold and molybdenum, our sales volumes, production costs, income taxes, other working capital changes and other factors. During 2016, we took actions to restore our balance sheet strength through a combination of asset sale transactions, cash flow from operations and capital market transactions. During the year, we completed \$6.6 billion in asset sale transactions and generated gross proceeds of \$1.5 billion from a registered at-the-market offering of common stock. Refer to Notes 2 and 10 for further discussion. During 2016, we reduced total debt by \$4.3 billion, which included the repayment of the \$3.0 billion balance of the our term loan.

We have retained a high-quality portfolio of long-lived copper assets positioned to generate long-term value. In addition to debt reduction plans, we are pursuing opportunities to enhance our mines' net present values, and we continue to advance studies for future development of our copper resources, the timing of which will be dependent on market conditions.

Cash

Following is a summary of the U.S. and international components of consolidated cash and cash equivalents available to the parent company (excluding cash and cash equivalents in assets held for sale of \$16 million at December 31, 2016), net of noncontrolling interests' share, taxes and other costs at December 31, 2016 (in millions):

Cash at domestic companies	\$	3,908
Cash at international operations		337
Total consolidated cash and cash equivalents		<u>4,245</u>
Noncontrolling interests' share		(95)
Cash, net of noncontrolling interests' share		4,150
Withholding taxes and other		(22)
Net cash available	\$	<u><u>4,128</u></u>

Cash held at our international operations is generally used to support our foreign operations' capital expenditures, operating expenses, working capital and other tax payments or other cash needs. Management believes that sufficient liquidity is available in the U.S. from cash balances and availability from our revolving credit facility and uncommitted lines of credit. We have not elected to permanently reinvest earnings from our foreign subsidiaries, and we have recorded deferred tax liabilities for foreign earnings that are available to be repatriated to the U.S. From time to time, our foreign subsidiaries distribute earnings to the U.S. through dividends that are subject to applicable withholding taxes and noncontrolling interests' share.

Debt

Following is a summary of our total debt and related weighted-average interest rates at December 31, 2016 (in billions, except percentages):

	\$	Weighted-Average Interest Rate
Senior Notes	14.4	4.4%
Cerro Verde Credit Facility	1.4	2.7%
Other FCX debt	0.2	3.1%
Total debt	<u><u>\$ 16.0</u></u>	4.2%

At December 31, 2016, we had no borrowings, \$43 million in letters of credit issued and availability of \$3.5 billion under our revolving credit facility.

During 2016, we repaid the \$3.0 billion balance of our term loan with proceeds from asset sale transactions, purchased \$38 million of our senior notes in open-market transactions and exchanged \$369 million in senior notes for 27.7 million shares of our common stock in a series of privately negotiated transactions. Additionally, in December 2016, we completed an exchange offer and consent solicitations associated with the Freeport-McMoRan Oil & Gas LLC senior notes. Refer to Note 8 for further discussion of debt.

Operating Activities

We generated consolidated operating cash flows totaling \$3.7 billion in 2016 (including \$57 million in working capital sources and changes in other tax payments), \$3.2 billion in 2015 (including \$0.4 billion in working capital sources and changes in other tax payments) and \$5.6 billion in 2014 (net of \$0.6 billion in working capital uses and changes in other tax payments).

Higher consolidated operating cash flows for 2016, compared with 2015, primarily reflects the impact of cost reduction efforts, partly offset by a decrease in working capital sources mostly resulting from higher trade receivables, partly offset by lower tax payments by our international mining operations.

Lower consolidated operating cash flows for 2015, compared with 2014, primarily reflects the impact of lower commodity price realizations, partly offset by an increase in working capital sources mostly associated with accounts receivable associated with settlements of oil and gas derivative contracts and inventories reflecting a decrease in volumes and lower average costs.

Subject to future commodity prices for copper, gold and molybdenum, we expect estimated consolidated operating cash flows for the year 2017, plus available cash and availability under our credit facility and uncommitted lines of credit, to be sufficient to fund our budgeted capital expenditures, scheduled debt maturities, noncontrolling interest distributions and other cash requirements for the year. Refer to "Outlook" for further discussion of projected operating cash flows for the year 2017, and to "Operations - Indonesia Mining" and "Risk Factors" contained in Part I, Item 1A. of our annual report on Form 10-K for the year ended December 31, 2016, for discussion of regulatory matters in Indonesia, which may have a significant impact on future results.

Investing Activities

Capital Expenditures. Capital expenditures, including capitalized interest, totaled \$2.8 billion in 2016, consisting of \$1.6 billion for mining operations (including \$1.2 billion for major projects) and \$1.2 billion for oil and gas operations; \$6.4 billion in 2015, consisting of \$3.3 billion for mining operations (including \$2.4 billion for major projects) and \$3.0 billion for oil and gas operations; and \$7.2 billion in 2014, consisting of \$4.0 billion for mining operations (including \$2.9 billion for major projects) and \$3.2 billion for oil and gas operations.

Lower capital expenditures in 2016, compared with 2015, primarily reflect a decrease in oil and gas exploration and development activities in Deepwater GOM and lower spending for major mining projects, mostly resulting from the completion of the Cerro Verde expansion.

Lower capital expenditures in 2015, compared with 2014, primarily reflected decreased spending for major projects at mining operations, mostly resulting from the completion of the Morenci mill expansion, which was substantially completed in May 2014.

Refer to "Outlook" for further discussion of projected capital expenditures for the year 2017.

Dispositions and Acquisitions. Proceeds, net of closing adjustments, from asset sales totaled \$6.4 billion in 2016, primarily associated with the sales of our interest in TFHL, the Deepwater GOM, onshore California and Haynesville oil and gas properties, an additional 13 percent undivided interest in Morenci, and an interest in the Timok exploration project in Serbia.

Proceeds, net of closing adjustments, from asset sales in 2014 totaled \$4.6 billion, associated with the sales of our 80 percent ownership interest in the Candelaria and Ojos del Salado mines and the Eagle Ford shale assets. In 2014, we also acquired additional Deepwater GOM interests for \$1.4 billion.

Refer to Note 2 for further discussion of these dispositions and acquisitions.

Financing Activities

Debt Transactions. Net repayments of debt in 2016 totaled \$3.9 billion primarily for the repayment of the term loan and payments on the Cerro Verde credit facility.

Net proceeds from debt in 2015 totaled \$1.6 billion primarily reflecting borrowings of \$1.4 billion under Cerro Verde's credit facility to fund its expansion project.

During 2014, we completed the sale of \$3.0 billion of senior notes. The proceeds from these senior notes were used to fund our December 2014 tender offers for \$1.14 billion aggregate principal of senior notes, essentially all of our 2015 scheduled debt maturities, \$300 million of 7.625% Senior Notes, and to repay borrowings under our revolving credit facility.

Refer to Note 8 for further discussion of debt.

Equity Transactions. Net proceeds from the sale of common stock of \$1.5 billion in 2016 and \$1.9 billion in 2015 reflect sales of our common stock under registered at-the-market equity offerings. Refer to Note 10 for further discussion.

Dividends. The Board reduced our annual common stock dividend from \$1.25 per share to \$0.20 per share in March 2015, and subsequently suspended the annual common stock dividend in December 2015. The declaration of dividends is at the discretion of our Board and will depend upon our financial results, cash requirements, future prospects and other factors deemed relevant by our Board. Additionally, in connection with the February 2016 amendment to the revolving credit facility, we are not permitted to pay dividends on our common stock on or prior to March 31, 2017.

We paid dividends on our common stock totaling \$6 million in 2016 (all of which is related to accumulated dividends paid for vested stock-based compensation), \$605 million in 2015 (including \$115 million for a special dividend paid in accordance with the settlement terms of the shareholder derivative litigation) and \$1.3 billion in 2014.

Cash dividends and other distributions paid to noncontrolling interests totaled \$693 million (including \$582 million for the redemption of a redeemable noncontrolling interest) in 2016, \$120 million in 2015 and \$424 million in 2014. These payments will vary based on the operating results and cash requirements of our consolidated subsidiaries.

CONTRACTUAL OBLIGATIONS

We have contractual and other long-term obligations, including debt maturities based on the principal amounts, which we expect to fund with available cash, projected operating cash flows, availability under our revolving credit facility or future financing transactions, if necessary. Following is a summary of these various obligations at December 31, 2016 (in millions):

	Total	2017	2018 to 2019	2020 to 2021	Thereafter
Debt maturities	\$ 15,948	\$ 1,234	\$ 3,381	\$ 2,479	\$ 8,854
Scheduled interest payment obligations ^a	6,134	654	1,174	995	3,311
ARO and environmental obligations ^b	7,285	500	783	482	5,520
Take-or-pay contracts ^c	3,435	1,753	1,032	308	342
Operating lease obligations	251	45	58	39	109
Total ^d	<u>\$ 33,053</u>	<u>\$ 4,186</u>	<u>\$ 6,428</u>	<u>\$ 4,303</u>	<u>\$ 18,136</u>

- Scheduled interest payment obligations were calculated using stated coupon rates for fixed-rate debt and interest rates applicable at December 31, 2016, for variable-rate debt.
- Represents estimated cash payments, on an undiscounted and unescalated basis, associated with ARO and environmental activities (including \$714 million for our oil and gas operations). The timing and the amount of these payments could change as a result of changes in regulatory requirements, changes in scope and timing of ARO activities, the settlement of environmental matters and as actual spending occurs. Refer to Note 12 for additional discussion of environmental and ARO matters.
- Represents contractual obligations for purchases of goods or services agreements enforceable and legally binding and that specify all significant terms, and primarily include the procurement of copper concentrate (\$1.4 billion), cobalt (\$0.8 billion), electricity (\$0.5 billion) and transportation services (\$0.4 billion). Some of our take-or-pay contracts are settled based on the prevailing market rate for the service or commodity purchased, and in some cases, the amount of the actual obligation may change over time because of market conditions. Obligations for copper concentrate provide for deliveries of specified volumes to Atlantic Copper at market-based prices. Obligations for cobalt provide for deliveries of specified volumes to Freeport Cobalt at market-based prices. Electricity obligations are primarily for long-term power purchase agreements in North America and contractual minimum demand at the South America mines. Transportation obligations are primarily for South America contracted ocean freight.

As part of the termination and settlement of the drillship contracts, we agreed to provide contingent payments of up to \$105 million, depending on the average price of crude oil over the 12-month period ending June 30, 2017. At December 31, 2016,

we had recorded \$23 million for the fair value of contingent payments related to drillship settlements, which is included within the above amounts. Also included in the above amounts are oil and gas obligations related to the termination of contracts for support vessels and equipment.

- d. This table excludes certain other obligations in our consolidated balance sheets, such as estimated funding for pension, postretirement and other employee benefit obligations as the funding may vary from year to year based on changes in the fair value of plan assets and actuarial assumptions, commitments and contingencies totaling \$102 million and unrecognized tax benefits totaling \$167 million where the timing of settlement is not determinable, and other less significant amounts. This table also excludes purchase orders for inventory and other goods and services, as purchase orders typically represent authorizations to purchase rather than binding agreements.

In addition to our debt maturities and other contractual obligations discussed above, we have other commitments, which we expect to fund with available cash, projected operating cash flows, available credit facilities or future financing transactions, if necessary. These include (i) PT-FI's commitment to provide one percent of its annual revenue for the development of the local people in its area of operations through the Freeport Partnership Fund for Community Development, (ii) Cerro Verde's scheduled installment payments for disputed mining royalty assessments and (iii) other commercial commitments, including standby letters of credit, surety bonds and guarantees. Refer to Notes 12 and 13 for further discussion.

CONTINGENCIES

Environmental

The cost of complying with environmental laws is a fundamental and substantial cost of our business. At December 31, 2016, we had \$1.2 billion recorded in our consolidated balance sheet for environmental obligations attributed to CERCLA or analogous state programs and for estimated future costs associated with environmental obligations that are considered probable based on specific facts and circumstances.

We incurred environmental capital expenditures and other environmental costs (including our joint venture partners' shares) to comply with applicable environmental laws and regulations that affect our operations totaling \$0.4 billion in each of 2016, 2015 and 2014. For 2017, we expect to incur approximately \$0.6 billion of aggregate environmental capital expenditures and other environmental costs, which includes expenditures for Miami smelter pollution control equipment. The timing and amount of estimated payments could change as a result of changes in regulatory requirements, changes in scope and timing of reclamation and plug and abandonment activities, the settlement of environmental matters and the rate at which actual spending occurs on continuing matters.

Refer to Note 12 and "Risk Factors" contained in Part I, Item 1A. of our annual report on Form 10-K for the year ended December 31, 2016, for further information about environmental regulation, including significant environmental matters.

Asset Retirement Obligations

We recognize AROs as liabilities when incurred, with the initial measurement at fair value. These obligations, which are initially estimated based on discounted cash flow estimates, are accreted to full value over time through charges to cost of sales. Mine reclamation costs for disturbances are recorded as an ARO and as a related asset retirement cost (ARC) (included in property, plant, equipment and mine development costs) in the period of disturbance. Oil and gas plugging and abandonment costs are recognized as an ARO and as a related ARC (included in oil and gas properties) in the period in which the well is drilled or acquired. Our cost estimates are reflected on a third-party cost basis and comply with our legal obligation to retire tangible, long-lived assets. At December 31, 2016, we had \$2.6 billion recorded in our consolidated balance sheet for AROs, including \$0.6 billion related to our oil and gas properties. Spending on AROs totaled \$188 million in 2016, \$132 million in 2015 and \$101 million in 2014 (including \$133 million in 2016, \$92 million in 2015 and \$74 million in 2014 for our oil and gas operations). For 2017, we expect to incur approximately \$240 million in aggregate ARO payments. Refer to Note 12 for further discussion.

Litigation and Other Contingencies

Refer to Notes 2 and 12 and "Legal Proceedings" contained in Part I, Item 3. of our annual report on Form 10-K for the year ended December 31, 2016, for further discussion of contingencies associated with legal proceedings and other matters.

DISCLOSURES ABOUT MARKET RISKS

Commodity Price Risk

Our consolidated revenues from our mining operations include the sale of copper concentrate, copper cathode, copper rod, gold, molybdenum and other metals by our North and South America mines, the sale of copper concentrate (which also contains significant quantities of gold and silver) by our Indonesia mining operations, the sale of molybdenum in various forms by our molybdenum operations, and the sale of copper cathode, copper anode and gold in anode and slimes by Atlantic Copper. Our financial results will vary with fluctuations in the market prices of the commodities we produce, primarily copper and gold, and to a lesser extent molybdenum and silver. For projected sensitivities of our operating cash flow to changes in commodity prices, refer to "Outlook." World market prices for these commodities have fluctuated historically and are affected by numerous factors beyond our control. Refer to "Risk Factors" contained in Part I, Item 1A. of our annual report on Form 10-K for the year ended December 31, 2016, for further discussion of financial risks associated with fluctuations in the market prices of the commodities we sell.

During 2016, our mined copper (excluding volumes from Tenke) was sold 58 percent in concentrate, 21 percent as cathode and 21 percent as rod from North America operations. Substantially all of our 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. We receive market prices based on prices in the specified future period, which results in price fluctuations recorded through revenues until the date of settlement. We record revenues and invoice customers at the time of shipment based on then-current LME prices, which results in an embedded derivative on our provisionally priced concentrate and cathode sales that is adjusted to fair value through earnings each period, using the period-end forward prices, until final pricing on the date of settlement. To the extent final prices are higher or lower than what was recorded on a provisional basis, an increase or decrease to revenues is recorded each reporting period until the date of final pricing. Accordingly, in times of rising copper prices, our revenues benefit from adjustments to the final pricing of provisionally priced sales pursuant to contracts entered into in prior periods; in times of falling copper prices, the opposite occurs.

Following are the favorable (unfavorable) impacts of net adjustments to the prior years' provisionally priced copper sales for the years ended December 31 (in millions, except per share amounts):

	2016	2015	2014
Revenues	\$ 5	\$ (100)	\$ (117)
Net income attributable to common stock	\$ 2	\$ (50)	\$ (65)
Net income per share attributable to common stock	\$ —	\$ (0.05)	\$ (0.06)

At December 31, 2016, we had provisionally priced copper sales at our copper mining operations totaling 466 million pounds of copper (net of intercompany sales and noncontrolling interests) recorded at an average price of \$2.51 per pound, subject to final pricing over the next several months. We estimate that each \$0.05 change in the price realized from the December 31, 2016, provisional price recorded would have an approximate \$15 million effect on 2017 net income attributable to common stock. The LME spot copper price closed at \$2.73 per pound on February 15, 2017.

Foreign Currency Exchange Risk

The functional currency for most of our operations is the U.S. dollar. Substantially all of our revenues and a significant portion of our costs are denominated in U.S. dollars; however, some costs and certain asset and liability accounts are denominated in local currencies, including the Indonesian rupiah, Australian dollar, Peruvian sol, Chilean peso and euro. We recognized foreign currency translation gains (losses) on balances denominated in foreign currencies totaling \$32 million in 2016, \$(90) million in 2015 and \$(2) million in 2014, primarily at our Indonesia and South America mines. Generally, our operating results are positively affected when the U.S. dollar strengthens in relation to those foreign currencies and adversely affected when the U.S. dollar weakens in relation to those foreign currencies.

Following is a summary of estimated annual payments and the impact of changes in foreign currency rates on our annual operating costs:

	Exchange Rate per \$1 at December 31,			Estimated Annual Payments		10% Change in Exchange Rate (in millions) ^a	
	2016	2015	2014	(in local currency)	(in millions) ^b	Increase	Decrease
Indonesia							
Rupiah	13,369	13,726	12,378	7.7 trillion	\$ 576	\$ (52)	\$ 64
Australian dollar	1.39	1.37	1.22	230 million	\$ 166	\$ (15)	\$ 18
South America							
Peruvian sol	3.36	3.41	2.99	1.08 billion	\$ 321	\$ (29)	\$ 36
Chilean peso	670	710	607	104 billion	\$ 155	\$ (14)	\$ 17
Atlantic Copper							
Euro	0.95	0.92	0.82	140 million	\$ 147	\$ (13)	\$ 16

- a. Reflects the estimated impact on annual operating costs assuming a 10 percent increase or decrease in the exchange rate reported at December 31, 2016.
- b. Based on exchange rates at December 31, 2016.

Interest Rate Risk

At December 31, 2016, we had total debt maturities based on the principal amounts of \$15.9 billion, of which approximately 10 percent was variable-rate debt with interest rates based on the London Interbank Offered Rate. The table below presents average interest rates for our scheduled maturities of principal for our outstanding debt (excluding fair value adjustments) and the related fair values at December 31, 2016 (in millions, except percentages):

	2017	2018	2019	2020	2021	Thereafter	Fair Value
Fixed-rate debt	\$ 1,234	\$ 1,483	\$ 237	\$ 1,617	\$ 862	\$ 8,854	\$ 13,590
Average interest rate	2.2%	2.4%	6.1%	4.4%	4.8%	4.9%	4.4%
Variable-rate debt	—	\$ 770	\$ 891	—	—	—	\$ 1,606
Average interest rate	—	2.7%	2.8%	—	—	—	2.7%

NEW ACCOUNTING STANDARDS

Refer to Note 1 for discussion of recently issued accounting standards and their projected impact on our future financial statements and disclosures.

OFF-BALANCE SHEET ARRANGEMENTS

Refer to Note 13 for discussion of off-balance sheet arrangements.

PRODUCT REVENUES AND PRODUCTION COSTS**Mining Product Revenues and Unit Net Cash Costs**

Unit net cash costs per pound of copper and molybdenum are measures intended to provide investors with information about the cash-generating capacity of our mining operations expressed on a basis relating to the primary metal product for the respective operations. We use this measure for the same purpose and for monitoring operating performance by our mining operations. This information differs from measures of performance determined in accordance with U.S. GAAP and should not be considered in isolation or as a substitute for measures of performance determined in accordance with U.S. GAAP. This measure is presented by other metals mining companies, although our measures may not be comparable to similarly titled measures reported by other companies.

We present gross profit per pound of copper in the following tables using both a “by-product” method and a “co-product” method. We use the by-product method in our presentation of gross profit per pound of copper because (i) the majority of our revenues are copper revenues, (ii) we mine ore, which contains copper, gold, molybdenum and other metals, (iii) it is not possible to specifically assign all of our costs to revenues from the copper, gold, molybdenum and other metals we produce, (iv) it is the method used to compare mining operations in certain industry publications and (v) it is the method used by our management and the Board to monitor operations. In the co-product method presentation below, shared costs are allocated to the different products based on their relative revenue values, which will vary to the extent our metals sales volumes and realized prices change.

We show revenue adjustments for prior period open sales as separate line items. Because these adjustments do not result from current period sales, we have reflected these separately from revenues on current period sales. Noncash and other costs, which are removed from site production and delivery costs in the calculation of unit net cash costs, consist of items such as stock-based compensation costs, start-up costs, inventory adjustments, long-lived asset impairments, restructuring and/or unusual charges. As discussed above, gold, molybdenum and other metal revenues at copper mines are reflected as credits against site production and delivery costs in the by-product method. The following schedules for our mining operations are presentations under both the by-product and co-product methods together with reconciliations to amounts reported in our consolidated financial statements.

Oil and Gas Product Revenues and Cash Production Costs per Unit

Realized revenues and cash production costs per unit are measures intended to provide investors with information about the cash operating margin of our oil and gas operations expressed on a BOE basis. We use this measure for the same purpose and for monitoring operating performance by our oil and gas operations. This information differs from measures of performance determined in accordance with U.S. GAAP and should not be considered in isolation or as a substitute for measures of performance determined in accordance with U.S. GAAP. Our measures may not be comparable to similarly titled measures reported by other companies.

We show adjustments from derivative contracts as separate line items. Because these adjustments do not result from oil and gas sales, these gains and losses have been reflected separately from revenues on current period sales. Additionally, accretion, charges for asset retirement obligations and other costs, such as idle/terminated rig costs, inventory and/or unusual charges, are removed from production and delivery costs in the calculation of cash production costs per BOE. The following schedules include calculations of oil and gas product revenues and cash production costs together with a reconciliation to amounts reported in our consolidated financial statements.

North America Copper Mines Product Revenues and Production Costs

Year Ended December 31, 2016

(In millions)

	By-Product Method	Co-Product Method			Total
		Copper	Molybdenum ^a	Other ^b	
Revenues, excluding adjustments	\$ 4,113	\$ 4,113	\$ 213	\$ 94	\$ 4,420
Site production and delivery, before net noncash and other costs shown below	2,613	2,474	166	58	2,698
By-product credits	(222)	—	—	—	—
Treatment charges	193	185	—	8	193
Net cash costs	2,584	2,659	166	66	2,891
DD&A	527	496	20	11	527
Metals inventory adjustments	1	1	—	—	1
Noncash and other costs, net	87	84	2	1	87
Total costs	3,199	3,240	188	78	3,506
Revenue adjustments, primarily for pricing on prior period open sales	(1)	(1)	—	—	(1)
Gross profit	\$ 913	\$ 872	\$ 25	\$ 16	\$ 913

Copper sales (millions of recoverable pounds)

1,836

1,836

Molybdenum sales (millions of recoverable pounds)^a

33

Gross profit per pound of copper/molybdenum:

Revenues, excluding adjustments	\$ 2.24	\$ 2.24	\$ 6.34
Site production and delivery, before net noncash and other costs shown below	1.42	1.35	4.93
By-product credits	(0.12)	—	—
Treatment charges	0.11	0.10	—
Unit net cash costs	1.41	1.45	4.93
DD&A	0.29	0.27	0.60
Metals inventory adjustments	—	—	—
Noncash and other costs, net	0.05	0.05	0.06
Total unit costs	1.75	1.77	5.59
Revenue adjustments, primarily for pricing on prior period open sales	—	—	—
Gross profit per pound	\$ 0.49	\$ 0.47	\$ 0.75

Reconciliation to Amounts Reported

(In millions)

	Revenues	Production and Delivery	DD&A	Metals Inventory Adjustments
Totals presented above	\$ 4,420	\$ 2,698	\$ 527	\$ 1
Treatment charges	—	193	—	—
Noncash and other costs, net	—	87	—	—
Revenue adjustments, primarily for pricing on prior period open sales	(1)	—	—	—
Eliminations and other	(45)	(46)	3	—
North America copper mines	4,374	2,932	530	1
Other mining & eliminations ^c	8,943	5,911	1,117	35
Total mining	13,317	8,843	1,647	36
U.S. oil & gas operations	1,513	1,801	869	—
Corporate, other & eliminations	—	53	14	—
As reported in FCX's consolidated financial statements	\$ 14,830	\$ 10,697	\$ 2,530	\$ 36

- Reflects sales of molybdenum produced by certain of the North America copper mines to our molybdenum sales company at market-based pricing.
- Includes gold and silver product revenues and production costs.
- Represents the combined total for all other mining operations and the related eliminations, as presented in Note 16.

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Year Ended December 31, 2015

(In millions)

	By-Product Method	Co-Product Method			Total
		Copper	Molybdenum ^a	Other ^b	
Revenues, excluding adjustments	\$ 4,907	\$ 4,907	\$ 261	\$ 102	\$ 5,270
Site production and delivery, before net noncash and other costs shown below	3,339	3,161	209	71	3,441
By-product credits	(261)	—	—	—	—
Treatment charges	240	233	—	7	240
Net cash costs	3,318	3,394	209	78	3,681
DD&A	558	528	20	10	558
Metals inventory adjustments	142	139	2	1	142
Noncash and other costs, net	233 ^c	225	6	2	233
Total costs	4,251	4,286	237	91	4,614
Revenue adjustments, primarily for pricing on prior period open sales	(28)	(28)	—	—	(28)
Gross profit	\$ 628	\$ 593	\$ 24	\$ 11	\$ 628

Copper sales (millions of recoverable pounds)

1,985 1,985

Molybdenum sales (millions of recoverable pounds)^a

37

Gross profit per pound of copper/molybdenum:

Revenues, excluding adjustments	\$ 2.47	\$ 2.47	\$ 7.02
Site production and delivery, before net noncash and other costs shown below	1.68	1.59	5.61
By-product credits	(0.13)	—	—
Treatment charges	0.12	0.12	—
Unit net cash costs	1.67	1.71	5.61
DD&A	0.28	0.27	0.53
Metals inventory adjustments	0.07	0.07	0.07
Noncash and other costs, net	0.12 ^c	0.11	0.16
Total unit costs	2.14	2.16	6.37
Revenue adjustments, primarily for pricing on prior period open sales	(0.01)	(0.01)	—
Gross profit per pound	\$ 0.32	\$ 0.30	\$ 0.65

Reconciliation to Amounts Reported

(In millions)

	Revenues	Production and Delivery	DD&A	Metals Inventory Adjustments
Totals presented above	\$ 5,270	\$ 3,441	\$ 558	\$ 142
Treatment charges	—	240	—	—
Noncash and other costs, net	—	233	—	—
Revenue adjustments, primarily for pricing on prior period open sales	(28)	—	—	—
Eliminations and other	(116)	(115)	2	—
North America copper mines	5,126	3,799	560	142
Other mining & eliminations ^d	7,486	5,684	862	196
Total mining	12,612	9,483	1,422	338
U.S. oil & gas operations	1,994	1,211	1,804	—
Corporate, other & eliminations	1	(1)	14	—
As reported in FCX's consolidated financial statements	\$ 14,607	\$ 10,693	\$ 3,240	\$ 338

- Reflects sales of molybdenum produced by certain of the North America copper mines to our molybdenum sales company at market-based pricing.
- Includes gold and silver product revenues and production costs.
- Includes \$99 million (\$0.05 per pound) for asset impairment, restructuring and other net charges.
- Represents the combined total for all other mining operations and the related eliminations, as presented in Note 16.

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Year Ended December 31, 2014

(In millions)

	By-Product Method	Co-Product Method			Total
		Copper	Molybdenum ^a	Other ^b	
Revenues, excluding adjustments	\$ 5,186	\$ 5,186	\$ 386	\$ 120	\$ 5,692
Site production and delivery, before net noncash and other costs shown below	3,057	2,860	226	78	3,164
By-product credits	(399)	—	—	—	—
Treatment charges	203	198	—	5	203
Net cash costs	2,861	3,058	226	83	3,367
DD&A	473	448	19	6	473
Noncash and other costs, net	149	146	2	1	149
Total costs	3,483	3,652	247	90	3,989
Revenue adjustments, primarily for pricing on prior period open sales	(7)	(7)	—	—	(7)
Gross profit	\$ 1,696	\$ 1,527	\$ 139	\$ 30	\$ 1,696

Copper sales (millions of recoverable pounds)

1,657 1,657

Molybdenum sales (millions of recoverable pounds)^a

33

Gross profit per pound of copper/molybdenum:

Revenues, excluding adjustments	\$ 3.13	\$ 3.13	\$ 11.74
Site production and delivery, before net noncash and other costs shown below	1.85	1.73	6.85
By-product credits	(0.24)	—	—
Treatment charges	0.12	0.12	—
Unit net cash costs	1.73	1.85	6.85
DD&A	0.29	0.27	0.60
Noncash and other costs, net	0.09	0.09	0.07
Total unit costs	2.11	2.21	7.52
Revenue adjustments, primarily for pricing on prior period open sales	—	—	—
Gross profit per pound	\$ 1.02	\$ 0.92	\$ 4.22

Reconciliation to Amounts Reported

(In millions)

	Revenues	Production and Delivery	DD&A
Totals presented above	\$ 5,692	\$ 3,164	\$ 473
Treatment charges	—	203	—
Noncash and other costs, net	—	149	—
Revenue adjustments, primarily for pricing on prior period open sales	(7)	—	—
Eliminations and other	(69)	(76)	11
North America copper mines	5,616	3,440	484
Other mining & eliminations ^c	9,675	6,437	846
Total mining	15,291	9,877	1,330
U.S. oil & gas operations	4,710	1,237	2,291
Corporate, other & eliminations	—	2	14
As reported in FCX's consolidated financial statements	\$ 20,001	\$ 11,116	\$ 3,635

- Reflects sales of molybdenum produced by certain of the North America copper mines to our molybdenum sales company at market-based pricing.
- Includes gold and silver product revenues and production costs.
- Represents the combined total for all other mining operations and the related eliminations, as presented in Note 16.

South America Mining Product Revenues and Production Costs

Year Ended December 31, 2016

(In millions)

	By-Product Method	Co-Product Method		
		Copper	Other ^a	Total
Revenues, excluding adjustments	\$ 3,077	\$ 3,077	\$ 176	\$ 3,253
Site production and delivery, before net noncash and other costs shown below	1,681	1,601	120	1,721
By-product credits	(136)	—	—	—
Treatment charges	320	320	—	320
Royalty on metals	7	6	1	7
Net cash costs	1,872	1,927	121	2,048
DD&A	552	523	29	552
Noncash and other costs, net	40	38	2	40
Total costs	2,464	2,488	152	2,640
Revenue adjustments, primarily for pricing on prior period open sales	11	11	—	11
Gross profit	\$ 624	\$ 600	\$ 24	\$ 624

Copper sales (millions of recoverable pounds)

1,332 1,332

Gross profit per pound of copper:

Revenues, excluding adjustments	\$ 2.31	\$ 2.31
Site production and delivery, before net noncash and other costs shown below	1.26	1.20
By-product credits	(0.10)	—
Treatment charges	0.24	0.24
Royalty on metals	0.01	—
Unit net cash costs	1.41	1.44
DD&A	0.41	0.39
Noncash and other costs, net	0.03	0.03
Total unit costs	1.85	1.86
Revenue adjustments, primarily for pricing on prior period open sales	0.01	0.01
Gross profit per pound	\$ 0.47	\$ 0.46

Reconciliation to Amounts Reported

(In millions)

	Revenues	Production and Delivery	DD&A
Totals presented above	\$ 3,253	\$ 1,721	\$ 552
Treatment charges	(320)	—	—
Royalty on metals	(7)	—	—
Noncash and other costs, net	—	40	—
Revenue adjustments, primarily for pricing on prior period open sales	11	—	—
Eliminations and other	1	(3)	1
South America mining	2,938	1,758	553
Other mining & eliminations ^b	10,379	7,085	1,094
Total mining	13,317	8,843	1,647
U.S. oil & gas operations	1,513	1,801	869
Corporate, other & eliminations	—	53	14
As reported in FCX's consolidated financial statements	\$ 14,830	\$ 10,697	\$ 2,530

a. Includes silver sales of 3.7 million ounces (\$18.05 per ounce average realized price). Also reflects sales of molybdenum produced by Cerro Verde to our molybdenum sales company at market-based pricing.

b. Represents the combined total for all other mining operations and the related eliminations, as presented in Note 16.

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Year Ended December 31, 2015

(In millions)

	By-Product	Co-Product Method		Total
	Method	Copper	Other ^a	
Revenues, excluding adjustments	\$ 2,075	\$ 2,075	\$ 65	\$ 2,140
Site production and delivery, before net noncash and other costs shown below	1,393	1,355	59	1,414
By-product credits	(44)	—	—	—
Treatment charges	161	161	—	161
Royalty on metals	4	4	—	4
Net cash costs	1,514	1,520	59	1,579
DD&A	352	341	11	352
Metals inventory adjustments	73	73	—	73
Noncash and other costs, net	41	41	—	41
Total costs	1,980	1,975	70	2,045
Revenue adjustments, primarily for pricing on prior period open sales	(28)	(28)	—	(28)
Gross profit (loss)	\$ 67	\$ 72	\$ (5)	\$ 67

Copper sales (millions of recoverable pounds)

871 871

Gross profit per pound of copper:

Revenues, excluding adjustments	\$ 2.38	\$ 2.38
Site production and delivery, before net noncash and other costs shown below	1.60	1.56
By-product credits	(0.05)	—
Treatment charges	0.19	0.19
Royalty on metals	—	—
Unit net cash costs	1.74	1.75
DD&A	0.40	0.39
Metals inventory adjustments	0.08	0.08
Noncash and other costs, net	0.05	0.05
Total unit costs	2.27	2.27
Revenue adjustments, primarily for pricing on prior period open sales	(0.03)	(0.03)
Gross profit per pound	\$ 0.08	\$ 0.08

Reconciliation to Amounts Reported

(In millions)

	Revenues	Production and Delivery	DD&A	Metals Inventory Adjustments
Totals presented above	\$ 2,140	\$ 1,414	\$ 352	\$ 73
Treatment charges	(161)	—	—	—
Royalty on metals	(4)	—	—	—
Noncash and other costs, net	—	41	—	—
Revenue adjustments, primarily for pricing on prior period open sales	(28)	—	—	—
Eliminations and other	(13)	(17)	—	—
South America mining	1,934	1,438	352	73
Other mining & eliminations ^b	10,678	8,045	1,070	265
Total mining	12,612	9,483	1,422	338
U.S. oil & gas operations	1,994	1,211	1,804	—
Corporate, other & eliminations	1	(1)	14	—
As reported in FCX's consolidated financial statements	\$ 14,607	\$ 10,693	\$ 3,240	\$ 338

a. Includes silver sales of 2.0 million ounces (\$14.48 per ounce average realized price). Also reflects sales of molybdenum produced by Cerro Verde to our molybdenum sales company at market-based pricing.

b. Represents the combined total for all other mining operations and the related eliminations, as presented in Note 16.

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Year Ended December 31, 2014

(In millions)

	By-Product	Co-Product Method		Total
	Method	Copper	Other ^a	
Revenues, excluding adjustments	\$ 3,498	\$ 3,498	\$ 269	\$ 3,767
Site production and delivery, before net noncash and other costs shown below	1,839	1,710	151	1,861
By-product credits	(247)	—	—	—
Treatment charges	191	191	—	191
Royalty on metals	6	5	1	6
Net cash costs	1,789	1,906	152	2,058
DD&A	367	345	22	367
Noncash and other costs, net	67	64	3	67
Total costs	2,223	2,315	177	2,492
Revenue adjustments, primarily for pricing on prior period open sales	(65)	(65)	—	(65)
Gross profit	\$ 1,210	\$ 1,118	\$ 92	\$ 1,210

Copper sales (millions of recoverable pounds)

1,135^b 1,135

Gross profit per pound of copper:

Revenues, excluding adjustments	\$ 3.08	\$ 3.08
Site production and delivery, before net noncash and other costs shown below	1.62	1.51
By-product credits	(0.22)	—
Treatment charges	0.17	0.17
Royalty on metals	0.01	—
Unit net cash costs	1.58	1.68
DD&A	0.32	0.31
Noncash and other costs, net	0.06	0.06
Total unit costs	1.96	2.05
Revenue adjustments, primarily for pricing on prior period open sales	(0.05)	(0.05)
Gross profit per pound	\$ 1.07	\$ 0.98

Reconciliation to Amounts Reported

(In millions)

	Revenues	Production and Delivery	DD&A
Totals presented above	\$ 3,767	\$ 1,861	\$ 367
Treatment charges	(191)	—	—
Royalty on metals	(6)	—	—
Noncash and other costs, net	—	67	—
Revenue adjustments, primarily for pricing on prior period open sales	(65)	—	—
Eliminations and other	27	11	—
South America mining	3,532	1,939	367
Other mining & eliminations ^c	11,759	7,938	963
Total mining	15,291	9,877	1,330
U.S. oil & gas operations	4,710	1,237	2,291
Corporate, other & eliminations	—	2	14
As reported in FCX's consolidated financial statements	\$ 20,001	\$ 11,116	\$ 3,635

- a. Includes gold sales of 67 thousand ounces (\$1,271 per ounce average realized price) and silver sales of 2.9 million ounces (\$18.54 per ounce average realized price). Also reflects sales of molybdenum produced by Cerro Verde to our molybdenum sales company at market-based pricing.
- b. Following is a reconciliation of South America mining's 2014 unit net cash costs, excluding the Candelaria and Ojos del Salado mines:

	Net Cash Costs (in millions)	Copper Sales (millions of recoverable pounds)	Unit Net Cash Costs (per pound of copper)
Presented above	\$ 1,789	1,135	\$ 1.58
Less: Candelaria and Ojos del Salado	425	268	
	\$ 1,364	867	\$ 1.57

- c. Represents the combined total for all other mining operations and the related eliminations, as presented in Note 16.

Indonesia Mining Product Revenues and Production Costs

Year Ended December 31, 2016

(In millions)

	By-Product Method	Co-Product Method			Total
		Copper	Gold	Silver ^a	
Revenues, excluding adjustments	\$ 2,448	\$ 2,448	\$ 1,304	\$ 50	\$ 3,802
Site production and delivery, before net noncash and other costs shown below	1,717	1,106	589	22	1,717
Gold and silver credits	(1,371)	—	—	—	—
Treatment charges	297	191	102	4	297
Export duties	95	61	33	1	95
Royalty on metals	131	79	50	2	131
Net cash costs	869	1,437	774	29	2,240
DD&A	384	247	132	5	384
Noncash and other costs, net	51	33	17	1	51
Total costs	1,304	1,717	923	35	2,675
Revenue adjustments, primarily for pricing on prior period open sales	(1)	(1)	17	—	16
PT Smelting intercompany loss	(26)	(17)	(9)	—	(26)
Gross profit	\$ 1,117	\$ 713	\$ 389	\$ 15	\$ 1,117

Copper sales (millions of recoverable pounds)

1,054

1,054

Gold sales (thousands of recoverable ounces)

1,054

Gross profit per pound of copper/per ounce of gold:

Revenues, excluding adjustments	\$ 2.32	\$ 2.32	\$ 1,237
Site production and delivery, before net noncash and other costs shown below	1.63	1.05	559
Gold and silver credits	(1.30)	—	—
Treatment charges	0.28	0.18	97
Export duties	0.09	0.06	31
Royalty on metals	0.13	0.07	47
Unit net cash costs	0.83	1.36	734
DD&A	0.36	0.24	125
Noncash and other costs, net	0.05	0.03	17
Total unit costs	1.24	1.63	876
Revenue adjustments, primarily for pricing on prior period open sales	—	—	16
PT Smelting intercompany loss	(0.02)	(0.02)	(8)
Gross profit per pound/ounce	\$ 1.06	\$ 0.67	\$ 369

Reconciliation to Amounts Reported

(In millions)

	Revenues	Production and Delivery	DD&A
Totals presented above	\$ 3,802	\$ 1,717	\$ 384
Treatment charges	(297)	—	—
Export duties	(95)	—	—
Royalty on metals	(131)	—	—
Noncash and other costs, net	—	51	—
Revenue adjustments, primarily for pricing on prior period open sales	16	—	—
PT Smelting intercompany loss	—	26	—
Indonesia mining	3,295	1,794	384
Other mining & eliminations ^b	10,022	7,049	1,263
Total mining	13,317	8,843	1,647
U.S. oil & gas operations	1,513	1,801	869
Corporate, other & eliminations	—	53	14
As reported in FCX's consolidated financial statements	\$ 14,830	\$ 10,697	\$ 2,530

a. Includes silver sales of 2.9 million ounces (\$17.09 per ounce average realized price).

b. Represents the combined total for all other mining operations and the related eliminations, as presented in Note 16.

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Year Ended December 31, 2015

(In millions)

	By-Product Method	Co-Product Method			Total
		Copper	Gold	Silver ^a	
Revenues, excluding adjustments	\$ 1,735	\$ 1,735	\$ 1,382	\$ 31	\$ 3,148
Site production and delivery, before net noncash and other costs shown below	1,780	981	781	18	1,780
Gold and silver credits	(1,422)	—	—	—	—
Treatment charges	231	127	101	3	231
Export duties	109	60	48	1	109
Royalty on metals	114	63	50	1	114
Net cash costs	812	1,231	980	23	2,234
DD&A	293	161	129	3	293
Noncash and other costs, net	38	21	17	—	38
Total costs	1,143	1,413	1,126	26	2,565
Revenue adjustments, primarily for pricing on prior period open sales	(50)	(50)	8	1	(41)
PT Smelting intercompany profit	10	5	5	—	10
Gross profit	\$ 552	\$ 277	\$ 269	\$ 6	\$ 552

Copper sales (millions of recoverable pounds) 744

Gold sales (thousands of recoverable ounces) 744

1,224

Gross profit per pound of copper/per ounce of gold:

Revenues, excluding adjustments	\$ 2.33	\$ 2.33	\$ 1,129
Site production and delivery, before net noncash and other costs shown below	2.39	1.32	638
Gold and silver credits	(1.91)	—	—
Treatment charges	0.31	0.17	83
Export duties	0.15	0.08	39
Royalty on metals	0.15	0.09	41
Unit net cash costs	1.09	1.66	801
DD&A	0.39	0.22	105
Noncash and other costs, net	0.05	0.03	14
Total unit costs	1.53	1.91	920
Revenue adjustments, primarily for pricing on prior period open sales	(0.07)	(0.06)	7
PT Smelting intercompany profit	0.01	0.01	4
Gross profit per pound/ounce	\$ 0.74	\$ 0.37	\$ 220

Reconciliation to Amounts Reported

(In millions)

	Revenues	Production and Delivery	DD&A
Totals presented above	\$ 3,148	\$ 1,780	\$ 293
Treatment charges	(231)	—	—
Export duties	(109)	—	—
Royalty on metals	(114)	—	—
Noncash and other costs, net	—	38	—
Revenue adjustments, primarily for pricing on prior period open sales	(41)	—	—
PT Smelting intercompany profit	—	(10)	—
Indonesia mining	2,653	1,808	293
Other mining & eliminations ^b	9,959	7,675	1,129
Total mining	12,612	9,483	1,422
U.S. oil & gas operations	1,994	1,211	1,804
Corporate, other & eliminations	1	(1)	14
As reported in FCX's consolidated financial statements	\$ 14,607	\$ 10,693	\$ 3,240

a. Includes silver sales of 2.1 million ounces (\$14.81 per ounce average realized price).

b. Represents the combined total for all other mining operations and the related eliminations, as presented in Note 16.

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Year Ended December 31, 2014

(In millions)

	By-Product Method	Co-Product Method			Total
		Copper	Gold	Silver ^a	
Revenues, excluding adjustments	\$ 1,998	\$ 1,998	\$ 1,434	\$ 39	\$ 3,471
Site production and delivery, before net noncash and other costs shown below	1,831	1,054	757	20	1,831
Gold and silver credits	(1,491)	—	—	—	—
Treatment charges	171	99	70	2	171
Export duties	77	44	32	1	77
Royalty on metals	115	66	48	1	115
Net cash costs	703	1,263	907	24	2,194
DD&A	266 ^b	153	110	3	266
Noncash and other costs, net	191	110	79	2	191
Total costs	1,160	1,526	1,096	29	2,651
Revenue adjustments, primarily for pricing on prior period open sales	(55)	(55)	18	—	(37)
PT Smelting intercompany profit	34	20	14	—	34
Gross profit	\$ 817	\$ 437	\$ 370	\$ 10	\$ 817

Copper sales (millions of recoverable pounds) 664

Gold sales (thousands of recoverable ounces) 1,168

Gross profit per pound of copper/per ounce of gold:

Revenues, excluding adjustments	\$ 3.01	\$ 3.01	\$ 1,229
Site production and delivery, before net noncash and other costs shown below	2.76	1.59	648
Gold and silver credits	(2.25)	—	—
Treatment charges	0.26	0.15	61
Export duties	0.12	0.06	27
Royalty on metals	0.17	0.10	41
Unit net cash costs	1.06	1.90	777
DD&A	0.40	0.23	94
Noncash and other costs, net	0.29 ^b	0.17	68
Total unit costs	1.75	2.30	939
Revenue adjustments, primarily for pricing on prior period open sales	(0.08)	(0.08)	15
PT Smelting intercompany profit	0.05	0.03	12
Gross profit per pound/ounce	\$ 1.23	\$ 0.66	\$ 317

Reconciliation to Amounts Reported

(In millions)

	Revenues	Production and Delivery	DD&A
Totals presented above	\$ 3,471	\$ 1,831	\$ 266
Treatment charges	(171)	—	—
Export duties	(77)	—	—
Royalty on metals	(115)	—	—
Noncash and other costs, net	—	191 ^b	—
Revenue adjustments, primarily for pricing on prior period open sales	(37)	—	—
PT Smelting intercompany profit	—	(34)	—
Indonesia mining	3,071	1,988	266
Other mining & eliminations ^c	12,220	7,889	1,064
Total mining	15,291	9,877	1,330
U.S. oil & gas operations	4,710	1,237	2,291
Corporate, other & eliminations	—	2	14
As reported in FCX's consolidated financial statements	\$ 20,001	\$ 11,116	\$ 3,635

- a. Includes silver sales of 2.2 million ounces (\$17.42 per ounce average realized price).
- b. Includes \$143 million (\$0.22 per pound) of fixed costs charged directly to cost of sales as a result of the impact of export restrictions on PT-FI's operating rates.
- c. Represents the combined total for all other mining operations and the related eliminations, as presented in Note 16.

Molybdenum Mines Product Revenues and Production Costs

	Years Ended December 31,		
	2016	2015	2014
(In millions)			
Revenues, excluding adjustments ^a	\$ 208	\$ 388	\$ 630
Site production and delivery, before net noncash and other costs shown below	195	299	321
Treatment charges and other	22	40	43
Net cash costs	217	339	364
DD&A	68	97	92
Metals inventory adjustments	15	11	—
Noncash and other costs, net	4	13	7
Total costs	304	460	463
Gross (loss) profit	\$ (96)	\$ (72)	\$ 167
Molybdenum sales (millions of recoverable pounds) ^a	26	48	51
Gross (loss) profit per pound of molybdenum:			
Revenues, excluding adjustments ^a	\$ 8.02	\$ 8.14	\$ 12.28
Site production and delivery, before net noncash and other costs shown below	7.50	6.27	6.24
Treatment charges and other	0.86	0.84	0.84
Unit net cash costs	8.36	7.11	7.08
DD&A	2.62	2.04	1.80
Metals inventory adjustments	0.58	0.22	—
Noncash and other costs, net	0.15	0.28	0.15
Total unit costs	11.71	9.65	9.03
Gross (loss) profit per pound	\$ (3.69)	\$ (1.51)	\$ 3.25

Reconciliation to Amounts Reported

(In millions)

	Revenues	Production and Delivery	DD&A	Metals Inventory Adjustments
Year Ended December 31, 2016				
Totals presented above	\$ 208	\$ 195	\$ 68	\$ 15
Treatment charges and other	(22)	—	—	—
Noncash and other costs, net	—	4	—	—
Molybdenum mines	186	199	68	15
Other mining & eliminations ^c	13,131	8,644	1,579	21
Total mining	13,317	8,843	1,647	36
U.S. oil & gas operations	1,513	1,801	869	—
Corporate, other & eliminations	—	53	14	—
As reported in FCX's consolidated financial statements	\$ 14,830	\$ 10,697	\$ 2,530	\$ 36
Year Ended December 31, 2015				
Totals presented above	\$ 388	\$ 299	\$ 97	\$ 11
Treatment charges and other	(40)	—	—	—
Noncash and other costs, net	—	13	—	—
Molybdenum mines	348	312	97	11
Other mining & eliminations ^c	12,264	9,171	1,325	327
Total mining	12,612	9,483	1,422	338
U.S. oil & gas operations	1,994	1,211	1,804	—
Corporate, other & eliminations	1	(1)	14	—
As reported in FCX's consolidated financial statements	\$ 14,607	\$ 10,693	\$ 3,240	\$ 338
Year Ended December 31, 2014				
Totals presented above	\$ 630	\$ 321	\$ 92	\$ —
Treatment charges and other	(43)	—	—	—
Noncash and other costs, net	—	7	—	—
Molybdenum mines	587	328	92	—
Other mining & eliminations ^c	14,704	9,549	1,238	6
Total mining	15,291	9,877	1,330	6
U.S. oil & gas operations	4,710	1,237	2,291	—
Corporate, other & eliminations	—	2	14	—
As reported in FCX's consolidated financial statements	\$ 20,001	\$ 11,116	\$ 3,635	\$ 6

- a. Reflects sales of the Molybdenum mines' production to the molybdenum sales company at market-based pricing. On a consolidated basis, realizations are based on the actual contract terms for sales to third parties; as a result, the consolidated average realized price per pound of molybdenum will differ from the amounts reported in this table.
- b. Includes restructuring charges of \$7 million (\$0.15 per pound) in 2015.
- c. Represents the combined total for all other mining operations and the related eliminations, as presented in Note 16. Also includes amounts associated with the molybdenum sales company, which includes sales of molybdenum produced by the molybdenum mines and by certain of the North and South America copper mines.

U.S. Oil & Gas Product Revenues and Production Costs

Year Ended December 31, 2016

(In millions)

	Oil	Natural Gas	NGLs	Total U.S. Oil & Gas
Oil and gas revenues before derivatives	\$ 1,339	\$ 155	\$ 33	\$ 1,527
Cash gains on derivative contracts	6	—	—	6
Realized revenues	<u>\$ 1,345</u>	<u>\$ 155</u>	<u>\$ 33</u>	<u>1,533</u>
Cash production costs				(714)
Cash operating margin				819
DD&A				(869)
Impairment of oil and gas properties				(4,299)
Accretion and other costs				(1,087) ^a
Net noncash mark-to-market losses on derivative contracts				(41)
Other revenue				21
Gross loss				<u>\$ (5,456)</u>
Oil (MMBbls)	34.4			
Gas (Bcf)		65.1		
NGLs (MMBbls)			1.8	
Oil Equivalents (MMBOE)				47.1

	Oil (per barrel)	Natural Gas (per MMBtu)	NGLs (per barrel)	Per BOE
Oil and gas revenues before derivatives	\$ 38.96	\$ 2.38	\$ 18.11	\$ 32.46
Cash gains on derivative contracts	0.17	—	—	0.13
Realized revenues	<u>\$ 39.13</u>	<u>\$ 2.38</u>	<u>\$ 18.11</u>	<u>32.59</u>
Cash production costs				(15.19)
Cash operating margin				17.40
DD&A				(18.47)
Impairment of oil and gas properties				(91.35)
Accretion and other costs				(23.10) ^a
Net noncash mark-to-market losses on derivative contracts				(0.87)
Other revenue				0.44
Gross loss				<u>\$ (115.95)</u>

Reconciliation to Amounts Reported

(In millions)

	Revenues	Production and Delivery	DD&A	Impairment of Oil and Gas Properties
Totals presented above	\$ 1,527	\$ 714	\$ 869	\$ 4,299
Cash gains on derivative contracts	6	—	—	—
Net noncash mark-to-market losses on derivative contracts	(41)	—	—	—
Accretion and other costs	—	1,087	—	—
Other revenue	21	—	—	—
U.S. oil & gas operations	<u>1,513</u>	<u>1,801</u>	<u>869</u>	<u>4,299</u>
Total mining ^b	13,317	8,843	1,647	—
Corporate, other & eliminations	—	53	14	18 ^c
As reported in FCX's consolidated financial statements	<u>\$ 14,830</u>	<u>\$ 10,697</u>	<u>\$ 2,530</u>	<u>\$ 4,317</u>

- a. Includes charges of \$1.0 billion (\$21.63 per BOE) primarily for drillship settlements/idle rig and contract termination costs, inventory adjustments and asset impairments, partly offset by adjustments to prior year mineral tax assessments related to the California properties.
- b. Represents the combined total for mining operations and the related eliminations, as presented in Note 16.
- c. Reflects impairment of international oil and gas properties, primarily in Morocco.

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Year Ended December 31, 2015

(In millions)

	Oil	Natural Gas	NGLs	Total U.S. Oil & Gas
Oil and gas revenues before derivatives	\$ 1,607	\$ 232	\$ 46	\$ 1,885
Cash gains on derivative contracts	406	—	—	406
Realized revenues	<u>\$ 2,013</u>	<u>\$ 232</u>	<u>\$ 46</u>	<u>2,291</u>
Cash production costs				(979)
Cash operating margin				1,312
DD&A				(1,804)
Impairment of oil and gas properties				(12,980) ^a
Accretion and other costs				(232)
Net noncash mark-to-market losses on derivative contracts				(319)
Other revenue				22
Gross loss				<u>\$ (14,001)</u>
Oil (MMBbls)	35.3			
Gas (Bcf)		89.7		
NGLs (MMBbls)			2.4	
Oil Equivalents (MMBOE)				52.6

	Oil (per barrel)	Natural Gas (per MMBtu)	NGLs (per barrel)	Per BOE
Oil and gas revenues before derivatives	\$ 45.58	\$ 2.59	\$ 18.90	\$ 35.82
Cash gains on derivative contracts	11.53	—	—	7.72
Realized revenues	<u>\$ 57.11</u>	<u>\$ 2.59</u>	<u>\$ 18.90</u>	<u>43.54</u>
Cash production costs				(18.59)
Cash operating margin				24.95
DD&A				(34.28)
Impairment of oil and gas properties				(246.67) ^a
Accretion and other costs				(4.41)
Net noncash mark-to-market losses on derivative contracts				(6.07)
Other revenue				0.43
Gross loss				<u>\$ (266.05)</u>

Reconciliation to Amounts Reported

(In millions)

	Revenues	Production and Delivery	DD&A	Impairment of Oil and Gas Properties
Totals presented above	\$ 1,885	\$ 979	\$ 1,804	\$ 12,980
Cash gains on derivative contracts	406	—	—	—
Net noncash mark-to-market losses on derivative contracts	(319)	—	—	—
Accretion and other costs	—	232	—	—
Other revenue	22	—	—	—
U.S. oil & gas operations	1,994	1,211	1,804	12,980
Total mining ^b	12,612	9,483	1,422	—
Corporate, other & eliminations	1	(1)	14	164 ^c
As reported in FCX's consolidated financial statements	<u>\$ 14,607</u>	<u>\$ 10,693</u>	<u>\$ 3,240</u>	<u>\$ 13,144</u>

a. Includes \$188 million (\$3.58 per BOE) primarily for asset impairments and inventory adjustments, idle/terminated rig costs and prior year mineral tax assessments related to the California properties.

b. Represents the combined total for mining operations and the related eliminations, as presented in Note 16.

c. Reflects impairment of international oil and gas properties, primarily in Morocco.

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Year Ended December 31, 2014

(In millions)

	Oil	Natural Gas	NGLs	Total U.S. Oil & Gas
Oil and gas revenues before derivatives	\$ 3,721	\$ 353	\$ 128	\$ 4,202
Cash losses on derivative contracts	(111)	(11)	—	(122)
Realized revenues	<u>\$ 3,610</u>	<u>\$ 342</u>	<u>\$ 128</u>	4,080
Cash production costs				(1,140) ^a
Cash operating margin				2,940
DD&A				(2,291)
Impairment of oil and gas properties				(3,737) ^b
Accretion and other costs				(97) ^b
Net noncash mark-to-market gains on derivative contracts				627
Other revenue				3
Gross loss				<u>\$ (2,555)</u>

Oil (MMBbls)	40.1			
Gas (Bcf)		80.8		
NGLs (MMBbls)			3.2	
Oil Equivalents (MMBOE)				56.8 ^a

	Oil (per barrel)	Natural Gas (per MMBtu)	NGLs (per barrel)	Per BOE
Oil and gas revenues before derivatives	\$ 92.76	\$ 4.37	\$ 39.73	\$ 73.98
Cash losses on derivative contracts	(2.76)	(0.14)	—	(2.15)
Realized revenues	<u>\$ 90.00</u>	<u>\$ 4.23</u>	<u>\$ 39.73</u>	71.83
Cash production costs				(20.08) ^a
Cash operating margin				51.75
DD&A				(40.34)
Impairment of oil and gas properties				(65.80) ^b
Accretion and other costs				(1.69) ^b
Net noncash mark-to-market gains on derivative contracts				11.03
Other revenue				0.06
Gross loss				<u>\$ (44.99)</u>

Reconciliation to Amounts Reported

(In millions)

	Revenues	Production and Delivery	DD&A	Impairment of Oil and Gas Properties
Totals presented above	\$ 4,202	\$ 1,140	\$ 2,291	\$ 3,737
Cash losses on derivative contracts	(122)	—	—	—
Net noncash mark-to-market gains on derivative contracts	627	—	—	—
Accretion and other costs	—	97	—	—
Other revenue	3	—	—	—
U.S. oil & gas operations	4,710	1,237	2,291	3,737
Total mining ^c	15,291	9,877	1,330	—
Corporate, other & eliminations	—	2	14	—
As reported in FCX's consolidated financial statements	<u>\$ 20,001</u>	<u>\$ 11,116</u>	<u>\$ 3,635</u>	<u>\$ 3,737</u>

a. Following is a reconciliation of oil and gas cash production costs per BOE, excluding Eagle Ford:

	Cash Production Costs (in millions)	Oil Equivalents (MMBOE)	Cash Production Costs Per BOE
Presented above	\$ 1,140	56.8	\$ 20.08
Less: Eagle Ford	113	8.7	\$ 12.97
	<u>\$ 1,027</u>	<u>48.1</u>	\$ 21.36

b. Includes \$46 million (\$0.81 per BOE) primarily for idle/terminated rig costs and inventory adjustments.

c. Represents the combined total for all mining operations and the related eliminations, as presented in Note 16.

Discontinued Operations (Africa Mining) Product Revenues and Production Costs

January 1, 2016, through November 16, 2016

(In millions)

	By-Product Method	Co-Product Method		Total
		Copper	Cobalt	
Revenues, excluding adjustments ^a	\$ 893	\$ 893	\$ 243	\$ 1,136
Site production and delivery, before net noncash and other costs shown below	673	583	172	755
Cobalt credits ^b	(165)	—	—	—
Royalty on metals	20	16	4	20
Net cash costs	528	599	176	775
DD&A	210	172	38	210
Noncash and other costs, net	21	17	4	21
Total costs	759	788	218	1,006
Revenue adjustments, primarily for pricing on prior period open sales	(4)	(4)	4	—
Gross profit	\$ 130	\$ 101	\$ 29	\$ 130
Copper sales (millions of recoverable pounds)	424	424		
Cobalt sales (millions of contained pounds)			33	

Gross profit per pound of copper/cobalt:

Revenues, excluding adjustments ^a	\$ 2.10	\$ 2.10	\$ 7.45
Site production and delivery, before net noncash and other costs shown below	1.58	1.37	5.25
Cobalt credits ^b	(0.39)	—	—
Royalty on metals	0.05	0.04	0.12
Unit net cash costs	1.24	1.41	5.37
DD&A	0.50	0.41	1.16
Noncash and other costs, net	0.05	0.04	0.12
Total unit costs	1.79	1.86	6.65
Revenue adjustments, primarily for pricing on prior period open sales	(0.01)	(0.01)	0.12
Gross profit per pound	\$ 0.30	\$ 0.23	\$ 0.92

Reconciliation to Amounts Reported

(In millions)

	Revenues	Production and Delivery	DD&A
Totals presented above	\$ 1,136	\$ 755	\$ 210
Royalty on metals	(20)	—	—
Noncash and other costs, net	—	21	—
Revenue adjustments, primarily for pricing on prior period open sales	—	—	—
Eliminations and other adjustments ^c	(157)	57	(130)
Total ^d	\$ 959	\$ 833	\$ 80

- Includes point-of-sale transportation costs as negotiated in customer contracts.
- Net of cobalt downstream processing and freight costs.
- Reflects adjustments associated with the presentation of Tenke as discontinued operations, including the elimination of intercompany sales to our consolidated subsidiaries and the impact of discontinuing DD&A in May 2016.
- Refer to Note 2 for a reconciliation of these amounts to net (loss) income from discontinued operations as reported in our consolidated financial statements.

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Year Ended December 31, 2015

(In millions)

	By-Product Method	Co-Product Method		Total
		Copper	Cobalt	
Revenues, excluding adjustments ^a	\$ 1,129	\$ 1,129	\$ 287	\$ 1,416
Site production and delivery, before net noncash and other costs shown below	738	639	189	828
Cobalt credits ^b	(196)	—	—	—
Royalty on metals	25	20	5	25
Net cash costs	567	659	194	853
DD&A	257	213	44	257
Noncash and other costs, net	32	27	5	32
Total costs	856	899	243	1,142
Revenue adjustments, primarily for pricing on prior period open sales	(6)	(6)	(1)	(7)
Gross profit	\$ 267	\$ 224	\$ 43	\$ 267

Copper sales (millions of recoverable pounds) 467

Cobalt sales (millions of contained pounds) 35

Gross profit per pound of copper/cobalt:

Revenues, excluding adjustments ^a	\$ 2.42	\$ 2.42	\$ 8.21
Site production and delivery, before net noncash and other costs shown below	1.58	1.37	5.40
Cobalt credits ^b	(0.42)	—	—
Royalty on metals	0.05	0.04	0.14
Unit net cash costs	1.21	1.41	5.54
DD&A	0.55	0.46	1.26
Noncash and other costs, net	0.07	0.06	0.16
Total unit costs	1.83	1.93	6.96
Revenue adjustments, primarily for pricing on prior period open sales	(0.01)	(0.01)	(0.02)
Gross profit per pound	\$ 0.58	\$ 0.48	\$ 1.23

Reconciliation to Amounts Reported

(In millions)

	Revenues	Production and Delivery		DD&A
Totals presented above	\$ 1,416	\$ 828	\$ 257	
Royalty on metals	(25)	—	—	
Noncash and other costs, net	—	32	—	
Revenue adjustments, primarily for pricing on prior period open sales	(7)	—	—	
Eliminations and other adjustments ^c	(114)	(8)	—	
Total ^d	\$ 1,270	\$ 852	\$ 257	

- Includes point-of-sale transportation costs as negotiated in customer contracts.
- Net of cobalt downstream processing and freight costs.
- Reflects adjustments associated with the presentation of Tenke as discontinued operations, including the elimination of intercompany sales to our consolidated subsidiaries.
- Refer to Note 2 for a reconciliation of these amounts to net (loss) income from discontinued operations as reported in our consolidated financial statements.

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Year Ended December 31, 2014

(In millions)

	By-Product Method	Co-Product Method		Total
		Copper	Cobalt	
Revenues, excluding adjustments ^a	\$ 1,301	\$ 1,301	\$ 285	\$ 1,586
Site production and delivery, before net noncash and other costs shown below	665	591	157	748
Cobalt credits ^b	(204)	—	—	—
Royalty on metals	29	24	5	29
Net cash costs	490	615	162	777
DD&A	228	195	33	228
Noncash and other costs, net	22	19	3	22
Total costs	740	829	198	1,027
Revenue adjustments, primarily for pricing on prior period open sales	(1)	(1)	2	1
Gross profit	\$ 560	\$ 471	\$ 89	\$ 560

Copper sales (millions of recoverable pounds) 425

Cobalt sales (millions of contained pounds) 30

Gross profit per pound of copper/cobalt:

Revenues, excluding adjustments ^a	\$ 3.06	\$ 3.06	\$ 9.66
Site production and delivery, before net noncash and other costs shown below	1.56	1.39	5.30
Cobalt credits ^b	(0.48)	—	—
Royalty on metals	0.07	0.06	0.16
Unit net cash costs	1.15	1.45	5.46
DD&A	0.54	0.46	1.13
Noncash and other costs, net	0.05	0.04	0.11
Total unit costs	1.74	1.95	6.70
Revenue adjustments, primarily for pricing on prior period open sales	—	—	0.07
Gross profit per pound	\$ 1.32	\$ 1.11	\$ 3.03

Reconciliation to Amounts Reported

(In millions)

	Revenues	Production and Delivery	DD&A
Totals presented above	\$ 1,586	\$ 748	\$ 228
Royalty on metals	(29)	—	—
Noncash and other costs, net	—	22	—
Revenue adjustments, primarily for pricing on prior period open sales	1	—	—
Eliminations and other adjustments ^c	(121)	12	—
Total ^d	\$ 1,437	\$ 782	\$ 228

- Includes point-of-sale transportation costs as negotiated in customer contracts.
- Net of cobalt downstream processing and freight costs.
- Reflects adjustments associated with reporting Tenke as discontinued operations, including the elimination of intercompany sales to our consolidated subsidiaries.
- Refer to Note 2 for a reconciliation of these amounts to net (loss) income from discontinued operations as reported in our consolidated financial statements.

CAUTIONARY STATEMENT

Our discussion and analysis contains forward-looking statements in which we discuss our potential future performance. Forward-looking statements are all statements other than statements of historical facts, such as projections or expectations relating to ore grades and milling rates, production and sales volumes, unit net cash costs, operating cash flows, capital expenditures, debt reduction initiatives, exploration efforts and results, development and production activities and costs, liquidity, tax rates, the impact of copper, gold and molybdenum price changes, the impact of deferred intercompany profits on earnings, reserve estimates, future dividend payments, and share purchases and sales. The words “anticipates,” “may,” “can,” “plans,” “believes,” “estimates,” “expects,” “projects,” “targets,” “intends,” “likely,” “will,” “should,” “to be,” “potential” and any similar expressions are intended to identify those assertions as forward-looking statements. Under our revolving credit facility, as amended, we are not permitted to pay dividends on common stock on or prior to March 31, 2017. The declaration of dividends is at the discretion of the Board, subject to restrictions under our credit agreements, and will depend on our financial results, cash requirements, future prospects, and other factors deemed relevant by the Board.

We caution readers that forward-looking statements are not guarantees of future performance and actual results may differ materially from those anticipated, projected or assumed in the forward-looking statements. Important factors that can cause our actual results to differ materially from those anticipated in the forward-looking statements include supply of and demand for, and prices of copper, gold and molybdenum, mine sequencing, production rates, potential effects of cost and capital expenditure reductions and production curtailments on financial results and cash flow, the outcome of our debt reduction initiatives, our ability to secure regulatory approvals, potential inventory adjustments, potential impairment of long-lived mining assets, the outcome of the impending dispute with the Indonesian government regarding PT-FI's COW, the potential effects of violence in Indonesia generally and in the province of Papua, industry risks, regulatory changes, political risks, labor relations, weather- and climate-related risks, environmental risks, litigation results (including the final disposition of the recent unfavorable Indonesian Tax Court ruling relating to surface water taxes) and other factors described in more detail in Part I, Item 1A. “Risk Factors” of our annual report on Form 10-K for the year ended December 31, 2016. With respect to our operations in Indonesia, such factors include whether PT-FI will be able to resume exporting its copper concentrate directly and indirectly through PT Smelting, which depends upon the satisfactory resolution of complex regulatory matters in Indonesia. PT-FI's inability to export copper concentrate itself and through PT Smelting for any extended period of time would lead to the continued suspension of all of our production in Indonesia.

Investors are cautioned that many of the assumptions upon which our forward-looking statements are based are likely to change after the forward-looking statements are made, including for example commodity prices, which we cannot control, and production volumes and costs, some aspects of which we may not be able to control. Further, we may make changes to our business plans that could affect our results. We caution investors that we do not intend to update forward-looking statements more frequently than quarterly notwithstanding any changes in our assumptions, changes in business plans, actual experience or other changes, and we undertake no obligation to update any forward-looking statements.

Item 8. Financial Statements and Supplementary Data.

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Freeport-McMoRan Inc.'s (the Company's) management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rule 13a-15(f) or 15d-15(f) under the Securities Exchange Act of 1934 as a process designed by, or under the supervision of, the Company's principal executive and principal financial officers and effected by the Company's Board of Directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles and includes those policies and procedures that:

- Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the Company's assets;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our management, including our principal executive officer and principal financial officer, assessed the effectiveness of our internal control over financial reporting as of the end of the fiscal year covered by this annual report on Form 10-K. In making this assessment, our management used the criteria set forth in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). Based on its assessment, management concluded that, as of December 31, 2016, our Company's internal control over financial reporting is effective based on the COSO criteria.

Ernst & Young LLP, an independent registered public accounting firm, who audited the Company's consolidated financial statements included in this Form 10-K, has issued an attestation report on the Company's internal control over financial reporting, which is included herein.

/s/ Richard C. Adkerson

Richard C. Adkerson
Vice Chairman of the Board,
President and Chief Executive Officer

/s/ Kathleen L. Quirk

Kathleen L. Quirk
Executive Vice President,
Chief Financial Officer and Treasurer

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

TO THE BOARD OF DIRECTORS AND STOCKHOLDERS OF
FREEPORT-McMoRan INC.

We have audited Freeport-McMoRan Inc.'s internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). Freeport-McMoRan Inc.'s management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, Freeport-McMoRan Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Freeport-McMoRan Inc. as of December 31, 2016 and 2015, and the related consolidated statements of operations, comprehensive loss, equity and cash flows for each of the three years in the period ended December 31, 2016 and our report dated February 24, 2017 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Phoenix, Arizona
February 24, 2017

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

TO THE BOARD OF DIRECTORS AND STOCKHOLDERS OF
FREEPORT-McMoRan INC.

We have audited the accompanying consolidated balance sheets of Freeport-McMoRan Inc. as of December 31, 2016 and 2015, and the related consolidated statements of operations, comprehensive loss, equity and cash flows for each of the three years in the period ended December 31, 2016. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Freeport-McMoRan Inc. at December 31, 2016 and 2015, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2016, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Freeport-McMoRan Inc.'s internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 24, 2017 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Phoenix, Arizona
February 24, 2017

FREEPORT-McMoRan INC.
CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended December 31,		
	2016	2015	2014
	(In millions, except per share amounts)		
Revenues	\$ 14,830	\$ 14,607	\$ 20,001
Cost of sales:			
Production and delivery	10,697	10,693	11,116
Depreciation, depletion and amortization	2,530	3,240	3,635
Impairment of oil and gas properties	4,317	13,144	3,737
Metals inventory adjustments	36	338	6
Total cost of sales	17,580	27,415	18,494
Selling, general and administrative expenses	607	558	580
Mining exploration and research expenses	64	107	106
Environmental obligations and shutdown costs	20	78	119
Goodwill impairment	—	—	1,717
Net gain on sales of assets	(649)	(39)	(717)
Total costs and expenses	17,622	28,119	20,299
Operating loss	(2,792)	(13,512)	(298)
Interest expense, net	(755)	(617)	(606)
Net gain on exchanges and early extinguishment of debt	26	—	73
Other income, net	49	1	31
Loss from continuing operations before income taxes and equity in affiliated companies' net earnings (losses)	(3,472)	(14,128)	(800)
(Provision for) benefit from income taxes	(371)	1,951	(225)
Equity in affiliated companies' net earnings (losses)	11	(3)	3
Net loss from continuing operations	(3,832)	(12,180)	(1,022)
Net (loss) income from discontinued operations	(193)	91	277
Net loss	(4,025)	(12,089)	(745)
Net income attributable to noncontrolling interests:			
Continuing operations	(227)	(27)	(358)
Discontinued operations	(63)	(79)	(165)
Gain on redemption and preferred dividends attributable to redeemable noncontrolling interest	161	(41)	(40)
Net loss attributable to common stockholders	\$ (4,154)	\$ (12,236)	\$ (1,308)
Basic and diluted net (loss) income per share attributable to common stockholders:			
Continuing operations	\$ (2.96)	\$ (11.32)	\$ (1.37)
Discontinued operations	(0.20)	0.01	0.11
	\$ (3.16)	\$ (11.31)	\$ (1.26)
Basic and diluted weighted-average common shares outstanding	1,318	1,082	1,039
Dividends declared per share of common stock	\$ —	\$ 0.2605	\$ 1.25

The accompanying Notes to Consolidated Financial Statements are an integral part of these consolidated financial statements.

FREEPORT-McMoRan INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

	Years Ended December 31,		
	2016	2015	2014
	(In millions)		
Net loss	\$ (4,025)	\$ (12,089)	\$ (745)
Other comprehensive (loss) income, net of taxes:			
Defined benefit plans:			
Actuarial losses arising during the period	(88)	(5)	(166)
Amortization of unrecognized amounts included in net periodic benefit costs	44	38	25
Foreign exchange (losses) gains	(1)	8	1
Unrealized gains (losses) on securities	2	—	(1)
Other comprehensive (loss) income	<u>(43)</u>	<u>41</u>	<u>(141)</u>
Total comprehensive loss	(4,068)	(12,048)	(886)
Total comprehensive income attributable to noncontrolling interests	(292)	(106)	(521)
Gain on redemption and preferred dividends attributable to redeemable noncontrolling interest	161	(41)	(40)
Total comprehensive loss attributable to common stockholders	<u>\$ (4,199)</u>	<u>\$ (12,195)</u>	<u>\$ (1,447)</u>

The accompanying Notes to Consolidated Financial Statements are an integral part of these consolidated financial statements.

FREEMPORT-McMoRan INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended December 31,		
	2016	2015	2014
	(In millions)		
Cash flow from operating activities:			
Net loss	\$ (4,025)	\$ (12,089)	\$ (745)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Depreciation, depletion and amortization	2,610	3,497	3,863
Impairment of oil and gas properties and goodwill	4,317	13,144	5,454
Non-cash oil and gas drillship settlements	689	—	—
Metals inventory adjustments	36	338	6
Other asset impairments, oil and gas inventory adjustments, and restructuring	134	256	18
Net gain on sales of assets	(649)	(39)	(717)
Stock-based compensation	86	85	106
Net charges for environmental and asset retirement obligations, including accretion	191	209	200
Payments for environmental and asset retirement obligations	(242)	(198)	(176)
Net gain on exchanges and early extinguishment of debt	(26)	—	(73)
Deferred income taxes	239	(2,039)	(929)
Loss on disposal of discontinued operations	198	—	—
Decrease (increase) in long-term mill and leach stockpiles	10	(212)	(233)
Net loss (gain) on crude oil and natural gas derivative contracts	35	(87)	(504)
Other, net	69	(18)	(7)
Changes in working capital and other tax payments, excluding amounts from acquisitions and dispositions:			
Accounts receivable	(175)	813	215
Inventories	117	379	(249)
Other current assets	37	97	—
Accounts payable and accrued liabilities	(28)	(217)	(394)
Accrued income taxes and changes in other tax payments	106	(699)	(204)
Net cash provided by operating activities	<u>3,729</u>	<u>3,220</u>	<u>5,631</u>
Cash flow from investing activities:			
Capital expenditures:			
North America copper mines	(102)	(355)	(969)
South America	(382)	(1,722)	(1,785)
Indonesia	(1,025)	(901)	(935)
Molybdenum mines	(2)	(13)	(54)
United States oil and gas operations	(1,127)	(2,948)	(3,205)
Other	(175)	(414)	(267)
Proceeds from sales of:			
Tenke Fungurume mine	2,664	—	—
Deepwater Gulf of Mexico and onshore California oil and gas properties	2,272	—	—
Additional interest in Morenci joint venture	996	—	—
Eagle Ford shale assets	—	—	2,910
Candelaria and Ojos del Salado mines	—	—	1,709
Other assets	423	160	—
Acquisitions of Deepwater Gulf of Mexico interests	—	—	(1,426)
Other, net	8	(53)	221
Net cash provided by (used in) investing activities	<u>3,550</u>	<u>(6,246)</u>	<u>(3,801)</u>
Cash flow from financing activities:			
Proceeds from debt	3,681	8,272	8,710
Repayments of debt	(7,625)	(6,677)	(10,306)
Net proceeds from sale of common stock	1,515	1,936	—
Cash dividends and distributions paid:			
Common stock	(6)	(605)	(1,305)
Noncontrolling interests, including redemption	(693)	(120)	(424)
Stock-based awards net (payments) proceeds, including excess tax benefit	(6)	(4)	9
Debt financing costs and other, net	(32)	(16)	(35)
Net cash (used in) provided by financing activities	<u>(3,166)</u>	<u>2,786</u>	<u>(3,351)</u>
Net increase (decrease) in cash and cash equivalents	4,113	(240)	(1,521)
(Increase) decrease in cash and cash equivalents in assets held for sale	(45)	119	(45)
Cash and cash equivalents at beginning of year	177	298	1,864
Cash and cash equivalents at end of year	<u>\$ 4,245</u>	<u>\$ 177</u>	<u>\$ 298</u>

The accompanying Notes to Consolidated Financial Statements are an integral part of these consolidated financial statements.

FREEMPORT-McMoRan INC.
CONSOLIDATED BALANCE SHEETS

	December 31,	
	2016	2015
	(In millions, except par value)	
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 4,245	\$ 177
Trade accounts receivable	1,126	645
Income and other tax receivables	879	1,332
Other accounts receivable	89	152
Inventories:		
Materials and supplies, net	1,306	1,575
Mill and leach stockpiles	1,338	1,539
Product	998	961
Other current assets	110	161
Assets held for sale	344	920
Total current assets	<u>10,435</u>	<u>7,462</u>
Property, plant, equipment and mine development costs, net	23,219	23,986
Oil and gas properties, net - full cost method:		
Subject to amortization, less accumulated amortization and impairment of \$27,433 and \$22,276, respectively	74	2,262
Not subject to amortization	—	4,831
Long-term mill and leach stockpiles	1,633	1,663
Other assets	1,956	1,987
Assets held for sale	—	4,386
Total assets	<u>\$ 37,317</u>	<u>\$ 46,577</u>
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable and accrued liabilities	\$ 2,393	\$ 3,232
Current portion of debt	1,232	649
Current portion of environmental and asset retirement obligations	369	272
Accrued income taxes	66	23
Liabilities held for sale	205	131
Total current liabilities	<u>4,265</u>	<u>4,307</u>
Long-term debt, less current portion	14,795	19,675
Deferred income taxes	3,768	3,567
Environmental and asset retirement obligations, less current portion	3,487	3,714
Other liabilities	1,745	1,641
Liabilities held for sale	—	865
Total liabilities	<u>28,060</u>	<u>33,769</u>
Redeemable noncontrolling interest	—	764
Equity:		
Stockholders' equity:		
Common stock, par value \$0.10, 1,574 shares and 1,374 shares issued, respectively	157	137
Capital in excess of par value	26,690	24,283
Accumulated deficit	(16,540)	(12,387)
Accumulated other comprehensive loss	(548)	(503)
Common stock held in treasury – 129 shares and 128 shares, respectively, at cost	(3,708)	(3,702)
Total stockholders' equity	<u>6,051</u>	<u>7,828</u>
Noncontrolling interests	3,206	4,216
Total equity	<u>9,257</u>	<u>12,044</u>
Total liabilities and equity	<u>\$ 37,317</u>	<u>\$ 46,577</u>

The accompanying Notes to Consolidated Financial Statements are an integral part of these consolidated financial statements.

FREEPORT-McMoRan INC.
CONSOLIDATED STATEMENTS OF EQUITY

	Stockholders' Equity									
	Common Stock		Capital in Excess of Par Value	(Accumulated Deficit) Retained Earnings	Accumulated Other Comprehensive Loss	Common Stock Held in Treasury		Total Stock- holders' Equity	Non- controlling Interests	Total Equity
	Number of Shares	At Par Value				Number of Shares	At Cost			
	(In millions)									
Balance at January 1, 2014	1,165	\$ 117	\$ 22,161	\$ 2,742	\$ (405)	127	\$(3,681)	\$ 20,934	\$ 4,297	\$ 25,231
Exercised and issued stock-based awards	2	—	12	—	—	—	—	12	—	12
Stock-based compensation, including tax benefit and the tender of shares	—	—	109	—	—	1	(14)	95	1	96
Dividends	—	—	—	(1,306)	—	—	—	(1,306)	(396)	(1,702)
Changes in noncontrolling interests	—	—	(1)	—	—	—	—	(1)	7	6
Sale of Candelaria and Ojos del Salado mines	—	—	—	—	—	—	—	—	(243)	(243)
Net loss attributable to common stockholders	—	—	—	(1,308)	—	—	—	(1,308)	—	(1,308)
Net income attributable to noncontrolling interests, including discontinued operations	—	—	—	—	—	—	—	—	523	523
Other comprehensive loss	—	—	—	—	(139)	—	—	(139)	(2)	(141)
Balance at December 31, 2014	1,167	117	22,281	128	(544)	128	(3,695)	18,287	4,187	22,474
Sale of common stock	206	20	1,916	—	—	—	—	1,936	—	1,936
Exercised and issued stock-based awards	1	—	3	—	—	—	—	3	—	3
Stock-based compensation, including tax reserve and the tender of shares	—	—	90	—	—	—	(7)	83	7	90
Dividends	—	—	—	(279)	—	—	—	(279)	(91)	(370)
Changes in noncontrolling interests	—	—	(7)	—	—	—	—	(7)	7	—
Net loss attributable to common stockholders	—	—	—	(12,236)	—	—	—	(12,236)	—	(12,236)
Net income attributable to noncontrolling interests, including discontinued operations	—	—	—	—	—	—	—	—	106	106
Other comprehensive income	—	—	—	—	41	—	—	41	—	41
Balance at December 31, 2015	1,374	\$ 137	\$ 24,283	\$ (12,387)	\$ (503)	128	\$(3,702)	\$ 7,828	\$ 4,216	\$ 12,044

FREEMPORT-McMoRan INC.
CONSOLIDATED STATEMENTS OF EQUITY (CONTINUED)

	Stockholders' Equity									
	Common Stock		Capital in Excess of Par Value	(Accumulated Deficit) Retained Earnings	Accum- lated Other Compre- hensive Loss	Common Stock Held in Treasury		Total Stock- holders' Equity	Non- controlling Interests	Total Equity
	Number of Shares	At Par Value				Number of Shares	At Cost			
	(In millions)									
Balance at December 31, 2015	1,374	\$ 137	\$ 24,283	\$ (12,387)	\$ (503)	128	\$(3,702)	\$ 7,828	\$ 4,216	\$ 12,044
Issuance of common stock	197	20	2,346	—	—	—	—	2,366	—	2,366
Exercised and issued stock-based awards	3	—	—	—	—	—	—	—	—	—
Stock-based compensation, including tax benefit and the tender of shares	—	—	61	—	—	1	(6)	55	—	55
Dividends	—	—	—	1	—	—	—	1	(90)	(89)
Change in noncontrolling interests	—	—	—	—	—	—	—	—	(6)	(6)
Sale of interest in TF Holdings Limited	—	—	—	—	—	—	—	—	(1,206)	(1,206)
Net loss attributable to common stockholders	—	—	—	(4,154)	—	—	—	(4,154)	—	(4,154)
Net income attributable to noncontrolling interests, including discontinued operations	—	—	—	—	—	—	—	—	290	290
Other comprehensive (loss) income	—	—	—	—	(45)	—	—	(45)	2	(43)
Balance at December 31, 2016	<u>1,574</u>	<u>\$ 157</u>	<u>\$ 26,690</u>	<u>\$ (16,540)</u>	<u>\$ (548)</u>	<u>129</u>	<u>\$(3,708)</u>	<u>\$ 6,051</u>	<u>\$ 3,206</u>	<u>\$ 9,257</u>

The accompanying Notes to Consolidated Financial Statements are an integral part of these consolidated financial statements.

FREEPORT-McMoRan INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation. The consolidated financial statements of Freeport-McMoRan Inc. (FCX) include the accounts of those subsidiaries where it directly or indirectly has more than 50 percent of the voting rights and has the right to control significant management decisions. The most significant entities that FCX consolidates include its 90.64 percent-owned subsidiary PT Freeport Indonesia (PT-FI), and the following wholly owned subsidiaries: Freeport Minerals Corporation (FMC), Atlantic Copper, S.L.U. (Atlantic Copper) and FCX Oil & Gas LLC (FM O&G, formerly FCX Oil & Gas Inc.).

FCX acquired mining assets in North America, South America and Africa when it acquired Phelps Dodge Corporation (now known as FMC) in 2007. FCX acquired oil and gas operations when it acquired Plains Exploration & Production Company (PXP) and McMoRan Exploration Co. (MMR), collectively known as FM O&G, in 2013. During 2014 and 2016, FCX completed sales of certain of its operating assets. Refer to Note 2 for further discussion.

FCX's unincorporated joint ventures with Rio Tinto plc (Rio Tinto), Sumitomo Metal Mining Arizona, Inc. (Sumitomo) and SMM Morenci, Inc. (an affiliate of Sumitomo Metal Mining Co., Ltd.) are reflected using the proportionate consolidation method (refer to Note 3 for further discussion). Investments in unconsolidated companies owned 20 percent or more are recorded using the equity method. Investments in companies owned less than 20 percent, and for which FCX does not exercise significant influence, are carried at cost. All significant intercompany transactions have been eliminated. Dollar amounts in tables are stated in millions, except per share amounts.

Business Segments. FCX has organized its continuing mining operations into four primary divisions – North America copper mines, South America mining, Indonesia mining and Molybdenum mines, and operating segments that meet certain thresholds are reportable segments. For oil and gas operations, FCX determines its operating segments on a country-by-country basis. FCX's reportable segments include the Morenci, Cerro Verde and Grasberg copper mines, the Rod & Refining operations and the United States (U.S.) Oil & Gas operations. Refer to Note 16 for further discussion.

Use of Estimates. The preparation of FCX's financial statements in conformity with accounting principles generally accepted in the U.S. requires management to make estimates and assumptions that affect the amounts reported in these financial statements and accompanying notes. The more significant areas requiring the use of management estimates include reserve estimation (minerals, and oil and natural gas); timing of transfers of oil and gas properties not subject to amortization into the full cost pool; asset lives for depreciation, depletion and amortization; environmental obligations; asset retirement obligations; estimates of recoverable copper in mill and leach stockpiles; deferred taxes and valuation allowances; reserves for contingencies and litigation; asset impairment, including estimates used to derive future cash flows associated with those assets; pension benefits; and valuation of derivative instruments. Actual results could differ from those estimates.

Functional Currency. The functional currency for the majority of FCX's foreign operations is the U.S. dollar. For foreign subsidiaries whose functional currency is the U.S. dollar, monetary assets and liabilities denominated in the local currency are translated at current exchange rates, and non-monetary assets and liabilities, such as inventories, property, plant, equipment and mine development costs, are translated at historical rates. Gains and losses resulting from translation of such account balances are included in other income (expense), as are gains and losses from foreign currency transactions. Foreign currency gains (losses) totaled \$32 million in 2016, \$(90) million in 2015 and \$(2) million in 2014.

Cash Equivalents. Highly liquid investments purchased with maturities of three months or less are considered cash equivalents.

Inventories. Inventories include mill and leach stockpiles, materials and supplies, and product inventories. Beginning in third-quarter 2015 because of the adoption of new accounting guidance, inventories are stated at the lower of weighted-average cost or net realizable value (NRV).

Mill and Leach Stockpiles. Mill and leach stockpiles are work-in-process inventories for FCX's mining operations. Mill and leach stockpiles have been extracted from an ore body and are available for copper recovery. Mill stockpiles contain sulfide ores and recovery of metal is through milling, concentrating and smelting and refining or, alternatively, by concentrate leaching. Leach stockpiles contain oxide ores and certain secondary sulfide ores and recovery of metal is through exposure to acidic solutions that dissolve contained copper and deliver it in solution to extraction processing facilities (*i.e.*, solution extraction and electrowinning (SX/EW)). The recorded cost of mill and leach stockpiles includes mining and haulage costs incurred to deliver ore to stockpiles, depreciation, depletion, amortization and site overhead costs. Material is removed from the stockpiles at a weighted-average cost per pound.

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 grade of the 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 process), historical trends and other factors, including mineralogy of the ore and rock type. Total copper recovery in leach stockpiles can vary significantly from a low percentage to more than 90 percent depending on several variables, including processing methodology, processing variables, mineralogy and particle size of the rock. For newly placed material on active stockpiles, as much as 80 percent of the total copper recovery may occur during the first year, and the remaining copper may be recovered over many years.

Processes and recovery rates for mill and leach stockpiles are monitored regularly, and recovery rate estimates are adjusted periodically as additional information becomes available and as related technology changes. Adjustments to recovery rates will typically result in a future impact to the value of the material removed from the stockpiles at a revised weighted-average cost per pound of recoverable copper.

Product Inventories. Product inventories include raw materials, work-in-process and finished goods. Raw materials are primarily unprocessed concentrate at Atlantic Copper's smelting and refining operations. Work-in-process inventories are primarily copper concentrate at various stages of conversion into anode and cathode at Atlantic Copper's operations. Atlantic Copper's in-process inventories are valued at the weighted-average cost of the material fed to the smelting and refining process plus in-process conversion costs. Finished goods for mining operations represent salable products (*e.g.*, copper and molybdenum concentrate, copper anode, copper cathode, copper rod, copper wire, molybdenum oxide, and high-purity molybdenum chemicals and other metallurgical products). Finished goods are valued based on the weighted-average cost of source material plus applicable conversion costs relating to associated process facilities. Costs of finished goods and work-in-process (*i.e.*, not raw materials) inventories include labor and benefits, supplies, energy, depreciation, depletion, amortization, site overhead costs and other necessary costs associated with the extraction and processing of ore, including, depending on the process, mining, haulage, milling, concentrating, smelting, leaching, solution extraction, refining, roasting and chemical processing. Corporate general and administrative costs are not included in inventory costs.

Property, Plant, Equipment and Mine Development Costs. Property, plant, equipment and mine development costs are carried at cost. Mineral exploration costs, as well as drilling and other costs incurred for the purpose of converting mineral resources to proven and probable reserves or identifying new mineral resources at development or production stage properties, are charged to expense as incurred. Development costs are capitalized beginning after proven and probable mineral reserves have been established. Development costs include costs incurred resulting from mine pre-production activities undertaken to gain access to proven and probable reserves, including shafts, adits, drifts, ramps, permanent excavations, infrastructure and removal of overburden. Additionally, interest expense allocable to the cost of developing mining properties and to constructing new facilities is capitalized until assets are ready for their intended use.

Expenditures for replacements and improvements are capitalized. Costs related to periodic scheduled maintenance (*i.e.*, turnarounds) are charged to expense as incurred. Depreciation for mining and milling life-of-mine assets, infrastructure and other common costs is determined using the unit-of-production (UOP) method based on total estimated recoverable proven and probable copper reserves (for primary copper mines) and proven and probable molybdenum reserves (for primary molybdenum mines). Development costs and acquisition costs for proven and probable mineral reserves that relate to a specific ore body are depreciated using the UOP method based on estimated recoverable proven and probable mineral reserves for the ore body benefited. Depreciation, depletion and amortization using the UOP method is recorded upon extraction of the recoverable copper or molybdenum from the ore body, at which time it is allocated to inventory cost and then included as a component of cost of goods sold. Other assets are depreciated on a straight-line basis over estimated useful lives of up to 39 years for buildings and three to 30 years for machinery and equipment, and mobile equipment.

Included in property, plant, equipment and mine development costs is value beyond proven and probable mineral reserves (VBPP), primarily resulting from FCX's acquisition of FMC in 2007. The concept of VBPP may be interpreted differently by different mining companies. FCX's VBPP is attributable to (i) mineralized material, which includes measured and indicated amounts, that FCX believes could be brought into production with the establishment or modification of required permits and should market conditions and technical assessments warrant, (ii) inferred mineral resources and (iii) exploration potential.

Carrying amounts assigned to VBPP are not charged to expense until the VBPP becomes associated with additional proven and probable mineral reserves and the reserves are produced or the VBPP is determined to be impaired. Additions to proven and probable mineral reserves for properties with VBPP will carry with them the value assigned to VBPP at the date acquired, less any impairment amounts. Refer to Note 5 for further discussion.

Impairment of Long-Lived Mining Assets. FCX assesses the carrying values of its long-lived mining assets for impairment when events or changes in circumstances indicate that the related carrying amounts of such assets may not be recoverable. In evaluating long-lived mining assets for recoverability, estimates of pre-tax undiscounted future cash flows of FCX's individual mines are used. An impairment is considered to exist if total estimated undiscounted future cash flows are less than the carrying amount of the asset. Once it is determined that an impairment exists, an impairment loss is measured as the amount by which the asset carrying value exceeds its fair value. The estimated undiscounted cash flows used to assess recoverability of long-lived assets and to measure the fair value of FCX's mining operations are derived from current business plans, which are developed using near-term price forecasts reflective of the current price environment and management's projections for long-term average metal prices. In addition to near- and long-term metal price assumptions, other key assumptions include estimates of commodity-based and other input costs; proven and probable mineral reserves estimates, including the timing and cost to develop and produce the reserves; VBPP estimates; and the use of appropriate discount rates. FCX believes its estimates and models used to determine fair value are similar to what a market participant would use. As quoted market prices are unavailable for FCX's individual mining operations, fair value is determined through the use of after-tax discounted estimated future cash flows (*i.e.*, Level 3 measurement).

Oil and Gas Properties. FCX follows the full cost method of accounting specified by the U.S. Securities and Exchange Commission's (SEC) rules whereby all costs associated with oil and gas property acquisition, exploration and development activities are capitalized into a cost center on a country-by-country basis. Such costs include internal general and administrative costs, such as payroll and related benefits and costs directly attributable to employees engaged in acquisition, exploration and development activities. General and administrative costs associated with production, operations, marketing and general corporate activities are charged to expense as incurred. Capitalized costs, along with estimated future costs to develop proved reserves and asset retirement costs that are not already included in oil and gas properties, net of related salvage value, are amortized to expense under the UOP method using engineers' estimates of the related, by-country proved oil and natural gas reserves.

The costs of unproved oil and gas properties are excluded from amortization until the properties are evaluated. Costs are transferred into the amortization base on an ongoing basis as the properties are evaluated and proved oil and natural gas reserves are established or if impairment is determined. Unproved oil and gas properties are assessed periodically, at least annually, to determine whether impairment has occurred. FCX assesses unproved oil and gas properties for impairment on an individual basis or as a group if properties are individually insignificant. The assessment considers the following factors, among others: intent to drill, remaining lease term, geological and geophysical evaluations, drilling results and activity, the assignment of proved reserves, the economic viability of development if proved reserves are assigned and other current market conditions. During any period in which these factors indicate an impairment, the cumulative drilling costs incurred to date for such property and all or a portion of

the associated leasehold costs are transferred to the full cost pool and are then subject to amortization. Including amounts determined to be impaired, FCX transferred \$4.9 billion of costs associated with unevaluated properties to the full cost pool in 2016, \$6.4 billion in 2015 and \$2.5 billion in 2014. The transfer of costs into the amortization base involves a significant amount of judgment and may be subject to changes over time based on drilling plans and results, geological and geophysical evaluations, the assignment of proved oil and natural gas reserves, availability of capital and other factors. Costs not subject to amortization consist primarily of capitalized costs incurred for undeveloped acreage and wells in progress pending determination, together with capitalized interest for these projects. The ultimate evaluation of the properties occurs over a period of several years. Following the completion of the sales of oil and gas properties discussed in Note 2, FCX had no unproved oil and gas properties in the consolidated balance sheets at December 31, 2016. Interest costs totaling \$7 million in 2016, \$58 million in 2015 and \$88 million in 2014 were capitalized on oil and gas properties not subject to amortization and in the process of development.

Proceeds from the sale of oil and gas properties are accounted for as reductions to capitalized costs unless the reduction causes a significant change in proved reserves, which absent other factors, is generally described as a 25 percent or greater change, and significantly alters the relationship between capitalized costs and proved reserves attributable to a cost center, in which case a gain or loss is recognized.

Impairment of Oil and Gas Properties. Under the SEC full cost accounting rules, FCX reviews the carrying value of its oil and gas properties in the full cost pool for impairment each quarter on a country-by-country basis. Under these rules, capitalized costs of oil and gas properties (net of accumulated depreciation, depletion, amortization and impairment, and related deferred income taxes) for each cost center may not exceed a “ceiling” equal to:

- the present value, discounted at 10 percent, of estimated future net cash flows from the related proved oil and natural gas reserves, net of estimated future income taxes; plus
- the cost of the related unproved properties not being amortized; plus
- the lower of cost or estimated fair value of the related unproved properties included in the costs being amortized (net of related tax effects).

These rules require that FCX price its future oil and gas production at the twelve-month average of the first-day-of-the-month historical reference prices as adjusted for location and quality differentials. FCX's reference prices are West Texas Intermediate (WTI) for oil and the Henry Hub price for natural gas. Such prices are utilized except where different prices are fixed and determinable from applicable contracts for the remaining term of those contracts. The reserve estimates exclude the effect of any crude oil and natural gas derivatives FCX has in place. The estimated future net cash flows also exclude future cash outflows associated with settling asset retirement obligations included in the net book value of the oil and gas properties. The rules require an impairment if the capitalized costs exceed this “ceiling.”

In 2016, 2015 and 2014, net capitalized costs with respect to FCX's proved oil and gas properties exceeded the related ceiling test limitation; therefore, impairment charges of \$4.3 billion were recorded in 2016, \$13.1 billion in 2015 and \$3.7 billion in 2014, primarily because of the lower twelve-month average of the first-day-of-the-month historical reference oil price and reserve revisions. The twelve-month average WTI reference oil price was \$42.75 per barrel at December 31, 2016, compared with \$50.28 per barrel at December 31, 2015, and \$94.99 per barrel at December 31, 2014.

Goodwill. Goodwill has an indefinite useful life and is not amortized, but rather is tested for impairment at least annually during the fourth quarter, unless events occur or circumstances change between annual tests that would more likely than not reduce the fair value of a related reporting unit below its carrying value. Impairment occurs when the carrying amount of goodwill exceeds its implied fair value. FCX generally uses a discounted cash flow model to determine if the carrying value of a reporting unit, including goodwill, is less than the fair value of the reporting unit. FCX's approach to allocating goodwill includes the identification of the reporting unit it believes has contributed to the excess purchase price and includes consideration of the reporting unit's potential for future growth. Goodwill of \$1.9 billion arose in 2013 with FCX's acquisitions of PXP and MMR, and was allocated to the U.S. oil and gas reporting unit. When a sale of oil and gas properties occurs, goodwill is allocated to that property based on the relationship of the fair value of the property sold to the total reporting unit's fair value.

A summary of changes in the carrying amount of goodwill follows:

Balance at January 1, 2014	\$ 1,916
Purchase accounting adjustments	22
Disposal of Eagle Ford shale assets (see Note 2)	(221)
Impairment charge in 2014	(1,717)
Balance at December 31, 2014	<u><u>\$ —</u></u>

During fourth-quarter 2014, FCX conducted a goodwill impairment assessment because of the significant decline in oil prices, which resulted in an impairment charge of \$1.7 billion for the full carrying value of goodwill. Crude oil prices and FCX's estimates of oil reserves at December 31, 2014, represented the most significant assumptions used in FCX's evaluation of goodwill (*i.e.*, Level 3 measurement). Forward strip Brent oil prices used in FCX's estimates at December 31, 2014, ranged from approximately \$62 per barrel to \$80 per barrel for the years 2015 through 2021, compared with a range from approximately \$90 per barrel to \$98 per barrel at the acquisition date.

Deferred Mining Costs. Stripping costs (*i.e.*, the costs of removing overburden and waste material to access mineral deposits) incurred during the production phase of a mine are considered variable production costs and are included as a component of inventory produced during the period in which stripping costs are incurred. Major development expenditures, including stripping costs to prepare unique and identifiable areas outside the current mining area for future production that are considered to be pre-production mine development, are capitalized and amortized using the UOP method based on estimated recoverable proven and probable reserves for the ore body benefited. However, where a second or subsequent pit or major expansion is considered to be a continuation of existing mining activities, stripping costs are accounted for as a current production cost and a component of the associated inventory.

Environmental Obligations. Environmental expenditures are charged to expense or capitalized, depending upon their future economic benefits. Accruals for such expenditures are recorded when it is probable that obligations have been incurred and the costs can be reasonably estimated. Environmental obligations attributed to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) or analogous state programs are considered probable when a claim is asserted, or is probable of assertion, and FCX, or any of its subsidiaries, have been associated with the site. Other environmental remediation obligations are considered probable based on specific facts and circumstances. FCX's estimates of these costs are based on an evaluation of various factors, including currently available facts, existing technology, presently enacted laws and regulations, remediation experience, whether or not FCX is a potentially responsible party (PRP) and the ability of other PRPs to pay their allocated portions. With the exception of those obligations assumed in the acquisition of FMC that were initially recorded at estimated fair values (refer to Note 12 for further discussion), environmental obligations are recorded on an undiscounted basis. Where the available information is sufficient to estimate the amount of the obligation, that estimate has been used. Where the information is only sufficient to establish a range of probable liability and no point within the range is more likely than any other, the lower end of the range has been used. Possible recoveries of some of these costs from other parties are not recognized in the consolidated financial statements until they become probable. Legal costs associated with environmental remediation (such as fees to outside law firms for work relating to determining the extent and type of remedial actions and the allocation of costs among PRPs) are included as part of the estimated obligation.

Environmental obligations assumed in the acquisition of FMC, which were initially recorded at fair value and estimated on a discounted basis, are accreted to full value over time through charges to interest expense. Adjustments arising from changes in amounts and timing of estimated costs and settlements may result in increases and decreases in these obligations and are calculated in the same manner as they were initially estimated. Unless these adjustments qualify for capitalization, changes in environmental obligations are charged to operating income when they occur.

FCX performs a comprehensive review of its environmental obligations annually and also reviews changes in facts and circumstances associated with these obligations at least quarterly.

Asset Retirement Obligations. FCX records the fair value of estimated asset retirement obligations (AROs) associated with tangible long-lived assets in the period incurred. Retirement obligations associated with long-lived assets are those for which there is a legal obligation to settle under existing or enacted law, statute, written or oral contract or by legal construction. These obligations, which are initially estimated based on discounted cash flow estimates, are accreted to full value over time through charges to cost of sales. In addition, asset retirement costs (ARCs) are capitalized as part of the related asset's carrying value and are depreciated over the asset's respective useful life.

For mining operations, reclamation costs for disturbances are recognized as an ARO and as a related ARC (included in property, plant, equipment and mine development costs) in the period of the disturbance and depreciated primarily on a UOP basis. FCX's AROs for mining operations consist primarily of costs associated with mine reclamation and closure activities. These activities, which are site specific, generally include costs for earthwork, revegetation, water treatment and demolition.

For oil and gas properties, the fair value of the legal obligation is recognized as an ARO and as a related ARC (included in oil and gas properties) in the period in which the well is drilled or acquired and is amortized on a UOP basis together with other capitalized costs. Substantially all of FCX's oil and gas leases require that, upon termination of economic production, the working interest owners plug and abandon non-producing wellbores; remove platforms, tanks, production equipment and flow lines; and restore the wellsite.

At least annually, FCX reviews its ARO estimates for changes in the projected timing of certain reclamation and closure/restoration costs, changes in cost estimates and additional AROs incurred during the period. Refer to Note 12 for further discussion.

Redeemable Noncontrolling Interest - PXP. FCX assumed ownership of Plains Offshore Operations Inc. (Plains Offshore) in connection with its acquisition of PXP in 2013. In 2011, PXP had issued (i) 450,000 shares of Plains Offshore (a consolidated subsidiary of FM O&G) 8% Convertible Preferred Stock (Preferred Stock) for gross proceeds of \$450 million and (ii) non-detachable warrants with an exercise price of \$20 per share to purchase in aggregate 9.1 million shares of Plains Offshore's common stock. In 2011, Plains Offshore also issued 87 million shares of Plains Offshore Class A common stock, which was to be held in escrow until the conversion and cancellation of the Preferred Stock or the exercise of the warrants. In January 2014, Plains Offshore issued (i) 24,000 shares of Preferred Stock for gross proceeds of \$24 million and (ii) non-detachable warrants with an exercise price of \$20 per share to purchase in aggregate 0.5 million shares of Plains Offshore's common stock. Plains Offshore held certain of FM O&G's oil and gas properties and assets located in the Gulf of Mexico (GOM) in water depths of 500 feet or more, including the Lucius oil field and the Phobos discovery, but excluding the properties acquired by PXP in 2012 from BP Exploration & Production Inc., BP America Production Company and Shell Offshore Inc. The Preferred Stock represented a 20 percent equity interest in Plains Offshore and was entitled to a dividend of 8 percent per annum, payable quarterly, of which 2 percent could be deferred.

In connection with the December 2016 sale of the Deepwater GOM oil and gas properties, FCX settled the Preferred Stock obligation. Refer to Note 2 for further discussion.

The Preferred Stock of Plains Offshore was classified as temporary equity because of its redemption features and was therefore reported outside of permanent equity in FCX's consolidated balance sheets.

Revenue Recognition. FCX sells its products pursuant to sales contracts entered into with its customers. Revenue for all FCX's products is recognized when title and risk of loss pass to the customer and when collectibility is reasonably assured. The passing of title and risk of loss to the customer are based on terms of the sales contract, generally upon shipment or delivery of product.

Revenues from FCX's concentrate and cathode sales are recorded based on a provisional sales price or a final sales price calculated in accordance with the terms specified in the relevant sales contract. Revenues from concentrate sales are recorded net of treatment and all refining charges and the impact of derivative contracts. Moreover, because a portion of the metals contained in copper concentrate is unrecoverable as a result of the smelting process, FCX's revenues from concentrate sales are also recorded net of allowances based on the quantity and value of these unrecoverable metals. These allowances are a negotiated term of FCX's contracts and vary by customer. Treatment and refining charges represent payments or price adjustments to smelters and refiners that are generally fixed.

Under the long-established structure of sales agreements prevalent in the mining industry, copper contained in concentrate and cathode are generally provisionally priced at the time of shipment. The provisional prices are finalized in a specified future month (generally one to four months from the shipment date) based on quoted monthly average spot copper prices on the London Metal Exchange (LME) or the Commodity Exchange Inc. (COMEX), a division of the New York Mercantile Exchange (NYMEX). FCX receives market prices based on prices in the specified future month, which results in price fluctuations recorded to revenues until the date of settlement. FCX records revenues and invoices customers at the time of shipment based on then-current LME or COMEX prices, which results in an embedded derivative (*i.e.*, a pricing mechanism that is finalized after the time of delivery) that is required to be bifurcated from the host contract. The host contract is the sale of the metals contained in the concentrate or cathode at the then-current LME or COMEX price. FCX applies the normal purchases and normal sales scope exception in accordance with derivatives and hedge accounting guidance to the host contract in its concentrate or cathode sales agreements since these contracts do not allow for net settlement and always result in physical delivery. The embedded derivative does not qualify for hedge accounting and is adjusted to fair value through earnings each period, using the period-end forward prices, until the date of final pricing.

Gold sales are priced according to individual contract terms, generally the average London Bullion Market Association (London) price for a specified month near the month of shipment.

The majority of FCX's molybdenum sales are priced based on the average published *Metals Week* price, plus conversion premiums for products that undergo additional processing, such as ferromolybdenum and molybdenum chemical products, for the month prior to the month of shipment. FCX has also incorporated changes in the commercial pricing structure for its molybdenum-based chemical products to enable continuation of chemical-grade production.

PT-FI concentrate sales and Sociedad Minera Cerro Verde S.A.A. (Cerro Verde) metal sales are subject to certain royalties, which are recorded as a reduction to revenues. Cerro Verde is a subsidiary of FMC. In addition, PT-FI concentrate sales are also subject to export duties since 2014, which are recorded as a reduction to revenues. Refer to Note 13 for further discussion.

Oil and gas revenue from FCX's interests in producing wells is recognized upon delivery and passage of title, net of any royalty interests or other profit interests in the produced product. Oil sales are primarily under contracts with prices based upon regional benchmarks. Gas sales are generally priced daily based on prices in the spot market. Gas revenue is recorded using the sales method for gas imbalances. If FCX's sales of production volumes for a well exceed its portion of the estimated remaining recoverable reserves of the well, a liability is recorded. No receivables are recorded for those wells on which FCX has taken less than its ownership share of production unless the amount taken by other parties exceeds the estimate of their remaining reserves. There were no material gas imbalances at December 31, 2016.

Stock-Based Compensation. Compensation costs for share-based payments to employees are measured at fair value and charged to expense over the requisite service period for awards that are expected to vest. The fair value of stock options is determined using the Black-Scholes-Merton option valuation model. The fair value for stock-settled restricted stock units (RSUs) is based on FCX's stock price on the date of grant. Shares of common stock are issued at the vesting date for stock-settled RSUs. The fair value of performance share units (PSUs) are determined using a Monte-Carlo simulation model. The fair value for liability-classified awards (*i.e.*, cash-settled stock appreciation rights (SARs), cash-settled RSUs and cash-settled PSUs) is remeasured each reporting period using the Black-Scholes-Merton option valuation model for SARs and FCX's stock price for cash-settled RSUs and cash-settled PSUs. FCX has elected to recognize compensation costs for stock option awards and SARs that vest over several years on a straight-line basis over the vesting period, and for RSUs and cash-settled PSUs on the graded-vesting method over the vesting period. Refer to Note 10 for further discussion.

Earnings Per Share. FCX calculates its basic earnings per share under the two-class method and calculates its diluted earnings per share using the more dilutive of the two-class method or the treasury stock method. Basic and diluted net loss per share of common stock were computed by dividing net loss attributable to common stockholders (after deducting accumulated dividends to participating securities) by the weighted-average shares of common stock outstanding during the year. All potentially dilutive shares of common stock have been excluded from the computation of weighted-average shares of common stock outstanding since their inclusion would be anti-dilutive because of the net loss reported for each year.

A reconciliation of net loss and weighted-average shares of common stock outstanding for purposes of calculating basic and diluted net (loss) income per share for the years ended December 31 follows:

	2016	2015	2014
Net loss from continuing operations	\$ (3,832)	\$ (12,180)	\$ (1,022)
Net income from continuing operations attributable to noncontrolling interests	(227)	(27)	(358)
Gain on redemption and preferred dividends attributable to redeemable noncontrolling interest	161	(41)	(40)
Accumulated dividends on participating securities	(3)	(3)	(3)
Net loss from continuing operations attributable to common stockholders	<u>\$ (3,901)</u>	<u>\$ (12,251)</u>	<u>\$ (1,423)</u>
Net (loss) income from discontinued operations	(193)	91	277
Net income from discontinued operations attributable to noncontrolling interests	(63)	(79)	(165)
Net (loss) income from discontinued operations attributable to common stockholders	<u>\$ (256)</u>	<u>\$ 12</u>	<u>\$ 112</u>
Net loss attributable to common stockholders	<u><u>\$ (4,157)</u></u>	<u><u>\$ (12,239)</u></u>	<u><u>\$ (1,311)</u></u>
Basic and diluted weighted-average shares of common stock outstanding (millions)	1,318 ^a	1,082 ^a	1,039 ^a
Basic and diluted net (loss) income per share attributable to common stockholders:			
Continuing operations	\$ (2.96)	\$ (11.32)	\$ (1.37)
Discontinued operations	(0.20)	0.01	0.11
	<u><u>\$ (3.16)</u></u>	<u><u>\$ (11.31)</u></u>	<u><u>\$ (1.26)</u></u>

a. Excludes approximately 12 million shares of common stock in 2016, 9 million in 2015 and 10 million in 2014 associated with outstanding stock options with exercise prices less than the average market price of FCX's common stock and RSUs that were anti-dilutive.

Outstanding stock options with exercise prices greater than the average market price of FCX's common stock during the year are excluded from the computation of diluted net loss per share of common stock. Stock options for 46 million shares of common stock were excluded in 2016, 45 million in 2015 and 31 million in 2014.

New Accounting Standards. In May 2014, the Financial Accounting Standards Board (FASB) issued an Accounting Standard Update (ASU) that provides a single comprehensive revenue recognition model, which will replace most existing revenue recognition guidance, and also requires expanded disclosures. The core principle of the model is that revenue is recognized when control of goods or services has been transferred to customers at an amount that reflects the consideration to which an entity expects to be entitled in exchange for those goods or services. For public entities, this ASU is effective for annual reporting periods beginning after December 15, 2017, and interim reporting periods within that reporting period. Early adoption is permitted for annual reporting periods beginning after December 15, 2016, and interim reporting periods within that reporting period. FCX will adopt this ASU January 1, 2018, and currently expects to apply the modified retrospective approach under which any cumulative effect adjustment would be recorded to retained earnings as of the adoption date. FCX has not yet completed its final review of the impact of this guidance; however, based on the terms of its sales contracts, FCX currently does not anticipate a material impact on its revenue recognition policies or processes. FCX continues to review the impact of the new guidance on its financial reporting and disclosures.

In August 2014, FASB issued an ASU that requires management to evaluate whether there are conditions or events that raise substantial doubt about an entity's ability to continue as a going concern within one year after the date the financial statements are issued and to provide certain disclosures depending on the result of the evaluation. This ASU is effective for annual periods ending after December 15, 2016, and for annual and interim periods thereafter. FCX adopted this ASU for its year ended December 31, 2016.

In May 2015, FASB issued an ASU that removes the requirement to categorize within the fair value hierarchy all investments for which fair value is measured using the net asset value (NAV) per share (or its equivalent) as a practical expedient. FCX adopted this ASU effective January 1, 2016, and the prior period disclosures have been restated to remove these investments from the levels within the fair value hierarchy.

In January 2016, FASB issued an ASU that amends the current guidance on the classification and measurement of financial instruments. This ASU makes limited changes to existing guidance and amends certain disclosure requirements. For public entities, this ASU is effective for interim and annual periods beginning after December 15, 2017. Early adoption is not permitted, except for the provision on recording fair value changes for financial liabilities under the fair value option. FCX is currently evaluating the impact this ASU will have on its financial reporting and disclosures, but at this time does not expect the adoption of this ASU will have a material impact on its financial statements.

In February 2016, FASB issued an ASU that will require lessees to recognize most leases on the balance sheet. This ASU allows lessees to make an accounting policy election to not recognize a lease asset and liability for leases with a term of 12 months or less and do not have a purchase option that is expected to be exercised. For public entities, this ASU is effective for interim and annual reporting periods beginning after December 15, 2018, with early adoption permitted. This ASU must be applied using the modified retrospective approach for leases that exist or are entered into after the beginning of the earliest comparative period in the financial statements. FCX is currently evaluating the impact this guidance will have on its financial statements.

In March 2016, FASB issued an ASU that simplifies various aspects of the accounting for share-based payment transactions, including the income tax consequences, statutory tax withholding requirements, an accounting policy election for forfeitures and the classification on the statement of cash flows. For public entities, this ASU is effective for interim and annual periods beginning after December 15, 2016, with early adoption permitted. Each of the amendments in this ASU provides specific transition requirements. FCX will adopt this ASU effective January 1, 2017, and adoption will not have a material impact on its financial statements. This ASU requires recognition of excess tax benefits and tax deficiencies in the income statement prospectively beginning in the first quarter of 2017, which could result in fluctuations in FCX's quarterly effective tax rate depending on how many awards vest or are exercised in a quarter, as well as the volatility of FCX's stock price.

In June 2016, FASB issued an ASU that changes the impairment model for most financial assets and certain other instruments, and will also require expanded disclosures. For public entities, this ASU is effective for interim and annual reporting periods beginning after December 15, 2019, with early adoption permitted. The provisions of the ASU must be applied as a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective. FCX is currently evaluating the impact this ASU will have on its financial statements.

NOTE 2. DISPOSITIONS AND ACQUISITIONS

TF Holdings Limited - Discontinued Operations. FCX had a 70 percent interest in TF Holdings Limited (TFHL), and TFHL owns 80 percent of Tenke Fungurume Mining S.A. (TFM or Tenke) located in the Democratic Republic of Congo (DRC). On November 16, 2016, FCX completed the sale of its interest in TFHL to China Molybdenum Co., Ltd. (CMOC) for \$2.65 billion in cash (before closing adjustments) and contingent consideration of up to \$120 million in cash, consisting of \$60 million if the average copper price exceeds \$3.50 per pound and \$60 million if the average cobalt price exceeds \$20 per pound, both during calendar years 2018 and 2019. One-half of the proceeds from this transaction was used to repay borrowings under FCX's unsecured bank term loan. The contingent consideration is considered a derivative, and at December 31, 2016, the fair value was \$13 million and was recorded in other assets on the consolidated balance sheets and reduced the loss on disposal, which is reflected in net (loss) income from discontinued operations. Future changes in the fair value of the contingent consideration derivative will be recorded in discontinued operations.

In October 2016, La Générale des Carrières et des Mines (Gécamines), which is wholly owned by the DRC government and holds a 20 percent non-dilutable interest in TFM, filed an arbitration proceeding with the International Chamber of Commerce (ICC) International Court of Arbitration challenging the sale of TFHL. In January 2017, a settlement agreement was entered into with Gécamines that resolved all claims brought by Gécamines against FCX, including the arbitration proceeding. The parties to the settlement are FCX, CMOC, Lundin Mining Corporation (Lundin), TFHL, TFM, BHR Newwood Investment Management Limited and Gécamines. The settlement resulted in a charge of \$33 million to the 2016 loss on disposal.

In accordance with accounting guidance, FCX reported the results of operations of TFHL as discontinued operations in the consolidated statements of operations because the disposal represents a strategic shift that had a major effect on operations, and presented the assets and liabilities of TFHL as held for sale in the consolidated balance sheets for all periods presented. The consolidated statements of comprehensive loss were not impacted by discontinued operations as TFHL did not have any other comprehensive (loss) income, and the consolidated statements of cash flows are reported on a combined basis without separately presenting discontinued operations.

The carrying amounts of TFHL's major classes of assets, liabilities and noncontrolling interests, which were held for sale in the consolidated balance sheets at December 31, 2015, follow:

Assets

Cash and cash equivalents	\$	29
Inventories		584
Receivables and other current assets		131
Total current assets held for sale	<u>\$</u>	<u>744</u> ^a
Property, plant, equipment and mine development costs, net	\$	3,261
Inventories		608
Other assets		241
Total long-term assets held for sale	<u>\$</u>	<u>4,110</u> ^a

Liabilities

Accounts payable and accrued liabilities	\$	108
Total current liabilities held for sale	<u>\$</u>	<u>108</u> ^a
Deferred income taxes	\$	681
Asset retirement obligations and other liabilities		37
Total long-term liabilities held for sale	<u>\$</u>	<u>718</u> ^a

Noncontrolling interests

	<u>\$</u>	<u>1,178</u>
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a. Amount differs from the totals on FCX's consolidated balance sheets because of other assets held for sale.

Net (loss) income from discontinued operations in the consolidated statements of operations consists of the following:

	Years Ended December 31,		
	2016	2015	2014
Revenues ^a	\$ 959	\$ 1,270	\$ 1,437
Costs and expenses:			
Production and delivery costs	833	852	782
Depreciation, depletion and amortization	80 ^b	257	228
Interest expense allocated from parent ^c	39	28	24
Other costs and expenses, net	10	26	27
(Loss) income before income taxes and loss on disposal	(3)	107	376
Loss on disposal	(198) ^d	—	—
Net (loss) income before income taxes	(201)	107	376
Benefit from (provision for) income taxes	8	(16)	(99)
Net (loss) income from discontinued operations	\$ (193)	\$ 91	\$ 277

- a. In accordance with accounting guidance, amounts are net of eliminations of intercompany sales totaling \$157 million in 2016, \$114 million in 2015 and \$121 million in 2014.
- b. In accordance with accounting guidance, depreciation, depletion and amortization is not recognized subsequent to classification as assets held for sale, which occurred in May 2016.
- c. In accordance with accounting guidance, interest associated with FCX's unsecured bank term loan that was required to be repaid as a result of the sale of TFHL has been allocated to discontinued operations.
- d. Includes a charge of \$33 million associated with the settlement agreement entered into with Gécamines, partly offset by a gain of \$13 million for the fair value of contingent consideration.

Cash flows from discontinued operations included in the consolidated statements of cash flows follow:

	Years Ended December 31,		
	2016	2015	2014
Net cash provided by operating activities	\$ 241	\$ 217	\$ 529
Net cash used in investing activities	(73)	(253)	(174)
Net cash used in financing activities	(123)	(82)	(285)
Increase (decrease) in cash and cash equivalents in assets held for sale	\$ 45	\$ (118)	\$ 70

FCX has also agreed to negotiate exclusively with CMOC (until February 28, 2017) to enter into a definitive agreement to sell its interest in Freeport Cobalt for \$100 million and the Kisanfu exploration project in the DRC for \$50 million in separate transactions. Freeport Cobalt includes the large-scale cobalt refinery in Kokkola, Finland, and the related sales and marketing business, in which FCX owns an effective 56 percent interest. Kisanfu is a copper and cobalt exploration project, located near Tenke, in which FCX holds a 100 percent interest. The assets and liabilities of Freeport Cobalt and Kisanfu are classified as held for sale in the consolidated balance sheets, and a \$110 million estimated loss on disposal was included in net gain on sales of assets in 2016 in the consolidated statements of operations.

Oil and Gas Operations. On December 30, 2016, FM O&G completed the sale of its onshore California oil and gas properties to Sentinel Peak Resources California LLC (Sentinel) for cash consideration of \$592 million (before closing adjustments from the July 1, 2016, effective date) and contingent consideration of up to \$150 million, consisting of \$50 million per year for 2018, 2019 and 2020 if the price of Brent crude oil averages over \$70 per barrel in each of these calendar years. The contingent consideration is considered a derivative, and at December 31, 2016, the fair value was \$33 million, which was recorded in other assets on the consolidated balance sheets and included in the gain on the sale. Future changes in the fair value of the contingent consideration derivative will be recorded in operating income. Sentinel assumed abandonment obligations associated with the properties.

On December 15, 2016, FM O&G completed the sale of its Deepwater GOM oil and gas properties to Anadarko Petroleum Corporation (Anadarko) for cash consideration of \$2.0 billion (before closing adjustments from the August 1, 2016, effective date) and up to \$150 million in contingent payments. The contingent payments were recorded under the loss recovery approach, whereby contingent gains are recorded up to the amount of any loss on

the sale, and was included in other assets (\$150 million) on the consolidated balance sheets and reduced the loss on the sale. The contingent payments will be received over time as Anadarko realizes future cash flows in connection with a third-party production handling agreement for an offshore platform. Anadarko assumed abandonment obligations associated with these properties. A portion of the proceeds from this transaction was used to repay FCX's remaining outstanding borrowings under its unsecured bank term loan.

Under the full cost accounting rules, the sales of the Deepwater GOM and onshore California oil and gas properties required gain (loss) recognition (net loss of \$9 million, which was net of \$150 million for contingent payments associated with the Deepwater GOM sale and \$33 million for the fair value of contingent consideration from the onshore California sale) because of their significance to the full cost pool.

In connection with the sale of the Deepwater GOM oil and gas properties, FM O&G entered into an agreement to amend the terms of the Plains Offshore Preferred Stock that was reported as redeemable noncontrolling interest on FCX's consolidated balance sheets. The amendment provided FM O&G the right to call these securities for \$582 million. FM O&G exercised this option in December 2016 and recorded a \$199 million gain on redemption to retained earnings.

On July 25, 2016, FM O&G sold its Haynesville shale assets for cash consideration of \$87 million, before closing adjustments. On June 17, 2016, FM O&G sold certain oil and gas royalty interests to Black Stone Minerals, L.P. for cash consideration of \$102 million, before closing adjustments. Under the full cost accounting rules, the proceeds from these transactions were recorded as a reduction of capitalized oil and gas properties, with no gain or loss recognition.

In 2014, FCX completed the acquisition of Deepwater GOM oil and gas interests, including (i) an interest in the Vito oil discovery in the Mississippi Canyon area and a significant lease position in the Vito Basin area for \$496 million, and (ii) interests in the Lucius and Heidelberg oil fields and several exploration leases for \$918 million. These Deepwater GOM acquisitions were funded primarily by the like-kind exchange escrow from the sale of the Eagle Ford shale assets discussed below.

Also in 2014, FCX completed the sale of its Eagle Ford shale assets to a subsidiary of Encana Corporation for cash consideration of \$3.1 billion, before closing adjustments from the April 1, 2014, effective date. Under full cost accounting rules, the proceeds were recorded as a reduction of capitalized oil and gas properties, with no gain or loss recognition, except for \$84 million of deferred tax expense recorded in connection with the allocation of \$221 million of goodwill (for which deferred taxes were not previously provided) to the Eagle Ford shale assets. Approximately \$1.3 billion of proceeds from this transaction was placed in a like-kind exchange escrow and was used to reinvest in additional Deepwater GOM oil and gas interests, as discussed above. The remaining proceeds were used to repay debt.

Morenci. On May 31, 2016, FCX sold a 13 percent undivided interest in its Morenci unincorporated joint venture to SMM Morenci, Inc. for \$1.0 billion in cash. FCX recorded a \$576 million gain on the transaction and used losses to offset cash taxes on the transaction. A portion of the proceeds from the transaction was used to repay borrowings under FCX's unsecured bank term loan and revolving credit facility.

The Morenci unincorporated joint venture was owned 85 percent by FCX and 15 percent by Sumitomo. As a result of the transaction, the unincorporated joint venture is owned 72 percent by FCX, 15 percent by Sumitomo and 13 percent by SMM Morenci, Inc.

Timok. On May 2, 2016, FMC sold an interest in the Timok exploration project in Serbia to Global Reservoir Minerals Inc. (now known as Nevsun Resources, Ltd.) for consideration of \$135 million in cash and contingent consideration of up to \$107 million payable to FCX in stages upon achievement of defined development milestones. As a result of this transaction, FCX recorded a gain of \$133 million in 2016, and no amounts were recorded for contingent consideration under the loss recovery approach. A portion of the proceeds from the transaction was used to repay borrowings under FCX's unsecured bank term loan.

Candelaria and Ojos del Salado. On November 3, 2014, FCX completed the sale of its 80 percent ownership interests in the Candelaria and Ojos del Salado copper mining operations and supporting infrastructure located in Chile to Lundin for \$1.8 billion in cash, before closing adjustments, and contingent consideration of up to \$200 million. Contingent consideration is calculated as five percent of net copper revenues in any annual period over the ensuing five years when the average realized copper price exceeds \$4.00 per pound. Excluding contingent consideration (for which no amounts were recorded under the loss recovery approach), after-tax net proceeds totaled \$1.5 billion, and FCX recorded a gain of \$671 million associated with this transaction. The transaction had an effective date of June 30, 2014. FCX used the proceeds from this transaction to repay indebtedness.

This sale did not meet the criteria for classification as a discontinued operation. The following table provides balances of the major classes of assets and liabilities for the Candelaria and Ojos del Salado mines at November 3, 2014:

Current assets	\$	482
Long-term assets		1,155
Current liabilities		129
Long-term liabilities		89
Noncontrolling interests		243

For the period from January 1, 2014, to November 3, 2014, net income before income taxes was \$270 million and net income attributable to common stockholders was \$144 million for the Candelaria and Ojos del Salado mines.

NOTE 3. OWNERSHIP IN SUBSIDIARIES AND JOINT VENTURES

Ownership in Subsidiaries. FMC is a fully integrated producer of copper and molybdenum, with mines in North America and South America. At December 31, 2016, FMC's operating mines in North America were Morenci, Bagdad, Safford, Sierrita and Miami located in Arizona; Tyrone and Chino located in New Mexico; and Henderson and Climax located in Colorado. FCX has a 72 percent interest (subsequent to the sale of a 13 percent undivided interest on May 31, 2016) in Morenci (refer to "Joint Ventures – Sumitomo") and owns 100 percent of the other North America mines. At December 31, 2016, operating mines in South America were Cerro Verde (53.56 percent owned) located in Peru and El Abra (51 percent owned) located in Chile. At December 31, 2016, FMC's net assets totaled \$15.8 billion and its accumulated deficit totaled \$14.1 billion. FCX had no loans outstanding to FMC at December 31, 2016.

FCX's direct ownership in PT-FI totals 81.28 percent. PT Indocopper Investama, an Indonesian company, owns 9.36 percent of PT-FI, and FCX owns 100 percent of PT Indocopper Investama. Refer to "Joint Ventures - Rio Tinto" for discussion of the unincorporated joint ventures. At December 31, 2016, PT-FI's net assets totaled \$6.4 billion and its retained earnings totaled \$6.1 billion. FCX had \$88 million in intercompany loans outstanding to PT-FI at December 31, 2016.

FCX owns 100 percent of the outstanding Atlantic Copper common stock. At December 31, 2016, Atlantic Copper's net liabilities totaled \$25 million and its accumulated deficit totaled \$436 million. FCX had \$290 million in intercompany loans outstanding to Atlantic Copper at December 31, 2016.

FCX owns 100 percent of FM O&G, which, as of December 31, 2016, has a portfolio of oil and gas assets that includes oil and natural gas production onshore in South Louisiana and on the GOM shelf, oil production offshore California and natural gas production from the Madden area in central Wyoming. At December 31, 2016, FM O&G's net liabilities totaled \$13.4 billion and its accumulated deficit totaled \$25.0 billion. FCX had \$9.1 billion in intercompany loans outstanding to FM O&G at December 31, 2016.

Joint Ventures. FCX has the following unincorporated joint ventures.

Rio Tinto. PT-FI and Rio Tinto have established an unincorporated joint venture pursuant to which Rio Tinto has a 40 percent interest in PT-FI's Contract of Work (COW) and the option to participate in 40 percent of any other future exploration projects in Papua, Indonesia.

Pursuant to the joint venture agreement, Rio Tinto has a 40 percent interest in certain assets and future production exceeding specified annual amounts of copper, gold and silver through 2022 in Block A of PT-FI's COW, and, after 2022, a 40 percent interest in all production from Block A. All of PT-FI's proven and probable reserves and all its mining operations are located in the Block A area. PT-FI receives 100 percent of production and related revenues from reserves established as of December 31, 1994 (27.1 billion pounds of copper, 38.4 million ounces of gold and 75.8 million ounces of silver), divided into annual portions subject to reallocation for events causing changes in the anticipated production schedule. Production and related revenues exceeding those annual amounts (referred to as incremental expansion revenues) are shared 60 percent PT-FI and 40 percent Rio Tinto. Operating, nonexpansion capital and administrative costs are shared 60 percent PT-FI and 40 percent Rio Tinto based on the ratio of (i) the incremental expansion revenues to (ii) total revenues from production from Block A, with PT-FI responsible for the rest of such costs. PT-FI will continue to receive 100 percent of the cash flow from specified annual amounts of copper, gold and silver through 2022 calculated by reference to its proven and probable reserves as of December 31, 1994, and 60 percent of all remaining cash flow. Expansion capital costs are shared 60 percent PT-FI and 40 percent Rio Tinto. The payable to Rio Tinto for its share of joint venture cash flows was \$10 million at both December 31, 2016 and 2015.

Sumitomo and SMM Morenci, Inc. FCX owns a 72 percent undivided interest in Morenci via an unincorporated joint venture. The remaining 28 percent is owned by Sumitomo (15 percent) and SMM Morenci, Inc. (13 percent). Each partner takes in kind its share of Morenci's production. FMC purchased 165 million pounds of Morenci's copper cathode from Sumitomo and SMM Morenci, Inc. at market prices for \$362 million during 2016. FCX had a receivable from Sumitomo and SMM Morenci, Inc. of \$15 million at December 31, 2016, and a receivable from Sumitomo of \$10 million at December 31, 2015.

NOTE 4. INVENTORIES, INCLUDING LONG-TERM MILL AND LEACH STOCKPILES

The components of inventories follow:

	December 31,	
	2016	2015
Current inventories:		
Total materials and supplies, net ^a	\$ 1,306	\$ 1,575
Mill stockpiles	\$ 259	\$ 137
Leach stockpiles	1,079	1,402
Total current mill and leach stockpiles	\$ 1,338	\$ 1,539
Raw materials (primarily concentrate)	\$ 255	\$ 220
Work-in-process	114	108
Finished goods	629	633
Total product inventories	\$ 998	\$ 961
Long-term inventories:		
Mill stockpiles	\$ 487	\$ 480
Leach stockpiles	1,146	1,183
Total long-term inventories ^b	\$ 1,633	\$ 1,663

a. Materials and supplies inventory was net of obsolescence reserves totaling \$29 million at December 31, 2016, and \$26 million at December 31, 2015.

b. Estimated metals in stockpiles not expected to be recovered within the next 12 months.

FCX recorded charges for adjustments to metals inventory carrying values of \$36 million for 2016, primarily for molybdenum because of lower molybdenum prices, \$338 million (\$215 million for copper inventories and \$123 million for molybdenum inventories) for 2015 and \$6 million for 2014 (refer to Note 16 for metals inventory adjustments by business segment).

NOTE 5. PROPERTY, PLANT, EQUIPMENT AND MINE DEVELOPMENT COSTS, NET

The components of net property, plant, equipment and mine development costs follow:

	December 31,	
	2016	2015
Proven and probable mineral reserves	\$ 3,863	\$ 3,880
VBPP	559	559
Mine development and other	5,755	4,878
Buildings and infrastructure	7,479	6,964
Machinery and equipment	11,744	11,558
Mobile equipment	3,725	3,843
Construction in progress	2,831	3,716
Property, plant, equipment and mine development costs	35,956	35,398
Accumulated depreciation, depletion and amortization	(12,737)	(11,412)
Property, plant, equipment and mine development costs, net	<u>\$ 23,219</u>	<u>\$ 23,986</u>

FCX recorded \$1.6 billion for VBPP in connection with the FMC acquisition in 2007 (excluding \$634 million associated with mining operations that were sold or included in assets held for sale) and transferred \$640 million to proven and probable mineral reserves prior to 2015 (none in 2016 and 2015). Cumulative impairments of VBPP total \$485 million, which were primarily recorded in 2008.

Capitalized interest, which primarily related to FCX's mining operations' capital projects, totaled \$92 million in 2016, \$157 million in 2015 and \$148 million in 2014.

In response to market conditions, beginning in the second half of 2015, FCX made adjustments to its operating plans for its mining operations. Operating plans for the North America copper mines were revised to reduce operating and capital costs, and adjust production to reflect market conditions; operations at the El Abra mine in Chile were adjusted to reduce mining and stacking rates by approximately 50 percent to achieve lower operating and labor costs, defer capital expenditures and extend the life of the existing operation; and the Henderson molybdenum mine in Colorado operated at reduced rates during 2016, resulting in an approximate 65 percent reduction in its annual production volumes.

In connection with the decline in copper and molybdenum prices in 2015 and the revised operating plans discussed above, FCX evaluated its long-lived assets (other than indefinite-lived intangible assets) for impairment during 2015 and as of December 31, 2015, as described in Note 1. FCX's evaluations of its copper mines at December 31, 2015, were based on near-term price assumptions reflecting prevailing copper future prices, which ranged from \$2.15 per pound to \$2.17 per pound for COMEX and from \$2.13 per pound to \$2.16 per pound for LME, and a long-term average price of \$3.00 per pound. FCX's evaluations of its molybdenum mines at December 31, 2015, were based on near-term price assumptions that were consistent with then-current market prices for molybdenum and a long-term average price of \$10.00 per pound.

FCX's evaluations of long-lived assets (other than indefinite-lived intangible assets) resulted in the recognition of a charge to production costs for the impairment of the Tyrone mine totaling \$37 million in 2015, net of a revision to Tyrone's ARO.

During 2016, FCX concluded there were no events or changes in circumstances that would indicate that the carrying amount of its long-lived mining assets might not be recoverable. Additionally, copper and molybdenum prices have improved. The LME copper spot price of \$2.50 per pound at December 31, 2016, was 17 percent higher than the LME spot price of \$2.13 per pound at December 31, 2015, and the weekly average price for molybdenum of \$6.74 per pound at December 31, 2016, was 29 percent higher than the weekly average price of \$5.23 per pound at December 31, 2015.

NOTE 6. OTHER ASSETS

The components of other assets follow:

	December 31,	
	2016	2015
Disputed tax assessments: ^a		
PT-FI	\$ 331	\$ 209
Cerro Verde	277	245
Intangible assets ^b	305	316
Investments:		
Assurance bond ^c	120	118
PT Smelting ^d	83	112
Available-for-sale securities	50	47
Other	50	50
Contingent consideration associated with sales of assets ^e	196	—
Legally restricted funds ^f	182	171
Long-term receivable for taxes ^g	129	261
Rio Tinto's share of ARO	71	49
Long-lead equipment	17	187
Deferred drillship costs	—	81
Other	145	141
Total other assets	<u>\$ 1,956</u>	<u>\$ 1,987</u>

- a. Refer to Note 12 for further discussion.
- b. Intangible assets were net of accumulated amortization totaling \$37 million at December 31, 2016, and \$61 million at December 31, 2015.
- c. Relates to PT-FI's commitment for smelter development in Indonesia (refer to Note 13 for further discussion).
- d. FCX's 25 percent ownership in PT Smelting (smelter and refinery in Gresik, Indonesia) is recorded using the equity method. Amounts were reduced by unrecognized profits on sales from PT-FI to PT Smelting totaling \$39 million at December 31, 2016, and \$14 million at December 31, 2015. Trade accounts receivable from PT Smelting totaled \$283 million at December 31, 2016, and \$160 million at December 31, 2015.
- e. Refer to Note 2 for further discussion.
- f. Includes \$173 million at December 31, 2016, and \$169 million at December 31, 2015, held in trusts for AROs related to properties in New Mexico (refer to Note 12 for further discussion).
- g. Includes tax overpayments and refunds not expected to be realized within the next 12 months (primarily at PT-FI and Cerro Verde).

NOTE 7. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

The components of accounts payable and accrued liabilities follow:

	December 31,	
	2016	2015
Accounts payable	\$ 1,540	\$ 2,251
Salaries, wages and other compensation	225	212
Accrued interest ^a	129	165
Accrued taxes, other than income taxes	90	201
Deferred revenue	82	41
Pension, postretirement, postemployment and other employee benefits ^b	76	125
Accrued mining royalties	46	33
Oil and gas royalty and revenue payable	37	53
Other	168	151
Total accounts payable and accrued liabilities	<u>\$ 2,393</u>	<u>\$ 3,232</u>

- a. Third-party interest paid, net of capitalized interest, was \$743 million in 2016, \$570 million in 2015 and \$637 million (including \$3 million for discontinued operations) in 2014.
- b. Refer to Note 9 for long-term portion.

NOTE 8. DEBT

FCX's debt at December 31, 2016, included additions of \$179 million (\$210 million at December 31, 2015) for unamortized fair value adjustments (primarily from the 2013 oil and gas acquisitions), and is net of reductions of \$100 million (\$129 million at December 31, 2015) for unamortized net discounts and unamortized debt issuance costs. The components of debt follow:

	December 31,	
	2016	2015
Bank term loan	\$ —	\$ 3,032
Revolving credit facility	—	—
Lines of credit	—	442
Cerro Verde credit facility	1,390	1,781
Cerro Verde shareholder loans	261	259
Senior notes and debentures:		
Issued by FCX:		
2.15% Senior Notes due 2017	500	499
2.30% Senior Notes due 2017	728	747
2.375% Senior Notes due 2018	1,480	1,495
6.125% Senior Notes due 2019	186	—
3.100% Senior Notes due 2020	996	995
6½% Senior Notes due 2020	583	—
6.625% Senior Notes due 2021	242	—
4.00% Senior Notes due 2021	595	594
6.75% Senior Notes due 2022	432	—
3.55% Senior Notes due 2022	1,882	1,987
6 ⁷ / ₈ % Senior Notes due 2023	784	—
3.875% Senior Notes due 2023	1,912	1,987
4.55% Senior Notes due 2024	844	843
5.40% Senior Notes due 2034	739	788
5.450% Senior Notes due 2043	1,842	1,973
Issued by Freeport-McMoRan Oil & Gas LLC (FM O&G LLC):		
6.125% Senior Notes due 2019	60	251
6½% Senior Notes due 2020	69	662
6.625% Senior Notes due 2021	35	281
6.75% Senior Notes due 2022	48	488
6 ⁷ / ₈ % Senior Notes due 2023	55	857
Issued by FMC:		
7 ¹ / ₈ % Debentures due 2027	115	115
9½% Senior Notes due 2031	128	128
6 ¹ / ₈ % Senior Notes due 2034	116	116
Other	5	4
Total debt	16,027	20,324
Less current portion of debt	(1,232)	(649)
Long-term debt	\$ 14,795	\$ 19,675

Bank Term Loan. In February 2013, FCX entered into an agreement for a \$4.0 billion unsecured bank term loan (Term Loan) in connection with the acquisitions of PXP and MMR. Upon closing the PXP acquisition, FCX borrowed \$4.0 billion under the Term Loan, and FM O&G LLC (a wholly owned subsidiary of FM O&G and the successor entity of PXP) joined the Term Loan as a borrower.

During 2016, FCX paid off the balance of the Term Loan with a portion of the proceeds from sales of assets (refer to Note 2 for further discussion).

Revolving Credit Facility. In May 2014, FCX, PT-FI and FM O&G LLC amended the senior unsecured \$3.0 billion revolving credit facility to extend the maturity date one year to May 31, 2019, and increase the aggregate facility amount from \$3.0 billion to \$4.0 billion, with \$500 million available to PT-FI. FCX, PT-FI and FM O&G LLC had entered into the \$3.0 billion revolving credit facility on May 31, 2013 (upon completion of the acquisition of PXP). In February and December 2015, FCX modified the revolving credit facility to amend the maximum total leverage ratio. In February 2016, FCX amended its revolving credit facility, which included (i) modification of the maximum

leverage ratio and the minimum interest expense coverage ratio and (ii) a commitment reduction from \$4.0 billion to \$3.5 billion.

At December 31, 2016, FCX had no borrowings outstanding and \$43 million of letters of credit issued under the revolving credit facility, resulting in availability of approximately \$3.5 billion, of which \$1.5 billion could be used for additional letters of credit.

Interest on the revolving credit facility (London Interbank Offered Rate (LIBOR) plus 2.50 percent or an alternate base rate (ABR) plus 1.50 percent at December 31, 2016) is determined by reference to FCX's credit ratings.

Lines of Credit. At December 31, 2016, FCX had no borrowings outstanding on its uncommitted and short-term lines of credit with certain financial institutions. These unsecured lines of credit allow FCX to borrow at a spread over LIBOR or the respective financial institution's cost of funds with terms and pricing that are generally more favorable than FCX's revolving credit facility.

Cerro Verde Credit Facility. In March 2014, Cerro Verde entered into a five-year, \$1.8 billion senior unsecured credit facility that is nonrecourse to FCX and the other shareholders of Cerro Verde. Interest on amounts drawn under the term loan is based on LIBOR plus a spread (1.90 percent at December 31, 2016) based on Cerro Verde's total net debt to EBITDA ratio as defined in the agreement. At December 31, 2016, term loan borrowings under the facility totaled \$1.4 billion. The credit facility amortizes in four installments in amounts necessary for the aggregate borrowings and outstanding letters of credit not to exceed 85 percent of the \$1.8 billion commitment on September 30, 2017, 70 percent on March 31, 2018, and 35 percent on September 30, 2018, with the remaining balance due on the maturity date of March 10, 2019. The interest rate on Cerro Verde's credit facility was 2.67 percent at December 31, 2016.

Cerro Verde Shareholder Loans. In December 2014, Cerro Verde entered into loan agreements with three of its shareholders for borrowings up to \$800 million. Cerro Verde can designate all or a portion of the shareholder loans as subordinated. If the loans are not designated as subordinated, they bear interest at LIBOR plus the current spread on Cerro Verde's credit facility. If they are designated as subordinated, they bear interest at the same rate plus 0.5 percent. The loans mature on December 22, 2019, unless at that time there is senior financing associated with the Cerro Verde expansion project that is senior to the shareholder loans, in which case the shareholder loans mature two years following the maturity of the senior financing. At December 31, 2016, the outstanding balance on the Cerro Verde shareholder loans was \$261 million (excluding \$345 million from FMC, which is eliminated in consolidation). The weighted-average interest rate on the Cerro Verde shareholder loans was 3.10 percent at December 31, 2016.

Senior Notes issued by FCX. In December 2016, FCX completed an exchange offer and consent solicitation associated with FM O&G LLC senior notes. Holders representing 89 percent of the outstanding FM O&G LLC senior notes tendered their notes and received new FCX senior notes. Each series of newly issued FCX senior notes have an interest rate that is identical to the interest rate of the applicable series of FM O&G LLC senior notes. The newly issued FCX senior notes are senior unsecured obligations of FCX and rank equally in right of payment with all other existing and future senior unsecured indebtedness of FCX. These new FCX senior notes have not been registered with the SEC under the Securities Act of 1933, as amended, or any state or foreign securities law. The 6.125% Senior Notes due 2019, 6½% Senior Notes due 2020 and 6.625% Senior Notes due 2021 are redeemable at specified redemption prices. The 6.75% Senior Notes due 2022 and 6⁷/₈% Senior Notes due 2023 are redeemable in whole or in part, at the option of FCX, at make-whole redemption prices prior to February 1, 2018, and February 15, 2020, respectively, and at specified redemption prices thereafter. A summary of the tenders follows:

	Principal Amount Outstanding	Principal Amount Tendered	Book Value of New FCX Senior Notes
6.125% Senior Notes due 2019	\$ 237	\$ 179	\$ 186
6½% Senior Notes due 2020	617	552	583
6.625% Senior Notes due 2021	261	228	242
6.75% Senior Notes due 2022	449	404	432
6 ⁷ / ₈ % Senior Notes due 2023	778	728	785
	<u>\$ 2,342</u>	<u>\$ 2,091</u>	<u>\$ 2,228</u>

The principal amounts were increased by \$151 million to reflect the remaining unamortized acquisition-date fair market value adjustments associated with the PXP acquisition. In addition, FCX paid \$14 million in cash consideration for FM O&G LLC's senior notes that were tendered, which reduced the book value of the new FCX senior notes. These adjustments and cash consideration are being amortized over the term of these senior notes and recorded as a net reduction of interest expense.

In November 2014, FCX sold \$750 million of 2.30% Senior Notes due 2017, \$600 million of 4.00% Senior Notes due 2021, \$850 million of 4.55% Senior Notes due 2024 and \$800 million of 5.40% Senior Notes due 2034 for total net proceeds of \$2.97 billion. In March 2013, in connection with the financing of FCX's acquisitions of PXP and MMR, FCX issued \$6.5 billion of unsecured senior notes in four tranches. FCX sold \$1.5 billion of 2.375% Senior Notes due March 2018, \$1.0 billion of 3.100% Senior Notes due March 2020, \$2.0 billion of 3.875% Senior Notes due March 2023 and \$2.0 billion of 5.450% Senior Notes due March 2043 for total net proceeds of \$6.4 billion. In February 2012, FCX sold \$500 million of 2.15% Senior Notes due 2017 and \$2.0 billion of 3.55% Senior Notes due 2022 for total net proceeds of \$2.47 billion.

The 2.15% Senior Notes due 2017, 2.30% Senior Notes due 2017, 2.375% Senior Notes due 2018, 3.100% Senior Notes due 2020 and 4.00% Senior Notes due 2021 are redeemable in whole or in part, at the option of FCX, at a make-whole redemption price. The senior notes listed below are redeemable in whole or in part, at the option of FCX, at a make-whole redemption price prior to the dates stated below, and beginning on the dates stated below at 100 percent of principal.

Debt Instrument	Date
3.55% Senior Notes due 2022	December 1, 2021
3.875% Senior Notes due 2023	December 15, 2022
4.55% Senior Notes due 2024	August 14, 2024
5.40% Senior Notes due 2034	May 14, 2034
5.450% Senior Notes due 2043	September 15, 2042

These senior notes rank equally with FCX's other existing and future unsecured and unsubordinated indebtedness.

Senior Notes issued by FM O&G LLC. In May 2013, in connection with the acquisition of PXP, FCX assumed unsecured senior notes with a stated value of \$6.4 billion, which was increased by \$716 million to reflect the acquisition-date fair market value of these senior notes. After redemptions and the 2016 exchange offer and consent solicitation discussed above, as of December 31, 2016, the stated value of these senior notes totaled \$251 million, which was increased by \$16 million to reflect the remaining unamortized acquisition-date fair market value adjustments that are being amortized over the term of these senior notes and recorded as a reduction of interest expense. The 6.125% Senior Notes due 2019, 6½% Senior Notes due 2020, 6.625% Senior Notes due 2021 and 6.75% Senior Notes due 2022 are redeemable at specified redemption prices. The 6⁷/₈% Senior Notes due 2023 are redeemable in whole or in part, at the option of FM O&G LLC, at make-whole redemption prices prior to February 15, 2018, and at specified redemption prices thereafter.

Exchanges and Early Extinguishment of Debt. During 2016, FCX redeemed certain senior notes in exchange for its common stock (refer to Note 10 for further discussion) and purchased certain senior notes in open-market transactions. A summary of these debt extinguishments follows:

	Principal Amount	Discounts/ Deferred Debt Issuance Costs	Book Value	Redemption Value	Gain
2.30% Senior Notes due 2017	\$ 20	\$ —	\$ 20	\$ 20	\$ —
2.375% Senior Notes due 2018	18	—	18	18	—
3.55% Senior Notes due 2022	108	1	107	96	11
3.875% Senior Notes due 2023	77	—	77	68	9
5.40% Senior Notes due 2034	50	1	49	41	8
5.450% Senior Notes due 2043	134	2	132	106	26
	\$ 407	\$ 4	\$ 403	\$ 349	\$ 54

Partially offsetting the \$54 million gain was \$28 million in losses, primarily related to deferred debt issuance costs for the Term Loan that was repaid and costs associated with the December 2016 senior note exchange offer and consent solicitation.

A summary of debt extinguishments during 2014 resulting from redemptions and tender offers follows:

	Principal Amount	Purchase Accounting Fair-Value Adjustments	Book Value	Redemption Value	Gain (Loss)
1.40% Senior Notes due 2015	\$ 500	\$ —	\$ 500	\$ 501	\$ (1)
6.125% Senior Notes due 2019	513	40	553	555	(2)
8.625% Senior Notes due 2019	400	41	441	417	24
7.625% Senior Notes due 2020	300	32	332	318	14
6½% Senior Notes due 2020	883	79	962	952	10
6.625% Senior Notes due 2021	339	31	370	367	3
6.75% Senior Notes due 2022	551	57	608	600	8
6 ⁷ / ₈ % Senior Notes due 2023	722	84	806	785	21
	<u>\$ 4,208</u>	<u>\$ 364</u>	<u>\$ 4,572</u>	<u>\$ 4,495</u>	<u>\$ 77</u>

Partially offsetting the net \$77 million gain was \$4 million in losses, primarily associated with the modification of FCX's revolving credit facility in May 2014.

Guarantees. In connection with the acquisition of PXP, FCX guaranteed the PXP senior notes, and the guarantees by certain PXP subsidiaries were released. Refer to Note 17 for a discussion of FCX's senior notes guaranteed by FM O&G LLC.

Restrictive Covenants. FCX's revolving credit facility contains customary affirmative covenants and representations, and also a number of negative covenants that, among other things, restrict, subject to certain exceptions, the ability of FCX's subsidiaries that are not borrowers or guarantors to incur additional indebtedness (including guarantee obligations) and FCX's ability or the ability of FCX's subsidiaries to: create liens on assets; enter into sale and leaseback transactions; engage in mergers, liquidations and dissolutions; and sell assets. FCX's revolving credit facility also contains financial ratios governing maximum total leverage and minimum interest coverage. Following the February 2016 amendment, FCX's leverage ratio (Net Debt/EBITDA, as defined in the credit agreement) cannot exceed 4.25x in 2017 and 3.75x thereafter. Additionally, under the February 2016 amendments, many of the exceptions to the subsidiary indebtedness restrictions and the lien restrictions were narrowed significantly through March 31, 2017. In addition, on or prior to March 31, 2017, FCX is not permitted to pay dividends on its common stock or make other restricted payments. The pricing under the amended revolving credit facility also changed and is a function of credit ratings and the leverage ratio. FCX's senior notes contain limitations on liens. At December 31, 2016, FCX was in compliance with all of its covenants.

Maturities. Maturities of debt instruments based on the principal amounts and terms outstanding at December 31, 2016, total \$1.2 billion in 2017, \$2.3 billion in 2018, \$1.1 billion in 2019, \$1.6 billion in 2020, \$862 million in 2021 and \$8.8 billion thereafter.

NOTE 9. OTHER LIABILITIES, INCLUDING EMPLOYEE BENEFITS

The components of other liabilities follow:

	December 31,	
	2016	2015
Pension, postretirement, postemployment and other employment benefits ^a	\$ 1,345	\$ 1,260
Provision for tax positions	167	152
Legal matters	77	77
Insurance claim reserves	51	59
Accrued oil and gas contract commitments	43	—
Other	62	93
Total other liabilities	<u>\$ 1,745</u>	<u>\$ 1,641</u>

a. Refer to Note 7 for current portion.

Pension Plans. Following is a discussion of FCX's pension plans.

FMC Plans. FMC has U.S. trustee, non-contributory pension plans covering substantially all of its U.S. employees and some employees of its international subsidiaries hired before 2007. The applicable FMC plan design determines the manner in which benefits are calculated for any particular group of employees. Benefits are calculated based on final average monthly compensation and years of service or based on a fixed amount for each year of service. Non-bargained FMC employees hired after December 31, 2006, are not eligible to participate in the FMC U.S. pension plan.

FCX's funding policy for these plans provides that contributions to pension trusts shall be at least equal to the minimum funding requirements of the Employee Retirement Income Security Act of 1974, as amended, for U.S. plans; or, in the case of international plans, the minimum legal requirements that may be applicable in the various countries. Additional contributions also may be made from time to time.

FCX's policy for determining asset-mix targets for the FMC plan assets held in a master trust (Master Trust) includes the periodic development of asset and liability studies to determine expected long-term rates of return and expected risk for various investment portfolios. FCX's retirement plan administration and investment committee considers these studies in the formal establishment of asset-mix targets. FCX's investment objective emphasizes the need to maintain a well-diversified investment program through both the allocation of the Master Trust assets among asset classes and the selection of investment managers whose various styles are fundamentally complementary to one another and serve to achieve satisfactory rates of return. Diversification, by asset class and by investment manager, is FCX's principal means of reducing volatility and exercising prudent investment judgment. FCX's present target asset allocation approximates 46 percent equity investments (primarily global equities), 43 percent fixed income (primarily long-term treasury STRIPS or "separate trading or registered interest and principal securities"; long-term U.S. treasury/agency bonds; global fixed income securities; long-term, high-credit quality corporate bonds; high-yield and emerging markets fixed income securities; and fixed income debt securities) and 11 percent alternative investments (private real estate, real estate investment trusts and private equity).

The expected rate of return on plan assets is evaluated at least annually, taking into consideration asset allocation, historical returns on the types of assets held in the Master Trust and the current economic environment. Based on these factors, FCX expects the pension assets will earn an average of 7.0 percent per annum beginning January 1, 2017. The 7.0 percent estimation was based on a passive return on a compound basis of 6.5 percent and a premium for active management of 0.5 percent reflecting the target asset allocation and current investment array.

For estimation purposes, FCX assumes the long-term asset mix for these plans generally will be consistent with the current mix. Changes in the asset mix could impact the amount of recorded pension income or expense, the funded status of the plans and the need for future cash contributions. A lower-than-expected return on assets also would decrease plan assets and increase the amount of recorded pension expense in future years. When calculating the expected return on plan assets, FCX uses the market value of assets.

Among the assumptions used to estimate the pension benefit obligation is a discount rate used to calculate the present value of expected future benefit payments for service to date. The discount rate assumption for FCX's U.S. plans is designed to reflect yields on high-quality, fixed-income investments for a given duration. The determination of the discount rate for these plans is based on expected future benefit payments for service to date together with the Mercer Pension Discount Curve - Above Mean Yield. The Mercer Pension Discount Curve - Above Mean Yield is constructed from the bonds in the Mercer Pension Discount Curve that have a yield higher than the regression mean yield curve. The Mercer Pension Discount Curve consists of spot (*i.e.*, zero coupon) interest rates at one-half year increments for each of the next 30 years and is developed based on pricing and yield information for high-quality corporate bonds. Changes in the discount rate are reflected in FCX's benefit obligation and, therefore, in future pension costs.

Other FCX Plans. In 2004, FCX established an unfunded Supplemental Executive Retirement Plan (SERP) for its two most senior executive officers. The SERP provides for retirement benefits payable in the form of a joint and survivor annuity or an equivalent lump sum, which is determined on January 1 of the year in which the participant completed 25 years of credited service. The annuity will equal a percentage of the executive's highest average compensation for any consecutive three-year period during the five years immediately preceding 25 years of credited service. The SERP benefit will be reduced by the value of all benefits paid or due under any defined benefit or defined contribution plan sponsored by FM Services Company, FCX's wholly owned subsidiary, FCX or its predecessor, but not including accounts funded exclusively by deductions from participant's pay. One of the executive officers retired in December 2015 and received a lump sum payment of \$27 million in 2016.

PT-FI Plan. PT-FI has a defined benefit pension plan denominated in Indonesian rupiah covering substantially all of its Indonesian national employees. PT-FI funds the plan and invests the assets in accordance with Indonesian pension guidelines. The pension obligation was valued at an exchange rate of 13,369 rupiah to one U.S. dollar on December 31, 2016, and 13,726 rupiah to one U.S. dollar on December 31, 2015. Indonesian labor laws require that companies provide a minimum level of benefits to employees upon employment termination based on the reason for termination and the employee's years of service. PT-FI's pension benefit disclosures include benefits related to this law. PT-FI's expected rate of return on plan assets is evaluated at least annually, taking into consideration its long-range estimated return for the plan based on the asset mix. Based on these factors, PT-FI expects its pension assets will earn an average of 7.75 percent per annum beginning January 1, 2017. The discount rate assumption for PT-FI's plan is based on the Mercer Indonesian zero coupon bond yield curve derived from the Indonesian Government Security Yield Curve. Changes in the discount rate are reflected in PT-FI's benefit obligation and, therefore, in future pension costs.

Plan Information. FCX uses a measurement date of December 31 for its plans. Information for those plans where the accumulated benefit obligations exceed the fair value of plan assets follows:

	December 31,	
	2016	2015
Projected benefit obligation	\$ 2,127	\$ 2,139
Accumulated benefit obligation	2,014	2,037
Fair value of plan assets	1,312	1,399

Information on the FCX (including FMC's plans) and PT-FI plans as of December 31 follows:

	FCX		PT-FI	
	2016	2015	2016	2015
Change in benefit obligation:				
Benefit obligation at beginning of year	\$ 2,104	\$ 2,179	\$ 318	\$ 318
Service cost	27	36	27	26
Interest cost	93	87	29	23
Actuarial losses (gains)	92	(118)	2	(7)
Foreign exchange (gains) losses	(4)	(2)	8	(32)
Special retirement benefits ^a	—	22	—	—
Benefits paid	(177)	(100)	(10)	(10)
Benefit obligation at end of year	<u>2,135</u>	<u>2,104</u>	<u>374</u>	<u>318</u>
Change in plan assets:				
Fair value of plan assets at beginning of year	1,379	1,416	204	185
Actual return on plan assets	88	(26)	47	6
Employer contributions ^b	42	90	38	42
Foreign exchange (losses) gains	(3)	(1)	5	(19)
Benefits paid	(177)	(100)	(10)	(10)
Fair value of plan assets at end of year	<u>1,329</u>	<u>1,379</u>	<u>284</u>	<u>204</u>
Funded status	<u>\$ (806)</u>	<u>\$ (725)</u>	<u>\$ (90)</u>	<u>\$ (114)</u>
Accumulated benefit obligation	<u>\$ 2,022</u>	<u>\$ 2,001</u>	<u>\$ 225</u>	<u>\$ 175</u>
Weighted-average assumptions used to determine benefit obligations:				
Discount rate	4.40%	4.60%	8.25%	9.00%
Rate of compensation increase	3.25%	3.25%	8.00%	9.40%
Balance sheet classification of funded status:				
Other assets	\$ 9	\$ 8	\$ —	\$ —
Accounts payable and accrued liabilities	(4)	(35)	—	—
Other liabilities	(811)	(698)	(90)	(114)
Total	<u>\$ (806)</u>	<u>\$ (725)</u>	<u>\$ (90)</u>	<u>\$ (114)</u>

- a. Resulted from the 2015 revised mine operating plans and reductions in the workforce (refer to Note 5 for further discussion).
- b. Employer contributions for 2017 are expected to approximate \$140 million for the FCX plans and \$32 million for the PT-FI plan (based on a December 31, 2016, exchange rate of 13,369 Indonesian rupiah to one U.S. dollar).

The weighted-average assumptions used to determine net periodic benefit cost and the components of net periodic benefit cost for FCX's pension plans for the years ended December 31 follow:

	2016	2015	2014
Weighted-average assumptions: ^a			
Discount rate	4.60%	4.10%	5.00%
Expected return on plan assets	7.25%	7.25%	7.50%
Rate of compensation increase	3.25%	3.25%	3.75%
Service cost	\$ 27	\$ 36	\$ 30
Interest cost	93	87	92
Expected return on plan assets	(96)	(102)	(98)
Amortization of prior service credit	—	—	(1)
Amortization of net actuarial losses	42	45	28
Special retirement benefits	—	22	—
Net periodic benefit cost	<u>\$ 66</u>	<u>\$ 88</u>	<u>\$ 51</u>

a. The assumptions shown relate only to the FMC plans.

The weighted-average assumptions used to determine net periodic benefit cost and the components of net periodic benefit cost for PT-FI's pension plan for the years ended December 31 follow:

	2016	2015	2014
Weighted-average assumptions:			
Discount rate	9.00%	8.25%	9.00%
Expected return on plan assets	7.75%	7.75%	7.75%
Rate of compensation increase	9.40%	9.00%	9.00%
Service cost	\$ 27	\$ 26	\$ 22
Interest cost	29	23	23
Expected return on plan assets	(17)	(14)	(10)
Amortization of prior service cost	3	3	3
Amortization of net actuarial loss	5	6	8
Net periodic benefit cost	<u>\$ 47</u>	<u>\$ 44</u>	<u>\$ 46</u>

Included in accumulated other comprehensive loss are the following amounts that have not been recognized in net periodic pension cost as of December 31:

	2016		2015	
	Before Taxes	After Taxes and Noncontrolling Interests	Before Taxes	After Taxes and Noncontrolling Interests
Net actuarial loss	\$ 722	\$ 466	\$ 697	\$ 426
Prior service costs	21	11	23	12
	<u>\$ 743</u>	<u>\$ 477</u>	<u>\$ 720</u>	<u>\$ 438</u>

Actuarial losses in excess of 10 percent of the greater of the projected benefit obligation or market-related value of plan assets are amortized over the expected average remaining future service period of the current active participants. The amount expected to be recognized in 2017 net periodic pension cost for actuarial losses is \$50 million.

FCX does not expect to have any plan assets returned to it in 2017. Plan assets are classified within a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1), then to significant observable inputs (Level 2) and the lowest priority to significant unobservable inputs (Level 3).

Effective January 1, 2016, FCX retrospectively adopted the ASU associated with investments for which fair value is measured using the NAV per share as a practical expedient. As a result, investments valued using NAV per share are shown in the tables below in a column separate from the levels within the fair value hierarchy. A summary of the fair value for pension plan assets associated with the FCX plans follows:

	Fair Value at December 31, 2016				
	Total	NAV	Level 1	Level 2	Level 3
Commingled/collective funds:					
Global equity	\$ 420	\$ 420	\$ —	\$ —	\$ —
Fixed income securities	129	129	—	—	—
Global fixed income securities	107	107	—	—	—
Real estate property	72	72	—	—	—
Emerging markets equity	66	66	—	—	—
U.S. small-cap equity	60	60	—	—	—
International small-cap equity	51	51	—	—	—
U.S. real estate securities	42	42	—	—	—
Short-term investments	17	17	—	—	—
Fixed income:					
Government bonds	160	—	—	160	—
Corporate bonds	141	—	—	141	—
Private equity investments	25	25	—	—	—
Other investments	36	—	1	35	—
Total investments	1,326	\$ 989	\$ 1	\$ 336	\$ —
Cash and receivables	4				
Payables	(1)				
Total pension plan net assets	\$ 1,329				

	Fair Value at December 31, 2015				
	Total	NAV	Level 1	Level 2	Level 3
Commingled/collective funds:					
Global equity	\$ 399	\$ 399	\$ —	\$ —	\$ —
Fixed income securities	129	129	—	—	—
Global fixed income securities	101	101	—	—	—
Real estate property	66	66	—	—	—
Emerging markets equity	60	60	—	—	—
U.S. small-cap equity	56	56	—	—	—
International small-cap equity	56	56	—	—	—
U.S. real estate securities	55	55	—	—	—
Short-term investments	25	25	—	—	—
Fixed income:					
Government bonds	215	—	—	215	—
Corporate bonds	145	—	—	145	—
Private equity investments	31	31	—	—	—
Other investments	39	—	1	38	—
Total investments	1,377	\$ 978	\$ 1	\$ 398	\$ —
Cash and receivables	6				
Payables	(4)				
Total pension plan net assets	\$ 1,379				

Following is a description of the pension plan asset categories and the valuation techniques used to measure fair value. There have been no changes to the techniques used to measure fair value.

Commingled/collective funds are managed by several fund managers and are valued at the NAV per unit of the fund. For most of these funds, the majority of the underlying assets are actively traded securities. These funds (except the real estate property fund) require up to a 60-day notice for redemptions. The real estate property fund is valued at NAV using information from independent appraisal firms, who have knowledge and expertise about the current market values of real property in the same vicinity as the investments. Redemptions of the real estate property fund are allowed once per quarter, subject to available cash.

Fixed income investments include government and corporate bonds held directly by the Master Trust. Fixed income securities are valued using a bid-evaluation price or a mid-evaluation price and, as such, are classified within Level 2 of the fair value hierarchy. A bid-evaluation price is an estimated price at which a dealer would pay for a security. A mid-evaluation price is the average of the estimated price at which a dealer would sell a security and the estimated price at which a dealer would pay for a security. These evaluations are based on quoted prices, if available, or models that use observable inputs.

Private equity investments are valued at NAV using information from general partners and have inherent restrictions on redemptions that may affect the ability to sell the investments at their NAV in the near term.

A summary of the fair value hierarchy for pension plan assets associated with the PT-FI plan follows:

	Fair Value at December 31, 2016			
	Total	Level 1	Level 2	Level 3
Government bonds	\$ 78	\$ 78	\$ —	\$ —
Common stocks	72	72	—	—
Mutual funds	16	16	—	—
Total investments	166	\$ 166	\$ —	\$ —
Cash and receivables ^a	119			
Payables	(1)			
Total pension plan net assets	\$ 284			

	Fair Value at December 31, 2015			
	Total	Level 1	Level 2	Level 3
Common stocks	\$ 43	\$ 43	\$ —	\$ —
Government bonds	41	41	—	—
Mutual funds	12	12	—	—
Total investments	96	\$ 96	\$ —	\$ —
Cash and receivables ^a	108			
Total pension plan net assets	\$ 204			

a. Cash consists primarily of short-term time deposits.

Following is a description of the valuation techniques used for pension plan assets measured at fair value associated with the PT-FI plan. There have been no changes to the techniques used to measure fair value.

Common stocks, government bonds and mutual funds are valued at the closing price reported on the active market on which the individual securities are traded and, as such, are classified within Level 1 of the fair value hierarchy.

The techniques described above may produce a fair value calculation that may not be indicative of NRV or reflective of future fair values. Furthermore, while FCX believes its valuation techniques are appropriate and consistent with other market participants, the use of different techniques or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

The expected benefit payments for FCX's and PT-FI's pension plans follow:

	FCX	PT-FI ^a
2017	\$ 109	\$ 29
2018	146	16
2019	113	30
2020	115	38
2021	117	40
2022 through 2026	623	292

a. Based on a December 31, 2016, exchange rate of 13,369 Indonesian rupiah to one U.S. dollar.

Postretirement and Other Benefits. FCX also provides postretirement medical and life insurance benefits for certain U.S. employees and, in some cases, employees of certain international subsidiaries. These postretirement benefits vary among plans, and many plans require contributions from retirees. The expected cost of providing such postretirement benefits is accrued during the years employees render service.

The benefit obligation (funded status) for the postretirement medical and life insurance benefit plans consisted of a current portion of \$16 million (included in accounts payable and accrued liabilities) and a long-term portion of \$138 million (included in other liabilities) at December 31, 2016, and a current portion of \$15 million and a long-term portion of \$144 million at December 31, 2015. The discount rate used to determine the benefit obligation for these plans, which was determined on the same basis as FCX's pension plans, was 3.80 percent at December 31, 2016, and 4.10 percent at December 31, 2015. Expected benefit payments for these plans total \$16 million for 2017, \$15 million for 2018, \$15 million for 2019, \$14 million for 2020, \$13 million for 2021 and \$55 million for 2022 through 2026.

The net periodic benefit cost charged to operations for FCX's postretirement benefits totaled \$4 million in 2016, \$6 million in 2015 and \$7 million in 2014 (primarily for interest costs). The discount rate used to determine net periodic benefit cost and the components of net periodic benefit cost for FCX's postretirement benefits was 4.10 percent in 2016, 3.60 percent in 2015 and 4.30 percent in 2014. The medical-care trend rates assumed the first year trend rate was 8.00 percent at December 31, 2016, which declines over the next 15 years with an ultimate trend rate of 4.25 percent.

FCX has a number of postemployment plans covering severance, long-term disability income, continuation of health and life insurance coverage for disabled employees or other welfare benefits. The accumulated postemployment benefit consisted of a current portion of \$5 million (included in accounts payable and accrued liabilities) and a long-term portion of \$34 million (included in other liabilities) at December 31, 2016, and a current portion of \$4 million and a long-term portion of \$30 million at December 31, 2015. In connection with the retirement of one of its executive officers in December 2015, FCX recorded a charge to selling, general and administrative expenses of \$16 million.

FCX also sponsors savings plans for the majority of its U.S. employees. The plans allow employees to contribute a portion of their pre-tax income in accordance with specified guidelines. These savings plans are principally qualified 401(k) plans for all U.S. salaried and non-bargained hourly employees. In these plans, participants exercise control and direct the investment of their contributions and account balances among various investment options. FCX contributes to these plans at varying rates and matches a percentage of employee pre-tax deferral contributions up to certain limits, which vary by plan. For employees whose eligible compensation exceeds certain levels, FCX provides an unfunded defined contribution plan, which had a liability balance of \$47 million (all of which was included in other liabilities) at December 31, 2016, and \$78 million (\$35 million included in accounts payable and accrued liabilities and \$43 million included in other liabilities) at December 31, 2015.

The costs charged to operations for employee savings plans totaled \$78 million in 2016 (of which \$4 million was capitalized to oil and gas properties), \$98 million in 2015 (of which \$13 million was capitalized to oil and gas properties) and \$79 million in 2014 (of which \$11 million was capitalized to oil and gas properties). FCX has other employee benefit plans, certain of which are related to FCX's financial results, which are recognized in operating costs.

Restructuring Charges. In early 2016, FCX restructured its oil and gas business to reduce costs and in late 2016, FCX sold the majority of its remaining oil and gas properties. As a result, FCX recorded \$85 million to selling, general and administrative expenses and \$6 million to production costs for net restructuring-related costs in 2016.

Because of a decline in commodity prices, FCX made adjustments to its operating plans for its mining operations in 2015 (refer to Note 5 for further discussion). As a result of these revisions to its mining operating plans, FCX recorded restructuring charges to production costs in 2015 of \$45 million primarily for employee severance and benefit costs, and \$22 million for special retirement benefits.

NOTE 10. STOCKHOLDERS' EQUITY AND STOCK-BASED COMPENSATION

FCX's authorized shares of capital stock total 3.05 billion shares, consisting of 3 billion shares of common stock and 50 million shares of preferred stock.

Common Stock. In November 2016, FCX completed a \$1.5 billion registered at-the-market equity offering of common stock that was announced on July 27, 2016. FCX sold 116.5 million shares of its common stock at an average price of \$12.87 per share, which generated gross proceeds of \$1.5 billion (net proceeds of \$1.48 billion after \$15 million of commissions and expenses).

During 2016, FCX issued 48.1 million shares of its common stock (with a value of \$540 million, excluding \$5 million of commissions paid by FCX) in connection with the settlement of two drilling rig contracts.

Also during 2016, FCX negotiated private exchange transactions exempt from registration under the Securities Act of 1933, as amended, whereby 27.7 million shares of FCX's common stock were issued (with an aggregate value of \$311 million), in exchange for \$369 million principal amount of FCX's senior notes.

In September 2015, FCX completed a \$1.0 billion at-the-market equity program and announced an additional \$1.0 billion at-the-market equity program. Through December 31, 2015, FCX sold 205.7 million shares of its common stock at an average price of \$9.53 per share under these programs, which generated gross proceeds of \$1.96 billion (net proceeds of \$1.94 billion after \$20 million of commissions and expenses). From January 1, 2016, through January 5, 2016, FCX sold 4.3 million shares of its common stock, which generated proceeds of \$29 million (after \$0.3 million of commissions and expenses). FCX used the proceeds to repay indebtedness.

The Board declared a one-time special cash dividend of \$0.1105 per share related to the settlement of the shareholder derivative litigation (refer to Note 12 for further discussion), which was paid in August 2015. In response to the impact of lower commodity prices, the Board authorized a decrease in the cash dividend on FCX's common stock from an annual rate of \$1.25 per share to an annual rate of \$0.20 per share in March 2015, and then suspended the cash dividend in December 2015. The declaration of dividends is at the discretion of the Board and will depend on FCX's financial results, cash requirements, future prospects and other factors deemed relevant by the Board. Under its revolving credit facility, as amended, FCX is not permitted to pay dividends on common stock on or prior to March 31, 2017.

Accumulated Other Comprehensive Loss. A summary of changes in the balances of each component of accumulated other comprehensive loss, net of tax, follows:

	Defined Benefit Plans	Unrealized Losses on Securities	Translation Adjustment	Total
Balance at January 1, 2014	\$ (410)	\$ (5)	\$ 10	\$ (405)
Amounts arising during the period ^{a,b}	(162)	(1)	—	(163)
Amounts reclassified ^c	24	—	—	24
Balance at December 31, 2014	(548)	(6)	10	(544)
Amounts arising during the period ^{a,b}	3	—	—	3
Amounts reclassified ^c	38	—	—	38
Balance at December 31, 2015	(507)	(6)	10	(503)
Amounts arising during the period ^{a,b}	(91)	2	—	(89)
Amounts reclassified ^c	44	—	—	44
Balance at December 31, 2016	<u>\$ (554)</u>	<u>\$ (4)</u>	<u>\$ 10</u>	<u>\$ (548)</u>

a. Includes net actuarial losses, net of noncontrolling interest, totaling \$252 million for 2014, \$7 million for 2015 and \$79 million for 2016.

b. Includes tax benefits (provision) totaling \$89 million for 2014, \$2 million for 2015 and \$(11) million for 2016.

c. Includes amortization primarily related to actuarial losses, net of taxes, of \$14 million for 2014, \$16 million for 2015 and \$4 million for 2016.

Stock Award Plans. FCX currently has awards outstanding under various stock-based compensation plans. The stockholder-approved 2016 Stock Incentive Plan (the 2016 Plan) provides for the issuance of stock options, SARs, restricted stock, RSUs, PSUs and other stock-based awards for up to 72 million common shares. As of December 31, 2016, 71.9 million shares were available for grant under the 2016 Plan, and no shares were available under other plans.

Stock-Based Compensation Cost. Compensation cost charged against earnings for stock-based awards for the years ended December 31 follows:

	2016	2015	2014
Selling, general and administrative expenses	\$ 69	\$ 67	\$ 79
Production and delivery	16	17	26
Capitalized costs	4	11	23
Total stock-based compensation	89	95	128
Less capitalized costs	(4)	(11)	(23)
Tax benefit and noncontrolling interests' share	(3) ^a	(31)	(41)
Impact on net loss from continuing operations	<u>\$ 82</u>	<u>\$ 53</u>	<u>\$ 64</u>

a. Charges in the U.S. are not currently expected to generate a future tax benefit.

Stock Options and SARs. Stock options granted under the plans generally expire 10 years after the date of grant and vest in 25 percent annual increments beginning one year from the date of grant. The award agreements provide that participants will receive the following year's vesting upon retirement. Therefore, on the date of grant, FCX accelerates one year of amortization for retirement-eligible employees. Stock options granted prior to February 2012 provide for accelerated vesting if there is a change of control (as defined in the award agreements). Stock options granted after that date provide for accelerated vesting only upon certain qualifying terminations of employment within one year following a change of control. SARs generally expire within five years after the date of grant and vest in one-third annual increments beginning one year from the date of grant. SARs are similar to stock options, but are settled in cash rather than in shares of common stock and are classified as liability awards.

A summary of options and SARs outstanding as of December 31, 2016, including 1,034,153 SARs, and activity during the year ended December 31, 2016, follows:

	Number of Options and SARs	Weighted- Average Exercise Price Per Share	Weighted- Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Balance at January 1	49,303,879	\$ 34.10		
Granted	7,167,000	4.35		
Exercised	(14,750)	12.12		
Expired/Forfeited	(2,661,894)	31.80		
Balance at December 31	<u>53,794,235</u>	30.25	<u>4.6</u>	<u>\$ 66</u>
Vested and exercisable at December 31	<u>44,314,195</u>	34.20	<u>3.8</u>	<u>\$ 14</u>

The fair value of each stock option is estimated on the date of grant using the Black-Scholes-Merton option valuation model. The fair value of each SAR is determined using the Black-Scholes-Merton option valuation model and remeasured at each reporting date until the date of settlement. Expected volatility is based on implied volatilities from traded options on FCX's common stock and historical volatility of FCX's common stock. FCX uses historical data to estimate future option and SAR exercises, forfeitures and expected life. When appropriate, separate groups of employees who have similar historical exercise behavior are considered separately for valuation purposes. The expected dividend rate is calculated using the annual dividend (excluding supplemental dividends) at the date of grant. The risk-free interest rate is based on Federal Reserve rates in effect for bonds with maturity dates equal to the expected term of the option or SAR.

Information related to stock options during the years ended December 31 follows:

	2016	2015	2014
Weighted-average assumptions used to value stock option awards:			
Expected volatility	71.6%	37.9%	36.6%
Expected life of options (in years)	5.34	5.17	4.92
Expected dividend rate	—	4.5%	3.5%
Risk-free interest rate	1.3%	1.7%	1.7%
Weighted-average grant-date fair value (per share)	\$ 2.64	\$ 4.30	\$ 7.43
Intrinsic value of options exercised	\$ — ^a	\$ 1	\$ 17
Fair value of options vested	\$ 43	\$ 50	\$ 76

a. Rounds to less than \$1 million.

As of December 31, 2016, FCX had \$19 million of total unrecognized compensation cost related to unvested stock options expected to be recognized over a weighted-average period of approximately 1.9 years.

Stock-Settled PSUs and RSUs. Beginning in 2014, FCX's executive officers were granted PSUs that vest after three years. For the PSU's granted in 2016, the final number of shares to be issued to the executive officers will be determined based on (i) FCX's achievement of certain financial and operational performance metrics and (ii) FCX's total shareholder return compared to the shareholder return of a peer group. The total grant date target for the 2016 PSU grant was 1.5 million shares, of which the executive officers will earn (i) between 0 percent and 175 percent of the target shares based on achievement of financial and operating metrics and (ii) +/- 25 percent of the target shares based on FCX's total shareholder return compared to the peer group. For the PSU's granted to the executive officers in 2014 and 2015, the final number of shares to be issued to the executive officers will be based on FCX's total shareholder return compared to the total shareholder return of a peer group. The total grant date target shares related to the PSU grants were 755 thousand in 2015 and 344 thousand in 2014, of which the executive officers will earn from 0 percent to 200 percent.

All of FCX's executive officers are retirement eligible, and for the 2016, 2015 and 2014 awards, FCX charged the cost of the PSU awards to expense in the year of grant because they are non-forfeitable.

FCX grants RSUs that vest over a period of three years to certain employees. FCX also grants RSU's to its directors. Beginning in December 2015, RSUs granted to directors vest on the first anniversary of the grant. Prior to December 2015, RSUs granted to directors generally vest over a period of four years. The fair value of the RSUs is amortized over the vesting period or the period until the director becomes retirement eligible, whichever is shorter. Upon a director's retirement, all of their unvested RSUs immediately vest. For retirement-eligible directors, the fair value of RSUs is recognized in earnings on the date of grant.

The award agreements provide for accelerated vesting of all RSUs held by directors if there is a change of control (as defined in the award agreements) and for accelerated vesting of all RSUs held by employees if they experience a qualifying termination within one year following a change of control.

Dividends attributable to RSUs and PSUs accrue and are paid if the award vests. In addition, for those awards granted prior to 2015, interest accrues on accumulated dividends and is paid if the stock-settled RSUs vest. A summary of outstanding stock-settled RSUs and PSUs as of December 31, 2016, and activity during the year ended December 31, 2016, follows:

	Number of Awards	Weighted-Average Grant-Date Fair Value Per Award	Aggregate Intrinsic Value
Balance at January 1	7,220,300	\$ 27.12	
Granted	3,557,366 ^a	10.46	
Vested	(3,042,860)	28.81	
Forfeited	(516,579)	25.91	
Balance at December 31	<u>7,218,227</u>	18.08	<u>\$ 95</u>

a. Excludes 993 thousand PSUs granted in 2016 for which the performance metrics have not yet been established.

The total fair value of stock-settled RSUs and PSUs granted was \$37 million during 2016, \$46 million during 2015 and \$67 million during 2014. The total intrinsic value of stock-settled RSUs vested was \$22 million during both 2016 and 2015 and \$15 million during 2014. As of December 31, 2016, FCX had \$15 million of total unrecognized compensation cost related to unvested stock-settled RSUs expected to be recognized over approximately 1.9 years.

Cash-Settled PSUs and RSUs. In 2015, certain members of FM O&G's senior management were granted cash-settled PSUs that vest over three years. The total grant date target related to the 2015 cash-settled PSU grant was 582 thousand shares, of which FM O&G's senior management will earn from 50 percent to 200 percent.

Cash-settled RSUs are similar to stock-settled RSUs, but are settled in cash rather than in shares of common stock. These cash-settled RSUs generally vest over periods ranging from three to five years of service. The award agreements for cash-settled RSUs provide for accelerated vesting upon certain qualifying terminations of employment within one year following a change of control (as defined in the award agreements).

The cash-settled PSUs and RSUs are classified as liability awards, and the fair value of these awards is remeasured each reporting period until the vesting dates.

Dividends attributable to cash-settled RSUs and PSUs accrue and are paid if the award vests. In addition, for those awards granted prior to 2015, interest accrues on accumulated dividends and is paid if the cash-settled RSUs vest. A summary of outstanding cash-settled RSUs and PSUs as of December 31, 2016, and activity during the year ended December 31, 2016, follows:

	Number of Awards	Weighted- Average Grant- Date Fair Value Per Award	Aggregate Intrinsic Value
Balance at January 1	4,612,536	\$ 24.89	
Granted	676,000	6.05	
Vested	(2,148,558)	25.83	
Forfeited	(608,234)	23.92	
Balance at December 31	<u>2,531,744</u>	19.30	<u>\$ 33</u>

The total grant-date fair value of cash-settled RSUs was \$4 million during 2016, \$44 million during 2015 and \$68 million during 2014. The intrinsic value of cash-settled RSUs vested was \$15 million during 2016 and \$24 million during 2015. The accrued liability associated with cash-settled RSUs and PSUs consisted of a current portion of \$23 million (included in accounts payable and accrued liabilities) and a long-term portion of \$4 million (included in other liabilities) at December 31, 2016, and a current portion of \$10 million and a long-term portion of \$8 million at December 31, 2015.

Other Information. The following table includes amounts related to exercises of stock options and vesting of RSUs during the years ended December 31:

	2016	2015	2014
FCX shares tendered to pay the exercise price and/or the minimum required taxes ^a	906,120	349,122	474,480
Cash received from stock option exercises	\$ — ^b	\$ 3	\$ 12
Actual tax benefit realized for tax deductions	\$ — ^b	\$ 11	\$ 16
Amounts FCX paid for employee taxes	\$ 6	\$ 7	\$ 8

a. Under terms of the related plans, upon exercise of stock options and vesting of RSUs, employees may tender FCX shares to pay the exercise price and/or the minimum required taxes.

b. Rounds to less than \$1 million.

NOTE 11. INCOME TAXES

Geographic sources of losses before income taxes and equity in affiliated companies' net earnings (losses) for the years ended December 31 consist of the following:

	2016	2015	2014
U.S.	\$ (5,179)	\$ (14,589)	\$ (2,973)
Foreign	1,707	461	2,173
Total	<u>\$ (3,472)</u>	<u>\$ (14,128)</u>	<u>\$ (800)</u>

Income taxes are provided on the earnings of FCX's material foreign subsidiaries under the assumption that these earnings will be distributed. FCX has not provided deferred income taxes for other differences between the book and tax carrying amounts of its investments in material foreign subsidiaries as FCX considers its ownership positions to be permanent in duration, and quantification of the related deferred tax liability is not practicable.

FCX's (provision for) benefit from income taxes for the years ended December 31 consists of the following:

	2016	2015	2014
Current income taxes:			
Federal	\$ 164	\$ 89	\$ (269)
State	17	2	(34)
Foreign	(352)	(160)	(1,066)
Total current	<u>(171)</u>	<u>(69)</u>	<u>(1,369)</u>
Deferred income taxes:			
Federal	137	3,403	616
State	41	154	214
Foreign	(451)	(163)	(19)
Total deferred	<u>(273)</u>	<u>3,394</u>	<u>811</u>
Adjustments	13 ^a	(1,374) ^b	—
Operating loss carryforwards	60 ^c	—	333 ^c
(Provision for) benefit from income taxes	<u>\$ (371)</u>	<u>\$ 1,951</u>	<u>\$ (225)</u>

a. Benefit related to changes in Peruvian tax rules.

b. Adjustments include net provisions of \$1.2 billion associated with an increase in the beginning of the year valuation allowance related to the impairment of U.S. oil and gas properties and \$0.2 billion resulting from the termination of PT-FI's Delaware domestication.

c. Benefit from the use of operating loss carryforwards.

A reconciliation of the U.S. federal statutory tax rate to FCX's effective income tax rate for the years ended December 31 follows:

	2016		2015		2014	
	Amount	Percent	Amount	Percent	Amount	Percent
U.S. federal statutory tax rate	\$ 1,215	(35)%	\$ 4,945	(35)%	\$ 280	(35)%
Valuation allowance, net	(1,680) ^a	48	(2,955) ^a	21	—	—
Foreign tax credit limitation	(598)	17	(228)	2	(136)	17
Impairment of oil and gas properties	520 ^b	(15)	0	—	0	—
Percentage depletion	211	(6)	186	(1)	263 ^c	(33)
Withholding and other impacts on foreign earnings	(93)	3	(193)	1	(161)	20
Effect of foreign rates different than the U.S. federal statutory rate	45	(1)	12	—	69	(9)
Goodwill impairment	—	—	—	—	(601)	75
Goodwill transferred to full cost pool	—	—	—	—	(77)	10
State income taxes	46 ^a	(1)	105 ^a	(1)	116	(14)
Other items, net	(37)	1	79	(1)	22	(3)
(Provision for) benefit from income taxes	<u>\$ (371)^d</u>	<u>11 %</u>	<u>\$ 1,951</u>	<u>(14)%</u>	<u>\$ (225)^{e,f}</u>	<u>28 %</u>

- a. Includes tax charges totaling \$1.6 billion in 2016 and \$3.3 billion in 2015 as a result of the impairment to U.S. oil and gas properties to establish valuation allowances against U.S. federal and state deferred tax assets that will not generate a future benefit.
- b. Reflects a loss under U.S. federal income tax law related to the impairment of investments in oil and gas properties.
- c. Includes a net tax charge of \$16 million in 2014 related to a change in U.S. federal income tax law.
- d. Includes a net tax benefit related to changes in Peruvian tax rules of \$13 million.
- e. Includes a net tax charge of \$221 million related to the sale of the Candelaria and Ojos del Salado mines.
- f. Includes tax charges related to changes in Chilean and Peruvian tax rules of \$54 million and \$24 million, respectively.

FCX paid federal, state, local and foreign income taxes totaling \$203 million in 2016 (including \$27 million for discontinued operations), \$893 million in 2015 (including \$187 million for discontinued operations) and \$1.5 billion in 2014 (including \$11 million for discontinued operations). FCX received refunds of federal, state, local and foreign income taxes of \$247 million in 2016, \$334 million in 2015 and \$257 million in 2014.

The components of deferred taxes follow:

	December 31,	
	2016	2015
Deferred tax assets:		
Foreign tax credits	\$ 2,094	\$ 1,552
Accrued expenses	923	1,167
Oil and gas properties	346	1,422
Minimum tax credits	444	569
Net operating loss carryforwards	2,898	621
Employee benefit plans	403	442
Other	485	478
Deferred tax assets	<u>7,593</u>	<u>6,251</u>
Valuation allowances	<u>(6,058)</u>	<u>(4,183)</u>
Net deferred tax assets	<u>1,535</u>	<u>2,068</u>
Deferred tax liabilities:		
Property, plant, equipment and mine development costs	(4,326)	(4,765)
Undistributed earnings	(779)	(852)
Other	(195)	(55)
Total deferred tax liabilities	<u>(5,300)</u>	<u>(5,672)</u>
Net deferred tax liabilities	<u>\$ (3,765)</u>	<u>\$ (3,604)</u>

Tax Attributes. At December 31, 2016, FCX had U.S. foreign tax credit carryforwards of \$2.1 billion that will expire between 2017 and 2026, and U.S. minimum tax credit carryforwards of \$444 million that can be carried forward indefinitely, but may be used only to the extent that regular tax exceeds the alternative minimum tax in any given year.

At December 31, 2016, FCX had (i) U.S. federal net operating loss carryforwards of \$6.6 billion that expire in 2036, (ii) U.S. federal capital loss carryforwards of \$119 million that expire in 2021, (iii) U.S. state net operating loss carryforwards of \$10.0 billion that expire between 2017 and 2036 and (iv) Spanish net operating loss carryforwards of \$518 million that can be carried forward indefinitely. In addition, as of December 31, 2016, FCX has offset \$5.3 billion of foreign source income with U.S. source losses. Under existing U.S. tax law, FCX has the ability to re-characterize \$5.3 billion of future U.S. source income into foreign source income. While utilization of U.S. foreign tax credits is dependent upon FCX generating future U.S. tax liabilities within the carryforward period, this re-sourcing may permit FCX to utilize up to \$1.9 billion of the \$2.1 billion foreign tax credit carryforwards that would otherwise expire unused. The ability to re-characterize US sourced income into foreign sourced income carries forward indefinitely until such time as the \$5.3 billion has been fully utilized.

Valuation Allowance. On the basis of available information at December 31, 2016, including positive and negative evidence, FCX has provided valuation allowances for certain of its deferred tax assets where it believes it is more likely than not that some portion or all of such assets will not be realized. Valuation allowances totaled \$6.1 billion at December 31, 2016, and covered all of FCX's U.S. foreign tax credit carryforwards, U.S. federal net operating loss carryforwards, U.S. federal capital loss carryforwards, foreign net operating loss carryforwards, and substantially all of FCX's U.S. minimum tax credit carryforwards and U.S. state net operating loss carryforwards. Valuation allowances totaled \$4.2 billion at December 31, 2015, and covered all of FCX's U.S. foreign tax credit carryforwards, U.S. minimum tax credit carryforwards, foreign net operating loss carryforwards, and substantially all of FCX's U.S. federal and state net operating loss carryforwards.

The valuation allowance related to FCX's U.S. foreign tax credits totaled \$2.1 billion at December 31, 2016. FCX has operations in tax jurisdictions where statutory income taxes and withholding taxes combine to fully offset U.S. federal income tax liability due upon repatriation of foreign earnings. As a result, FCX continues to generate foreign tax credits for which no benefit is expected to be realized. In addition, any foreign income taxes currently accrued or paid on unremitted foreign earnings may result in additional future foreign tax credits for which no benefit is expected to be realized upon repatriation of the related earnings.

The valuation allowance related to FCX's U.S. federal minimum tax credit carryforwards totaled \$371 million at December 31, 2016. U.S. minimum tax credit carryforwards can be carried forward indefinitely, but can only be

used to the extent that U.S. regular tax liability exceeds U.S. alternative minimum tax liability in any given year. FCX does not currently expect to generate U.S. regular tax liability in excess of U.S. alternative minimum tax liability. A valuation allowance has not been provided against \$72 million of U.S. federal minimum tax credits that FCX estimate are refundable during the three year period ending December 31, 2019.

The valuation allowance related to FCX's U.S. federal, state and foreign net operating loss carryforwards totaled \$2.9 billion at December 31, 2016. The valuation allowance related to FCX's U.S. federal and state deferred tax assets totaled \$574 million at December 31, 2016. Deferred tax assets represent future deductions for which a benefit will only be realized to the extent these deductions offset future income. FCX develops an estimate of which future tax deductions will be realized and provides a valuation allowance to the extent these deductions are not realized in future periods.

Valuation allowances will continue to be carried on U.S. foreign tax credit carryforwards, U.S. federal minimum tax credit carryforwards and U.S. federal, state and foreign net operating losses until such time that (i) FCX generates taxable income against which any of the assets or carryforwards can be used, (ii) forecasts of future income provide sufficient positive evidence to support reversal of the valuation allowances or (iii) FCX identifies a prudent and feasible means of securing the benefit of the assets or carryforwards that can be implemented.

The \$1.9 billion net increase in the valuation allowances during 2016 primarily related to a \$1.6 billion increase to valuation allowances associated with impairments of U.S. oil and gas properties.

Recent Events. In December 2016, the Peruvian parliament passed tax legislation that, in part, modified the applicable tax rates established in its December 2014 tax legislation, which progressively decreased the corporate income tax rate from 30 percent in 2014 to 26 percent in 2019 and thereafter, and also increased the dividend tax rate on distributions from 4.1 percent in 2014 to 9.3 percent in 2019 and thereafter. Under the December 2016 tax legislation, effective January 1, 2017, the corporate income tax rate is 29.5 percent, and the dividend tax rate on distributions of earnings is 5 percent. Cerro Verde's current mining stability agreement subjects FCX to a stable income tax rate of 32 percent through the expiration of the agreement on December 31, 2028. The tax rate on dividend distributions is not stabilized by the agreement.

During 2015, PT-FI's Delaware domestication was terminated. As a result, PT-FI is no longer a U.S. income tax filer, and tax attributes related to PT-FI, which were fully reserved with a related valuation allowance, are no longer available for use in FCX's U.S. federal consolidated income tax return. There was no resulting net impact to FCX's consolidated statement of operations. PT-FI remains a limited liability company organized under Indonesian law.

In September 2014, the Chilean legislature approved a tax reform package that implemented a dual tax system, which was amended in January 2016. Under previous rules, FCX's share of income from Chilean operations was subject to an effective 35 percent tax rate allocated between income taxes and dividend withholding taxes. Under the amended tax reform package, FCX's Chilean operation is subject to the "Partially-Integrated System," resulting in FCX's share of income from El Abra being subject to progressively increasing effective tax rates of 35 percent through 2019 and 44.5 percent in 2020 and thereafter.

In 2010, the Chilean legislature approved an increase in mining royalty taxes to help fund earthquake reconstruction activities, education and health programs. Mining royalty taxes at FCX's El Abra mine are 4 percent for the years 2013 through 2017. Beginning in 2018 and through 2023, rates will move to a sliding scale of 5 to 14 percent (depending on a defined operational margin).

Uncertain Tax Positions. FCX accounts for uncertain income tax positions using a threshold and measurement criteria for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. FCX's policy associated with uncertain tax positions is to record accrued interest in interest expense and accrued penalties in other income and expenses rather than in the provision for income taxes.

A summary of the activities associated with FCX's reserve for unrecognized tax benefits for the years ended December 31 follows:

	2016	2015	2014
Balance at beginning of year	\$ 110	\$ 104	\$ 110
Additions:			
Prior year tax positions	5	7	4
Current year tax positions	28	11	11
Decreases:			
Prior year tax positions	(3)	(6)	(12)
Settlements with taxing authorities	—	—	(9)
Lapse of statute of limitations	(39)	(6)	—
Balance at end of year	<u>\$ 101</u>	<u>\$ 110</u>	<u>\$ 104</u>

The total amount of accrued interest associated with unrecognized tax benefits included in the consolidated balance sheets was \$19 million at December 31, 2016, \$16 million at December 31, 2015 and \$15 million at December 31, 2014. There were no penalties associated with unrecognized tax benefits for the three years ended December 31, 2016.

The reserve for unrecognized tax benefits of \$101 million at December 31, 2016, included \$95 million (\$68 million net of income tax benefits and valuation allowances) that, if recognized, would reduce FCX's provision for income taxes. Changes to the reserve for unrecognized tax benefits associated with current year tax positions were primarily related to uncertainties associated with FCX's cost recovery methods, benefits available from net operating losses and tax treatment of social welfare and debt payments. Changes in the reserve for unrecognized tax benefits associated with prior year tax positions were primarily related to uncertainties associated with cost recovery methods and deductibility of social welfare payments. Changes to the reserve for unrecognized tax benefits associated with the lapse of statute of limitations were primarily related to cost recovery methods. There continues to be uncertainty related to the timing of settlements with taxing authorities, but if additional settlements are agreed upon during the year 2017, FCX could experience a change in its reserve for unrecognized tax benefits.

FCX or its subsidiaries file income tax returns in the U.S. federal jurisdiction and various state and foreign jurisdictions. The tax years for FCX's major tax jurisdictions that remain subject to examination are as follows:

Jurisdiction	Years Subject to Examination	Additional Open Years
U.S. Federal	2013	2014-2016
Indonesia	2008, 2011, 2012, 2014, 2015	2013, 2016
Peru	2011	2012-2016
Chile	2013-2015	2016

NOTE 12. CONTINGENCIES

Environmental. FCX subsidiaries are subject to various national, state and local environmental laws and regulations that govern emissions of air pollutants; discharges of water pollutants; generation, handling, storage and disposal of hazardous substances, hazardous wastes and other toxic materials; and remediation, restoration and reclamation of environmental contamination. FCX subsidiaries that operate in the U.S. also are subject to potential liabilities arising under CERCLA and similar state laws that impose responsibility on current and previous owners and operators of a facility for the remediation of hazardous substances released from the facility into the environment, including damages to natural resources, in some cases irrespective of when the damage to the environment occurred or who caused it. Remediation liability also extends to persons who arranged for the disposal of hazardous substances or transported the hazardous substances to a disposal site selected by the transporter. These liabilities are often shared on a joint and several basis, meaning that each responsible party is fully responsible for the remediation, if some or all of the other historical owners or operators no longer exist, do not have the financial ability to respond or cannot be found. As a result, because of FCX's acquisition of FMC in 2007, many of the subsidiary companies FCX now owns are responsible for a wide variety of environmental remediation projects throughout the U.S., and FCX expects to spend substantial sums annually for many years to address those remediation issues. Certain FCX subsidiaries have been advised by the U.S. Environmental Protection Agency (EPA), the Department of the Interior, the Department of Agriculture and various state agencies that, under CERCLA or similar state laws and regulations, they may be liable for costs of responding to environmental

conditions at a number of sites that have been or are being investigated to determine whether releases of hazardous substances have occurred and, if so, to develop and implement remedial actions to address environmental concerns. FCX is also subject to claims where the release of hazardous substances is alleged to have damaged natural resources (NRD) and to litigation by individuals allegedly exposed to hazardous substances. As of December 31, 2016, FCX had more than 100 active remediation projects, including NRD claims, in 26 U.S. states.

A summary of changes in estimated environmental obligations for the years ended December 31 follows:

	2016	2015	2014
Balance at beginning of year	\$ 1,215	\$ 1,174	\$ 1,167
Accretion expense ^a	81	78	77
Additions	26	33	16
Reductions ^b	(43)	(3)	(6)
Spending	(58)	(67)	(80)
Balance at end of year	1,221	1,215	1,174
Less current portion	(129)	(100)	(105)
Long-term portion	<u>\$ 1,092</u>	<u>\$ 1,115</u>	<u>\$ 1,069</u>

- a. Represents accretion of the fair value of environmental obligations assumed in the 2007 acquisition of FMC, which were determined on a discounted cash flow basis.
- b. Reductions primarily reflect revisions for changes in the anticipated scope and timing of projects and other noncash adjustments.

Estimated future environmental cash payments (on an undiscounted and unescalated basis) total \$129 million in 2017, \$108 million in 2018, \$90 million in 2019, \$95 million in 2020, \$103 million in 2021 and \$1.8 billion thereafter. The amount and timing of these estimated payments will change as a result of changes in regulatory requirements, changes in scope and timing of remediation activities, the settlement of environmental matters and as actual spending occurs.

At December 31, 2016, FCX's environmental obligations totaled \$1.2 billion, including \$1.1 billion recorded on a discounted basis for those obligations assumed in the FMC acquisition at fair value. On an undiscounted and unescalated basis, these obligations totaled \$2.3 billion. FCX estimates it is reasonably possible that these obligations could range between \$2.1 billion and \$2.6 billion on an undiscounted and unescalated basis.

At December 31, 2016, the most significant environmental obligations were associated with the Pinal Creek site in Arizona; the Newtown Creek site in New York City; historical smelter sites principally located in Arizona, Kansas, New Jersey, Oklahoma and Pennsylvania; and uranium mining sites in the western U.S. The recorded environmental obligations for these sites totaled \$1.1 billion at December 31, 2016. FCX may also be subject to litigation brought by private parties, regulators and local governmental authorities related to these historical sites. A discussion of these sites follows.

Pinal Creek. The Pinal Creek site was listed under the Arizona Department of Environmental Quality's (ADEQ) Water Quality Assurance Revolving Fund program in 1989 for contamination in the shallow alluvial aquifers within the Pinal Creek drainage near Miami, Arizona. Since that time, environmental remediation was performed by members of the Pinal Creek Group (PCG), consisting of FMC Miami, Inc. (Miami), a wholly owned subsidiary of FCX, and two other companies. Pursuant to a 2010 settlement agreement, Miami agreed to take full responsibility for future groundwater remediation at the Pinal Creek site, with limited exceptions. Remediation work consisting of both capping (earthwork) and groundwater extraction and treatment continues and is expected to continue for many years in the future.

Newtown Creek. From the 1930s until 1964, Phelps Dodge Refining Corporation (PDRC), a subsidiary of FCX, operated a copper smelter, and from the 1930s until 1984 operated a copper refinery, on the banks of Newtown Creek (the creek), which is a 3.5-mile-long waterway that forms part of the boundary between Brooklyn and Queens in New York City. Heavy industrialization along the banks of the creek and discharges from the City of New York's sewer system over more than a century resulted in significant environmental contamination of the waterway. In 2010, EPA notified PDRC, four other companies and the City of New York that EPA considers them to be PRPs under CERCLA. The notified parties began working with EPA to identify other PRPs, and EPA proposed that the notified parties perform a remedial investigation/feasibility study (RI/FS) at their expense and reimburse EPA for its oversight costs. EPA is not expected to propose a remedy until after the RI/FS is completed. Additionally, in 2010,

EPA designated the creek as a Superfund site, and in 2011, PDRC and five other parties entered an Administrative Order on Consent (AOC) to perform the RI/FS to assess the nature and extent of environmental contamination in the creek and identify potential remedial options. The parties' RI/FS work under the AOC and their efforts to identify other PRPs are ongoing. The draft RI was submitted to EPA in November 2016, and the draft FS is expected to be submitted to EPA in late 2019. Remedial design could possibly begin in 2022, with the actual remediation construction starting several years later. The actual costs of fulfilling this remedial obligation and the allocation of costs among PRPs are uncertain and subject to change based on the results of the RI/FS, the remediation remedy ultimately selected by EPA and related allocation determinations. The overall cost and the portion ultimately allocated to PDRC could be material to FCX and significantly exceed the amount currently reserved for this contingency.

Historical Smelter Sites. FCX subsidiaries and their predecessors at various times owned or operated copper, zinc and lead smelters or refineries in states including Arizona, Indiana, Kansas, Missouri, New Jersey, Oklahoma and Pennsylvania. For some of these former processing sites, certain FCX subsidiaries have been advised by EPA or state agencies that they may be liable for costs of investigating and, if appropriate, remediating environmental conditions associated with these former processing facilities. At other sites, certain FCX subsidiaries have entered into state voluntary remediation programs to investigate and, if appropriate, remediate onsite and offsite conditions associated with the facilities. The historical processing sites are in various stages of assessment and remediation. At some of these sites, disputes with local residents and elected officials regarding alleged health effects or the effectiveness of remediation efforts have resulted in litigation of various types, and similar litigation at other sites is possible.

From 1920 until 1986, United States Metal Refining Company (USMR), an indirect wholly owned subsidiary of Cyprus Amax Minerals Company, owned and operated a copper smelter and refinery in the Borough of Carteret, New Jersey. Since the early 1980s, the site has been the subject of environmental investigation and remediation, primarily under the supervision of the New Jersey Department of Environmental Protection. On January 30, 2017, a class action titled Juan Duarte, Betsy Duarte and N.D., Infant, by Parents and Natural Guardians Juan Duarte and Betsy Duarte, Leroy Nobles and Betty Nobles, on behalf of themselves and all others similarly situated v. United States Metals Refining Company, Freeport-McMoRan Copper & Gold Inc. and Amax Realty Development, Inc., Docket No. 734-17, was filed in the Superior Court of New Jersey against USMR, FCX, and Amax Realty Development, Inc. The suit alleges that USMR generated and disposed of smelter waste at the site and allegedly released contaminants onsite and offsite through discharges to surface water and air emissions over a period of decades and seeks unspecified damages for economic losses, including loss of property value, medical monitoring, punitive damages and other damages. FCX intends to vigorously defend this matter.

Uranium Mining Sites. During a period between 1940 and the early 1970s, certain FCX subsidiaries and their predecessors were involved in uranium exploration and mining in the western U.S., primarily on federal and tribal lands in the Four Corners region of the southwest. Similar exploration and mining activities by other companies have also caused environmental impacts warranting remediation, and EPA and local authorities are currently evaluating the need for significant cleanup activities in the region. To date, FCX has undertaken remediation work at a limited number of sites associated with these predecessor entities. During 2014, FCX initiated reconnaissance work at a limited number of historic mining sites on federal lands, which continued in 2016; approximately 50 percent of FCX's known federal sites have been initially evaluated. FCX expects to increase those activities over the next several years in order to identify sites for possible future investigation and remediation. During 2014, FCX also initiated discussions with federal and tribal representatives regarding a potential phased program to investigate and remediate historic uranium sites on tribal lands in the Four Corners region. FCX continued discussions through 2016 with the Department of Justice regarding the federal government's share of liability on tribal lands. In January 2017, the Department of Justice, EPA, Navajo Nation, and two FCX-related subsidiaries reached an agreement regarding the financial contribution of the U.S. Government and the FCX subsidiaries and the scope of the environmental investigation and remediation work for the cleanup of 94 former uranium mining sites on tribal lands. The settlement terms are outlined in a proposed Consent Decree that was filed on January 17, 2017, in the U.S. District Court for the District of Arizona, and is subject to a 30-day public comment period and approval by the federal court. Under the Consent Decree, which the government valued at over \$600 million, FCX will perform the environmental investigation and remediation work at 94 sites, and the United States will contribute \$335 million into a trust fund to cover the government's initial share of the costs. The program is expected to take more than 20 years to complete.

AROs. FCX's ARO estimates are reflected on a third-party cost basis and are based on FCX's legal obligation to retire tangible, long-lived assets. A summary of changes in FCX's AROs for the years ended December 31 follows:

	2016	2015	2014
Balance at beginning of year	\$ 2,771	\$ 2,744	\$ 2,316
Liabilities incurred	12	97	429 ^a
Settlements and revisions to cash flow estimates, net	529 ^b	(66)	56
Accretion expense	137	131	116
Dispositions	(626) ^c	—	(61)
Spending	(188)	(132)	(101)
Other	—	(3)	(11)
Balance at end of year	2,635	2,771	2,744
Less current portion	(240)	(172)	(189)
Long-term portion	<u>\$ 2,395</u>	<u>\$ 2,599</u>	<u>\$ 2,555</u>

- a. Primarily reflects updates to the closure approach to reclaim an overburden stockpile in Indonesia.
- b. Revisions to cash flow estimates were primarily related to revised estimates for an overburden stockpile in Indonesia and at certain oil and gas properties.
- c. Primarily reflects the sale of certain oil and gas properties.

ARO costs may increase or decrease significantly in the future as a result of changes in regulations, changes in engineering designs and technology, permit modifications or updates, changes in mine plans, changes in drilling plans, settlements, inflation or other factors and as reclamation spending occurs. ARO activities and expenditures for mining operations generally are made over an extended period of time commencing near the end of the mine life; however, certain reclamation activities may be accelerated if legally required or if determined to be economically beneficial. The methods used or required to plug and abandon non-producing oil and gas wellbores, remove platforms, tanks, production equipment and flow lines, and restore wellsites could change over time.

Financial Assurance. New Mexico, Arizona, Colorado and other states, as well as federal regulations governing mine operations on federal land, require financial assurance to be provided for the estimated costs of mine reclamation and closure, including groundwater quality protection programs. FCX has satisfied financial assurance requirements by using a variety of mechanisms, primarily involving parent company performance guarantees and financial capability demonstrations, but also including trust funds, surety bonds, letters of credit and other collateral. The applicable regulations specify financial strength tests that are designed to confirm a company's or guarantor's financial capability to fund estimated reclamation and closure costs. The amount of financial assurance FCX is required to provide will vary with changes in laws, regulations, reclamation and closure requirements, and cost estimates. At December 31, 2016, FCX's financial assurance obligations associated with these U.S. mine closure and reclamation/restoration costs totaled \$1.1 billion, of which \$687 million was in the form of guarantees issued by FCX and financial capability demonstrations of FCX. At December 31, 2016, FCX had trust assets totaling \$173 million (included in other assets), which are legally restricted to be used to satisfy its financial assurance obligations for its mining properties in New Mexico. In addition, FCX has financial assurance obligations for its oil and gas properties associated with plugging and abandoning wells and facilities totaling \$704 million. Where oil and gas guarantees associated with the Bureau of Ocean Energy Management do not include a stated cap, the amounts reflect management's estimates of the potential exposure.

New Mexico Environmental and Reclamation Programs. FCX's New Mexico operations are regulated under the New Mexico Water Quality Act and regulations adopted by the Water Quality Control Commission (WQCC). In connection with discharge permits, the New Mexico Environment Department (NMED) has required each of these operations to submit closure plans for NMED's approval. The closure plans must include measures to assure meeting applicable groundwater quality standards following the closure of discharging facilities and to abate groundwater or surface water contamination to meet applicable standards. In 2013, the WQCC adopted Supplemental Permitting Requirements for Copper Mining Facilities, which became effective on December 1, 2013, and specify closure requirements for copper mine facilities. The rules were adopted after an extensive stakeholder process in which FCX participated and were jointly supported by FCX and NMED. The rules are currently being challenged in the New Mexico Supreme Court by certain environmental organizations and the New Mexico Attorney General. Finalized closure plan requirements, including those resulting from application of the 2013 rules or the application of different standards if the rules are invalidated by the New Mexico Supreme Court, could result in material increases in closure costs for FCX's New Mexico operations.

FCX's New Mexico operations also are subject to regulation under the 1993 New Mexico Mining Act (the Mining Act) and the related rules that are administered by the Mining and Minerals Division (MMD) of the New Mexico Energy, Minerals and Natural Resources Department. Under the Mining Act, mines are required to obtain approval of plans describing the reclamation to be performed following cessation of mining operations. At December 31, 2016, FCX had accrued reclamation and closure costs of \$471 million for its New Mexico operations. As stated above, additional accruals may be required based on the state's periodic review of FCX's updated closure plans and any resulting permit conditions, and the amount of those accruals could be material.

Arizona Environmental and Reclamation Programs. FCX's Arizona properties are subject to regulatory oversight in several areas. ADEQ has adopted regulations for its aquifer protection permit (APP) program that require permits for, among other things, certain facilities, activities and structures used for mining, leaching, concentrating and smelting, and require compliance with aquifer water quality standards at an applicable point of compliance well or location during both operations and closure. The APP program also may require mitigation and discharge reduction or elimination of some discharges.

An application for an APP requires a proposed closure strategy that will meet applicable groundwater protection requirements following cessation of operations and an estimate of the cost to implement the closure strategy. An APP may specify closure requirements, which may include post-closure monitoring and maintenance. A more detailed closure plan must be submitted within 90 days after a permitted entity notifies ADEQ of its intent to cease operations. A permit applicant must demonstrate its financial ability to meet the closure costs approved by ADEQ. In 2014, the state enacted legislation requiring closure costs for facilities covered by APPs to be updated no more frequently than every five years and financial assurance mechanisms to be updated no more frequently than every two years. While some closure cost updates have occurred in the normal course as modifications to APPs, ADEQ has not yet formally notified FCX regarding the timetable for updating other closure cost estimates and financial assurance mechanisms for FCX's Arizona mine sites. In 2016, ADEQ approved a closure plan update for Sierrita, which resulted in increased closure costs. FCX may be required to begin updating its closure cost estimates at other Arizona sites in 2017.

Portions of Arizona mining facilities that operated after January 1, 1986, also are subject to the Arizona Mined Land Reclamation Act (AMLRA). AMLRA requires reclamation to achieve stability and safety consistent with post-mining land use objectives specified in a reclamation plan. Reclamation plans must be approved by the State Mine Inspector and must include an estimate of the cost to perform the reclamation measures specified in the plan along with financial assurance. During 2016, Safford submitted an update to its reclamation plan, which increased its reclamation costs. FCX will continue to evaluate options for future reclamation and closure activities at its operating and non-operating sites, which are likely to result in adjustments to FCX's ARO liabilities, and those adjustments could be material. At December 31, 2016, FCX had accrued reclamation and closure costs of \$316 million for its Arizona operations.

Colorado Reclamation Programs. FCX's Colorado operations are regulated by the Colorado Mined Land Reclamation Act (Reclamation Act) and regulations promulgated thereunder. Under the Reclamation Act, mines are required to obtain approval of plans for reclamation of lands affected by mining operations to be performed during mining or upon cessation of mining operations. During 2016, at the request of the Colorado Division of Reclamation Mining & Safety (DRMS), the Climax mine submitted a revised cost estimate for its current reclamation plan, which is not expected to materially change the closure plan cost. As of December 31, 2016, FCX had accrued reclamation and closure costs of \$66 million for its Colorado operations.

Chilean Reclamation and Closure Programs. In July 2011, the Chilean senate passed legislation regulating mine closure, which establishes new requirements for closure plans. FCX's El Abra operation submitted updated closure cost estimates based on the existing approved closure plan in November 2014, which were approved in August 2015. At December 31, 2016, FCX had accrued reclamation and closure costs of \$55 million for its El Abra operation.

Peruvian Reclamation and Closure Programs. Cerro Verde is subject to regulation under the Mine Closure Law administered by the Peruvian Ministry of Energy and Mines. Under the closure regulations, mines must submit a closure plan that includes the reclamation methods, closure cost estimates, methods of control and verification, closure and post-closure plans, and financial assurance. The latest closure plan and cost estimate for the Cerro Verde mine expansion were submitted to the Peruvian regulatory authorities in November 2013, which were

approved in August 2014. At December 31, 2016, Cerro Verde had accrued reclamation and closure costs of \$114 million.

Indonesian Reclamation and Closure Programs. The ultimate amount of reclamation and closure costs to be incurred at PT-FI's operations will be determined based on applicable laws and regulations and PT-FI's assessment of appropriate remedial activities in the circumstances, after consultation with governmental authorities, affected local residents and other affected parties and cannot currently be projected with precision. Some reclamation costs will be incurred during mining activities, while the remaining reclamation costs will be incurred at the end of mining activities, which are currently estimated to continue for approximately 25 years. During 2014, PT-FI updated its closure approach for an overburden stockpile, which resulted in an increase in the ARO of \$403 million. At the end of 2016, PT-FI revised its estimates for the overburden stockpile to address ongoing erosion that occurred during 2016, a design change that increased the volume and updated cost estimates reflecting more recent productivity and costs at the overburden stockpile, which resulted in an increase in the ARO of \$372 million. At December 31, 2016, PT-FI had accrued reclamation and closure costs of \$998 million.

PT-FI has designated a cash fund (\$22 million balance at December 31, 2016, which is included in other assets) to pay mine closure and reclamation costs or satisfy a portion of Indonesian financial requirements.

In December 2009, PT-FI submitted its revised mine closure plan to the Department of Energy and Mineral Resources for review and addressed comments received during the course of this review process. In December 2010, the Indonesian government issued a regulation regarding mine reclamation and closure, which requires a company to provide a mine closure guarantee in the form of a time deposit placed in a state-owned bank in Indonesia. In accordance with its COW, PT-FI is working with the Department of Energy and Mineral Resources to review these requirements, including discussion of other options for the mine closure guarantee.

Oil and Gas Properties. Substantially all of FM O&G's oil and gas leases require that, upon termination of economic production, the working interest owners plug and abandon non-producing wellbores, remove equipment and facilities from leased acreage, and restore land in accordance with applicable local, state and federal laws. Following several sales transactions in 2016, FM O&G remaining operating areas include the GOM shelf, offshore California, the Gulf Coast and the Rocky Mountain area as of December 31, 2016. FM O&G AROs cover approximately 600 wells and 134 platforms and other structures. At December 31, 2016, FM O&G had accrued \$589 million associated with its AROs.

Litigation. FCX is involved in numerous legal proceedings that arise in the ordinary course of business or are associated with environmental issues arising from legacy operations conducted over the years by FMC and its affiliates as discussed in this note under "Environmental." FCX is also involved periodically in reviews, inquiries, investigations and other proceedings initiated by or involving government agencies, some of which may result in adverse judgments, settlements, fines, penalties, injunctions or other relief. Management does not believe, based on currently available information, that the outcome of any legal proceeding will have a material adverse effect on FCX's financial condition, although individual outcomes could be material to FCX's operating results for a particular period, depending on the nature and magnitude of the outcome and the operating results for the period.

Asbestos Claims. Since approximately 1990, FMC and various subsidiaries have been named as defendants in a large number of lawsuits that claim personal injury either from exposure to asbestos allegedly contained in electrical wire products produced or marketed many years ago or from asbestos contained in buildings and facilities located at properties owned or operated by FMC affiliates, or from alleged asbestos in talc products. Many of these suits involve a large number of codefendants. Based on litigation results to date and facts currently known, FCX believes there is a reasonable possibility that losses may have been incurred related to these matters; however, FCX also believes that the amounts of any such losses, individually or in the aggregate, are not material to its consolidated financial statements. There can be no assurance, however, that future developments will not alter this conclusion.

Tax and Other Matters. FCX's operations are in multiple jurisdictions where uncertainties arise in the application of complex tax regulations. Some of these tax regimes are defined by contractual agreements with the local government, while others are defined by general tax laws and regulations. FCX and its subsidiaries are subject to reviews of its income tax filings and other tax payments, and disputes can arise with the taxing authorities over the interpretation of its contracts or laws. The final taxes paid may be dependent upon many factors, including negotiations with taxing authorities. In certain jurisdictions, FCX must pay a portion of the disputed amount to the local government in order to formally appeal the assessment. Such payment is recorded as a receivable if FCX believes the amount is collectible.

Cerro Verde Royalty Dispute. SUNAT, the Peru national tax authority, has assessed mining royalties on ore processed by the Cerro Verde concentrator, which commenced operations in late 2006. These assessments cover the period December 2006 to December 2007, each of the years 2008 through 2010, and the period January 2011 to September 2011.

In July 2013, the Peruvian Tax Tribunal issued two decisions affirming SUNAT's assessments for the period December 2006 through December 2008. In September 2013, Cerro Verde filed judiciary appeals related to the assessments because it believes that its 1998 stability agreement exempts from royalties all minerals extracted from its mining concession, irrespective of the method used for processing those minerals. With respect to the judiciary appeal related to assessments for the year 2008, on December 17, 2014, Peru's Eighteenth Contentious Administrative Court, which specializes in taxation matters, rendered its decision upholding Cerro Verde's position and declaring the Tax Tribunal's resolution invalid. On December 31, 2014, SUNAT and the Tax Tribunal appealed this decision. On January 29, 2016, Peru's Sixth Contentious Administrative Chamber of the Appellate Court nullified the decision of the Eighteenth Contentious Administrative Court. On February 23, 2016, Cerro Verde appealed the decision to the Peruvian Supreme Court. On April 14, 2016, Peru's Twentieth Contentious Administrative Court, which specializes in taxation matters, rendered its decision upholding the Peruvian Tax Tribunal's July 2013 decision affirming SUNAT's assessments for the period December 2006 through December 2007. On May 2, 2016, Cerro Verde appealed this decision to Peru's Twentieth Contentious Administrative Court. Although FCX believes Cerro Verde's interpretation of the stability agreement is correct, if Cerro Verde is ultimately found responsible for these assessments, it may also be liable for penalties and interest, which accrues at rates that range from approximately 7 percent to 18 percent based on the year accrued and the currency in which the amounts would be payable.

In October 2013, SUNAT served Cerro Verde with a demand for payment totaling \$146 million (based on the exchange rate as of December 31, 2016, including interest and penalties) based on the Peruvian Tax Tribunal's decisions for the period December 2006 through December 2008. As permitted by law, Cerro Verde requested and was granted an installment payment program that deferred payment for six months and thereafter required 66 equal monthly payments. Through December 31, 2016, Cerro Verde has made payments totaling \$96 million (based on the exchange rate as of December 31, 2016) under the installment program, which are included in other assets in the consolidated balance sheets.

In July 2013, a hearing on SUNAT's assessment for 2009 was held, but no decision had been issued by the Peruvian Tax Tribunal for that year. The aggregate amount of the assessment for 2009 totals \$80 million (based on the exchange rate as of December 31, 2016), including estimated accumulated interest and penalties.

In April 2016, SUNAT issued assessments for the year 2010 and the period January 2011 to September 2011, which totals \$162 million (based on the exchange rate as of December 31, 2016), including estimated accumulated interest and penalties. Cerro Verde has contested the assessments.

SUNAT may make additional assessments for mining royalties and associated penalties and interest for the period from October 2011 through December 2013, which Cerro Verde will contest. No assessments can be issued for years after 2013, as Cerro Verde began paying royalties on all of its production in January 2014 under its new 15-year stability agreement. As of December 31, 2016, FCX estimates the total exposure associated with these mining royalties for the period from December 2006 through December 2013 approximates \$544 million (based on the exchange rate as of December 31, 2016), including estimated accumulated interest and penalties. No amounts have been recorded for these assessments as of December 31, 2016, because Cerro Verde believes its 1998 stability agreement exempts it from these royalties and believes any payments will be recoverable.

Other Peruvian Tax Matters. Cerro Verde has also received assessments from SUNAT for additional taxes, penalties and interest related to various audit exceptions for income and other taxes. Cerro Verde has filed or will file objections to the assessments because it believes it has properly determined and paid its taxes.

A summary of these assessments follows:

Tax Year	Tax Assessment	Penalty and Interest Assessment	Total
2002 to 2005	\$ 16	\$ 51	\$ 67
2006	7	49	56
2007	12	18	30
2008	21	13	34
2009	56	48	104
2010	66	98	164
2011, 2014 to 2016	22	3	25
	<u>\$ 200</u>	<u>\$ 280</u>	<u>\$ 480</u>

As of December 31, 2016, Cerro Verde had paid \$181 million (included in other assets) on these disputed tax assessments, which it believes is collectible. No amounts have been accrued for these assessments.

Indonesia Tax Matters. PT-FI has received assessments from the Indonesian tax authorities for additional taxes and interest related to various audit exceptions for income and other taxes. PT-FI has filed objections to the assessments because it believes it has properly determined and paid its taxes. A summary of these assessments follows:

Tax Year	Tax Assessment	Interest Assessment	Total
2005	\$ 103	\$ 49	\$ 152
2006	22	10	32
2007	91	44	135
2008	62	52	114
2011	78	13	91
2012	123	—	123
2014	152	—	152
	<u>\$ 631</u>	<u>\$ 168</u>	<u>\$ 799</u>

Required estimated income tax payments for 2014 significantly exceeded PT-FI's 2014 reported income tax liability, which resulted in a \$284 million overpayment. During second-quarter 2016, the Indonesian tax authorities issued tax assessments for 2014 of \$156 million and agreed to refund \$128 million associated with income tax overpayments made by PT-FI in 2014 (included in income and other tax receivables). PT-FI filed objections for \$152 million of the tax assessments in 2016 (included in other assets).

As of December 31, 2016, PT-FI had paid \$355 million (of which \$331 million was included in other assets) on disputed tax assessments, which it believes are collectible. In addition, PT-FI has \$109 million (included in other assets) for overpayments of 2015 income taxes.

In December 2009, PT-FI was notified by Indonesian tax authorities that it was obligated to pay value-added taxes on certain goods imported after the year 2000. In December 2014, PT-FI paid \$269 million for value-added taxes for the period from November 2005 through the year 2009 and sought a refund. In March 2016, PT-FI collected a cash refund of \$196 million and \$38 million was offset against other tax liabilities. The remaining balance of the amount originally paid was reduced by currency exchange and other losses.

PT-FI received assessments from the local regional tax authority in Papua, Indonesia, for additional taxes and penalties related to surface water taxes for the period from January 2011 through December 2016. PT-FI has filed or will file appeals with the Indonesia Tax Court. In January 2017, the Indonesia Tax Court issued a ruling against PT-FI with respect to assessments for additional taxes and penalties for the period from January 2011 through July 2015 in the amount of \$376 million (based on the exchange rate as of December 31, 2016, and including \$227 million in penalties). The aggregate amount of assessments received from August 2015 through December 2016 was an additional \$93 million, including penalties (based on the exchange rate as of December 31, 2016). PT-FI continues to believe that its COW exempts it from these payments, and that PT-FI has the right to contest these assessments by appeal to the Indonesia Supreme Court and/or by instituting dispute resolution proceedings under the COW. Local regional tax law requires payment of these assessments to be made one month after the written rulings (*i.e.*, March 2017). PT-FI intends to contest these assessments by filing an appeal to the Indonesia Supreme Court, and based on advice from outside legal counsel, believes that it is probable that the Indonesia Supreme

Court will hear the appeal and will rule in favor of PT-FI. As of February 24, 2017, PT-FI has not paid and does not intend to pay amounts to the local regional tax authority related to these assessments for additional taxes and penalties. Additionally, PT-FI provided formal notice to the Indonesian government of an impending dispute listing the government's breaches and violations of the COW, including the imposition of surface water taxes in excess of the restriction imposed by the COW. If the local regional tax authority subsequently issues a warning letter and coercive warrant and payment is not made, under the laws in Papua, the local regional tax authority has the legal authority to take certain actions, including expropriation of assets or other measures. PT-FI does not believe that the threat of seizure of PT-FI assets is imminent. If the local regional tax authority were to force PT-FI to make these payments through the threat of expropriation of assets or other measures, such amounts may not be recoverable from the local regional tax authority and may result in a charge to operating income. FCX estimates the total exposure associated with these additional taxes and penalties, based on the exchange rate as of December 31, 2016, totals \$469 million. No amounts have been recorded for these assessments as of December 31, 2016.

Letters of Credit, Bank Guarantees and Surety Bonds. Letters of credit and bank guarantees totaled \$281 million at December 31, 2016, primarily for the Cerro Verde royalty dispute (refer to discussion above), environmental and asset retirement obligations, workers' compensation insurance programs, tax and customs obligations, and other commercial obligations. In addition, FCX had surety bonds totaling \$371 million at December 31, 2016, associated with environmental and asset retirement obligations (\$290 million), self-insurance bonds for workers' compensation (\$24 million) and other bonds (\$57 million).

Insurance. FCX purchases a variety of insurance products to mitigate potential losses, which typically have specified deductible amounts or self-insured retentions and policy limits. FCX generally is self-insured for U.S. workers' compensation, but purchases excess insurance up to statutory limits. An actuarial analysis is performed twice a year on the various casualty insurance programs covering FCX's U.S.-based mining operations, including workers' compensation, to estimate expected losses. At December 31, 2016, FCX's liability for expected losses under these insurance programs totaled \$58 million, which consisted of a current portion of \$7 million (included in accounts payable and accrued liabilities) and a long-term portion of \$51 million (included in other liabilities). In addition, FCX has receivables of \$17 million (a current portion of \$2 million included in other accounts receivable and a long-term portion of \$15 million included in other assets) for expected claims associated with these losses to be filed with insurance carriers.

FCX's oil and gas operations are subject to all of the risks normally incident to the production of oil and gas, including well blowouts, cratering, explosions, oil spills, releases of gas or well fluids, fires, pollution and releases of toxic gas, each of which could result in damage to or destruction of oil and gas wells, production facilities or other property or injury to persons. Although FCX maintains insurance coverage considered to be customary in the oil and gas industry, FCX is not fully insured against all risks either because insurance is not available or because of high premium costs. FCX is self-insured for named windstorms in the GOM. FCX's insurance policies provide limited coverage for losses or liabilities relating to pollution, with broader coverage for sudden and accidental occurrences.

NOTE 13. COMMITMENTS AND GUARANTEES

Operating Leases. FCX leases various types of properties, including offices and equipment. Future minimum rentals under non-cancelable leases at December 31, 2016, total \$45 million in 2017, \$36 million in 2018, \$22 million in 2019, \$20 million in 2020, \$19 million in 2021 and \$109 million thereafter. Minimum payments under operating leases have not been reduced by aggregate minimum sublease rentals, which are minimal. Total aggregate rental expense under operating leases was \$71 million in 2016, \$71 million in 2015 and \$76 million in 2014.

Contractual Obligations. Based on applicable prices at December 31, 2016, FCX has unconditional purchase obligations of \$3.4 billion, primarily comprising the procurement of copper concentrate (\$1.4 billion), cobalt (\$0.8 billion), electricity (\$0.5 billion) and transportation services (\$0.4 billion). Some of FCX's unconditional purchase obligations are settled based on the prevailing market rate for the service or commodity purchased. In some cases, the amount of the actual obligation may change over time because of market conditions. Obligations for copper concentrate provide for deliveries of specified volumes to Atlantic Copper at market-based prices. Obligations for cobalt provide for deliveries of specified volumes to Freeport Cobalt at market-based prices. Electricity obligations are primarily for long-term power purchase agreements in North America and contractual minimum demand at the South America mines. Transportation obligations are primarily for South America contracted ocean freight.

FCX's unconditional purchase obligations by year total \$1.8 billion in 2017, \$718 million in 2018, \$314 million in 2019, \$263 million in 2020, \$45 million in 2021 and \$342 million thereafter. During the three-year period ended December 31, 2016, FCX fulfilled its minimum contractual purchase obligations.

Mining Contracts — Indonesia. FCX is entitled to mine in Indonesia under the COW between PT-FI and the Indonesian government. The original COW was entered into in 1967 and was replaced with the current COW in 1991. The initial term of the current COW expires in 2021 but can be extended by PT-FI for two 10-year periods subject to Indonesian government approval, which pursuant to the COW cannot be withheld or delayed unreasonably.

The copper royalty rate payable by PT-FI under its COW, prior to modifications discussed below as a result of the July 2014 Memorandum of Understanding (MOU), varied from 1.5 percent of copper net revenue at a copper price of \$0.90 or less per pound to 3.5 percent at a copper price of \$1.10 or more per pound. The COW royalty rate for gold and silver sales was at a fixed rate of 1.0 percent.

A large part of the mineral royalties under Indonesian government regulations is designated to the provinces from which the minerals are extracted. In connection with its fourth concentrator mill expansion completed in 1998, PT-FI agreed to pay the Indonesian government additional royalties (royalties not required by the COW) to provide further support to the local governments and to the people of the Indonesian province of Papua. The additional royalties were paid on production exceeding specified annual amounts of copper, gold and silver generated when PT-FI's milling facilities operated above 200,000 metric tons of ore per day. The additional royalty for copper equaled the COW royalty rate, and for gold and silver equaled twice the COW royalty rates. Therefore, PT-FI's royalty rate on copper net revenues from production above the agreed levels was double the COW royalty rate, and the royalty rates on gold and silver sales from production above the agreed levels were triple the COW royalty rates.

In January 2014, the Indonesian government published regulations that among other things imposed a progressive export duty on copper concentrate and restricted concentrate exports after January 12, 2017. PT-FI's COW authorizes it to export concentrate and specifies the taxes and other fiscal terms available to its operations. The COW states that PT-FI shall not be subject to taxes, duties or fees subsequently imposed or approved by the Indonesian government except as expressly provided in the COW. Additionally, PT-FI complied with the requirements of its COW for local processing by arranging for the construction and commissioning of Indonesia's only copper smelter and refinery, which is owned by PT Smelting (refer to Note 6).

In July 2014, PT-FI entered into a MOU with the Indonesian government, in which, subject to concluding an agreement to extend PT-FI's operations beyond 2021 on acceptable terms, PT-FI agreed to construct new smelter capacity in Indonesia and to divest an additional 20.64 percent interest in PT-FI at fair market value. Under the MOU, PT-FI provided a \$115 million assurance bond to support its commitment for smelter development, agreed to increase royalty rates to 4.0 percent for copper and 3.75 percent for gold from the previous rates of 3.5 percent for copper and 1.0 percent for gold, and agreed to pay export duties until certain smelter development milestones were met (initially set at 7.5 percent, declining to 5.0 percent when smelter development progress exceeds 7.5 percent and eliminated when development progress exceeds 30 percent). The MOU also anticipated an amendment of the COW within six months to address other matters; however, no terms of the COW other than those relating to the smelter bond, increased royalties and export duties were changed. In January 2015, the MOU was extended to July 25, 2015, and it expired on that date. The Indonesian government has continued to impose the increased royalty rates, export duties and smelter assurance bond. PT-FI's royalties totaled \$131 million in 2016, \$114 million in 2015 and \$115 million in 2014, and export duties totaled \$95 million in 2016, \$109 million in 2015 and \$77 million in 2014.

In October 2015, the Indonesian government provided a letter of assurance to PT-FI indicating that it would revise regulations allowing it to approve the extension of operations beyond 2021, and provide the same rights and the same level of legal and fiscal certainty provided under its current COW.

In January and February 2017, the Indonesian government issued new regulations to address exports of unrefined metals, including copper concentrate and anode slimes, and other matters related to the mining sector. The new regulations permit the continuation of copper concentrate exports for a five-year period through January 2022, subject to various conditions, including conversion from a contract of work to a special operating license (known as an IUPK, which provides virtually none of the protections of a contract of work), commitment to completion of smelter construction in five years and payment of export duties to be determined by the Ministry of Finance. In addition, the new regulations enable application for extension of operating rights five years before expiration of the

IUPK and require foreign IUPK holders to divest 51 percent to Indonesian interests no later than the tenth year of production. Export licenses would be valid for one-year periods, subject to review every six months, depending on smelter construction progress.

The January 2017 regulations permit the export of anode slimes, which is necessary for PT Smelting to continue operating. PT Smelting is seeking to renew its anode slimes export license; however, we cannot predict when PT Smelting's anode slimes export license may be renewed. In addition, a labor strike at PT Smelting has resulted in a shutdown of its operations since January 19, 2017. Although PT-FI is taking near-term actions to reduce production to match available processing capacity at PT Smelting, or approximately 40 percent of PT-FI's concentrate production capacity, on February 10, 2017, PT-FI was forced to suspend production as a result of limited storage capacity at PT-FI and PT Smelting. PT Smelting has indicated that it expects to resume operations in March 2017. Delays in PT Smelting obtaining its anode slimes export license or restarting operations could further impact PT-FI's operations.

Following the issuance of the January and February 2017 regulations and discussions with the government, PT-FI advised the Indonesian government that it was prepared to convert its COW to an IUPK, subject to obtaining an investment stability agreement providing equivalent rights with the same level of legal and fiscal certainty enumerated under its COW, and provided that the COW would remain in effect until it is replaced by a mutually satisfactory alternative. PT-FI also committed to commence construction of a new smelter during a five-year timeframe after approval of the extension of its long-term operating rights.

Under its COW, PT-FI has specified rights to export copper concentrate without restriction or payment of export duties. PT-FI has requested that concentrate exports be permitted without the imposition of export duties while the new license and stability agreement are negotiated. The Indonesia government has indicated that in order to export its concentrate production, PT-FI would be required to immediately convert to an IUPK, forgo its current rights to fiscal and legal certainty and commit to a new smelter prior to completing a long-term investment stability agreement. PT-FI has advised the Indonesian government that attempts to enforce the new regulations on PT-FI violates its COW and that it is unwilling to terminate its COW unless replaced by a mutually acceptable form of agreement providing fiscal and legal assurances to support its long-term investment plans in Papua, Indonesia.

As of February 24, 2017, PT-FI has not obtained approval to export concentrate and production remains suspended. PT-FI is taking near-term actions to reduce production to match available processing capacity at PT Smelting, or approximately 40 percent of PT-FI's concentrate production capacity (assuming that PT Smelting's export license is approved and its operations are resumed in March 2017). PT-FI has begun to significantly adjust its cost structure, reduce its workforce and spending with local suppliers, and suspend investments in its underground development projects and new smelter.

On February 17, 2017, pursuant to the COW's dispute resolution provisions, PT-FI provided formal notice to the Indonesian government of an impending dispute listing the government's breaches and violations of the COW, including, but not limited to, (i) restrictions on PT-FI's basic right to export mining products in violation of the COW, (ii) imposition of export duties other than those taxes and other charges expressly provided for in the COW, (iii) imposition of surface water taxes in excess of the restrictions imposed by the COW (refer to Note 12 for further discussion of these assessments), (iv) requirement for PT-FI to build a smelter, while such requirements are not contained in the COW, (v) unreasonable withholding and delay in granting approval of two successive ten-year extensions of the term of the COW, and (vi) imposition of divestment requirements that are not provided for in the COW.

Other. In 2016, FCX negotiated the termination and settlement of FM O&G's drilling rig contracts with Noble Drilling (U.S.) LLC (Noble) and Rowan Companies plc (Rowan). Under the settlement with Noble, FCX issued 48.1 million shares of its common stock (representing a value of \$540 million) during second-quarter 2016, and Noble immediately sold these shares. Under the settlement with Rowan, FCX paid \$215 million in cash during 2016. FCX also agreed to provide contingent payments of up to \$75 million to Noble and up to \$30 million to Rowan, depending on the average price of crude oil over the 12-month period ending June 30, 2017. The fair value of these contingent payments totaled \$23 million (included in accounts payable and accrued liabilities) as of December 2016. In January 2017, FCX paid \$6 million to early settle a portion of the Rowan contingent payments, which was included in the fair value at December 31, 2016. As a result of the settlements, FM O&G was released from a total of \$1.1 billion in payment obligations under its three drilling rig contracts.

Community Development Programs. FCX has adopted policies that govern its working relationships with the communities where it operates. These policies are designed to guide its practices and programs in a manner that respects basic human rights and the culture of the local people impacted by FCX's operations. FCX continues to make significant expenditures on community development, education, training and cultural programs.

In 1996, PT-FI established the Freeport Partnership Fund for Community Development (Partnership Fund) through which PT-FI has made available funding and technical assistance to support community development initiatives in the area of health, education and economic development of the area. PT-FI has committed through 2018 to provide one percent of its annual revenue for the development of the local people in its area of operations through the Partnership Fund. PT-FI charged \$33 million in 2016, \$27 million in 2015 and \$31 million in 2014 to cost of sales for this commitment.

Guarantees. FCX provides certain financial guarantees (including indirect guarantees of the indebtedness of others) and indemnities.

Prior to its acquisition by FCX, FMC and its subsidiaries have, as part of merger, acquisition, divestiture and other transactions, from time to time, indemnified certain sellers, buyers or other parties related to the transaction from and against certain liabilities associated with conditions in existence (or claims associated with actions taken) prior to the closing date of the transaction. As part of these transactions, FMC indemnified the counterparty from and against certain excluded or retained liabilities existing at the time of sale that would otherwise have been transferred to the party at closing. These indemnity provisions generally now require FCX to indemnify the party against certain liabilities that may arise in the future from the pre-closing activities of FMC for assets sold or purchased. The indemnity classifications include environmental, tax and certain operating liabilities, claims or litigation existing at closing and various excluded liabilities or obligations. Most of these indemnity obligations arise from transactions that closed many years ago, and given the nature of these indemnity obligations, it is not possible to estimate the maximum potential exposure. Except as described in the following sentence, FCX does not consider any of such obligations as having a probable likelihood of payment that is reasonably estimable, and accordingly, has not recorded any obligations associated with these indemnities. With respect to FCX's environmental indemnity obligations, any expected costs from these guarantees are accrued when potential environmental obligations are considered by management to be probable and the costs can be reasonably estimated.

NOTE 14. FINANCIAL INSTRUMENTS

FCX does not purchase, hold or sell derivative financial instruments unless there is an existing asset or obligation, or it anticipates a future activity that is likely to occur and will result in exposure to market risks, which FCX intends to offset or mitigate. FCX does not enter into any derivative financial instruments for speculative purposes, but has entered into derivative financial instruments in limited instances to achieve specific objectives. These objectives principally relate to managing risks associated with commodity price changes, foreign currency exchange rates and interest rates.

Commodity Contracts. From time to time, FCX has entered into derivatives contracts to hedge the market risk associated with fluctuations in the prices of commodities it purchases and sells. Derivative financial instruments used by FCX to manage its risks do not contain credit risk-related contingent provisions. As a result of the acquisition of the oil and gas business in 2013, FCX assumed a variety of crude oil and natural gas commodity derivatives to hedge the exposure to the volatility of crude oil and natural gas commodity prices, all of which had matured by December 31, 2015. As part of the terms of the agreement to sell FM O&G's onshore California oil and gas properties, FM O&G entered into derivative contracts during October 2016, all of which were assumed by Sentinel at the time of the sale in December 2016. As of December 31, 2016 and 2015, FCX had no price protection contracts relating to its mine production. A discussion of FCX's derivative contracts and programs follows.

Derivatives Designated as Hedging Instruments – Fair Value Hedges

Copper Futures and Swap Contracts. Some of FCX's U.S. copper rod customers request a fixed market price instead of the COMEX average copper price in the month of shipment. FCX hedges this price exposure in a manner that allows it to receive the COMEX average price in the month of shipment while the customers pay the fixed price they requested. FCX accomplishes this by entering into copper futures or swap contracts. Hedging gains or losses from these copper futures and swap contracts are recorded in revenues. FCX did not have any significant gains or losses during the three years ended December 31, 2016, resulting from hedge ineffectiveness. At December 31, 2016, FCX held copper futures and swap contracts that qualified for hedge accounting for 42 million pounds at an average contract price of \$2.35 per pound, with maturities through April 2018.

A summary of gains (losses) recognized in revenues for derivative financial instruments related to commodity contracts that are designated and qualify as fair value hedge transactions, along with the unrealized gains (losses) on the related hedged item for the years ended December 31 follows:

	2016	2015	2014
Copper futures and swap contracts:			
Unrealized gains (losses):			
Derivative financial instruments	\$ 16	\$ (3)	\$ (12)
Hedged item – firm sales commitments	(16)	3	12
Realized gains (losses):			
Matured derivative financial instruments	1	(34)	(9)

Derivatives Not Designated as Hedging Instruments

Embedded Derivatives. As described in Note 1 under “Revenue Recognition,” certain FCX copper concentrate, copper cathode and gold sales contracts provide for provisional pricing primarily based on the LME copper price or the COMEX copper price and the London gold price at the time of shipment as specified in the contract. Similarly, FCX purchases copper under contracts that provide for provisional pricing. Mark-to-market price fluctuations from these embedded derivatives are recorded through the settlement date and are reflected in revenues for sales contracts and in cost of sales as production and delivery costs for purchase contracts. Mark-to-market price fluctuations associated with embedded derivatives for discontinued operations, which were minimal, are included in discontinued operations for all periods presented in these financial statements. A summary of FCX’s embedded derivatives at December 31, 2016, follows:

	Open Positions	Average Price Per Unit		Maturities Through
		Contract	Market	
Embedded derivatives in provisional sales contracts:				
Copper (millions of pounds)	698	\$ 2.36	\$ 2.51	June 2017
Gold (thousands of ounces)	207	1,195	1,161	March 2017
Embedded derivatives in provisional purchase contracts:				
Copper (millions of pounds)	140	2.37	2.51	April 2017

Crude Oil and Natural Gas Contracts. As a result of the acquisition of the oil and gas business, FCX had derivative contracts that consisted of crude oil options, and crude oil and natural gas swaps. These derivatives were not designated as hedging instruments and were recorded at fair value with the mark-to-market gains and losses recorded in revenues. The crude oil options were entered into by PXP to protect the realized price of a portion of expected future sales in order to limit the effects of crude oil price decreases. The remaining contracts matured in 2015, and FCX had no outstanding crude oil or natural gas derivative contracts as of December 31, 2016 or 2015.

As part of the terms of the agreement to sell the onshore California oil and gas properties, FM O&G entered into derivative contracts during October 2016 to hedge (i) approximately 72 percent of its forecasted crude oil sales through 2020 with fixed-rate swaps for 19.4 million barrels from November 2016 through December 2020 at a price of \$56.04 per barrel and costless collars for 5.2 million barrels from January 2018 through December 2020 at a put price of \$50.00 per barrel and a call price of \$63.69 per barrel, and (ii) approximately 48 percent of its forecasted natural gas purchases through 2020 with fixed-rate swaps for 28.9 million British thermal units (MMBtu) from November 2016 through December 2020 at a price of \$3.1445 per MMBtu related to these onshore California properties. Sentinel assumed these contracts at the time of the sale in December 2016. These derivative contracts were not designated as hedges for accounting purposes, and were recorded at fair value with the mark-to-market gains and losses recorded in revenues (oil contracts) and production costs (natural gas contracts).

Copper Forward Contracts. Atlantic Copper, FCX’s wholly owned smelting and refining unit in Spain, enters into copper forward contracts designed to hedge its copper price risk whenever its physical purchases and sales pricing periods do not match. These economic hedge transactions are intended to hedge against changes in copper prices, with the mark-to-market hedging gains or losses recorded in cost of sales. At December 31, 2016, Atlantic Copper held net copper forward purchase contracts for 3 million pounds at an average contract price of \$2.57 per pound, with maturities through February 2017.

Summary of Gains (Losses). A summary of the realized and unrealized gains (losses) recognized in operating loss for commodity contracts that do not qualify as hedge transactions, including embedded derivatives, for the years ended December 31 follows:

	2016	2015	2014
Embedded derivatives in provisional copper and gold sales contracts ^a	\$ 266	\$ (406)	\$ (280)
Crude oil options and swaps ^a	(35)	87	513
Natural gas swaps ^a	—	—	(8)
Copper forward contracts ^b	5	(15)	(4)

a. Amounts recorded in revenues.

b. Amounts recorded in cost of sales as production and delivery costs.

Unsettled Derivative Financial Instruments

A summary of the fair values of unsettled commodity derivative financial instruments follows:

	December 31,	
	2016	2015
Commodity Derivative Assets:		
<u>Derivatives designated as hedging instruments:</u>		
Copper futures and swap contracts	\$ 9	\$ 1
<u>Derivatives not designated as hedging instruments:</u>		
Embedded derivatives in provisional copper and gold sales/purchase contracts	137	19
Total derivative assets	<u>\$ 146</u>	<u>\$ 20</u>
Commodity Derivative Liabilities:		
<u>Derivatives designated as hedging instruments:</u>		
Copper futures and swap contracts	\$ 2	\$ 11
<u>Derivatives not designated as hedging instruments:</u>		
Embedded derivatives in provisional copper and gold sales/purchase contracts	56	81
Total derivative liabilities	<u>\$ 58</u>	<u>\$ 92</u>

FCX's commodity contracts have netting arrangements with counterparties with which the right of offset exists, and it is FCX's policy to offset balances by counterparty on the balance sheet. FCX's embedded derivatives on provisional sales/purchases are netted with the corresponding outstanding receivable/payable balances. A summary of these unsettled commodity contracts that are offset in the balance sheet follows:

	Assets at December 31,		Liabilities at December 31,	
	2016	2015	2016	2015
Gross amounts recognized:				
Commodity contracts:				
Embedded derivatives in provisional sales/purchase contracts	\$ 137	\$ 19	\$ 56	\$ 81
Copper derivatives	9	1	2	11
	<u>146</u>	<u>20</u>	<u>58</u>	<u>92</u>
Less gross amounts of offset:				
Commodity contracts:				
Embedded derivatives in provisional sales/purchase contracts	12	5	12	5
Copper derivatives	2	1	2	1
	<u>14</u>	<u>6</u>	<u>14</u>	<u>6</u>
Net amounts presented in balance sheet:				
Commodity contracts:				
Embedded derivatives in provisional sales/purchase contracts	125	14	44	76
Copper derivatives	7	—	—	10
	<u>\$ 132</u>	<u>\$ 14</u>	<u>\$ 44</u>	<u>\$ 86</u>
Balance sheet classification:				
Trade accounts receivable	\$ 119	\$ 9	\$ 13	\$ 51
Other current assets	7	—	—	—
Accounts payable and accrued liabilities	6	5	31	35
	<u>\$ 132</u>	<u>\$ 14</u>	<u>\$ 44</u>	<u>\$ 86</u>

Credit Risk. FCX is exposed to credit loss when financial institutions with which FCX has entered into derivative transactions (commodity, foreign exchange and interest rate swaps) are unable to pay. To minimize the risk of such losses, FCX uses counterparties that meet certain credit requirements and periodically reviews the creditworthiness of these counterparties. FCX does not anticipate that any of the counterparties it deals with will default on their obligations. As of December 31, 2016, the maximum amount of credit exposure associated with derivative transactions was \$118 million.

Other Financial Instruments. Other financial instruments include cash and cash equivalents, accounts receivable, restricted cash, investment securities, legally restricted funds, accounts payable and accrued liabilities, and long-term debt. The carrying value for cash and cash equivalents (which included time deposits of \$64 million at December 31, 2016, and \$34 million at December 2015), accounts receivable, restricted cash, and accounts payable and accrued liabilities, approximates fair value because of their short-term nature and generally negligible credit losses (refer to Note 15 for the fair values of investment securities, legally restricted funds and long-term debt).

In addition, FCX has contingent consideration related to its sales of assets (refer to Note 15 for the fair value and Note 2 for further discussion of these instruments) and contingent liabilities related to the settlement of FM O&G's drilling rig contracts (refer to Note 15 for the fair value and Note 13 for further discussion of these instruments).

NOTE 15. FAIR VALUE MEASUREMENT

Fair value accounting guidance includes a hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 inputs) and the lowest priority to unobservable inputs (Level 3 inputs). FCX recognizes transfers between levels at the end of the reporting period. FCX did not have any significant transfers in or out of Level 1, 2 or 3 for 2016.

Effective January 1, 2016, FCX retrospectively adopted the ASU associated with investments for which fair value is measured using the NAV per share as a practical expedient. As a result, investments valued using NAV per share are shown in the tables below in a column separate from the levels within the fair value hierarchy. A summary of the carrying amount and fair value of FCX's financial instruments, other than cash and cash equivalents, accounts receivable, restricted cash, and accounts payable and accrued liabilities follows. FCX's financial instruments are recorded on the consolidated balance sheets at fair value except for contingent consideration associated with the sale of the Deepwater GOM oil and gas properties (which was recorded under the loss recovery approach) and debt.

	At December 31, 2016					
	Carrying Amount	Fair Value				
		Total	NAV	Level 1	Level 2	Level 3
Assets						
Investment securities: ^{a,b}						
U.S. core fixed income fund	\$ 23	\$ 23	\$ 23	\$ —	\$ —	\$ —
Money market funds	22	22	—	22	—	—
Equity securities	5	5	—	5	—	—
Total	<u>50</u>	<u>50</u>	<u>23</u>	<u>27</u>	<u>—</u>	<u>—</u>
Legally restricted funds: ^a						
U.S. core fixed income fund	53	53	53	—	—	—
Government bonds and notes	36	36	—	—	36	—
Corporate bonds	32	32	—	—	32	—
Government mortgage-backed securities	25	25	—	—	25	—
Asset-backed securities	16	16	—	—	16	—
Money market funds	12	12	—	12	—	—
Collateralized mortgage-backed securities	8	8	—	—	8	—
Municipal bonds	1	1	—	—	1	—
Total	<u>183</u>	<u>183</u>	<u>53</u>	<u>12</u>	<u>118</u>	<u>—</u>
Derivatives:						
Embedded derivatives in provisional sales/purchase contracts in a gross asset position ^c	137	137	—	—	137	—
Copper futures and swap contracts ^c	9	9	—	8	1	—
Contingent consideration for the sales of TFHL and onshore California oil and gas properties ^a	46	46	—	—	46	—
Total	<u>192</u>	<u>192</u>	<u>—</u>	<u>8</u>	<u>184</u>	<u>—</u>
Contingent consideration for the sale of the Deepwater GOM oil and gas properties ^a	150	135	—	—	—	135
Total assets		<u>\$ 560</u>	<u>\$ 76</u>	<u>\$ 47</u>	<u>\$ 302</u>	<u>\$ 135</u>
Liabilities						
Derivatives: ^c						
Embedded derivatives in provisional sales/purchase contracts in a gross liability position	\$ 56	\$ 56	—	\$ —	\$ 56	\$ —
Copper futures and swap contracts	2	2	—	2	—	—
Total	<u>58</u>	<u>58</u>	<u>—</u>	<u>2</u>	<u>56</u>	<u>—</u>
Contingent payments for the settlements of drilling rig contracts ^d	23	23	—	—	23	—
Long-term debt, including current portion ^e	16,027	15,196	—	—	15,196	—
Total liabilities		<u>\$ 15,277</u>	<u>\$ —</u>	<u>\$ 2</u>	<u>\$ 15,275</u>	<u>\$ —</u>

At December 31, 2015

	Carrying Amount	Fair Value				Level 3
		Total	NAV	Level 1	Level 2	
Assets						
Investment securities: ^{a,b}						
U.S. core fixed income fund	\$ 23	\$ 23	\$ 23	\$ —	\$ —	\$ —
Money market funds	21	21	—	21	—	—
Equity securities	3	3	—	3	—	—
Total	<u>47</u>	<u>47</u>	<u>23</u>	<u>24</u>	<u>—</u>	<u>—</u>
Legally restricted funds: ^a						
U.S. core fixed income fund	52	52	52	—	—	—
Government bonds and notes	37	37	—	—	37	—
Government mortgage-backed securities	28	28	—	—	28	—
Corporate bonds	26	26	—	—	26	—
Asset-backed securities	13	13	—	—	13	—
Collateralized mortgage-backed securities	7	7	—	—	7	—
Money market funds	7	7	—	7	—	—
Municipal bonds	1	1	—	—	1	—
Total	<u>171</u>	<u>171</u>	<u>52</u>	<u>7</u>	<u>112</u>	<u>—</u>
Derivatives: ^c						
Embedded derivatives in provisional sales/purchase contracts in a gross asset position	19	19	—	—	19	—
Copper futures and swap contracts	1	1	—	1	—	—
Total	<u>20</u>	<u>20</u>	<u>—</u>	<u>1</u>	<u>19</u>	<u>—</u>
Total assets		<u>\$ 238</u>	<u>\$ 75</u>	<u>\$ 32</u>	<u>\$ 131</u>	<u>\$ —</u>
Liabilities						
Derivatives: ^c						
Embedded derivatives in provisional sales/purchase contracts in a gross liability position	\$ 81	\$ 81	\$ —	\$ —	\$ 81	\$ —
Copper futures and swap contracts	11	11	—	7	4	—
Total	<u>92</u>	<u>92</u>	<u>—</u>	<u>7</u>	<u>85</u>	<u>—</u>
Long-term debt, including current portion ^e	20,428	13,987	—	—	13,987	—
Total liabilities		<u>\$ 14,079</u>	<u>\$ —</u>	<u>\$ 7</u>	<u>\$ 14,072</u>	<u>\$ —</u>

a. Current portion included in other current assets and long-term portion included in other assets.

b. Excludes time deposits (which approximated fair value) included in (i) other current assets of \$28 million at December 31, 2016 and 2015, and (ii) other assets of \$122 million at December 31, 2016, and \$118 million at December 31, 2015, primarily associated with an assurance bond to support PT-FI's commitment for smelter development in Indonesia (refer to Note 13 for further discussion).

c. Refer to Note 14 for further discussion and balance sheet classifications.

d. Included in accounts payable and accrued liabilities.

e. Recorded at cost except for debt assumed in acquisitions, which are recorded at fair value at the respective acquisition dates.

Valuation Techniques. The U.S. core fixed income fund is valued at NAV. The fund strategy seeks total return consisting of income and capital appreciation primarily by investing in a broad range of investment-grade debt securities, including U.S. government obligations, corporate bonds, mortgage-backed securities, asset-backed securities and money market instruments. There are no restrictions on redemptions (usually within one business day of notice).

Money market funds are classified within Level 1 of the fair value hierarchy because they are valued using quoted market prices in active markets.

Equity securities are valued at the closing price reported on the active market on which the individual securities are traded and, as such, are classified within Level 1 of the fair value hierarchy.

Fixed income securities (government securities, corporate bonds, asset-backed securities, collateralized mortgage-backed securities and municipal bonds) are valued using a bid-evaluation price or a mid-evaluation price. A bid-evaluation price is an estimated price at which a dealer would pay for a security. A mid-evaluation price is the average of the estimated price at which a dealer would sell a security and the estimated price at which a dealer would pay for a security. These evaluations are based on quoted prices, if available, or models that use observable inputs and, as such, are classified within Level 2 of the fair value hierarchy.

FCX's embedded derivatives on provisional copper concentrate, copper cathode and gold purchases and sales are valued using only quoted monthly LME or COMEX copper forward prices and the London gold forward price at each reporting date based on the month of maturity (refer to Note 14 for further discussion); however, FCX's contracts themselves are not traded on an exchange. As a result, these derivatives are classified within Level 2 of the fair value hierarchy.

FCX's derivative financial instruments for copper futures and swap contracts and copper forward contracts that are traded on the respective exchanges are classified within Level 1 of the fair value hierarchy because they are valued using quoted monthly COMEX or LME prices at each reporting date based on the month of maturity (refer to Note 14 for further discussion). Certain of these contracts are traded on the over-the-counter market and are classified within Level 2 of the fair value hierarchy based on COMEX and LME forward prices.

The fair value of contingent consideration for the sales of TFHL and onshore California oil and gas properties (refer to Note 2 for further discussion) is calculated based on average commodity price forecasts through applicable maturity dates using a Monte Carlo simulation model. The models use various observable inputs, including Brent crude oil forward prices, historical copper and cobalt prices, volatilities, discount rates and settlement terms. As a result, these contingent consideration assets are classified within Level 2 of the fair value hierarchy.

The fair value of contingent consideration for the sale of Deepwater GOM oil and gas properties (refer to Note 2 for further discussion) is calculated based on a discounted cash flow model using inputs that include third-party reserve estimates, production rates, production timing and discount rates. Because significant inputs are not observable in the market, the contingent consideration is classified within Level 3 of the fair value hierarchy.

The fair value of contingent payments for the settlements of drilling rig contracts (refer to Note 13 for further discussion) is calculated based on the average price forecasts of WTI crude oil over the 12-month period ending June 30, 2017, using a mean-reverting model. The model uses various observable inputs, including WTI crude oil forward prices, volatilities, discount rate and settlement terms. As a result, these contingent payments are classified within Level 2 of the fair value hierarchy.

Long-term debt, including current portion, is valued using available market quotes and, as such, is classified within Level 2 of the fair value hierarchy.

The techniques described above may produce a fair value calculation that may not be indicative of NRV or reflective of future fair values. Furthermore, while FCX believes its valuation techniques are appropriate and consistent with other market participants, the use of different techniques or assumptions to determine fair value of certain financial instruments could result in a different fair value measurement at the reporting date. There have been no changes in the techniques used at December 31, 2016.

A summary of the changes in the fair value of FCX's Level 3 instruments for the years ended December 31 follows:

	Contingent Consideration	Crude Oil Options	
	2016	2015	2014
Balance at beginning of year	\$ —	\$ 316	\$ (309) ^a
Net realized gains (losses)	—	86 ^a	(42) ^a
Net unrealized gains related to assets and liabilities still held at the end of the year	135 ^b	—	430 ^c
Net settlements	—	(402) ^d	237 ^d
Balance at the end of the year	\$ 135	\$ —	\$ 316

- a. Includes net realized gains (losses) of \$87 million recorded in revenues in 2015 and \$(41) million in 2014, and \$1 million of interest expense associated with deferred premiums in both 2015 and 2014.
- b. Reflects contingent consideration associated with the sale of the Deepwater GOM oil and gas properties in December 2016 (see Note 2 for further discussion).
- c. Includes unrealized gains recorded in revenues of \$432 million and \$2 million of interest expense associated with deferred premiums.
- d. Includes interest payments of \$4 million in 2015 and \$5 million in 2014.

Refer to Notes 1 and 5 for a discussion of the fair value estimates utilized in the impairment assessments for mining operations, which were determined using inputs not observable in the market and thus represent Level 3 measurements. Refer to Note 1 for the discussion of the fair value estimate utilized in the goodwill impairment assessment, which was determined primarily using inputs not observable in the market and thus represents a Level 3 measurement.

NOTE 16. BUSINESS SEGMENT INFORMATION

Product Revenues. FCX revenues attributable to the products it produced for the years ended December 31 follow:

	2016	2015	2014
Refined copper products	\$ 5,888	\$ 6,699	\$ 8,187
Copper in concentrate ^a	4,502	2,869	3,366
Gold	1,512	1,538	1,584
Molybdenum	651	783	1,207
Oil	1,304	1,694	4,233
Other	973	1,024	1,424
Total	\$ 14,830	\$ 14,607	\$ 20,001

- a. Amounts are net of treatment and refining charges totaling \$652 million in 2016, \$485 million in 2015 and \$374 million in 2014.

Geographic Area. Information concerning financial data by geographic area follows:

	December 31,		
	2016	2015	2014
Long-lived assets: ^a			
U.S.	\$ 8,282 ^b	\$ 16,569 ^b	\$ 29,468
Indonesia	8,794	7,701	6,961
Peru	7,981	8,432	6,848
Chile	1,269	1,387	1,542
Other ^c	248	4,706	4,593
Total	\$ 26,574	\$ 38,795	\$ 49,412

- a. Long-lived assets exclude deferred tax assets and intangible assets.
- b. Decrease in 2016 is primarily because of impairment charges related to oil and gas properties and asset dispositions, and decrease in 2015 is primarily because of impairment charges related to oil and gas properties (refer to Notes 1 and 2 for further discussion).
- c. Includes long-lived assets held for sale totaling \$4.4 billion at December 31, 2015, and \$4.3 billion at December 31, 2014, primarily associated with discontinued operations. Refer to Note 2 for further discussion.

	Years Ended December 31,		
	2016	2015	2014
Revenues: ^a			
U.S.	\$ 5,896	\$ 6,842	\$ 10,307
Indonesia	1,402	1,054	1,792
Japan	1,350	1,246	1,573
Switzerland	1,147	618	658
China	1,125	688	790
Spain	878	960	1,020
India	553	532	286
Bermuda	273	159	76
Philippines	261	169	—
Chile	250	397	687
Korea	219	177	203
United Kingdom	204	83	142
Other	1,272	1,682	2,467
Total	<u>\$ 14,830</u>	<u>\$ 14,607</u>	<u>\$ 20,001</u>

a. Revenues are attributed to countries based on the location of the customer.

Major Customers and Affiliated Companies. No customer accounted for 10 percent or more of FCX's consolidated revenues during the years ended December 31, 2016 and 2015. Oil and gas sales to Phillips 66 Company totaled \$2.5 billion (12 percent of FCX's consolidated revenues) during the year ended December 31, 2014.

Consolidated revenues include sales to the noncontrolling interest owners of FCX's South America mining operations totaling \$1.0 billion in both 2016 and 2015 and \$1.6 billion in 2014, and PT-FI's sales to PT Smelting totaling \$1.4 billion in 2016, \$1.1 billion in 2015 and \$1.8 billion in 2014.

Labor Matters. As of December 31, 2016, approximately half of FCX's global labor force was covered by collective bargaining agreements, and approximately one-third of FCX's global labor force is covered by agreements that expired and are currently being negotiated or will expire within one year.

Business Segments. FCX has organized its continuing mining operations into four primary divisions – North America copper mines, South America mining, Indonesia mining and Molybdenum mines, and operating segments that meet certain thresholds are reportable segments. For oil and gas operations, FCX determines its operating segments on a country-by-country basis. Separately disclosed in the following tables are FCX's reportable segments, which include the Morenci, Cerro Verde and Grasberg copper mines, the Rod & Refining operations and the U.S. Oil & Gas operations.

Intersegment sales between FCX's mining operations are based on similar arm's-length transactions with third parties at the time of the sale. Intersegment sales may not be reflective of the actual prices ultimately realized because of a variety of factors, including additional processing, timing of sales to unaffiliated customers and transportation premiums. In addition, intersegment sales from Tenke to FCX's other consolidated subsidiaries have been eliminated in discontinued operations (refer to Note 2).

FCX defers recognizing profits on sales from its mines to other divisions, including Atlantic Copper (FCX's wholly owned smelter and refinery in Spain) and on 25 percent of PT-FI's sales to PT Smelting (PT-FI's 25-percent-owned smelter and refinery in Indonesia), until final sales to third parties occur. Quarterly variations in ore grades, the timing of intercompany shipments and changes in product prices result in variability in FCX's net deferred profits and quarterly earnings.

FCX allocates certain operating costs, expenses and capital expenditures to its operating divisions and individual segments. However, not all costs and expenses applicable to an operation are allocated. U.S. federal and state income taxes are recorded and managed at the corporate level (included in Corporate, Other & Eliminations), whereas foreign income taxes are recorded and managed at the applicable country level. In addition, most mining exploration and research activities are managed on a consolidated basis, and those costs along with some selling, general and administrative costs are not allocated to the operating divisions or individual segments. Accordingly, the following segment information reflects management determinations that may not be indicative of what the actual financial performance of each operating division or segment would be if it was an independent entity.

North America Copper Mines. FCX has seven operating copper mines in North America – Morenci, Bagdad, Safford, Sierrita and Miami in Arizona, and Tyrone and Chino in New Mexico. The North America copper mines include open-pit mining, sulfide ore concentrating, leaching and SX/EW operations. A majority of the copper produced at the North America copper mines is cast into copper rod by FCX's Rod & Refining operations. In addition to copper, certain of FCX's North America copper mines also produce molybdenum concentrate and silver.

The Morenci open-pit mine, located in southeastern Arizona, produces copper cathode and copper concentrate. In addition to copper, the Morenci mine also produces molybdenum concentrate. The Morenci mine produced 46 percent of FCX's North America copper during 2016.

South America Mining. South America mining includes two operating copper mines – Cerro Verde in Peru and El Abra in Chile. These operations include open-pit mining, sulfide ore concentrating, leaching and SX/EW operations.

On November 3, 2014, FCX completed the sale of its 80 percent ownership interests in the Candelaria mine and the Ojos del Salado mine, both reported as components of other South America mines. South America mining includes the results of the Candelaria and Ojos del Salado mines through the sale date. Refer to Note 2 for further discussion.

The Cerro Verde open-pit copper mine, located near Arequipa, Peru, produces copper cathode and copper concentrate. In addition to copper, the Cerro Verde mine also produces molybdenum concentrate and silver. The Cerro Verde mine produced 83 percent of FCX's South America copper during 2016.

Indonesia Mining. Indonesia mining includes PT-FI's Grasberg minerals district that produces copper concentrate, which contains significant quantities of gold and silver.

Molybdenum Mines. Molybdenum mines include the wholly owned Henderson underground mine and Climax open-pit mine in Colorado. The Henderson and Climax mines produce high-purity, chemical-grade molybdenum concentrate, which is typically further processed into value-added molybdenum chemical products.

Rod & Refining. The Rod & Refining segment consists of copper conversion facilities located in North America, and includes a refinery, three rod mills and a specialty copper products facility, which are combined in accordance with segment reporting aggregation guidance. These operations process copper produced at FCX's North America copper mines and purchased copper into copper cathode, rod and custom copper shapes. At times these operations refine copper and produce copper rod and shapes for customers on a toll basis. Toll arrangements require the tolling customer to deliver appropriate copper-bearing material to FCX's facilities for processing into a product that is returned to the customer, who pays FCX for processing its material into the specified products.

Atlantic Copper Smelting & Refining. Atlantic Copper smelts and refines copper concentrate and markets refined copper and precious metals in slimes. During 2016, Atlantic Copper purchased approximately 13 percent of its concentrate requirements from the North America copper mines, approximately 7 percent from the South America mining operations and approximately 3 percent from the Indonesia mining operations at market prices, with the remainder purchased from third parties.

Other Mining & Eliminations. Other Mining & Eliminations include the Miami smelter (a smelter at FCX's Miami, Arizona, mining operation), Freeport Cobalt (a cobalt chemical refinery in Kokkola, Finland), molybdenum conversion facilities in the U.S. and Europe, four non-operating copper mines in North America (Ajo, Bisbee and Tohono in Arizona, and Cobre in New Mexico) and other mining support entities.

U.S. Oil & Gas Operations. As of December 31, 2016, FCX's U.S. Oil & Gas operations include oil and natural gas production onshore in South Louisiana and on the GOM shelf, oil production offshore California and natural gas production from the Madden area in central Wyoming. In January 2017, FCX entered into an agreement to sell its property interests in the Madden area. All of the U.S. operations are considered one operating and reportable segment.

Financial Information by Business Segment

	Mining Operations													Corporate, Other & Eliminations	FCX Total		
	North America Copper Mines			South America			Indonesia			Molybdenum Mines	Rod & Refining	Atlantic Copper Smelting & Refining	Other Mining & Eliminations			Total Mining	U.S. Oil & Gas Operations ^a
	Morenci	Other	Total	Cerro Verde	Other	Total	Grasberg										
Year Ended December 31, 2016																	
Revenues:																	
Unaffiliated customers	\$ 444	\$ 240	\$ 684	\$ 2,241	\$ 510	\$ 2,751	\$ 3,233	\$ —	\$ 3,833	\$ 1,825	\$ 991 ^b	\$ 13,317	\$ 1,513 ^c	\$ —	\$ 14,830		
Intersegment	1,511	2,179	3,690	187	—	187	62	186	29	5	(4,159)	—	—	—	—		
Production and delivery	1,169	1,763	2,932	1,351 ^d	407	1,758	1,794 ^d	199	3,836	1,712	(3,388)	8,843	1,801 ^e	53	10,697		
Depreciation, depletion and amortization	217	313	530	443	110	553	384	68	10	29	73	1,647	869	14	2,530		
Impairment of oil and gas properties	—	—	—	—	—	—	—	—	—	—	—	—	4,299	18 ^f	4,317		
Metals inventory adjustments	—	1	1	—	—	—	—	15	—	—	20	36	—	—	36		
Selling, general and administrative expenses	2	3	5	8	1	9	90	—	—	17	15	136	254 ^g	217	607		
Mining exploration and research expenses	—	3	3	—	—	—	—	—	—	—	61	64	—	—	64		
Environmental obligations and shutdown costs	—	—	—	—	—	—	—	—	—	—	19	19	—	1	20		
Net (gain) loss on sales of assets	(576)	—	(576)	—	—	—	—	—	—	—	(67)	(643)	1	(7)	(649)		
Operating income (loss)	1,143	336	1,479	626	(8)	618	1,027	(96)	16	72	99	3,215	(5,711)	(296)	(2,792)		
Interest expense, net	3	1	4	82	—	82	—	—	—	15	80	181	369	205	755		
Provision for (benefit from) income taxes	—	—	—	222	(6)	216	442	—	—	—	—	658	—	(287)	371		
Total assets at December 31, 2016	2,863	4,448	7,311	9,076	1,533	10,609	10,954	1,934	220	658	1,444	33,130	467	3,720	37,317		
Capital expenditures	77	25	102	380	2	382	1,025	2	1	17	109 ^h	1,638	1,127 ⁱ	48	2,813		
Year Ended December 31, 2015																	
Revenues:																	
Unaffiliated customers	\$ 558	\$ 351	\$ 909	\$ 1,065	\$ 808	\$ 1,873	\$ 2,617	\$ —	\$ 4,125	\$ 1,955	\$ 1,133 ^b	\$ 12,612	\$ 1,994 ^c	\$ 1	\$ 14,607		
Intersegment	1,646	2,571	4,217	68	(7) ^j	61	36	348	29	15	(4,706)	—	—	—	—		
Production and delivery ^d	1,523	2,276	3,799	815	623	1,438	1,808	312	4,129	1,848	(3,851)	9,483	1,211 ^e	(1)	10,693		
Depreciation, depletion and amortization	217	343	560	219	133	352	293	97	9	39	72	1,422	1,804	14	3,240		
Impairment of oil and gas properties	—	—	—	—	—	—	—	—	—	—	—	—	12,980	164 ^f	13,144		
Metals inventory adjustments	—	142	142	—	73	73	—	11	—	—	112	338	—	—	338		
Selling, general and administrative expenses	3	3	6	3	1	4	103	—	—	16	20	149	188	221	558		
Mining exploration and research expenses	—	7	7	—	—	—	—	—	—	—	100	107	—	—	107		
Environmental obligations and shutdown costs	—	3	3	—	—	—	—	—	—	—	74	77	—	1	78		
Net gain on sales of assets	—	(39)	(39)	—	—	—	—	—	—	—	—	(39)	—	—	(39)		
Operating income (loss)	461	187	648	96	(29)	67	449	(72)	16	67	(100)	1,075	(14,189)	(398)	(13,512)		
Interest expense, net	2	2	4	16	—	16	—	—	—	10	75	105	186	326	617		
Provision for (benefit from) income taxes	—	—	—	13	(9)	4	195	—	—	—	—	199	—	(2,150)	(1,951)		
Total assets at December 31, 2015	3,567	4,878	8,445	9,445	1,661	11,106	9,357	1,999	219	612	6,417 ^h	38,155	8,141	281	46,577		
Capital expenditures	253	102	355	1,674	48	1,722	901	13	4	23	277 ^h	3,295	2,948 ⁱ	110	6,353		

a. Includes the results of the Deepwater GOM and onshore California oil and gas properties prior to their sale in December 2016.

b. Includes revenues from FCX's molybdenum sales company, which includes sales of molybdenum produced by the Molybdenum mines and by certain of the North and South America copper mines.

c. Includes net mark-to-market (losses) gains of \$(35) million in 2016 and \$87 million in 2015 associated with oil derivative contracts. The 2016 oil derivative contracts were entered into as part of the terms to sell the onshore California oil and gas properties.

d. The year 2016 includes charges of \$16 million at Cerro Verde for social commitments and \$17 million at Indonesia for asset impairment. The year 2015 includes asset impairment and restructuring charges totaling \$145 million, including \$99 million at other North America copper mines, and restructuring charges totaling \$13 million at South America mines, \$7 million at Molybdenum mines, \$3 million at Rod & Refining, \$20 million at Other Mining & Eliminations and \$3 million at Corporate, Other & Eliminations.

e. Includes net charges for oil and gas operations totaling \$1.0 billion in 2016 and \$188 million in 2015, primarily for drillship settlements/idle rig and contract termination costs, inventory adjustments other asset impairments and net charges.

f. Reflects impairment charges for international oil and gas properties primarily in Morocco.

g. Includes \$85 million for net restructuring charges at oil and gas operations.

h. Includes (i) assets held for sale totaling \$4.9 billion at December 31, 2015, and (ii) capital expenditures totaling \$73 million in 2016 and \$229 million in 2015 associated with discontinued operations. Refer to Note 2 for a summary of the results of discontinued operations.

i. Excludes international oil and gas capital expenditures totaling \$47 million in 2016 and \$100 million in 2015, primarily related to the Morocco oil and gas properties, which are included in Corporate, Other & Eliminations.

j. Reflects net reductions for provisional pricing adjustments to prior open sales.

Mining Operations

	North America Copper Mines			South America			Indonesia		Molybdenum Mines	Rod & Refining	Atlantic Copper Smelting & Refining	Other Mining & Eliminations	Total Mining	U.S. Oil & Gas Operations ^b	Corporate, Other & Eliminations	FCX Total
	Morenci	Other	Total	Cerro Verde	Other ^a	Total	Grasberg									
Year Ended December 31, 2014																
Revenues:																
Unaffiliated customers	\$ 364	\$ 336	\$ 700	\$ 1,282	\$ 1,740	\$ 3,022	\$ 2,848	\$ —	\$ 4,626	\$ 2,391	\$ 1,704 ^c	\$ 15,291	\$ 4,710 ^d	\$ —	\$ 20,001	
Intersegment	1,752	3,164	4,916	206	304	510	223	587	29	21	(6,286)	—	—	—	—	
Production and delivery	1,287	2,153	3,440	741	1,198	1,939	1,988	328	4,633	2,356	(4,807)	9,877	1,237 ^e	2	11,116	
Depreciation, depletion and amortization	168	316	484	159	208	367	266	92	10	41	70	1,330	2,291	14	3,635	
Impairment of oil and gas properties	—	—	—	—	—	—	—	—	—	—	—	—	3,737	—	3,737	
Metals inventory adjustments	—	—	—	—	—	—	—	—	—	—	6	6	—	—	6	
Selling, general and administrative expenses	2	3	5	3	3	6	98	—	—	17	25	151	207	222	580	
Mining exploration and research expenses	—	8	8	—	—	—	—	—	—	—	98	106	—	—	106	
Environmental obligations and shutdown costs	—	(5)	(5)	—	—	—	—	—	—	—	123	118	—	1	119	
Goodwill impairment	—	—	—	—	—	—	—	—	—	—	—	—	1,717	—	1,717	
Net gain on sales of assets	—	(14)	(14)	—	—	—	—	—	—	—	(703) ^f	(717)	—	—	(717)	
Operating income (loss)	659	1,039	1,698	585	635	1,220	719	167	12	(2)	606	4,420	(4,479)	(239)	(298)	
Interest expense, net	3	1	4	1	—	1	—	—	—	13	84	102	241	263	606	
Provision for income taxes	—	—	—	265	266	531	293	—	—	—	221 ^f	1,045	—	(820)	225	
Total assets at December 31, 2014	3,780	5,611	9,391	7,490	1,993	9,483	8,592	2,095	235	898	6,426 ^g	37,120	20,834	720	58,674	
Capital expenditures	826	143	969	1,691	94	1,785	935	54	4	17	217 ^g	3,981	3,205 ^h	29	7,215	

a. Includes the results of the Candelaria and Ojos del Salado mines prior to their sale in November 2014.

b. Includes the results of Eagle Ford shale assets prior to their sale in June 2014.

c. Includes revenues from FCX's molybdenum sales company, which included sales of molybdenum produced by the Molybdenum mines and by certain of the North and South America copper mines.

d. Includes net mark-to-market gains associated with crude oil and natural gas derivative contracts totaling \$505 million.

e. Includes charges at U.S. Oil & Gas operations totaling \$46 million primarily for idle/terminated rig costs and inventory adjustments.

f. Includes the gain and related income tax provision associated with the sale of the Candelaria and Ojos del Salado mines.

g. Includes (i) assets held for sale totaling \$4.8 billion and (ii) capital expenditures totaling \$159 million associated with discontinued operations. Refer to Note 2 for a summary of the results of discontinued operations.

h. Excludes international oil and gas capital expenditures totaling \$19 million, primarily related to Morocco oil and gas properties, which are included in Corporate, Other & Eliminations.

NOTE 17. GUARANTOR FINANCIAL STATEMENTS

All of the senior notes issued by FCX and discussed in Note 8 are fully and unconditionally guaranteed on a senior basis jointly and severally by FM O&G LLC, as guarantor, which is a 100-percent-owned subsidiary of FM O&G and FCX. The guarantee is an unsecured obligation of the guarantor and ranks equal in right of payment with all existing and future indebtedness of FM O&G LLC, including indebtedness under the revolving credit facility. The guarantee ranks senior in right of payment to all of FM O&G LLC's existing and future subordinated indebtedness and is effectively subordinated in right of payment to (i) FM O&G LLC's future secured indebtedness to the extent of the value of the assets securing the indebtedness and (ii) any debt of FM O&G LLC's subsidiaries. The indentures governing the senior notes provide that FM O&G LLC's guarantee may be released or terminated for certain obligations under the following circumstances: (i) all or substantially all of the equity interests or assets of FM O&G LLC are sold to a third party; or (ii) FM O&G LLC no longer has any obligations under any FM O&G senior notes or any refinancing thereof and no longer guarantees any obligations of FCX under the revolving credit facility or any other senior debt or, in each case, any refinancing thereof.

The following condensed consolidating financial information includes information regarding FCX, as issuer, FM O&G LLC, as guarantor, and all other non-guarantor subsidiaries of FCX. Included are the condensed consolidating balance sheets at December 31, 2016 and 2015, and the related condensed consolidating statements of comprehensive (loss) income and the condensed consolidating statements of cash flows for the years ended December 31, 2016, 2015 and 2014, which should be read in conjunction with FCX's notes to the consolidated financial statements:

CONDENSED CONSOLIDATING BALANCE SHEET
December 31, 2016

	FCX Issuer	FM O&G LLC Guarantor	Non-guarantor Subsidiaries	Eliminations	Consolidated FCX
ASSETS					
Current assets, other than assets held for sale	\$ 230	\$ 1,790	\$ 11,331	\$ (3,260)	\$ 10,091
Current assets held for sale	—	—	344	—	344
Property, plant, equipment and mine development costs, net	19	24	23,176	—	23,219
Oil and gas properties, net - full cost method:					
Subject to amortization, less accumulated amortization and impairments	—	—	74	—	74
Investments in consolidated subsidiaries	21,110	—	—	(21,110)	—
Other assets	1,985	47	3,522	(1,965)	3,589
Total assets	<u>\$ 23,344</u>	<u>\$ 1,861</u>	<u>\$ 38,447</u>	<u>\$ (26,335)</u>	<u>\$ 37,317</u>
LIABILITIES AND EQUITY					
Current liabilities, other than liabilities held for sale	\$ 3,895	\$ 308	\$ 3,101	\$ (3,244)	\$ 4,060
Current liabilities held for sale	—	—	205	—	205
Long-term debt, less current portion	12,517	6,062	11,297	(15,081)	14,795
Deferred income taxes	826 ^a	—	2,942	—	3,768
Environmental and asset retirement obligations, less current portion	—	200	3,287	—	3,487
Investments in consolidated subsidiary	—	893	8,995	(9,888)	—
Other liabilities	55	3,393	1,784	(3,487)	1,745
Total liabilities	<u>17,293</u>	<u>10,856</u>	<u>31,611</u>	<u>(31,700)</u>	<u>28,060</u>
Equity:					
Stockholders' equity	6,051	(8,995)	4,237	4,758	6,051
Noncontrolling interests	—	—	2,599	607	3,206
Total equity	<u>6,051</u>	<u>(8,995)</u>	<u>6,836</u>	<u>5,365</u>	<u>9,257</u>
Total liabilities and equity	<u>\$ 23,344</u>	<u>\$ 1,861</u>	<u>\$ 38,447</u>	<u>\$ (26,335)</u>	<u>\$ 37,317</u>

a. All U.S. related deferred income taxes are recorded at the parent company.

CONDENSED CONSOLIDATING BALANCE SHEET
December 31, 2015

	FCX Issuer	FM O&G LLC Guarantor	Non-guarantor Subsidiaries	Eliminations	Consolidated FCX
ASSETS					
Current assets, other than assets held for sale	\$ 181	\$ 3,831	\$ 10,062	\$ (7,532)	\$ 6,542
Current assets held for sale	—	—	920	—	920
Property, plant, equipment and mine development costs, net	26	57	23,903	—	23,986
Oil and gas properties, net - full cost method:					
Subject to amortization, less accumulated amortization and impairments	—	710	1,552	—	2,262
Not subject to amortization	—	1,393	3,432	6	4,831
Investments in consolidated subsidiaries	24,311	—	—	(24,311)	—
Other assets	5,038	1,826	3,584	(6,798)	3,650
Assets held for sale	—	—	4,386	—	4,386
Total assets	<u>\$ 29,556</u>	<u>\$ 7,817</u>	<u>\$ 47,839</u>	<u>\$ (38,635)</u>	<u>\$ 46,577</u>
LIABILITIES AND EQUITY					
Current liabilities, other than liabilities held for sale	\$ 6,012	\$ 666	\$ 5,024	\$ (7,526)	\$ 4,176
Current liabilities held for sale	—	—	131	—	131
Long-term debt, less current portion	14,735	5,883	11,490	(12,433)	19,675
Deferred income taxes	941 ^a	—	2,626	—	3,567
Environmental and asset retirement obligations, less current portion	—	305	3,409	—	3,714
Investment in consolidated subsidiary	—	—	2,397	(2,397)	—
Other liabilities	40	3,360	1,732	(3,491)	1,641
Liabilities held for sale	—	—	865	—	865
Total liabilities	<u>21,728</u>	<u>10,214</u>	<u>27,674</u>	<u>(25,847)</u>	<u>33,769</u>
Redeemable noncontrolling interest	—	—	764	—	764
Equity:					
Stockholders' equity	7,828	(2,397)	15,725	(13,328)	7,828
Noncontrolling interests	—	—	3,676	540	4,216
Total equity	<u>7,828</u>	<u>(2,397)</u>	<u>19,401</u>	<u>(12,788)</u>	<u>12,044</u>
Total liabilities and equity	<u>\$ 29,556</u>	<u>\$ 7,817</u>	<u>\$ 47,839</u>	<u>\$ (38,635)</u>	<u>\$ 46,577</u>

a. All U.S. related deferred income taxes are recorded at the parent company.

CONDENSED CONSOLIDATING STATEMENTS OF COMPREHENSIVE (LOSS) INCOME

Year Ended December 31, 2016

	FCX Issuer	FM O&G LLC Guarantor	Non-guarantor Subsidiaries	Eliminations	Consolidated FCX
Revenues	\$ —	\$ 379	\$ 14,451	\$ —	\$ 14,830
Total costs and expenses	75	3,074 ^a	14,463 ^a	10	17,622
Operating loss	(75)	(2,695)	(12)	(10)	(2,792)
Interest expense, net	(534)	(56)	(498)	333	(755)
Other income (expense), net	271	—	70	(292)	49
Net gain on exchanges and early extinguishment of debt	26	—	—	—	26
(Loss) income before income taxes and equity in affiliated companies' net (losses) earnings	(312)	(2,751)	(440)	31	(3,472)
(Provision for) benefit from income taxes	(2,233)	1,053	821	(12)	(371)
Equity in affiliated companies' net (losses) earnings	(1,609)	(3,101)	(4,790)	9,511	11
Net (loss) income from continuing operations	(4,154)	(4,799)	(4,409)	9,530	(3,832)
Net loss from discontinued operations	—	—	(154)	(39)	(193)
Net (loss) income	(4,154)	(4,799)	(4,563)	9,491	(4,025)
Net income, and gain on redemption and preferred dividends attributable to noncontrolling interests:					
Continuing operations	—	—	—	(66)	(66)
Discontinued operations	—	—	(63)	—	(63)
Net (loss) income attributable to common stockholders	<u>\$ (4,154)</u>	<u>\$ (4,799)</u>	<u>\$ (4,626)</u>	<u>\$ 9,425</u>	<u>\$ (4,154)</u>
Other comprehensive (loss) income	(45)	—	(45)	45	(45)
Total comprehensive (loss) income	<u>\$ (4,199)</u>	<u>\$ (4,799)</u>	<u>\$ (4,671)</u>	<u>\$ 9,470</u>	<u>\$ (4,199)</u>

- a. Includes charges totaling \$1.5 billion at the FM O&G LLC Guarantor and \$2.8 billion at the non-guarantor subsidiaries related to impairment of FCX's oil and gas properties pursuant to full cost accounting rules.

Year Ended December 31, 2015

	FCX Issuer	FM O&G LLC Guarantor	Non-guarantor Subsidiaries	Eliminations	Consolidated FCX
Revenues	\$ —	\$ 613	\$ 13,994	\$ —	\$ 14,607
Total costs and expenses	60	5,150 ^a	22,920 ^a	(11)	28,119
Operating (loss) income	(60)	(4,537)	(8,926)	11	(13,512)
Interest expense, net	(489)	(8)	(272)	152	(617)
Other income (expense), net	225	1	(86)	(139)	1
(Loss) income before income taxes and equity in affiliated companies' net (losses) earnings	(324)	(4,544)	(9,284)	24	(14,128)
(Provision for) benefit from income taxes	(3,227)	1,718	3,469	(9)	1,951
Equity in affiliated companies' net (losses) earnings	(8,685)	(9,976)	(12,838)	31,496	(3)
Net (loss) income from continuing operations	(12,236)	(12,802)	(18,653)	31,511	(12,180)
Net income from discontinued operations	—	—	91	—	91
Net (loss) income	(12,236)	(12,802)	(18,562)	31,511	(12,089)
Net income and preferred dividends attributable to noncontrolling interests:					
Continuing operations	—	—	(35)	(33)	(68)
Discontinued operations	—	—	(79)	—	(79)
Net (loss) income attributable to common stockholders	<u>\$ (12,236)</u>	<u>\$ (12,802)</u>	<u>\$ (18,676)</u>	<u>\$ 31,478</u>	<u>\$ (12,236)</u>
Other comprehensive income (loss)	41	—	41	(41)	41
Total comprehensive (loss) income	<u>\$ (12,195)</u>	<u>\$ (12,802)</u>	<u>\$ (18,635)</u>	<u>\$ 31,437</u>	<u>\$ (12,195)</u>

- a. Includes impairment charges totaling \$4.2 billion at the FM O&G LLC Guarantor and \$8.9 billion at the non-guarantor subsidiaries related to FCX's oil and gas properties pursuant to full cost accounting rules.

CONDENSED CONSOLIDATING STATEMENT OF COMPREHENSIVE (LOSS) INCOME

Year Ended December 31, 2014

	FCX Issuer	FM O&G LLC Guarantor	Non-guarantor Subsidiaries	Eliminations	Consolidated FCX
Revenues	\$ —	\$ 2,356	\$ 17,645	\$ —	\$ 20,001
Total costs and expenses	59	3,498 ^a	16,720 ^a	22	20,299
Operating (loss) income	(59)	(1,142)	925	(22)	(298)
Interest expense, net	(382)	(139)	(165)	80	(606)
Net (loss) gain on early extinguishment of debt	(5)	78	—	—	73
Other income (expense), net	72	3	36	(80)	31
(Loss) income before income taxes and equity in affiliated companies' net earnings (losses)	(374)	(1,200)	796	(22)	(800)
Benefit from (provision for) income taxes	96	281	(610)	8	(225)
Equity in affiliated companies' net (losses) earnings	(1,007)	(3,429)	(4,633)	9,072	3
Net (loss) income from continuing operations	(1,285)	(4,348)	(4,447)	9,058	(1,022)
Net (loss) income from discontinued operations	(23)	—	300	—	277
Net (loss) income	(1,308)	(4,348)	(4,147)	9,058	(745)
Net income and preferred dividends attributable to noncontrolling interests:					
Continuing operations	—	—	(354)	(44)	(398)
Discontinued operations	—	—	(165)	—	(165)
Net (loss) income attributable to common stockholders	<u>\$ (1,308)</u>	<u>\$ (4,348)</u>	<u>\$ (4,666)</u>	<u>\$ 9,014</u>	<u>\$ (1,308)</u>
Other comprehensive (loss) income	(139)	—	(139)	139	(139)
Total comprehensive (loss) income	<u>\$ (1,447)</u>	<u>\$ (4,348)</u>	<u>\$ (4,805)</u>	<u>\$ 9,153</u>	<u>\$ (1,447)</u>

a. Includes impairment charges totaling \$1.9 billion at the FM O&G LLC Guarantor and \$3.5 billion at the non-guarantor subsidiaries related to ceiling test impairment charges for FCX's oil and gas properties pursuant to full cost accounting rules and a goodwill impairment charge.

CONDENSED CONSOLIDATING STATEMENT OF CASH FLOWS
Year Ended December 31, 2016

	FCX Issuer	FM O&G LLC Guarantor	Non-guarantor Subsidiaries	Eliminations	Consolidated FCX
Cash flow from operating activities:					
Net (loss) income	\$ (4,154)	\$ (4,799)	\$ (4,563)	\$ 9,491	\$ (4,025)
Adjustments to reconcile net (loss) income to net cash (used in) provided by operating activities:					
Depreciation, depletion and amortization	5	192	2,430	(17)	2,610
Impairment of oil and gas properties	—	1,531	2,765	21	4,317
Non-cash oil and gas drillship settlements	—	689	—	—	689
Net gain on sales of assets	—	(86)	(567)	4	(649)
Equity in losses (earnings) of consolidated subsidiaries	1,609	3,101	4,790	(9,511)	(11)
Other, net	(95)	30	807	(1)	741
Changes in working capital and other tax payments, excluding amounts from dispositions	2,498	(929)	(1,527)	15	57
Net cash (used in) provided by operating activities	<u>(137)</u>	<u>(271)</u>	<u>4,135</u>	<u>2</u>	<u>3,729</u>
Cash flow from investing activities:					
Capital expenditures	—	(567)	(2,248)	2	(2,813)
Intercompany loans	481	(346)	—	(135)	—
Dividends from (investments in) consolidated subsidiaries	1,469	(45)	176	(1,600)	—
Proceeds from sales of assets	2	1,670	4,687	(4)	6,355
Other, net	—	3	5	—	8
Net cash provided by (used in) investing activities	<u>1,952</u>	<u>715</u>	<u>2,620</u>	<u>(1,737)</u>	<u>3,550</u>
Cash flow from financing activities:					
Proceeds from debt	1,721	—	1,960	—	3,681
Repayments of debt	(5,011)	—	(2,614)	—	(7,625)
Intercompany loans	—	(332)	197	135	—
Net proceeds from sale of common stock	1,515	—	3,388	(3,388)	1,515
Cash dividends and distributions paid, including redemption	(6)	(107)	(5,555)	4,969	(699)
Other, net	(34)	(3)	(20)	19	(38)
Net cash (used in) provided by financing activities	<u>(1,815)</u>	<u>(442)</u>	<u>(2,644)</u>	<u>1,735</u>	<u>(3,166)</u>
Net increase in cash and cash equivalents	—	2	4,111	—	4,113
Increase in cash and cash equivalents in assets held for sale	—	—	(45)	—	(45)
Cash and cash equivalents at beginning of year	—	—	177	—	177
Cash and cash equivalents at end of year	<u>\$ —</u>	<u>\$ 2</u>	<u>\$ 4,243</u>	<u>\$ —</u>	<u>\$ 4,245</u>

CONDENSED CONSOLIDATING STATEMENT OF CASH FLOWS
Year Ended December 31, 2015

	FCX Issuer	FM O&G LLC Guarantor	Non-guarantor Subsidiaries	Eliminations	Consolidated FCX
Cash flow from operating activities:					
Net (loss) income	\$ (12,236)	\$ (12,802)	\$ (18,562)	\$ 31,511	\$ (12,089)
Adjustments to reconcile net (loss) income to net cash (used in) provided by operating activities:					
Depreciation, depletion and amortization	5	370	3,195	(73)	3,497
Impairment of oil and gas properties	—	4,220	8,862	62	13,144
Metals inventory adjustments	—	—	338	—	338
Other asset impairments, oil and gas inventory adjustments, and restructuring	—	11	245	—	256
Net gains on crude oil and natural gas derivative contracts	—	(87)	—	—	(87)
Equity in losses (earnings) of consolidated subsidiaries	8,685	9,976	12,838	(31,496)	3
Other, net	(2,127)	2	(90)	—	(2,215)
Changes in working capital and other tax payments	5,506	(1,428)	(3,714)	9	373
Net cash (used in) provided by operating activities	<u>(167)</u>	<u>262</u>	<u>3,112</u>	<u>13</u>	<u>3,220</u>
Cash flow from investing activities:					
Capital expenditures	(7)	(847)	(5,486)	(13)	(6,353)
Intercompany loans	(1,812)	(1,310)	—	3,122	—
Dividends from (investments in) consolidated subsidiaries	852	(71)	130	(913)	(2)
Other, net	(21)	(2)	111	21	109
Net cash (used in) provided by investing activities	<u>(988)</u>	<u>(2,230)</u>	<u>(5,245)</u>	<u>2,217</u>	<u>(6,246)</u>
Cash flow from financing activities:					
Proceeds from debt	4,503	—	3,769	—	8,272
Repayments of debt	(4,660)	—	(2,017)	—	(6,677)
Intercompany loans	—	2,038	1,084	(3,122)	—
Net proceeds from sale of common stock	1,936	—	—	—	1,936
Cash dividends and distributions paid	(605)	—	(924)	804	(725)
Other, net	(19)	(71)	(18)	88	(20)
Net cash provided by (used in) financing activities	<u>1,155</u>	<u>1,967</u>	<u>1,894</u>	<u>(2,230)</u>	<u>2,786</u>
Net decrease in cash and cash equivalents	—	(1)	(239)	—	(240)
Decrease in cash and cash equivalents in assets held for sale	—	—	119	—	119
Cash and cash equivalents at beginning of year	—	1	297	—	298
Cash and cash equivalents at end of year	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 177</u>	<u>\$ —</u>	<u>\$ 177</u>

CONDENSED CONSOLIDATING STATEMENT OF CASH FLOWS
Year Ended December 31, 2014

	FCX Issuer	FM O&G LLC Guarantor	Non-guarantor Subsidiaries	Eliminations	Consolidated FCX
Cash flow from operating activities:					
Net (loss) income	\$ (1,308)	\$ (4,348)	\$ (4,147)	\$ 9,058	\$ (745)
Adjustments to reconcile net (loss) income to net cash (used in) provided by operating activities:					
Depreciation, depletion and amortization	4	806	3,077	(24)	3,863
Impairment of oil and gas properties and goodwill	—	1,922	3,486	46	5,454
Net gains on crude oil and natural gas derivative contracts	—	(504)	—	—	(504)
Equity in losses (earnings) of consolidated subsidiaries	1,007	3,429	4,633	(9,072)	(3)
Other, net	(882)	(113)	(807)	—	(1,802)
Changes in working capital and other tax payments, excluding amounts from dispositions	723	(1,750)	395	—	(632)
Net cash (used in) provided by operating activities	<u>(456)</u>	<u>(558)</u>	<u>6,637</u>	<u>8</u>	<u>5,631</u>
Cash flow from investing activities:					
Capital expenditures	—	(2,143)	(5,072)	—	(7,215)
Acquisition of Deepwater GOM interests	—	—	(1,426)	—	(1,426)
Intercompany loans	(1,328)	704	—	624	—
Dividends from (investments in) consolidated subsidiaries	1,221	(130)	(2,408)	1,317	—
Proceeds from sale of Eagle Ford shale assets	—	2,910	—	—	2,910
Proceeds from sale of Candelaria and Ojos del Salado mines	—	—	1,709	—	1,709
Other, net	—	41	180	—	221
Net cash (used in) provided by investing activities	<u>(107)</u>	<u>1,382</u>	<u>(7,017)</u>	<u>1,941</u>	<u>(3,801)</u>
Cash flow from financing activities:					
Proceeds from debt	7,464	—	1,246	—	8,710
Repayments of debt	(5,575)	(3,994)	(737)	—	(10,306)
Intercompany loans	—	810	(186)	(624)	—
Cash dividends and distributions paid	(1,305)	2,364	(1,463)	(1,325)	(1,729)
Other, net	(21)	(3)	(2)	—	(26)
Net cash provided by (used in) financing activities	<u>563</u>	<u>(823)</u>	<u>(1,142)</u>	<u>(1,949)</u>	<u>(3,351)</u>
Net increase (decrease) in cash and cash equivalents	—	1	(1,522)	—	(1,521)
Increase in cash and cash equivalents in assets held for sale	—	—	(45)	—	(45)
Cash and cash equivalents at beginning of year	—	—	1,864	—	1,864
Cash and cash equivalents at end of year	<u>\$ —</u>	<u>\$ 1</u>	<u>\$ 297</u>	<u>\$ —</u>	<u>\$ 298</u>

NOTE 18. SUBSEQUENT EVENTS

FCX evaluated events after December 31, 2016, and through the date the financial statements were issued, and determined any events or transactions occurring during this period that would require recognition or disclosure are appropriately addressed in these financial statements.

NOTE 19. QUARTERLY FINANCIAL INFORMATION (UNAUDITED)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year
2016					
Revenues	\$ 3,242 ^d	\$ 3,334 ^{d,e}	\$ 3,877 ^{d,e,f}	\$ 4,377 ^a	\$ 14,830 ^a
Operating (loss) income ^{b,c}	(3,872) ^d	18 ^{d,e}	359 ^{d,e,f}	703 ^{e,f}	(2,792) ^{d,e,f}
Net (loss) income from continuing operations ^g	(4,097)	(229)	292	202	(3,832)
Net loss from discontinued operations ^h	(4)	(181)	(6)	(2)	(193)
Net (loss) income	(4,101)	(410)	286	200	(4,025)
Net income and preferred dividends attributable to noncontrolling interests:					
Continuing operations	(73)	(57)	(47)	111 ⁱ	(66) ⁱ
Discontinued operations	(10)	(12)	(22)	(19)	(63)
Net (loss) income attributable to common stockholders	(4,184)	(479)	217	292	(4,154)
Basic and diluted net (loss) income per share attributable common stockholders:					
Continuing operations	\$ (3.34)	\$ (0.23)	\$ 0.18	\$ 0.22	\$ (2.96)
Discontinued operations	(0.01)	(0.15)	(0.02)	(0.01)	(0.20)
	<u>\$ (3.35)</u>	<u>\$ (0.38)</u>	<u>\$ 0.16</u>	<u>\$ 0.21</u>	<u>\$ (3.16)</u>
2015					
Revenues ^a	\$ 3,771 ^e	\$ 3,938	\$ 3,382 ^f	\$ 3,516 ^f	\$ 14,607 ^{e,f}
Operating loss ^{b,c,d}	(3,030) ^e	(2,421) ⁱ	(3,964) ^f	(4,097) ^f	(13,512) ^j
Net loss from continuing operations	(2,447)	(1,828) ⁱ	(3,815)	(4,090)	(12,180) ^j
Net income (loss) from discontinued operations ^h	41	29	25	(4)	91
Net loss	(2,406)	(1,799)	(3,790)	(4,094)	(12,089)
Net (income) loss and preferred dividends attributable to noncontrolling interests:					
Continuing operations	(42)	(26)	(24)	24	(68)
Discontinued operations	(26)	(26)	(16)	(11)	(79)
Net loss attributable to common stockholders	(2,474)	(1,851)	(3,830)	(4,081)	(12,236)
Basic and diluted net (loss) income per share attributable common stockholders:					
Continuing operations	\$ (2.40)	\$ (1.78)	\$ (3.59)	\$ (3.46)	\$ (11.32)
Discontinued operations	0.02	—	0.01	(0.01)	0.01
	<u>\$ (2.38)</u>	<u>\$ (1.78)</u>	<u>\$ (3.58)</u>	<u>\$ (3.47)</u>	<u>\$ (11.31)</u>

- a. Includes charges for net noncash mark-to-market losses associated with crude oil and natural gas derivative contracts totaling \$41 million (\$41 million to net income (loss) attributable to common stockholders or \$0.03 per share) in the fourth quarter and for the year 2016, \$48 million (\$30 million to net loss attributable to common stockholders or \$0.03 per share) in first-quarter 2015, \$95 million (\$59 million to net loss attributable to common stockholders or \$0.06 per share) in second-quarter 2015, \$74 million (\$46 million to net loss attributable to common stockholders or \$0.04 per share) in third-quarter 2015, \$102 million (\$63 million to net loss attributable to common stockholders or \$0.05 per share) in fourth-quarter 2015 and \$319 million (\$198 million to net loss attributable to common stockholders or \$0.18 per share) for the year 2015.
- b. The 2016 periods include charges at oil and gas operations impacting operating (loss) income and net (loss) income attributable to common stockholders of \$201 million (\$0.16 per share) in the first quarter, \$729 million (\$0.57 per share) in the second quarter, \$50 million (\$0.03 per share) in the third quarter, \$142 million (\$0.09 per share) in the fourth quarter and \$1.1 billion (\$0.84 per share) for the year, primarily for drillship settlements/idle rig costs, inventory adjustments and other asset impairments and restructuring charges. The 2015 periods include charges at oil and gas operations of \$17 million (\$10 million to net loss attributable to common stockholders or \$0.01 per share) in the first quarter, \$22 million (\$14 million to net loss attributable to common stockholders or \$0.01 per share) in the second quarter, \$21 million (\$13 million to net loss attributable to common stockholders or \$0.01 per share) in the third quarter, \$129 million (\$81 million to net loss attributable to common stockholders or \$0.07 per share) in the fourth quarter and \$188 million (\$117 million to net loss attributable to common stockholders or \$0.11 per share) for the year, primarily for other asset impairments, inventory adjustments, idle/terminated rig costs and prior year mineral tax assessments related to the California properties.
- c. The 2016 periods include charges impacting operating (loss) income and net (loss) income attributable to common stockholders for metals inventory adjustments totaling \$5 million (less than \$0.01 per share) in the first quarter, \$2 million (less than \$0.01 per share) in the second quarter, \$20 million (\$0.01 per share) in the third quarter, \$9 million (\$0.01 per share) in the fourth quarter and \$36 million (\$0.03 per share) for the year. The 2015 periods include charges for metal inventory adjustments of \$4 million (\$3 million to net loss attributable to common stockholders or less than \$0.01 per share) in the first quarter, \$59 million (\$38 million to net loss attributable to common stockholders or \$0.04 per share) in the second quarter, \$91 million (\$58 million to net loss attributable to common stockholders or \$0.05 per share) in the third quarter, \$184

- million (\$118 million to net loss attributable to common stockholders or \$0.10 per share) in the fourth quarter and \$338 million (\$217 million to net loss attributable to common stockholders or \$0.20 per share) for the year.
- d. The 2016 periods include charges impacting operating (loss) income and net (loss) income attributable to common stockholders to reduce the carrying value of oil and gas properties pursuant to full cost accounting rules of \$3.8 billion (\$3.03 per share) in the first quarter, \$291 million (\$0.23 per share) in the second quarter, \$239 million (\$0.18 per share) in the third quarter and \$4.3 billion (\$3.28 per share) for the year. The 2015 periods include charges to reduce the carrying value of oil and gas properties pursuant to full cost accounting rules of \$3.1 billion (\$2.4 billion to net loss attributable to common stockholders or \$2.31 per share) in the first quarter, \$2.7 billion (\$2.0 billion to net loss attributable to common stockholders or \$1.90 per share) in the second quarter, \$3.7 billion (\$3.5 billion to net loss attributable to common stockholders or \$3.25 per share) in the third quarter, \$3.7 billion (\$3.7 billion to net loss attributable to common stockholders or \$3.18 per share) in the fourth quarter and \$13.1 billion (\$11.6 billion to net loss attributable to common stockholders or \$10.72 per share) for the year.
 - e. Includes net gains (losses) on sales of assets of \$749 million (\$744 million to net loss attributable to common stockholders or \$0.59 per share) in second-quarter 2016, \$13 million (\$13 million to net income attributable to common stockholders or \$0.01 per share) in third-quarter 2016, \$(113) million (\$(108) million to net income attributable to common stockholders or \$(0.08) per share) in fourth-quarter 2016 and \$649 million (\$649 million to net loss attributable to common stockholders or \$0.49 per share) for the year 2016, primarily associated with the Morenci and Timok transactions, partly offset with losses associated with the potential Freeport Cobalt and Kisanfu transactions and the sales of oil and gas properties (refer to Note 2 for further discussion). Net gains on sales of assets for 2015 totaled \$39 million (\$25 million to net loss attributable to common stockholders or \$0.02 per share) in the first quarter and for the year associated with the sale of the Luna Energy power facility.
 - f. The 2016 periods include charges from mining operations of \$17 million (\$9 million to net income attributable to common stockholders or \$0.01 per share) in the third quarter, \$16 million (\$5 million to net income attributable to common stockholders or less than \$0.01 per share) in the fourth quarter and \$33 million (\$14 million to net loss attributable to common stockholders or \$0.01 per share) for the year, primarily for a PT-FI asset retirement and Cerro Verde social commitments. The 2015 periods include charges from mining operations of \$92 million (\$56 million to net loss attributable to common stockholders or \$0.05 per share) in the third quarter, \$53 million (\$34 million to net loss attributable to common stockholders or \$0.03 per share) in the fourth quarter and \$145 million (\$90 million to net loss attributable to common stockholders or \$0.08 per share) for the year associated with asset impairment, restructuring and other net charges.
 - g. Includes net (losses) gains on exchanges and early extinguishment of debt totaling \$(3) million (less than \$(0.01) per share) in the first quarter, \$39 million (\$0.03 per share) in the second quarter, \$15 million (\$0.01 per share) in the third quarter, \$(25) million (\$(0.02) per share) in the fourth quarter and \$26 million (\$0.02 per share) for the year. Refer to Note 8 for further discussion.
 - h. Reflects the results of TFHL and includes charges for allocated interest expense associated with the portion of the Term Loan that was required to be repaid as a result of the sale of FCX's interest in TFHL, which was completed on November 16, 2016. The 2016 periods also include charges for the loss on disposal of \$177 million (\$0.14 per share) in the second quarter, \$5 million (less than \$0.01 per share) in the third quarter, \$16 million (\$0.01 per share) in the fourth quarter and \$198 million (\$0.15 per share) for the year. Refer to Note 2 for further discussion of discontinued operations.
 - i. Includes a gain on redemption of noncontrolling interest for the settlement of FCX's preferred stock obligation at its Plains Offshore subsidiary (refer to Notes 1 and 2 for further discussion) totaling \$199 million (\$0.14 per share in the fourth quarter and \$0.15 per share for the year).
 - j. Includes a gain of \$92 million (\$0.09 per share) in the second quarter and for the year associated with the net proceeds received from insurance carriers and other third parties related to the shareholder derivative litigation settlement.

NOTE 20. SUPPLEMENTARY MINERAL RESERVE INFORMATION (UNAUDITED)

Recoverable proven and probable reserves have been calculated as of December 31, 2016, in accordance with Industry Guide 7 as required by the Securities Exchange Act of 1934. FCX's proven and probable reserves may not be comparable to similar information regarding mineral reserves disclosed in accordance with the guidance in 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 (i) quantity is computed from dimensions revealed in outcrops, trenches, workings or drill holes; (ii) grade and/or quality are computed from the results of detailed sampling; and (iii) 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.

FCX's reserve estimates are based on the latest available geological and geotechnical studies. FCX conducts ongoing studies of its ore bodies to optimize economic values and to manage risk. FCX revises its mine plans and estimates of proven and probable mineral reserves as required in accordance with the latest available studies.

Estimated recoverable proven and probable reserves at December 31, 2016, were determined using long-term average prices of \$2.00 per pound for copper, \$1,000 per ounce for gold and \$10 per pound for molybdenum. For the three-year period ended December 31, 2016, LME spot copper prices averaged \$2.60 per pound, London PM gold prices averaged \$1,226 per ounce and the weekly average price for molybdenum quoted by *Metals Week* averaged \$8.18 per pound.

The recoverable proven and probable reserves presented in the table below represent the estimated metal quantities from which FCX expects to be paid after application of estimated metallurgical recovery rates and smelter recovery rates, where applicable. Recoverable reserves are that part of a mineral deposit that FCX estimates can be economically and legally extracted or produced at the time of the reserve determination.

**Recoverable Proven and Probable Mineral Reserves
Estimated at December 31, 2016**

	Copper^a (billion pounds)	Gold (million ounces)	Molybdenum (billion pounds)
North America	30.4	0.3	2.31
South America	29.5	—	0.64
Indonesia ^b	26.9	25.8	—
Consolidated ^c	<u>86.8</u>	<u>26.1</u>	<u>2.95</u>
Net equity interest ^d	<u>70.5</u>	<u>23.7</u>	<u>2.65</u>

- a. Consolidated recoverable copper reserves included 2.2 billion pounds in leach stockpiles and 1.0 billion pounds in mill stockpiles.
- b. Recoverable proven and probable reserves reflect estimates of minerals that can be recovered through the end of 2041 (refer to Note 13 for discussion of PT-FI's COW).
- c. Consolidated reserves represent estimated metal quantities after reduction for joint venture partner interests at the Morenci mine in North America and the Grasberg minerals district in Indonesia (refer to Note 3 for further discussion of FCX's joint ventures). Excluded from the table above were FCX's estimated recoverable proven and probable reserves of 281.8 million ounces of silver in North America, South America and Indonesia, which were determined using a long-term average price of \$15 per ounce.
- d. Net equity interest reserves represent estimated consolidated metal quantities further reduced for noncontrolling interest ownership (refer to Note 3 for further discussion of FCX's ownership in subsidiaries). Excluded from the table above were FCX's estimated recoverable proven and probable reserves of 226.0 million ounces of silver in North America, South America and Indonesia.

Recoverable Proven and Probable Mineral Reserves
Estimated at December 31, 2016

	Average Ore Grade Per Metric Ton ^a			Recoverable Proven and Probable Reserves ^b			
	Ore ^a (million metric tons)	Copper (%)	Gold (grams)	Molybdenum (%)	Copper (billion pounds)	Gold (million ounces)	Molybdenum (billion pounds)
North America							
Developed and producing:							
Morenci	3,274	0.27	—	— ^c	12.8	—	0.15
Sierrita	2,434	0.23	—	0.02 ^c	10.4	0.1	1.04
Bagdad	1,244	0.32	—	0.02 ^c	7.4	0.1	0.36
Chino	226	0.47	0.02	— ^c	2.1	0.1	0.01
Climax	170	—	—	0.15	—	—	0.54
Henderson	77	—	—	0.17	—	—	0.25
Safford	75	0.31	—	—	0.6	—	—
Tyrone	6	0.51	—	—	0.2	—	—
Miami	—	—	—	—	0.1	—	—
Undeveloped:							
Cobre	86	0.34	—	—	0.4	—	—
South America							
Developed and producing:							
Cerro Verde	3,673	0.37	—	0.01	26.7	—	0.64
El Abra	431	0.45	—	—	2.8	—	—
Indonesia^d							
Developed and producing:							
Deep Mill Level Zone	439	0.90	0.75	—	7.6	8.4	—
Deep Ore Zone	100	0.51	0.70	—	1.0	1.8	—
Big Gossan	60	2.19	0.97	—	2.6	1.3	—
Grasberg open pit	56	1.26	2.11	—	1.7	3.4	—
Under development:							
Grasberg Block Cave	964	1.03	0.78	—	18.5	15.7	—
Undeveloped:							
Kucing Liar	408	1.26	1.10	—	9.7	6.7	—
Total 100% basis	13,723				104.6	37.6	2.99
Consolidated^e					86.8	26.1	2.95
FCX's equity share^f					70.5	23.7	2.65

a. Excludes material contained in stockpiles.

b. Includes estimated recoverable metals contained in stockpiles.

c. Amounts not shown because of rounding.

d. Recoverable proven and probable reserves reflect estimates of minerals that can be recovered through the end of 2041 (refer to Note 13 for discussion of PT-FI's COW).

e. Consolidated reserves represent estimated metal quantities after reduction for joint venture partner interests at the Morenci mine in North America and the Grasberg minerals district in Indonesia. Refer to Note 3 for further discussion of FCX's joint ventures.

f. Net equity interest reserves represent estimated consolidated metal quantities further reduced for noncontrolling interest ownership. Refer to Note 3 for further discussion of FCX's ownership in subsidiaries.

NOTE 21. SUPPLEMENTARY OIL AND GAS INFORMATION (UNAUDITED)

Costs Incurred. A summary of the costs incurred for FCX's oil and gas acquisition, exploration and development activities for the years ended December 31 follows:

	2016	2015	2014
Property acquisition costs:			
Proved properties	\$ —	\$ —	\$ 463
Unproved properties	7	61	1,460
Exploration costs	22	1,250	1,482
Development costs	749	1,442	1,270
	<u>\$ 778</u>	<u>\$ 2,753</u>	<u>\$ 4,675</u>

These amounts included increases (decreases) in AROs of \$37 million in 2016, \$(80) million in 2015 and \$(27) million in 2014, capitalized general and administrative expenses of \$78 million in 2016, \$124 million in 2015 and \$143 million in 2014, and capitalized interest of \$7 million in 2016, \$58 million in 2015 and \$88 million in 2014.

Capitalized Costs. The aggregate capitalized costs subject to amortization for oil and gas properties and the aggregate related accumulated amortization as of December 31 follow:

	2016	2015	2014
Properties subject to amortization	\$ 27,507	\$ 24,538	\$ 16,547
Accumulated amortization	(27,433) ^a	(22,276) ^a	(7,360) ^a
	<u>\$ 74</u>	<u>\$ 2,262</u>	<u>\$ 9,187</u>

a. Includes charges of \$4.3 billion in 2016, \$13.1 billion in 2015 and \$3.7 billion in 2014 to reduce the carrying value of oil and gas properties pursuant to full cost accounting rules.

The average amortization rate per barrel of oil equivalents (BOE) was \$17.58 in 2016, \$33.46 in 2015 and \$39.74 in 2014.

Costs Not Subject to Amortization. Including amounts determined to be impaired, FCX transferred \$4.9 billion of costs associated with unevaluated properties to the full cost pool in 2016. Sales of unevaluated properties totaled \$1.6 billion in 2016. Following FCX's disposition of its Deepwater GOM and onshore California oil and gas properties in fourth-quarter 2016, the carrying value of all of FCX's remaining oil and gas properties is included in the amortization base at December 31, 2016.

Results of Operations for Oil and Gas Producing Activities. The results of operations from oil and gas producing activities for the years ended December 31, 2016, 2015 and 2014, presented below exclude non-oil and gas revenues, general and administrative expenses, goodwill impairment, interest expense and interest income. Income tax benefit was determined by applying the statutory rates to pre-tax operating results:

	2016	2015	2014
Revenues from oil and gas producing activities	\$ 1,513	\$ 1,994	\$ 4,710
Production and delivery costs	(1,829) ^a	(1,215)	(1,237)
Depreciation, depletion and amortization	(839)	(1,772)	(2,265)
Impairment of oil and gas properties	(4,317)	(13,144)	(3,737)
Income tax benefit (based on FCX's U.S. federal statutory tax rate)	— ^b	5,368	958
Results of operations from oil and gas producing activities	<u>\$ (5,472)</u>	<u>\$ (8,769)</u>	<u>\$ (1,571)</u>

a. Includes \$926 million in charges related to drillship settlements/idle rig and contract termination costs.
b. FCX has provided a full valuation allowance on losses associated with oil and gas activities in 2016.

Proved Oil and Natural Gas Reserve Information. The following information summarizes the net proved reserves of oil (including condensate and natural gas liquids (NGLs)) and natural gas and the standardized measure as described below. All of FCX's oil and natural gas reserves are located in the U.S.

Management believes the reserve estimates presented herein are reasonable and prepared in accordance with guidelines established by the SEC as prescribed in Regulation S-X, Rule 4-10. However, there are numerous uncertainties inherent in estimating quantities and values of proved reserves and in projecting future rates of production and the amount and timing of development expenditures, including many factors beyond FCX's control. Reserve engineering is a subjective process of estimating the recovery from underground accumulations of oil and natural gas that cannot be measured in an exact manner, and the accuracy of any reserve estimate is a function of the quality of available data and of engineering and geological interpretation and judgment. Because all oil and natural gas reserve estimates are to some degree subjective, the quantities of oil and natural gas that are ultimately recovered, production and operating costs, the amount and timing of future development expenditures, and future crude oil and natural gas sales prices may all differ from those assumed in these estimates. In addition, different reserve engineers may make different estimates of reserve quantities and cash flows based upon the same available data. Therefore, the standardized measure of discounted future net cash flows (Standardized Measure) shown below represents estimates only and should not be construed as the current market value of the estimated reserves attributable to FCX's oil and gas properties. In this regard, the information set forth in the following tables includes revisions of reserve estimates attributable to proved properties acquired from PXP and MMR, and reflect additional information from subsequent development activities, production history of the properties involved and any adjustments in the projected economic life of such properties resulting from changes in product prices.

Decreases in the prices of crude oil and natural gas could have an adverse effect on the carrying value of the proved reserves, reserve volumes and FCX's revenues, profitability and cash flows. FCX's reference prices for reserve determination are the WTI spot price for crude oil and the Henry Hub price for natural gas. As of February 2017, the twelve-month average of the first-day-of-the-month historical reference price for crude oil has increased from \$42.75 per barrel at December 31, 2016, to \$45.99 per barrel, while the comparable price for natural gas has increased from \$2.48 per MMBtu at December 31, 2016, to \$2.65 per MMBtu.

The market price for GOM crude oil differs from WTI as a result of a large portion of FCX's production being sold under a Heavy Louisiana Sweet based pricing. Approximately 59 percent of FCX's December 31, 2016, oil and natural gas reserve volumes are attributable to properties in the GOM where oil price realizations are generally higher because of these marketing contracts.

Estimated Quantities of Oil and Natural Gas Reserves. The following table sets forth certain data pertaining to proved, proved developed and proved undeveloped reserves, all of which are in the U.S., for the years ended December 31, 2016, 2015 and 2014.

	Oil (MMBbls) ^{a,b}	Gas (Bcf) ^a	Total (MMBOE) ^a
2016			
Proved reserves:			
Balance at beginning of year	207	274	252
Extensions and discoveries	—	—	—
Acquisitions of reserves in-place	—	—	—
Revisions of previous estimates	1	—	1
Sale of reserves in-place	(168)	(118)	(187)
Production	(36)	(69)	(48)
Balance at end of year	<u>4</u>	<u>87</u>	<u>18</u>
Proved developed reserves at December 31, 2016	<u>4</u>	<u>87</u>	<u>18</u>
Proved undeveloped reserves at December 31, 2016	<u>—</u>	<u>—</u>	<u>—</u>

	Oil (MMBbls) ^{a,b}	Gas (Bcf) ^a	Total (MMBOE) ^a
2015			
Proved reserves:			
Balance at beginning of year	288	610	390
Extensions and discoveries	11	43	17
Acquisitions of reserves in-place	—	—	—
Revisions of previous estimates	(54)	(287)	(102)
Sale of reserves in-place	—	(2)	—
Production	(38)	(90)	(53)
Balance at end of year	<u>207</u>	<u>274</u>	<u>252</u>
Proved developed reserves at December 31, 2015	<u>129</u>	<u>245</u>	<u>169</u>
Proved undeveloped reserves at December 31, 2015	<u>78</u>	<u>29</u>	<u>83</u>
2014			
Proved reserves:			
Balance at beginning of year	370	562	464
Extensions and discoveries	10	35	16
Acquisitions of reserves in-place	14	9	16
Revisions of previous estimates	(10)	140	13
Sale of reserves in-place	(53)	(54)	(62)
Production	(43)	(82)	(57)
Balance at end of year	<u>288</u>	<u>610</u>	<u>390</u>
Proved developed reserves at December 31, 2014	<u>184</u>	<u>369</u>	<u>246</u>
Proved undeveloped reserves at December 31, 2014	<u>104</u>	<u>241</u>	<u>144</u>

a. MMBbls = million barrels; Bcf = billion cubic feet; MMBOE = million BOE

b. Includes NGL proved reserves of 1 MMBbls (all developed) at December 31, 2016, 9 MMBbls (6 MMBbls of developed and 3 MMBbls of undeveloped) at December 31, 2015, and 10 MMBbls (7 MMBbls of developed and 3 MMBbls of undeveloped) at December 31, 2014.

For the year ended December 31, 2015, FCX had a total of 17 MMBOE of extensions and discoveries, including 14 MMBOE in the Deepwater GOM, primarily associated with the continued successful development at Horn Mountain and 3 MMBOE in the Haynesville shale assets resulting from continued successful drilling that extended and developed FCX's proved acreage. For the year ended December 31, 2014, FCX had a total of 16 MMBOE of extensions and discoveries, including 8 MMBOE in the Deepwater GOM, primarily associated with the continued successful development at Horn Mountain and 5 MMBOE in the Haynesville shale resulting from continued successful drilling that extended and developed FCX's proved acreage.

For the year ended December 31, 2015, FCX had net negative revisions of 102 MMBOE primarily related to lower oil and gas price realizations. For the year ended December 31, 2014, FCX had net positive revisions of 13 MMBOE primarily related to improved gas price realizations in both the Haynesville shale assets and Madden field, as well as continued improved performance in the Eagle Ford shale assets prior to the disposition, partially offset by the downward revisions of certain proved undeveloped reserves resulting from deferred development plans, as well as lower oil price realizations and higher steam-related operating expenses resulting from higher natural gas prices at certain onshore California properties.

Excluding the impact of crude oil derivative contracts, the average realized sales prices used in FCX's reserve reports as of December 31, 2016, were \$34.26 per barrel of crude oil and \$2.40 per one thousand cubic feet (Mcf) of natural gas. As of December 31, 2015, the average realized sales prices used in FCX's reserve report were \$47.80 per barrel of crude oil and \$2.55 per Mcf.

For the year ended December 31, 2014, FCX acquired reserves in-place totaling 16 MMBOE from the acquisition of interests in the Deepwater GOM, including interests in the Lucius and Heidelberg oil fields.

For the year ended December 31, 2016, FCX sold reserves in-place totaling 187 MMBOE primarily representing all of its Deepwater GOM, onshore California and Haynesville properties. For the year ended December 31, 2014, FCX sold reserves in-place totaling 62 MMBOE primarily related to its Eagle Ford shale assets.

Standardized Measure. The Standardized Measure (discounted at 10 percent) from production of proved oil and natural gas reserves has been developed in accordance with SEC guidelines. FCX estimated the quantity of proved oil and natural gas reserves and the future periods in which they are expected to be produced based on year-end economic conditions. Estimates of future net revenues from FCX's proved oil and gas properties and the present value thereof were made using the twelve-month average of the first-day-of-the-month historical reference prices as adjusted for location and quality differentials, which are held constant throughout the life of the oil and gas properties, except where such guidelines permit alternate treatment, including the use of fixed and determinable contractual price escalations (excluding the impact of crude oil derivative contracts). Future gross revenues were reduced by estimated future operating costs (including production and ad valorem taxes) and future development and abandonment costs, all of which were based on current costs in effect at December 31, 2016, 2015 and 2014, and held constant throughout the life of the oil and gas properties. Future income taxes were calculated by applying the statutory federal and state income tax rate to pre-tax future net cash flows, net of the tax basis of the respective oil and gas properties and utilization of FCX's available tax carryforwards related to its oil and gas operations.

The Standardized Measure related to proved oil and natural gas reserves as of December 31 follows:

	2016	2015	2014
Future cash inflows	\$ 345	\$ 10,536	\$ 29,504
Future production expense	(175)	(4,768)	(10,991)
Future development costs ^a	(439)	(4,130)	(6,448)
Future income tax expense	—	—	(2,487)
Future net cash flows	(269)	1,638	9,578
Discounted at 10% per year	32	(246)	(3,157)
Standardized Measure	<u>\$ (237)</u>	<u>\$ 1,392</u>	<u>\$ 6,421</u>

a. Includes estimated asset retirement costs of \$0.4 billion at December 31, 2016, \$1.9 billion at December 31, 2015, and \$1.8 billion at December 31, 2014.

A summary of the principal sources of changes in the Standardized Measure for the years ended December 31 follows:

	2016	2015	2014
Balance at beginning of year	\$ 1,392	\$ 6,421	\$ 9,417
Changes during the year:			
Sales, net of production expenses	(831)	(928)	(3,062)
Net changes in sales and transfer prices, net of production expenses	(341)	(7,766)	(2,875)
Extensions, discoveries and improved recoveries	—	45	194
Changes in estimated future development costs, including timing and other	146	1,287	(498)
Previously estimated development costs incurred during the year	295	985	982
Sales of reserves in-place	(1,049)	—	(1,323)
Other purchases of reserves in-place	—	—	487
Revisions of quantity estimates	12	(1,170)	399
Accretion of discount	139	797	1,195
Net change in income taxes	—	1,721	1,505
Total changes	(1,629)	(5,029)	(2,996)
Balance at end of year	<u>\$ (237)</u>	<u>\$ 1,392</u>	<u>\$ 6,421</u>

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

Not applicable.

Item 9A. Controls and Procedures.

(a) Evaluation of disclosure controls and procedures. Our chief executive officer and chief financial officer, with the participation of management, have evaluated the effectiveness of our “disclosure controls and procedures” (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934) as of the end of the period covered by this annual report on Form 10-K. Based on their evaluation, they have concluded that our disclosure controls and procedures are effective as of the end of the period covered by this report.

(b) Changes in internal controls. There has been no change in our internal control over financial reporting that occurred during the quarter ended December 31, 2016, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

(c) Management’s annual report on internal control over financial reporting and the report thereon of Ernst & Young LLP are included herein under Item 8. “Financial Statements and Supplemental Data.”

Item 9B. Other Information.

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information set forth under the captions “Information About Director Nominees” and “Section 16(a) Beneficial Ownership Reporting Compliance” of our definitive proxy statement to be filed with the United States Securities and Exchange Commission (SEC), relating to our 2017 annual meeting of stockholders, is incorporated herein by reference. The information required by Item 10 regarding our executive officers appears in a separately captioned heading after Item 4. “Executive Officers of the Registrant” in Part I of this report.

Item 11. Executive Compensation.

The information set forth under the captions “Director Compensation” and “Executive Officer Compensation” of our definitive proxy statement to be filed with the SEC, relating to our 2017 annual meeting of stockholders, is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

Only our 2016 Stock Incentive Plan (2016 plan), which was previously approved by our stockholders, has shares of our common stock available for future grant. However, we have equity compensation plans pursuant to which awards have previously been made that could result in issuance of our common stock to employees and non-employees as compensation, including two plans that were assumed in connection with the acquisition of Plains Exploration & Production Company (Plains Exploration) under which stock-settled restricted stock units (RSUs) were previously issued, seven plans that were assumed in connection with the acquisition of McMoRan Exploration Co. under which stock-settled RSUs and nonqualified stock options were previously issued, and one plan that was assumed in connection with the acquisition of Phelps Dodge Corporation (Phelps Dodge) under which nonqualified stock options were previously issued.

The following table presents information regarding our equity compensation plans as of December 31, 2016.

	Number of Securities To be Issued Upon Exercise of Outstanding Options, Warrants and Rights		Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a))
	(a)		(b)	(c)
Equity compensation plans approved by security holders	58,719,008 ^a	\$	30.62	71,938,292
Equity compensation plans not approved by security holders	4,836,085 ^b	\$	26.50	—
Total	63,555,093	\$	30.26	71,938,292

- a. Includes shares of our common stock issuable upon the vesting of 4,316,763 RSUs and 5,178,000 performance share units (PSUs) at maximum performance levels, and the termination of deferrals with respect to 1,119,800 RSUs that were vested as of December 31, 2016. These awards are not reflected in column (b) because they do not have an exercise price. The number of securities to be issued in column (a) does not include 1,430 outstanding stock appreciation rights (SARs), which were granted under the plan but are payable solely in cash. The number of securities to be issued in column (a) also does not include RSUs granted under our phantom stock plan, which are payable solely in cash.
- b. Represents securities to be issued under awards assumed in our acquisitions of Plains Exploration, McMoRan Exploration Co. and Phelps Dodge. Includes shares issuable upon the vesting of 181,448 RSUs that were assumed in prior acquisitions. These awards are not reflected in column (b) because they do not have an exercise price. The number of securities to be issued in column (a) does not include 1,032,723 outstanding SARs and 338,489 RSUs, which were assumed in prior acquisitions and are payable solely in cash.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information set forth under the caption “Certain Transactions” of our definitive proxy statement to be filed with the SEC, relating to our 2017 annual meeting of stockholders, is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services.

The information set forth under the caption “Independent Registered Public Accounting Firm” of our definitive proxy statement to be filed with the SEC, relating to our 2017 annual meeting of stockholders, is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a)(1). Financial Statements.

The consolidated statements of operations, comprehensive loss, cash flows and equity, and the consolidated balance sheets are included as part of Item 8. “Financial Statements and Supplementary Data.”

(a)(2). Financial Statement Schedules.

Reference is made to the Index to Financial Statements appearing on page F-1 hereof.

(a)(3). Exhibits.

Reference is made to the Exhibit Index beginning on page E-1 hereof.

Item 16. 10-K Summary.

Not applicable.

GLOSSARY OF TERMS

Following is a glossary of selected terms used throughout the FCX Form 10-K that are technical in nature:

Mining

Adits. A horizontal passage leading into a mine for the purposes of access or drainage.

Agitation-leach plant. A processing plant that recovers copper and other metals by passing a slurry of finely ground ores mixed with acidic solutions through a series of continuously stirred tanks.

Alluvial aquifers. A water-bearing deposit of loosely arranged gravel, sand or silt left behind by a river or other flowing water.

Anode. A positively charged metal sheet, usually lead, on which oxidation occurs. During the electro-refining process, the anode are impure copper sheets from the smelting process that require further processing to produce refined copper cathode.

Azurite. A bluish supergene copper mineral and ore found in the oxidized portions of copper deposits often associated with malachite.

Bench. The horizontal floor cuttings along which mining progresses in an open-pit mine. As the pit progresses to lower levels, safety benches are left in the walls to catch any falling rock.

Blasthole stoping. An underground mining method that extracts the ore zone in large vertical rooms. The ore is broken by blasting using large-diameter vertical drill holes.

Block cave. A general term used to describe an underground mining method where the extraction of ore depends largely on the action of gravity. By continuously removing a thin horizontal layer at the bottom mining level of the ore column, the vertical support of the ore column is removed and the ore then caves by gravity.

Bornite. A red-brown isometric mineral comprising copper, iron and sulfur.

Brochantite. A greenish-black copper mineral occurring in the oxidation zone of copper sulfide deposits.

Cathode. Refined copper produced by electro-refining of impure copper or by electrowinning.

Chalcocite. A grayish copper sulfide mineral, usually found as a supergene in copper deposits formed from the re-deposition of copper minerals that were solubilized from the oxide portion of the deposit.

Chalcopyrite. A brass-yellow sulfide of mineral copper and iron.

Chrysocolla. A bluish-green to emerald-green oxide copper mineral that forms incrustations and thin seams in oxidized parts of copper-mineral veins; a source of copper and an ornamental stone.

Cobalt. A tough, lustrous, nickel-white or silvery-gray metallic element often associated with nickel and copper ores from which it is obtained as a by-product.

Concentrate. The resulting product from the concentrating process that is composed predominantly of copper sulfide or molybdenum sulfide minerals. Further processing might include smelting and electro-refining, or roasting.

Concentrating. The process by which ore is separated into metal concentrate through crushing, milling and flotation.

Concentrator. A process plant used to separate targeted minerals from gangue and produce a mineral concentrate that can be marketed or processed by additional downstream processes to produce salable metals or mineral products. Term is used interchangeably with Mill.

Contained copper. The percentage of copper in a mineral sample before the reduction of amounts unable to be recovered during the metallurgical process.

Covellite. A metallic, indigo-blue supergene mineral found in copper deposits.

Crushed-ore leach pad. A slightly sloping pad upon which leach ores are placed in lifts for processing.

Cutoff grade. The minimum percentage of copper contained in the ore for processing. When percentages are below this grade, the material would be routed to a high-lift or waste stockpile. When percentages are above grade, the material would be processed using concentrating or leaching methods for higher recovery.

Disseminations. A mineral deposit in which the desired minerals occur as scattered particles in the rock that has sufficient quantity to be considered an ore deposit.

Electrolytic refining. The purification of metals by electrolysis. A large piece of impure copper is used as the anode with a thin strip of pure copper as the cathode.

Electrowinning. A process that uses electricity to plate copper contained in an electrolyte solution into copper cathode.

Flotation. A concentrating process in which valuable minerals attach themselves to bubbles of an oily froth for separation as concentrate. The gangue material from the flotation process reports as a tailing product.

Grade. The relative quality or percentage of metal content.

Leach stockpiles. A quantity of leachable ore placed on a leach pad or in another suitable location that permits leaching and collection of solutions that contain solubilized metal.

Leaching. The process of extracting copper using a chemical solution to dissolve copper contained in ore.

Malachite. A bright-green copper mineral (ore) that often occurs with azurite in oxidized zones of copper deposits.

Metric ton. The equivalent of 2,204.62 pounds.

Mill stockpile. Millable ore that has been mined, and is available for future processing.

Mine-for-leach. A mining operation focused on mining only leachable ores.

Mineralization. The process by which a mineral is introduced into a rock, resulting in concentration of minerals that may form a valuable or potentially valuable deposit.

Molybdenite. A black, platy, disulfide of molybdenum. It is the most common ore of molybdenum.

Ore body. A continuous, well-defined mass of mineralized material of sufficient ore content to make extraction economically feasible.

Oxide. In mining, oxide is used as an ore classification relating to material that usually leaches well but does not perform well in a concentrator. Oxide minerals in mining refer to an oxidized form.

Paste backfill. A slurry of paste material produced from railings with engineered cement and water content that is used to fill underground mined out stopes.

Porphyry. A deposit in which minerals of copper, molybdenum, gold or, less commonly, tungsten and tin are disseminated or occur in stock-work of small veinlets within a large mass of hydro-thermally altered igneous rock. The host rock is commonly an intrusive porphyry, but other rocks intruded by a porphyry can also be hosts for ore minerals.

Production level. With respect to underground mining, the elevation of the underground works that permit extraction/transport of the ore to a common point, shaft or plant.

Pseudomalachite. A dark-green monoclinic copper mineral.

Roasting. The heating of sulfide ores to oxidize sulfides to facilitate further processing.

Run-of-Mine (ROM). Leachable ore that is mined and directly placed on a leach pad without utilizing any further processes to reduce particle size prior to leaching.

Skarn. A Swedish mining term for silicate gangue of certain iron ore and sulfide deposits of Archaean age, particularly those that have replaced limestone and dolomite. Its meaning has been generally expanded to include

lime-bearing silicates, of any geologic age, derived from nearly pure limestone and dolomite with the introduction of large amounts of silicon, aluminum, iron and magnesium.

Smelting. The process of melting and oxidizing concentrate to separate copper and precious metals from metallic and non-metallic impurities, including iron, silica, alumina and sulfur.

Solution extraction. A process that transfers copper from a copper-bearing ore to an organic solution, then to an electrolyte. The electrolyte is then pumped to a tankhouse where the copper is extracted, using electricity, into a copper cathode (refer to the term Electrowinning), together referred to as solution extraction/electrowinning (SX/EW).

Spot price. The current price at which a commodity can be bought or sold at a specified time and place.

Stope. An underground mining method that is usually applied to highly inclined or vertical veins. Ore is extracted by driving horizontally upon it in a series of workings, one immediately over the other. Each horizontal working is called a stope because when a number of them are in progress, each working face under attack assumes the shape of a flight of stairs.

Sulfide. A mineral compound containing sulfur and a metal. Copper sulfides can be concentrated or leached, depending on the mineral type.

Tailing. The material remaining after economically recoverable metals and minerals have been extracted.

Tolling. The process of converting customer-owned material into specified products, which is then returned to the customer.

Oil and Gas

Barrel or Bbl. One stock tank barrel, or 42 U.S. gallons liquid volume (used in reference to crude oil or other liquid hydrocarbons).

Blowouts. Accidents resulting from loss of hydraulic well control while conducting drilling operations.

Barrel of Oil Equivalent or BOE. One stock tank barrel equivalent of oil, calculated by converting gas volumes to equivalent oil barrels at a ratio of 6 thousand cubic feet to 1 barrel of oil.

British thermal unit or Btu. One British thermal unit is the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit.

Completion. The installation of permanent equipment for production of oil or gas, or, in the case of a dry well, the reporting to the appropriate authority that the well has been abandoned.

Condensate. A mixture of hydrocarbons that exists in the gaseous phase at original reservoir temperature and pressure, but that, when produced, is in the liquid phase at surface pressure and temperature.

Cratering. The collapse of the circulation system dug around the drilling rig for the prevention of blowouts.

Developed oil and gas reserves. Developed oil and gas reserves are reserves of any category that can be expected to be recovered: (i) through existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared to the cost of a new well; and (ii) through installed extraction equipment and infrastructure operational at the time of the reserves estimate if the extraction is by means not involving a well.

Development well. A well drilled within the proved area of an oil or gas reservoir to the depth of a stratigraphic horizon known to be productive.

Differential. An adjustment to the price of oil or natural gas from an established spot market price to reflect differences in the quality and/or location of oil or gas.

Field. An area consisting of a single reservoir or multiple reservoirs all grouped on or related to the same individual geological structural feature and/or stratigraphic condition. There may be two or more reservoirs in a field that are separated vertically by intervening impervious, strata, or laterally by local geologic barriers, or by both. Reservoirs that are associated by being in overlapping or adjacent fields may be treated as a single or common operational

field. The geological terms "structural feature" and "stratigraphic condition" are intended to identify localized geological features as opposed to the broader terms of basins, trends, provinces, areas-of-interest, etc.

Gross well or gross acre. A well or acre in which the registrant owns a working interest. The numbers of gross wells is the total number of wells in which the registrant owns a working interest.

Net well or net acre. Deemed to exist when the sum of the fractional ownership working interests in gross wells or acres equals one. The number of net wells or acres is the sum of the fractional working interests owned in gross wells or acres expressed as whole numbers and fractions of whole numbers.

Natural gas liquids or NGLs. Hydrocarbons (primarily ethane, propane, butane and natural gasolines) which have been extracted from wet natural gas and become liquid under various combinations of increasing pressure and lower temperature.

Shale. A fine-grained, clastic sedimentary rock composed of mud that is a mix of flakes of clay minerals and tiny fragments of other minerals.

Standardized measure. The present value, discounted at 10 percent per year, of estimated future net revenues from the production of proved reserves, computed by applying sales prices used in estimating proved oil and natural gas reserves to the year-end quantities of those reserves in effect as of the dates of such estimates and held constant throughout the productive life of the reserves (except for consideration of future price changes to the extent provided by contractual arrangements in existence at year-end), and deducting the estimated future costs to be incurred in developing, producing and abandoning the proved reserves (computed based on year-end costs and assuming continuation of existing economic conditions). Future income taxes are calculated by applying the appropriate year-end statutory federal and state income tax rates, with consideration of future tax rates already legislated, to pre-tax future net cash flows, net of the tax basis of the properties involved and utilization of available tax carryforwards related to proved oil and natural gas reserves.

Undeveloped acreage. Lease acreage on which wells have not been drilled or completed to a point that would permit the production of economic quantities of oil or gas regardless of whether the acreage contains proved reserves.

Undeveloped oil and gas reserves. Undeveloped oil and natural gas reserves are reserves of any category that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion. Reserves on undrilled acreage shall be limited to those directly offsetting development spacing areas that are reasonably certain of production when drilled, unless evidence using reliable technology exists that establishes reasonable certainty of economic producibility at greater distances. Undrilled locations can be classified as having undeveloped reserves only if a development plan has been adopted indicating that they are scheduled to be drilled within five years, unless the specific circumstances justify a longer time. Under no circumstances shall estimates for undeveloped reserves be attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual projects in the same reservoir or an analogous reservoir, or by other evidence using reliable technology establishing reasonable certainty.

Working interest. An interest in an oil and gas lease that gives the owner of the interest the right to drill for and produce oil and gas on the leased acreage and requires the owner to pay a share of the costs of drilling and production operations.

For additional information regarding the definitions contained in this Glossary, or for other oil and gas definitions, refer to Rule 4-10 of Regulation S-X.

SIGNATURES

Pursuant to the requirements of Section 13 of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on February 24, 2017.

Freeport-McMoRan Inc.

By: /s/ Richard C. Adkerson
 Richard C. Adkerson
 Vice Chairman of the Board, President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant in the capacities indicated on February 24, 2017.

/s/ Richard C. Adkerson	Vice Chairman of the Board, President and Chief Executive Officer
Richard C. Adkerson	(Principal Executive Officer)
/s/ Kathleen L. Quirk	Executive Vice President, Chief Financial Officer and Treasurer
Kathleen L. Quirk	(Principal Financial Officer)
*	Vice President and Controller - Financial Reporting
C. Donald Whitmire, Jr.	(Principal Accounting Officer)
*	Chairman of the Board
Gerald J. Ford	
*	Director
Lydia H. Kennard	
*	Director
Andrew Langham	
*	Director
Jon C. Madonna	
*	Director
Courtney Mather	
*	Director
Dustan E. McCoy	
*	Director
Frances Fragos Townsend	

* By: /s/ Richard C. Adkerson
 Richard C. Adkerson
 Attorney-in-Fact

FREEPORT-McMoRan INC.
INDEX TO FINANCIAL STATEMENTS

Our financial statements and the notes thereto, and the report of Ernst & Young LLP included in our 2016 annual report are incorporated herein by reference.

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Report of Independent Registered Public Accounting Firm	F-1
Schedule II-Valuation and Qualifying Accounts	F-2

Schedules other than the one listed above have been omitted since they are either not required, not applicable or the required information is included in the financial statements or notes thereto.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

TO THE BOARD OF DIRECTORS AND STOCKHOLDERS OF
FREEPORT-McMoRan INC.

We have audited the consolidated financial statements of Freeport-McMoRan Inc. as of December 31, 2016 and 2015, and for each of the three years in the period ended December 31, 2016, and have issued our report thereon dated February 24, 2017 (included elsewhere in this Form 10-K). Our audits also included the financial statement schedule listed in the Index to Financial Statements of this Form 10-K. This schedule is the responsibility of the Company's management. Our responsibility is to express an opinion on this schedule based on our audits.

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

/s/ Ernst & Young LLP

Phoenix, Arizona
February 24, 2017

FREEPORT-McMoRan INC.
 SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS
 (In millions)

	Balance at Beginning of Year	Additions (Deductions)		Other Additions (Deductions)	Balance at End of Year
		Charged to Costs and Expense	Charged to Other Accounts		
Reserves and allowances deducted from asset accounts:					
<i>Valuation allowance for deferred tax assets</i>					
Year Ended December 31, 2016	\$ 4,183	\$ 1,852	\$ 23 ^a	\$ —	\$ 6,058
Year Ended December 31, 2015	2,434	1,749	—	—	4,183
Year Ended December 31, 2014	2,487	(53)	—	—	2,434
Reserves for non-income taxes:					
Year Ended December 31, 2016	\$ 83	\$ 13	\$ (3)	\$ (29) ^b	\$ 64
Year Ended December 31, 2015	93	9	—	(19) ^b	83
Year Ended December 31, 2014	78	16	—	(1) ^b	93

a. Relates to a valuation allowance for tax benefits primarily associated with actuarial losses for U.S. defined benefit plans included in other comprehensive loss.

b. Represents amounts paid or adjustments to reserves based on revised estimates.

FREEPORT-McMoRan INC.
EXHIBIT INDEX

Exhibit Number	Exhibit Title	Filed with this Form 10-K	Incorporated by Reference		
			Form	File No.	Date Filed
2.1	Agreement and Plan of Merger dated as of November 18, 2006, by and among FCX, Phelps Dodge Corporation and Panther Acquisition Corporation.		8-K	333-139252	11/20/2006
2.2	Agreement and Plan of Merger by and among Plains Exploration & Production Company, FCX and IMONC LLC, dated as of December 5, 2012.		8-K	001-11307-01	12/6/2012
2.3	Agreement and Plan of Merger by and among McMoRan Exploration Co., FCX and INAVN Corp., dated as of December 5, 2012.		8-K	001-11307-01	12/6/2012
2.4	Stock Purchase Agreement, dated as of October 6, 2014, among LMC Candelaria SpA, LMC Ojos del Salado SpA and Freeport Minerals Corporation.		10-Q	001-11307-01	11/7/2014
2.5	Purchase Agreement dated February 15, 2016, between Sumitomo Metal Mining America Inc., Sumitomo Metal Mining Co., Ltd., Freeport-McMoRan Morenci Inc., Freeport Minerals Corporation, and FCX.		8-K	001-11307-01	2/16/2016
2.6	Stock Purchase Agreement dated May 9, 2016, among CMOC Limited, China Molybdenum Co., Ltd., Phelps Dodge Katanga Corporation and FCX.		8-K	001-11307-01	2/9/2016
2.7	Purchase and Sale Agreement dated September 12, 2016, between Freeport-McMoRan Oil & Gas LLC, Freeport-McMoRan Exploration & Production LLC, Plains Offshore Operations Inc. and Anadarko US Offshore LLC.		10-Q	001-11307-01	11/9/2016
3.1	Amended and Restated Certificate of Incorporation of FCX, effective as of June 8, 2016.		8-K	001-11307-01	6/9/2016
3.2	Amended and Restated By-Laws of FCX, effective as of June 8, 2016.		8-K	001-11307-01	6/9/2016
4.1	Indenture dated as of February 13, 2012, between FCX and U.S. Bank National Association, as Trustee (relating to the 2.15% Senior Notes due 2017, the 3.55% Senior Notes due 2022, the 2.30% Senior Notes due 2017, the 4.00% Senior Notes due 2021, the 4.55% Senior Notes due 2024, and the 5.40% Senior Notes due 2034).		8-K	001-11307-01	2/13/2012
4.2	Second Supplemental Indenture dated as of February 13, 2012, between FCX and U.S. Bank National Association, as Trustee (relating to the 2.15% Senior Notes due 2017).		8-K	001-11307-01	2/13/2012
4.3	Third Supplemental Indenture dated as of February 13, 2012, between FCX and U.S. Bank National Association, as Trustee (relating to the 3.55% Senior Notes due 2022).		8-K	001-11307-01	2/13/2012
4.4	Fourth Supplemental Indenture dated as of May 31, 2013, among FCX, Freeport-McMoRan Oil & Gas LLC and U.S. Bank National Association, as Trustee (relating to the 2.15% Senior Notes due 2017, the 3.55% Senior Notes due 2022, the 2.30% Senior Notes due 2017, the 4.00% Senior Notes due 2021, the 4.55% Senior Notes due 2024, and the 5.40% Senior Notes due 2034).		8-K	001-11307-01	6/3/2013
4.5	Fifth Supplemental Indenture dated as of November 14, 2014 among FCX, Freeport-McMoRan Oil & Gas LLC and U.S. Bank National Association, as Trustee (relating to the 2.30% Senior Notes due 2017).		8-K	001-11307-01	11/14/2014
4.6	Sixth Supplemental Indenture dated as of November 14, 2014 among FCX, Freeport-McMoRan Oil & Gas LLC and U.S. Bank National Association, as Trustee (relating to the 4.00% Senior Notes due 2021).		8-K	001-11307-01	11/14/2014
4.7	Seventh Supplemental Indenture dated as of November 14, 2014 among FCX, Freeport-McMoRan Oil & Gas LLC and U.S. Bank National Association, as Trustee (relating to the 4.55% Senior Notes due 2024).		8-K	001-11307-01	11/14/2014

FREEPORT-McMoRan INC.

EXHIBIT INDEX

Exhibit Number	Exhibit Title	Filed with this Form 10-K	Incorporated by Reference		
			Form	File No.	Date Filed
4.8	Eighth Supplemental Indenture dated as of November 14, 2014 among FCX, Freeport-McMoRan Oil & Gas LLC and U.S. Bank National Association, as Trustee (relating to the 5.40% Senior Notes due 2034).		8-K	001-11307-01	11/14/2014
4.9	Indenture dated as of March 7, 2013, between FCX and U.S. Bank National Association, as Trustee (relating to the 2.375% Senior Notes due 2018, the 3.100% Senior Notes due 2020, the 3.875% Senior Notes due 2023, and the 5.450% Senior Notes due 2043).		8-K	001-11307-01	3/7/2013
4.10	Supplemental Indenture dated as of May 31, 2013, among FCX, Freeport-McMoRan Oil & Gas LLC and U.S. Bank National Association, as Trustee (relating to the 2.375% Senior Notes due 2018, the 3.100% Senior Notes due 2020, the 3.875% Senior Notes due 2023, and the 5.450% Senior Notes due 2043).		8-K	001-11307-01	6/3/2013
4.11	Indenture dated as of December 13, 2016, among FCX, Freeport-McMoRan Oil & Gas LLC, as guarantor, and U.S. Bank National Association, as Trustee (relating to the 6.125% Senior Notes due 2019, the 6.50% Senior Notes due 2020, the 6.625% Senior Notes due 2021, the 6.75% Senior Notes due 2022, and the 6.875% Senior Notes due 2023).		8-K	001-11307-01	12/13/2016
4.12	Indenture dated as of March 13, 2007, among Plains Exploration & Production Company, the Subsidiary Guarantors parties thereto, and Wells Fargo Bank, N.A., as Trustee (relating to the 6.625% Senior Notes due 2021, the 6.75% Senior Notes due 2022, the 6.125% Senior Notes due 2019, the 6.5% Senior Notes due 2020, and the 6.875% Senior Notes due 2023).		8-K	001-31470	3/13/2007
4.13	Twelfth Supplemental Indenture dated as of March 29, 2011 to the Indenture dated as of March 13, 2007, among Plains Exploration & Production Company, the Subsidiary Guarantors parties thereto and Wells Fargo Bank, N.A., as Trustee (relating to the 6.625% Senior Notes due 2021).		8-K	001-31470	3/29/2011
4.14	Thirteenth Supplemental Indenture dated as of November 21, 2011 to the Indenture dated as of March 13, 2007, among Plains Exploration & Production Company, the Subsidiary Guarantors parties thereto and Wells Fargo Bank, N.A., as Trustee (relating to the 6.75% Senior Notes due 2022).		8-K	001-31470	11/22/2011
4.15	Fourteenth Supplemental Indenture dated as of April 27, 2012 to the Indenture dated as of March 13, 2007, among Plains Exploration & Production Company, the Subsidiary Guarantors parties thereto and Wells Fargo Bank, N.A., as Trustee (relating to the 6.125% Senior Notes due 2019).		8-K	001-31470	4/27/2012
4.16	Sixteenth Supplemental Indenture dated as of October 26, 2012 to the Indenture dated as of March 13, 2007, among Plains Exploration & Production Company, the Subsidiary Guarantors parties thereto and Wells Fargo Bank, N.A., as Trustee (relating to the 6.5% Senior Notes due 2020).		8-K	001-31470	10/26/2012
4.17	Seventeenth Supplemental Indenture dated as of October 26, 2012 to the Indenture dated as of March 13, 2007, among Plains Exploration & Production Company, the Subsidiary Guarantors parties thereto and Wells Fargo Bank, N.A., as Trustee (relating to the 6.875% Senior Notes due 2023).		8-K	001-31470	10/26/2012

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Exhibit Number	Exhibit Title	Filed	Incorporated by Reference		
		with this Form 10-K	Form	File No.	Date Filed
4.18	Eighteenth Supplemental Indenture dated as of May 31, 2013 to the Indenture dated as of March 13, 2007, among Freeport-McMoRan Oil & Gas LLC, as Successor Issuer, FCX Oil & Gas Inc., as Co-Issuer, FCX, as Parent Guarantor, Plains Exploration & Production Company, as Original Issuer, and Wells Fargo Bank, N.A., as Trustee (relating to the 6.625% Senior Notes due 2021, the 6.75% Senior Notes due 2022, the 6.125% Senior Notes due 2019, the 6.5% Senior Notes due 2020, and the 6.875% Senior Notes due 2023).		8-K	001-11307-01	6/3/2013
4.19	Nineteenth Supplemental Indenture dated as of September 30, 2016 to the Indenture dated as of March 13, 2007, among Freeport-McMoRan Oil & Gas LLC, as Successor Issuer, FCX Oil & Gas Inc., as Co-Issuer, FMSTP Inc., as Additional Co-Issuer, FCX, as Parent Guarantor, and Wells Fargo Bank, N.A., as Trustee (relating to the 6.125% Senior Notes due 2019, the 6.50% Senior Notes due 2020, the 6.625% Senior Notes due 2021, the 6.75% Senior Notes due 2022 and the 6.875% Senior Notes due 2023).		10-Q	001-11307-01	11/9/2016
4.20	Twentieth Supplemental Indenture dated as of December 13, 2016 to the Indenture dated as of March 13, 2007, among Freeport-McMoRan Oil & Gas LLC, as Successor Issuer, FCX Oil & Gas LLC, as Co-Issuer, FMSTP Inc., as Additional Co-Issuer, FCX, as Parent Guarantor, and Wells Fargo Bank, N.A., as Trustee (relating to the 6.125% Senior Notes due 2019, the 6.50% Senior Notes due 2020, the 6.625% Senior Notes due 2021, the 6.75% Senior Notes due 2022 and the 6.875% Senior Notes due 2023).		8-K	001-11307-01	12/13/2016
4.21	Form of Indenture dated as of September 22, 1997, between Phelps Dodge Corporation and The Chase Manhattan Bank, as Trustee (relating to the 7.125% Senior Notes due 2027, the 9.50% Senior Notes due 2031, and the 6.125% Senior Notes due 2034).		S-3	333-36415	9/25/1997
4.22	Form of 7.125% Debenture due November 1, 2027 of Phelps Dodge Corporation issued on November 5, 1997, pursuant to the Indenture dated as of September 22, 1997, between Phelps Dodge Corporation and The Chase Manhattan Bank, as Trustee (relating to the 7.125% Senior Notes due 2027).		8-K	001-00082	11/3/1997
4.23	Form of 9.5% Note due June 1, 2031 of Phelps Dodge Corporation issued on May 30, 2001, pursuant to the Indenture dated as of September 22, 1997, between Phelps Dodge Corporation and First Union National Bank, as successor Trustee (relating to the 9.50% Senior Notes due 2031).		8-K	001-00082	5/30/2001
4.24	Form of 6.125% Note due March 15, 2034 of Phelps Dodge Corporation issued on March 4, 2004, pursuant to the Indenture dated as of September 22, 1997, between Phelps Dodge Corporation and First Union National Bank, as successor Trustee (relating to the 6.125% Senior Notes due 2034).		10-K	001-00082	3/7/2005
4.25	Supplemental Indenture dated as of April 4, 2007 to the Indenture dated as of September 22, 1997, among Phelps Dodge Corporation, as Issuer, Freeport-McMoRan Copper & Gold Inc., as Parent Guarantor, and U.S. Bank National Association, as Trustee (relating to the 7.125% Senior Notes due 2027, the 9.50% Senior Notes due 2031, and the 6.125% Senior Notes due 2034).		10-K	001-00082	2/26/2016

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Exhibit Number	Exhibit Title	Filed with this	Incorporated by Reference		
		Form 10-K	Form	File No.	Date Filed
4.26	Registration Rights Agreement dated as of December 13, 2016 among FCX, Freeport-McMoRan Oil & Gas LLC, as Guarantor, and J.P. Morgan Securities LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated, as Dealer Managers, relating to the 6.125% Senior Notes due 2019.		8-K	001-11307-01	12/13/2016
4.27	Registration Rights Agreement dated as of December 13, 2016 among FCX, Freeport-McMoRan Oil & Gas LLC, as Guarantor, and J.P. Morgan Securities LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated, as Dealer Managers, relating to the 6.50% Senior Notes due 2020.		8-K	001-11307-01	12/13/2016
4.28	Registration Rights Agreement dated as of December 13, 2016 among FCX, Freeport-McMoRan Oil & Gas LLC, as Guarantor, and J.P. Morgan Securities LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated, as Dealer Managers, relating to the 6.625% Senior Notes due 2021.		8-K	001-11307-01	12/13/2016
4.29	Registration Rights Agreement dated as of December 13, 2016 among FCX, Freeport-McMoRan Oil & Gas LLC, as Guarantor, and J.P. Morgan Securities LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated, as Dealer Managers, relating to the 6.75% Senior Notes due 2022.		8-K	001-11307-01	12/13/2016
4.30	Registration Rights Agreement dated as of December 13, 2016 among FCX, Freeport-McMoRan Oil & Gas LLC, as Guarantor, and J.P. Morgan Securities LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated, as Dealer Managers, relating to the 6.875% Senior Notes due 2023.		8-K	001-11307-01	12/13/2016
10.1	Contract of Work dated December 30, 1991, between the Government of the Republic of Indonesia and PT Freeport Indonesia.		S-3	333-72760	11/5/2001
10.2	Memorandum of Understanding dated as of July 25, 2014, between the Directorate General of Mineral and Coal, the Ministry of Energy and Mineral Resources and PT Freeport Indonesia on Adjustment of the Contract of Work.		8-K	001-11307-01	7/8/2014
10.3	Extension dated as of January 23, 2015, to Memorandum of Understanding Between the Government of the Republic of Indonesia and PT Freeport Indonesia dated as of July 25, 2014.		10-K	001-11307-01	2/27/2015
10.4	Participation Agreement dated as of October 11, 1996, between PT Freeport Indonesia and P.T. RTZ-CRA Indonesia (a subsidiary of Rio Tinto PLC) with respect to a certain contract of work.		S-3	333-72760	11/5/2001
10.5	First Amendment dated April 30, 1999, Second Amendment dated February 22, 2006, Third Amendment dated October 7, 2009, Fourth Amendment dated November 14, 2013, and Fifth Amendment dated August 4, 2014, to the Participation Agreement dated as of October 11, 1996, between PT Freeport Indonesia and P.T. Rio Tinto Indonesia (formerly P.T. RTZ-CRA Indonesia).		10-K	001-11307-01	2/27/2015
10.6	Sixth Amendment dated September 17, 2015, to the Participation Agreement dated as of October 11, 1996, between PT Freeport Indonesia and P.T. Rio Tinto Indonesia.		10-Q	001-11307-01	11/6/2015
10.7	Seventh Amendment dated October 21, 2016, to the Participation Agreement dated as of October 11, 1996, between PT Freeport Indonesia and P.T. Rio Tinto Indonesia.		10-Q	001-11307-01	11/9/2016
10.8	Agreement dated as of October 11, 1996, to Amend and Restate Trust Agreement among PT Freeport Indonesia, FCX, the RTZ Corporation PLC (now Rio Tinto PLC), P.T. RTZ-CRA Indonesia, RTZ Indonesian Finance Limited and First Trust of New York, National Association, and The Chase Manhattan Bank, as Administrative Agent, JAA Security Agent and Security Agent.		8-K	001-09916	11/13/1996

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Exhibit Number	Exhibit Title	Filed with this Form 10-K	Incorporated by Reference		
			Form	File No.	Date Filed
10.9	Amendment dated July 21, 2015, to the Restated Trust Agreement dated as of October 11, 1996, among PT Freeport Indonesia, PT Rio Tinto Indonesia (formerly P.T. RTZ-CRA Indonesia), U.S. Bank National Association, as trustee, JP Morgan Chase Bank, N.A., as depository, and the Secured Creditors.		10-Q	001-11307-01	8/10/2015
10.10	Concentrate Purchase and Sales Agreement dated effective December 11, 1996, between PT Freeport Indonesia and PT Smelting.		S-3	333-72760	11/5/2001
10.11	Amendment No. 1, dated as of March 19, 1998, Amendment No. 2 dated as of December 1, 2000, Amendment No. 3 dated as of January 1, 2003, Amendment No. 4 dated as of May 10, 2004, Amendment No. 5 dated as of March 19, 2009, Amendment No. 6 dated as of January 1, 2011, and Amendment No. 7 dated as of October 29, 2012, to the Concentrate Purchase and Sales Agreement dated effective December 11, 1996, between PT Freeport Indonesia and PT Smelting.		10-K	001-00082	2/27/2015
10.12	Distribution Agreement, dated as of August 10, 2015, by and between FCX and J.P. Morgan Securities LLC.		8-K	001-11307-01	8/10/2015
10.13	Distribution Agreement, dated as of September 18, 2015, by and among FCX, J.P. Morgan Securities LLC, Merrill Lynch, Pierce, Fenner & Smith Incorporated, BNP Paribas Securities Corp., Citigroup Global Markets Inc., HSBC Securities (USA) Inc., Mizuho Securities USA Inc. and Scotia Capital (USA) Inc.		8-K	001-11307-01	9/18/2015
10.14	Distribution Agreement, dated as of May 16, 2016, by and among FCX, Noble Drilling (U.S.) LLC, J.P. Morgan Securities LLC and HSBC Securities (USA) Inc.		8-K	001-11307-01	5/16/2016
10.15	Distribution Agreement, dated as of July 27, 2016, by and among FCX, J.P. Morgan Securities LLC, Merrill Lynch, Pierce, Fenner & Smith Incorporated, BBVA Securities Inc., BMO Capital Markets Corp., BNP Paribas Securities Corp., BTIG, LLC, CIBC World Markets Corp., Citigroup Global Markets Inc., HSBC Securities (USA) Inc., Mizuho Securities USA Inc., MUFG Securities Americas Inc., RBC Capital Markets, LLC, Santander Investment Securities Inc., Scotia Capital (USA) Inc., SMBC Nikko Securities America, Inc., TD Securities (USA) LLC and Wells Fargo Securities, LLC.		8-K	001-11307-01	7/27/2016
10.16	Nomination and Standstill Agreement dated October 7, 2015, by and between FCX, Carl C. Icahn, High River Limited Partnership, Hopper Investments LLC, Barberry Corp., Icahn Partners Master Fund LP, Icahn Offshore LP, Icahn Partners LP, Icahn Onshore LP, Icahn Capital LP, IPH GP LLC, Icahn Enterprises Holdings L.P., Icahn Enterprises G.P. Inc., Beckton Corp., Andrew Langham and Courtney Mather.		8-K	001-11307-01	10/7/2015
10.17	Confidentiality Agreement dated October 7, 2015, by and between FCX, Carl C. Icahn, High River Limited Partnership, Hopper Investments LLC, Barberry Corp., Icahn Partners Master Fund LP, Icahn Offshore LP, Icahn Partners LP, Icahn Onshore LP, Icahn Capital LP, IPH GP LLC, Icahn Enterprises Holdings L.P., Icahn Enterprises G.P. Inc., Beckton Corp., Andrew Langham and Courtney Mather.		8-K	001-11307-01	10/7/2015
10.18	Third Amended and Restated Joint Venture and Shareholders Agreement dated as of December 11, 2003 among PT Freeport Indonesia, Mitsubishi Corporation, Nippon Mining & Metals Company, Limited and PT Smelting, as amended by the First Amendment dated as of September 30, 2005, and the Second Amendment dated as of April 30, 2008.		10-K	001-00082	2/27/2015

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Exhibit Number	Exhibit Title	Filed	Incorporated by Reference		
		with this Form 10-K	Form	File No.	Date Filed
10.19	Participation Agreement, dated as of March 16, 2005, among Phelps Dodge Corporation, Cyprus Amax Minerals Company, a Delaware corporation, Cyprus Metals Company, a Delaware corporation, Cyprus Climax Metals Company, a Delaware corporation, Sumitomo Corporation, a Japanese corporation, Summit Global Management, B.V., a Dutch corporation, Sumitomo Metal Mining Co., Ltd., a Japanese corporation, Compañía de Minas Buenaventura S.A.A., a Peruvian sociedad anonima abierta, and Sociedad Minera Cerro Verde S.A.A., a Peruvian sociedad anonima abierta.		8-K	001-00082	3/22/2005
10.20	Shareholders Agreement, dated as of June 1, 2005, among Phelps Dodge Corporation, Cyprus Climax Metals Company, a Delaware corporation, Sumitomo Corporation, a Japanese corporation, Sumitomo Metal Mining Co., Ltd., a Japanese corporation, Summit Global Management B.V., a Dutch corporation, SMM Cerro Verde Netherlands, B.V., a Dutch corporation, Compañía de Minas Buenaventura S.A.A., a Peruvian sociedad anonima abierta, and Sociedad Minera Cerro Verde S.A.A., a Peruvian sociedad anonima abierta.		8-K	001-00082	6/7/2005
10.21	Term Loan Agreement dated as of February 14, 2013, among FCX, And Freeport-McMoRan Oil & Gas LLC, as borrowers, JPMorgan Chase Bank, N.A., as administrative agent, Bank of America, N.A., as syndication agent, HSBC Bank USA, National Association, Mizuho Corporate Bank, Ltd., Sumitomo Mitsui Banking Corporation, The Bank of Nova Scotia and The Bank of Tokyo-Mitsubishi UFJ, Ltd., as co-documentation agents, and each of the lenders party thereto.		8-K	001-11307-01	2/19/2013
10.22	First Amendment dated as of February 27, 2015, to Term Loan Agreement dated as of February 14, 2013, among FCX and Freeport-McMoRan Oil & Gas LLC, as borrowers, JPMorgan Chase Bank, N.A., as administrative agent, Bank of America, N.A., as syndication agent, HSBC Bank USA, National Association, Mizuho Corporate Bank, Ltd., Sumitomo Mitsui Banking Corporation, The Bank of Nova Scotia and The Bank of Tokyo-Mitsubishi UFJ, Ltd., as co-documentation agents, and each of the lenders party thereto.		10-K	001-00082	2/27/2015
10.23	Second Amendment dated as of December 9, 2015 to the Term Loan Agreement dated as of February 14, 2013, as amended by the First Amendment dated as of February 27, 2015, among FCX and Freeport-McMoRan Oil & Gas LLC, as borrowers, JPMorgan Chase Bank, N.A., as administrative agent, Bank of America, N.A., as syndication agent, HSBC Bank USA, National Association, Mizuho Corporate Bank, Ltd., Sumitomo Mitsui Banking Corporation, The Bank of Nova Scotia and The Bank of Tokyo-Mitsubishi UFJ, Ltd., as co-documentation agents, and each of the lenders party thereto.		8-K	001-11307-01	12/9/2015
10.24	Amendment and Restatement Agreement dated as of February 26, 2016, relating to the Term Loan Agreement dated as of February 14, 2013, as amended, among FCX and Freeport-McMoRan Oil & Gas LLC, as borrowers, JPMorgan Chase Bank, N.A., as administrative agent and each of the lenders from time to time party thereto.		10-K	001-11307-01	2/26/2016

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Exhibit Number	Exhibit Title	Filed with this Form 10-K	Incorporated by Reference		
			Form	File No.	Date Filed
10.25	Revolving Credit Agreement dated as of February 14, 2013, among FCX, PT Freeport Indonesia, and Freeport-McMoRan Oil & Gas LLC, as borrowers, JPMorgan Chase Bank, N.A., as administrative agent and the swingline lender, Bank of America, N.A., as syndication agent, BNP Paribas, Citibank, N.A., HSBC Bank USA, National Association, Mizuho Corporate Bank, Ltd., Sumitomo Mitsui Banking Corporation, The Bank of Nova Scotia and The Bank of Tokyo-Mitsubishi UFJ, Ltd., as co-documentation agents, and each of the lenders and issuing banks party thereto.		8-K	001-11307-01	2/19/2013
10.26	First Amendment dated as of May 30, 2014, to the Revolving Credit Agreement dated as of February 14, 2013, among FCX, PT Freeport Indonesia and Freeport-McMoRan Oil & Gas LLC, as borrowers, JPMorgan Chase Bank, N.A., as administrative agent and the swingline lender, Bank of America, N.A., as syndication agent, BNP Paribas, Citibank, N.A., HSBC Bank USA, National Association, Mizuho Bank, Ltd., Sumitomo Mitsui Banking Corporation, The Bank of Nova Scotia and The Bank of Tokyo-Mitsubishi UFJ, Ltd., as co-documentation agents, and each of the lenders and issuing banks party thereto.		8-K	001-11307-01	6/2/2014
10.27	Second Amendment dated as of February 27, 2015, to the Revolving Credit Agreement dated as of February 14, 2013, as amended by the First Amendment dated as of May 30, 2014, among FCX, PT Freeport Indonesia and Freeport-McMoRan Oil & Gas LLC, as borrowers, JPMorgan Chase Bank, N.A., as administrative agent and the swingline lender, Bank of America, N.A., as syndication agent, BNP Paribas, Citibank, N.A., HSBC Bank USA, National Association, Mizuho Bank, Ltd., Sumitomo Mitsui Banking Corporation, The Bank of Nova Scotia and The Bank of Tokyo-Mitsubishi UFJ, Ltd., as co-documentation agents, and each of the lenders and issuing banks party thereto.		10-K	001-00082	2/27/2015
10.28	Third Amendment dated as of December 9, 2015 to the Revolving Credit Agreement dated as of February 14, 2013, as amended by the First Amendment dated as of May 30, 2014 and the Second Amendment dated as of February 27, 2015, among FCX, PT Freeport Indonesia and Freeport-McMoRan Oil & Gas LLC, as borrowers, JPMorgan Chase Bank, N.A., as administrative agent and the swingline lender, Bank of America, N.A., as syndication agent, BNP Paribas, Citibank, N.A., HSBC Bank USA, National Association, Mizuho Corporate Bank, Ltd., Sumitomo Mitsui Banking Corporation, The Bank of Nova Scotia and The Bank of Tokyo-Mitsubishi UFJ, Ltd., as co-documentation agents, and each of the lenders and issuing banks party thereto.		8-K	001-11307-01	12/9/2015
10.29	Amendment and Restatement Agreement dated as of February 26, 2016, relating to the Revolving Credit Agreement dated as of February 14, 2013, as amended, among FCX, PT Freeport Indonesia and Freeport-McMoRan Oil & Gas LLC, as borrowers, JPMorgan Chase Bank, N.A., as administrative agent and each of the lenders and issuing banks from time to time party thereto.		10-K	001-00082	2/26/2016
10.30*	Amended and Restated Employment Agreement dated February 27, 2014, between FCX and James C. Flores.		8-K	001-11307-01	3/3/2014
10.31*	Letter Agreement dated as of December 19, 2013, by and between FCX and Richard C. Adkerson.		8-K	001-11307-01	12/23/2013
10.32*	FCX Director Compensation.		10-K	001-00082	2/26/2016

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Exhibit Number	Exhibit Title	Filed with this Form 10-K	Incorporated by Reference		
			Form	File No.	Date Filed
10.33*	Amended and Restated Executive Employment Agreement dated effective as of December 2, 2008, between FCX and Kathleen L. Quirk.		10-K	001-11307-01	2/26/2009
10.34*	Amendment to Amended and Restated Executive Employment Agreement dated December 2, 2008, by and between FCX and Kathleen L. Quirk, dated April 27, 2011.		8-K	001-11307-01	4/29/2011
10.35*	FCX Executive Services Program	X			
10.36*	FCX Supplemental Executive Retirement Plan, as amended and restated.		8-K	001-11307-01	2/5/2007
10.37*	FCX Supplemental Executive Capital Accumulation Plan.		10-Q	001-11307-01	5/12/2008
10.38*	FCX Supplemental Executive Capital Accumulation Plan Amendment One.		10-Q	001-11307-01	5/12/2008
10.39*	FCX Supplemental Executive Capital Accumulation Plan Amendment Two.		10-K	001-11307-01	2/26/2009
10.40*	FCX Supplemental Executive Capital Accumulation Plan Amendment Three.		10-K	001-00082	2/27/2015
10.41*	FCX Supplemental Executive Capital Accumulation Plan Amendment Four.		10-K	001-00082	2/27/2015
10.42*	FCX 2005 Supplemental Executive Capital Accumulation Plan, as amended and restated effective January 1, 2015.		10-K	001-00082	2/27/2015
10.43*	FCX Amended and Restated 1999 Stock Incentive Plan, as amended and restated.		10-Q	001-11307-01	5/10/2007
10.44*	FCX 2003 Stock Incentive Plan, as amended and restated.		10-Q	001-11307-01	5/10/2007
10.45*	FCX 2004 Director Compensation Plan, as amended and restated.		10-Q	001-11307-01	8/6/2010
10.46*	FCX Amended and Restated 2006 Stock Incentive Plan.		10-K	001-11307-01	2/27/2014
10.47*	Form of Notice of Grant of Nonqualified Stock Options for grants under the FCX 1999 Stock Incentive Plan, the 2003 Stock Incentive Plan and the 2006 Stock Incentive Plan.		10-K	001-11307-01	2/29/2008
10.48*	Form of Notice of Grant of Nonqualified Stock Options and Restricted Stock Units under the 2006 Stock Incentive Plan (for grants made to non-management directors and advisory directors).		8-K	001-11307-01	6/14/2010
10.49*	Form of Nonqualified Stock Options Grant Agreement (effective February 2012).		10-K	001-11307-01	2/27/2012
10.50*	Form of Restricted Stock Unit Agreement (effective February 2012).		10-K	001-11307-01	2/27/2012
10.51*	Form of Nonqualified Stock Options Grant Agreement under the FCX stock incentive plans (effective February 2014).		10-K	001-11307-01	2/27/2014
10.52*	Form of Restricted Stock Unit Agreement under the FCX stock incentive plans (effective February 2014).		10-K	001-11307-01	2/27/2014
10.53*	Form of Performance Share Unit Agreement (effective February 2014).		8-K	001-11307-01	3/3/2014
10.54*	FCX Annual Incentive Plan (For Fiscal Years Ending 2014 - 2018).		8-K	001-11307-01	6/18/2014
10.55*	Form of Notice of Grant of Restricted Stock Units (for grants made to non-management directors).	X			
10.56*	Form of Restricted Stock Unit Agreement under the FCX stock incentive plans (effective February 2015).		10-K	001-00082	2/27/2015

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Exhibit Number	Exhibit Title	Filed with this Form 10-K	Incorporated by Reference		
			Form	File No.	Date Filed
10.57*	FCX 2016 Stock Incentive Plan		8-K	001-11307-01	6/9/2016
12.1	FCX Computation of Ratio of Earnings to Fixed Charges.	X			
14.1	FCX Principles of Business Conduct.	X			
21.1	Subsidiaries of FCX.	X			
23.1	Consent of Ernst & Young LLP.	X			
24.1	Certified resolution of the Board of Directors of FCX authorizing this report to be signed on behalf of any officer or director pursuant to a Power of Attorney.	X			
24.2	Powers of Attorney pursuant to which this report has been signed on behalf of certain officers and directors of FCX.	X			
31.1	Certification of Principal Executive Officer pursuant to Rule 13a-14(a)/15d – 14(a).	X			
31.2	Certification of Principal Financial Officer pursuant to Rule 13a-14(a)/15d – 14(a).	X			
32.1	Certification of Principal Executive Officer pursuant to 18 U.S.C. Section 1350.	X			
32.2	Certification of Principal Financial Officer pursuant to 18 U.S.C Section 1350.	X			
95.1	Mine Safety Disclosure.	X			
101.INS	XBRL Instance Document.	X			
101.SCH	XBRL Taxonomy Extension Schema.	X			
101.CAL	XBRL Taxonomy Extension Calculation Linkbase.	X			
101.DEF	XBRL Taxonomy Extension Definition Linkbase.	X			
101.LAB	XBRL Taxonomy Extension Label Linkbase.	X			
101.PRE	XBRL Taxonomy Extension Presentation Linkbase.	X			

Note: Certain instruments with respect to long-term debt of FCX have not been filed as exhibits to this Annual Report on Form 10-K since the total amount of securities authorized under any such instrument does not exceed 10 percent of the total assets of FCX and its subsidiaries on a consolidated basis. FCX agrees to furnish a copy of each such instrument upon request of the Securities and Exchange Commission.

* Indicates management contract or compensatory plan or arrangement.

Pursuant to a request for confidential treatment, portions of this exhibit have been redacted from the publicly filed document and have been furnished separately to the Securities and Exchange Commission.