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, 2021
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	**74-2480931**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
333 North Central Avenue Phoenix Arizona	**85004-2189**
(Address of principal executive offices)	(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	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.10 per share	FCX	The 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 every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). ☑ Yes ☐ No

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

Large accelerated filer	☑	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☑

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 $48.6 billion on June 30, 2021.

Common stock issued and outstanding was 1,454,781,055 shares on January 31, 2022.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's proxy statement for its 2022 annual meeting of stockholders are incorporated by reference into Part III of this report.

Freeport-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, "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. Our website is for information only and the contents of our website are not incorporated in, or otherwise to be regarded as part of, this Form 10-K.

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 and Quantitative and Qualitative Disclosures About Market Risk included herein (refer to Items 7. and 7A.).

GENERAL

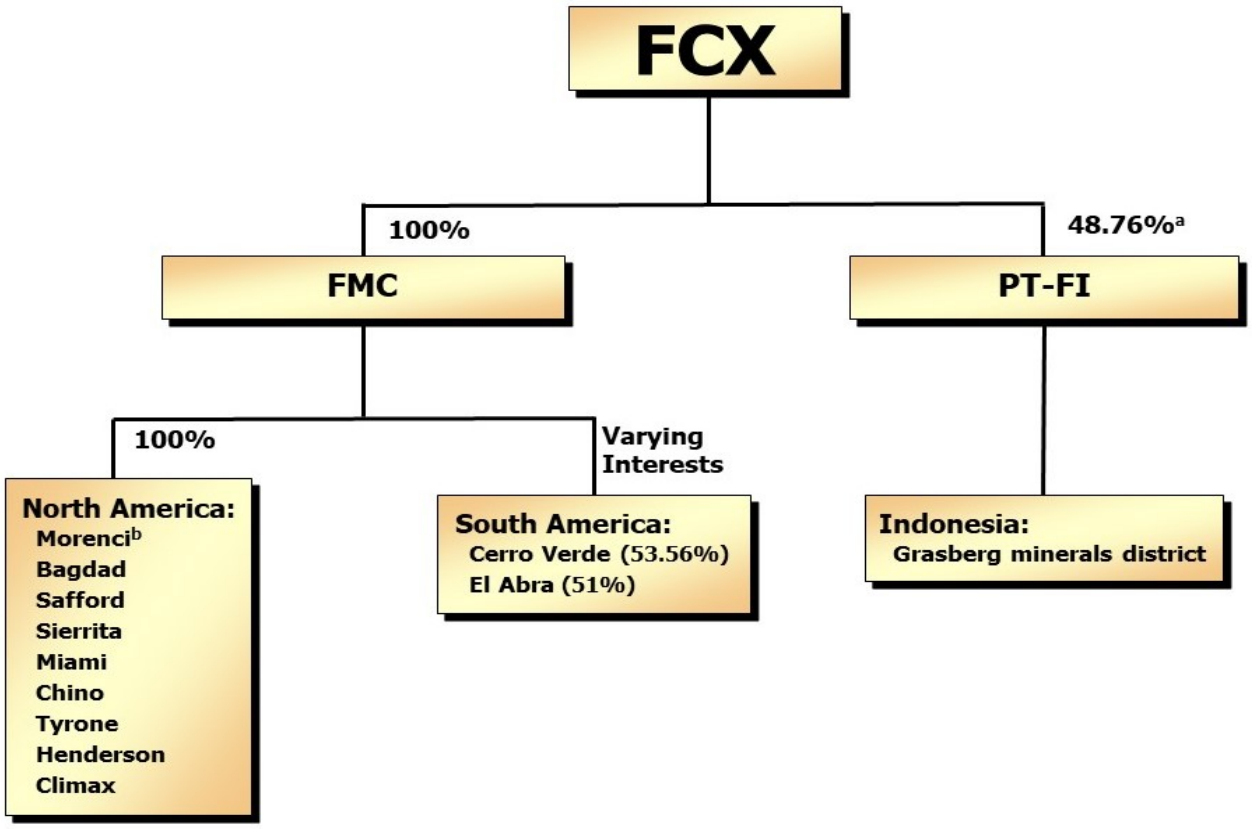
We are a leading international mining company with headquarters in Phoenix, Arizona. We operate large, long-lived, geographically diverse assets with significant proven and probable mineral reserves of copper, gold and molybdenum. We are one of the world's largest publicly traded copper producers. Our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

Our results for 2021 reflect strong operating and financial performance, and cash flow generation. We remained focused on cost and capital management and advanced our sustainability objectives. Despite continued challenges associated with the COVID-19 pandemic, we achieved a 19 percent increase in copper sales volumes and a 59 percent increase in gold sales volumes in 2021, compared with 2020. To date, our vigilant operating protocols have been effective in mitigating and preventing a major outbreak of COVID-19 at each of our operating sites. Protecting the health of our workforce and communities where we operate is a top priority, and we continue to focus on safeguarding our business in an uncertain public health and economic environment.

We believe that we have a high-quality portfolio of long-lived copper assets positioned to generate long-term value. The ramp-up of underground mining at the Grasberg minerals district in Indonesia continues to advance on schedule, and in fourth-quarter 2021, we achieved quarterly copper and gold volumes approximating 100 percent of the projected annualized levels. Also, the Lone Star copper leach project at our Safford mine is exceeding the initial design capacity of 200 million pounds annually and produced approximately 235 million pounds of copper in 2021. During 2022, we plan to continue to advance organic growth initiatives at our operating sites, based on a favorable operational and market outlook.

During 2021, we adopted and implemented a performance-based payout framework. Refer to Item 1A. "Risk Factors," Item 5. "Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities," MD&A and Note 10 for further discussion.

Following are our ownership interests at December 31, 2021, in operating mines through our consolidated subsidiaries, Freeport Minerals Corporation (FMC) and PT Freeport Indonesia (PT-FI):



a. Our economic interest in PT-FI is expected to approximate 81 percent through 2022 and 48.76 percent thereafter. Refer to Note 3 for discussion of the PT-FI divestment transaction.

b. FMC has a 72 percent undivided interest in Morenci via an unincorporated joint venture. Refer to Note 3 for further discussion.

At December 31, 2021, our estimated consolidated recoverable proven and probable mineral reserves totaled 107.2 billion pounds of copper, 27.1 million ounces of gold and 3.39 billion pounds of molybdenum. Following is the allocation of our estimated consolidated recoverable proven and probable mineral reserves at December 31, 2021, by geographic location (refer to “Mining Operations” and “Mineral Reserves” for further discussion):

	Copper	Gold	Molybdenum
North America	40 %	2 %	79 % [a]
South America	30	—	21
Indonesia	30	98	—
	100 %	100 %	100 %

a. Our Henderson and Climax molybdenum mines contain 19 percent of our estimated consolidated recoverable proven and probable molybdenum reserves, and our North America copper mines contain 60 percent.

In North America, we operate seven copper mines - Morenci, Bagdad, Safford (including Lone Star), 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, PT-FI operates in the Grasberg minerals district. In addition to copper, the Grasberg minerals district also produces gold and silver.

Following is the allocation of our consolidated copper, gold and molybdenum production for the year 2021 by geographic location (refer to “Mining Operations” and MD&A for further information):

	Copper	Gold	Molybdenum
North America	38 %	1 %	76 % [a]
South America	27	—	24
Indonesia	35	99	—
	100 %	100 %	100 %

a. Our Henderson and Climax molybdenum mines produced 36 percent of our consolidated molybdenum production, and our North America copper mines produced 40 percent.

Copper production from three of our mines, the Morenci mine in North America, the Cerro Verde mine in Peru and the Grasberg minerals district in Indonesia, together totaled 74 percent of our consolidated copper production in 2021.

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



COPPER, GOLD AND MOLYBDENUM

Following is 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.

Copper

Copper is an internationally traded commodity, and its prices are determined by the major metals exchanges - the London Metal Exchange (LME), Commodity Exchange Inc. (COMEX) 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 2021, the LME copper settlement price averaged $4.23 per pound, ranging from a low of $3.52 per pound to a record high of $4.86 per pound, and was $4.40 per pound on December 31, 2021.

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 (29 percent), electrical applications (27 percent), consumer products (22 percent), transportation (11 percent) and industrial machinery (11 percent). We believe copper will continue to be essential in these basic uses as well as contribute significantly to new technologies for clean energy, to advance communications and to enhance public health. Examples of areas we believe will require additional copper in the future include: (i) high efficiency motors, which consume up to 75 percent more copper than a standard motor; (ii) electric vehicles, which consume up to four

times the amount of copper in terms of weight compared to vehicles of similar size with an internal combustion engine, and require copper-intensive charging station infrastructure to refuel; and (iii) renewable energy such as wind and solar, which consume four to five times the amount of copper compared to traditional fossil fuel generated power.

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) quotations. During 2021, the London PM gold price averaged $1,799 per ounce, ranging from a low of $1,684 per ounce to a high of $1,943 per ounce, and was $1,806 per ounce on December 30, 2021 (there was no London PM gold price quote on December 31, 2021).

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 2021, the weekly average price of molybdenum quoted by *Metals Week* averaged $15.92 per pound, ranging from a low of $10.09 per pound to a high of $20.01 per pound, and was $18.70 per pound on December 31, 2021.

PRODUCTS AND SALES

Our consolidated revenues for 2021 primarily included sales of copper (80 percent), gold (11 percent) and molybdenum (6 percent). Copper concentrate sales to PT Smelting (PT-FI's 39.5-percent-owned copper smelter and refinery in Gresik, Indonesia) totaled 14 percent of our consolidated revenues for the year ended December 31, 2021, 12 percent for the year ended December 31, 2020, and 13 percent for the year ended December 31, 2019, which is the only customer that accounted for 10 percent or more of our consolidated revenues during the three years ended December 31, 2021. 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 2021, 59 percent of our mined copper was sold in concentrate, 21 percent as cathode and 20 percent as rod from our 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) as described below.

Copper Concentrate. We produce copper concentrate at six of our mines in which mined ore is crushed and treated to produce a copper concentrate with copper content of approximately 20 to 30 percent. 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 for further processing. 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. For ore subject to the SX/EW process, the ore is placed on stockpiles and copper is extracted from the ore by dissolving it with a weak sulfuric acid solution. The copper content of the solution is increased in two additional SX stages, and then the copper-bearing solution undergoes an EW 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 cathode is also produced at Atlantic Copper (our wholly owned copper smelting and refining unit in Spain) and PT Smelting. Copper concentrate is 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. 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 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 to produce copper rod which is sold to wire and cable manufacturers. 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 COMEX monthly average settlement price for the month of shipment and include a premium. Generally, copper cathode is sold to rod, brass or tube fabricators. During 2021, 23 percent of our North America mines' copper concentrate sales volumes were shipped to Atlantic Copper for smelting and refining and sold as copper anode and copper cathode by 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 2021, our South America mines sold approximately 75 percent of their copper production in concentrate and 25 percent as cathode. During 2021, 5 percent of our South America mines' copper concentrate sales volumes were shipped to Atlantic Copper for smelting and refining and sold as copper anode and copper cathode by Atlantic Copper.

Substantially all of our South America 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 settlement copper prices. Revenues from our South America 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 our South America 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, primarily 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 of concentrate sales to unaffiliated third parties, PT Smelting and Atlantic Copper for the years ended December 31:

	2021	2020	2019
Third parties	55 %	48 %	34 %
PT Smelting	41	50	64
Atlantic Copper	4	2	2
	100 %	100 %	100 %

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 settlement copper prices. Revenues from PT-FI's concentrate sales are recorded net of royalties, export duties, treatment charges and allowances for unrecoverable metals.

Refer to Item 1A. "Risk Factors" for discussion of Indonesia regulations regarding PT-FI's concentrate exports.

Gold Products and Sales

We produce gold almost exclusively from the Grasberg minerals district. The gold we produce is primarily sold as a component of our copper concentrate or in slimes, which are a product of the smelting and refining process. 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 charges, royalties, export duties and allowances for unrecoverable metals. 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. Our molybdenum sales are primarily priced based on the average published *Metals Week* price for the month prior to the month of shipment.

GOVERNMENTAL REGULATIONS

Our operations are subject to a broad range of laws and regulations imposed by governments and regulatory bodies, both in the U.S. and internationally. These regulations touch all aspects of our operations, including how we extract, process and explore for minerals and how we conduct our business, including regulations governing matters such as environmental and reclamation matters, mining rights, climate change, occupational health and safety and human rights.

Environmental and Reclamation Matters

Our operations are subject to extensive and complex laws and regulations, including 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; protection of endangered and threatened 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. As a mining company, compliance with environmental, health and safety laws and regulations is an integral and costly part of our business. We conduct our operations in a manner that aims to protect public health and the environment, and we believe our operations are in compliance with applicable laws and regulations in all material respects.

Laws such as the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (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 previously sent materials for processing, recycling or disposal. We have substantial obligations for environmental remediation on mining properties previously owned or operated by FMC and certain of its affiliates. At December 31, 2021, we had $1.7 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.

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. 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. 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 CERCLA or similar state laws.

Regulations have been considered at various governmental levels to increase financial responsibility requirements both for mine closure and reclamation. In 2019, legislation was enacted in Colorado that eliminates our ability to use parent company guarantees, and requires proof of an end date for water treatment as a condition of permit issuance authorizing mining operations, with some exceptions for existing operations. In 2018, EPA concluded a rulemaking that considered the need for financial responsibility for hardrock mining operations under CERCLA by publishing its determination that it did not intend to require financial responsibility for the hardrock mining industry sector. In 2019, the D.C. Circuit upheld the EPA's decision. In connection with the Presidential Executive Order issued on January 20, 2021, EPA will review this final action, though the timing of its review is unknown.

Our mining operations are also subject to regulations under the Endangered Species Act (ESA) that are intended to protect species listed by the Department of Interior's Fish & Wildlife Service (FWS) as endangered or threatened, along with critical habitat designated by FWS for these listed species. The regulations 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. On October 26, 2021, FWS published two proposed rules that rescind changes made in 2019 and 2020 to mitigate potential regulatory constraints on mining operations under the ESA.

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 above and in Item 1A. "Risk Factors." For example, our Miami, Arizona, smelter processes a significant portion of the copper concentrate produced by our North America copper mines. EPA is currently in the process of revising the standards for hazardous air pollutants from primary copper smelters, which could impose additional requirements on our operations. We may be required to modify our systems or install additional equipment to address findings, new

requirements or for other reasons, which could result in significant costs, including increased capital expenditures and operating costs, and could adversely impact our business.

EPA and state agencies continue to consider regulations for man-made organic compounds that could be present in soil, groundwater and surface water at our existing and former operations. These regulations may include drinking water standards, hazardous waste requirements, and hazardous substance designations for Perfluorooctanesulfonic and Perfluorooctanoic acids. EPA is also considering how to reduce lead exposure in the environment under multiple environmental programs. Certain federal and state health agencies also support more stringent lead cleanup levels. The timing for these EPA activities is unclear, but reduction in lead cleanup levels could result in material increases to our environmental reserves for ongoing residential property cleanup projects near former smelter sites.

EPA and the Department of the Army (together, the Agencies) continue to consider whether and how to regulate remote “tributaries” under the regulatory definition of “waters of the United States” that are protected by the Clean Water Act. These requirements can impose significant additional restrictions on land uses in remote areas with only tenuous connections to active waterways. Regulations adopted by the Agencies in 2015, 2019 and 2020 governing “waters of the United States” have been challenged by multiple states and industry parties and litigation on all three final rules is ongoing. Most recently, a federal district court in Arizona vacated and remanded the regulations that became effective in 2020, and the Agencies subsequently published a proposed rule on December 7, 2021, that announced they will revert back to regulations in place prior to 2015. These rules define whether we need federal authorization under the Clean Water Act to expand our 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 $0.3 billion in both 2021 and 2020 and $0.4 billion in 2019. For 2022, we expect to incur approximately $0.5 billion of aggregate environmental capital expenditures and other environmental costs. The timing and amounts of estimated payments could change as a result of changes in regulatory requirements, changes in scope and costs of reclamation activities, the settlement of environmental matters and the rate at which actual spending occurs on continuing matters.

For information about environmental regulation, litigation and related costs, refer to Item 1A. “Risk Factors” and Notes 1 and 12.

Mining Rights

We conduct our mining and exploration activities pursuant to concessions granted by, or under contracts with, the host government in the countries where we operate. These countries include, among others, the U.S., Peru, Chile and Indonesia. Mining rights include our license to operate and involve our payment of applicable taxes and royalties to the host governments. The concessions and contracts are subject to the political risks associated with the host countries. For information about mining rights, including laws and regulations applicable to PT-FI, governmental agreements and licenses to operate, refer to “Mining Operations” below, Item 1A. “Risk Factors” and Notes 3, 11, 12 and 13.

Climate Change

In many of the jurisdictions in which we operate, governmental bodies are increasingly enacting legislation and regulations in response to the potential impacts of climate change. For example, as a result of the 2015 Paris Agreement, a number of governments have pledged “Nationally Determined Contributions” to control and reduce greenhouse gas emissions, including the U.S. Additionally, the recent pledges made as part of the 2021 Glasgow Climate Pact could result in further policy changes in many of the jurisdictions in which we operate. Further, several states in the U.S., including Colorado and New Mexico, have advanced goals reducing or eliminating fossil fuel-based energy production. Carbon tax legislation also has been adopted in jurisdictions where we operate, including Indonesia, and we expect that such carbon taxes and other carbon pricing mechanisms will increase over time. We anticipate that we will dedicate more resources and money to comply and remediate in response to legislative or regulatory changes, and our ability to modify our operations to avoid these costs may be limited in the near term. However, it is not yet possible to reasonably estimate the nature, extent, timing and cost or other impacts of any future carbon pricing mechanisms, other climate change regulatory programs or future legislative action that may be enacted.

For information about the potential impacts of climate change and related regulations, refer to Item 1A. “Risk Factors.”

Health and Safety

The safety and health of our workforce 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. We are 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 (Mine Act). MSHA inspects our mines on a regular basis and issues citations and orders when it believes a violation has occurred under the Mine Act. Additionally, in the U.S. various state agencies have concurrent jurisdiction arising under state law that regulate worker health and safety in both our industrial facilities and mines. If regulatory inspections result in an alleged violation, we may be subject to fines and penalties and, in instances of alleged significant violations, our mining operations or industrial facilities could be subject to temporary or extended closures. Refer to Exhibit 95.1 to this Form 10-K for additional information regarding certain orders and citations issued by MSHA for our operations during the year ended December 31, 2021. For information about health and safety, refer to “Human Capital” below and Item 4. “Mine Safety Disclosures.”

Human Rights

We have adopted policies that govern our working relationships with the communities and governments where we operate and that 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. For information about human rights, refer to “Community and Human Rights” below.

COMPETITION

The top 10 producers of copper comprise approximately 43 percent of total worldwide mined copper production. For the year 2021, we ranked second among those producers, with approximately seven 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

The Copper Mark
We are committed to validating all of our copper producing sites, including our mines and smelting and refining facilities, with the Copper Mark, a comprehensive assurance framework designed to demonstrate the copper industry’s responsible production practices. To achieve the Copper Mark, each site is required to complete an external assurance process to assess conformance with 32 environmental, social and governance requirements. As of December 31, 2021, we had a total of seven sites that had been validated (Bagdad, Morenci, Miami, El Paso, Cerro Verde, El Abra and Atlantic Copper), and we have commenced the Copper Mark assessment process at four additional sites in North America (Chino, Tyrone, Safford and Sierrita).

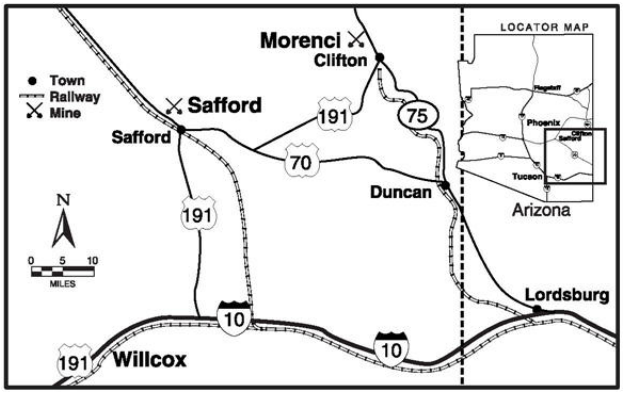
Tailings Management
Our tailings management and stewardship program, which involves qualified external Engineers of Record and periodic oversight by independent tailings Technical Review Boards and our Tailings Stewardship Team, complies with the tailings governance framework on preventing catastrophic failure of tailings storage facilities adopted in December 2016 by the International Council on Mining and Metals (ICMM), an industry group of which we are a founding member, and required to be implemented by ICMM members. In August 2020, the co-conveners of the Global Tailings Review, which included ICMM, published the Global Industry Standard on Tailings Management (the Tailings Standard). The Tailings Standard includes 77 requirements across 6 key areas including the design, construction, operation and monitoring of tailings facilities, management and governance, emergency response and long-term recovery, and public disclosure. As a member of ICMM, we are committed to implementation of the

Tailings Standard by August 2023 for priority tailings storage facilities and by August 2025 for our remaining facilities, in line with the Tailings Standard requirements/commitments.

Overview of Mines
Following are maps and descriptions of our mining operations in North America (including both copper and molybdenum operations), South America and Indonesia. We consider our material mines, as defined under the disclosure requirements of Subpart 1300 of Regulation S-K (S-K 1300), to be the Morenci mine in North America, the Cerro Verde mine in Peru and the Grasberg minerals district in Indonesia. Refer to Exhibits 96.1, 96.2 and 96.3 for the Technical Report Summaries that have been prepared for our material mines in support of the disclosure and filing requirements of the SEC under S-K 1300.

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 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. We hold various federal and state permits or leases on government land for purposes incidental to mine operations.

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. In the 1880s, Phelps Dodge & Company (Phelps Dodge) first invested in the area, and through acquisition, consolidated all mining operations in the area by the 1920s. Phelps Dodge was acquired by FCX in 2007. Morenci is located in Greenlee County, Arizona, approximately 50 miles northeast of Safford on U.S. Highway 191. The property is located at latitude 33.07 degrees north and longitude 109.35 degrees west using the World Geodetic System (WGS) 84 coordinate system. 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 with a milling design capacity of 132,000 metric tons of ore per day, which produce copper and molybdenum concentrate; a 72,500 metric ton-per-day, crushed-ore leach pad and stacking system; a low-grade run-of-mine (ROM) leaching system; four SX plants; and three EW tank houses that produce copper cathode. Total EW tank house capacity is approximately 900 million pounds of copper per year. Morenci's available mining fleet consists of one hundred and fifty-four 236-metric-ton haul trucks loaded by 13 electric shovels with bucket sizes ranging from 47 to 57 cubic meters. Morenci's mining fleet is capable of moving an average of 815,000 metric tons of material per day. One of Morenci's concentrators, which has a milling capacity of approximately 50,000 metric tons of ore per day was restarted in July 2021 after being on care and maintenance

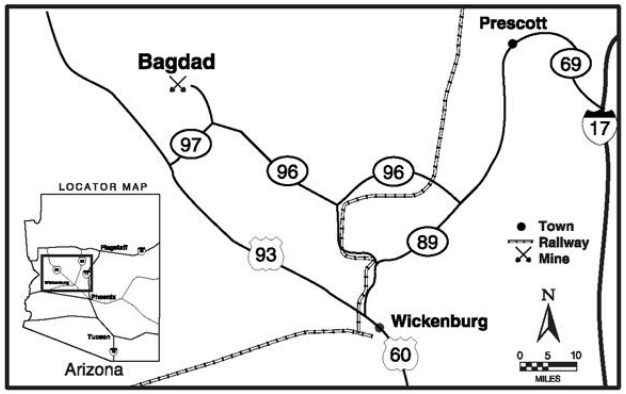
status and is expected to resume operating at full capacity in early 2022. Our share of Morenci's net property, plant, equipment and mine development costs at December 31, 2021, totaled $1.9 billion.

Morenci's production, including our joint venture partners' share, totaled 0.9 billion pounds of copper and 5 million pounds of molybdenum in 2021, 1.0 billion pounds of copper and 6 million pounds of molybdenum in 2020, and 1.0 billion pounds of copper and 5 million pounds of molybdenum in 2019.

Morenci is located in a desert environment with rainfall averaging 13 inches per year. The highest bench elevation is 1,900 meters above sea level and the ultimate pit bottom is expected to have an elevation of 780 meters above sea level. The Morenci operation encompasses approximately 61,700 acres, comprising 51,300 acres of fee lands and 10,400 acres of unpatented mining claims held on public mineral estate and numerous state or federal permits, easements and rights-of-way.

The Morenci operation's electrical power is supplied by our wholly owned subsidiary, Morenci Water and Electric Company (MW&E). MW&E sources its generation services through our wholly owned subsidiary, Freeport-McMoRan Energy Services, through capacity rights at the Luna Energy Facility in Deming, New Mexico, and other power purchase agreements. 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 right claims or rights to continued use of currently available water supplies, which could adversely affect our water supply for the Morenci operation. Refer to "Governmental Regulations" above, 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 U.S. Highway 93 to State Route 97 or Arizona Highway 96, which ends at the town of Bagdad. The closest railroad is at Hillside, Arizona, 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.

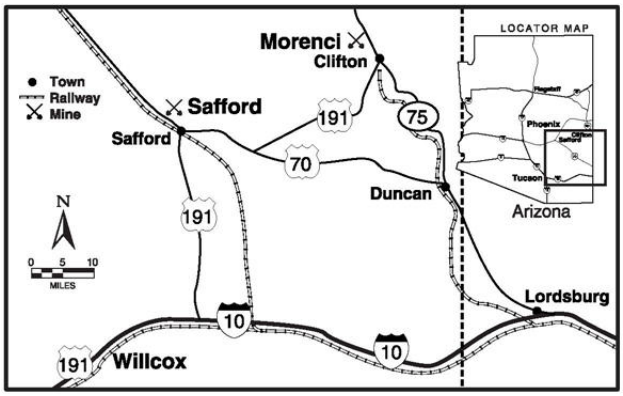
The Bagdad operation consists of a concentrator with a milling design capacity of 77,100 metric tons of ore per day that produces copper and molybdenum concentrate, a SX/EW plant that can produce approximately 6 million pounds per year of copper cathode from solution generated by low-grade stockpile leaching, and a pressure-leach plant to process molybdenum concentrate. The available mining fleet consists of thirty-two 235-metric-ton haul trucks loaded by eight electric shovels with bucket sizes ranging from 30 to 48 cubic meters, which are capable of moving an average of 236,000 metric tons of material per day. Bagdad's net property, plant, equipment and mine development costs at December 31, 2021, totaled $618 million. We are evaluating an expansion to potentially double concentrate capacity at our Bagdad operation.

Bagdad's production totaled 184 million pounds of copper and 9 million pounds of molybdenum in 2021, 216 million pounds of copper and 11 million pounds of molybdenum in 2020, and 218 million pounds of copper and 13 million pounds of molybdenum in 2019.

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 150 meters above sea level. The Bagdad operation encompasses approximately 51,200 acres, comprising 40,000 acres of fee lands and 11,200 acres of unpatented mining claims held on public mineral estate and numerous state or federal permits, easements and rights-of-ways.

Bagdad receives electrical power from Arizona Public Service Company. We believe the Bagdad operation has sufficient water sources to support current operations.

Safford, including Lone Star



Our wholly owned Safford mine has been in operation since 2007 and is an open-pit copper mining complex located in Graham County, Arizona, 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 three 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 only Safford deposit currently being mined is the Lone Star copper leach project, which began operations in the second half of 2020 and produced approximately 235 million pounds of copper in 2021. We continue to advance opportunities to increase Lone Star operating rates and are advancing plans to increase volumes to achieve 300 million pounds of copper per year from oxide ores. The oxide project advances the opportunity for development of the large-scale sulfide resources at Lone Star. We are increasing exploration in the area to support metallurgical testing and mine development planning for a potential long-term investment in a concentrator.

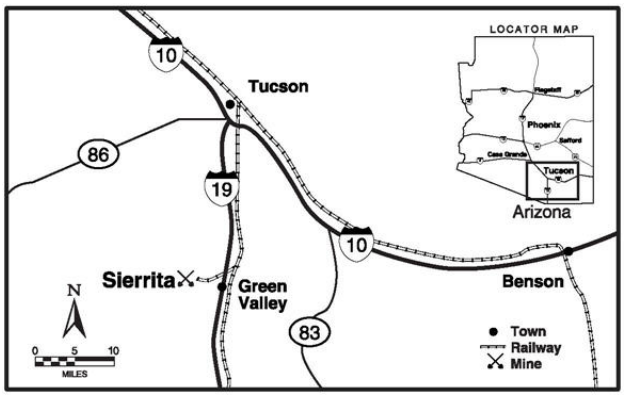
Safford is a mine-for-leach operation that produces copper cathode. The operation consists of three open pits, of which one (Lone Star) is currently being mined, feeding a crushing facility with a design capacity of 103,500 metric tons of ore per day. The crushed ore is delivered to a leach pad by a series of overland and portable conveyors. Leach solutions feed a SX/EW facility with a capacity of 305 million pounds of copper per year. A sulfur burner plant is also in operation at Safford, providing a cost-effective source of sulfuric acid used in SX/EW operations. The available mining fleet consists of forty-two 235-metric-ton haul trucks loaded by six electric shovels with bucket sizes ranging from 34 to 47 cubic meters, which are capable of moving an average of 358,000 metric tons of material per day. Safford's net property, plant, equipment and mine development costs at December 31, 2021, totaled $1.2 billion.

Safford's copper production totaled 265 million pounds in 2021, 161 million pounds in 2020 and 110 million pounds in 2019.

Safford is located in a desert environment with rainfall averaging 10 inches per year. The highest bench elevation is 1,783 meters above sea level and the ultimate pit bottom is expected to have an elevation of 823 meters above sea level. The Safford operation encompasses approximately 78,300 acres, comprising 37,700 acres of fee lands and 40,600 acres of unpatented claims held on public mineral estate.

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 "Governmental Regulations" above, 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.

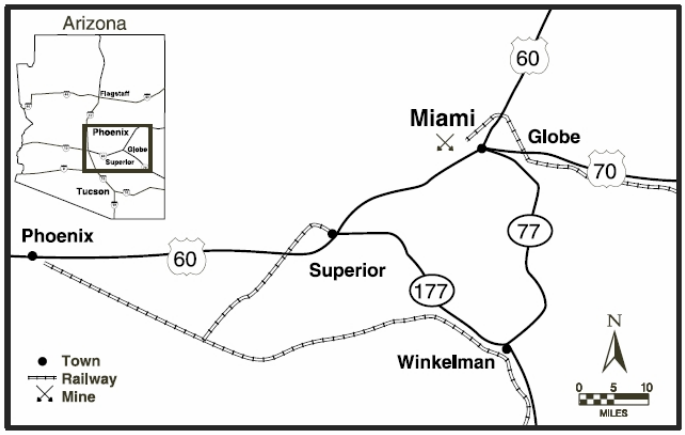
The Sierrita operation includes a concentrator with a milling design capacity of 100,000 metric tons of ore per day that produces copper and molybdenum concentrate. Sierrita also produces copper from a ROM oxide-leaching system. Cathode copper is plated at the Twin Buttes EW facility, which has a design 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-four 235-metric-ton haul trucks loaded by three electric shovels with bucket sizes ranging from 34 to 56 cubic meters, which are capable of moving an average of 175,000 metric tons of material per day. Sierrita's net property, plant, equipment and mine development costs at December 31, 2021, totaled $722 million.

Sierrita's production totaled 189 million pounds of copper and 21 million pounds of molybdenum in 2021, 178 million pounds of copper and 17 million pounds of molybdenum in 2020, and 160 million pounds of copper and 16 million pounds of molybdenum in 2019.

Sierrita is located in a desert environment with rainfall averaging 14.5 inches per year. The highest bench elevation is 1,300 meters above sea level and the ultimate pit bottom is expected to be 410 meters above sea level. The Sierrita operation, including the adjacent Twin Buttes site, encompasses approximately 47,600 acres, comprising 38,700 acres of fee lands including split estate lands and 8,900 acres of unpatented mining claims held on public mineral estate.

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 "Governmental Regulations" above, 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, 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.

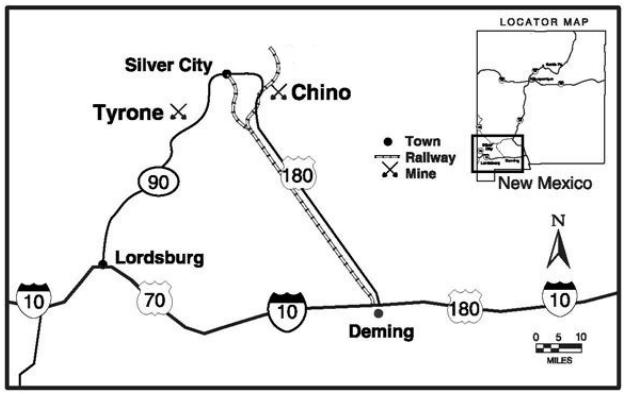
Since about 1915, the Miami mining operation had processed copper ore using both flotation and leaching technologies. The design capacity of the SX/EW plant is 200 million pounds of copper per year. Miami is no longer mining ore, but currently produces copper through leaching material already placed on stockpiles, which is currently expected to continue through at least 2025. Miami's net property, plant, equipment and mine development costs at December 31, 2021, totaled $4 million.

Miami's copper production totaled 12 million pounds in 2021, 17 million pounds in 2020 and 15 million pounds in 2019.

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 mining advanced the pit bottom to an elevation of 810 meters above sea level. Subsequent sloughing of material into the pit has filled it back to an elevation estimated to be 900 meters above sea level. The Miami operation encompasses approximately 14,700 acres, comprising 10,400 acres of fee lands and 4,300 acres of unpatented mining claims held on public mineral estate.

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. Refer to "Governmental Regulations" above and Item 1A. "Risk Factors" for further discussion.

Chino and Tyrone



Chino
Our wholly owned Chino mine, which has been in operation since 1910, 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.

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 concentrator with a milling design capacity of 36,000 metric tons of ore per day that produces copper 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 twenty-five 240-metric-ton haul trucks loaded by three electric shovels with bucket sizes ranging from 31 to 48 cubic meters, which are capable of moving an average of 180,000 metric tons of material per day. Chino's net property, plant, equipment and mine development costs at December 31, 2021, totaled $491 million.

In April 2020, operations at Chino were suspended in connection with our revised operating plans in response to the COVID-19 pandemic. During first-quarter 2021, we restarted mining activities at the Chino mine at a reduced rate of approximately 100 million pounds of copper per year (approximately 50 percent capacity). Chino's copper production totaled 124 million pounds in 2021, 92 million pounds in 2020 and 175 million pounds in 2019.

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 1,508 meters above sea level. The Chino operation encompasses approximately 122,800 acres, comprising 109,000 acres of fee lands and 13,800 acres of unpatented mining claims held on public mineral estate.

Chino receives electrical power from the Luna Energy facility and from the open market. We believe the Chino operation has sufficient water resources to support current operations. Refer to "Governmental Regulations" above and Item 1A. "Risk Factors" for further discussion.

Tyrone
Our wholly owned Tyrone mine is an open-pit copper mining complex and has been in operation since 1967. It is located in Grant County, New Mexico, 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.

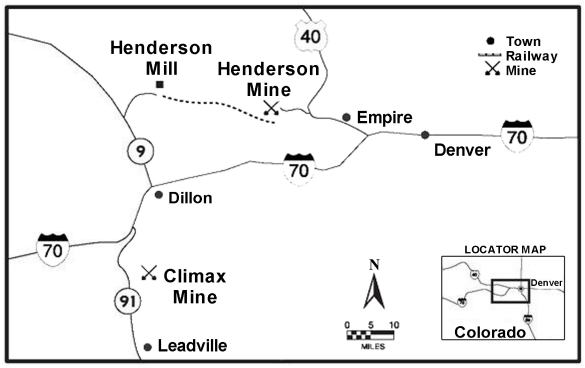
Copper processing facilities consist of a SX/EW operation with a maximum capacity of approximately 100 million pounds of copper cathode per year. The available mining fleet consists of nine 240-metric-ton haul trucks loaded by one electric shovel with a bucket size of 47 cubic meters, which is capable of moving an average of 108,000 metric tons of material per day. Tyrone's net property, plant, equipment and mine development costs at December 31, 2021, totaled $90 million.

Tyrone's copper production totaled 55 million pounds in 2021, 45 million pounds in 2020 and 48 million pounds in 2019.

Tyrone is located in a desert environment with rainfall averaging 16 inches per year. The highest bench elevation is 2,070 meters above sea level and the ultimate pit bottom is expected to have an elevation of 1,475 meters above sea level. The Tyrone operation encompasses approximately 80,700 acres, comprising 67,700 acres of fee lands and 13,000 acres of unpatented mining claims held on public mineral estate.

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. Refer to "Governmental Regulations" above and Item 1A. "Risk Factors" for further discussion.

Henderson and Climax



Henderson

Our wholly owned Henderson molybdenum mine has been in operation since 1976 and is located 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 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 block-cave underground mining complex feeding a concentrator with a design capacity of approximately 32,000 metric tons per day. Henderson has the capacity to produce approximately 15 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 fifteen 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. Henderson's net property, plant, equipment and mine development costs at December 31, 2021, totaled $265 million.

Henderson's molybdenum production totaled 12 million pounds in 2021, 10 million pounds in 2020 and 12 million pounds in 2019.

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 17,200 acres, comprising 13,000 acres of fee lands, 4,200 acres of unpatented mining claims held on public mineral estate 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 Encore Energy (with Xcel Energy as the transporter). We believe the Henderson operation has sufficient water resources to support current operations. Refer to "Governmental Regulations" above and Item 1A. "Risk Factors" for further discussion.

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 mine was placed on care and maintenance status by its previous owner in 1995 and, after being acquired by us, began commercial production in 2012.

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 tons of ore per day mill facility. Climax has the capacity to produce approximately 30 million pounds of molybdenum per year. The available mining fleet consists of eleven 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. Climax's net property, plant, equipment and mine development costs at December 31, 2021, totaled $1.2 billion.

In April 2020, because of the decline in market prices of molybdenum, we revised our near-term operating plans, which included a reduction in production of molybdenum by approximately 50 percent at Climax. During the third quarter of 2021, Climax returned to pre-April 2020 production levels. We may increase operating rates at the Climax mine if necessary to satisfy increasing market demand for molybdenum. Molybdenum production from Climax totaled 18 million pounds in 2021, 14 million pounds in 2020 and 17 million pounds in 2019.

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.

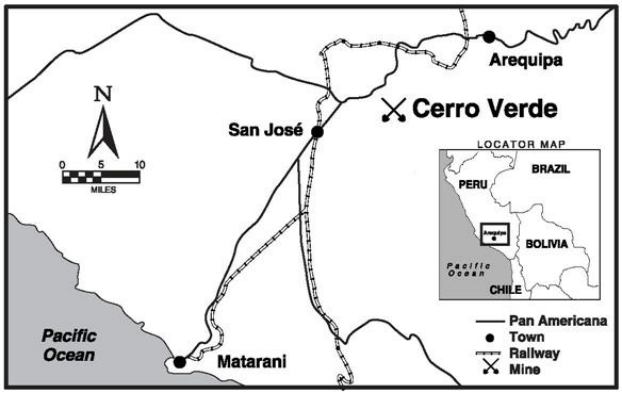
The Climax operation encompasses approximately 15,100 acres, comprising 14,300 of privately owned land and 800 acres of federal claims.

Climax operations receive electrical power through long-term contracts with Xcel Energy and natural gas through long-term contracts with Encore Energy. We believe the Climax operation has sufficient water resources to support current operations. Refer to "Governmental Regulations" above and Item 1A. "Risk Factors" for further discussion.

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), Compañia 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. Prior to being acquired in 1994 by a predecessor of Phelps Dodge, the mine was previously operated by the Peru government. The property is located at latitude 16.53 degrees south

and longitude 71.58 degrees west using the WGS 84 coordinate system. The site is accessible by paved highway. Cerro Verde's copper cathode and concentrate production that is not sold locally is transported approximately 70 miles by truck and by rail to the Port of Matarani for shipment to international markets. Molybdenum concentrate is transported by truck to either the Ports of Callao or Matarani for shipment.

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 two concentrating facilities with a total milling design capacity of 360,000 metric tons of ore per day and SX/EW leaching facilities. Leach copper production is derived from a 39,000-metric-ton-per-day crushed leach facility and a 100,000-metric-ton-per-day ROM leach system. This SX/EW leaching operation has a capacity of approximately 200 million pounds of copper per year.

The available fleet consists of fifty-four 300-metric-ton haul trucks and ninety-three 245-metric-ton haul trucks (21 of which are currently on standby) and three 363-metric-ton leased haul trucks loaded by thirteen 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 (both of which are currently on standby). This fleet is capable of moving an average of approximately 970,000 metric tons of material per day. Cerro Verde's net property, plant, equipment and mine development costs at December 31, 2021, totaled $6.1 billion.

During 2021, milling rates at Cerro Verde's concentrator facilities averaged 380,300 metric tons of ore per day. Subject to ongoing monitoring of COVID-19 protocols, Cerro Verde is targeting milling rates to increase to approximately 400,000 metric tons of ore per day in 2022.

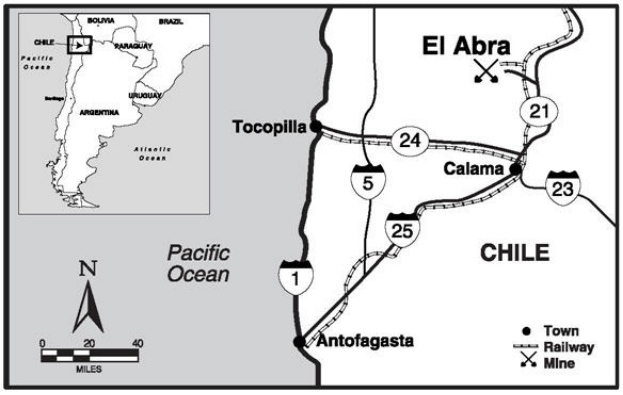
Cerro Verde's production totaled 0.9 billion pounds of copper and 21 million pounds of molybdenum in 2021, 0.8 billion pounds of copper and 19 million pounds of molybdenum in 2020, and 1.0 billion pounds of copper and 29 million pounds of molybdenum in 2019.

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 2,810 meters above sea level and the ultimate pit bottom is expected to be 1,523 meters above sea level. The Peru general mining law and Cerro Verde's mining stability agreement grant the surface rights of mining concessions located on government land. Government land obtained after 1997 must be leased or purchased. Cerro Verde has a mining concession covering approximately 178,000 acres, including 62,000 acres of surface rights and access to 14,600 acres granted through an easement from the Peru National Assets Office, plus 150 acres of owned property, and 1,151 acres of rights-of-way outside the mining concession area leased from both government agencies and private parties.

Cerro Verde currently receives electrical power, including hydro-generated power, under long-term contracts with 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 and from wastewater collected from the city of Arequipa and treated at a wastewater treatment plant. We believe the Cerro Verde operation has sufficient water resources to support current operations. Refer to "Governmental Regulations" above and Item 1A. "Risk Factors" for further discussion.

El Abra



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

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 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 ROM leaching operation. The available fleet consists of twenty-three 242-metric-ton haul trucks loaded by four electric shovels with buckets ranging in size from 29 to 41 cubic meters, which are capable of moving 217,000 metric tons of material per day. El Abra's net property, plant, equipment and mine development costs at December 31, 2021, totaled $707 million.

In April 2020, we revised our operating plans at El Abra. During 2021, El Abra returned to pre-April 2020 production levels. Further, increased mining and stacking activities are expected to result in a 30 percent increase in El Abra copper production for the year 2022, compared with the year 2021.

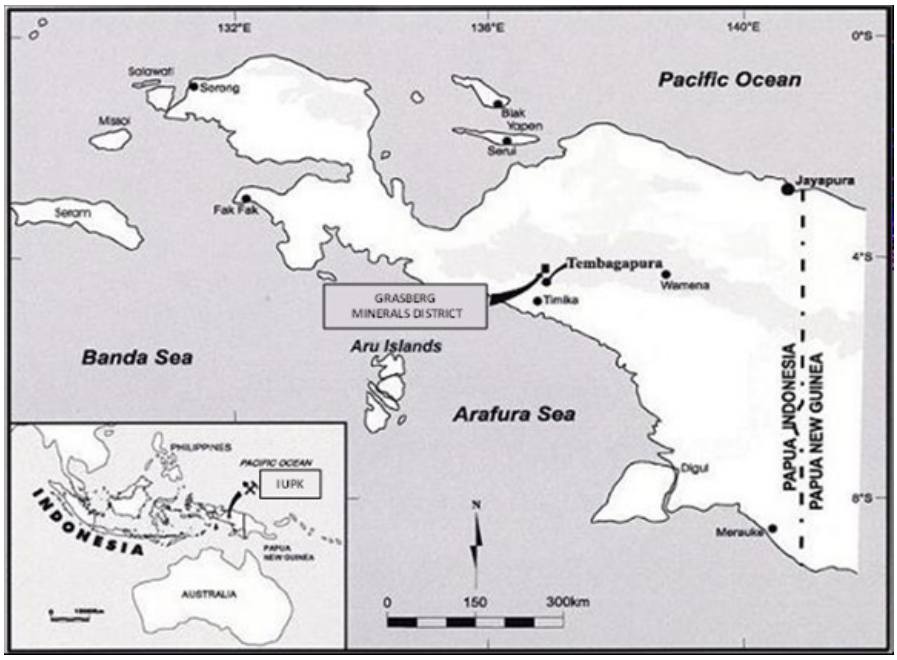
El Abra's copper production totaled 160 million pounds in 2021, 159 million pounds in 2020 and 180 million pounds in 2019.

We continue to evaluate a large-scale expansion at El Abra to process additional sulfide material and to achieve higher copper recoveries. El Abra's large sulfide resource could potentially support a major mill project similar to the facilities constructed at Cerro Verde in 2015. Technical and economic studies continue to be evaluated to determine the optimal scope and timing for the sulfide project, and we are engaging stakeholders and preparing data required for submission of a robust permit application. We are monitoring potential changes in regulatory and fiscal matters in Chile and will defer major investment decisions pending clarity on these matters.

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 4,225 meters above sea level and the ultimate pit bottom is expected to be 3,385 meters above sea level. El Abra controls a total of approximately 183,600 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. Refer to "Governmental Regulations" above and Item 1A. "Risk Factors" for further discussion.

Indonesia



Ownership. PT-FI is a limited liability company organized under the laws of the Republic of Indonesia. On December 21, 2018, we completed the transaction with the Indonesia government regarding PT-FI's long-term mining rights and share ownership (the 2018 transaction). Following the 2018 transaction, we have a 48.76 percent share ownership in PT-FI and the remaining 51.24 percent share ownership is collectively held by PT Indonesia Asahan Aluminum (Persero) (PT Inalum, also known as MIND ID), an Indonesia state-owned enterprise, and PT Indonesia Papua Metal Dan Mineral (formerly known as PT Indocopper Investama), which is expected to be owned by PT Inalum and the provincial/regional government in Papua, Indonesia. The arrangements related to the 2018 transaction also provide for us and the other pre-transaction PT-FI shareholders to initially retain the economics of the revenue and cost sharing arrangements under the former unincorporated joint venture with Rio Tinto plc (Rio Tinto). As a result, our economic interest in PT-FI is expected to approximate 81 percent through 2022 and 48.76 percent thereafter.

IUPK. Concurrent with closing the 2018 transaction, the Indonesia government granted PT-FI a new special mining license (IUPK) to replace its former Contract of Work (COW), enabling PT-FI to conduct operations in the Grasberg minerals district through 2041. Under the terms of the IUPK, PT-FI has been granted an extension of mining rights through 2031, with rights to extend mining rights through 2041, subject to PT-FI completing the construction of additional domestic smelting capacity in Indonesia (the schedule for which is under discussion) and fulfilling its defined fiscal obligations to the Indonesia government. The IUPK, and related documentation, contains legal and fiscal terms and is legally enforceable through 2041. In addition, we, as a foreign investor, have rights to resolve investment disputes with the Indonesia government through international arbitration. Refer to Note 13 and Item 1A. "Risk Factors" for discussion of PT-FI's IUPK and risks associated with our Indonesia mining operations.

In March 2021, PT-FI received a one-year extension of its export license through March 15, 2022. Export licenses are valid for a one year period, subject to review and approval by the Indonesia government every six months, depending on greenfield smelter development progress.

Indonesia Smelter Capacity. Under the terms of the IUPK, PT-FI has been granted mining rights through 2031, with rights to extend its mining rights through 2041, subject to, among other things, PT-FI's completion of construction of additional domestic smelting capacity totaling 2 million metric tons of concentrate per year by the end of 2023 (an extension of which has been requested due to COVID-19 mitigation measures subject to the approval of the Indonesia government), and fulfilling its defined fiscal obligations to the Indonesia government. During 2020, PT-FI notified the Indonesia government of schedule delays resulting from the COVID-19 pandemic and continues to discuss with the Indonesia government a deferred schedule for development of the greenfield smelter. Refer to Item 1A. "Risk Factors," MD&A and Notes 12 and 13 for additional discussion of the Indonesia smelter projects.

Grasberg Minerals District. PT-FI 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. Since 1967, we and our predecessors have been the only operator of exploration and mining activities in the approximately 24,600-acre operating area. The operating area is accessible by portsite facilities (Arafura Sea) and by the Timika airport. The project site is located at latitude 4.08 degrees south and longitude 137.12 degrees east using the WGS 84 coordinate system. The project area includes a 70-mile main service road from portsite to the mill complex.

The Grasberg minerals district includes the following underground mines that are being operated; the Grasberg Block Cave, the Deep Mill Level Zone (DMLZ) and Big Gossan. During 2021, we began development of the Kucing Liar underground ore body and the Deep Ore Zone (DOZ) underground mine ceased production. The ramp-up of underground production at the Grasberg minerals district in Indonesia continues to advance on schedule. During 2021, a total of 139 new drawbells were added at the Grasberg Block Cave and DMLZ underground mines, bringing cumulative open drawbells to 510. Refer to Item 1A. “Risk Factors” for discussion of risks associated with development projects and underground mines.

Production from the Grasberg minerals district totaled 1.3 billion pounds of copper and 1.4 million ounces of gold in 2021, 0.8 billion pounds of copper and 0.8 million ounces of gold in 2020, and 0.6 billion pounds of copper and 0.9 million ounces of gold in 2019. PT-FI’s net property, plant, equipment and mine development costs at December 31, 2021, totaled $15.1 billion.

Our principal source of power for our Indonesia operations is a coal-fired power plant that we built in 1998. Diesel generators supply peaking and backup electrical power generating capacity; however, beginning in 2022, our new dual-fuel power plant is expected eventually to provide up to approximately 40 percent of PT-FI’s power needs. A combination of naturally occurring mountain streams and water derived from our underground operations provides water for our operations. Our Indonesia operations are in an active seismic zone and experience average annual rainfall of approximately 200 inches.

Grasberg Block Cave Underground Mine
The Grasberg Block Cave ore body is the same ore body historically mined from the surface in the Grasberg open pit. Undercutting, drawbell construction and ore extraction activities in the Grasberg Block Cave underground mine continue to track expectations. Monitoring data on cave propagation in the Grasberg Block Cave underground mine is providing confidence in growing production rates over time. As existing drawpoints mature and additional drawpoints are added, cave expansion is expected to accelerate production rates to an average of over 105,000 metric tons of ore per day in 2022 and 122,000 metric tons of ore per day in 2023 from five production blocks spanning 335,000 square meters. As of December 31, 2021, the Grasberg Block Cave underground mine had 336 open drawbells.

Ore milled from the Grasberg Block Cave underground mine averaged 70,600 metric tons per day in 2021, 30,800 metric tons per day in 2020 and 8,600 metric tons per day in 2019. Production at the Grasberg Block Cave underground mine is expected to continue through 2041.

The Grasberg Block Cave fleet consists of approximately 580 pieces of mobile equipment. The primary mining equipment directly associated with production and development includes an available fleet of 88 LHD units and 33 haul trucks. Each production LHD unit typically carries approximately 11 metric tons of ore and transfers ore into the rail haulage system. The Grasberg Block Cave has a rail haulage system currently operating with 10 locomotives and 120 ore wagons that haul the ore to the first 2 of the 3 planned gyratory crushers located underground via an automated rail system. Each ore wagon typically carries 30 metric tons.

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.

The DMLZ has continued its ramp-up of production. Hydraulic fracturing operations have been effective in managing rock stresses and pre-conditioning the cave following mining-induced seismic activity experienced from time to time. Ongoing hydraulic fracturing operations combined with continued undercutting and drawbell openings in the two currently active production blocks are expected to expand the cave, supporting higher production rates that are expected to average approximately 68,000 metric tons of ore per day in 2022 and 69,000 metric tons of ore per day in 2023 from three production blocks. As of December 31, 2021, the DMLZ underground mine had 174 open drawbells.

Ore milled from the DMLZ underground mine averaged 58,000 metric tons per day in 2021, 28,600 metric tons per day in 2020 and 9,800 metric tons per day in 2019. Production at the DMLZ underground mine is expected to continue through 2041.

The DMLZ fleet consists of over 390 pieces of mobile equipment, which includes 63 LHD units and 34 haul trucks used in production and development activities. Each production LHD unit typically carries approximately 11 metric tons of ore and transfers ore into the truck haulage system. The haul trucks have a capacity of 55 to 60 metric tons and load ore from chutes fed by the LHDs and transfer it to one of two gyratory crushers. The crushed ore is conveyed to surface stockpiles for processing.

Big Gossan Underground Mine
The Big Gossan ore body 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.

Ore milled from the Big Gossan underground mine averaged approximately 7,500 metric tons per day in 2021, 7,000 metric tons per day in 2020 and 6,100 metric tons per day in 2019. Production at the Big Gossan underground mine is expected to continue through 2041.

The Big Gossan fleet consists of over 90 pieces of mobile equipment, which includes 14 LHD units and 10 haul trucks used in development and production activities.

Kucing Liar Underground Mine
PT-FI commenced long-term mine development activities for its Kucing Liar deposit in October 2021, which is expected to produce over 6 billion pounds of copper and 5 million ounces of gold between 2028 and the end of 2041. The Kucing Liar underground deposit lies on the southern flank of and underneath the southern portion of the Grasberg open pit at the 2,605-meter elevation level. Similar to PT-FI's experience with large-scale, block-cave mines, pre-production development activities will occur over an approximate 10-year timeframe. At full operating rates of 90,000 metric tons of ore per day, annual production from Kucing Liar is expected to approximate 600 million pounds of copper and 500,000 ounces of gold, providing PT-FI with sustained long-term, large-scale and low-cost production. Capital investments for Kucing Liar over the next 10 years are expected to average approximately $400 million per year. Kucing Liar will benefit from substantial shared infrastructure and PT-FI's experience and long-term success in block-cave mining.

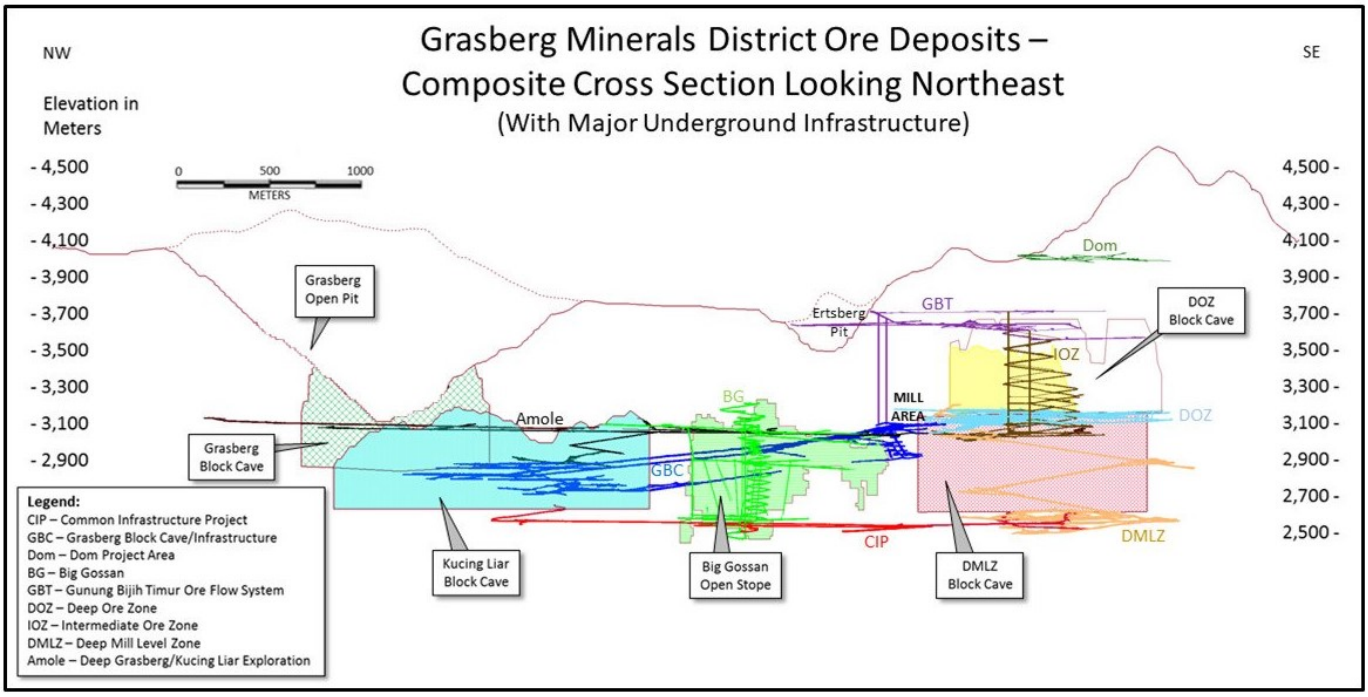
DOZ Underground Mine
The DOZ ore body lies vertically below the depleted Intermediate Ore Zone. PT-FI began production from the DOZ ore body in 1989 and the ore body was depleted at the end of 2021. Ore milled from the DOZ underground mine averaged 8,700 metric tons per day in 2021, 20,900 metric tons per day in 2020 and 25,500 metric tons per day in 2019.

Grasberg Open Pit
PT-FI began open-pit mining of the Grasberg ore body in 1990 and the final phase was mined during 2019. In aggregate, the Grasberg open pit produced over 27 billion pounds of copper and 46 million ounces of gold in the 30-year period from 1990 through 2019.

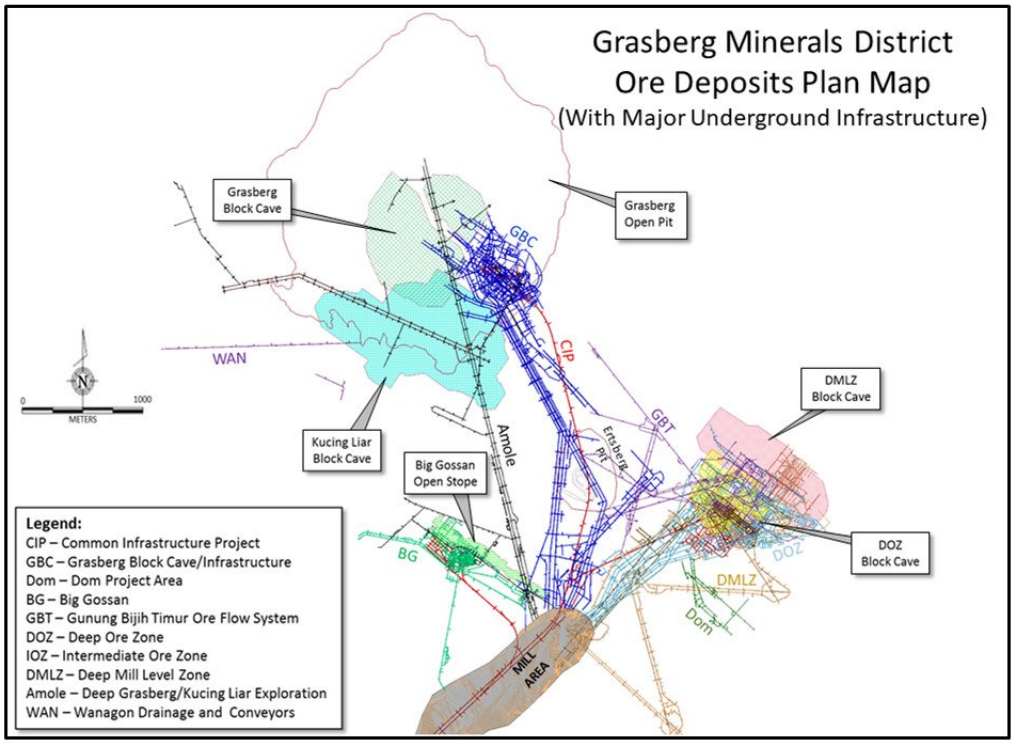
Description of Indonesia Ore Bodies. Our Indonesia ore bodies are located within and around two main igneous intrusions, the Grasberg monzodiorite and the Ertsberg diorite. The host rocks of these ore bodies include both carbonate and clastic rocks that form the ridge crests and upper flanks of the Sudirman Range, and the igneous rocks of monzonitic to dioritic composition that intrude them. The igneous-hosted ore bodies (the Grasberg Block Cave and portions of the DMLZ) 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 DMLZ and Kucing Liar 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 42 square kilometers, 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 2039.

The design capacity of the smelter is approximately 300,000 metric tons of copper per year, and the refinery has a capacity of 286,000 metric tons of copper per year. Atlantic Copper's anode production from its smelter totaled 278,600 metric tons of copper in 2021, 275,900 metric tons in 2020 and 272,000 metric tons in 2019. Copper cathode production from its refinery totaled 277,000 metric tons of copper in 2021, 275,000 metric tons in 2020 and 268,300 metric tons in 2019.

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

	2021	2020	2019
Third parties	66 %	79 %	73 %
North America copper mines	18	10	22
Indonesia mining	9	4	3
South America mining	7	7	2
	100 %	100 %	100 %

Atlantic Copper's major maintenance turnarounds typically occur approximately every eight years, with shorter-term maintenance turnarounds in the interim. Atlantic Copper last completed a major maintenance turnaround in 2013 and most recently completed a 16-day maintenance turnaround in 2019. The next major maintenance turnaround is scheduled for the first half of 2022.

PT Smelting. PT Smelting, an Indonesia company, owns and operates a copper smelter and refinery in Gresik, Indonesia. On April 30, 2021, PT-FI acquired an additional 14.5 percent of the outstanding common stock of PT Smelting for $33 million, increasing its ownership interest to 39.5 percent. Mitsubishi Materials Corporation owns the remaining 60.5 percent.

In November 2021, PT-FI completed agreements with Mitsubishi Materials Corporation to implement the expansion of PT Smelting's capacity by 30 percent to 1.3 million metric tons of concentrate per year, which is expected to be completed by the end of 2023 in connection with PT-FI's commitment to develop additional smelting capacity in Indonesia. Refer to Note 2 for discussion of PT-FI's loan to PT Smelting.

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. 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 100 percent of PT Smelting's concentrate requirements in 2021, 74 percent in 2020 and 90 percent in 2019.

In early 2017, the Indonesia 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. In December 2021, PT Smelting received a twelve-month extension of its anode slimes export license, which currently expires December 9, 2022, subject to review and approval by the Indonesia government every six months. Refer to Item 1A. "Risk Factors" for further discussion.

PT Smelting's anode production from its smelter totaled 280,400 metric tons of copper in 2021, 276,900 metric tons in 2020 and 246,100 metric tons in 2019. Copper cathode production from its refinery totaled 256,900 metric tons of copper in 2021, 273,000 metric tons in 2020 and 241,200 metric tons in 2019.

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 30-day maintenance turnaround during December 2020, and the next major turnaround is scheduled for the second half of 2022. In addition, PT Smelting has a planned 75-day shutdown scheduled for the first half of 2023 associated with its expansion project.

Miami Smelter. We own and operate a smelter at our Miami mining operation in Arizona. The smelter has been operating for over 100 years and has been upgraded numerous times during that period to implement new technologies, improve production and comply with air quality requirements.

The Miami smelter processes copper concentrate primarily from our North America copper mines. Concentrate processed through the smelter totaled 674,000 metric tons in 2021, 764,000 metric tons in 2020 and 641,000 metric tons in 2019. In addition, because sulfuric acid is a by-product of smelting concentrate, the Miami smelter is also the most significant source of sulfuric acid for our North America leaching operations.

Major maintenance turnarounds are anticipated to occur approximately every two or three years for the Miami smelter. We performed a major maintenance turnaround during 2021. The next major maintenance turnaround is scheduled for the first half of 2024.

Rod & Refining Operations. Our Rod & Refining operations consist of conversion facilities located in North America, including a refinery in El Paso, Texas and rod mills in El Paso, Texas, and Miami, Arizona. 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.

Other North America Copper Mines. We have five non-operating copper mines - Ajo, Bisbee, Tohono, Twin Buttes and Christmas, which are located in Arizona - 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 ACTIVITIES

Capital expenditures totaled $2.1 billion (including $1.25 billion for major projects and $0.2 billion for Indonesia smelter projects) in 2021, $2.0 billion (including $1.2 billion for major projects and $0.1 billion for Indonesia smelter projects) in 2020 and $2.65 billion (including $1.5 billion for major projects) in 2019. Capital expenditures for major projects during 2021, 2020 and 2019 were primarily associated with underground development activities in the Grasberg minerals district and the Lone Star copper leach project at our Safford mine, which was completed in the second half of 2020. Refer to MD&A for projected capital expenditures for the year 2022.

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 will focus on 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, the timing of our expenditures will continue to be reviewed. We continue to review our mine development and processing plans to maximize the value of our mineral reserves.

Additionally, full development of PT-FI's underground mineral reserves at the Grasberg minerals district is expected to require approximately $3 billion (most of which will be incurred over an approximate 12-year period) of capital expenditures at our processing facilities to optimize the handling of underground ore from the Grasberg Block Cave, DMLZ and Kucing Liar deposits. Increases in power loads at these processing facilities and the underground mines are expected to require additional power generation with capital expenditures approximating $0.6 billion for new dual-fuel power generation, upgrades to existing transmission lines, and refurbishment of the existing three coal units.

Our mining exploration activities are primarily associated with our existing mines, focusing on opportunities to expand mineral reserves and mineral resources to support development of additional future production capacity. Exploration results continue to indicate opportunities for significant future potential reserve additions at our existing properties in North America and South America. Exploration spending associated with mining operations totaled $50 million in 2021, $34 million in 2020 and $77 million in 2019.

Refer to Item 1A. “Risk Factors” for further discussion of risks associated with mine development projects and exploration activities, and PT-FI’s IUPK.

SOURCES AND AVAILABILITY OF ENERGY, NATURAL RESOURCES AND RAW MATERIALS

Our copper mining operations require significant amounts of energy, principally diesel, electricity, coal and natural gas, most of which is obtained from third parties under long-term contracts. Energy represented approximately 21 percent of our copper mine site operating costs in 2021, including purchases of approximately 220 million gallons of diesel fuel; approximately 8,000 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); approximately 750 thousand metric tons of coal for our coal power plant in Indonesia; and approximately 1 million MMBtu (million British thermal units) of natural gas at certain of our North America mines. Based on current cost estimates, energy is expected to approximate 25 percent of our copper mine site operating costs in 2022.

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 “Governmental Regulations” above, Item 1A. “Risk Factors” and Item 3. “Legal Proceedings.”

Sulfuric 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. Sulfuric acid needs in excess of the sulfuric acid produced by our operations are purchased from third parties.

HUMAN CAPITAL

We are committed to promoting the health, safety and well-being of our workforce and striving to further strengthen our commitment to promoting an inclusive, diverse and agile workplace. We believe our global workforce is the foundation of our success. Our Board of Directors (Board) oversees our policies and implementation programs that govern our approach to management of our human capital, with the Board’s Corporate Responsibility Committee having oversight of health and safety matters and the Board’s Compensation Committee having oversight of other human capital matters, including those relating to workforce recruitment, retention and development, pay equity and inclusion and diversity.

Workforce

At December 31, 2021, we had approximately 24,700 employees (11,600 in North America, 6,100 in Indonesia, 6,000 in South America and 1,000 in Europe and other locations). We also had contractors that employ personnel at many of our operations, including approximately 22,200 at the Grasberg minerals district in Indonesia, 13,600 in North America, 6,100 at our South America mining operations and 600 in Europe and other locations.

Approximately 31 percent of our global employee population is covered by collective labor agreements (CLA), with 14 percent covered by a CLA that will or was scheduled to expire in 2022. In North America, our workforce is not covered by a CLA. Our North America hourly employees choose to work directly with management utilizing our Guiding Principles, which sets out how we work together within the values of the company to achieve our collective goals.

Employees covered by CLAs on December 31, 2021, are listed below, with the number of employees covered and the expiration date of the applicable CLA:

Location	Number of Unions	Number of Union-Represented Employees	Expiration Date
PT-FI - Indonesia	3	2,990	March 2022 [a]
Cerro Verde - Peru	2	3,183	August 2024 and August 2025
El Abra - Chile	2	781	April 2023
Atlantic Copper - Spain	3	517	December 2022
Rotterdam - The Netherlands	1	55	September 2022
Stowmarket - United Kingdom	1	40	May 2023

a. In February 2022, PT-FI completed negotiations with its unions on a new two-year CLA that is effective through March 2024.

We engage openly with our employee and union leadership to negotiate and uphold labor agreements, recognizing that labor disruptions such as prolonged strikes or other work stoppages can adversely affect our business operations, our workforce and regional stakeholders. There were no strikes or lockouts at any of our operations in 2021.

Health and Safety

Our highest priority is the health, safety and well-being of our employees and contractors. We also instill health and safety processes for our suppliers and the communities where we operate. We believe that health and safety considerations are integral to, and fundamental for, all other functions in our organization, and we understand that the health and safety of our workforce is critical to our operational efficiency and long-term success. Our global health and safety approach, “Safe Production Matters,” is focused on fatality prevention and continuous improvement through the use of robust management systems, empowering safe work behaviors and strengthening our safety culture.

We focus on fatality prevention through the use of data and technology as well as behavioral science principles. Our framework for managing risks and compliance obligations is certified company wide in accordance with the new ISO 45001 Health and Safety Management System (ISO 45001), most recently certified in September 2021. ISO 45001 requires third-party site-level verification of requirements, with a goal to prevent fatalities and reduce safety incidents.

As part of our commitment to providing a safe and healthy workplace, we strive to provide the training, tools and resources needed so our workforce can identify risks and consistently apply effective controls. We share information and key learnings about potentially fatal events, near misses and best practices throughout the company and engage with industry peers outside the organization to continuously improve our health and safety performance. We also review and discuss all fatalities with the Corporate Responsibility Committee and the Board.

Our objective is to achieve zero workplace fatalities and to decrease injuries and occupational illnesses. We measure our safety performance through regularly established benchmarks, including our company-wide Total Recordable Incident Rate (TRIR), which includes both employees and contractors. In 2021, regrettably, we had 3 workplace fatal events, 2 work related and 1 not yet classified as either an independent medical episode or work related, and 17 potential fatal events (PFEs), compared to 5 fatalities and 12 PFEs in 2020. Overall, the percentage of high risk incidents has trended down from 11 percent in 2019 to 7 percent in 2020 and 2021. Our TRIR per 200,000 man-hours worked was 0.69 in both 2021 and 2020, meeting our 2021 and 2020 targets. The metal mining sector industry average per 200,000 man-hours worked reported by MSHA was 1.70 for 2021 (preliminary for the period of January 1, 2021, through September 30, 2021) and 1.66 in 2020.

In 2021, we continued to take steps to protect our workforce from COVID-19, including by continuing operating protocols at each of our operating sites to contain and mitigate the risk of spread of COVID-19. We will continue to monitor, assess and update our COVID-19 response and to provide assistance to employees in obtaining vaccinations. We are committed to the communities where we operate and continue to work closely with them, including providing monetary support and in-kind contributions of medical supplies and food. To support our

employees around the world, we adjusted our policies for sick leave and other pay practices to encourage ill employees to stay home. We also implemented a policy to allow those who can work remotely to do so. During the pandemic and looking beyond, we have committed to maintaining health benefits and offer guidance resources to support mental and physical well-being.

Employee Engagement, Training and Development
We operate in regions of varying ethnic, religious and cultural backgrounds, and we often are the largest employer in our local communities. A key to our success is the ability to recruit, retain, develop and advance talented employees with diverse perspectives.

In addition to the health, safety and well-being of our global workforce, we have prioritized a flexible, highly engaged and agile workforce. The COVID-19 pandemic has amplified our focus on the need for, and receptivity to, innovation across all facets of the business, particularly in how we communicate, engage and collaborate across our global workforce in a more virtual environment.

We are committed to ongoing training and development of our workforce. We focus on attracting and retaining talented people by offering quality employment with competitive compensation and benefits as well as opportunities for professional development and growth. Strategic talent reviews and succession planning occur regularly and across all business areas. To support the advancement of our employees, we offer training and development programs encouraging advancement from within and continue to promote strong and experienced management talent. We leverage both formal and informal programs to identify, foster and retain top talent at both the corporate and operations levels.

Additionally, hiring locally is a commitment we make to the communities surrounding our operations and to our host countries. Most people employed at our operations are host country nationals. We retain expatriate expertise for managerial and technical roles only when it is not available in local communities. To further these efforts, expatriates receive cultural training upon their arrival to a new location.

Inclusion and Diversity
We are committed to fostering a culture that is safety focused, respectful, inclusive and representative of the communities where we operate. We respect and value the different ideas, beliefs, experiences, talents, skills, perspectives, backgrounds and cultures of our workforce. We strive for, promote and foster a workplace where everyone feels a sense of belonging, is treated with respect and their opinions are valued. We believe an inclusive environment gives our people the confidence to speak up, share ideas that drive innovation, and achieve operational excellence. Our inclusive environment is the foundation of our high-performance culture and is paramount to the long-term sustainable success of our business.

Our inclusion and diversity principles align with our core values of safety, respect, integrity, excellence and commitment, and are reflected in our Inclusion and Diversity Policy, our Principles of Business Conduct and other related policies.

Refer to Item 1A. “Risk Factors” for further information on human capital matters.

COMMUNITY AND HUMAN RIGHTS

We have adopted policies that govern our working relationships with the communities where we operate and that 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, health, education, training and cultural programs, which include:

- comprehensive job training programs
- clean water and sanitation projects
- public health programs, including malaria control and human immunodeficiency virus
- agricultural assistance programs
- small and medium enterprise development programs
- basic education programs
- cultural promotion and preservation programs
- community infrastructure development
- charitable donations

In 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.

Our human rights policy, most recently updated in December 2020, reflects our commitment to implementing the United Nations Guiding Principles on Business and Human Rights. We have embarked on a program to plan and conduct site-level human rights impact assessments (HRIA) at our global operations.

HRIAs help us to embed human rights considerations into our business practices, including site-level sustainable development risk registers. We completed a HRIA at our Cerro Verde operation in Peru in 2017 and at our New Mexico mining operations in 2018. During 2021, we substantially completed a HRIA at our El Abra operations in Chile and began a comprehensive HRIA for all of our Arizona sites including Morenci, Bagdad, Safford, Sierrita and Miami, which we expect to complete in the first half of 2022. We also participate in a multi-industry human rights working group to gain insight from peer companies and experts in the field to learn how best practices are evolving.

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 our community stakeholders, we have made and expect to continue making investments in certain social programs, including in-kind support and administration, across our global operations from time to time. Over the last three years, these investments have averaged $124 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 Peru 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.

Cerro Verde reached an agreement with the Regional Government of Arequipa, the National Government, the local water utility company 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 local water quality, enhances agriculture products grown in the area and reduces the risk of 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 also receive training in defensive driving and firearms handling. Cerro Verde’s costs for its internal civilian security department totaled $7 million in both 2021 and 2020 and $9 million in 2019.

Cerro Verde, like all businesses and residents of Peru, relies on the Peru government for the maintenance of public order, upholding the rule of law and the protection of personnel and property. The Peru government is responsible for employing police personnel and directing their operations. Cerro Verde has limited public security forces in support of its operation, with the arrangement defined through a memorandum of understanding with the Peru National Police. Cerro Verde's share of support costs for government-provided security approximated $1 million in each of the years 2021, 2020 and 2019.

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, economic development and local infrastructure. PT-FI has committed to provide funding based on a percentage of its revenues through 2041 for the development of the local communities in its area of operations through the Partnership Fund. PT-FI incurred costs of $75 million in 2021, $36 million in 2020 and $28 million in 2019 for this commitment.

Throughout 2019, PT-FI consulted with key stakeholders to restructure the management of the Partnership Fund in compliance with PT-FI's IUPK. Throughout this process, PT-FI continued its contributions to ensure no disruptions in implementation of approved projects. Beginning in February 2020, the Partnership Fund is now managed by a legally recognized Indonesia foundation (*Yayasan Pemberdayaan Masyarakat Amungme dan Kamoro* or YPMAK). YPMAK is governed by a Board of Governors consisting of seven representatives, including four from PT-FI.

In addition to the Partnership Fund, PT-FI has made and expects to continue making annual investments in public health, education, community infrastructure and local economic development.

Security Matters. Consistent with our ongoing 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 civilian 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 costs for its internal civilian security department totaled $50 million in 2021, $47 million in 2020 and $52 million in 2019.

PT-FI, like all businesses and residents of Indonesia, relies on the Indonesia government for the maintenance of public order, upholding the rule of law and protection of personnel and property. The Grasberg minerals district has been designated by the Indonesia 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 Indonesia government is responsible for employing police and military personnel and directing their operations.

From the outset of PT-FI's operations, the Indonesia 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 Indonesia government and the remote location of and lack of development in Papua. PT-FI's financial support of the Indonesia government security institutions assigned to PT-FI's operations area represents a prudent response to PT-FI's requirements and commitments 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 area of operations. In addition, the provision of such support is consistent with our philosophy of responsible corporate citizenship, and reflects our commitment to pursue practices that protect and respect human rights.

PT-FI's support costs for the government-provided security totaled $25 million in 2021 and $22 million in both 2020 and 2019. This supplemental support consists of various infrastructure and other costs, including 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		
COPPER (millions of recoverable pounds)	2021	2020	2019	2021	2020	2019
(FCX's net interest in %)						
North America						
Morenci (72%)[a]	631	707	730	632	711	717
Bagdad (100%)	184	216	218	185	213	218
Safford (100%)	265	161	110	252	150	111
Sierrita (100%)	189	178	160	187	177	157
Miami (100%)	12	17	15	13	16	15
Chino (100%)	124	92	175	114	108	174
Tyrone (100%)	55	45	48	53	45	49
Other (100%)	—	2	1	—	2	1
Total North America	1,460	1,418	1,457	1,436	1,422	1,442
South America						
Cerro Verde (53.56%)	887	820	1,003	888	825	1,002
El Abra (51%)	160	159	180	167	151	181
Total South America	1,047	979	1,183	1,055	976	1,183
Indonesia						
Grasberg minerals district (48.76%)[b]	1,336	809	607	1,316	804	667
Consolidated	**3,843**	**3,206**	**3,247**	**3,807** [c]	**3,202** [c]	**3,292** [c]
Less noncontrolling interests	741	610	668	741	608	679
Net	**3,102**	**2,596**	**2,579**	**3,066**	**2,594**	**2,613**
Average realized price per pound				$ 4.33	$ 2.95	$ 2.73
GOLD (thousands of recoverable ounces)						
North America (100%)	11	9	19	11	13	18
Indonesia (48.76%)[b]	1,370	848	863	1,349	842	973
Consolidated	**1,381**	**857**	**882**	**1,360**	**855**	**991**
Less noncontrolling interests	257	159	162	252	158	182
Net	**1,124**	**698**	**720**	**1,108**	**697**	**809**
Average realized price per ounce				$ 1,796	$ 1,832	$ 1,415
MOLYBDENUM (millions of recoverable pounds)						
Henderson (100%)	12	10	12	N/A	N/A	N/A
Climax (100%)	18	14	17	N/A	N/A	N/A
North America copper mines (100%)[a]	34	33	32	N/A	N/A	N/A
Cerro Verde (53.56%)	21	19	29	N/A	N/A	N/A
Consolidated	**85**	**76**	**90**	**82**	**80**	**90**
Less noncontrolling interest	10	9	13	9	10	13
Net	**75**	**67**	**77**	**73**	**70**	**77**
Average realized price per pound				$ 15.56	$ 10.20	$ 12.61

a. Amounts are net of Morenci's joint venture partners' undivided interest.

b. Our economic interest in PT-FI is expected to approximate 81 percent through 2022 and 48.76 percent thereafter (refer to Note 3 for further discussion).

c. Consolidated sales volumes exclude purchased copper of 173 million pounds in 2021, 290 million pounds in 2020 and 379 million pounds in 2019.

SELECTED OPERATING DATA

	Years Ended December 31,				
	2021	2020	2019	2018	2017
CONSOLIDATED MINING					
Copper (millions of recoverable pounds)					
Production	3,843	3,206	3,247	3,813	3,737
Sales, excluding purchases	3,807	3,202	3,292	3,811	3,700
Average realized price per pound	$ 4.33	$ 2.95	$ 2.73	$ 2.91	$ 2.93
Gold (thousands of recoverable ounces)					
Production	1,381	857	882	2,439	1,577
Sales, excluding purchases	1,360	855	991	2,389	1,562
Average realized price per ounce	$ 1,796	$ 1,832	$ 1,415	$ 1,254	$ 1,268
Molybdenum (millions of recoverable pounds)					
Production	85	76	90	95	92
Sales, excluding purchases	82	80	90	94	95
Average realized price per pound	$ 15.56	$ 10.20	$ 12.61	$ 12.50	$ 9.33
NORTH AMERICA COPPER MINES					
Operating Data, Net of Joint Venture Interests[a]					
Copper (millions of recoverable pounds)					
Production	1,460	1,418	1,457	1,404	1,518
Sales, excluding purchases	1,436	1,422	1,442	1,428	1,484
Average realized price per pound	$ 4.30	$ 2.82	$ 2.74	$ 2.96	$ 2.85
Molybdenum (millions of recoverable pounds)					
Production	34	33	32	32	33
100% Operating Data					
Leach operations					
Leach ore placed in stockpiles (metric tons per day)	665,900	714,300	750,900	681,400	679,000
Average copper ore grade (percent)	0.29	0.27	0.23	0.24	0.28
Copper production (millions of recoverable pounds)	1,056	1,047	993	951	1,016
Mill operations					
Ore milled (metric tons per day)	269,500	279,700	326,100	301,000	299,500
Average ore grade (percent):					
Copper	0.38	0.35	0.34	0.35	0.39
Molybdenum	0.03	0.02	0.02	0.02	0.03
Copper recovery rate (percent)	81.2	84.1	87.0	87.8	86.4
Copper production (millions of recoverable pounds)	649	647	748	719	788
SOUTH AMERICA MINING					
Copper (millions of recoverable pounds)					
Production	1,047	979	1,183	1,249	1,235
Sales	1,055	976	1,183	1,253	1,235
Average realized price per pound	$ 4.34	$ 3.05	$ 2.71	$ 2.87	$ 2.97
Molybdenum (millions of recoverable pounds)					
Production	21	19	29	28	27
Leach operations					
Leach ore placed in stockpiles (metric tons per day)	163,900	160,300	205,900	195,200	142,800
Average copper ore grade (percent)	0.32	0.35	0.37	0.33	0.37
Copper production (millions of recoverable pounds)	256	241	268	287	255
Mill operations					
Ore milled (metric tons per day)	380,300	331,600 [b]	393,100	387,600	360,100
Average ore grade (percent):					
Copper	0.31	0.34	0.36	0.38	0.44
Molybdenum	0.01	0.01	0.02	0.01	0.02
Copper recovery rate (percent)	87.3	84.3	83.5	84.3	81.2
Copper production (millions of recoverable pounds)	791	738	916	962	980

a. Amounts are net of Morenci's joint venture partners' undivided interest.

b. Cerro Verde mill operations were impacted by COVID-19 restrictions.

SELECTED OPERATING DATA (Continued)

	Years Ended December 31,				
	2021	2020	2019	2018	2017
INDONESIA MINING					
Operating Data, Net of Rio Tinto Joint Venture Interest[a]					
Copper (millions of recoverable pounds)					
Production	1,336	809	607	1,160	984
Sales	1,316	804	667	1,130	981
Average realized price per pound	$ 4.34	$ 3.08	$ 2.72	$ 2.89	$ 3.00
Gold (thousands of recoverable ounces)					
Production	1,370	848	863	2,416	1,554
Sales	1,349	842	973	2,366	1,540
Average realized price per ounce	$ 1,796	$ 1,832	$ 1,416	$ 1,254	$ 1,268
100% Operating Data					
Ore milled (metric tons per day)	151,600	87,700	110,100	178,100	140,400
Average ore grade:					
Copper (percent)	1.30	1.32	0.84	0.98	1.01
Gold (grams per metric ton)	1.04	1.10	0.93	1.58	1.15
Recovery rates (percent):					
Copper	89.8	91.9	88.4	91.8	91.6
Gold	77.0	78.1	75.0	84.7	85.0
Production:					
Copper (millions of recoverable pounds)	1,336	809	607	1,227	996
Gold (thousands of recoverable ounces)	1,370	848	863	2,697	1,554
MOLYBDENUM MINES					
Molybdenum production (millions of recoverable pounds)	30	24	29	35	32
Ore milled (metric tons per day)	21,800	20,700	30,100	27,900	22,500
Average molybdenum ore grade (percent)	0.19	0.17	0.14	0.18	0.20

a. Prior to December 21, 2018, PT-FI had an unincorporated joint venture with Rio Tinto.

MINERAL RESERVES

Our estimates of mineral reserves have been prepared in accordance with the disclosure requirements of S-K 1300. Proven and probable mineral reserves were determined from the application of relevant modifying factors to geological data, in order to establish an operational, economically viable mine plan. The estimates are based on mapping, drilling, sampling, assaying and evaluation methods generally applied in the mining industry. Mineral reserves, as used in the mineral reserve data presented here, means the economically mineable part of a measured or indicated resource, which includes diluting materials and allowances for losses that may occur when the material is mined or extracted. Proven mineral reserves mean the economically mineable part of a measured mineral resource, from geological evidence revealed in outcrops, trenches, workings or drill holes with grades and/or quality estimates from detailed, closely-spaced sampling, and geologic characterization that defines the size, shape, depth and mineral content to a high degree of confidence. Probable mineral reserves means the economically mineable part of an indicated mineral resource, for which quantity and grade are estimated from information similar to that used for measured mineral resources where the samples are farther apart, and the geological characterization is adequate. Probable mineral reserves can also include remaining portions of a measured mineral resource. The degree of assurance, although lower than that for proven mineral reserves, is high enough to assume continuity between points of observation.

Our estimates of recoverable proven and probable mineral reserves are prepared by and are the responsibility of our employees. These estimates are reviewed and verified regularly by independent experts in mining, geology and reserve determination. 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. Refer to Item 1A. “Risk Factors” for discussion of risks associated with our estimates of proven and probable mineral reserves.

Estimated recoverable proven and probable mineral reserves at December 31, 2021, were determined using metals price assumptions of $2.50 per pound for copper, $1,200 per ounce for gold and $10 per pound for molybdenum. For the three-year period ended December 31, 2021, LME copper settlement prices averaged $3.25 per pound, London PM gold prices averaged $1,654 per ounce and the weekly average price for molybdenum quoted by *Metals Week* averaged $11.97 per pound.

The estimated recoverable proven and probable mineral reserves presented in the table below represent the estimated metal quantities from which we expect to be paid after application of estimated metallurgical recoveries and smelter recoveries, where applicable.

	Estimated Recoverable Proven and Probable Mineral Reserves at December 31, 2021		
	Copper[a] (billion pounds)	**Gold** (million ounces)	**Molybdenum** (billion pounds)
North America	43.0	0.5	2.69
South America	31.9	—	0.69
Indonesia[b]	32.2	26.6	—
Consolidated basis[c,d]	**107.2**	**27.1**	**3.39**
Net equity interest[e]	**76.2**	**14.2**	**3.06**

a. Estimated consolidated recoverable copper reserves include 1.8 billion pounds in leach stockpiles and 0.3 billion pounds in mill stockpiles (refer to “Mill and Leach Stockpiles” for further discussion).

b. Estimated recoverable proven and probable mineral reserves from Indonesia reflect estimates of minerals that can be recovered through 2041. Refer to Note 13 for discussion of PT-FI’s IUPK.

c. May not foot because of rounding.

d. Consolidated mineral reserves represent estimated metal quantities after reduction for joint venture partner interests at the Morenci mine in North America (refer to Note 3 for further discussion of our Morenci joint venture). Excluded from the table above are our estimated recoverable proven and probable silver reserves of 346 million ounces, which were determined using $15 per ounce.

e. Net equity interest mineral 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 are our estimated recoverable proven and probable silver reserves of 230 million ounces. Our net equity interest for estimated metal quantities in Indonesia reflects approximately 81 percent for 2022 and 48.76 percent from 2023 through 2041.

Estimated Recoverable Proven and Probable Mineral Reserves
at December 31, 2021

		Proven Mineral Reserves					Probable Mineral Reserves				
			Average Ore Grade					Average Ore Grade			
	Processing Method	Million metric tons[a]	Copper %	Gold g/t	Moly %	Silver g/t	Million metric tons[a]	Copper %	Gold g/t	Moly %	Silver g/t
North America											
Morenci	Mill	784	0.37	—	0.02	—	110	0.35	—	0.02	—
	Crushed leach	501	0.37	—	—	—	87	0.35	—	—	—
	ROM leach	2,011	0.14	—	—	—	424	0.15	—	—	—
Bagdad	Mill	1,928	0.34	—[b]	0.02	1.42	585	0.28	—[b]	0.02	1.17
	ROM leach	19	0.22	—	—	—	2	0.20	—	—	—
Safford, including Lone Star	Crushed leach	542	0.46	—	—	—	143	0.42	—	—	—
Sierrita	Mill	2,241	0.24	—[b]	0.03	1.25	189	0.19	—[b]	0.02	0.99
Chino, including Cobre	Mill	169	0.50	0.04	—	0.89	60	0.48	0.04	—	0.87
	ROM leach	70	0.27	—	—	—	10	0.25	—	—	—
Tyrone	ROM leach	18	0.29	—	—	—	1	0.13	—	—	—
Henderson	Mill	37	—	—	0.18	—	17	—	—	0.13	—
Climax	Mill	138	—	—	0.15	—	13	—	—	0.10	—
		8,459					**1,641**				
South America											
Cerro Verde	Mill	670	0.38	—	0.02	2.00	3,219	0.36	—	0.01	1.92
	Crushed leach	19	0.43	—	—	—	2	0.42	—	—	—
	ROM leach	33	0.38	—	—	—	56	0.26	—	—	—
El Abra	Crushed leach	538	0.44	—	—	—	171	0.39	—	—	—
	ROM leach	16	0.20	—	—	—	7	0.18	—	—	—
		1,276					**3,454**				
Indonesia											
Grasberg Block Cave	Mill	316	1.15	0.76	—	3.61	541	1.01	0.69	—	3.87
DMLZ	Mill	91	0.89	0.79	—	4.21	321	0.84	0.71	—	4.03
Big Gossan	Mill	17	2.50	1.02	—	15.56	34	2.14	0.94	—	12.72
Kucing Liar[c]	Mill	88	1.06	0.96	—	5.64	263	1.02	0.89	—	4.98
		512					**1,159**				
Total FCX - 100% Basis		**10,247**					**6,254**				

a. Totals may not foot because of rounding.

b. Amounts not shown because of rounding.

c. PT-FI has commenced long-term mine development activities for the Kucing Liar deposit. See “Mining Operations - Indonesia” for discussion of Kucing Liar capital investments.

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

- g/t - grams per metric ton
- Moly - Molybdenum

Estimated Recoverable Proven and Probable Mineral Reserves
at December 31, 2021
(continued)

	Processing Method	Proven and Probable[a] Million metric tons	Average Ore Grade Copper %	Gold g/t	Moly %	Silver g/t	Recoveries[b] Copper %	Gold %	Moly %	Silver %
North America										
Morenci	Mill	894	0.37	—	0.02	—	81.6	—	43.3	—
	Crushed leach	589	0.37	—	—	—	81.9	—	—	—
	ROM leach	2,435	0.14	—	—	—	37.4	—	—	—
Bagdad	Mill	2,513	0.32	— [c]	0.02	1.36	85.8	59.1	81.8	49.3
	ROM leach	21	0.22	—	—	—	18.3	—	—	—
Safford, including Lone Star	Crushed leach	685	0.45	—	—	—	72.7	—	—	—
Sierrita	Mill	2,430	0.23	— [c]	0.02	1.23	80.4	59.1	77.2	49.3
Chino, including Cobre	Mill	228	0.49	0.04	—	0.89	79.1	77.9	—	78.5
	ROM leach	80	0.27	—	—	—	42.3	—	—	—
Tyrone	ROM leach	19	0.28	—	—	—	57.6	—	—	—
Henderson	Mill	54	—	—	0.16	—	—	—	87.5	—
Climax	Mill	151	—	—	0.15	—	—	—	88.7	—
		10,100								
South America										
Cerro Verde	Mill	3,888	0.37	—	0.01	1.93	85.6	—	54.4	44.9
	Crushed leach	22	0.43	—	—	—	76.8	—	—	—
	ROM leach	89	0.31	—	—	—	51.4	—	—	—
El Abra	Crushed leach	709	0.43	—	—	—	54.8	—	—	—
	ROM leach	22	0.19	—	—	—	29.5	—	—	—
		4,731								
Indonesia										
Grasberg Block Cave	Mill	857	1.06	0.71	—	3.78	83.7	63.9	—	55.7
DMLZ	Mill	412	0.85	0.73	—	4.07	84.9	78.7	—	64.1
Big Gossan	Mill	51	2.26	0.97	—	13.65	91.3	67.7	—	64.0
Kucing Liar[d]	Mill	351	1.03	0.91	—	5.15	83.1	52.2	—	39.2
		1,671								
Total FCX - 100% Basis		**16,501**								

a. Amounts may not equal the sum of proven and probable mineral reserves as presented on the previous page because of rounding. In additions, totals may not foot because of rounding.

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

c. Amounts not shown because of rounding.

d. PT-FI has commenced long-term mine development activities for the Kucing Liar deposit. See “Mining Operations - Indonesia” for discussion of Kucing Liar capital investments.

Estimated Recoverable Proven and Probable Mineral Reserves
at December 31, 2021
(continued)

	FCX's Interest	Processing Method	Recoverable Mineral Reserves[a] Copper billion lbs.	Gold million ozs.	Moly billion lbs.	Silver million ozs.
North America						
Morenci	72%	Mill	5.9	—	0.15	—
		Crushed leach	3.9	—	—	—
		ROM leach	2.8	—	—	—
Bagdad	100%	Mill	15.4	0.2	0.92	54.2
		ROM leach	— [b]	—	—	—
Safford, including Lone Star	100%	Crushed leach	5.0	—	—	—
Sierrita	100%	Mill	10.1	0.1	1.02	47.2
Chino, including Cobre	100%	Mill	2.0	0.3	—	5.1
		ROM leach	0.2	—	—	—
Tyrone	100%	ROM leach	0.1	—	—	—
Henderson	100%	Mill	—	—	0.17	—
Climax	100%	Mill	—	—	0.44	—
			45.4	0.5	2.71	106.5
Recoverable metal in stockpiles[c]			1.3	— [b]	0.02	0.1
100% operations			**46.7**	**0.5**	**2.73**	**106.6**
Consolidated			**43.0**	**0.5**	**2.69**	**106.6**
Net equity interest			**43.0**	**0.5**	**2.69**	**106.6**
South America						
Cerro Verde	53.56%	Mill	26.8	—	0.69	108.4
		Crushed leach	0.2	—	—	—
		ROM leach	0.3	—	—	—
El Abra	51%	Crushed leach	3.7	—	—	—
		ROM leach	— [b]	—	—	—
			31.0	—	0.69	108.4
Recoverable metal in stockpiles[c]			0.9	—	0.01	1.2
100% operations			**31.9**	**—**	**0.69**	**109.6**
Consolidated			**31.9**	**—**	**0.69**	**109.6**
Net equity interest			**17.0**	**—**	**0.37**	**58.7**
Indonesia						
Grasberg Block Cave	48.76%[d]	Mill	16.7	12.6	—	57.9
DMLZ	48.76%[d]	Mill	6.6	7.6	—	34.5
Big Gossan	48.76%[d]	Mill	2.3	1.1	—	14.2
Kucing Liar[e]	48.76%[d]	Mill	6.6	5.3	—	22.8
100% operations			**32.2**	**26.6**	**—**	**129.5**
Consolidated			**32.2**	**26.6**	**—**	**129.5**
Net equity interest			**16.2**	**13.6**	**—**	**65.1**
Total FCX - 100% basis			**110.8**	**27.1**	**3.43**	**345.7**
Total FCX - Consolidated basis[f]			**107.2**	**27.1**	**3.39**	**345.7**
Total FCX - Net equity interest[g]			**76.2**	**14.2**	**3.06**	**230.5**

a. Totals may not foot because of rounding.

b. Amounts not shown because of rounding.

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

d. Our economic interest in PT-FI is expected to approximate 81 percent for 2022 and 48.76 percent thereafter (refer to Note 3 for further discussion).

e. PT-FI has commenced long-term mine development activities for the Kucing Liar deposit. See "Mining Operations - Indonesia" for discussion of Kucing Liar capital investments.

f. Consolidated mineral reserves represent estimated metal quantities after reduction for Morenci's joint venture partner interests (refer to Note 3 for further discussion).

g. Net equity interest mineral reserves represent estimated consolidated metal quantities further reduced for noncontrolling interest ownership (refer to Note 3 for further discussion of our ownership in subsidiaries). Our net equity interest for estimated metal quantities in Indonesia reflects approximately 81 percent for 2022 and 48.76 percent from 2023 through 2041.

The table below summarizes changes in estimated recoverable copper, gold and molybdenum in mineral reserves between December 31, 2020 and 2021, for our properties identified as material under S-K 1300:

	Estimated Recoverable Mineral Reserves on 100% Basis					
	Copper (billion lbs.)			Gold (million ozs.)	Molybdenum (billion lbs.)	
	Morenci	Cerro Verde	Grasberg minerals district	Grasberg minerals district	Morenci	Cerro Verde
Mineral reserves as of December 31, 2020	14.3	28.6	33.4	28.3	0.20	0.70
Production	(0.9)	(0.9)	(1.3)	(1.4)	(0.01)	(0.02)
Adjustments[a]	(0.3)	0.2	0.1	(0.3)	(0.04)	0.01
Mineral reserves as of December 31, 2021	13.1	27.9	32.2	26.6	0.15	0.69

a. The downward adjustments at Morenci are primarily the result of revised mine designs, partly offset by increased crushed leach recovery and re-routing of ore types. The upward adjustments at Cerro Verde are primarily the result of updated resource modeling and revised mine designs, partly offset by mine scheduling strategy and near-term recovery assumptions. The adjustments at Grasberg minerals district are primarily the result of revised mine designs and mine schedule changes.

In defining our open-pit mineral 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 mineral 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.

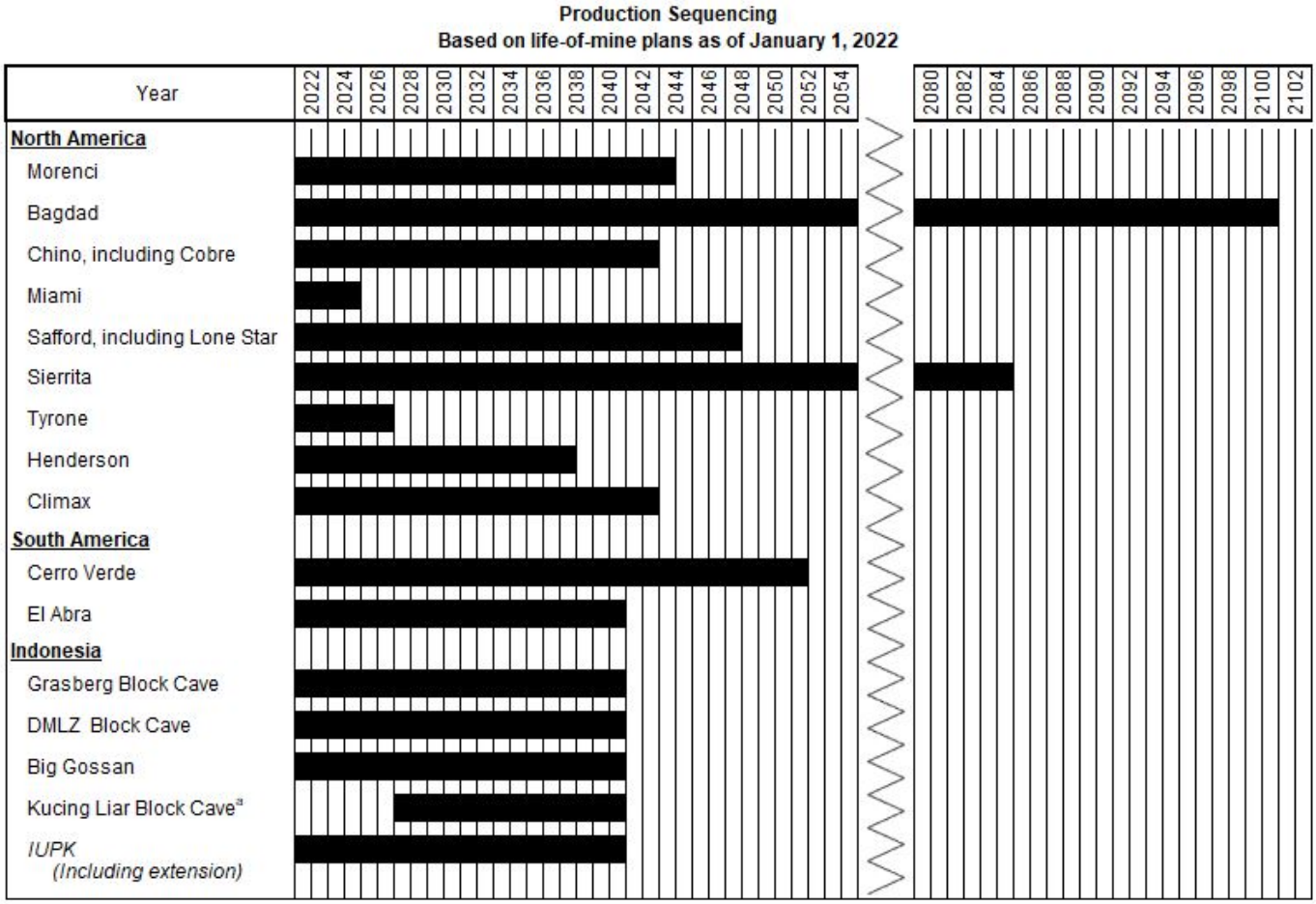
Our copper mines may contain other commercially recoverable metals, such as gold, molybdenum and silver. We value all commercially recoverable metals in terms of a copper equivalent percentage to determine a single cutoff grade. Copper equivalent percentage is used to express the relative value of multi-metal 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 for mineral reserves by process for each of our existing ore bodies as of December 31, 2021:

	Copper Equivalent Cutoff Grade (Percent)			Molybdenum Cutoff Grade (Percent)
	Mill	Crushed Leach	ROM Leach	Mill
North America				
Morenci	0.21	0.14	0.03	—
Bagdad	0.09	—	0.15	—
Safford, including Lone Star	—	0.17	—	—
Sierrita	0.17	—	—	—
Chino, including Cobre	0.22	—	0.06	—
Tyrone	—	—	0.05	—
Henderson	—	—	—	0.13
Climax	—	—	—	0.05
South America				
Cerro Verde	0.15	0.24	0.08	—
El Abra	—	0.15	0.11	—
Indonesia				
Grasberg Block Cave	0.63	—	—	—
DMLZ	0.71	—	—	—
Big Gossan	1.70	—	—	—
Kucing Liar	0.70	—	—	—

Production Sequencing

The following chart illustrates our current plans for sequencing and producing our proven and probable mineral reserves at each of our ore bodies and the years in which we currently expect production from each ore body and related stockpiles. Our proven and probable mineral 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 PT-FI will comply with its obligations under the IUPK and receive the second 10-year extension from 2031 through 2041 (refer to Item 1A. “Risk Factors” and Note 13 for further discussion). 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.



a. Development commenced in October 2021. The ultimate timing of the start of production is dependent upon a number of factors and may vary from the date shown here.

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 metal 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 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 recoveries 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 recoveries 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 recoveries are monitored regularly, and recovery 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, 2021:

	Million Metric Tons[a]	Average Ore Grade (%)	Recoveries (%)	Recoverable Copper[a] (billion pounds)
Mill stockpiles				
Cerro Verde	79	0.27	64.5	0.3
North America copper mines	5	0.45	90.9	— [b]
	84			0.3
Leach stockpiles				
Morenci	7,216	0.24	1.1	0.4
Bagdad	505	0.25	0.8	— [b]
Safford, including Lone Star	382	0.42	6.4	0.2
Sierrita	650	0.15	8.6	0.2
Miami	498	0.39	1.0	— [b]
Chino, including Cobre	1,769	0.25	2.7	0.3
Tyrone	1,192	0.28	1.8	0.1
Cerro Verde	566	0.45	4.7	0.3
El Abra	855	0.43	4.6	0.4
	13,633			1.9
Total FCX - 100% basis				**2.3**
Total FCX - Consolidated basis[c]				**2.1**
Total FCX - Net equity interest[d]				**1.7**

a. Totals may not foot because of rounding.

b. Rounds to less than 0.1 billion pounds of recoverable copper.

c. Consolidated stockpiles represent estimated metal quantities after reduction for Morenci's joint venture partner interests (refer to Note 3 for further discussion).

d. 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).

Mineral Resources

Our estimates of mineral resources have been prepared in accordance with the disclosure requirements of S-K 1300. As a result of the SEC's revised disclosure requirements for mining registrants, we replaced our estimate of mineralized material with an estimate of mineral resources, including measured, indicated and inferred resources in accordance with the disclosure requirements of S-K 1300. We hold various properties containing mineral resources in addition to mineral reserves that we believe could be brought into production should market conditions warrant. However, permitting and significant capital expenditures may be required before mining of these resources could commence at these properties. A mineral resource is a concentration or occurrence of material of economic interest in such form, grade or quality, and quantity that there are reasonable prospects for economic extraction. Such a deposit cannot qualify as recoverable proven and probable mineral reserves until engineering, legal and economic feasibility are confirmed based upon a comprehensive evaluation of development and operating costs, grades, recoveries and other material factors. Mineral resources include measured, indicated and inferred mineral classifications. A measured mineral resource is a resource for which the quantity and grade are estimated from detailed, closely-spaced sampling, and geologic characterization that defines the size, shape, depth and mineral content to a high degree of confidence. An indicated mineral resource is a resource for which quantity and grade are estimated from information similar to that used for measured mineral resources where the samples are farther apart, and the geological characterization is adequate. An inferred mineral resource is a resource for which quantity and grade are estimated from information similar to that used for measured and indicated mineral resources, but with limited geological evidence and sampling. Inferred mineral resource grade and mineralization continuity have a lower degree of confidence. Accordingly, no assurance can be given that the estimated mineral resources not included in mineral reserves will become proven and probable mineral reserves. Estimated mineral resources as presented on the following pages were assessed using prices of $3.00 per pound for copper, $1,200 per ounce for gold, $12 per pound for molybdenum and $20 per ounce for silver. Cutoff grade strategy and expected recoveries used to evaluate mineral resources are consistent with those for mineral reserves but would require additional work to substantiate. Refer to Item 1A. "Risk Factors" for discussion of risks associated with our estimates of mineral resources.

Estimated Mineral Resources
at December 31, 2021[a]

			Measured					Indicated					Inferred				
			Million	Average Ore Grade				Million	Average Ore Grade				Million	Average Ore Grade			
	FCX's Interest	Processing Method	metric tons	Copper %	Gold g/t	Moly %	Silver g/t	metric tons	Copper %	Gold g/t	Moly %	Silver g/t	metric tons	Copper %	Gold g/t	Moly %	Silver g/t
North America																	
Morenci	72%	Milling	1,280	0.25	—	0.02	—	1,077	0.27	—	0.02	—	570	0.27	—	0.02	—
		Leaching	1,135	0.16	—	—	—	898	0.16	—	—	—	522	0.12	—	—	—
Bagdad	100%	Milling	492	0.32	— [b]	0.02	1.36	717	0.27	— [b]	0.02	1.13	961	0.17	— [b]	0.01	0.70
		Leaching	— [b]	0.22	—	—	—	1	0.08	—	—	—	11	0.08	—	—	—
Safford, including Lone Star	100%	Milling	807	0.34	0.02	—	0.45	1,588	0.37	0.02	—	0.44	823	0.29	— [b]	—	0.03
		Leaching	556	0.31	—	—	—	568	0.28	—	—	—	241	0.26	—	—	—
Sierrita	100%	Milling	1,467	0.18	— [b]	0.02	0.74	597	0.17	— [b]	0.02	0.79	131	0.16	— [b]	0.01	0.75
Chino, including Cobre	100%	Milling	283	0.38	0.04	0.01	0.73	157	0.43	0.04	0.01	0.78	27	0.55	0.05	0.01	0.99
		Leaching	27	0.22	—	—	—	4	0.28	—	—	—	7	0.26	—	—	—
Tyrone	100%	Leaching	115	0.22	—	—	—	29	0.21	—	—	—	15	0.21	—	—	—
Henderson	100%	Milling	75	—	—	0.15	—	36	—	—	0.12	—	— [b]	—	—	0.04	—
Climax	100%	Milling	310	—	—	0.17	—	73	—	—	0.09	—	18	—	—	0.06	—
Ajo	100%	Milling	470	0.37	0.06	0.01	0.81	159	0.32	0.04	0.01	0.76	31	0.24	0.05	— [b]	0.80
Cochise/Bisbee	100%	Leaching	153	0.48	—	—	—	124	0.41	—	—	—	21	0.37	—	—	—
Sanchez	100%	Leaching	86	0.35	—	—	—	104	0.23	—	—	—	14	0.18	—	—	—
Tohono	100%	Milling	63	0.74	—	—	—	237	0.64	—	—	—	27	0.46	—	—	—
		Leaching	45	0.94	—	—	—	250	0.61	—	—	—	48	0.49	—	—	—
Twin Buttes	100%	Milling	188	0.58	0.01	0.03	6.23	17	0.56	0.01	0.03	5.94	8	0.67	0.01	0.02	7.27
		Leaching	78	0.22	—	—	—	27	0.20	—	—	—	11	0.25	—	—	—
Christmas	100%	Milling	73	0.52	0.06	— [b]	1.53	291	0.35	0.05	— [b]	0.92	69	0.36	0.06	— [b]	0.94
South America																	
Cerro Verde	53.56%	Milling	22	0.31	—	0.01	1.64	1,460	0.36	—	0.01	1.90	673	0.35	—	0.01	1.87
		Leaching	10	0.35	—	—	—	27	0.29	—	—	—	13	0.32	—	—	—
El Abra	51%	Milling	883	0.45	0.02	0.01	1.52	1,513	0.37	0.02	0.01	1.16	1,012	0.31	0.01	0.01	0.87
		Leaching	64	0.24	—	—	—	72	0.25	—	—	—	66	0.23	—	—	—
Indonesia																	
Grasberg minerals district	48.76%	Milling	319	0.78	0.60	—	4.39	2,136	0.76	0.64	—	4.15	154	0.49	0.40	—	2.77
Total FCX - 100% basis[c]			**9,001**					**12,160**					**5,472**				
Total FCX - Consolidated basis[d]			**8,323**					**11,606**					**5,166**				
Total FCX - Net equity interest[e]			**7,681**					**9,044**					**4,240**				

a. Mineral resources are exclusive of mineral reserves.

b. Amounts not shown because of rounding.

c. Totals may not foot because of rounding.

d. Consolidated basis represents estimated mineral resources after reduction for Morenci's joint venture partner interests (refer to Note 3 for further discussion).

e. Net equity interest represents estimated consolidated mineral resources further reduced for noncontrolling interest ownership (refer to Note 3 for further discussion).

Estimated Mineral Resources
at December 31, 2021[a] (continued)

	FCX's Interest	Processing Method	Measured + Indicated: Million metric tons[b]	Total Mineral Resources: Million metric tons[b]	Average Ore Grade: Copper %	Gold g/t	Moly %	Silver g/t	Contained Metal[c]: Copper billion lbs.	Gold million ozs.	Moly billion lbs.	Silver million ozs.	Cutoff Grade[d]: Grade %
North America													
Morenci	72%	Milling	2,358	2,928	0.26	—	0.02	—	16.8	—	1.11	—	0.14
		Leaching	2,033	2,555	0.15	—	—	—	8.6	—	—	—	0.02
Bagdad	100%	Milling	1,209	2,169	0.24	— [e]	0.02	0.99	11.3	0.2	0.85	69.3	0.08
		Leaching	1	12	0.08	—	—	—	— [e]	—	—	—	0.03
Safford, including Lone Star	100%	Milling	2,394	3,218	0.34	0.02	—	0.34	24.3	1.6	—	34.7	0.15
		Leaching	1,123	1,364	0.29	—	—	—	8.7	—	—	—	0.11
Sierrita	100%	Milling	2,064	2,195	0.18	— [e]	0.02	0.75	8.5	— [e]	0.96	53.0	0.12
Chino, including Cobre	100%	Milling	440	467	0.41	0.04	0.01	0.76	4.2	0.6	0.10	11.4	0.17
		Leaching	31	38	0.23	—	—	—	0.2	—	—	—	0.06
Tyrone	100%	Leaching	143	158	0.22	—	—	—	0.8	—	—	—	0.02
Henderson	100%	Milling	112	112	—	—	0.14	—	—	—	0.35	—	0.10
Climax	100%	Milling	383	401	—	—	0.15	—	—	—	1.34	—	0.04
Ajo	100%	Milling	628	659	0.36	0.06	0.01	0.80	5.2	1.2	0.11	16.9	0.14
Cochise/Bisbee	100%	Leaching	278	299	0.44	—	—	—	2.9	—	—	—	0.10
Sanchez	100%	Leaching	190	204	0.28	—	—	—	1.2	—	—	—	0.07
Tohono	100%	Milling	301	328	0.64	—	—	—	4.6	—	—	—	0.15
		Leaching	295	343	0.64	—	—	—	4.8	—	—	—	0.12
Twin Buttes	100%	Milling	205	213	0.59	0.01	0.03	6.24	2.7	— [e]	0.15	42.7	0.20
		Leaching	105	116	0.22	—	—	—	0.6	—	—	—	0.01
Christmas	100%	Milling	364	433	0.38	0.06	— [e]	1.02	3.6	0.8	0.03	14.2	0.18
South America													
Cerro Verde	53.56%	Milling	1,482	2,155	0.35	—	0.01	1.88	16.8	—	0.60	130.5	0.14
		Leaching	37	50	0.31	—	—	—	0.3	—	—	—	0.08
El Abra	51%	Milling	2,396	3,408	0.37	0.02	0.01	1.17	27.8	1.9	0.62	127.7	0.14
		Leaching	137	203	0.24	—	—	—	1.1	—	—	—	0.08
Indonesia													
Grasberg minerals district	48.76%	Milling	2,454	2,608	0.75	0.62	—	4.10	42.8	51.8	—	343.9	0.51
Total FCX - 100% basis[f]			**21,161**	**26,634**					**197.9**	**58.1**	**6.21**	**844.4**	
Total FCX - Consolidated basis[g]			**19,929**	**25,095**					**190.8**	**58.1**	**5.90**	**844.4**	
Total FCX - Net equity interest[h]			**16,725**	**20,965**					**146.8**	**30.7**	**5.32**	**545.0**	

a. Mineral resources are exclusive of mineral reserves.
b. Amounts may not equal the sum of measured, indicated and inferred (as presented on the prior page) because of rounding.
c. Estimated recoveries are consistent with those for mineral reserves but would require additional work to substantiate.
d. All sites report a percent equivalent copper grade except for Climax and Henderson, which report a percent molybdenum grade. Cutoff grade is the minimum grade considered for processed material.
e. Amounts not shown because of rounding.
f. Totals may not foot because of rounding.
g. Consolidated basis represent estimated mineral resources after reduction for Morenci's joint venture partner interests (refer to Note 3 for further discussion).
h. Net equity interest represent estimated consolidated mineral resources further reduced for noncontrolling interest ownership (refer to Note 3 for further discussion).

The table below summarizes changes in estimated contained copper, gold and molybdenum in mineral resources between December 31, 2020 and 2021, for our properties identified as material under S-K 1300:

	Estimated Contained Mineral Resources at 100% Basis					
	Copper (billion lbs.)			Gold (million ozs.)	Molybdenum (billion lbs.)	
	Morenci	Cerro Verde	Grasberg minerals district	Grasberg minerals district	Morenci	Cerro Verde
Mineral resources as of December 31, 2020	23.7	17.5	43.6	54.0	1.06	0.61
Adjustments[a]	1.7	(0.4)	(0.8)	(2.2)	0.05	(0.01)
Mineral resources as of December 31, 2021	25.4	17.1	42.8	51.8	1.11	0.60

a. The upward adjustments at Morenci are primarily the result of lower estimated unit costs coupled with revised mine designs. The downward adjustments at Cerro Verde are primarily the result of converting material from mineral resources to mineral reserves in the revised mineral reserves mine designs. The downward adjustments at the Grasberg minerals district are primarily the result of revised mine designs and a higher cutoff grade.

Internal Controls over the Mineral Reserves and Mineral Resources Estimation Process

We have internal controls over the mineral reserves and mineral resources estimation processes that result in reasonable and reliable estimates aligned with industry practice and reporting regulations. Annually, qualified persons and other employees review the estimates of mineral reserves and mineral resources, the supporting documentation, and compliance to the internal controls, and, based on their review of such information, recommend approval to use the mineral reserve and mineral resource estimates to our senior management. Our controls utilize management systems including but not limited to, formal quality assurance and quality control protocols, standardized procedures, workflow processes, supervision and management approval, internal and external reviews and audits, reconciliations, and data security covering record keeping, chain of custody and data storage.

Our systems also cover exploration activities, sample preparation and analysis, data verification, mineral processing, metallurgical testing, recovery estimation, mine design and sequencing, and mineral reserve and resource evaluations, with environmental, social and regulatory considerations. Our quality assurance and control protocols over sampling and assaying of drill hole samples include insertion of blind samples consisting of standards, blanks, and duplicates in the primary sample streams, as well as selective sample validation at secondary laboratories.

These controls and other methods help to validate the reasonableness of the estimates. The effectiveness of the controls are reviewed periodically to address changes in conditions and the degree of compliance with policies and procedures. Refer to Item 1A. “Risk Factors” for discussion of risks associated with our estimates of mineral reserves and mineral resources.

Item 1A. Risk Factors.

This report 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 plans, projections, or expectations relating to business outlook, strategy, goals or targets; ore grades and milling rates; production and sales volumes; unit net cash costs; capital expenditures; operating costs; operating plans; cash flows; liquidity; PT Freeport Indonesia's (PT-FI) financing, construction and completion of additional domestic smelting capacity in Indonesia in accordance with the terms of its special mining license (IUPK); our commitments to deliver responsibly produced copper, including plans to implement and validate all of our operating sites under the Copper Mark, and to comply with other disclosure frameworks; execution of our energy and climate strategies and the underlying assumptions and estimated impacts on our business related thereto; achievement of climate commitments and net zero aspirations; improvements in operating procedures and technology innovations; exploration efforts and results; development and production activities, rates and costs; future organic growth opportunities; tax rates; export quotas and duties; impact of copper, gold and molybdenum price changes; impact of deferred intercompany profits on earnings; mineral reserve and mineral resource estimates; final resolution of settlements associated with ongoing legal proceedings; and the ongoing implementation of our financial policy and future returns to shareholders, including dividend payments (base or variable) and share repurchases.

We undertake no obligation to update any forward-looking statements, which speak only as of the date made. We caution readers that forward-looking statements are not guarantees of future performance and our actual results may differ materially from those anticipated, expected, 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 are included below.

Risk Factor Summary

Investing in our securities involves a high degree of risk and uncertainties. Below is a summary of the risk factors that may have a material adverse impact on our business, financial performance, stock price, results of operations, operating flexibility, reputation, costs or liabilities. In addition to this summary and the more detailed description of each risk factor that immediately follows this summary, you should carefully consider the information included in other sections of this annual report on Form 10-K, including but not limited to Items 1. and 2. "Business and Properties," Items 7. and 7A. "Management's Discussion and Analysis of Financial Condition and Results of Operations and Quantitative and Qualitative Disclosures About Market Risk" (MD&A) and Item 3. "Legal Proceedings" prior to investing in our securities. However, the risk factors described herein are not all of the risks we may face. Other risks not presently known to us or that we currently believe are immaterial may materially affect our business if they occur and the trading price of our securities could decline, and you may lose part or all of your investment. Moreover, new risks emerge from time to time. Further, our business may also be affected by general risks that apply to all companies operating in the United States (U.S.) and globally, which have not been included.

Financial risks

- Fluctuations or extended material declines in the market prices of the commodities we produce;
- Less flexibility due to our debt and other financial commitments;
- The ongoing COVID-19 pandemic and any future public health crisis;
- Changes in or failure to comply with financial assurance requirements relating to our mine closure reclamation obligations; and
- Unanticipated litigation or negative developments in pending litigation, changes in income tax laws or other contingencies.

International risks

- Geopolitical, economic and social uncertainties and risks for our international operations, including in Indonesia, Peru and Chile; and
- Failure of PT-FI to meet its commitments to achieve the extension of PT-FI's IUPK through 2041.

Operational risks

- Operational risks inherent in mining, including underground mining;
- Environmental, safety and engineering challenges and risks associated with management of waste rock and tailings;
- Environmental challenges associated with our Indonesia mining operations;
- Violence, civil and religious strife, and activism;
- Availability of significant quantities of secure water supplies for our mining operations, including future expansions or development projects;
- Fluctuations in price and availability of commodities we purchase as well as constraints on supply and logistics, and transportation services; and
- Disruptions, damage, failure and implementation and integration risks associated with information technology systems.

Human capital risks

- Failure to maintain good relations with our workforce and labor disputes or labor unrest; and
- Ability to attract, retain and develop qualified personnel.

Risks related to development projects and mineral reserves

- Inherent risks associated with development projects and unique risks associated with development of underground mining;
- Ability to replace mineral reserves depleted by production; and
- Inherent uncertainty associated with estimates of mineral reserves and mineral resources.

Regulatory, environmental and social risks

- Compliance with applicable environmental, health and safety laws and regulations;
- Remediation of properties no longer in operation;
- Ability to meet our energy requirements while complying with greenhouse gas emissions (GHG) regulations and other energy transition policy changes;
- The physical impacts of climate change on our operations, workforce and supply chain;
- Increasing scrutiny and evolving expectations from stakeholders with respect to our environmental, social and governance (ESG) practices, performance and disclosures; and
- Failure or perceived failure to manage relationships with the communities and/or Indigenous Peoples where we operate or that are near our operations.

Risks related to our common stock

- Holding company structure impact on our ability to service debt, declare cash dividends or repurchase shares; and
- Impact of anti-takeover provisions in our charter documents and under Delaware law.

Financial risks

Fluctuations in the market prices of the commodities we produce have caused and may continue to cause significant volatility in our financial performance and in the trading prices of our common stock. Extended material declines in the market prices of such commodities could adversely affect our financial condition.

Our financial results vary with fluctuations in the market prices of the commodities we produce, primarily copper and gold, and to a lesser extent molybdenum. Extended material declines in market prices of such commodities could have a material adverse effect on our financial results and the value of our assets, may depress the price of our common stock, and may have a material adverse effect on our ability to comply with financial and other covenants in our debt agreements, repay our debt and meet our other obligations. During 2020, the COVID-19 pandemic and resulting negative impact on the global economy created significant volatility in the financial markets, including the copper market. Copper prices were initially impacted by economic uncertainty; however, in mid-2020 copper prices began to rise and reached a record high during 2021, despite the ongoing COVID-19 pandemic.

Fluctuations in commodities prices are caused by varied and complex factors beyond our control, including global supply and demand and inventory levels; global economic and political conditions; international regulatory, trade and/or tax policies, including national tariffs; commodities investment activity and speculation; interest rates; expectations regarding future inflation rates; the strength of the U.S. dollar compared to foreign currencies; the price and availability of substitute products; and changes in technology. Volatility in global economic growth, particularly in developing economies, has the potential to adversely affect future demand and prices for commodities. Geopolitical uncertainty and protectionism, have the potential to inhibit international trade and negatively impact business confidence, which creates the risk of constraints on our ability to trade in certain markets and has the potential to increase price volatility.

In addition to the factors discussed above, copper prices may be affected by demand from China, which is currently the largest consumer of refined copper in the world for infrastructure, the growing markets for automobiles and appliances and by the global focus on a transition to new technologies for clean energy, to advance communications and to enhance public health, as well as demand from North America, Europe, and Asian countries other than China. Additional factors affecting gold prices may include 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. For additional information regarding the historical fluctuations of the prices of copper, gold and molybdenum, refer to "Markets" in MD&A.

If market prices for the primary commodities we produce were to materially decline and remain low for a sustained period of time, we may have to revise our operating plans, including curtailing or modifying our mining and processing operations, as we had to do in early 2020 in response to the global COVID-19 pandemic. We may be unable to decrease our costs in an amount sufficient to offset reductions in revenues, in which case we may incur losses, and those losses may be material.

Declines in prices of commodities we sell could also result in metals inventory adjustments and impairment charges for our long-lived assets. Refer to Note 4 for additional information regarding metals inventory adjustments recorded for the three years ended December 31, 2021. 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 current and future expected mine production costs.

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

At December 31, 2021, our total consolidated debt was $9.5 billion (see MD&A and Note 8) and our total consolidated cash and cash equivalents was $8.1 billion. We also have various other financial commitments, including reclamation and environmental obligations, take-or-pay contracts and leases. For further information, see the risk factor below relating to mine closure and reclamation regulations. Although we have been successful in repaying debt in the past, refinancing our bank facilities, and issuing new debt securities in capital markets transactions, there can be no assurance that we can continue to do so. See the risk factor below regarding increasing scrutiny and evolving expectations from stakeholders, including creditors, with respect to our ESG practices, performance and disclosures. In addition, we or our subsidiaries may incur additional debt in future periods or reduce our holdings of cash and cash equivalents in connection with funding existing operations, capital expenditures, dividends, share repurchases or in pursuing other business opportunities.

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 industry in which we operate;
- Increasing our vulnerability to general adverse economic, industry and regulatory conditions;
- Limiting our ability to fund future working capital, capital expenditures, general corporate requirements 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/or 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 may not be sufficient to fully repay borrowings under our debt instruments that may be accelerated upon an event of default.

As of January 31, 2022, our senior unsecured debt was rated "Baa3" with a stable outlook by Moody's Investors Service, "BBB-" with a stable outlook by Fitch Ratings, and "BB+" with a stable outlook by Standard & Poor's. If we are unable to maintain our indebtedness and financial ratios at levels acceptable to these credit rating agencies, or should our business prospects deteriorate, our current credit ratings could be downgraded, which could adversely affect the value of our outstanding securities and existing debt, our ability to obtain new financing on favorable terms and could increase our borrowing costs.

The ongoing COVID-19 pandemic and any future major public health crisis may have an adverse impact on our business.

Since early 2020, the COVID-19 pandemic has significantly impacted economic activity and markets throughout the world. The extent and duration of adverse impacts that the COVID-19 pandemic (including new and emerging strains and variants) or any future major public health crisis may have on our operations and business, including demand for the commodities we produce, and on global financial markets remains uncertain. Our business and results of operations could be adversely affected if significant portions of our workforce are unable to work effectively, including because of illness, quarantines, government actions or other restrictions. Despite our efforts to manage the impacts of the pandemic, there can be no assurance that our actions will be effective in containing and mitigating the risk of spread or a major outbreak of COVID-19 (or any future major public health crisis) at our operating sites. Additionally, although several vaccines for COVID-19 have been approved, there are risks that these vaccines will not be effective against new and emerging strains and variants of the virus and that these vaccines may not be widely available or accepted in the areas in which we operate. A major outbreak of COVID-19 (or any future major public health crisis) at any of our operating sites, and particularly at PT-FI's remote operating site, could disrupt or change our operating plans, which may have a material adverse effect on our business and results of operations.

Actions taken by governmental authorities and third parties to contain and mitigate the risk of spread of COVID-19 (and those that may be taken for any future major public health crisis) have impacted and may in the future negatively impact our business. For example, in mid-March 2020, the Peru government issued a Supreme Decree and declaration of a National Emergency in its efforts to contain the outbreak of COVID-19. To comply with the government's requirements, in 2020, we temporarily transitioned our Cerro Verde mine to care and maintenance status and adjusted operations to prioritize critical activities. These and other impacts of COVID-19, or any future major public health crisis, had, or could have a material adverse impact on our business, results of operations and financial condition.

Changes in or the failure to comply with the requirements of mine closure and reclamation regulations could have a material adverse effect on our business.

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. As of December 31, 2021, our financial assurance obligations totaled $1.5 billion for closure and reclamation/restoration costs of U.S. mining sites. Refer to Note 12 for additional information regarding our financial assurance obligations and Items 1. and 2. "Business and Properties" for a discussion of certain of such U.S. federal and state laws and regulations applicable to Freeport-McMoRan Inc. (FCX). A substantial portion of our financial assurance obligations are satisfied by FCX and subsidiary guarantees. Our ability to continue to provide guarantees depends on state and other regulatory requirements, our financial performance and our financial condition. Other forms of assurance, such as letters of credit and surety bonds, 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.

Plans and provisions for mine closure and remediation may change over time due to changes in stakeholder expectations, legislation, standards, and technical understanding and techniques, which may cause our provisions for environmental and asset retirement obligations to be underestimated and could materially affect our financial position or results of operations. For example, our implementation of the Global Industry Standard for Tailings Management (the Tailings Standard) (discussed in Items 1. and 2. "Business and Properties" herein) could require

changes to our closure and reclamation plans, although it is uncertain if these changes would result in material capital or operating cost increases. In addition, climate change could lead to changes in the physical risks posed to our operations, which could result in changes in our closure and reclamation plans to address such risks. Any modifications to our closure and reclamation plans that may be required to address physical climate risks may materially increase the costs associated with implementing closure and reclamation at any or all of our active or inactive mine sites and the financial assurance obligations related to the same. Refer to Notes 1 and 12, for further discussion of our environmental and asset retirement obligations and see the risk factor below relating to the physical impacts of climate change.

Unanticipated litigation or negative developments in pending litigation, changes in income tax laws or other contingencies could have a material adverse effect on our financial condition.

We are, and may in the future become, involved in various 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 matters, including those described in Note 12 and in Item 3. “Legal Proceedings”. 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. From time to time we are involved in disputes over the allocation of environmental remediation obligations at “Superfund” and other sites. In addition, we may be held responsible for the costs of addressing contamination at the site of current or former activities or at third party sites, or be held liable to third parties for exposure to hazardous substances should those be identified in the future. 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.

Regardless of the merit of particular claims, defending against litigation or responding to investigations can be expensive, time-consuming, disruptive to our operations and distracting to management. In recognition of these considerations, we may enter into agreements or other arrangements to settle litigation and resolve such challenges. There can be no assurance such agreements can be obtained on acceptable terms or that litigation will not occur.

Further, we are a global business with operations in various jurisdictions. In the event of a dispute arising at our foreign operations, we may be subject to the exclusive jurisdiction of foreign courts or arbitral panels, or may not be successful in subjecting foreign persons to the jurisdiction of courts or arbitral panels in the U.S. or in enforcing the judgment of a foreign court or arbitral panel against a sovereign nation. Our inability to enforce our right and the enforcement of rights on a prejudicial basis by foreign courts or arbitral panels, including against a sovereign nation, could have an adverse effect on our results of operations and financial position.

We have significant net operating losses (NOLs) in the U.S. generated in prior years. These NOLs are available to offset future taxable income, resulting in minimal estimated tax liability in the U.S. over the next several years at current metals market prices. Changes to U.S. income tax laws and/or recommendations from the Organization for Economic Co-operation and Development regarding a global minimum income tax and other changes being considered and/or implemented in countries where we operate could materially impact our income tax provision, cash tax liability, and effective tax rate. In addition, these changes may result in new limitations on our ability to benefit from our significant U.S. NOLs.

International risks

Our international operations are subject to geopolitical, economic and social risks.

We are a U.S.-based mining company with substantial assets located outside of the U.S. Risks of conducting business in countries outside the U.S. can include:

- Delays in obtaining or renewing, or the inability to obtain, maintain or renew, or the renegotiation, cancellation, revocation or forced modification (including the inherent risk of these actions being taken unilaterally by government owned entities) of contracts, leases, licenses, permits, stability agreements or other agreements and/or approvals;
- Expropriation or nationalization of property, protectionism, or restrictions on repatriation of earnings or capital;
- Changes in and differing interpretations of the host country's laws, regulations and policies (which may be applied retroactively), including, but not limited to, those relating to labor, taxation, royalties, duties, tariffs, divestment, imports, exports (including restrictions on the export of copper concentrate and anode slimes, copper and/or gold), trade regulations, immigration, currency and environmental matters (including land use and water use), additional requirements on foreign operations and investment, and/or result in fines, fees and sanctions imposed for failure to comply with the laws and regulations of the jurisdictions in which we operate, the risk of any of which may increase with rising "resource nationalism" in countries around the world;
- Geopolitical, social and economic instability, bribery, extortion, corruption, civil unrest, blockades, acts of war, guerrilla activities, insurrection and terrorism, certain of which may result in, among other things, an inability to access our property or transport our commodities, and in particular, our investments and operations in Peru and Chile currently may be susceptible to such risks;
- Risk of loss associated with trespass, illegal artisanal mining, theft, sabotage and vandalism;
- Risk of loss due to major public health issues, including any pandemic (such as the ongoing COVID-19 pandemic), epidemic or endemic health issues, as a result of the potential related impact to employees, disruptions to operations, supply chain delays, trade restrictions and impact on economic activity in affected countries or regions and due to the limitations of certain local health systems and infrastructure to contain such major public health issues (see above for further discussion of our risks specific to the COVID-19 pandemic);
- Changes in U.S. trade, tariff, tax, immigration or other policies that may harm relations with foreign countries or result in retaliatory policies;
- Increases in training and other costs and challenges relating to requirements by governmental entities to employ the nationals of the country in which a particular operation is located;
- Foreign exchange controls, fluctuations in foreign currency exchange rates and inflation; and
- Reduced protection for intellectual property rights.

Our insurance does not cover most losses caused by the above described risks. For example, we do not have political risk insurance. 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.

We are required to comply with a wide range of laws and regulations in the countries where we operate or do business. For example, 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. We operate in jurisdictions that have experienced public and private sector corruption and where significant anti-corruption enforcement activities, prosecutions and settlements have occurred. We have a large number of contracts with local and foreign suppliers and contractors, who may take action contrary to or fail to adopt standards, controls and procedures, including health, safety, environment, human rights and community standards, that are equivalent to our standards, controls and procedures. There can be no assurance that our internal control policies and procedures will always protect us from misinterpretation of or noncompliance with applicable laws and internal policies, recklessness, fraudulent behavior, dishonesty or other inappropriate acts committed by our affiliates, employees, agents, suppliers or contractors. As such, our corporate policies and processes may not prevent or detect all potential breaches of law

or governance practices. Any such breaches could result in safety events that may result in injuries or fatalities, significant criminal or civil fines and penalties, litigation or regulatory action or inquiries, shareholder activism (such as to stop using a certain supplier or contractor), civil unrest or other adverse impacts on human rights, 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 conduct international mining operations in Indonesia, Peru and Chile and exploration activities in other foreign jurisdictions. 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, social and regional uncertainties in each of these countries. For example, we are involved in several significant tax proceedings and other tax disputes with Indonesia and Peru 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 mining operations in Indonesia are a significant operating asset, our business may be adversely affected by political, economic and social uncertainties in Indonesia.

Maintaining a good working relationship with the Indonesia government and PT Indonesia Asahan Aluminium (Persero) (PT Inalum, also known as MIND ID), an Indonesia state-owned enterprise and shareholder in PT-FI, is important 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 the Grasberg minerals district's significance to Indonesia's economy, the environmentally sensitive area where it is located, and the number of people employed, our Indonesia operations have been the subject of political debates and criticism in the Indonesia press, and have been the target of protests and occasional violence. Improper management of our working relationship with the Indonesia government could lead to a disruption of operations and/or impact our reputation in Indonesia and in the region where we operate, which could adversely affect our business.

The mining industry is subject to extensive regulation within Indonesia, and there have been major developments in laws and regulations applicable to mining concession holders, some of which have conflicted with PT-FI's contractual rights in the past. In particular, the enactment of Law No. 4 of 2009 on Coal and Mineral Mining on January 12, 2009 (the Mining Law) replaced the previous regulatory framework which allowed concession holders, including PT-FI, to conduct mining activities in Indonesia under a contract of work system. Notwithstanding provisions in PT-FI's former Contract of Work (COW) prohibiting it from doing so, the Indonesia government sought to modify PT-FI's former COW to address provisions contained in the Mining Law and implementing regulations adopted thereunder, some of which were not required under or conflicted with PT-FI's former COW.

In early 2017, the Indonesia government issued new regulations to address exports of unrefined metals, including copper concentrate and anode slimes, and other matters related to the mining sector. PT-FI's export license for copper concentrate is valid for one year periods, subject to review and approval by the Indonesia government every six months, depending on greenfield smelter development progress. PT-FI's export license expires on March 15, 2022. Refer to MD&A and Note 12 for further discussion of the administrative fine levied by the Indonesia government on PT-FI for failing to achieve physical development progress on the greenfield smelter, and ongoing discussions with the Indonesia government regarding a deferred schedule for the completion of the greenfield smelter in light of the ongoing COVID-19 pandemic. The 2017 regulations also permit the export of anode slimes, which is necessary for PT Smelting (PT-FI's 39.5-percent-owned copper smelter and refinery located in Gresik, Indonesia) to continue operating. PT Smelting's export license for anode slimes expires on December 9, 2022, subject to review and approval by the Indonesia government every six months. In addition to a delay in the renewal of its export license for anode slimes in 2017, PT Smelting's operations were shut down from mid-January 2017 until early March 2017 as a result of labor disturbances. Copper concentrate sales to PT Smelting totaled over 10 percent of our consolidated revenues for each of the years ended December 31, 2021, 2020 and 2019. We cannot predict when and if PT-FI's copper concentrate export license and PT Smelting's anode slimes export license may be renewed. PT-FI's sale of concentrates could be interrupted if either of these export license is not timely renewed or if PT Smelting is unable to operate either due to other operational or financial constraints, which would adversely impact our revenues and operations.

We cannot assure you that future regulatory changes affecting the mining industry in Indonesia will not be introduced or unexpectedly repealed, or that new interpretations of existing laws and regulations will not be issued, which could adversely affect our business, financial condition and results of operations.

PT-FI will not mine all of the ore reserves in the Grasberg minerals district before the initial term of its IUPK expires in 2031. PT-FI's IUPK may not be extended through 2041 if PT-FI fails to abide by its terms and conditions and applicable laws and regulations.

On December 21, 2018, PT-FI was granted an IUPK to replace its former COW, enabling PT-FI to conduct operations in the Grasberg minerals district through 2041. Under the terms of the IUPK, PT-FI has been granted mining rights through 2031, with rights to extend its mining rights through 2041, subject to, among other things, PT-FI's completion of construction of additional domestic smelting capacity totaling 2 million metric tons of concentrate per year by the end of 2023 (an extension of which has been requested due to COVID-19 mitigation measures subject to the approval of the Indonesia government), and fulfilling its defined fiscal obligations to the Indonesia government. Refer to Note 13 for a summary of the IUPK's key fiscal terms. The expansion of PT Smelting is expected to be complete in late 2023 and the construction of the greenfield smelter is expected to be completed as soon as feasible in 2024, which is subject to, among other things, no additional COVID-19 related disruptions.

The IUPK also requires PT-FI to pay duties on concentrate exports of 5 percent, declining to 2.5 percent when development progress for additional smelting capacity in Indonesia exceeds 30 percent, and eliminated when development progress for additional smelting capacity in Indonesia exceeds 50 percent. Refer to MD&A and Note 12 for further discussion of the administrative fine levied by the Indonesia government on PT-FI for failing to achieve physical development progress on the greenfield smelter, and ongoing discussions with the Indonesia government regarding a deferred schedule for the completion of the greenfield smelter in light of the ongoing COVID-19 pandemic.

The preliminary capital cost estimate for the greenfield smelter and related precious metal refinery approximates $3 billion. In July 2021, PT-FI entered into a $1.0 billion, five-year, unsecured bank credit facility to advance its Indonesia smelter projects and is currently arranging additional debt financing for these projects. PT-FI's ability to raise and service significant new sources of capital will be a function of macroeconomic conditions, and future market prices as well as PT-FI's operational performance, cash flows and debt position, among other factors. Financing may not be available when needed or, if available, the terms of such financing may not be favorable to PT-FI. See the risk factor below regarding increasing scrutiny and evolving expectations from stakeholders, including creditors, with respect to our ESG practices, performance and disclosures.

Our proven and probable mineral reserves in Indonesia reflect estimates of minerals that can be recovered through the end of 2041, and PT-FI's current long-term mine plan and planned operations are based on the assumption that PT-FI will abide by the terms and conditions of the IUPK and will be granted the 10-year extension from 2031 through 2041. As a result, PT-FI will not mine all of these mineral reserves during the initial term of the IUPK. Prior to the end of 2031, we expect to mine 48 percent of aggregate proven and probable recoverable mineral reserves at December 31, 2021, representing 53 percent of our net equity share of recoverable copper reserves and 55 percent of our net equity share of recoverable gold reserves.

If PT-FI does not complete the construction of additional domestic smelting capacity totaling 2 million metric tons of concentrate per year by the end of 2023 (an extension of which has been requested due to COVID-19 mitigation measures subject to the approval of the Indonesia government), or fulfill its defined fiscal obligations to the Indonesia government as set forth in the IUPK, the IUPK may not be extended from 2031 through 2041, and PT-FI would be unable to mine all of the proven and probable mineral reserves in the Grasberg minerals district, which would adversely affect our business, results of operations and financial position.

Operational risks

Our mining operations are subject to operational risks that could adversely affect our business and our underground mining operations have higher risks than a surface mine.

We have assets in a variety of geographic locations, all of which exist in and around broader communities and environments. Maintaining the operational integrity and performance of our assets is crucial to protect our people, the environment and communities in which we operate. 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 flows, include earthquakes, rainstorms, floods, wildfires and other natural disasters; environmental hazards, including discharge of metals, concentrates, pollutants or hazardous chemicals; surface or underground fires; equipment failures; accidents, including in connection with mining

equipment, milling equipment or conveyor systems, transportation of chemicals, explosives or other materials and in the transportation of employees and business partners to and from sites (including where these services are provided by third parties such as vehicle and aircraft transport); wall failures and rock slides in our open-pit mines, and structural collapses of our underground mines or tailings impoundments; underground water and ore management; lower than expected ore grades or recovery rates; and seismic activity resulting from unexpected or difficult geological formations or conditions (whether in mineral or gaseous form). As a result of the COVID-19 pandemic, workplace entry and travel restrictions may result in the delay of key personnel or external consultants accessing our sites to undertake inspections or other activities, potentially resulting in unidentified asset integrity.

For a discussion of risks specific to our tailings management, see the risk factor below relating to our management of waste rock and tailings.

We are facing continued geotechnical challenges due to the older age of some of our open-pit mines and a trend toward mining deeper pits and more complex deposits. No assurances can be given that unanticipated geotechnical and hydrological conditions may or may not occur, nor whether these conditions may lead to events such as landslides and pit wall failures, in the future or that such events will be detected in advance. Geotechnical instabilities can be difficult to predict and are often affected by risks and hazards outside of our control, such as seismic activity or severe weather, which may lead to floods, mudslides, pit-wall instability, and possibly even slippage of material. In early 2019, our El Abra operation in Chile experienced heavy rainfall and electrical storms. As a result, our operating results for 2019 were impacted by a suspension of El Abra's crushed leach stacking operations for approximately 35 days. We cannot predict whether similar events will occur in the future or the extent to which any such event would affect this, or any of our other operations.

Our business is dependent upon our workforce being able to safely perform their jobs, including the potential for physical injuries or illness. Underground mining operations can be particularly dangerous, and in May 2013, a tragic accident, which resulted in 28 fatalities and 10 injuries, occurred at the Grasberg minerals district when the rock structure above the ceiling of an underground training facility collapsed. No assurance can be given that similar events will not occur in the future.

We experience mining induced seismic activity from time to time in the Grasberg minerals district. We cannot predict whether additional occurrences of seismic activity or other unexpected geological activity will occur that could cause schedule delays or additional revisions to PT-FI's mine plans, which could adversely affect our cash flows, results of operations and financial condition.

In addition to the usual risks encountered in the mining industry, our Indonesia mining operations involve additional risks given their location 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. The area also receives extreme rainfall, which has led to periodic floods and mudslides. Further, the mine site is also in an active seismic area and has experienced earth tremors from time to time.

We maintain insurance at amounts we believe to be reasonable to cover some of these risks and hazards; however, our insurance may not sufficiently cover losses from certain natural or operating disasters. No assurance can be given that such insurance will continue to be available, or that it will be available at economically feasible premiums, or that we will be able to obtain or maintain such insurance. We may elect to not purchase insurance for certain risks due to the high premium costs associated with insuring such risk or for various other reasons. We do not have coverage for certain environmental losses and other risks. The lack of, or insufficiency of, insurance coverage could adversely affect our cash flows and overall profitability.

The occurrence of one or more of these events in connection with our exploration activities and development of and production from mining operations may result in the death of, or personal injury to, our employees, other personnel or third parties, the loss of mining equipment, damage to or destruction of mineral properties or production facilities, significant repair costs, monetary losses, deferral or unanticipated fluctuations in production, extensive community disruption (including short- and long-term health and safety risks), loss of licenses, permits or necessary approvals to operate, loss of workforce confidence, loss of infrastructure and services, disruption to essential supplies or delivery of our products, environmental damage and potential legal liabilities, all of which may adversely affect our reputation, business, prospects, results of operations and financial position. Further, the impacts of any serious incidents that occur may also be amplified if we fail to respond timely or in an appropriate manner.

Our management of waste rock and tailings are subject to significant environmental, safety and engineering challenges and risks that could adversely affect our business.

The waste rock (including overburden) and tailings produced in our mining operations represent our largest volume of waste material. Managing the volume of waste rock and tailings presents significant environmental, safety and engineering challenges and risks primarily relating to structural stability, geochemistry, water quality and dust generation. Management of this waste is regulated in the jurisdictions where we operate and our programs are designed to comply with applicable national, state and local laws, permits and approved environmental impact studies.

We maintain large leach pads and tailings impoundments containing viscous material. Tailings impoundments include large embankments that must be engineered, constructed and monitored to ensure 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, prevent 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 discussed in more detail in the risk factor below relating to the environmental challenges at our Indonesia mining operations.

Subsidiaries of our company currently operate 16 active tailings storage facilities (14 in the U.S. and 2 in Peru), of which 11 have an upstream design and 5 have a centerline design. We also manage 52 tailings storage facilities in the U.S. that are inactive or closed (45 with an upstream design, 5 with a centerline design and 2 with a downstream design) and another 5 with an upstream design that are deemed “safely closed” according to the definition in the Tailings Standard. In 2021, we produced approximately 295 million metric tons of tailings. The failure of tailings and other embankments at any of our mining operations could cause severe, and in some cases catastrophic, property and environmental damage and loss of life, as well as adverse effects on our business and reputation. Many of our tailings storage facilities are located in areas where a failure has the potential to impact individual dwellings and a limited number of impoundments are in areas where a failure has the potential to impact nearby communities or mining infrastructure. As a result, our programs take into account the significant consequences resulting from potential failure modes, and we dedicate substantial financial resources and internal and external technical resources to pursue the safe management of all those facilities reducing and in some cases eliminating the number of and potential consequences of credible failure modes. Our tailings management and stewardship program involves qualified external Engineers of Record and periodic oversight by independent tailings Technical Review Boards and our Tailings Stewardship Team. We continue to enhance our existing practices to strengthen the design, operation and closure of tailings storage facilities in an effort to reduce the risk of severe or catastrophic failure of those facilities. However, no assurance can be given that these events will not occur in the future. For additional information regarding the company’s tailings management and stewardship program, including the Tailings Standard, refer to Items 1. and 2. “Business and Properties” herein.

In addition, changes to the physical risks to our facilities resulting from climate change could lead to changes in our plans for managing tailings and waste rock in order to address such risks, which may materially increase the costs associated with managing waste rock and tailings at any or all of our active or inactive mine sites. For further discussion, see the below risk factor relating to the physical effects of climate change.

Based on observations from tailings failures at unaffiliated mines, in addition to fatalities and severe personal, property and environmental damages, these events could result in limited or restricted access to mine sites, suspension of operations, decrease in mineral reserves, legal liability, government investigations, additional regulations and restrictions on mining operations in response to any such failure, increased monitoring costs and production costs, increased insurance costs or inability to obtain insurance, increased costs and/or limited access to capital, remediation costs, inability to comply with any additional safety requirements or obtain necessary certifications, evacuation or relocation of communities or other emergency action, and other impacts, which could have a material adverse effect on our operations and financial position.

Our Indonesia mining operations have the potential to create difficult and costly environmental challenges, and future changes in Indonesia environmental laws could increase our 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 tailings. In 2021, PT-FI produced approximately 52 million metric tons of tailings. Our tailings management plan, which has been approved by the Indonesia government, uses the unnavigable river system in the highlands near our mine to transport the tailings to an

engineered deposition area in the lowlands. 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 at PT-FI is managing overburden, which is rock that was required to be moved aside in the open pit mining process to reach the ore in the Grasberg open pit. 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, specific 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. The Grasberg overburden stockpiles have experienced erosion over time. This overburden affects the volume as well as the physical and chemical characteristics of the sediment material deposited in the lowlands tailings management area, which can result in environmental impacts. PT-FI's current designated tailings deposition management plan as well as robust environmental monitoring programs take into account the presence of this overburden in the lowlands tailings management area.

As part of its ongoing management and monitoring program, PT-FI expanded the scope of its analyses to assess possible impacts to the environment and human health from overburden erosion and tailings, including conducting and updating a human health risk assessment. During 2021, PT-FI continued to advance work on the human health risk assessment to evaluate these potential impacts. A study conducted by third-party expert consultants with PT-FI support, assessed potential exposure pathways including surface waters, groundwaters, sediments and soils, dust and terrestrial and aquatic tissues. PT-FI continues further study and evaluation and, in furtherance of this effort, has been assisting local health authorities with a community health survey, which is providing further data to evaluate any potential impacts from operations and information on community health conditions. The ongoing study and evaluation, which is expected to be completed in the first half of 2022, will assist in determining what additional monitoring and mitigation efforts may be required in the future.

In the past, the Indonesia government has 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. Our Indonesia mining operations are remotely located in steep mountainous terrain and in an active seismic area; such that, a pipeline system would be 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 for all mine tailings is feasible.

Overtopping or levee failure induced by extreme weather events is a potential risk. Additionally, unanticipated structural failure of the levee system in the future could result in flooding of the nearby communities and related loss of lives and/or severe personal, property and environmental damages. This may necessitate evacuation or relocation of communities or other emergency action, financial assistance to the communities impacted, and remediation costs to repair and compensate for the social, cultural and economic impacts.

Managing these environmental challenges at our Indonesia operations could result in reputational harm and increased costs that could be significant.

In December 2018, Indonesia's Ministry of Environment and Forestry (MOEF) issued a revised environmental permit to PT-FI to address many of the operational activities that it alleged were inconsistent with earlier studies. PT-FI and the MOEF also established a new framework for continuous improvement in environmental practices at PT-FI's operations, including initiatives that will examine options to potentially increase tailings retention and to evaluate large scale beneficial uses of tailings within Indonesia. LAPI-ITB, the third-party expert nominated by MOEF to perform the framework evaluation, submitted their report to the MOEF in June 2021. PT-FI is currently evaluating additional actions and activities based on the study conclusions. In addition, MOEF finalized environmental permitting related to the underground rail facilities and Deep Mill Level Zone (DMLZ) production of 80 thousand metric tons per day in November 2021. Permitting of certain facilities for underground mining production operations, as well as permitting for the extension of levees to contain the lateral flow of tailings in the lowlands, continues to progress.

We cannot assure you that future environmental changes affecting the mining industry in Indonesia will not be introduced or unexpectedly altered or repealed, or that new interpretations of existing Indonesia environmental laws and regulations will not be issued, which could have a significant impact on PT-FI.

Violence, civil and religious strife, and activism could result in loss of life and disrupt our operations.

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 Indonesia military and police. 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.

Starting 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. Since 2009, there have been 22 fatalities and more than 75 injuries to our employees, contractor employees, government security personnel and civilians. Shooting incidents in PT-FI's project area have continued on a sporadic basis through January 2021, when a helicopter contracted to PT-FI was fired upon and struck by a single gunshot in an area adjacent to the project area. There were several shooting incidents in the first half of 2020, including an incident near a PT-FI office building where one employee was killed and two others injured. In addition, in December 2018, a mass shooting incident targeting a highway construction crew occurred in a remote mountain area approximately 100 miles east of the PT-FI project area, resulting in at least 19 fatalities and several were reported as missing. Separatist security incidents, including shootings, continue to occur regionally. PT-FI actively monitors security conditions and the occurrence of incidents in the region.

The safety of our workforce is a critical concern, and PT-FI continues to work with the Indonesia government to enhance security and address security issues within the PT-FI project area and in nearby areas. Although we have implemented measures and safeguards consistent with both international standards and our own internal standards relating to the use of force and respect for human rights, the implementation of these measures and safeguards does not guarantee that personnel, national police or other security forces will uphold these standards in every instance. We continue to limit the use of the road leading to PT-FI's mining and milling operations to secured convoys, including transport of personnel by armored vehicles in designated areas.

We cannot predict whether additional incidents will occur that could result in loss of life, disruption or suspension of PT-FI's 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.

South America countries have historically experienced uneven periods of economic growth, as well as recession, periods of high inflation and general economic and political instability. Since 2019, both Peru and Chile have experienced significant civil unrest unrelated to our operations. For example, in fourth-quarter 2021, an unaffiliated copper producer in southern Peru announced the suspension of its operations after repeated and sustained community protests on the government-designated concentrate transport route along public roads, which constrained the operation from shipping its product. Although such civil unrest has not significantly impacted our results, similar events in the future could cause our South America operations to be materially impacted, in which case, we may not be able to meet our production and sales targets. We cannot predict whether similar or more significant incidents of civil unrest will occur in the future in Peru or Chile.

Our mining operations, including future expansions or developments, depend on the availability of significant quantities of secure water supplies.

We recognize that access to clean, safe and reliable water supplies is vital to the health and livelihood of our host communities. Our mining operations require physical availability and secure legal rights to significant quantities of water, and the increasing pressure on water resources requires us to consider both current and future conditions in our approach. We aim to balance our operational water requirements with those of the local communities, environment and ecosystems. Most of our North America and South America mining operations are in areas where competition for water supplies is significant, and where climate change may lead to increasing scarcity of water resources in the future. Continuous production at our mines and any future expansions or developments are dependent on many factors, including our ability to maintain our water rights and claims, and the continuing physical availability of the water supplies. Current and long-term water risks include those that arise from our operations (such as failure to properly manage tailings and overburden) and events that we do not control (such as extreme weather and other physical risks associated with climate change). For further discussion of the physical impacts of climate change, see the related risk factor below.

As discussed in Item 3. “Legal Proceedings,” in Arizona, where our operations use both surface water and groundwater, we are a participant in an active adjudication in which Arizona courts have been attempting, for over 45 years, to quantify and prioritize surface water claims for the Gila River watershed, one of the state’s largest river systems. If we are not able to satisfactorily resolve the issues being addressed in the adjudications, water uses could be diminished or curtailed, and our operations at Morenci, Safford and Sierrita could be adversely affected unless we are able to acquire alternative resources.

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 and from wastewater collected from the city of Arequipa and treated at a wastewater treatment plant constructed by us. As a result of occasional drought conditions, temporary supply shortages that could affect our Cerro Verde operations are possible.

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. Our current permit will expire in 2029 unless we are able to renew it again. The agreement to pump from this aquifer is subject to continued monitoring of the aquifer water levels and select flora species to ensure that environmentally sensitive areas are not impacted by our pumping. If impact occurs, reductions in pumping are required to restore water levels, which could have an adverse effect on production from El Abra. For further discussion, see the risk factor above relating to the geopolitical, economic and social risks associated with our international operations.

Although we typically have sufficient water for our Indonesia operations, the area receives considerable rainfall that makes us susceptible to periodic floods and mudslides, the nature and magnitude of which cannot be predicted.

Although each of our mining operations currently has access to sufficient water supplies to support current operational demands, as discussed above, the availability of additional supplies for potential future expansions or development will require additional investments and will take time to develop, if available. 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, and the ability to obtain future water supplies could prevent future expansions or developments, thereby increasing and/or accelerating costs or foregoing profitable operations.

Fluctuations in the price and availability of commodities we purchase and constraints on supply and logistics could affect our profitability. Further, significant delays or increases in costs affecting transportation services may affect our business.

Prices and availability of commodities consumed or used in our operations such as natural gas, diesel, ammonium nitrate, chemical reagents, and steel-related products can affect the costs of production at our operations. These prices fluctuate and can be volatile and any cost increases could have a material adverse effect on our results of operations. In 2021, we experienced price increases on certain commodities, including fuel, steel, ammonia and acid. While these increases did not significantly impact our results in 2021, additional increases may occur in 2022 and such increases may be material.

Ensuring continuity of supply of materials to our operations is critical to our business. We also rely on the availability of components from suppliers for key machines and equipment, which may be impacted by competition demands as well as the availability of input materials in the creation of such equipment. A supplier’s failure to supply materials or components in a timely manner or to meet our quality, quantity, cost requirements or our technical specifications, or our inability to obtain alternative sources of materials or components on a timely basis or on terms acceptable to us, could adversely affect our operations. In 2021, we experienced longer lead times on delivery of certain materials and shortages on certain materials, including lubricants, semi-conductors, personal protective equipment, rubber and acid. While these delays and shortages did not significantly impact our results in 2021, these issues may continue in 2022 and such shortages and delays may be material.

Our business depends on the inbound transportation of commodities we use and the outbound transportation of the commodities we produce by truck, rail and ocean freight. The COVID-19 pandemic has created global shipping and logistics challenges. Any significant increase in the cost of the transportation of these commodities or products, as a result of increases in fuel or labor costs, higher demand for logistics services, or otherwise, would adversely affect our results of operations. Additionally, if the transportation service providers fail to deliver commodities used in our operations to us or the commodities we produce to our customers in a timely manner or at all, such failure could

adversely impact our ability to meet our production schedules, delay our projects and capital initiatives, negatively affect our customer relationships and have a material adverse effect on our financial position and results of operations.

Our information technology systems may be adversely affected by disruptions, damage, failure and risks associated with implementation and integration.

Our industry has become increasingly supported by and dependent on digital technologies. Our strategy of operating large, long-lived, geographically diverse assets has been increasingly dependent on our ability to become fully integrated and highly automated. Many of our business and operational processes are heavily dependent on traditional and emerging technology systems to conduct day-to-day operations, improve safety and efficiency, and lower costs.

As our dependence on information systems, including those of our third-party service providers and vendors, grows, we become more vulnerable to an increasing threat of continually evolving cybersecurity risks. In recent years, cybersecurity events have increased in frequency and magnitude. These incidents may include, but are not limited to, installation of malicious software, phishing, ransomware, credential attacks, unauthorized access to data and other advanced and sophisticated cybersecurity breaches and threats, including threats that increasingly target critical operational technologies and process control networks. If any of these threats materialize, we could be subject to manipulation or improper use of our systems and networks, production downtimes, communication interruption or other disruptions and delays to our operations or to the transportation of products or infrastructure utilized by our operations, unauthorized release of proprietary, commercially sensitive, confidential or otherwise protected information, a misappropriation or loss of funds, the corruption of data, significant health and safety consequences, environmental damage, loss of intellectual property, fines and litigation, damage to our reputation or financial losses from remedial actions, any of which could have a material adverse effect on our cash flows, results of operations and financial condition. We have experienced targeted and non-targeted cybersecurity events in the past and may experience them in the future. While these cybersecurity events did not result in any material loss to us or interrupt our day-to-day operations, as of January 31, 2022, there can be no assurance that we will not experience any such losses or interruption in the future. Given the unpredictability of the timing and the evolving nature and scope of information technology disruptions, the various procedures and controls we use to monitor and protect against these threats and to mitigate our potential risks to such threats may not be sufficient in preventing cybersecurity events from materializing. Further, as cybersecurity threats continue to evolve, we may be required to expend significant additional resources to continue to modify or enhance our protective measures or to investigate and remediate vulnerabilities to cybersecurity threats.

We could also be adversely affected by system or network disruptions if new or upgraded information technology systems are defective, not installed properly or not properly integrated into our operations. System modification failures could have a material adverse effect on our business, financial position and results of operations and could, if not successfully implemented, adversely impact the effectiveness of our internal controls over financial reporting.

Human capital risks

Labor disputes or labor unrest could disrupt our operations.

Our business is dependent on maintaining good relations with our workforce. A significant portion of our employees are represented by labor unions in a number of countries under various collective bargaining agreements with varying durations and expiration dates. Refer to Items 1. and 2. “Business and Properties” of this annual report on Form 10-K for additional information regarding labor matters, and expiration dates of such agreements. As of December 31, 2021, approximately 31 percent of our global labor force was covered by collective bargaining agreements and approximately 14 percent of our global labor force was covered by agreements that will or were scheduled to expire during 2022.

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.

We could experience labor disruptions such as work stoppages, work slowdowns, union organizing campaigns, strikes, or lockouts that could adversely affect our operations. For example, during third-quarter 2016, PT-FI experienced labor productivity issues and a 10-day work stoppage, which continued during fourth-quarter 2016 and into the first half of 2017. Beginning in mid-April 2017, PT-FI experienced a high level of worker absenteeism, which unfavorably impacted mining and milling rates, and in May 2017, a significant number of employees and contractors elected to participate in an illegal strike action. These employees were subsequently deemed to have voluntarily resigned under existing Indonesia laws and regulations resulting in increased costs associated with employee severance. In third-quarter 2020, we experienced a five-day labor-related work stoppage related to COVID-19 travel restrictions when a small group of workers at PT-FI staged protests and a blockade restricting access to the main road to the mining operations area. We reached an amicable resolution with the group of workers while upholding our COVID-19 safety protocols. There were no strikes or lockouts at any of our operations in 2021.

We cannot predict whether additional labor disruptions will occur. Significant reductions in productivity or protracted work stoppages at one or more of our operations could significantly reduce our production and sales volumes or disrupt operations, which could adversely affect our cash flows, results of operations and financial condition.

Our future success depends on our ability to attract, retain and develop qualified personnel.

Our success is dependent on the contributions of our highly skilled and experienced workforce. Our business depends upon our ability to attract, retain and develop a qualified, inclusive and diverse workforce. Our ability to attract qualified personnel is affected by the available pool of workers with the training and skills necessary to fill the available positions, the impact on the labor supply due to general economic conditions and our ability to offer competitive compensation and benefit packages. If we fail to attract, retain and develop qualified, inclusive and diverse personnel necessary for the efficient operation of our business, this could result in decreased profitability, productivity and efficiency, which may have a material adverse effect on our performance.

Risks related to development projects and mineral reserves

Development projects are inherently risky and may require more capital and have lower economic returns than anticipated, and the development of our underground mines are also subject to other unique risks.

Mine development projects typically require a number of years and significant expenditures during the development phase before production is possible. Our development projects include underground development activities at the Grasberg Block Cave, DMLZ and Kucing Liar ore bodies in the Grasberg minerals district, which currently constitute approximately 28 percent of our estimated consolidated recoverable proven and probable copper reserves and 94 percent of our estimated consolidated recoverable proven and probable gold reserves. There are many risks and uncertainties inherent in all development projects including, but not limited to, unexpected or difficult geological formations or conditions, potential delays, cost overruns, lower levels of production during ramp-up periods, shortages of material or labor, construction defects, breakdowns and injuries to persons and property.

The development of our underground mines are also subject to other unique risks including, but not limited to, underground fires or floods, ventilating harmful gases, fall-of-ground accidents, and seismic activity resulting from unexpected or difficult geological formations or conditions. For example, we experience mining induced seismic activity from time to time in the Grasberg minerals district. While we anticipate taking all measures that we deem reasonable and prudent in connection with the development of our underground mines to safely manage production, there is no assurance that these risks will not cause schedule delays, revised mine plans, injuries to persons and property, or increased capital costs, any of which may have a material adverse impact on our cash flows, results of operations and financial condition. Additionally, although we devote significant time and resources to our project planning, approval and review processes, many of our development projects are highly complex and rely on factors that are outside of our control, which may cause the actual time and capital required to complete a development project to exceed our estimates.

Exploration is highly speculative, and our exploration activities may not result in additional discoveries to replace mineral reserves.

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. Depleted mineral reserves can be replaced in several ways, including expanding known ore bodies, reducing operating costs that could extend the life of a mine by allowing us to cost-effectively process ore types that were previously considered uneconomic, by locating new deposits or acquiring interests in mineral reserves from third parties. Exploration is highly speculative in nature, involves many risks and uncertainties, requires substantial capital expenditures and, in some instances, advances in processing technology, and is frequently unsuccessful in discovering significant mineral resources since new, large, long-life deposits are increasingly scarce. Accordingly, our current or future exploration programs may not result in the discovery of additional deposits that can be produced profitably. Even if significant mineral resources are discovered, it will likely take many years from the initial phases of exploration until commencement of production, during which time the economic feasibility of production may change. We may not be able to discover, enhance, develop or acquire mineral reserves in sufficient quantities to maintain or grow our current reserve levels, which could negatively affect our cash flows, results of operations and financial condition.

Estimates of mineral reserves and mineral resources are uncertain and the volume and grade of ore actually recovered may vary from our estimates.

Our estimates of mineral reserves and mineral resources have been prepared in accordance with the disclosure requirements of Subpart 1300 of U.S. Securities and Exchange Commission (SEC) Regulation S-K. There are numerous uncertainties inherent in mineral estimates. Such estimates are, to a large extent, based on assumed long-term prices for the commodities we produce, primarily copper, gold and molybdenum, and interpretations of geologic data obtained from drill holes and other exploration techniques, which may not necessarily be indicative of future results. Our mineral 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. Geological assumptions about our mineral resources that are valid at the time of estimation may change significantly when new information becomes available.

Estimates of mineral reserves, or the cost at which we anticipate the mineral reserves will be recovered, are based on assumptions, such as metal prices and other economic inputs. Changes to such assumptions may require revisions to reserve estimates which could affect our asset carrying values and may also negatively impact our future financial condition and results. Until mineral reserves are actually mined and processed, the quantity of ore and grades must be considered as an estimate only.

In addition, if the market prices for the commodities we produce decline from assumed levels, if production costs increase or recovery rates decrease, or if applicable laws and regulations are adversely changed, we can offer no assurance that the indicated level of recovery will be realized or that mineral reserves can be mined or processed profitably. If we determine that certain of our estimated recoverable proven and probable mineral reserves have become uneconomic, this may ultimately lead to a reduction in our aggregate reported mineral reserves, which could have a material adverse effect on our business, financial condition and results of operations.

Additionally, the term “mineral resources” does not indicate recoverable proven and probable mineral reserves as defined by the SEC. Estimates of mineral resources are subject to further exploration and evaluation of development and operating costs, grades, recoveries and other material factors, and, therefore, are subject to considerable uncertainty. Mineral resources do not meet the threshold for mineral reserve modifying factors, such as engineering, legal and/or economic feasibility, that would allow for the conversion to mineral reserves. Accordingly, no assurance can be given that the estimated mineral resources not included in mineral reserves will become recoverable proven and probable mineral reserves.

Regulatory, environmental and social risks

The costs of compliance with environmental, health and safety laws and regulations applicable to our operations may constrain existing operations or expansion opportunities. Related permit and other approval requirements may delay or result in a suspension of our operations.

Our operations are subject to extensive and complex laws and regulations, including 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; protection of endangered and threatened species and designation of critical habitats; and other related matters. These laws and regulations are subject to change and to changing interpretation by governmental agencies and other bodies vested with broad supervisory authority. As a mining company, compliance with environmental, health and safety laws and regulations is an integral and costly part of our business. In addition, we must obtain regulatory permits and approvals to start, continue and expand operations.

Certain federal and similar state laws and regulations 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 previously sent materials for processing, recycling or disposal. As discussed in more detail in the risk factor below relating to costs incurred for remediating environmental conditions on our properties that are no longer in operation, we have substantial obligations for environmental remediation on properties previously owned or operated by Freeport Minerals Corporation (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, and 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 obligations. Regulations have been considered at various governmental levels to increase financial responsibility requirements for mine closure and reclamation. Adoption of such environmental regulations or more stringent application of existing regulations may materially increase our costs, threaten certain operating activities and constrain our expansion opportunities. In addition, no assurances can be made that restrictions relating to conservation will not have an adverse impact on expansion of our operations or not result in delays in project development, constraints on exploration and constraints on operations in impacted areas.

We have incurred and expect to incur 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. The timing and amounts of estimated payments could change as a result of changes in regulatory requirements, changes in scope and costs of reclamation activities, the settlement of environmental matters and the rate at which actual spending occurs on continuing matters.

We are also subject to extensive regulation of worker health and safety. Our mines are inspected on a regular basis by government regulators who may issue citations and orders when they believe a violation has occurred under applicable mining regulations. If inspections result in an alleged violation, we may be subject to fines and penalties and, in instances of alleged significant violations, our mining operations or industrial facilities 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, including executive orders, or changes to or new interpretations of existing laws and regulations by courts or regulatory authorities occur regularly, but are difficult to predict. Any such variations could negatively impact the mining sector, including our business, substantially increase costs to achieve compliance or otherwise could have a material adverse effect on our cash flows, results of operations and financial condition.

For additional information regarding the various regulations affecting us, see Items 1. and 2. "Business and Properties" of this annual report on Form 10-K.

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.

Companies like FMC are now 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, 2021, we had more than 100 active remediation projects in 24 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.

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 U.S. Environmental Protection Agency 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 Items 1. and 2. “Business and Properties” and Note 12 for further discussion of our environmental obligations.

We face increasing regulatory and stakeholder expectations relating to our GHG emissions and energy transition plans, which may adversely affect our business. Further, we may not be able to timely or successfully transition from fossil fuel sources for our significant energy needs, which may result in reputational damage.

Our operations require significant energy, much of which is currently from fossil fuel sources and is obtained from third parties under long-term contracts. Energy represented approximately 21 percent of our copper mine site operating costs in 2021, and is expected to approximate 25 percent in 2022. The principal sources of energy consumption at our mining operations are: diesel fuel, which powers mine trucks and other transportation equipment; purchased electricity, which powers core facilities and certain on-site metal processing operations; and coal and natural gas, which provides electricity at certain operations.

Existing and proposed new governmental conventions, laws, regulations and standards (both in the U.S. and internationally), including those related to climate and GHG emissions, may in the future add significantly to our operating costs, limit or modify our operations, and require more resources to comply and remediate in response. For additional information on climate change conventions, laws, regulations and standards applicable to FCX, refer to Items 1. and 2. “Business and Properties”.

If we do not adapt to the expectations of stakeholders regarding a low-carbon future in a timely manner, it may result in reputational damage with key stakeholders impacting investor confidence, market value and access to and cost of capital. In response to climate change and societal demands for action, we have announced GHG emissions reduction targets and aspirations, which will result in additional costs to us, and we cannot guarantee that we will be able to achieve any current or future GHG emissions targets or aspirations.

While we strive to transition to more renewable power sources for our mining operations, as a commercial consumer of power, our ability to reduce our GHG emissions associated with our power consumption demand is dependent upon the mix of our suppliers and locally-available renewable energy resources at our various sites. The transition to renewable and other energy sources could, among other things, increase our capital expenditures, operating and energy costs, depending on the scope, magnitude and timing of increased regulation of fossil-fuel based energy production, including GHG emissions, as well as the availability of alternative energy sources.

In certain aspects of our operations, our ability to reduce our GHG emissions is directly dependent on the actions of third parties and technological solutions and innovation, and our ability to make significant, rapid changes in our GHG emissions in response to potential future regulations may be limited. For example, our diesel-fueled mine trucks are a significant contributor to GHG emissions at our North America and South America operations, but reduction of emissions from mine trucks will depend upon the development of alternative-fueled mining equipment by our third-party suppliers. At our remote operations in Indonesia, we own and operate a coal-fired power plant, and our ability to transition to commercially viable alternative sources of energy will depend on, among other things, a feasibility study and technological considerations.

The physical impacts of climate change may adversely affect our mining operations, workforce and supply chain.

We recognize that as the climate changes, our operations, workforce and supply chain may be exposed to changes in the frequency, intensity and/or duration of intense storms, drought, flooding (including from sea level rise at our coastal operations), wildfire, and other extreme weather events and patterns. Such potential physical impacts of climate change on our operations are highly uncertain, and would vary by operation based on particular geographic circumstances. At many of our mine sites, climate change is projected to impact local precipitation regimes, resulting in shorter-duration, higher-intensity storm events, and the potential for less precipitation overall. We could face increased operational costs associated with managing additional volumes of storm water during more intense future events, including supply disruption, delays and increased pricing. In addition, the potential for overall decreases in precipitation could affect the availability of water needed for our operations, leading to increased operating costs, or in extreme cases, disruptions to mining operations.

In addition, with respect to our tailings facilities, as part of our commitment to implementing the Tailings Standard (discussed in Items 1. and 2. “Business and Properties” herein), we will be required to consider uncertainties due to climate change, incorporate that assessment into the relevant knowledge base for our tailings facilities, use this knowledge base to enhance the resilience of our approach to the impacts of climate change using an adaptive management approach, incorporate that knowledge into facility operations, and take measures to mitigate both

environmental impact and potential failure risks at our tailings facilities, including those arising from climate change. These obligations likely will require future changes at our tailings facilities, which could increase our operational expenses or require further capital investments.

Increasing scrutiny and evolving expectations from stakeholders with respect to our ESG practices, performance, commitments and disclosures may impact our reputation, increase our costs and impact our access to capital.

Stakeholder scrutiny related to our ESG practices, commitments, performance and disclosures continues to increase. We have adopted certain policies and programs, including with respect to responsible production frameworks, climate change, water stewardship, biodiversity, tailings management and stewardship, waste management, safety and health, human capital management, human rights, social performance and community and Indigenous Peoples relations, and supply chain/responsible sourcing. It is possible, however, that our stakeholders might not be satisfied with our ESG practices, commitments, performance and/or disclosures, or the speed of their adoption, implementation and measurable success. If we do not meet our stakeholders' evolving expectations, our reputation, access to and cost of capital, and stock price could be negatively impacted.

Investor advocacy groups, certain institutional investors, investment funds, creditors and other influential investors are increasingly focused on our ESG practices and in recent years have placed increasing importance on the ESG implications of their investments and lending decisions.

Organizations that provide information to investors and financial institutions on ESG performance and related matters have developed quantitative and qualitative data collection processes and ratings processes for evaluating companies on their approach to ESG matters. Such ratings are used by some investors to inform their investment and voting decisions. In addition, many investors have created their own proprietary ratings that inform their investment and voting decisions. Unfavorable ratings or assessment of our ESG practices, including our compliance with certain disclosure standards and frameworks, may lead to negative investor sentiment toward us, which could have a negative impact on our stock price and our access to and cost of capital.

Similarly, some financial institutions have incorporated ESG ratings into their credit risk assessments, and screen companies based on their ESG practices and performance when making lending decisions. If we are unable to meet the ESG lending criteria set by our creditors or are required to take certain remediation steps to satisfy such criteria, our access to capital on terms we find favorable may be limited and our costs may increase.

As we continue to focus on our ESG practices, commitments, performance and disclosures, and as ESG-related regulations and disclosure standards and frameworks continue to evolve, we have expanded our public disclosures in these areas. Such disclosures may reflect goals, aspirations, commitments, cost estimates and other expectations and assumptions, including over long timeframes, which are necessarily uncertain and may not be realized.

Further, the voluntary disclosure standards or frameworks we choose to align with are evolving and may change over time and our interpretation of such disclosure standards and frameworks may differ from those of others, either of which may result in a lack of consistent or meaningful comparative data from period to period and/or significant revisions to our goals and aspirations or reported progress in achieving such goals and aspirations.

Ensuring that there are adequate systems and processes in place to comply with the various ESG tracking and disclosure obligations will require management's time and expense. If we do not adapt to or comply with investor or stakeholder expectations, including with respect to evolving disclosure standards and frameworks, or if we are perceived to have not responded appropriately, regardless of whether there is a legal requirement to do so, we may suffer from reputational damage and our business, financial condition, cost of capital and/or stock price could be materially and adversely affected.

In addition, our customers and end users may require that we implement certain additional ESG procedures or standards before they will start or continue to do business with us, which could lead to preferential buying based on our ESG practices compared to our competitors' ESG practices. Further, being associated with activities by suppliers, contractors or other affiliates that have or are perceived to have individual or cumulative adverse impacts on the environment, climate, biodiversity and land management, water access and management, human rights or cultural heritage could negatively affect our reputation and impose additional costs.

Failure or the perceived failure to manage our relationships with the communities and/or Indigenous Peoples where we operate or that are near our operations could harm our reputation and social license to operate.

Our relationships with the communities and/or Indigenous Peoples where we operate or that are adjacent to or near our operations are critical to the long-term success of our existing operations and the development of any future projects. There is ongoing and increasing stakeholder concern relating to a company's social license to operate and the perceived effects of mining activities on the environment and on communities impacted by such activities. We may engage in activities, such as exploration, production, construction or expansion of our operations that have or are perceived to have adverse impacts on the local communities and their relevant stakeholders, society as a whole, Indigenous Peoples, cultural heritage, human rights and the environment, among other things. For example, our operations may take place on or adjacent to Indigenous Peoples' ancestral lands, and such Indigenous Peoples may assert rights to the lands where we operate. Further, we may be required or expected by our stakeholders to consult with and/or obtain consent from Indigenous Peoples with respect to these operations.

In addition, our assets are generally long-lived and stakeholders' perceptions and expectations can change over the life of the mine. Changes in the aspirations and expectations of local communities and/or Indigenous Peoples where we operate, with respect to our employee health and safety performance and our contributions to infrastructure, community development, environmental management and other factors could affect our social license to operate and reputation, and could lead to delays and/or increased costs if expansions or new projects are blocked either temporarily or for extended periods. Failure to effectively engage with communities on an ongoing basis, including the withdrawal of consent or support of Indigenous Peoples, or other stakeholders, could adversely impact our business, damage our reputation and/or result in loss of rights to explore, operate or develop our projects.

Risks related to our common stock

Our holding company structure may impact our ability to service our debt, declare dividends and repurchase shares.

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 flows 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, 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.

As more fully described in Note 10, during 2021, our Board of Directors (Board) adopted a performance-based payout framework, which currently includes base and variable dividends and a share repurchase program. Our ability to continue to pay dividends (base or variable) and the timing and amount of any share repurchases is at the discretion of our Board and management, respectively, and is subject to a number of factors, including maintaining our net debt target, capital availability, our financial results, cash requirements, business prospects, global economic conditions, changes in laws, contractual restrictions and other factors deemed relevant by our Board or management, as applicable. Our share repurchase program may be modified, increased, suspended or terminated at any time at the Board's discretion. Our dividend payments and share repurchases may change, and we cannot provide assurance that we will continue to declare dividends or repurchase shares at all or in any particular amounts. A reduction or suspension in our dividend payments or share repurchases could have a negative effect on the price of our common stock.

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 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. Refer to Exhibit 4.1 for further discussion of our anti-takeover provisions.

Further, our By-Laws provide to the fullest extent permitted by law that unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have, or declines to accept, jurisdiction, the United States District Court for the District of Delaware) will be the sole and exclusive forum for any (i) derivative action or proceeding brought on our behalf, (ii) action asserting a claim that is based upon a violation of a duty by any of our current or former directors, officers, employees or stockholders in such capacity, (iii) action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law or to which the Delaware General Corporation Law confers jurisdiction upon the Court of Chancery of the State of Delaware, (iv) action asserting a claim governed by the internal affairs doctrine, or (v) action asserting an "internal corporate claim" as that term is defined in Section 115 of the Delaware General Corporation Law. The choice of forum provision may increase costs to bring a claim, discourage claims or limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us or our directors, officers and other employees. Alternatively, if a court were to find the choice of forum provision contained in our By-Laws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions. The exclusive forum provision in our By-laws will not preclude or contract the scope of exclusive federal or concurrent jurisdiction for actions brought under the federal securities laws including the Securities Exchange Act of 1934, as amended, or the Securities Act of 1933, as amended, or the respective rules and regulations promulgated thereunder.

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 our stockholders.

Item 1B. Unresolved Staff Comments.

Not applicable.

Item 3. Legal Proceedings.

Below is a discussion of our material pending legal proceedings not otherwise required to be disclosed in our Notes to Consolidated Financial Statements. Refer to Note 12 for a discussion of other material pending legal proceedings.

In addition to the material pending legal proceedings discussed below and in Note 12, we are involved periodically in ordinary routine litigation incidental to our business and not required to be disclosed, some of which may result in adverse judgments, settlements, fines, penalties, injunctions or other relief.

United States (U.S.) Securities and Exchange Commission (SEC) regulations require us to disclose environmental proceedings involving a governmental authority if we reasonably believe that such proceedings may result in monetary sanctions above a stated threshold. Pursuant to the SEC regulations, we use a threshold of $1 million for purposes of determining whether disclosure of any such environmental proceedings is required.

Management does not believe, based on currently available information, that the outcome of any currently pending 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.

Water Rights Adjudications

Our operations in the western U.S. require significant secure quantities of water for mining and ore processing activities, 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 adjudication in which Arizona courts have been attempting, for over 45 years, to quantify and prioritize surface water claims for the Gila River system, one of the state's largest river systems. This Gila River adjudication primarily affects our Morenci, Safford (including Lone Star) and Sierrita mines. The Gila River 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 some subsurface water constitutes "subflow" that is to be treated legally as surface water and is therefore subject to the Arizona doctrine of prior appropriation and to the adjudication, and potentially unavailable to groundwater pumpers, including us, in the absence of valid surface water claims. 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 Gila River adjudication.

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: Arizona Public Service Company, ASARCO, LLC; BHP Copper, Inc; the state of Arizona; various cities and towns and water companies; 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; 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 separate suits in the U.S. District Court in Arizona claiming superior rights to water being used by many other parties, including us, and claiming damages for prior use in derogation of their allegedly superior rights. These federal proceedings have been stayed in favor of the adjudications pending in Arizona state courts, and some of the federal suits have since been settled.

In 2005, the Maricopa County Superior Court directed the Arizona Department of Water Resources (ADWR) to prepare detailed recommendations regarding the delineation of the "subflow" zone of the San Pedro River, a tributary of the Gila River. Subsurface water within the subflow zone is presumed to constitute appropriable subflow rather than groundwater. Although we have minimal interests in the San Pedro River Basin, a decision that re-characterizes groundwater in that basin as appropriable subflow 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. In 2017, the court approved ADWR's proposed subflow zone maps; water pumped from wells located inside the mapped subflow zone is now presumed to be appropriable subflow. No party has appealed that decision.

ADWR is now in the process of preparing subflow delineations for the applicable watercourses in Verde River watershed. In December 2021, ADWR issued a report proposing a delineation for the Verde River mainstem and Sycamore Creek and objections to that report are due in May 2022. We do not have any active mining operations in the Verde watershed that would be impacted by this phase of the adjudication.

In 2014, ADWR submitted a proposal for 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. Based on these cone of depression analyses, wells outside of the subflow zone could be subject to the adjudications pending in Arizona state courts. In the absence of a valid surface water claim to support the pumping, owners of wells deemed to be depleting the subflow zone through their cones of depression may be subject to claims that they must refrain from pumping subflow or must pay damages. In January 2017, ADWR issued a report containing its recommended cone of depression test, and a trial was held in March 2018 concerning ADWR's recommended action.

On November 14, 2018, the Special Master for the Gila River adjudication issued a final decision rejecting ADWR's recommended cone of depression test, instead adopting our position that a numeric model capable of accounting for complexities of the aquifer system should be used. The Special Master also confirmed that the cone of depression test instead would be an initial test for determining which wells are subject to the adjudications, rather than proving that a well is pumping subflow or establishing how much of a well's water production is subflow. Such matters will be determined by a subsequent "subflow depletion test," which has not yet been formulated. Some of our adversaries objected to the Special Master's final decision, and the Arizona Superior Court heard oral argument on the objections in February 2020. This issue remains under advisement with the Arizona Superior Court.

In response to the Special Master's decision, in December 2018, ADWR submitted its initial report on the "subflow depletion test," which will specify the methodology a well owner must use to quantify the portion of the water drawn from a well that is subflow as opposed to groundwater; however, ADWR remains in the process of developing its proposed subflow depletion test. We, along with the other parties, will have the opportunity to provide input throughout the process.

The first issue litigated concerned whether for the subflow depletion test the subflow zone should be represented in the numeric model as extending only as deep as the bottom of the floodplain alluvium or extend all the way down to bedrock. In August 2021, the Special Master issued an order recognizing our position that if the vertical extent of the subflow zone is extended below the floodplain alluvium, it would result in overstated depletion calculations. Accordingly, the Special Master ordered that the vertical boundary of the subflow zone be restricted to the floodplain alluvium. To date, our adversaries have not taken steps to appeal this ruling.

In proceedings separate from the development of the depletion test, in June 2020, the Special Master designated legal questions to be resolved concerning a well owner's ability to obtain a surface water right for subsurface water that, while initially believed to be non-appropriable groundwater, is ultimately determined to be appropriable subflow. In April 2021, the Special Master ruled that, for uses initiated after enactment of the 1919 permitting statute, a well owner may not pursue a surface water right unless the well owner filed an application for a permit to appropriate.

As part of the adjudications, the U.S. has asserted numerous claims for express and implied "reserved" surface water and groundwater rights on Indian and non-Indian federal lands throughout Arizona. These claims are related to reservations of federal land for specific purposes (e.g., Indian reservations, 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 may enjoy greater protection from groundwater pumping than is accorded to state law-based water rights.

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 competing uses of water within the same watershed. 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 (including Lone Star) 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. 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 Arizona Superior Court handling the Gila River adjudication. Several "contested cases" to quantify reserved water rights for particular federal reservations in Arizona are currently pending with only one resolved at this time. That case, In re Aravaipa Canyon Wilderness Area, was to resolve the U.S.'s claims to water for the Aravaipa Canyon Wilderness Area. The case was tried in 2015 and the court issued a decision in December 2018 supportive of our position on almost all issues, including rejection of U.S.'s core argument that wilderness areas are entitled to all water that was not appropriated

at the time the reservation was created. We believe the rulings in this case will support our positions in other pending federal reserved water right cases, including these: In re Fort Huachuca, which involves the U.S.'s claims to water for an Arizona army base and is awaiting a decision following a trial which concluded in February 2017; In re Redfield Canyon Wilderness Area, which involves the U.S.'s claims to water for another wilderness area and is awaiting a decision following a trial which concluded in May 2017; and In re San Pedro Riparian National Conservation Area, which involves the U.S.'s claims to water for a national conservation area and is awaiting a decision following a trial which concluded in May 2018.

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 not able 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 (including Lone Star) and Sierrita could be adversely affected unless we are able to acquire alternative water resources.

Item 4. Mine Safety Disclosures.

Our highest priority is the health, safety and well-being of our workforce. We believe that health and safety considerations are integral to, and fundamental for, all other functions in our organization, and we understand that the health and safety of our workforce is critical to our operational efficiency and long-term success. Our global health and safety approach, "Safe Production Matters," is focused on fatality prevention and continuous improvement through the use of robust management systems, empowering safe work behaviors and strengthening our safety culture.

Our objective is to achieve zero workplace fatalities and to decrease 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) per 200,000 man-hours worked was 0.69 in both 2021 and 2020. The metal mining sector industry average per 200,000 man-hours worked reported by the U.S. Mine Safety and Health Administration was 1.70 for 2021 (preliminary for the period of January 1, 2021, through September 30, 2021) and 1.66 in 2020. 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.

Information About our Executive Officers.

Certain information as of February 15, 2022, about our executive officers is set forth in the following table and accompanying text:

Name	Age	Position or Office
Richard C. Adkerson	75	Chairman of the Board and Chief Executive Officer
Kathleen L. Quirk	58	President and Chief Financial Officer
Stephen T. Higgins	64	Senior Vice President and Chief Administrative Officer
Douglas N. Currault II	57	Senior Vice President and General Counsel

Richard C. Adkerson has served as Chairman of the Board since February 2021, Chief Executive Officer since December 2003 and has been a director since October 2006. Mr. Adkerson previously served as Vice Chairman of the Board from May 2013 to February 2021, President from January 2008 to February 2021 and also from April 1997 to March 2007, and Chief Financial Officer from October 2000 to December 2003.

Kathleen L. Quirk has served as President since February 2021 and as Chief Financial Officer since December 2003. Ms. Quirk previously served as Executive Vice President from March 2007 to February 2021, Treasurer from February 2000 to August 2018 and as Senior Vice President from December 2003 to March 2007. Ms. Quirk also serves on the Board of Directors of Vulcan Materials Company.

Stephen T. Higgins has served as Senior Vice President since August 2018 and as Chief Administrative Officer since January 2019. Mr. Higgins previously served as Vice President - Sales and Marketing from March 2007 to August 2018 and as President of Freeport-McMoRan Sales Company, Inc. from April 2006 to August 2019.

Douglas N. Currault II has served as Senior Vice President and General Counsel since October 2019. Mr. Currault previously served as Deputy General Counsel from January 2015 to October 2019, Assistant General Counsel from January 2008 to January 2015, Secretary from May 2007 to December 2019 and as Assistant Secretary from February 2000 to May 2007.

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 stock is traded on the New York Stock Exchange under the symbol "FCX." At January 31, 2022, there were 10,719 holders of record of our common stock.

Common Stock Dividends

In February 2021, our Board of Directors (the Board) reinstated a cash dividend on our common stock (base dividend) at an annual rate of $0.30 per share, and on November 1, 2021, the Board approved a variable cash dividend on our common stock for 2022 at an expected annual rate of $0.30 per share. The combined annual rate of the base dividend and the variable dividend is expected to total $0.60 per share for 2022.

On December 22, 2021, the Board declared cash dividends totaling $0.15 per share (which included the $0.075 per share quarterly base cash dividend and the $0.075 per share variable cash dividend) on our common stock, which was paid on February 1, 2022, to shareholders of record as of January 14, 2022. The declaration and payment of dividends (base or variable) is at the discretion of our Board and will depend upon our financial results, cash requirements, business prospects, global economic conditions and other factors deemed relevant by our Board. See "Cautionary Statement" in Items 7. and 7A. "Management's Discussion and Analysis of Financial Condition and Results of Operations and Quantitative and Qualitative Disclosures About Market Risk" and Note 10 for further discussion.

Issuer Purchases of Equity Securities

In November 2021, our Board approved a new share repurchase program, which authorizes repurchases of up to $3.0 billion of our common stock. The timing and amount of the share repurchases is at the discretion of management and will depend on a variety of factors. The program may be modified, increased, suspended or terminated at any time at the Board's discretion. See Note 10 for further discussion.

The following table summarizes share repurchases made by us during the three months ended December 31, 2021, and the approximate dollar value of shares that may yet be purchased pursuant to our share repurchase program:

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, 2021	—		$ —	—	—
November 1-30, 2021	2,680,026		$ 39.19	2,680,026	—
December 1-31, 2021	10,518,245	[b]	$ 38.04	10,062,511	—
Total	13,198,271		$ 38.27	12,742,537	—

a. On November 1, 2021, our Board approved a new share repurchase program authorizing repurchases of up to $3.0 billion of our common stock. This new share repurchase program superseded and replaced the share repurchase program previously authorized by our Board in July 2008. The new share repurchase program does not obligate us to acquire any specific amount of shares and does not have an expiration date.

b. Includes 455,734 shares acquired in connection with stock option exercises during the period shown. All other share repurchases were made under our publicly announced program.

Item 6. Reserved.

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 (MD&A), "we," "us" and "our" refer to Freeport-McMoRan Inc. and its consolidated subsidiaries. The results of operations reported and summarized below are not necessarily indicative of future operating results (refer to "Cautionary Statement" below for further discussion). References to "Notes" are Notes included in our Notes to Consolidated Financial Statements. Throughout MD&A, all references to earnings or losses per share are on a diluted basis.

This section of our Form 10-K discusses the results of operations for the years 2021 and 2020 and comparisons between these years. Discussion of the results of operations for the year 2019 and comparisons between the years 2020 and 2019 are not included in this Form 10-K and can be found in Items 7. and 7A. "Management's Discussion and Analysis of Financial Condition and Results of Operations and Quantitative and Qualitative Disclosures About Market Risk" contained in Part II of our Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

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 mineral reserves of copper, gold and molybdenum. We are one of the world's largest publicly traded copper producers. 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 North America and South America, including the large-scale Morenci minerals district in Arizona and the Cerro Verde operation in Peru.

Our results for 2021 reflect strong operating and financial performance, and cash flow generation. We remained focused on cost and capital management and advanced our sustainability objectives. Despite continued challenges associated with the COVID-19 pandemic, we achieved a 19 percent increase in copper sales volumes and a 59 percent increase in gold sales volumes in 2021, compared with 2020. During 2022, we expect to grow production and sales volumes while continuing to execute our operating plans, which we expect will provide strong cash flows to support advancement of organic growth initiatives and continue cash returns to shareholders under our established financial policy, based on a favorable operational and market outlook.

In February 2021, our Board of Directors (Board) adopted a financial policy for the allocation of cash flows aligned with our strategic objectives of maintaining a strong balance sheet and increasing cash returns to shareholders while advancing opportunities for future growth. Following achievement of our net debt target in the range of $3.0 billion to $4.0 billion (excluding debt for additional smelting capacity in Indonesia), we announced in November 2021 the implementation of a performance-based payout framework, including the commencement of a new $3.0 billion share repurchase program (through February 15, 2022, we acquired 18.2 million shares of our common stock for a

total cost of $710 million, $39.10 per share) and expected base and variable dividends on common stock totaling $0.60 per share for 2022. Our Board will review the structure and the amount of the performance-based payout framework at least annually. Refer to Note 10 and “Capital Resources and Liquidity” for further discussion of our financial policy.

As further discussed in “Operations,” highlights during 2021 include:

- The successful ramp-up of underground mining at the Grasberg minerals district, achieving quarterly copper and gold volumes in the fourth quarter approximating 100 percent of the projected annualized levels.
- Operations at the Lone Star copper leach project at our Safford mine exceeded initial design capacity of 200 million pounds of copper annually and produced approximately 235 million pounds of copper.
- Cerro Verde's concentrator facilities milling rates averaged 380,300 metric tons of ore per day, compared with 331,600 metric tons of ore per day in 2020. Subject to ongoing monitoring of COVID-19 protocols, Cerro Verde is targeting milling rates to increase to approximately 400,000 metric tons of ore per day during 2022.
- Advancement of several initiatives to recover additional copper from our large existing leach stockpiles across our North America and South America operations, which incorporate new applications, technologies and data analytics currently being developed.

Net income attributable to common stock totaled $4.3 billion in 2021 and $599 million in 2020. Our results in 2021, compared to 2020, primarily reflect increased copper and gold volumes and higher copper and molybdenum prices, partly offset by higher production and delivery costs and provision for income taxes. Refer to “Consolidated Results” for discussion of items impacting our consolidated results for the two years ended December 31, 2021.

At December 31, 2021, we had consolidated debt of $9.5 billion and consolidated cash and cash equivalents of $8.1 billion, resulting in net debt of $1.4 billion. This represents a reduction in net debt of $4.7 billion from December 31, 2020. Refer to “Net Debt” for reconciliations of consolidated debt and consolidated cash and cash equivalents to net debt.

At December 31, 2021, we had no borrowings and $3.5 billion available under our revolving credit facility. In 2021, we redeemed all $524 million of our 3.55% Senior Notes due 2022 at a redemption price equal to 100 percent of the principal amount, plus accrued and unpaid interest. Our next senior note maturity is in March 2023, with redemption rights, at par, beginning in December 2022. During 2021, we also prepaid $200 million of the Cerro Verde Term Loan (the $325 million balance at December 31, 2021, matures in June 2022). Refer to Note 8 and “Capital Resources and Liquidity” for further discussion.

We have significant mineral reserves, mineral resources and future development opportunities within our portfolio of mining assets. At December 31, 2021, our estimated consolidated recoverable proven and probable mineral reserves totaled 107.2 billion pounds of copper, 27.1 million ounces of gold and 3.39 billion pounds of molybdenum. Refer to “Critical Accounting Estimates - Mineral Reserves” and Note 17 for further discussion.

During 2021, production from our mines totaled 3.8 billion pounds of copper, 1.4 million ounces of gold and 85 million pounds of molybdenum. Following is an allocation of our consolidated copper, gold and molybdenum production in 2021 by geographic location:

	Copper	Gold	Molybdenum
North America	38 %	1 %	76 % [a]
South America	27	—	24
Indonesia	35	99	—
	100 %	100 %	100 %

a. Our North America copper mines produced 40 percent of consolidated molybdenum production, and our Henderson and Climax molybdenum mines produced 36 percent.

Copper production from the Morenci mine in North America, Cerro Verde mine in Peru and the Grasberg minerals district in Indonesia together totaled 74 percent of our consolidated copper production in 2021.

OUTLOOK

We continue to view the long-term outlook for our business positively, supported by expected rising demand associated with limitations on supplies of copper, the global economic recovery and infrastructure development and new demand associated with clean energy. Our financial results vary as a result of fluctuations in market prices primarily for copper, gold and, to a lesser extent, molybdenum, as well as other factors. World market prices for these commodities have fluctuated historically and are affected by numerous factors beyond our control. Refer to "Markets" for further discussion. 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 flows and capital expenditures.

Sales Volumes

Following are our projected consolidated sales volumes for 2022 and actual consolidated sales volumes for 2021:

	2022 (Projected)	2021 (Actual)
Copper (millions of recoverable pounds):		
North America copper mines	1,550	1,436
South America mining	1,180	1,055
Indonesia mining	1,570	1,316
Total	4,300	3,807
Gold (thousands of recoverable ounces)	1,580	1,360
Molybdenum (millions of recoverable pounds)	80 [a]	82

a. Includes 50 million pounds from our North America and South America copper mines and 30 million pounds from our Molybdenum mines.

Consolidated sales for first-quarter 2022 are expected to approximate 970 million pounds of copper, 380 thousand ounces of gold and 20 million pounds of molybdenum. Projected sales volumes are dependent on operational performance, weather-related conditions, timing of shipments and other factors. For other important factors that could cause results to differ materially from projections, refer to "Cautionary Statement" below and Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021.

Consolidated Unit Net Cash Costs

Assuming average prices of $1,800 per ounce of gold and $19.00 per pound of molybdenum and achievement of current sales volume and cost estimates, consolidated unit net cash costs (net of by-product credits) for our copper mines are expected to average $1.35 per pound of copper in 2022. The impact of price changes on 2022 consolidated unit net cash costs would approximate $0.03 per pound for each $100 per ounce change in the average price of gold and $0.02 per pound for each $2 per pound change in the average price of molybdenum. Quarterly unit net cash costs vary with fluctuations in sales volumes and realized prices, primarily for gold and molybdenum.

Consolidated Operating Cash Flows

Our consolidated operating cash flows vary with sales volumes; prices realized from copper, gold and molybdenum sales; production costs; income taxes; other working capital changes; and other factors. Based on current sales volume and cost estimates, and assuming average prices of $4.50 per pound of copper, $1,800 per ounce of gold and $19.00 per pound of molybdenum, our consolidated operating cash flows are estimated to approximate $8.0 billion (net of $1.3 billion of working capital and other uses, mostly for income tax payments) for the year 2022. Estimated consolidated operating cash flows in 2022 also reflect a projected income tax provision of $3.2 billion (refer to "Consolidated Results - Income Taxes" for further discussion of our projected income tax rate for the year 2022). The impact of price changes during 2022 on operating cash flows would approximate $365 million for each $0.10 per pound change in the average price of copper, $100 million for each $100 per ounce change in the average price of gold and $110 million for each $2 per pound change in the average price of molybdenum.

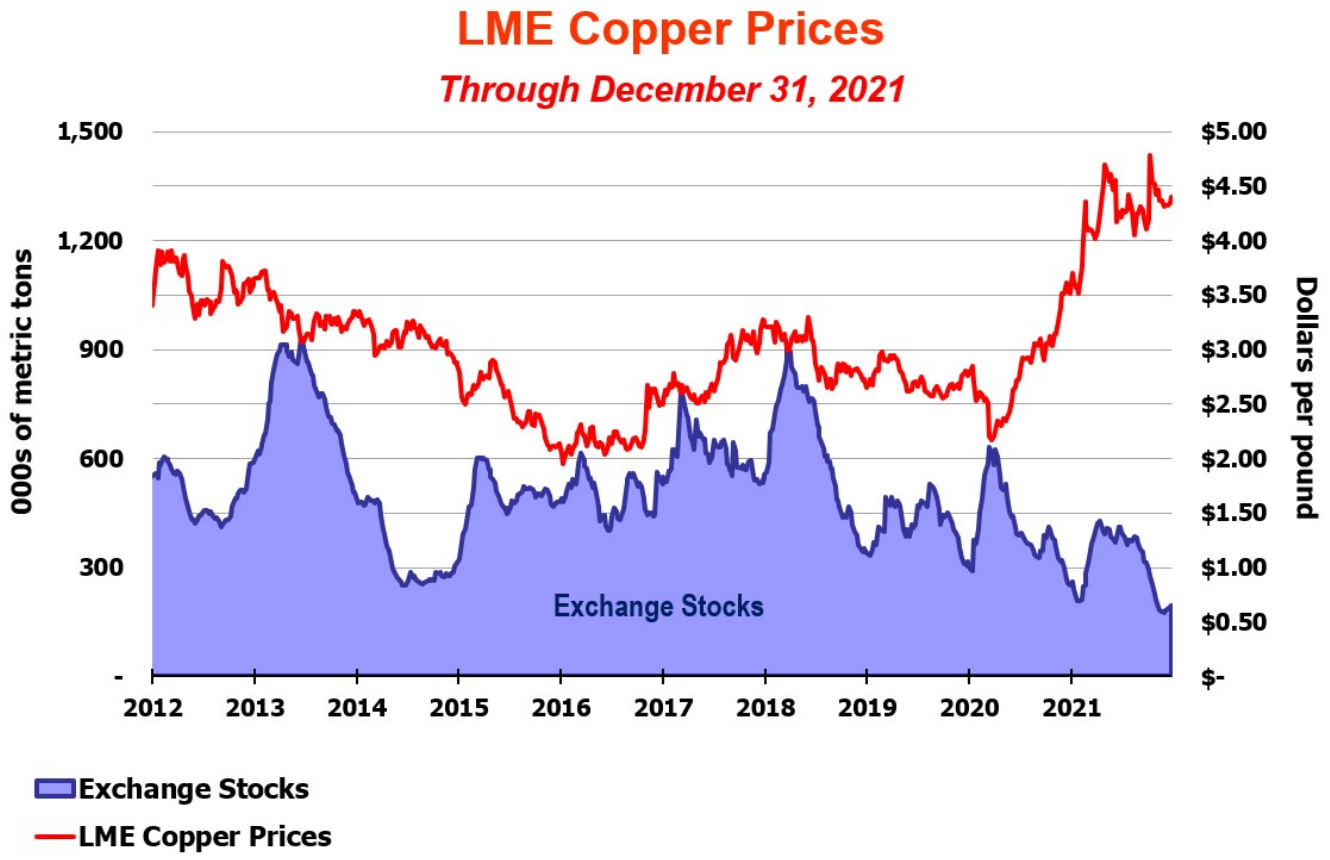
Consolidated Capital Expenditures

Capital expenditures for the year 2022 are expected to approximate $4.7 billion, $3.3 billion excluding the greenfield smelter and precious metals refinery (PMR) (collectively, the Indonesia smelter projects discussed below), including $2.0 billion for major mining projects ($1.4 billion for planned major projects primarily related to development activities associated with the Grasberg Block Cave and Deep Mill Level Zone (DMLZ) underground mines and $0.6 billion for discretionary growth projects).

Capital expenditures for the Indonesia smelter projects are expected to approximate $1.4 billion for the year 2022. Development of additional smelting capacity in Indonesia will result in the elimination of export duties, providing an offset to the economic cost associated with the Indonesia smelter projects.

MARKETS

World prices for copper, gold and molybdenum can fluctuate significantly. During the period from January 2012 through December 2021, the London Metal Exchange (LME) copper settlement price varied from a low of $1.96 per pound in 2016 to a record high of $4.86 per pound in 2021; the London Bullion Market Association (London) PM gold price fluctuated from a low of $1,049 per ounce in 2015 to a record high of $2,067 per ounce in 2020, 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 $20.01 per pound in 2021. Copper, gold and molybdenum prices are affected by numerous factors beyond our control as described further in Item 1A. “Risk Factors” contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021.

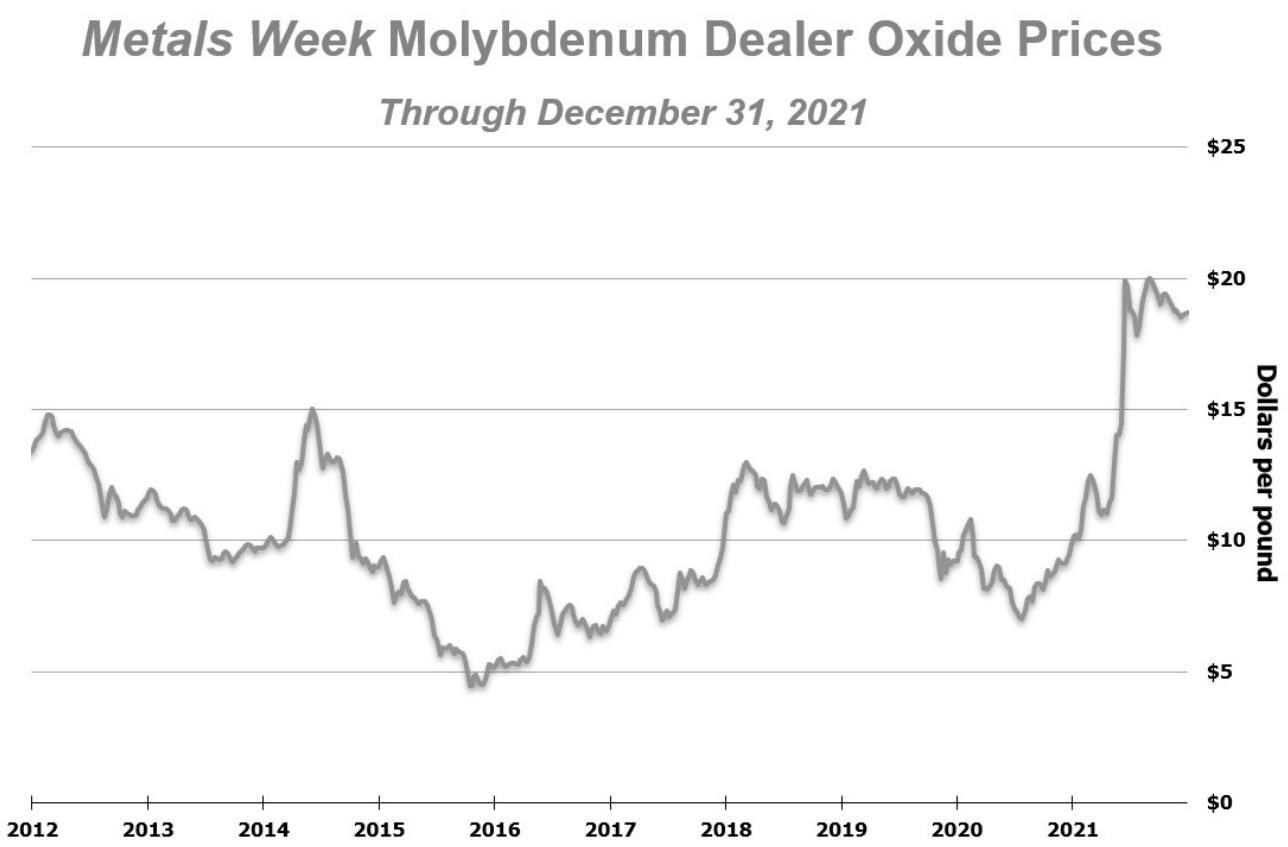


This graph presents LME copper settlement prices and the combined reported stocks of copper at the LME, Commodity Exchange Inc., and the Shanghai Futures Exchange from January 2012 through December 2021. For the year 2021, LME copper settlement prices ranged from a low of $3.52 per pound to a record high of $4.86 per pound, averaged $4.23 per pound and closed at $4.40 per pound on December 31, 2021. Copper prices have been supported by strong demand during the pandemic recovery, rising investor sentiment associated with copper’s prominent role in the global transition to cleaner energy, ongoing supply disruptions and falling inventories. The LME copper settlement price was $4.36 per pound on January 31, 2022.

Long-term fundamentals for copper remain positive. We believe future demand will be supported by copper's role in the global transition to renewable power, electric vehicles and other carbon-reduction initiatives, and continued urbanization in developing countries. The small number of approved, large-scale projects beyond those expected to commence operations in 2022 and 2023, the long lead times required to permit and build new mines and declining ore grades at existing operations continue to highlight the fundamental supply challenges for copper.



This graph presents London PM gold prices from January 2012 through December 2021. For the year 2021, London PM gold prices ranged from a low of $1,684 per ounce to a high of $1,943 per ounce, averaged $1,799 per ounce and closed at $1,806 per ounce on December 30, 2021 (there was no London PM gold price quote on December 31, 2021). While the global economic recovery has put downward pressure on gold prices, many analysts expect gold prices to remain supported by the effects of elevated debt levels associated with large pandemic-related stimulus efforts and historically low United States (U.S.) interest rates. The London PM gold price was $1,795 per ounce on January 31, 2022.



This graph presents the *Metals Week* Molybdenum Dealer Oxide weekly average price from January 2012 through December 2021. For the year 2021, the weekly average price for molybdenum ranged from a low of $10.09 per pound to a high of $20.01 per pound, averaged $15.92 per pound and was $18.70 per pound on December 31, 2021. Molybdenum prices have risen in reaction to supply constraints and increased demand, as mines in both Chile and Peru reported lower production, and logistics challenges continued globally. The *Metals Week* Molybdenum Dealer Oxide weekly average price was $19.12 per pound on January 31, 2022.

CRITICAL ACCOUNTING ESTIMATES

MD&A 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.

Taxes

In preparing our 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. During 2021, PT-FI recorded charges to provision for income taxes totaling $186 million associated with historical contested tax matters in Indonesia. Refer to Note 11 for further discussion.

As discussed in Note 11, we operate in the U.S. and multiple international tax jurisdictions, and our income tax returns are subject to examination by tax authorities in those jurisdictions who may challenge any tax position on these returns. Uncertainty in a tax position may arise because tax laws are subject to interpretation. We use significant judgment to (1) determine whether, based on the technical merits, a tax position is more likely than not to be sustained and (2) measure the amount of tax benefit that qualifies for recognition.

We have uncertain tax positions related to income tax assessments in Indonesia and Peru, including penalties and interest, which have not been recorded at December 31, 2021. Final taxes paid may be dependent upon many factors, including negotiations with taxing authorities. In certain jurisdictions, we pay a portion of the disputed amount before formally appealing an assessment. Such payment is recorded as a receivable if we believe the amount is collectible. Refer to Note 12 for further discussion.

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 $4.1 billion at December 31, 2021, which covered all of our U.S. foreign tax credits and U.S. federal net operating losses (NOLs), substantially all of our U.S. state NOLs, and a portion of our foreign NOLs. During 2021, valuation allowances decreased by $645 million. Refer to Note 11 for further discussion.

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, 2021, environmental obligations recorded in our consolidated balance sheet totaled $1.7 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 Item 1A. “Risk Factors” contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, and 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, 2021.

Accounting for environmental obligations represents a critical accounting estimate because (i) 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, (ii) we will not incur most of these costs for a number of years, requiring us to make estimates over a long period, (iii) calculating the discounted cash flows for certain of our environmental obligations requires management to estimate the amounts and timing of projected cash flows and make long-term assumptions about inflation rates and (iv) changes in estimates used in determining our environmental obligations 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 asset retirement obligations (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 December 31, 2021, AROs recorded in our consolidated balance sheet totaled $2.7 billion, including $0.3 billion associated with our remaining oil and gas operations. In 2021, primarily because of safety constraints and other concerns regarding our reclamation activities associated with an overburden stockpile at our Indonesia operations, we recorded a $397 million adjustment to our Indonesia AROs. Refer to Item 1A. “Risk Factors” contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, and 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, 2021.

Generally, ARO activities are specified by regulations or in permits issued by the relevant governing authority, and management’s 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.

Mineral Reserves

Recoverable proven and probable mineral reserves were determined from the application of relevant modifying factors to geological data, in order to establish an operational, economically viable mine plan and have been prepared in accordance with the disclosure requirements of subpart 1300 of Securities and Exchange Commission Regulation S-K. The determination of mineral reserves involves numerous uncertainties with respect to the ultimate geology of the ore bodies, including quantities, grades and recoveries. 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 mineral reserves. Our estimates of recoverable proven and probable mineral reserves are prepared by and are the responsibility of our employees. These estimates are reviewed and verified regularly by independent experts in mining, geology and reserve determination.

Our consolidated estimated recoverable proven and probable mineral reserves shown below were assessed using long-term price assumptions of $2.50 per pound for copper, $1,200 per ounce of gold and $10 per pound of molybdenum. The following table summarizes changes in our estimated consolidated recoverable proven and probable copper, gold and molybdenum mineral reserves during 2020 and 2021:

	Copper[a] (billion pounds)	Gold (million ounces)	Molybdenum (billion pounds)
Consolidated reserves at December 31, 2019	116.0	29.6	3.58
Net additions	0.4	0.2	0.21
Production	(3.2)	(0.9)	(0.08)
Consolidated reserves at December 31, 2020	113.2	28.9	3.71
Net revisions	(2.2)	(0.4)	(0.24)
Production	(3.8)	(1.4)	(0.08)
Consolidated reserves at December 31, 2021	107.2	27.1	3.39

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

Refer to Note 17, and Items 1. and 2. “Business and Properties” and Item 1A. “Risk Factors” contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, for further information regarding, and risks associated with, our 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 mineral 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. Based on projected copper sales volumes, if estimated copper reserves at our mines were 10 percent higher at December 31, 2021, we estimate that our annual depreciation, depletion and amortization (DD&A) expense for 2022 would decrease by approximately $50 million (approximately $30 million to net income attributable to common stock), and a 10 percent decrease in copper reserves would increase DD&A expense by approximately $165 million (approximately $85 million to net income attributable to common stock). 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 DD&A 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.

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, 2021). Accounting for recoverable copper from mill and leach stockpiles represents a critical accounting estimate because (i) it is impracticable to determine copper contained in mill and leach stockpiles by physical count, thus requiring management to employ reasonable estimation methods and (ii) recoveries 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, 2021, estimated consolidated recoverable copper was 1.8 billion pounds in leach stockpiles (with a carrying value of $2.1 billion) and 0.3 billion pounds in mill stockpiles (with a carrying value of $0.4 billion).

Impairment of Long-Lived Assets

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 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 mineral 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.

During the two-year period ended December 31, 2021, no material impairments of our long-lived mining assets were recorded.

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 Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021.

CONSOLIDATED RESULTS

	Years Ended December 31,			
	2021		2020	
SUMMARY FINANCIAL DATA	(in millions, except per share amounts)			
Revenues[a,b]	$ 22,845		$ 14,198	
Operating income[a]	$ 8,366		$ 2,437	
Net income attributable to common stock[c]	$ 4,306	[d]	$ 599	[e]
Diluted net income per share attributable to common stock	$ 2.90	[d]	$ 0.41	[e]
Diluted weighted-average common shares outstanding	1,482		1,461	
Operating cash flows[f]	$ 7,715		$ 3,017	
Capital expenditures	$ 2,115		$ 1,961	
At December 31:				
Cash and cash equivalents	$ 8,068		$ 3,657	
Total debt, including current portion	$ 9,450		$ 9,711	

a. Refer to Note 16 for a summary of revenues and operating income by operating division.

b. Includes adjustments to embedded derivatives for provisionally priced concentrate and cathode sales (refer to Note 14).

c. 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.

d. Includes net charges in 2021 totaling $331 million ($0.22 per share), primarily associated with net adjustments to AROs mostly at PT Freeport Indonesia (PT-FI), historical contested tax matters at PT-FI (including historical tax audits and an administrative fine levied by the Indonesia government) and nonrecurring labor-related charges for labor agreements at Cerro Verde, partly offset by the release of a valuation allowance on NOLs at PT-FI's subsidiary, a gain on the sale of Freeport Cobalt, refunds of Arizona transaction privilege taxes related to purchased electricity and favorable adjustments to prior-years' profit sharing at Cerro Verde.

e. Includes net charges in 2020 totaling $191 million ($0.13 per share), primarily associated with the COVID-19 pandemic and revised operating plans (including employee separation costs), a framework for the resolution of all current and future potential talc-related litigation, net losses on early extinguishment of debt, metals inventory adjustments and historical contested tax audits at PT-FI. These charges were partly offset primarily by a gain on the sale of our interests in the Kisanfu exploration project.

f. Working capital and other sources totaled $755 million in 2021 and $665 million in 2020.

	Years Ended December 31,	
	2021	2020
SUMMARY OPERATING DATA		
Copper (millions of recoverable pounds)		
Production	3,843	3,206
Sales, excluding purchases	3,807	3,202
Average realized price per pound	$ 4.33	$ 2.95
Site production and delivery costs per pound[a]	$ 1.93	$ 1.88
Unit net cash costs per pound[a]	$ 1.34	$ 1.48
Gold (thousands of recoverable ounces)		
Production	1,381	857
Sales, excluding purchases	1,360	855
Average realized price per ounce	$ 1,796	$ 1,832
Molybdenum (millions of recoverable pounds)		
Production	85	76
Sales, excluding purchases	82	80
Average realized price per pound	$ 15.56	$ 10.20

a. 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.”

Revenues

Consolidated revenues totaled $22.8 billion in 2021 and $14.2 billion in 2020. Our revenues primarily include the sale of copper concentrate, copper cathode, copper rod, gold in concentrate and molybdenum. Following is a summary of changes in our consolidated revenues from 2020 to 2021 (in millions):

Consolidated revenues - 2020	$	14,198
Mining operations:		
Higher sales volumes:		
Copper		1,784
Gold		925
Molybdenum		13
Higher (lower) averaged realized prices:		
Copper		5,253
Gold		(48)
Molybdenum		439
Adjustments for prior year provisionally priced copper sales		271
Lower revenues from sales of purchased copper		(64)
Higher Atlantic Copper revenues		924
Higher treatment charges		(83)
Higher royalties and export duties		(291)
Other, including intercompany eliminations		(476)
Consolidated revenues - 2021	$	22,845

Sales Volumes. Copper and gold sales volumes were higher in 2021, compared to 2020, primarily reflecting the ramp-up of underground mining at the Grasberg minerals district.

Refer to “Operations” for further discussion of sales volumes at our mining operations.

Realized Prices. Our consolidated revenues can vary significantly as a result of fluctuations in the market prices of copper, gold and molybdenum. In 2021, our average realized prices were 47 percent higher for copper, 2 percent lower for gold and 53 percent higher for molybdenum, compared with 2020.

Average realized copper prices include net favorable adjustments to current year provisionally priced copper sales (i.e., provisionally priced sales during the years 2021 and 2020) totaling $256 million for 2021 and $361 million for 2020. Refer to Note 14 for a summary of total adjustments to prior period and current period provisionally priced sales. As discussed below and in "Disclosures About Market Risks - Commodity Price Risk," 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). We record revenues and invoice customers at the time of shipment based on then-current LME prices, which results in an embedded derivative on 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.

Prior Year Provisionally Priced Copper Sales. Net favorable (unfavorable) adjustments to prior years' provisionally priced copper sales (i.e., provisionally priced copper sales at December 31, 2020 and 2019) recorded in consolidated revenues totaled $169 million in 2021 and $(102) million in 2020. Refer to "Disclosures About Market Risks - Commodity Price Risk" for further discussion of our provisionally priced copper sales, and to Note 14 for a summary of total adjustments to prior period and current period provisionally priced copper sales.

Purchased Copper. Lower revenues associated with purchased copper in 2021, compared to 2020, primarily reflects lower volumes, partly offset by higher copper prices. We purchased copper cathode primarily for processing by our Rod & Refining operations, totaling 173 million pounds in 2021 and 290 million pounds in 2020.

Atlantic Copper Revenues. Higher Atlantic Copper revenues in 2021, compared with 2020, primarily reflect higher copper prices.

Treatment Charges. Revenues from our concentrate sales are recorded net of treatment charges (*i.e.,* fees paid to smelters that are generally negotiated annually), which will vary with the sales volumes and the price of copper.

Royalties and Export Duties. Royalties are primarily for sales from PT-FI and vary with the volume of metal sold and the prices of copper and gold. PT-FI will continue to pay export duties until development progress for additional smelting capacity in Indonesia exceeds 50 percent. Refer to "Operations - Indonesia Mining" for further discussion of the current progress on additional smelting capacity in Indonesia and to Note 13 for a summary of PT-FI's royalties and export duties.

Production and Delivery Costs

Consolidated production and delivery costs totaled $12.0 billion in 2021, compared with $10.0 billion in 2020. Higher consolidated production and delivery costs in 2021 primarily reflect higher sales volumes, the ramp-up of underground mining at the Grasberg minerals district, higher milling rates at Cerro Verde associated with the return to pre-COVID-19 operating rates and higher maintenance and input costs. The year 2021 includes net charges totaling $415 million primarily associated with an unfavorable ARO adjustment (refer to Note 12) and other net charges at PT-FI and nonrecurring labor-related charges at Cerro Verde for collective labor agreements, partly offset by refunds of Arizona transaction privilege taxes related to purchased electricity and favorable adjustments to prior-years' profit sharing at Cerro Verde. The year 2020 includes net charges totaling $252 million, primarily associated with the COVID-19 pandemic and revised operating plans (including employee separation costs). Refer to Note 16 for details of production and delivery costs by operating segment.

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 sulfuric acid, reagents, liners, tires and explosives. Consolidated unit site production and delivery costs (before net noncash and other costs) for our copper mines averaged $1.93 per pound of copper in 2021 and $1.88 per pound in 2020. Higher consolidated unit site production and delivery costs in 2021, compared with 2020, primarily reflect higher mining and milling costs associated with ramped-up operations and higher maintenance and input costs, partly offset by higher sales volumes. Consolidated site production and delivery costs per pound for the year 2021 included nonrecurring labor-related charges at Cerro Verde for collective labor agreements. 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 amounts of energy, principally diesel, electricity, coal and natural gas, most of which is obtained from third parties under long-term contracts. Our take-or-pay contractual obligations for electricity totaled approximately $0.3 billion at December 31, 2021. We do not have take-or-pay contractual obligations for other energy commodities. Energy represented approximately 21 percent of our copper mine site operating costs in 2021, including purchases of approximately 220 million gallons of diesel fuel; approximately 8,000 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); approximately 750 thousand metric tons of coal for our coal power plant in Indonesia; and approximately 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 25 percent of our copper mine site operating costs for 2022.

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 operations. Consolidated DD&A totaled $2.0 billion in 2021 and $1.5 billion in 2020. Higher DD&A in 2021, compared with 2020, primarily relates to significant assets placed in service associated with the ramp-up of underground mining at the Grasberg minerals district.

Metals Inventory Adjustments
Unfavorable net realizable value metals inventory adjustments totaled $16 million in 2021 and $96 million in 2020. Metals inventory adjustments in 2021 were primarily related to a leach stockpile adjustment. Metals inventory adjustments in 2020 were related to volatility in copper and molybdenum prices associated with the COVID-19 pandemic. Refer to Note 4 for further details on our inventory adjustments.

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 $91 million in 2021, including unfavorable adjustments to environmental obligations totaling $41 million. Net charges for the year 2020 totaled $159 million, including talc-related litigation charges of $132 million, primarily associated with a framework for the resolution of all current and future potential talc-related litigation, partly offset by $19 million of net favorable adjustments to environmental obligations. Refer to Note 12 for environmental obligations and litigation matters.

Net Gain on Sales of Assets
Net gain on sales of assets totaled $80 million in 2021 and $473 million in 2020. Gains on sales of assets in 2021 were primarily associated with the sale of our remaining Freeport Cobalt assets and the sale of carbon dioxide emissions credits at Atlantic Copper. Gains on sales of assets in 2020 were primarily associated with the sale of our interests in the Kisanfu undeveloped exploration project. Refer to Note 2 for further discussion of dispositions.

Interest Expense, Net
Consolidated interest costs (before capitalization and excluding interest expense associated with international tax matters) totaled $634 million in 2021 and $649 million in 2020. Interest expense associated with international tax matters totaled $40 million in 2021 and $96 million in 2020 (refer to Note 11).

Capitalized interest varies with the level of expenditures for our development projects and average interest rates on our borrowings, and totaled $72 million in 2021 and $147 million in 2020. The decrease in capitalized interest in 2021, compared with 2020, is primarily related to significant assets at PT-FI’s underground mines being placed in service. Refer to “Operations” and “Capital Resources and Liquidity - Investing Activities” for further discussion of current development projects.

Other (Expense) Income, Net
Other (expense) income, net, totaled $(105) million in 2021 and $59 million in 2020. The year 2021 includes charges totaling $208 million associated with historical contested tax matters at PT-FI (refer to Note 11), partly offset by gains on currency exchange rate movements and other net credits. The year 2020 includes a gain of $30 million for the sale of royalty interests.

Income Taxes

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

	2021			2020		
	Income (Loss)[a]	Effective Tax Rate	Tax (Provision) Benefit	Income (Loss)[a]	Effective Tax Rate	Tax (Provision) Benefit
U.S.[b]	$ 1,883	1%	$ (10) [c]	$ (532)	11%	$ 60 [d]
South America	2,072	40%	(820) [e]	466	51%	(239) [f]
Indonesia	3,986	35%	(1,377) [g]	1,342	45%	(608) [h]
PT-FI historical contested tax disputes[i]	(219)	N/A	(147)	(44)	N/A	2
Gain on sale of Kisanfu	—	N/A	—	486	N/A	(135)
Eliminations and other	(63)	N/A	55	79	N/A	(24)
Consolidated	$ 7,659	30%	$ (2,299)	$ 1,797	53% [j]	$ (944)

a. Represents income (loss) before income taxes and equity in affiliated companies' net earnings.

b. In addition to our North America mining operations, the U.S. jurisdiction reflects corporate-level expenses, which include interest expense associated with senior notes, general and administrative expenses, and environmental obligations and shutdown costs.

c. Includes valuation allowance release on prior year unbenefited NOLs.

d. Includes tax benefits of $53 million associated with the reversal of a year-end 2019 tax charge related to the sale of our interest in the lower zone of the Timok exploration project and $6 million associated with the removal of a valuation allowance on deferred tax assets.

e. Includes a tax benefit at Cerro Verde of $18 million primarily associated with completion of tax audits for the years 2014 and 2015.

f. Includes tax charges at Cerro Verde of $15 million primarily associated with adjustments to profit sharing for prior years.

g. Includes net tax benefits associated with the release of valuation allowances recorded against PT Rio Tinto Indonesia NOLs totaling $189 million. The year 2021 also includes a tax benefit of $24 million, primarily associated with the reversal of a tax reserve related to the treatment of prior-year contractor support costs; partly offset by a tax charge of $10 million associated with the audit of PT-FI's 2019 tax returns.

h. Includes tax charges of $21 million associated with establishing a tax reserve related to the treatment of prior-year contractor support costs and $8 million associated with an unfavorable 2012 Indonesia Supreme Court ruling.

i. Refer to Note 11 for further discussion of these historical contested tax disputes.

j. Our consolidated effective income tax rate is a function of the combined effective tax rates for the jurisdictions in which we operate, excluding the U.S. jurisdiction.

Assuming achievement of current sales volume and cost estimates and average prices of $4.50 per pound for copper, $1,800 per ounce for gold and $19.00 per pound for molybdenum for 2022, we estimate our consolidated effective tax rate for the year 2022 would approximate 30 percent. Changes in projected sales volumes and average prices during 2022 would incur tax impacts at estimated effective rates of 39 percent for Peru, 38 percent for Indonesia and 0 percent for the U.S.

Variations in the relative proportions of jurisdictional income result in fluctuations to our consolidated effective income tax rate. Because of our U.S. tax position, we do not record a financial statement impact for income or losses generated in the U.S.

Refer to Note 11 for further discussion of income taxes.

OPERATIONS

Responsible Production

The Copper Mark. We are committed to validating all of our copper producing sites with the Copper Mark, a comprehensive assurance framework designed to demonstrate the copper industry's responsible production practices. To achieve the Copper Mark, each site is required to complete an external assurance process to assess conformance with 32 environmental, social and governance (ESG) requirements. We have a total of seven sites that have been validated (Bagdad, Morenci, Miami, El Paso, Cerro Verde, El Abra and Atlantic Copper) and we have commenced the Copper Mark assessment process at four additional sites in North America, including Chino, Tyrone, Safford and Sierrita.

International Council of Mining and Metals (ICMM). We are a founding and active member of the ICMM, an international organization dedicated to safe, fair and sustainable mining. We are committed to implementing ICMM's Mining Principles which serve as a best practice framework on sustainable development for the global mining and metals industry. Our Chairman of the Board and Chief Executive Officer serves as the current Chair of ICMM.

2020 Annual Report on Sustainability. We published our 2020 Annual Report on Sustainability in April 2021, which is available on our website. We have a long history of ESG programs and are continuously striving to improve and embrace evolving stakeholder expectations. This report marked our 20th year of reporting on our sustainability progress and our first year reporting in alignment with the Sustainability Accounting Standards Board Metals & Mining industry framework. We are committed to building upon our achievements in sustainability and seek to contribute positively to society by supplying the world with responsibly produced copper. Refer to Item 1A. “Risk Factors” contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, for further discussion of ESG-related risks.

2020 Climate Report. We published our updated climate report in September 2021, which is available on our website. The climate report details the work underway across our global business to reduce greenhouse gas (GHG) emissions, improve energy efficiency, advance the use of renewable energy and enhance our resilience to future climate-related risks. The updated climate report includes our GHG emissions reduction targets and aspirations and reflects our continued progress towards alignment with the current recommendations of the Task Force on Climate-related Financial Disclosures. Refer to Item 1A. “Risk Factors” contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, for further discussion of climate-related risks.

Innovation Initiatives

During 2021, we continued to advance innovation initiatives designed to enhance productivity, expand margins and reduce the capital intensity of our business through the utilization of new technology applications in combination with a more interactive operating structure. These initiatives are expected to allow us to recover additional copper from our large existing leach stockpiles. There are several projects ongoing across our North America and South America operations, which incorporate new applications, technologies and data analytics. Initial results are encouraging and support additional work on these emerging opportunities.

North America Copper Mines

We operate seven open-pit copper mines in North America - Morenci, Bagdad, Safford (including Lone Star), 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 72 percent undivided joint venture interest in Morenci using the proportionate consolidation method.

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 production is sold as 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 substantial mineral reserves and future opportunities in the U.S., primarily associated with existing mining operations. Current operations at the Lone Star copper leach project at our Safford mine, which was completed in the second half of 2020, are exceeding the initial design capacity of 200 million pounds annually and produced approximately 235 million pounds of copper in 2021. We continue to advance opportunities to increase Lone Star operating rates and are advancing plans to increase volumes to achieve 300 million pounds of copper per year from oxide ores. The oxide project advances the opportunity for development of

the large-scale sulfide resources at Lone Star. We are increasing exploration in the area to support metallurgical testing and mine development planning for a potential long-term investment in a concentrator.

We are also evaluating an expansion to potentially double concentrator capacity at our Bagdad operation in northwest Arizona, and are engaging stakeholders. Feasibility studies to double Bagdad's operating rates are expected to commence in 2022.

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

	2021	2020
Operating Data, Net of Joint Venture Interests		
Copper (millions of recoverable pounds)		
Production	1,460	1,418
Sales, excluding purchases	1,436	1,422
Average realized price per pound	$ 4.30	$ 2.82
Molybdenum (millions of recoverable pounds)		
Production[a]	34	33
100% Operating Data		
Leach operations		
Leach ore placed in stockpiles (metric tons per day)	665,900	714,300
Average copper ore grade (percent)	0.29	0.27
Copper production (millions of recoverable pounds)	1,056	1,047
Mill operations		
Ore milled (metric tons per day)	269,500	279,700
Average ore grade (percent):		
Copper	0.38	0.35
Molybdenum	0.03	0.02
Copper recovery rate (percent)	81.2	84.1
Copper production (millions of recoverable pounds)	649	647

a. Refer to “Consolidated Results” for our consolidated molybdenum sales volumes, which include sales of molybdenum produced at the North America copper mines.

Copper sales volumes from our North America copper mines totaled 1.4 billion pounds in 2021 and 2020. North America copper sales are estimated to approximate 1.55 billion pounds in 2022. 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 table summarizes unit net cash costs and gross profit per pound of copper at our North America copper mines for the two years ended December 31, 2021. 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.

	2021			2020		
	By-Product Method	Co-Product Method		By-Product Method	Co-Product Method	
		Copper	Molybdenum[a]		Copper	Molybdenum[a]
Revenues, excluding adjustments	$ 4.30	$ 4.30	$ 14.14	$ 2.82	$ 2.82	$ 8.62
Site production and delivery, before net noncash and other costs shown below	2.13	1.96	8.17	1.90	1.78	6.84
By-product credits	(0.33)	—	—	(0.19)	—	—
Treatment charges	0.09	0.09	—	0.10	0.10	—
Unit net cash costs	1.89	2.05	8.17	1.81	1.88	6.84
DD&A	0.25	0.24	0.62	0.25	0.23	0.56
Metals inventory adjustments	0.01	0.01	—	0.03	0.03	—
Noncash and other costs, net	0.07 [b]	0.07	0.03	0.10 [c]	0.10	0.09
Total unit costs	2.22	2.37	8.82	2.19	2.24	7.49
Revenue adjustments, primarily for pricing on prior period open sales	—	—	—	(0.02)	(0.02)	—
Gross profit per pound	$ 2.08	$ 1.93	$ 5.32	$ 0.61	$ 0.56	$ 1.13
Copper sales (millions of recoverable pounds)	1,436	1,436		1,420	1,420	
Molybdenum sales (millions of recoverable pounds)[a]			34			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 credits totaling $0.02 per pound of copper associated with refunds of Arizona transaction privilege taxes related to purchased electricity.

c. Includes charges totaling $0.02 per pound of copper, primarily associated with our April 2020 revised operating plans (including employee separation costs) and the COVID-19 pandemic (including health and safety costs).

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 2021, average unit net cash costs (net of by-product credits) for the North America copper mines ranged from $1.47 per pound to $2.86 per pound at the individual mines and averaged $1.89 per pound. Higher average unit net cash costs (net of by-product credits) of $1.89 in 2021, compared with $1.81 per pound in 2020, primarily reflect higher mining and milling costs associated with higher operating rates at Lone Star and higher maintenance and input costs, partly offset by higher by-product credits because of higher molybdenum prices.

Average unit net cash costs (net of by-product credits) for our North America copper mines are expected to approximate $2.00 per pound of copper in 2022, based on achievement of current sales volume and cost estimates and assuming an average molybdenum price of $19.00 per pound. The impact of price changes during 2022 on North America's average unit net cash costs for the year 2022 would approximate $0.04 per pound for each $2 per pound change in the average price of molybdenum.

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 51.0 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 sell a portion of their copper concentrate production to Atlantic Copper. In addition to copper, the Cerro Verde mine produces molybdenum concentrate and silver.

Operating and Development Activities. Milling rates at Cerro Verde's concentrator facilities averaged 380,300 metric tons of ore per day for the year 2021, compared with 331,600 metric tons of ore per day for the year 2020 when COVID-19 restrictions resulted in reduced rates. Subject to ongoing monitoring of COVID-19 protocols, Cerro Verde is targeting milling rates to increase to approximately 400,000 metric tons of ore per day during 2022.

El Abra increased operating rates to pre-COVID-19 pandemic levels during 2021. Increased mining and stacking activities are expected to result in a 30 percent increase in El Abra copper production for the year 2022, compared with the year 2021.

We continue to evaluate a large-scale expansion at El Abra to process additional sulfide material and to achieve higher copper recoveries. El Abra's large sulfide resource could potentially support a major mill project similar to the facilities constructed at Cerro Verde in 2015. Technical and economic studies continue to be evaluated to determine the optimal scope and timing for the sulfide project, and we are engaging stakeholders and preparing data required for submission of a robust permit application. We are continuing to monitor potential changes in regulatory and fiscal matters in Chile and will defer major investment decisions pending clarity on these matters.

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

	2021	2020
Copper (millions of recoverable pounds)		
Production	1,047	979
Sales	1,055	976
Average realized price per pound	$ 4.34	$ 3.05
Molybdenum (millions of recoverable pounds)		
Production[a]	21	19
Leach operations		
Leach ore placed in stockpiles (metric tons per day)	163,900	160,300
Average copper ore grade (percent)	0.32	0.35
Copper production (millions of recoverable pounds)	256	241
Mill operations		
Ore milled (metric tons per day)	380,300	331,600 [b]
Average ore grade (percent):		
Copper	0.31	0.34
Molybdenum	0.01	0.01
Copper recovery rate (percent)	87.3	84.3
Copper production (millions of recoverable pounds)	791	738

a. Refer to “Consolidated Results” for our consolidated molybdenum sales volumes, which include sales of molybdenum produced at Cerro Verde.

b. Cerro Verde mill operations were impacted by COVID-19 restrictions.

Higher consolidated copper sales volumes from South America of 1.1 billion pounds in 2021, compared with 1.0 billion pounds in 2020, primarily reflect higher mining and milling rates at Cerro Verde.

Copper sales from South America mines are expected to approximate 1.2 billion pounds in 2022. 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 table summarizes unit net cash costs and gross profit per pound of copper at our South America mining operations for the two years ended December 31, 2021. 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 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.

	2021		2020	
	By-Product Method	Co-Product Method	By-Product Method	Co-Product Method
Revenues, excluding adjustments	$ 4.34	$ 4.34	$ 3.05	$ 3.05
Site production and delivery, before net noncash and other costs shown below	2.23 [a]	2.06	1.86	1.74
By-product credits	(0.32)	—	(0.17)	—
Treatment charges	0.13	0.13	0.15	0.15
Royalty on metals	0.01	0.01	0.01	0.01
Unit net cash costs	2.05	2.20	1.85	1.90
DD&A	0.39	0.37	0.43	0.41
Noncash and other costs, net	0.03 [b]	0.03	0.13 [c]	0.12
Total unit costs	2.47	2.60	2.41	2.43
Revenue adjustments, primarily for pricing on prior period open sales	0.09	0.09	(0.07)	(0.07)
Gross profit per pound	$ 1.96	$ 1.83	$ 0.57	$ 0.55
Copper sales (millions of recoverable pounds)	1,055	1,055	976	976

a. Includes charges totaling $0.09 per pound of copper associated with nonrecurring labor-related charges at Cerro Verde for collective labor agreements reached with its hourly employees.

b. Includes credits totaling $0.03 per pound of copper associated with favorable adjustments to prior-years' profit sharing at Cerro Verde.

c. Includes charges totaling $0.09 per pound of copper, primarily associated with idle facility (Cerro Verde) and contract cancellation costs related to the COVID-19 pandemic, and employee separation costs associated with our April 2020 revised operating plans.

Our South America mines have varying cost structures because of differences in ore grades and characteristics, processing costs, by-product credits and other factors. Higher average unit net cash costs (net of by-product credits) of $2.05 per pound of copper in 2021, compared with $1.85 per pound in 2020, primarily reflect increased profit-sharing costs and nonrecurring labor-related charges at Cerro Verde for collective labor agreements and higher maintenance and input costs, partly offset by higher sales volumes and by-product credits.

Revenues from Cerro Verde's concentrate sales are recorded net of treatment charges, which 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 mines are expected to approximate $2.06 per pound of copper in 2022, based on current sales volume and cost estimates and assuming an average price of $19.00 per pound of molybdenum.

Indonesia Mining

PT-FI's assets include one of the world's largest copper and gold deposits at the Grasberg minerals district in Papua, Indonesia. PT-FI produces copper concentrate that contains significant quantities of gold and silver. We have a 48.76 percent interest in PT-FI and manage its mining operations. As further discussed in Note 3, under the terms of the shareholders agreement, our economic interest in PT-FI approximates 81 percent through 2022 and 48.76 percent thereafter. PT-FI's results are consolidated in our financial statements.

Substantially all of PT-FI's copper concentrate is sold under long-term contracts. During 2021, 41 percent of PT-FI's copper concentrate was sold to PT Smelting (PT-FI owned 25.0 percent of PT Smelting prior to April 30, 2021, and 39.5 percent thereafter - See Note 2).

Operating and Development Activities. PT-FI currently has three underground operating mines in the Grasberg minerals district: Grasberg Block Cave, DMLZ and Big Gossan. The ramp-up of underground production at the Grasberg minerals district continues to advance on schedule. For the year 2021, highlights include:

- Achieved quarterly copper and gold volumes in fourth-quarter 2021 approximating 100 percent of the projected annualized levels discussed below.
- 139 new drawbells were constructed at the Grasberg Block Cave and DMLZ underground mines, bringing cumulative open drawbells to 510.
- Combined average production from the Grasberg Block Cave and DMLZ underground mines approximated 128,600 metric tons of ore per day (more than double the year 2020 rates) and PT-FI's total milling rates averaged 151,600 metric tons of ore per day.

PT-FI expects milling rates to average approximately 180,000 metric tons of ore per day in 2022. The installation of additional milling facilities are in progress and are currently expected to be completed in 2023, which will increase milling capacity to approximately 240,000 metric tons of ore per day.

PT-FI expects to generate average annual production of approximately 1.6 billion pounds of copper and 1.6 million ounces of gold for the next five years at an attractive unit net cash cost, providing significant margins and cash flows.

PT-FI's estimated capital spending on the Grasberg Block Cave and DMLZ underground projects for the year 2022 is expected to approximate $1.0 billion, net of scheduled contributions from PT Indonesia Asahan Aluminium (Persero) (PT Inalum, also known as MIND ID). PT-FI is also advancing construction of a dual-fuel power plant and upgrades to the mill circuit to improve recoveries. In accordance with applicable accounting guidance, the aggregate costs (before scheduled contributions from PT Inalum), expected to approximate $1.2 billion for the year 2022, will be reflected as an investing activity in our cash flow statement, and contributions from PT Inalum will be reflected as a financing activity.

Kucing Liar. In October 2021, PT-FI commenced long-term mine development activities for its Kucing Liar deposit, which is expected to produce over 6 billion pounds of copper and 5 million ounces of gold between 2028 and the end of 2041. Similar to PT-FI's experience with large-scale, block-cave mines, pre-production development activities will occur over an approximate 10-year timeframe. At full operating rates, annual production from Kucing Liar is expected to approximate 600 million pounds of copper and 500 thousand ounces of gold, providing PT-FI with sustained long-term, large-scale and low-cost production. Capital investments for Kucing Liar over the next 10 years are expected to average approximately $400 million per year. Kucing Liar will benefit from substantial shared infrastructure and PT-FI's experience and long-term success in block-cave mining.

Indonesia Smelter Capacity. In connection with PT-FI's 2018 agreement with the Indonesia government to secure the extension of its long-term mining rights, PT-FI committed to construct additional domestic smelting capacity totaling 2 million metric tons of concentrate per year by the end of 2023.

During 2020, PT-FI notified the Indonesia government of schedule delays resulting from the COVID-19 pandemic and continues to review with the government a revised schedule for satisfying its commitment.

On January 7, 2021, the Indonesia government levied an administrative fine of $149 million on PT-FI for failing to achieve physical development progress on the greenfield smelter as of July 31, 2020. During 2021, PT-FI recorded charges totaling $16 million for a potential settlement of the administrative fine. On January 25, 2022, the Indonesia government submitted a new estimate of the administrative fine totaling $57 million. On February 15, 2022, PT-FI responded to the Indonesia government with a revised calculation of $37 million. PT-FI expects to record a charge in first-quarter 2022 for an amount in excess of the previously recorded $16 million. Refer to Note 12 and Item 1A. “Risk Factors” contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, for further discussion.

PT-FI is actively engaging in the following projects for additional domestic smelting capacity:

- Construction of a greenfield smelter with a capacity to process approximately 1.7 million metric tons of concentrate per year. In July 2021, PT-FI awarded a construction contract with an estimated cost of $2.8 billion. During 2021, PT-FI progressed site preparation activities and expects engineering procurement and construction activities to advance during 2022 and 2023. The smelter construction is expected to be completed as soon as feasible in 2024, which is subject to potential pandemic-related disruptions and other factors.
- Expansion of PT Smelting's capacity by 30 percent to 1.3 million metric tons of concentrate per year, which is expected to be completed by the end of 2023. PT-FI completed agreements in November 2021 with the majority owner of PT Smelting to implement the expansion plans. PT-FI is funding the cost of the expansion, estimated to approximate $250 million, with a loan that will convert to equity and increase ownership in PT Smelting to a majority ownership interest once the expansion is complete.
- Construction of a PMR to process gold and silver from the greenfield smelter and PT Smelting at an estimated cost of $250 million.

In July 2021, PT-FI entered into a $1.0 billion, five-year, unsecured bank credit facility to advance these projects. As of December 31, 2021, $443 million ($432 million net of debt issuance costs) was drawn under this facility. PT-FI is currently arranging incremental financing for these projects, with the cost of debt shared 48.76 percent by us and 51.24 percent by PT Inalum. Refer to Note 8 for further discussion.

Capital expenditures for the Indonesia smelter projects totaled $0.2 billion for 2021, and are expected to approximate $1.4 billion for 2022, $1.1 billion for 2023 and $0.4 billion for 2024, excluding capitalized interest, owner’s costs and commissioning. Development of additional smelting capacity in Indonesia will result in the elimination of export duties, providing an offset to the economic cost associated with the Indonesia smelter projects.

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

	2021	2020
Operating Data		
Copper (millions of recoverable pounds)		
Production	1,336	809
Sales	1,316	804
Average realized price per pound	$ 4.34	$ 3.08
Gold (thousands of recoverable ounces)		
Production	1,370	848
Sales	1,349	842
Average realized price per ounce	$ 1,796	$ 1,832
100% Operating Data		
Ore milled (metric tons per day):		
Grasberg Block Cave	70,600	30,800
DMLZ	58,000	28,600
Deep Ore Zone[a]	8,700	20,900
Big Gossan	7,500	7,000
Other	6,800	400
Total	151,600	87,700
Average ore grade:		
Copper (percent)	1.30	1.32
Gold (grams per metric ton)	1.04	1.10
Recovery rates (percent):		
Copper	89.8	91.9
Gold	77.0	78.1
Production (recoverable):		
Copper (millions of pounds)	1,336	809
Gold (thousands of ounces)	1,370	848

a. Ore body depleted in 2021.

Higher consolidated sales of 1.3 billion pounds of copper and 1.3 million ounces of gold in 2021, compared with 0.8 billion pounds of copper and 0.8 million ounces of gold in 2020, primarily reflect the ramp-up of underground mining at the Grasberg minerals district.

Consolidated sales volumes from PT-FI are expected to approximate 1.6 billion pounds of copper and 1.6 million ounces of gold in 2022.

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 table summarizes the unit net cash costs and gross profit per pound of copper and per ounce of gold at our Indonesia mining operations for the two years ended December 31, 2021. 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.

	2021			2020		
	By-Product Method	Co-Product Method		By-Product Method	Co-Product Method	
		Copper	Gold		Copper	Gold
Revenues, excluding adjustments	$ 4.34	$ 4.34	$ 1,796	$ 3.08	$ 3.08	$ 1,832
Site production and delivery, before net noncash and other costs shown below	1.49	1.03	424	1.88	1.13	674
Gold and silver credits	(1.95)	—	—	(2.03)	—	—
Treatment charges	0.24	0.17	69	0.27	0.17	98
Export duties	0.17	0.11	47	0.12	0.07	41
Royalty on metals	0.24	0.17	67	0.19	0.11	72
Unit net cash costs	0.19	1.48	607	0.43	1.48	885
DD&A	0.80	0.55	228	0.72	0.43	259
Noncash and other costs, net	0.27 [a]	0.18	77	0.11 [b]	0.07	41
Total unit costs	1.26	2.21	912	1.26	1.98	1,185
Revenue adjustments, primarily for pricing on prior period open sales	0.05	0.05	(3)	(0.03)	(0.03)	5
PT Smelting intercompany loss	(0.07)	(0.05)	(19)	(0.01)	(0.01)	(5)
Gross profit per pound/ounce	$ 3.06	$ 2.13	$ 862	$ 1.78	$ 1.06	$ 647
Copper sales (millions of recoverable pounds)	1,316	1,316		804	804	
Gold sales (thousands of recoverable ounces)			1,349			842

a. Includes charges totaling $0.26 per pound of copper associated with an ARO adjustment.

b. Includes COVID-19 related costs (including one-time incremental employee benefits and health and safety costs) totaling $0.02 per pound of copper.

A significant portion of PT-FI's costs are fixed and unit costs vary depending on volumes and other factors. PT-FI's unit net cash costs (including gold and silver credits) of $0.19 per pound of copper in 2021, were lower than unit net cash costs of $0.43 per pound in 2020, primarily reflecting higher copper and gold sales volumes.

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.

PT-FI's export duties totaled $218 million in 2021 and $93 million in 2020, and PT-FI's royalties totaled $319 million in 2021 and $153 million in 2020. PT-FI will continue to pay export duties until development progress for additional smelting capacity in Indonesia exceeds 50 percent. Refer to Note 13 for further discussion of PT-FI's export duties and royalties.

Because certain assets are depreciated on a straight-line basis, PT-FI's unit depreciation rate may vary with asset additions and the level of copper production and sales. DD&A per pound of copper under they by-product method was $0.80 in 2021, compared with $0.72 in 2020, primarily reflecting significant underground development assets placed in service.

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 represents the change in the deferral of PT-FI's profit on sales to PT Smelting (25.0 percent prior to April 30, 2021, and 39.5 percent thereafter). Refer to "Operations - Smelting & Refining" below for further discussion.

Assuming an average gold price of $1,800 per ounce for 2022 and achievement of current sales volume and cost estimates, unit net cash costs (including gold and silver credits) for PT-FI are expected to approximate $0.18 per pound of copper in 2022. The impact of price changes during 2022 on PT-FI's average unit net cash costs would approximate $0.09 per pound of copper for each $100 per ounce change in the average price of gold.

PT-FI's projected sales volumes and unit net cash costs for the year 2022 are dependent on a number of factors, including operational performance, timing of shipments and the Indonesia government's extension of PT-FI's export permit. In March 2021, PT-FI received a one-year extension of its export license through March 15, 2022. Refer to Note 12 and Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, for a discussion of the administrative fine levied by the Indonesia government on PT-FI for failing to achieve physical development progress on the greenfield smelter and ongoing discussions with the Indonesia government regarding a deferred schedule for the completion of the greenfield smelter.

Molybdenum Mines
We have two wholly owned molybdenum mines in Colorado - the Henderson underground mine and the Climax open-pit mine. 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 America and South America copper mines, is processed at our own conversion facilities.

Operating and Development Activities. Production from the Molybdenum mines totaled 30 million pounds of molybdenum in 2021 and 24 million pounds in 2020. The increase in 2021, compared with 2020, primarily reflects higher ore grades. We plan to increase mining rates at the Climax mine in 2022 to provide options to increase volumes in response to market demand for molybdenum.

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.

Unit net cash costs for our Molybdenum mines of $8.87 per pound of molybdenum in 2021 were lower than $9.50 per pound in 2020, primarily reflecting higher volumes. Based on current sales volume and cost estimates, average unit net cash costs for the Molybdenum mines are expected to approximate $12.50 per pound of molybdenum in 2022. The increase in expected unit net cash costs for 2022, compared with 2021, primarily reflects higher mining and input costs. 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 the Miami smelter in Arizona, the El Paso refinery in Texas and a smelter and refinery in Spain (Atlantic Copper). Additionally, PT-FI has a 39.5 percent ownership interest in PT Smelting and expects its ownership to increase to a majority interest upon completion of the project to expand PT Smelting's smelting capacity. See "Indonesia Smelter Capacity" above for additional information regarding the PT Smelting expansion and Note 13 for information regarding the tolling agreement effective in 2023. 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 and El Paso refinery. Through this form of downstream integration, we are assured placement of a significant portion of our concentrate production.

Our Miami smelter processes concentrate produced by our U.S. mines and also provides acid for copper leaching operations. During 2021, we incurred charges totaling $87 million associated with a major maintenance turnaround at our Miami smelter, which were higher than original estimates as a result of extended downtime to address additional required maintenance work, the COVID-19 pandemic and weather events. The next major maintenance turnaround is scheduled for the first half of 2024.

Atlantic Copper smelts and refines copper concentrate and markets refined copper and precious metals in slimes. Following is an allocation of Atlantic Copper's concentrate purchases from unaffiliated third parties and our copper mining operations for the two years ended December 31, 2021:

	2021	2020
Third parties	66 %	79 %
North America copper mines	18	10
Indonesia mining	9	4
South America mining	7	7
	100 %	100 %

Atlantic Copper's major maintenance turnarounds typically occur approximately every eight years, with shorter-term maintenance turnarounds in the interim. Atlantic Copper last completed a major maintenance turnaround in 2013 and most recently completed a 16-day maintenance turnaround in 2019. The next major maintenance turnaround is scheduled for the first half of 2022.

Atlantic Copper has take-or-pay contractual obligations for the procurement of copper concentrate totaling $3.1 billion at December 31, 2021, that provide for deliveries of specified volumes at market-based prices.

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. 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 100 percent of PT Smelting's concentrate requirements in 2021 and 74 percent in 2020. PT Smelting processed 41 percent of PT-FI's concentrate production in 2021 and 50 percent of such production in 2020.

In December 2021, PT Smelting received a 12-month extension of its anodes slimes export license, which currently expires December 9, 2022, subject to review and approval by the Indonesia government every 6 months.

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 shorter-term maintenance turnarounds in the interim. PT Smelting completed a 30-day maintenance turnaround during December 2020, and the next major turnaround is scheduled for the second half of 2022. In addition, PT Smelting has a planned 75-day shutdown scheduled for the first half of 2023 associated with its expansion project.

We defer recognizing profits on sales from our mining operations to Atlantic Copper and on PT-FI's sales to PT Smelting (on 25.0 percent prior to April 30, 2021, and 39.5 percent thereafter) until final sales to third parties occur. Changes in these deferrals attributable to variability in intercompany volumes resulted in net (reductions) additions to operating income totaling $(188) million ($(106) million to net income attributable to common stock) in 2021 and $(7) million ($1 million to net income attributable to common stock) in 2020. 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 $175 million at December 31, 2021. 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. No significant changes in deferred profits are expected in the first quarter of 2022.

CAPITAL RESOURCES AND LIQUIDITY

Our consolidated operating cash flows vary with sales volumes; prices realized from copper, gold and molybdenum sales; production costs; income taxes; other working capital changes; and other factors. A large component of our production costs are related to energy. See "Consolidated Results" and Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, for further discussion of our energy requirements and related costs.

Our operating cash flows during 2021 primarily reflected strong operating and financial performance and favorable copper prices. During 2022, we expect to grow production and sales volumes while continuing to execute our operating plans, which we expect will provide strong cash flows to support advancement of organic growth initiatives and continue cash returns to shareholders under our established financial policy, based on a favorable operational and market outlook.

We believe that we have a high-quality portfolio of long-lived copper assets positioned to generate long-term value. During fourth-quarter 2021, PT-FI successfully ramped-up production from its underground mining operations and achieved quarterly copper and volumes approximating 100 percent of the projected annualized level, as well as commenced long-term mine development activities for its Kucing Liar deposit at the Grasberg minerals district. Production from the Lone Star copper leach project at our Safford operation is exceeding initial design capacity with production totaling approximately 235 million pounds in 2021. We are also evaluating organic growth opportunities for expansion of certain of our operations in North America and South America, including at Bagdad, Lone Star and El Abra, the timing of which will be dependent on, among other things, market conditions.

Based on current sales volume, cost and metal price estimates discussed in “Outlook”, our available cash and cash equivalents plus our projected consolidated operating cash flows of $8.0 billion for the year 2022 exceed our expected consolidated capital expenditures of $4.7 billion (which includes $2.0 billion for major projects and $1.4 billion for the Indonesia smelter projects) and other expected cash requirements for the year, including share repurchases, noncontrolling interest distributions, income tax payments, common stock dividends (base and variable) and debt repayments.

We believe that our cash generating capability and financial condition, which includes $8.1 billion of consolidated cash and cash equivalents at December 31, 2021, together with $3.5 billion available under our FCX revolving credit facility, will be adequate to meet our operating, investing and financing needs over the next several years. Expenditures for the Indonesia smelter projects are currently being funded by PT-FI’s new $1.0 billion unsecured bank credit facility and additional debt financing is being evaluated. Refer to “Outlook” for further discussion of projected operating cash flows and capital expenditures for 2022 and to “Debt” below and Note 8 for further discussion of PT-FI’s credit facility.

Financial Policy. In February 2021, our Board adopted a financial policy for the allocation of cash flows aligned with our strategic objectives of maintaining a strong balance sheet and increasing cash returns to shareholders while advancing opportunities for future growth.

In February 2021, the Board reinstated a cash dividend on our common stock (base dividend) at an annual rate of $0.30 per share, and following achievement of our net debt target in the range of $3.0 billion to $4.0 billion (excluding debt for additional smelting capacity in Indonesia), in November 2021 the Board approved the implementation of a performance-based payout framework, including (i) a new $3.0 billion share repurchase program and (ii) a variable cash dividend on common stock for 2022 at an expected annual rate of $0.30 per share. The combined annual rate of the base dividend and the variable dividend is expected to total $0.60 per share for 2022. Based on current shares outstanding totaling 1.5 billion, the total common stock dividends (base and variable) for 2022 are expected to approximate $0.9 billion. Refer to “Financing Activities” below for further discussion.

In December 2021, our Board declared dividends totaling $0.15 per share on our common stock (including a $0.075 per share quarterly base cash dividend and a $0.075 per share quarterly variable cash dividend), which was paid on February 1, 2022, to shareholders of record as of January 14, 2022. Refer to Item 1A. “Risk Factors” contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, and “Cautionary Statement” below for further discussion.

Cash

Following is a summary of the U.S. and international components of consolidated cash and cash equivalents available to the parent company, net of noncontrolling interests’ share, taxes and other costs at December 31, 2021 (in billions):

Cash at domestic companies	$	5.2
Cash at international operations		2.9
Total consolidated cash and cash equivalents		8.1
Noncontrolling interests’ share		(0.9)
Cash, net of noncontrolling interests’ share	$	7.2
Withholding taxes		(0.2)
Net cash available	$	7.0

Cash held at our international operations is generally used to support our foreign operations' capital expenditures, operating expenses, debt repayments, working capital 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. 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. See Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, for further discussion of our holding company structure.

Debt

At December 31, 2021, consolidated debt totaled $9.5 billion, with a related weighted-average interest rate of 4.6 percent. We had no borrowings, $8 million in letters of credit issued and approximately $3.5 billion available under our FCX revolving credit facility at December 31, 2021.

On December 1, 2021, we redeemed all of our outstanding $524 million aggregate principal amount of 3.55% Senior Notes due 2022 at a redemption price equal to 100 percent of the principal amount of the notes outstanding, plus accrued and unpaid interest. Our next senior note maturity is March 2023, with redemption rights at par beginning in December 2022.

In September 2021, Cerro Verde elected to prepay $200 million on its term loan, reducing the outstanding balance to $325 million, which matures in June 2022.

In July 2021, PT-FI entered into a $1.0 billion, five-year, unsecured bank credit facility (consisting of a $667 million term loan and a $333 million revolving credit facility) to fund projects associated with its commitment to construct additional smelting capacity in Indonesia. As of December 31, 2021, $443 million ($432 million net of debt issuance costs) was drawn under the PT-FI term loan and no amounts were drawn under the revolving credit facility.

Refer to Note 8 for further discussion of the above items and for information regarding our debt arrangements.

Operating Activities

We generated consolidated operating cash flows of $7.7 billion in 2021 (including $0.8 billion from working capital and other sources) and $3.0 billion in 2020 (including $0.7 billion from working capital and other sources).

Higher operating cash flows for 2021, compared with 2020, primarily reflect increased copper and gold volumes, higher copper and molybdenum prices and the timing of tax payments. We have estimated 2021 final income tax payments primarily in Indonesia and Peru due in the first half of 2022 totaling approximately $1.3 billion.

Investing Activities

Capital Expenditures. Capital expenditures, including capitalized interest, totaled $2.1 billion for the year 2021, including $1.25 billion for major projects, and $2.0 billion for the year 2020, including $1.2 billion for major projects. Major projects were primarily associated with underground development activities in the Grasberg minerals district.

A large portion of the capital expenditures relate to projects that are expected to add significant production and cash flow in future periods, enabling us to continue to generate operating cash flows exceeding capital expenditures in future years. Refer to "Outlook" for further discussion of projected capital expenditures for 2022.

Proceeds from Sales of Assets. In September 2021, we completed the sale of our remaining Freeport Cobalt assets to Jervois Global Limited (Jervois) for $208 million, including net cash proceeds of $150 million and shares of Jervois, and in December 2021, we collected $50 million in consideration associated with the 2019 sale of the Timok exploration project. Proceeds from sales of other assets totaled $47 million in 2021.

In 2020, we sold the Kisanfu undeveloped exploration project for $550 million and collected proceeds of $45 million related to the 2019 sale of the Timok exploration project. Proceeds from sales of other assets totaled $109 million in 2020 primarily related to contingent consideration associated with the 2016 sale of the Tenke Fungurume Mining assets and the sale of royalty assets.

Refer to Note 2 for further discussion.

Loans to PT Smelting for Expansion. PT-FI made loans to PT Smelting totaling $36 million in 2021 to fund PT Smelting's expansion project. Refer to "Operations - Indonesia Mining" for further discussion.

Acquisition of Minority Interest in PT Smelting. On April 30, 2021, PT-FI acquired 14.5 percent of the outstanding common stock of PT Smelting for $33 million, increasing its ownership interest from 25.0 percent to 39.5 percent.

Financing Activities

Debt Transactions. Net repayments of debt in 2021 totaled $260 million, primarily associated with the $524 billion redemption of our 3.55% Senior Notes due 2022 and the repayment of $200 million under Cerro Verde's term loan, partly offset by borrowings of $432 million under the PT-FI term loan.

Net repayments of debt in 2020 totaled $193 million, primarily reflecting the repayment of $305 million under Cerro Verde's term loan. During 2020, we also completed the sale of $2.8 billion of senior notes and used most of the net proceeds to purchase and redeem senior notes maturing in 2021, 2022, 2023 and 2024. The remaining net proceeds were used for general corporate purposes.

Refer to Note 8 for further discussion of debt transactions.

Cash Dividends and Distributions Paid. We paid cash dividends on our common stock totaling $331 million in 2021 and $73 million in 2020. The declaration and payment of dividends (base or variable) is at the discretion of the Board and will depend on our financial results, cash requirements, business prospects, global economic conditions and other factors deemed relevant by the Board. Refer to Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, "Cautionary Statement" below and discussion of our financial policy above.

Cash dividends and distributions paid to noncontrolling interests at PT-FI and Cerro Verde totaled $583 million in 2021. Based on the estimates discussed in "Outlook," we currently expect cash dividends and distributions paid to noncontrolling interests to exceed $1.4 billion in 2022. There were no cash dividends or distributions to noncontrolling interests paid in 2020. Cash dividends and distributions to noncontrolling interests vary based on the operating results and cash requirements of our consolidated subsidiaries.

Treasury Stock Purchases. In fourth-quarter 2021, we acquired 12.7 million shares under our share repurchase program for a total cost of $488 million, $38.32 per share. Through February 15, 2022, we have acquired 18.2 million shares under our share repurchase program for a total cost of $710 million, $39.10 per share, and $2.3 billion remains available. The timing and amount of share repurchases is at the discretion of management and will depend on a variety of factors. The share repurchase program may be modified, increased, suspended or terminated at any time at the Board's discretion. Refer to Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, "Cautionary Statement" below and discussion of our financial policy above.

Contributions from Noncontrolling Interests. PT-FI received equity contributions from PT Inalum for their share of capital spending on the underground mine development projects in the Grasberg minerals district totaling $182 million in 2021 and $156 million in 2020.

Stock-based awards. Following an increase in our stock price during 2021, proceeds from exercised stock options totaled $210 million and payments for related employee taxes totaled $29 million. See Note 10 for a discussion of stock-based awards.

CONTINGENCIES

Environmental

The cost of complying with environmental laws is a fundamental and substantial cost of our business. At December 31, 2021, we had $1.7 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 $0.3 billion in both 2021 and 2020. For 2022, we expect to incur approximately $0.5 billion of aggregate environmental capital expenditures and other environmental costs. 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 Items 1. and 2. "Business and Properties," and Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, Note 12 and "Critical Accounting Estimates - Environmental Obligations" above 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 (included in property, plant, equipment and mine development costs) in the period of disturbance. For non-operating properties without mineral reserves, changes to the ARO are recorded in earnings. 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, 2021, we had $2.7 billion recorded in our consolidated balance sheet for AROs, including $0.3 billion related to our oil and gas properties. Spending on AROs totaled $201 million in 2021 and $156 million in 2020 (including $77 million in 2021 and $38 million in 2020 for our oil and gas operations). At our former Grasberg open-pit operations in Indonesia, we recorded an ARO adjustment of $397 million in 2021, with $340 million charged to production and delivery costs, as it relates to the depleted Grasberg open pit. For 2022, we expect to incur approximately $0.2 billion in aggregate ARO payments (including $0.1 billion for our oil and gas operations). Refer to Note 12 and "Critical Accounting Estimates - Asset Retirement Obligations" above for further discussion.

Litigation and Other Contingencies
Refer to Notes 2 and 12, and Item 1A. "Risk Factors" and Item 3. "Legal Proceedings" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, 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 America 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. 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 Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, for further discussion of financial risks associated with fluctuations in the market prices of the commodities we sell.

During 2021, our mined copper was sold 59 percent in concentrate, 21 percent as cathode and 20 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 copper settlement 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):

	2021	2020
Revenues	$ 169	$ (102)
Net income attributable to common stock	$ 65	$ (42)
Net income per share attributable to common stock	$ 0.04	$ (0.03)

At December 31, 2021, we had provisionally priced copper sales at our copper mining operations totaling 397 million pounds of copper (net of intercompany sales and noncontrolling interests) recorded at an average price of $4.42 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, 2021, provisional price recorded would have an approximate $12 million effect on 2022 net income attributable to common stock. The LME copper settlement price closed at $4.36 per pound on January 31, 2022.

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 Indonesia rupiah, Australian dollar, Peruvian sol, Chilean peso and euro. We recognized foreign currency translation gains on balances denominated in foreign currencies totaling $66 million in 2021 and $34 million in 2020. Generally, our operating results are positively affected when the U.S. dollar strengthens in relation to those foreign currencies and are 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 of U.S. dollars)[a]	
	2021	2020	(in local currency)	(in millions of U.S. dollars)[b]	Increase	Decrease
Indonesia						
Rupiah	14,198	14,034	14.2 trillion	$ 1,000	$ (91)	$ 111
Australian dollar	1.37	1.30	244 million	$ 178	$ (16)	$ 20
South America						
Peruvian sol	4.00	3.62	2.9 billion	$ 735	$ (67)	$ 82
Chilean peso	845	711	193 billion	$ 228	$ (21)	$ 25
Atlantic Copper						
Euro	0.88	0.82	172 million	$ 195	$ (18)	$ 22

a. Reflects the estimated impact on annual operating costs assuming a 10 percent increase or decrease in the exchange rate reported at December 31, 2021.

b. Based on exchange rates at December 31, 2021.

Interest Rate Risk

At December 31, 2021, we had total debt maturities based on principal amounts of $9.5 billion, of which approximately 9 percent was variable-rate debt with interest rates primarily based on the London Interbank Offered Rate. The table below presents average interest rates for our scheduled maturities of principal for our outstanding debt and the related fair values at December 31, 2021 (in millions, except percentages):

	2022	2023	2024	2025	2026	Thereafter	Fair Value
Fixed-rate debt	$ 4	$ 997	$ 735	$ 4	$ 4	$ 6,971	$ 9,819
Average interest rate	— %	3.9 %	4.5 %	— %	— %	5.0 %	4.9 %
Variable-rate debt	$ 368	$ —	$ —	$ 133	$ 310	$ —	$ 811
Average interest rate	1.8 %	— %	— %	2.2 %	2.2 %	— %	2.0 %

NEW ACCOUNTING STANDARDS

We did not adopt any new accounting standards in 2021.

NET DEBT

Net debt, which we define as consolidated debt less consolidated cash and cash equivalents, is intended to provide investors with information related to the performance-based payout framework in our financial policy, which requires achievement of a net debt target in the range of $3 billion to $4 billion (excluding project debt for additional smelting capacity in Indonesia). This information differs from consolidated debt determined in accordance with U.S. GAAP and should not be considered in isolation or as a substitute for consolidated debt determined in accordance with U.S. GAAP. Our net debt follows, which may not be comparable to similarly titled measures reported by other companies (in millions):

	December 31, 2021		December 31, 2020
Current portion of debt	$ 372		$ 34
Long-term debt, less current portion	9,078		9,677
Consolidated debt	9,450	[a]	9,711
Less: consolidated cash and cash equivalents	8,068		3,657
Net debt	**$ 1,382**		**$ 6,054**

a. Includes $432 million, net of debt issuance costs, for the PT-FI term loan (refer to Note 8).

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. These measures are 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 and to compare mining operations in certain industry publications. In the co-product method presentations, 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, these amounts have been reflected 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, long-lived asset impairments, idle facility costs, 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 are presentations under both the by-product and co-product methods together with reconciliations to amounts reported in our consolidated financial statements.

North America Copper Mines Product Revenues, Production Costs and Unit Net Cash Costs

Year Ended December 31, 2021

(In millions)	By-Product Method	Co-Product Method			
		Copper	Molybdenum[a]	Other[b]	Total
Revenues, excluding adjustments	$ 6,174	$ 6,174	$ 481	$ 120	$ 6,775
Site production and delivery, before net noncash and other costs shown below	3,051	2,820	278	75	3,173
By-product credits	(479)	—	—	—	—
Treatment charges	135	130	—	5	135
Net cash costs	2,707	2,950	278	80	3,308
DD&A	368	340	21	7	368
Metals inventory adjustments	13	13	—	—	13
Noncash and other costs, net	105 [c]	102	1	2	105
Total costs	3,193	3,405	300	89	3,794
Other revenue adjustments, primarily for pricing on prior period open sales	7	7	—	—	7
Gross profit	$ 2,988	$ 2,776	$ 181	$ 31	$ 2,988
Copper sales (millions of recoverable pounds)	1,436	1,436			
Molybdenum sales (millions of recoverable pounds)[a]			34		
Gross profit per pound of copper/molybdenum:					
Revenues, excluding adjustments	$ 4.30	$ 4.30	$ 14.14		
Site production and delivery, before net noncash and other costs shown below	2.13	1.96	8.17		
By-product credits	(0.33)	—	—		
Treatment charges	0.09	0.09	—		
Unit net cash costs	1.89	2.05	8.17		
DD&A	0.25	0.24	0.62		
Metals inventory adjustments	0.01	0.01	—		
Noncash and other costs, net	0.07 [c]	0.07	0.03		
Total unit costs	2.22	2.37	8.82		
Other revenue adjustments, primarily for pricing on prior period open sales	—	—	—		
Gross profit per pound	$ 2.08	$ 1.93	$ 5.32		

Reconciliation to Amounts Reported

	Revenues	Production and Delivery	DD&A	Metals Inventory Adjustments
Totals presented above	$ 6,775	$ 3,173	$ 368	$ 13
Treatment charges	(24)	111	—	—
Noncash and other costs, net	—	105	—	—
Other revenue adjustments, primarily for pricing on prior period open sales	7	—	—	—
Eliminations and other	67	72	1	—
North America copper mines	6,825	3,461	369	13
Other mining[d]	22,229	14,395	1,562	1
Corporate, other & eliminations	(6,209)	(5,840)	67	2
As reported in our consolidated financial statements	$ 22,845	$ 12,016	$ 1,998	$ 16

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 gold and silver product revenues and production costs.

c. Includes credits totaling $27 million ($0.02 per pound of copper) associated with refunds of Arizona transaction privilege taxes related to purchased electricity.

d. Represents the combined total for our other mining operations as presented in Note 16.

North America Copper Mines Product Revenues, Production Costs and Unit Net Cash Costs

Year Ended December 31, 2020

(In millions)	By-Product Method		Co-Product Method			
			Copper	Molybdenum[a]	Other[b]	Total
Revenues, excluding adjustments	$ 4,005	[c]	$ 4,005	$ 281	$ 83	$ 4,369
Site production and delivery, before net noncash and other costs shown below	2,700		2,529	223	44	2,796
By-product credits	(268)		—	—	—	—
Treatment charges	139		136	—	3	139
Net cash costs	2,571		2,665	223	47	2,935
DD&A	355		330	18	7	355
Metals inventory adjustments	52		49	—	3	52
Noncash and other costs, net	138	[d]	133	3	2	138
Total costs	3,116		3,177	244	59	3,480
Other revenue adjustments, primarily for pricing on prior period open sales	(22)		(22)	—	—	(22)
Gross profit	$ 867		$ 806	$ 37	$ 24	$ 867
Copper sales (millions of recoverable pounds)	1,420		1,420			
Molybdenum sales (millions of recoverable pounds)[a]				33		
Gross profit per pound of copper/molybdenum:						
Revenues, excluding adjustments	$ 2.82	[c]	$ 2.82	$ 8.62		
Site production and delivery, before net noncash and other costs shown below	1.90		1.78	6.84		
By-product credits	(0.19)		—	—		
Treatment charges	0.10		0.10	—		
Unit net cash costs	1.81		1.88	6.84		
DD&A	0.25		0.23	0.56		
Metals inventory adjustments	0.03		0.03	—		
Noncash and other costs, net	0.10	[d]	0.10	0.09		
Total unit costs	2.19		2.24	7.49		
Other revenue adjustments, primarily for pricing on prior period open sales	(0.02)		(0.02)	—		
Gross profit per pound	$ 0.61		$ 0.56	$ 1.13		

Reconciliation to Amounts Reported

	Revenues	Production and Delivery	DD&A	Metals Inventory Adjustments
Totals presented above	$ 4,369	$ 2,796	$ 355	$ 52
Treatment charges	(15)	124	—	—
Noncash and other costs, net	—	138	—	—
Other revenue adjustments, primarily for pricing on prior period open sales	(22)	—	—	—
Eliminations and other	32	42	—	—
North America copper mines	4,364	3,100	355	52
Other mining[e]	13,642	10,595	1,103	16
Corporate, other & eliminations	(3,808)	(3,664)	70	28
As reported in our consolidated financial statements	$ 14,198	$ 10,031	$ 1,528	$ 96

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 gold and silver product revenues and production costs.

c. Includes reductions to revenues and average realized prices totaling $24 million ($0.02 per pound of copper) related to forward sales contracts covering 150 million pounds of copper sales for May and June 2020 at a fixed price of $2.34 per pound.

d. Includes charges totaling $32 million ($0.02 per pound of copper) primarily associated with the April 2020 revised operating plans (including employee separation costs) and the COVID-19 pandemic (including health and safety costs).

e. Represents the combined total for our other mining operations as presented in Note 16.

South America Mining Product Revenues, Production Costs and Unit Net Cash Costs

Year Ended December 31, 2021

(In millions)	By-Product Method		Co-Product Method		
			Copper	Other[a]	Total
Revenues, excluding adjustments	$ 4,585		$ 4,585	$ 383	$ 4,968
Site production and delivery, before net noncash and other costs shown below	2,349	[b]	2,175	219	2,394
By-product credits	(338)		—	—	—
Treatment charges	140		140	—	140
Royalty on metals	10		9	1	10
Net cash costs	2,161		2,324	220	2,544
DD&A	413		379	34	413
Noncash and other costs, net	38	[c]	36	2	38
Total costs	2,612		2,739	256	2,995
Other revenue adjustments, primarily for pricing on prior period open sales	99		99	—	99
Gross profit	$ 2,072		$ 1,945	$ 127	$ 2,072
Copper sales (millions of recoverable pounds)	1,055		1,055		
Gross profit per pound of copper:					
Revenues, excluding adjustments	$ 4.34		$ 4.34		
Site production and delivery, before net noncash and other costs shown below	2.23	[b]	2.06		
By-product credits	(0.32)		—		
Treatment charges	0.13		0.13		
Royalty on metals	0.01		0.01		
Unit net cash costs	2.05		2.20		
DD&A	0.39		0.37		
Noncash and other costs, net	0.03	[c]	0.03		
Total unit costs	2.47		2.60		
Other revenue adjustments, primarily for pricing on prior period open sales	0.09		0.09		
Gross profit per pound	$ 1.96		$ 1.83		

Reconciliation to Amounts Reported

	Revenues	Production and Delivery	DD&A
Totals presented above	$ 4,968	$ 2,394	$ 413
Treatment charges	(140)	—	—
Royalty on metals	(10)	—	—
Noncash and other costs, net	—	38	—
Other revenue adjustments, primarily for pricing on prior period open sales	99	—	—
Eliminations and other	(1)	(3)	—
South America mining	4,916	2,429	413
Other mining[d]	24,138	15,427	1,518
Corporate, other & eliminations	(6,209)	(5,840)	67
As reported in our consolidated financial statements	$ 22,845	$ 12,016	$ 1,998

a. Includes silver sales of 3.7 million ounces ($24.73 per ounce average realized price). Also reflects sales of molybdenum produced by Cerro Verde to our molybdenum sales company at market-based pricing.

b. Includes nonrecurring charges totaling $92 million ($0.09 per pound of copper) associated with labor-related charges at Cerro Verde for collective labor agreements reached with its hourly employees.

c. Includes credits totaling $26 million ($0.03 per pound) associated with favorable adjustments to prior-years' profit sharing at Cerro Verde.

d. Represents the combined total for our other mining operations as presented in Note 16.

South America Mining Product Revenues, Production Costs and Unit Net Cash Costs

Year Ended December 31, 2020 (In millions)	By-Product Method	Co-Product Method		
		Copper	Other[a]	Total
Revenues, excluding adjustments	$ 2,976	$ 2,976	$ 209	$ 3,185
Site production and delivery, before net noncash and other costs shown below	1,816	1,701	158	1,859
By-product credits	(166)	—	—	—
Treatment charges	152	152	—	152
Royalty on metals	6	6	—	6
Net cash costs	1,808	1,859	158	2,017
DD&A	421	391	30	421
Metals inventory adjustments	3	3	—	3
Noncash and other costs, net	122 [b]	115	7	122
Total costs	2,354	2,368	195	2,563
Other revenue adjustments, primarily for pricing on prior period open sales	(70)	(70)	—	(70)
Gross profit	$ 552	$ 538	$ 14	$ 552
Copper sales (millions of recoverable pounds)	976	976		
Gross profit per pound of copper:				
Revenues, excluding adjustments	$ 3.05	$ 3.05		
Site production and delivery, before net noncash and other costs shown below	1.86	1.74		
By-product credits	(0.17)	—		
Treatment charges	0.15	0.15		
Royalty on metals	0.01	0.01		
Unit net cash costs	1.85	1.90		
DD&A	0.43	0.41		
Metals inventory adjustments	—	—		
Noncash and other costs, net	0.13 [b]	0.12		
Total unit costs	2.41	2.43		
Other revenue adjustments, primarily for pricing on prior period open sales	(0.07)	(0.07)		
Gross profit per pound	$ 0.57	$ 0.55		

Reconciliation to Amounts Reported

	Revenues	Production and Delivery	DD&A	Metals Inventory Adjustments
Totals presented above	$ 3,185	$ 1,859	$ 421	$ 3
Treatment charges	(152)	—	—	—
Royalty on metals	(6)	—	—	—
Noncash and other costs, net	—	122	—	—
Other revenue adjustments, primarily for pricing on prior period open sales	(70)	—	—	—
Eliminations and other	(2)	(3)	—	—
South America mining	2,955	1,978	421	3
Other mining[c]	15,051	11,717	1,037	65
Corporate, other & eliminations	(3,808)	(3,664)	70	28
As reported in our consolidated financial statements	$ 14,198	$ 10,031	$ 1,528	$ 96

a. Includes silver sales of 3.4 million ounces ($21.86 per ounce average realized price). Also reflects sales of molybdenum produced by Cerro Verde to our molybdenum sales company at market-based pricing.

b. Includes charges totaling $91 million ($0.09 per pound of copper) primarily associated with idle facility (Cerro Verde) and contract cancellation costs related to the COVID-19 pandemic, and employee separation costs associated with the April 2020 revised operating plans.

c. Represents the combined total for our other mining operations as presented in Note 16.

Indonesia Mining Product Revenues, Production Costs and Unit Net Cash Costs

Year Ended December 31, 2021

(In millions)	By-Product Method	Co-Product Method			
		Copper	Gold	Silver[a]	Total
Revenues, excluding adjustments	$ 5,715	$ 5,715	$ 2,423	$ 143	$ 8,281
Site production and delivery, before net noncash and other costs shown below	1,953	1,348	572	33	1,953
Gold and silver credits	(2,562)	—	—	—	—
Treatment charges	320	221	93	6	320
Export duties	218	150	64	4	218
Royalty on metals	319	223	90	6	319
Net cash costs	248	1,942	819	49	2,810
DD&A	1,049	724	307	18	1,049
Noncash and other costs, net	355 [b]	245	104	6	355
Total costs	1,652	2,911	1,230	73	4,214
Other revenue adjustments, primarily for pricing on prior period open sales	72	72	(4)	—	68
PT Smelting intercompany loss	(86)	(60)	(25)	(1)	(86)
Gross profit	$ 4,049	$ 2,816	$ 1,164	$ 69	$ 4,049
Copper sales (millions of recoverable pounds)	1,316	1,316			
Gold sales (thousands of recoverable ounces)			1,349		
Gross profit per pound of copper/per ounce of gold:					
Revenues, excluding adjustments	$ 4.34	$ 4.34	$ 1,796		
Site production and delivery, before net noncash and other costs shown below	1.49	1.03	424		
Gold and silver credits	(1.95)	—	—		
Treatment charges	0.24	0.17	69		
Export duties	0.17	0.11	47		
Royalty on metals	0.24	0.17	67		
Unit net cash costs	0.19	1.48	607		
DD&A	0.80	0.55	228		
Noncash and other costs, net	0.27 [b]	0.18	77		
Total unit costs	1.26	2.21	912		
Other revenue adjustments, primarily for pricing on prior period open sales	0.05	0.05	(3)		
PT Smelting intercompany loss	(0.07)	(0.05)	(19)		
Gross profit per pound/ounce	$ 3.06	$ 2.13	$ 862		

Reconciliation to Amounts Reported

	Revenues	Production and Delivery	DD&A
Totals presented above	$ 8,281	$ 1,953	$ 1,049
Treatment charges	(320)	—	—
Export duties	(218)	—	—
Royalty on metals	(319)	—	—
Noncash and other costs, net	31	386	—
Other revenue adjustments, primarily for pricing on prior period open sales	68	—	—
PT Smelting intercompany loss	—	86	—
Indonesia mining	7,523	2,425	1,049
Other mining[c]	21,531	15,431	882
Corporate, other & eliminations	(6,209)	(5,840)	67
As reported in our consolidated financial statements	$ 22,845	$ 12,016	$ 1,998

a. Includes silver sales of 5.9 million ounces ($24.30 per ounce average realized price).

b. Includes charges totaling $340 million ($0.26 per pound of copper) associated with an ARO adjustment. Also, includes credits of $31 million ($0.02 per pound of copper) associated with adjustments to prior-year treatment charges and charges of $16 million ($0.01 per pound of copper) associated with a potential settlement of an administrative fine levied by the Indonesia government.

c. Represents the combined total for our other mining operations as presented in Note 16.

Indonesia Mining Product Revenues, Production Costs and Unit Net Cash Costs

Year Ended December 31, 2020

(In millions)	By-Product Method	Co-Product Method			
		Copper	Gold	Silver[a]	Total
Revenues, excluding adjustments	$ 2,475	$ 2,475	$ 1,545	$ 81	$ 4,101
Site production and delivery, before net noncash and other costs shown below	1,508	910	568	30	1,508
Gold and silver credits	(1,630)	—	—	—	—
Treatment charges	219	132	83	4	219
Export duties	93	56	35	2	93
Royalty on metals	153	90	60	3	153
Net cash costs	343	1,188	746	39	1,973
DD&A	580	350	219	11	580
Noncash and other costs, net	93 [b]	56	35	2	93
Total costs	1,016	1,594	1,000	52	2,646
Other revenue adjustments, primarily for pricing on prior period open sales	(20)	(20)	4	—	(16)
PT Smelting intercompany loss	(11)	(7)	(4)	—	(11)
Gross profit	$ 1,428	$ 854	$ 545	$ 29	$ 1,428
Copper sales (millions of recoverable pounds)	804	804			
Gold sales (thousands of recoverable ounces)			842		
Gross profit per pound of copper/per ounce of gold:					
Revenues, excluding adjustments	$ 3.08	$ 3.08	$ 1,832		
Site production and delivery, before net noncash and other costs shown below	1.88	1.13	674		
Gold and silver credits	(2.03)	—	—		
Treatment charges	0.27	0.17	98		
Export duties	0.12	0.07	41		
Royalty on metals	0.19	0.11	72		
Unit net cash costs	0.43	1.48	885		
DD&A	0.72	0.43	259		
Noncash and other costs, net	0.11 [b]	0.07	41		
Total unit costs	1.26	1.98	1,185		
Other revenue adjustments, primarily for pricing on prior period open sales	(0.03)	(0.03)	5		
PT Smelting intercompany loss	(0.01)	(0.01)	(5)		
Gross profit per pound/ounce	$ 1.78	$ 1.06	$ 647		

Reconciliation to Amounts Reported

	Revenues	Production and Delivery	DD&A
Totals presented above	$ 4,101	$ 1,508	$ 580
Treatment charges	(219)	—	—
Export duties	(93)	—	—
Royalty on metals	(153)	—	—
Noncash and other costs, net	(6)	87	—
Other revenue adjustments, primarily for pricing on prior period open sales	(16)	—	—
PT Smelting intercompany loss	—	11	—
Indonesia mining	3,614	1,606	580
Other mining[c]	14,392	12,089	878
Corporate, other & eliminations	(3,808)	(3,664)	70
As reported in our consolidated financial statements	$ 14,198	$ 10,031	$ 1,528

a. Includes silver sales of 3.6 million ounces ($22.40 per ounce average realized price).

b. Includes COVID-19 related costs (including one-time incremental employee benefits and health and safety costs) of $14 million ($0.02 per pound of copper).

c. Represents the combined total for our other mining operations as presented in Note 16.

Molybdenum Mines Product Revenues, Production Costs and Unit Net Cash Costs

(In millions)	Years Ended December 31, 2021	2020
Revenues, excluding adjustments[a]	$ 470	$ 243
Site production and delivery, before net noncash and other costs shown below	243	211
Treatment charges and other	26	21
Net cash costs	269	232
DD&A	67	57
Metals inventory adjustments	1	10
Noncash and other costs, net	10	19 [b]
Total costs	347	318
Gross profit (loss)	$ 123	$ (75)
Molybdenum sales (millions of recoverable pounds)[a]	30	24
Gross profit (loss) per pound of molybdenum:		
Revenues, excluding adjustments[a]	$ 15.52	$ 9.94
Site production and delivery, before net noncash and other costs shown below	8.02	8.65
Treatment charges and other	0.85	0.85
Unit net cash costs	8.87	9.50
DD&A	2.22	2.34
Metals inventory adjustments	0.03	0.42
Noncash and other costs, net	0.33	0.75 [b]
Total unit costs	11.45	13.01
Gross profit (loss) per pound	$ 4.07	$ (3.07)

Reconciliation to Amounts Reported

Year Ended December 31, 2021	Revenues	Production and Delivery	DD&A	Metals Inventory Adjustments
Totals presented above	$ 470	$ 243	$ 67	$ 1
Treatment charges and other	(26)	—	—	—
Noncash and other costs, net	—	10	—	—
Molybdenum mines	444	253	67	1
Other mining[c]	28,610	17,603	1,864	13
Corporate, other & eliminations	(6,209)	(5,840)	67	2
As reported in our consolidated financial statements	$ 22,845	$ 12,016	$ 1,998	$ 16
Year Ended December 31, 2020				
Totals presented above	$ 243	$ 211	$ 57	$ 10
Treatment charges and other	(21)	—	—	—
Noncash and other costs, net	—	19	—	—
Molybdenum mines	222	230	57	10
Other mining[c]	17,784	13,465	1,401	58
Corporate, other & eliminations	(3,808)	(3,664)	70	28
As reported in our consolidated financial statements	$ 14,198	$ 10,031	$ 1,528	$ 96

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, our consolidated average realized price per pound of molybdenum will differ from the amounts reported in this table.

b. Includes charges totaling $7 million ($0.29 per pound of molybdenum) primarily associated with contract cancellation costs related to the COVID-19 pandemic and employee separation costs associated with April 2020 revised operating plans.

c. Represents the combined total for our other mining operations 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 America and South America copper mines.

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 plans, projections, or expectations relating to business outlook, strategy, goals or targets; ore grades and milling rates; production and sales volumes; unit net cash costs; capital expenditures; operating costs; operating plans; cash flows; liquidity; PT-FI's financing, construction and completion of additional domestic smelting capacity in Indonesia in accordance with the terms of its special mining license (IUPK); our commitments to deliver responsibly produced copper, including plans to implement and validate all of our operating sites under the Copper Mark and to comply with other disclosure frameworks; execution of our energy and climate strategies and the underlying assumptions and estimated impacts on our business related thereto; achievement of climate commitments and net zero aspirations; improvements in operating procedures and technology innovations; exploration efforts and results; development and production activities, rates and costs; future organic growth opportunities; tax rates; export quotas and duties; impact of copper, gold and molybdenum price changes; the impact of deferred intercompany profits on earnings; mineral reserve and mineral resource estimates; final resolution of settlements associated with ongoing legal proceedings; and the ongoing implementation of our financial policy and future returns to shareholders, including dividend payments (base or variable) and share repurchases. The words "anticipates," "may," "can," "plans," "believes," "estimates," "expects," "projects," "targets," "intends," "likely," "will," "should," "could," "to be," "potential," "assumptions," "guidance," "aspirations," "future" and any similar expressions are intended to identify those assertions as forward-looking statements. The declaration and payment of dividends (base or variable) and timing and amount of any share repurchases is at the discretion of our Board and management, respectively, and is subject to a number of factors, including maintaining our net debt target, capital availability, our financial results, cash requirements, business prospects, global economic conditions, changes in laws, contractual restrictions and other factors deemed relevant by our Board or management, as applicable. Our share repurchase program may be modified, increased, suspended or terminated at any time at the Board's discretion.

We caution readers that forward-looking statements are not guarantees of future performance and actual results may differ materially from those anticipated, expected, 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, but are not limited to, supply of and demand for, and prices of the commodities we produce, primarily copper; changes in our cash requirements, financial position, financing or investment plans; changes in general market, economic, tax, regulatory or industry conditions; reductions in liquidity and access to capital; the ongoing COVID-19 pandemic and any future public health crisis; political and social risks; operational risks inherent in mining, with higher inherent risks in underground mining; fluctuations in price and availability of commodities purchased; constraints on supply, logistics and transportation services; mine sequencing; changes in mine plans or operational modifications, delays, deferrals or cancellations; production rates; timing of shipments; results of technical, economic or feasibility studies; potential inventory adjustments; potential impairment of long-lived mining assets; the potential effects of violence in Indonesia generally and in the province of Papua; the Indonesia government's extension of PT-FI's export license after March 15, 2022; satisfaction of requirements in accordance with PT-FI's IUPK to extend mining rights from 2031 through 2041; the Indonesia government's approval of a deferred schedule for completion of additional domestic smelting capacity in Indonesia; cybersecurity incidents; labor relations, including labor-related work stoppages and costs; compliance with applicable environmental, health and safety laws and regulations; weather- and climate-related risks; environmental risks and litigation results; our ability to comply with our responsible production commitments under specific frameworks and any changes to such frameworks and other factors described in more detail in Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021.

Investors are cautioned that many of the assumptions upon which our forward-looking statements are based are likely to change after the date the forward-looking statements are made, including for example commodity prices, which we cannot control, and production volumes and costs or technological solutions and innovation, 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 undertake no obligation to update any forward-looking statements, which speak only as of the date made, notwithstanding any changes in our assumptions, changes in business plans, actual experience or other changes.

Our annual report on Form 10-K for the year ended December 31, 2021 also includes forward-looking statements regarding mineral resources not included in proven and probable mineral reserves. A mineral resource, which includes measured, indicated and inferred mineral resources, is a concentration or occurrence of material of economic interest in or on the Earth's crust in such form, grade or quality, and quantity that there are reasonable prospects for economic extraction. Such a deposit cannot qualify as recoverable proven and probable mineral reserves until legal and economic feasibility are confirmed based upon a comprehensive evaluation of development and operating costs, grades, recoveries and other material factors. Accordingly, no assurance can be given that the estimated mineral resources will become proven and probable mineral reserves.

Our annual report on Form 10-K for the year ended December 31, 2021, also contains financial measures such as net debt and unit net cash costs per pound of copper and molybdenum, which are not recognized under U.S. GAAP. 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. Refer to "Net Debt" for reconciliations of consolidated debt and consolidated cash and cash equivalents to net debt.

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, 2021, 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	/s/ Kathleen L. Quirk
Richard C. Adkerson	Kathleen L. Quirk
Chairman of the Board and	President and Chief Financial Officer
Chief Executive Officer	

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Freeport-McMoRan Inc.

Opinion on Internal Control over Financial Reporting

We have audited Freeport-McMoRan Inc.'s internal control over financial reporting as of December 31, 2021, 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). In our opinion, Freeport-McMoRan Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of Freeport-McMoRan Inc. as of December 31, 2021 and 2020, the related consolidated statements of operations, comprehensive income (loss), equity and cash flows for each of the three years in the period ended December 31, 2021, and the related notes and our report dated February 15, 2022 expressed an unqualified opinion thereon.

Basis for Opinion

The Company'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 are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. 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.

Definition and Limitations of Internal Control Over Financial Reporting

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.

/s/ Ernst & Young LLP

Phoenix, Arizona
February 15, 2022

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Freeport-McMoRan Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Freeport-McMoRan Inc. (the Company) as of December 31, 2021 and 2020, the related consolidated statements of operations, comprehensive income (loss), equity and cash flows for each of the three years in the period ended December 31, 2021, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, 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) (PCAOB), the Company’s internal control over financial reporting as of December 31, 2021, 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 15, 2022 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company’s financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Uncertain tax positions

Description of the Matter	As discussed in Note 11 to the consolidated financial statements, the Company operates in the United States and multiple international tax jurisdictions, and its income tax returns are subject to examination by tax authorities in those jurisdictions who may challenge any tax position on these returns. Uncertainty in a tax position may arise because tax laws are subject to interpretation. The Company uses significant judgment to (1) determine whether, based on the technical merits, a tax position is more likely than not to be sustained and (2) measure the amount of tax benefit that qualifies for recognition.

Auditing management's estimate of the amount of tax benefit that qualifies for recognition involved auditor judgment because management's estimate is complex, requires a high degree of judgment and is based on interpretations of tax laws and legal rulings.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's accounting process for uncertain tax positions. This included testing controls over management's review of the technical merits of tax positions and disputed tax assessments, including the process to measure the financial statement impact of these tax matters.

Our audit procedures included, among others, evaluating the Company's accounting for these tax positions by using our knowledge of and experience with the application of respective tax laws by the relevant tax authorities, or our understanding of the contractual arrangements with the applicable government, if the position is governed by a contract. We analyzed the Company's assumptions and data used to determine the tax assessments and tested the accuracy of the calculations. We involved our tax professionals located in the respective jurisdictions to assess the technical merits of the Company's tax positions and to evaluate the application of relevant tax laws in the Company's recognition determination. We assessed the Company's correspondence with the relevant tax authorities and evaluated third-party tax or legal opinions obtained by the Company. We also evaluated the adequacy of the Company's disclosures included in Note 12 in relation to these tax matters.

Environmental obligations

Description of the Matter

As discussed in Note 12 to the consolidated financial statements, the Company is subject to national, state and local environmental laws and regulations governing the protection of the environment, including restoration and reclamation of environmental contamination. Liabilities for environmental contingencies are recorded when it is probable that a liability has been incurred and the amount can be reasonably estimated. At December 31, 2021, the Company's consolidated environmental obligations totaled $1.7 billion.

Auditing management's accounting for environmental obligations was challenging, as significant judgment is required by the Company to evaluate whether an environmental loss has been incurred and to estimate the future costs to remediate the environmental matters. The significant judgment was primarily due to the inherent estimation uncertainty relating to the amount of future costs. Such uncertainties involve assumptions regarding the nature and extent of contamination at each site, the nature and extent of required cleanup efforts under existing environmental regulations, the duration and effectiveness of the chosen remedial strategy, and allocation of costs among other potentially responsible parties. Actual costs incurred in future periods could differ from amounts estimated.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's identification and measurement of the environmental loss contingencies. For example, we tested controls over management's review of the environmental loss contingency calculations and management's assessment to evaluate key judgments and estimates affecting the environmental loss contingencies.

To test the Company's identification and measurement of the environmental loss contingencies, among other procedures, we inspected correspondence with regulatory agencies, obtained external legal counsel confirmation letters, and inspected environmental studies. Additionally, we assessed the appropriateness of the Company's models and tested the significant assumptions discussed above along with the underlying data used by the Company in its analyses. We utilized our environmental professionals to search for new or contrary evidence related to the Company's sites and to assist in evaluating the reasonableness of estimated future costs by comparing the estimated future costs to environmental permits, third party observable data such as vendor quotes, and to historical costs incurred for similar activities.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2002.

Phoenix, Arizona
February 15, 2022

Freeport-McMoRan Inc.
CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended December 31,		
	2021	2020	2019
	(In millions, except per share amounts)		
Revenues	$ 22,845	$ 14,198	$ 14,402
Cost of sales:			
Production and delivery	12,016	10,031	11,534
Depreciation, depletion and amortization	1,998	1,528	1,412
Metals inventory adjustments	16	96	179
Total cost of sales	14,030	11,655	13,125
Selling, general and administrative expenses	383	370	394
Mining exploration and research expenses	55	50	104
Environmental obligations and shutdown costs	91	159	105
Net gain on sales of assets	(80)	(473)	(417)
Total costs and expenses	14,479	11,761	13,311
Operating income	8,366	2,437	1,091
Interest expense, net	(602)	(598)	(620)
Net loss on early extinguishment of debt	—	(101)	(27)
Other (expense) income, net	(105)	59	(138)
Income from continuing operations before income taxes and equity in affiliated companies' net earnings	7,659	1,797	306
Provision for income taxes	(2,299)	(944)	(510)
Equity in affiliated companies' net earnings	5	12	12
Net income (loss) from continuing operations	5,365	865	(192)
Net gain from discontinued operations	—	—	3
Net income (loss)	5,365	865	(189)
Net income attributable to noncontrolling interests	(1,059)	(266)	(50)
Net income (loss) attributable to common stockholders	$ 4,306	$ 599	$ (239)
Basic net income (loss) per share attributable to common stockholders:			
Continuing operations	$ 2.93	$ 0.41	$ (0.17)
Discontinued operations	—	—	—
	$ 2.93	$ 0.41	$ (0.17)
Diluted net income (loss) per share attributable to common stockholders:			
Continuing operations	$ 2.90	$ 0.41	$ (0.17)
Discontinued operations	—	—	—
	$ 2.90	$ 0.41	$ (0.17)
Weighted-average common shares outstanding:			
Basic	1,466	1,453	1,451
Diluted	1,482	1,461	1,451
Dividends declared per share of common stock	$ 0.375	$ —	$ 0.20

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

Freeport-McMoRan Inc.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

	Years Ended December 31,		
	2021	2020	2019
	(In millions)		
Net income (loss)	$ 5,365	$ 865	$ (189)
Other comprehensive income (loss), net of taxes:			
Defined benefit plans:			
Actuarial gains (losses) arising during the period, net of taxes	179	46	(116)
Amortization or curtailment of unrecognized amounts included in net periodic benefit costs	18	45	47
Foreign exchange (losses) gains	(1)	(1)	1
Other comprehensive income (loss)	196	90	(68)
Total comprehensive income (loss)	5,561	955	(257)
Total comprehensive income attributable to noncontrolling interests	(1,060)	(263)	(53)
Total comprehensive income (loss) attributable to common stockholders	$ 4,501	$ 692	$ (310)

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

Freeport-McMoRan Inc.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended December 31,		
	2021	2020	2019
	(In millions)		
Cash flow from operating activities:			
Net income (loss)	$ 5,365	$ 865	$ (189)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation, depletion and amortization	1,998	1,528	1,412
Metals inventory adjustments	16	96	179
Net gain on sales of assets	(80)	(473)	(417)
Stock-based compensation	98	99	63
Net charges for environmental and asset retirement obligations, including accretion	540	181	221
Payments for environmental and asset retirement obligations	(273)	(216)	(244)
Charge for talc-related litigation	—	130	—
Net charges for defined pension and postretirement plans	4	65	108
Pension plan contributions	(109)	(121)	(75)
Net loss on early extinguishment of debt	—	101	27
Deferred income taxes	(171)	181	29
Charges for Cerro Verde royalty dispute	11	32	65
Payments for Cerro Verde royalty dispute	(421)	(139)	(187)
Other, net	(18)	23	141
Changes in working capital and other:			
Accounts receivable	(472)	132	119
Inventories	(618)	42	259
Other current assets	(101)	(27)	60
Accounts payable and accrued liabilities	495	115	(60)
Accrued income taxes and timing of other tax payments	1,451	403	(29)
Net cash provided by operating activities	7,715	3,017	1,482
Cash flow from investing activities:			
Capital expenditures:			
North America copper mines	(342)	(428)	(877)
South America	(162)	(183)	(256)
Indonesia mining	(1,296)	(1,161)	(1,369)
Indonesia smelter development	(222)	(105)	—
Molybdenum mines	(6)	(19)	(19)
Other	(87)	(65)	(131)
Proceeds from sales of assets	247	704	561
Loans to PT Smelting for expansion	(36)	—	—
Acquisition of minority interest in PT Smelting	(33)	—	—
Other, net	(27)	(7)	(12)
Net cash used in investing activities	(1,964)	(1,264)	(2,103)
Cash flow from financing activities:			
Proceeds from debt	1,201	3,531	1,879
Repayments of debt	(1,461)	(3,724)	(3,197)
Cash dividends and distributions paid:			
Common stock	(331)	(73)	(291)
Noncontrolling interests	(583)	—	(82)
Treasury stock purchases	(488)	—	—
Contributions from noncontrolling interests	182	156	165
Proceeds from exercised stock options	210	51	2
Payments for withholding of employee taxes related to stock-based awards	(29)	(17)	(8)
Debt financing costs and other, net	(41)	(52)	(24)
Net cash used in financing activities	(1,340)	(128)	(1,556)
Net increase (decrease) in cash, cash equivalents, restricted cash and restricted cash equivalents	4,411	1,625	(2,177)
Cash, cash equivalents, restricted cash and restricted cash equivalents at beginning of year	3,903	2,278	4,455
Cash, cash equivalents, restricted cash and restricted cash equivalents at end of year	$ 8,314	$ 3,903	$ 2,278

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

Freeport-McMoRan Inc.
CONSOLIDATED BALANCE SHEETS

	December 31, 2021	December 31, 2020
	(In millions, except par value)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 8,068	$ 3,657
Trade accounts receivable	1,168	892
Income and other tax receivables	574	520
Inventories:		
Materials and supplies, net	1,669	1,594
Mill and leach stockpiles	1,170	1,014
Product	1,658	1,285
Other current assets	523	341
Total current assets	14,830	9,303
Property, plant, equipment and mine development costs, net	30,345	29,818
Long-term mill and leach stockpiles	1,387	1,463
Other assets	1,460	1,560
Total assets	$ 48,022	$ 42,144
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable and accrued liabilities	$ 3,495	$ 2,708
Accrued income taxes	1,541	324
Current portion of debt	372	34
Current portion of environmental and asset retirement obligations	264	351
Dividends payable	220	—
Total current liabilities	5,892	3,417
Long-term debt, less current portion	9,078	9,677
Deferred income taxes	4,234	4,408
Environmental and asset retirement obligations, less current portion	4,116	3,705
Other liabilities	1,683	2,269
Total liabilities	25,003	23,476
Equity:		
Stockholders' equity:		
Common stock, par value $0.10, 1,603 shares and 1,590 shares issued, respectively	160	159
Capital in excess of par value	25,875	26,037
Accumulated deficit	(7,375)	(11,681)
Accumulated other comprehensive loss	(388)	(583)
Common stock held in treasury - 146 shares and 132 shares, respectively, at cost	(4,292)	(3,758)
Total stockholders' equity	13,980	10,174
Noncontrolling interests	9,039	8,494
Total equity	23,019	18,668
Total liabilities and equity	$ 48,022	$ 42,144

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				Accumu-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	Capital in Excess of Par Value	Accumulated Deficit		Number of Shares	At Cost			
	(In millions)									
Balance at January 1, 2019	1,579	$ 158	$ 26,013	$ (12,041)	$ (605)	130	$(3,727)	$ 9,798	$ 8,094	$17,892
Exercised and issued stock-based awards	3	—	1	—	—	—	—	1	—	1
Stock-based compensation, including the tender of shares	—	—	50	—	—	1	(7)	43	1	44
Dividends	—	—	(291)	—	—	—	—	(291)	(73)	(364)
Changes in noncontrolling interests	—	—	(1)	—	—	—	—	(1)	(11)	(12)
Contributions from noncontrolling interests	—	—	80	—	—	—	—	80	86	166
Adjustment for deferred taxes	—	—	(22)	—	—	—	—	(22)	—	(22)
Net loss attributable to common stockholders	—	—	—	(239)	—	—	—	(239)	—	(239)
Net income attributable to noncontrolling interests	—	—	—	—	—	—	—	—	50	50
Other comprehensive (loss) income	—	—	—	—	(71)	—	—	(71)	3	(68)
Balance at December 31, 2019	1,582	158	25,830	(12,280)	(676)	131	(3,734)	9,298	8,150	17,448
Exercised and issued stock-based awards	8	1	57	—	—	—	—	58	—	58
Stock-based compensation, including the tender of shares	—	—	74	—	—	1	(24)	50	—	50
Changes in noncontrolling interests	—	—	—	—	—	—	—	—	1	1
Contributions from noncontrolling interests	—	—	76	—	—	—	—	76	80	156
Net income attributable to common stockholders	—	—	—	599	—	—	—	599	—	599
Net income attributable to noncontrolling interests	—	—	—	—	—	—	—	—	266	266
Other comprehensive income (loss)	—	—	—	—	93	—	—	93	(3)	90
Balance at December 31, 2020	1,590	159	26,037	(11,681)	(583)	132	(3,758)	10,174	8,494	18,668
Exercised and issued stock-based awards	13	1	225	—	—	—	—	226	—	226
Stock-based compensation, including the tender of shares	—	—	75	—	—	1	(46)	29	(5)	24
Treasury stock purchases	—	—	—	—	—	13	(488)	(488)	—	(488)
Dividends	—	—	(551)	—	—	—	—	(551)	(603)	(1,154)
Contributions from noncontrolling interests	—	—	89	—	—	—	—	89	93	182
Net income attributable to common stockholders	—	—	—	4,306	—	—	—	4,306	—	4,306
Net income attributable to noncontrolling interests	—	—	—	—	—	—	—	—	1,059	1,059
Other comprehensive income	—	—	—	—	195	—	—	195	1	196
Balance at December 31, 2021	1,603	$ 160	$ 25,875	$ (7,375)	$ (388)	146	$(4,292)	$ 13,980	$ 9,039	$23,019

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/or has control over the subsidiary. As of December 31, 2021, the most significant entities that FCX consolidates include its 48.76 percent-owned subsidiary PT Freeport Indonesia (PT-FI), and the following wholly owned subsidiaries: Freeport Minerals Corporation (FMC) and Atlantic Copper, S.L.U. (Atlantic Copper). Refer to Note 3 for further discussion, including FCX's conclusion to consolidate PT-FI.

FMC's unincorporated joint venture at Morenci is 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 unconsolidated companies owned less than 20 percent, and for which FCX does not exercise significant influence, are recorded at (i) fair value for those that have a readily determinable fair value or (ii) cost, less any impairment, for those that do not have a readily determinable fair value. 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 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. FCX's reportable segments include the Morenci, Cerro Verde and Grasberg (Indonesia mining) copper mines, the Rod & Refining operations and Atlantic Copper Smelting & Refining. 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 United States (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 minerals reserve estimation; 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 acquisitions and 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 (expense) income, net, as are gains and losses from foreign currency transactions. Foreign currency gains totaled $66 million in 2021, $34 million in 2020 and $24 million in 2019.

Cash Equivalents. Highly liquid investments purchased with maturities of three months or less are considered cash equivalents.

Restricted Cash and Restricted Cash Equivalents. FCX's restricted cash and restricted cash equivalents are primarily related to PT-FI's commitment for the development of a greenfield smelter in Indonesia; and guarantees and commitments for certain mine closure and reclamation obligations. Restricted cash and restricted cash equivalents are classified as a current or long-term asset based on the timing and nature of when or how the cash is expected to be used or when the restrictions are expected to lapse. Restricted cash and restricted cash equivalents are comprised of bank deposits and money market funds.

Inventories. Inventories include materials and supplies, mill and leach stockpiles, and product inventories. 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 contain ore that has been extracted from an ore body and is available for metal 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 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 recoveries 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 recoveries 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.

Process rates and copper recoveries for mill and leach stockpiles are monitored regularly, and recovery estimates are adjusted periodically as additional information becomes available and as related technology changes. Recovery adjustments 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. Product inventories include raw materials, work-in-process and finished goods. Corporate general and administrative costs are not included in inventory costs.

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, 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, such as mining, milling, smelting, leaching, SX/EW, refining, roasting and chemical processing.

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 mineral 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 mineral reserves, including shafts, adits, drifts, ramps, permanent excavations, infrastructure and removal of overburden. For underground mines certain costs related to panel development, such as undercutting and drawpoint development, are also capitalized as mine development costs until production reaches sustained design capacity for the mine. After reaching design capacity, the mine transitions to the production phase and panel development costs are allocated to inventory and then included as a component of cost of goods sold. 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 or production of finished goods (as applicable), 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 for the related assets of up to 50 years for buildings and 3 to 50 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) measured and indicated mineral resources, 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 in the measurement of fair value. 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).

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 an open-pit 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 mineral 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 third-party legal 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. AROs 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 useful life.

For mining operations, reclamation costs for disturbances are recognized as an ARO and as a related ARC 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 non-operating properties without reserves, changes to the ARO are recorded in earnings.

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.

Revenue Recognition. FCX recognizes revenue for its products upon transfer of control in an amount that reflects the consideration it expects to receive in exchange for those products. Transfer of control is in accordance with the terms of customer contracts, which is generally upon shipment or delivery of the product. While payment terms vary by contract, terms generally include payment to be made within 30 days, but not longer than 60 days. Certain of FCX's concentrate and cathode sales contracts also provide for provisional pricing, which is accounted for as an embedded derivative (refer to Note 14 for further discussion). For provisionally priced sales, 90 percent to 100 percent of the provisional invoice amount is collected upon shipment or within 20 days, and final balances are settled in a contractually specified future month (generally one to four months from the shipment date) based on quoted monthly average copper settlement prices on the London Metal Exchange (LME) or the Commodity Exchange Inc. (COMEX), and quoted monthly average London Bullion Market Association (London) PM gold prices.

FCX's product revenues are also recorded net of treatment charges, royalties and export duties. 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. Refer to Note 16 for a summary of revenue by product type.

Gold sales are priced according to individual contract terms, generally the average London PM gold 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.

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 FCX's stock price and a Monte-Carlo simulation model. The fair value for liability-classified awards (*i.e.*, cash-settled RSUs) is remeasured each reporting period using FCX's stock price. FCX has elected to recognize compensation costs for stock option awards that vest over several years on a straight-line basis over the vesting period, and for RSUs on the graded-vesting method over the vesting period. Refer to Note 10 for further discussion.

Earnings Per Share. FCX calculates its basic net income (loss) per share of common stock under the two-class method and calculates its diluted net income (loss) per share of common stock using the more dilutive of the two-class method or the treasury-stock method. Basic net income (loss) per share of common stock was computed by dividing net income (loss) attributable to common stockholders (after deducting accumulated dividends and undistributed earnings to participating securities) by the weighted-average shares of common stock outstanding during the year. Diluted net income (loss) per share of common stock was calculated by including the basic weighted-average shares of common stock outstanding adjusted for the effects of all potential dilutive shares of common stock, unless their effect would be anti-dilutive.

Reconciliations of net income (loss) and weighted-average shares of common stock outstanding for purposes of calculating basic and diluted net income (loss) per share for the years ended December 31 follow:

	2021	2020	2019
Net income (loss) from continuing operations	$ 5,365	$ 865	$ (192)
Net income from continuing operations attributable to noncontrolling interests	(1,059)	(266)	(50)
Accumulated dividends and undistributed earnings allocated to participating securities	(7)	(3)	(3)
Net income (loss) from continuing operations attributable to common stockholders	4,299	596	(245)
Net income from discontinued operations	—	—	3
Net income (loss) attributable to common stockholders	$ 4,299	$ 596	$ (242)
Basic weighted-average shares of common stock outstanding (millions)	1,466	1,453	1,451
Add shares issuable upon exercise or vesting of dilutive stock options and RSUs (millions)	16	8	— [a]
Diluted weighted-average shares of common stock outstanding (millions)	1,482	1,461	1,451
Basic net income (loss) per share attributable to common stockholders:			
Continuing operations	$ 2.93	$ 0.41	$ (0.17)
Discontinued operations	—	—	—
	$ 2.93	$ 0.41	$ (0.17)
Diluted net income (loss) per share attributable to common stockholders:			
Continuing operations	$ 2.90	$ 0.41	$ (0.17)
Discontinued operations	—	—	—
	$ 2.90	$ 0.41	$ (0.17)

a. Excludes approximately 11 million shares of common stock in 2019 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 income (loss) per share of common stock. Stock options for 5 million shares of common stock in 2021, 31 million shares in 2020 and 42 million shares in 2019 were excluded.

Global Intangible Low-Taxed Income (GILTI). FCX has elected to treat taxes due on future U.S. inclusions in taxable income related to GILTI as a current period expense when incurred.

Reclassifications. For comparative purposes, certain prior year amounts have been reclassified to other, net on FCX's consolidated statements of cash flows to conform with the current year presentation. Additionally, FCX has revised prior year amounts related to activities associated with its reserve for unrecognized tax benefits in conjunction with uncertain tax positions. See Note 11 for further detail.

Subsequent Events. FCX evaluated events after December 31, 2021, 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 2. ACQUISITIONS AND DISPOSITIONS

Cobalt Business. In September 2021, FCX's 56-percent-owned subsidiary, Koboltti Chemicals Holdings Limited (KCHL), completed the sale of its remaining cobalt business based in Kokkola, Finland (Freeport Cobalt) to Jervois Global Limited (Jervois) for $208 million (before post-closing adjustments), consisting of cash consideration of $173 million and 7 percent of Jervois common stock (valued at $35 million at the time of closing). At closing, Freeport Cobalt's assets included cash of approximately $20 million and other net assets of $125 million. FCX recorded a gain of $60 million ($34 million to net income attributable to common stock) in 2021 associated with this transaction. In addition, KCHL will have the right to receive contingent consideration of up to $40 million based on the future performance of Freeport Cobalt. Any gain related to the contingent consideration will be recognized when received.

In fourth-quarter 2019, FCX completed the sale of its cobalt refinery in Kokkola, Finland, and related cobalt cathode precursor business (consisting of approximately $271 million of assets and $63 million of liabilities at the time of closing) to Umicore for total cash consideration of approximately $200 million, including approximately $50 million of working capital. FCX recorded a gain of $59 million in 2019 ($33 million to net loss attributable to common stock) associated with this transaction.

Following these transactions, FCX no longer has cobalt operations.

PT Smelting. On April 30, 2021, PT-FI acquired 14.5 percent of the outstanding common stock of PT Smelting, a smelter and refinery in Gresik, Indonesia, for $33 million, increasing its ownership interest from 25.0 percent to 39.5 percent. The remaining outstanding shares of PT Smelting continue to be owned by Mitsubishi Materials Corporation. PT-FI has continued to account for its investment in PT Smelting using the equity method since it does not have control over PT Smelting.

On November 30, 2021, PT-FI entered into a convertible loan agreement to fund the expansion of PT Smelting's current capacity by 30 percent to 1.3 million metric tons of concentrate per year. Upon completion of the expansion project, targeted for year-end 2023, PT-FI's loan will convert into PT Smelting equity resulting in a majority ownership interest and consolidation of PT Smelting in FCX's consolidated financial statements.

Kisanfu Transaction. In December 2020, FCX completed the sale of its interests in the Kisanfu undeveloped project to a wholly owned subsidiary of China Molybdenum Co., Ltd. (CMOC) for $550 million, with after-tax net cash proceeds totaling $415 million. The Kisanfu project, located in the Democratic Republic of Congo, is an undeveloped cobalt and copper resource. FCX did not have any proven and probable mineral reserves associated with the Kisanfu project. FCX recorded a gain of $486 million in 2020 associated with this transaction.

Timok Transaction. In 2016, FCX sold an interest in the upper zone of the Timok exploration project in Serbia (the 2016 Transaction).

In December 2019, FCX completed the sale of its interest in the lower zone of the Timok exploration project to an affiliate of the purchaser in the 2016 Transaction, for cash consideration of $240 million at closing plus the right to future contingent payments of up to $150 million. These future contingent payments will be based on the future sale of products (as defined in the agreement) from the Timok lower zone. For a period of 12 months after the third anniversary of the initial sale of products from the Timok lower zone, the purchaser can settle, or FCX can demand payment of, such deferred payment obligation, in each case, for a total of $60 million. As these deferred payments are contingent upon future production (the Timok lower zone project is still pre-operational) and would result in gain recognition, no amounts were recorded upon the closing of the transaction. Subsequent recognition will be based on the gain contingency model, in which the consideration would be recorded in the period in which all contingencies are resolved and the gain is realized. This is expected to be when FCX (i) is provided periodic product sales information by the purchaser or (ii) gives notice to the purchaser or receives notice from the purchaser regarding the settlement of the deferred payments for $60 million.

In addition, in lieu of payment upon achievement of defined development milestones provided for in the 2016 Transaction, the purchaser agreed to pay $107 million in three installment payments of $45 million (collected in 2020), $50 million (collected in 2021), and $12 million by March 31, 2022. As a result of this transaction, FCX recorded a gain of $343 million in 2019, consisting of the cash consideration ($240 million) and the aggregate discounted amount of the three installment payments ($103 million).

TF Holdings Limited - Discontinued Operations. In 2016, FCX completed the sale of its 70 percent interest in TF Holdings Limited (TFHL) to 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 exceeded $3.50 per pound and $60 million if the average cobalt price exceeded $20 per pound, both during the 24-month period ending December 31, 2019.

The contingent consideration was considered a derivative, and the fair value was adjusted through December 31, 2019. FCX realized and collected in January 2020 contingent consideration of $60 million because the average cobalt price exceeded $20 per pound during the 24-month period ending December 31, 2019 (no amount was realized associated with the copper price). Gains resulting from changes in the fair value of the contingent consideration derivative totaling $3 million in 2019 were included in net income from discontinued operations and primarily resulted from fluctuations in cobalt prices. In accordance with accounting guidance, FCX reported the results from TFHL as discontinued operations in the consolidated statements of operations because the disposal represented a strategic shift that had a major effect on operations.

NOTE 3. OWNERSHIP IN SUBSIDIARIES AND JOINT VENTURE

Ownership in Subsidiaries. FMC produces copper and molybdenum from mines in North America and South America. At December 31, 2021, FMC's operating mines in North America were Morenci, Bagdad, Safford (including Lone Star), Sierrita and Miami located in Arizona; Tyrone and Chino located in New Mexico; and Henderson and Climax located in Colorado. FMC has a 72 percent interest in Morenci (refer to "Joint Venture - Sumitomo and SMM Morenci, Inc.") and owns 100 percent of the other North America mines. At December 31, 2021, 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, 2021, FMC's net assets totaled $18.4 billion and its accumulated deficit totaled $12.6 billion. FCX had $111 million in loans outstanding to FMC outstanding at December 31, 2021.

FCX owns 48.76 percent of PT-FI (refer to "PT-FI Divestment"). At December 31, 2021, PT-FI's net assets totaled $12.7 billion and its retained earnings totaled $8.4 billion. FCX had no loans to PT-FI outstanding at December 31, 2021.

FCX owns 100 percent of the outstanding Atlantic Copper (FCX's wholly owned smelting and refining unit in Spain) common stock. At December 31, 2021, Atlantic Copper's net assets totaled $167 million and its accumulated deficit totaled $379 million. FCX had $274 million in loans to Atlantic Copper outstanding at December 31, 2021.

PT-FI Divestment. On December 21, 2018, FCX completed the transaction with the Indonesia government regarding PT-FI's long-term mining rights and share ownership (the 2018 transaction). Pursuant to the divestment agreement and related documents, PT Indonesia Asahan Aluminium (Persero) (PT Inalum, also known as MIND ID), an Indonesia state-owned enterprise, acquired all of Rio Tinto plc's (Rio Tinto) interests associated with its joint venture with PT-FI (the former Rio Tinto Joint Venture) and 100 percent of FCX's interests in PT Indonesia Papua Metal Dan Mineral (PTI - formerly known as PT Indocopper Investama).

In connection with the 2018 transaction, PT-FI acquired all of the common stock of PT Rio Tinto Indonesia that held the former Rio Tinto Joint Venture interest. After the transaction, PT Inalum's (26.24 percent) and PTI's (25.00 percent) collective share ownership of PT-FI totals 51.24 percent and FCX's share ownership totals 48.76 percent. The arrangements provide for FCX and the other pre-transaction PT-FI shareholders (*i.e.*, PT Inalum and PTI) to retain the economics of the revenue and cost sharing arrangements under the former Rio Tinto Joint Venture. As a result, FCX's economic interest in PT-FI is expected to approximate 81 percent through 2022 and 48.67 percent thereafter (see further discussion below).

FCX, PT-FI, PTI and PT Inalum entered into a shareholders agreement (the PT-FI Shareholders Agreement), which includes provisions related to the governance and management of PT-FI. FCX considered the terms of the PT-FI Shareholders Agreement and related governance structure, including whether PT Inalum has substantive participating rights, and concluded that it has retained control and would continue to consolidate PT-FI in its financial statements following the 2018 transaction. Among other terms, the governance arrangements under the PT-FI Shareholders Agreement transfers control over the management of PT-FI's mining operations to an operating committee, which is controlled by FCX. Additionally, as discussed above, the existing PT-FI shareholders will retain the economics of the revenue and cost sharing arrangements under the former Rio Tinto Joint Venture, so that FCX's economic interest in the project through 2041 will not be significantly affected by the transaction. FCX believes its conclusion to continue to consolidate PT-FI in its financial statements is in accordance with the U.S. Securities and Exchange Commission (SEC) Regulation S-X, Rule 3A-02 (a), which provides for situations in which

consolidation of an entity, notwithstanding the lack of majority ownership, is necessary to present fairly the financial position and results of operations of the registrant, because of the existence of a parent-subsidiary relationship by means other than record ownership of voting stock.

Attribution of PT-FI Net Income or Loss. FCX has concluded that the attribution of PT-FI's net income or loss from December 21, 2018 (the date of the divestment transaction), through December 31, 2022 (the Initial Period), should be based on the economics replacement agreement, as previously discussed. The economics replacement agreement entitles FCX to approximately 81 percent of PT-FI dividends paid during the Initial Period, with the remaining 19 percent paid to the noncontrolling interests. PT-FI paid dividends totaling $1.3 billion during 2021, of which $1.0 billion was paid to FCX. No other dividends have been paid by PT-FI during the Initial Period. PT-FI's net income for 2021 totaled $2.4 billion, of which $2.0 billion was attributed to FCX, and $765 million for 2020, of which $621 million was attributed to FCX. PT-FI's net loss for 2019 totaled $203 million, of which $165 million was attributed to FCX. PT-FI's cumulative net income from December 21, 2018, through December 31, 2021, totaled $2.9 billion, of which $2.3 billion was attributed to FCX.

The above-described attribution of PT-FI's net income or loss applies only through the Initial Period. Beginning January 1, 2023, the attribution of PT-FI's net income or loss will be based on equity ownership percentages (48.76 percent for FCX, 26.24 percent for PT Inalum and 25.00 percent for PTI).

For all of its other partially owned consolidated subsidiaries, FCX attributes net income or loss based on equity ownership percentages.

Joint Venture. *Sumitomo and SMM Morenci, Inc.* FMC 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 82 million pounds of Morenci's copper cathode from Sumitomo and SMM Morenci, Inc. at market prices for $349 million during 2021. FMC had receivables from Sumitomo and SMM Morenci, Inc. totaling $20 million at December 31, 2021, and $15 million at December 31, 2020.

NOTE 4. INVENTORIES, INCLUDING LONG-TERM MILL AND LEACH STOCKPILES

The components of inventories follow:

	December 31, 2021	December 31, 2020
Current inventories:		
Total materials and supplies, net[a]	$ 1,669	$ 1,594
Mill stockpiles	$ 193	$ 205
Leach stockpiles	977	809
Total current mill and leach stockpiles	$ 1,170	$ 1,014
Raw materials (primarily concentrate)	$ 536	$ 366
Work-in-process	195	174
Finished goods	927	745
Total product	$ 1,658	$ 1,285
Long-term inventories:		
Mill stockpiles	$ 226	$ 223
Leach stockpiles	1,161	1,240
Total long-term mill and leach stockpiles[b]	$ 1,387	$ 1,463

a. Materials and supplies inventory was net of obsolescence reserves totaling $36 million at December 31, 2021, and $32 million at December 31, 2020.

b. Estimated metals in stockpiles not expected to be recovered within the next 12 months.

FCX recorded NRV inventory adjustments to decrease metals inventory carrying values totaling $16 million in 2021, primarily associated with stockpiles no longer expected to be leached; $96 million in 2020, associated with lower market prices for copper ($58 million) and molybdenum ($38 million); and $179 million in 2019, associated with lower market prices for molybdenum ($84 million), cobalt ($58 million) and copper ($37 million). Refer to Note 16 for metals inventory adjustments by business segment.

FCX's Morenci mine has experienced improved recoveries at certain of its leach stockpiles and following an analysis of column testing results, Morenci concluded it had sufficient evidence to increase its estimated recoveries for certain of its leach stockpiles effective July 1, 2021. As a result of the revised recoveries, Morenci increased its estimated recoverable copper in leach stockpiles, net to its joint venture interest, by 191 million pounds. The effect of this change in estimate reduced site production and delivery costs and increased net income by $112 million ($0.08 per share) in 2021.

NOTE 5. PROPERTY, PLANT, EQUIPMENT AND MINE DEVELOPMENT COSTS, NET

The components of net property, plant, equipment and mine development costs follow:

	December 31,	
	2021	2020
Proven and probable mineral reserves	$ 7,142	$ 7,142
VBPP	376	376
Mine development and other	11,309	10,686
Buildings and infrastructure	9,412	9,214
Machinery and equipment	14,399	14,235
Mobile equipment	4,605	4,495
Construction in progress	2,477	1,454
Oil and gas properties	27,298	27,281
Total	77,018	74,883
Accumulated depreciation, depletion and amortization[a]	(46,673)	(45,065)
Property, plant, equipment and mine development costs, net	$ 30,345	$ 29,818

a. Includes accumulated amortization for oil and gas properties of $27.3 billion at December 31, 2021 and 2020.

FCX recorded $1.6 billion for VBPP in connection with the FMC acquisition in 2007 (excluding $634 million associated with mining operations that were subsequently sold) and transferred $811 million to proven and probable mineral reserves through 2021 (none in 2021 and less than $0.1 million in 2020). Cumulative impairments of and adjustments to VBPP total $497 million, which were primarily recorded in 2008.

Capitalized interest, which primarily related to FCX’s mining operations’ capital projects, totaled $72 million in 2021, $147 million in 2020 and $149 million in 2019.

During the three-year period ended December 31, 2021, no material impairments of FCX’s long-lived mining assets were recorded.

NOTE 6. OTHER ASSETS

The components of other assets follow:

	December 31, 2021	December 31, 2020
Intangible assets[a]	$ 412	$ 401
Legally restricted funds[b]	209	213
Disputed tax assessments:[c]		
Cerro Verde	237	190
PT-FI	57	143
Long-term receivable for taxes[d]	84	106
Investments:		
Assurance bond[e]	132	148
Fixed income, equity securities and other	74	70
PT Smelting[f]	26	77
Contingent consideration associated with sales of assets[g]	70	96
Loans to PT Smelting[h]	36	—
Long-term employee receivables	20	19
Other	103	97
Total other assets	$ 1,460	$ 1,560

a. Indefinite-lived intangible assets totaled $215 million at December 31, 2021 and 2020. Accumulated amortization of definite-lived intangible assets totaled $35 million at December 31, 2021, and $32 million at December 31, 2020.

b. Includes $208 million at December 31, 2021, and $212 million at December 31, 2020, held in trusts for AROs related to properties in New Mexico (refer to Note 12 for further discussion).

c. Refer to Note 12 for further discussion.

d. Includes tax overpayments and refunds not expected to be realized within the next 12 months.

e. Relates to PT-FI's commitment for the development of a greenfield smelter in Indonesia (refer to Note 13 for further discussion).

f. PT-FI's ownership in PT Smelting is recorded using the equity method. Amounts were reduced by unrecognized profits on sales from PT-FI to PT Smelting totaling $126 million at December 31, 2021, and $39 million at December 31, 2020. Trade accounts receivable from PT Smelting totaled $411 million at December 31, 2021, and $265 million at December 31, 2020.

g. Refer to Note 15 for further discussion.

h. Refer to Note 2 for further discussion.

NOTE 7. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

The components of accounts payable and accrued liabilities follow:

	December 31, 2021	December 31, 2020
Accounts payable	$ 2,035	$ 1,473
Salaries, wages and other compensation	334	312
PT-FI contingencies[a]	259	196
Accrued interest[b]	203	243
Deferred revenue	191	65
Pension, postretirement, postemployment and other employee benefits[c]	190	91
Accrued taxes, other than income taxes	64	76
Leases[d]	38	38
Litigation accruals	28	86
Other	153	128
Total accounts payable and accrued liabilities	$ 3,495	$ 2,708

a. Refer to Note 12 for further discussion.

b. Third-party interest paid, net of capitalized interest, was $640 million in 2021, $472 million in 2020 and $591 million in 2019.

c. Refer to Note 9 for long-term portion.

d. Refer to Note 13 for further discussion.

NOTE 8. DEBT

FCX's debt at December 31, 2021, included additions of $9 million ($10 million at December 31, 2020) for unamortized fair value adjustments, and is net of reductions of $86 million ($85 million at December 31, 2020) for unamortized net discounts and unamortized debt issuance costs. The components of debt follow:

	December 31,	
	2021	2020
Revolving credit facility	$ —	$ —
Senior notes and debentures:		
Issued by FCX:		
3.55% Senior Notes due 2022	—	523
3.875% Senior Notes due 2023	995	994
4.55% Senior Notes due 2024	728	728
5.00% Senior Notes due 2027	594	593
4.125% Senior Notes due 2028	693	691
4.375% Senior Notes due 2028	643	642
5.25% Senior Notes due 2029	593	593
4.25% Senior Notes due 2030	593	592
4.625% Senior Notes due 2030	841	840
5.40% Senior Notes due 2034	742	742
5.450% Senior Notes due 2043	1,846	1,845
Issued by FMC:		
$7^1/_8$% Debentures due 2027	115	115
9½% Senior Notes due 2031	123	124
$6^1/_8$% Senior Notes due 2034	117	117
PT-FI Term Loan	432	—
Cerro Verde Term Loan	325	523
Other	70	49
Total debt	9,450	9,711
Less current portion of debt	(372)	(34)
Long-term debt	$ 9,078	$ 9,677

Revolving Credit Facility. At December 31, 2021, FCX had no borrowings outstanding and $8 million in letters of credit issued under its revolving credit facility, resulting in availability of approximately $3.5 billion, of which approximately $1.5 billion could be used for additional letters of credit. Availability under FCX's revolving credit facility consists of $3.28 billion maturing April 2024 and $220 million maturing April 2023. For PT-FI, $500 million of FCX's revolving credit facility is available.

FCX's revolving credit facility contains customary affirmative covenants and representations, and also contains 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 or its subsidiaries' abilities 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 expense coverage. At December 31, 2021, FCX was in compliance with its revolving credit facility covenants.

In December 2021, Freeport-McMoRan Oil & Gas LLC, a 100-percent-owned subsidiary of FCX Oil & Gas LLC (FM O&G) and indirect subsidiary of FCX, was released as co-borrower from FCX's revolving credit facility and released as guarantor from all of the indentures relating to FCX's outstanding senior notes.

Interest on loans made under the revolving credit facility is, at the option of FCX, determined based on the adjusted London Interbank Offered rate (LIBOR) or the alternate base rate (each as defined in the revolving credit facility) plus a spread to be determined by reference to FCX's credit ratings.

Certain of FCX's debt agreements, including its revolving credit facility, reference LIBOR which is being phased out and replaced with alternative reference rates. FCX does not expect the transition from LIBOR and other interbank offered rates to have a material impact on its consolidated financial results.

Senior Notes. In December 2021, FCX redeemed all of its outstanding $524 million aggregate principal amount of 3.55% Senior Notes due 2022, at a redemption price equal to 100 percent of the principal amount of the notes outstanding, plus accrued and unpaid interest.

In July 2020, FCX completed the sale of $650 million of 4.375% Senior Notes due 2028 and $850 million of 4.625% Senior Notes due 2030 for proceeds, net of underwriting fees, totaling $1.485 billion. Interest on these senior notes is payable semiannually on February 1 and August 1 of each year. FCX used $1.4 billion of the net proceeds from this offering to purchase a portion of its outstanding 3.55% Senior Notes due 2022, 3.875% Senior Notes due 2023 and 4.55% Senior Notes due 2024, and the payment of accrued and unpaid interest, premiums, fees and expenses in connection with these transactions. The remaining net proceeds from this offering were used for general corporate purposes.

In March 2020, FCX completed the sale of $700 million of 4.125% Senior Notes due 2028 and $600 million of 4.25% Senior Notes due 2030 for proceeds, net of underwriting fees, totaling $1.285 billion. Interest on these senior notes is payable semiannually on March 1 and September 1 of each year. FCX used a portion of the net proceeds from this offering to purchase a portion of its 4.00% Senior Notes due 2021 and its 3.55% Senior Notes due 2022 and the payment of accrued and unpaid interest, premiums, fees and expenses in connection with these transactions. In April 2020, FCX used the remaining net proceeds to fund the make-whole redemption of all of its remaining 4.00% Senior Notes due 2021 and the payment of accrued and unpaid interest, premiums, fees and expenses in connection with the transaction.

Listed below are the FCX senior notes, redeemed in full or purchased during the three-year period ended December 31, 2021.

	Principal Amount	Net Adjustments	Book Value	Redemption/ Tender Value	Loss
Year Ended December 31, 2021					
FCX 3.55% Senior Notes due 2022	$ 524	$ —	$ 524	$ 524	$ —
Year Ended December 31, 2020					
FCX 4.00% Senior Notes due 2021	$ 195	$ (1)	$ 194	$ 205	$ 11
FCX 3.55% Senior Notes due 2022	1,356	(6)	1,350	1,391	41
FCX 3.875% Senior Notes due 2023	927	(4)	923	964	41
FCX 4.55% Senior Notes due 2024	120	(1)	119	126	7
Total	$ 2,598	$ (12)	$ 2,586	$ 2,686	$ 100
Year Ended December 31, 2019					
FCX 3.100% Senior Notes due 2020	$ 1,000	$ (2)	$ 998	$ 1,003	$ 5
FCX 6.875% Senior Notes due 2023	728	34	762	768	6
FCX 4.00% Senior Notes due 2021	405	(2)	403	418	15
FCX 3.55% Senior Notes due 2022	12	—	12	12	—
Total	$ 2,145	$ 30	$ 2,175	$ 2,201	$ 26

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, at specified redemption prices beginning on the dates stated below, and at 100 percent of principal two years before maturity.

Debt Instrument	Date
5.00% Senior Notes due 2027	September 1, 2022
4.125% Senior Notes due 2028	March 1, 2023
4.375% Senior Notes due 2028	August 1, 2023
5.25% Senior Notes due 2029	September 1, 2024
4.25% Senior Notes due 2030	March 1, 2025
4.625% Senior Notes due 2030	August 1, 2025

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
3.875% 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

FCX's senior notes contain limitations on liens and rank equally with FCX's other existing and future unsecured and unsubordinated indebtedness.

PT-FI Credit Facility. In July 2021, PT-FI entered into a $1.0 billion, five-year, unsecured credit facility (consisting of a $667 million term loan and a $333 million revolving credit facility) to fund project costs in connection with the PT Smelting expansion and construction of a precious metals refinery (PMR), and for PT-FI's general corporate purposes. The term loan allows for borrowings up to $667 million within the first three years, and then amortizes in four installments, with 15 percent of the outstanding balance due in January 2025, 15 percent due in July 2025, 35 percent due in January 2026 and the remaining 35 percent due in July 2026. The $333 million revolving credit facility is available for drawings until June 2026. Amounts drawn under the credit facility bear interest at LIBOR plus a margin of 1.875% or 2.125%, as defined by the agreement.

PT-FI's credit facility contains customary affirmative covenants and representations and also contains standard covenants that, among other things, restrict, subject to certain exceptions, the ability of PT-FI to incur additional indebtedness; create liens on assets; enter into sale and leaseback transactions; sell assets; and modify or amend the shareholders agreement or related governance structure. The credit facility also contains financial ratios governing maximum total leverage and minimum interest expense coverage and certain environmental and social compliance requirements. At December 31, 2021, PT-FI was in compliance with its credit facility covenants.

As of December 31, 2021, $443 million ($432 million net of debt issuance costs) was drawn under the PT-FI Term Loan and no amounts were drawn under the revolving credit facility.

Cerro Verde Term Loan. Repayments of the Cerro Verde Term Loan totaled $200 million in 2021, $305 million in 2020 and $200 million in 2019, with the remaining balance of $325 million due on the maturity date of June 19, 2022. Interest under the Term Loan is based on LIBOR plus a spread based on Cerro Verde's total net debt to EBITDA ratio as defined in the agreement. The interest rate on Cerro Verde's Term Loan was 2.00 percent at December 31, 2021.

Cerro Verde Shareholder Loans. In December 2014, Cerro Verde entered into loan agreements with three of its shareholders for borrowings up to $800 million due June 2024. No amounts were outstanding at December 31, 2021 and 2020, and availability under these agreements totals $200 million at December 31, 2021.

Maturities. Maturities of debt instruments based on the principal amounts and terms outstanding at December 31, 2021, total $372 million in 2022, $997 million in 2023, $735 million in 2024, $137 million in 2025, $314 million in 2026 and $7.0 billion thereafter.

NOTE 9. OTHER LIABILITIES, INCLUDING EMPLOYEE BENEFITS

The components of other liabilities follow:

	December 31, 2021	December 31, 2020
Pension, postretirement, postemployment and other employment benefits[a]	$ 845	$ 1,213
Leases[b]	281	190
Provision for tax positions	232	261
Litigation accruals	131	110
Indemnification of PT Inalum[b]	78	42
Cerro Verde royalty dispute[c]	—	376
Other	116	77
Total other liabilities	$ 1,683	$ 2,269

a. Refer to Note 7 for current portion.

b. Refer to Note 13 for further discussion.

c. Refer to Note 12 for further discussion.

Pension Plans. Following is a discussion of FCX's pension plans.

FMC Plans. FMC has U.S. trusteed, non-contributory pension plans covering some 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. See below for discussion of a 2020 plan amendment.

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 primary investment objectives for the FMC plan assets held in a master trust (Master Trust) are to maintain funds sufficient to pay all benefit and expense obligations when due, minimize the volatility of the plan's funded status to the extent practical, and to maintain prudent levels of risk consistent with the plan's investment policy. Historically, FMC plan assets have been invested in a balanced portfolio of return-seeking assets and risk-mitigating assets, with the allocation between these portfolios dependent on the funded status of the plan. During 2021, FCX reallocated essentially all of the portfolio to risk-mitigating assets with the objective of minimizing funded-status volatility. The risk-mitigating assets are allocated among multiple fixed income managers. The current target allocation of the portfolio is long-duration credit (50 percent); long-duration U.S. government/credit (20 percent); core fixed income (16 percent); long-term U.S. Treasury Separate Trading of Registered Interest and Principal Securities (STRIPS) (13 percent); and cash equivalents (1 percent).

The expected rate of return on plan assets is evaluated at least annually, taking into consideration asset allocation, historical and expected future performance 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 3.00 percent per annum beginning January 1, 2022, which was based on the target asset allocation and long-term capital market return expectations.

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 costs, 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 costs 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 together with the Mercer Yield Curve - Above Mean. The Mercer Yield Curve - Above Mean is constructed from the bonds in the Mercer Pension Discount Curve that have a yield higher than the regression mean yield curve. The Mercer Yield Curve - Above Mean 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.

SERP Plan. FCX has an unfunded Supplemental Executive Retirement Plan (SERP) for its chief executive officer. The SERP provides for retirement benefits payable in the form of a joint and survivor annuity, life annuity or an equivalent lump sum. The participant has elected to receive an equivalent lump sum payment. The payment will equal a percentage of the participant's highest average compensation for any consecutive three-year period during the five years immediately preceding the completion of 25 years of credited service. The SERP benefit will be reduced by the value of all benefits from current and former retirement plans (qualified and nonqualified) sponsored by FCX, by FM Services Company, FCX's wholly owned subsidiary, or by any predecessor employer (including FCX's former parent company), except for benefits produced by accounts funded exclusively by deductions from the participant's pay.

PT-FI Plan. PT-FI has a defined benefit pension plan denominated in Indonesia rupiah covering substantially all of its Indonesia national employees. PT-FI funds the plan and invests the assets in accordance with Indonesia pension guidelines. The pension obligation was valued at an exchange rate of 14,198 rupiah to one U.S. dollar on December 31, 2021, and 14,034 rupiah to one U.S. dollar on December 31, 2020. Indonesia labor laws require that companies provide a minimum severance to employees upon employment termination based on the reason for termination and the employee's years of service. PT-FI's pension benefit obligation includes benefits determined in accordance with 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 7.00 percent per annum beginning January 1, 2022. The discount rate assumption for PT-FI's plan is based on the Indonesia 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 qualified and non-qualified plans where the projected benefit obligations and the accumulated benefit obligations exceed the fair value of plan assets follows:

	December 31,	
	2021	2020
Projected benefit obligation	$ 2,476	$ 2,666
Accumulated benefit obligation	2,476	2,664
Fair value of plan assets	1,988	1,884

Information on the qualified and non-qualified FCX (FMC and SERP plans) and PT-FI plans as of December 31 follows:

	FCX		PT-FI	
	2021	2020	2021	2020
Change in benefit obligation:				
Benefit obligation at beginning of year	$ 2,722	$ 2,576	$ 238	$ 217
Service cost	12	37	13	11
Interest cost	66	77	14	14
Actuarial (gains) losses	(117)	308	(3)	12
Plan amendments	—	—	(2)	—
Foreign exchange (gains) losses	(1)	1	(3)	(2)
Curtailment	—	(154)	—	—
Benefits and administrative expenses paid	(129)	(123)	(20)	(14)
Benefit obligation at end of year	2,553	2,722	237	238
Change in plan assets:				
Fair value of plan assets at beginning of year	1,946	1,677	251	254
Actual return on plan assets	150	272	8	13
Employer contributions[a]	105	119	4	2
Foreign exchange (losses) gains	(1)	1	(3)	(4)
Benefits and administrative expenses paid	(129)	(123)	(20)	(14)
Fair value of plan assets at end of year	2,071	1,946	240	251
Funded status	$ (482)	$ (776)	$ 3	$ 13
Accumulated benefit obligation	$ 2,551	$ 2,719	$ 194	$ 194
Weighted-average assumptions used to determine benefit obligations:				
Discount rate	2.85 %	2.50 %	6.50 %	6.25 %
Rate of compensation increase	— %	— %	4.00 %	4.00 %
Balance sheet classification of funded status:				
Other assets	$ 6	$ 7	$ 3	$ 13
Accounts payable and accrued liabilities	(4)	(4)	—	—
Other liabilities	(484)	(779)	—	—
Total	$ (482)	$ (776)	$ 3	$ 13

a. Employer contributions for 2022 are currently expected to approximate $112 million for the FCX plans and $1 million for the PT-FI plan (based on a December 31, 2021, exchange rate of 14,198 Indonesia rupiah to one U.S. dollar), and are subject to change.

In August 2020, the FMC Retirement Plan, the largest FMC plan, was amended such that, effective September 1, 2020, participants no longer accrue any additional benefits. As a result, FCX remeasured its pension assets and benefit obligation as of July 31, 2020. The discount rate and expected long-term rate of return on the plan assets used for the July 31, 2020, remeasurement were 2.40 percent and 6.25 percent, respectively. The remeasurement and curtailment resulted in the projected benefit obligation increasing by $184 million and plan assets increasing by $103 million. In addition, FCX recognized a curtailment loss of $4 million in 2020.

During 2021, the actuarial gain of $117 million for the FCX pension plans primarily resulted from the increase in the discount rate from 2.50 percent to 2.85 percent. During 2020, the actuarial loss of $308 million for the FCX pension plans primarily resulted from the decrease in the discount rate from 3.40 percent to 2.50 percent, offset by the FMC Retirement Plan amendment to discontinue additional benefits.

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:

	2021	2020	2019
Weighted-average assumptions:[a]			
Discount rate	2.50 %	2.98 %	4.40 %
Expected return on plan assets	5.25 %	6.25 %	6.50 %
Rate of compensation increase	— %	3.25 %	3.25 %
Service cost	$ 12	$ 37	$ 42
Interest cost	66	77	95
Expected return on plan assets	(98)	(105)	(90)
Amortization of net actuarial losses	25	45	48
Curtailment loss	—	4	—
Net periodic benefit cost	$ 5	$ 58	$ 95

a. The assumptions shown relate only to the FMC Retirement Plan.

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:

	2021	2020	2019
Weighted-average assumptions:			
Discount rate	6.25 %	7.25 %	8.25 %
Expected return on plan assets	7.75 %	7.75 %	8.25 %
Rate of compensation increase	4.00 %	4.00 %	4.00 %
Service cost	$ 13	$ 11	$ 12
Interest cost	14	14	17
Expected return on plan assets	(19)	(19)	(17)
Amortization of prior service cost	1	2	1
Amortization of net actuarial gains	(1)	(3)	(1)
Net periodic benefit cost	$ 8	$ 5	$ 12

The service cost component of net periodic benefit cost is included in operating income, and the other components are included in other (expense) income, net in the consolidated statements of operations.

Included in accumulated other comprehensive loss are the following amounts that have not been recognized in net periodic pension cost as of December 31:

	2021		2020	
	Before Taxes	After Taxes and Noncontrolling Interests	Before Taxes	After Taxes and Noncontrolling Interests
Net actuarial losses	$ 488	$ 369	$ 673	$ 558
Prior service costs	2	—	6	1
	$ 490	$ 369	$ 679	$ 559

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 prices derived using significant observable inputs (Level 2) and the lowest priority to prices derived using significant unobservable inputs (Level 3).

A summary of the fair value for pension plan assets, including those measured at net asset value (NAV) as a practical expedient, associated with the FCX plans follows:

	Fair Value at December 31, 2021				
	Total	NAV	Level 1	Level 2	Level 3
Commingled/collective funds:					
Fixed income securities	$ 522	$ 522	$ —	$ —	$ —
Real estate property	72	72	—	—	—
Short-term investments	38	38	—	—	—
Fixed income:					
Corporate bonds	911	—	—	911	—
Government bonds	437	—	—	437	—
Private equity investments	11	11	—	—	—
Other investments	74	—	1	73	—
Total investments	2,065	$ 643	$ 1	$ 1,421	$ —
Cash and receivables	18				
Payables	(12)				
Total pension plan net assets	$ 2,071				

	Fair Value at December 31, 2020				
	Total	NAV	Level 1	Level 2	Level 3
Commingled/collective funds:					
Global equity	$ 527	$ 527	$ —	$ —	$ —
Fixed income securities	404	404	—	—	—
International small-cap equity	76	76	—	—	—
Real estate property	59	59	—	—	—
U.S. real estate securities	51	51	—	—	—
Short-term investments	51	51	—	—	—
U.S. small-cap equity	25	25	—	—	—
Fixed income:					
Corporate bonds	381	—	—	381	—
Government bonds	181	—	—	181	—
Global large-cap equity securities	109	—	109	—	—
Private equity investments	10	10	—	—	—
Other investments	55	—	1	54	—
Total investments	1,929	$ 1,203	$ 110	$ 616	$ —
Cash and receivables	100				
Payables	(83)				
Total pension plan net assets	$ 1,946				

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) primarily require up to a two-business-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 (with a 30-calendar-day notice), 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.

Common stocks included in global large-cap equity securities and preferred stocks included in other investments 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.

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, 2021			
	Total	Level 1	Level 2	Level 3
Government bonds	$ 114	$ 114	$ —	$ —
Common stocks	80	80	—	—
Mutual funds	18	18	—	—
Total investments	212	$ 212	$ —	$ —
Cash and receivables[a]	29			
Payables	(1)			
Total pension plan net assets	$ 240			

	Fair Value at December 31, 2020			
	Total	Level 1	Level 2	Level 3
Government bonds	$ 117	$ 117	$ —	$ —
Common stocks	77	77	—	—
Mutual funds	18	18	—	—
Total investments	212	$ 212	$ —	$ —
Cash and receivables[a]	41			
Payables	(2)			
Total pension plan net assets	$ 251			

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.

Government bonds, common stocks 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 those used by 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]
2022	$ 127	$ 17
2023	178	27
2024	130	30
2025	131	27
2026	132	30
2027 through 2031	653	146

a. Based on a December 31, 2021, exchange rate of 14,198 Indonesia 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 $7 million (included in accounts payable and accrued liabilities) and a long-term portion of $57 million (included in other liabilities) at December 31, 2021, and a current portion of $7 million and a long-term portion of $69 million at December 31, 2020.

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 obligation consisted of a current portion of $6 million (included in accounts payable and accrued liabilities) and a long-term portion of $35 million (included in other liabilities) at December 31, 2021, and a current portion of $6 million and a long-term portion of $42 million at December 31, 2020.

FCX also sponsors a retirement savings plan for most of its U.S. employees. The plan allows employees to contribute a portion of their income in accordance with specified guidelines. The savings plan is a qualified 401(k) plan for all U.S. salaried and non-bargained hourly employees. Participants exercise control and direct the investment of their contributions and account balances among various investment options under the plan. FCX contributes to the plan and matches a percentage of employee contributions up to certain limits. For employees whose eligible compensation exceeds certain levels, FCX provides a nonqualified unfunded defined contribution plan, which had a liability balance of $51 million at December 31, 2021, and $49 million at December 31, 2020, all of which was included in other liabilities.

The costs charged to operations for the employee savings plan totaled $95 million in 2021, $40 million in 2020 and $85 million in 2019. The costs were lower in 2020, compared with 2021 and 2019, because of a temporary suspension of FCX contributions implemented as part of FCX's April 2020 revised operating plans. FCX contributions resumed on January 1, 2021. FCX has other employee benefit plans, certain of which are related to FCX's financial results, which are recognized in operating costs.

NOTE 10. STOCKHOLDERS' EQUITY AND STOCK-BASED COMPENSATION

FCX's authorized shares of capital stock total 3.05 billion shares, consisting of 3.0 billion shares of common stock and 50 million shares of preferred stock.

Financial Policy. In February 2021, FCX's Board of Directors (Board) adopted a financial policy for the allocation of cash flows aligned with FCX's strategic objectives of maintaining a strong balance sheet and increasing cash returns to shareholders while advancing opportunities for future growth. The policy includes a base dividend and a performance-based payout framework, whereby up to 50 percent of available cash flows generated after planned capital spending and distributions to noncontrolling interests would be allocated to shareholder returns and the balance to debt reduction and investments in value enhancing growth projects, subject to FCX maintaining its net debt at a level not to exceed the net debt target of $3 billion to $4 billion (excluding project debt for additional smelting capacity in Indonesia).

In February 2021, the Board reinstated a cash dividend on FCX's common stock (base dividend), and on November 1, 2021, the Board approved (i) a new share repurchase program authorizing repurchases of up to $3.0 billion of FCX common stock and (ii) a variable cash dividend on FCX's common stock for 2022.

In fourth-quarter 2021, FCX acquired 12.7 million shares under the share repurchase program for a total cost of $488 million ($38.32 per share). Through February 15, 2022, FCX acquired 18.2 million shares of its common stock for a total cost of $710 million ($39.10 per share) and $2.3 billion remains available for repurchases.

On December 22, 2021, FCX declared dividends totaling $0.15 per share on its common stock, which was paid on February 1, 2022, to common stockholders of record as of January 14, 2022. This payment includes a $0.075 per share quarterly base cash dividend and a $0.075 per share quarterly variable cash dividend.

The declaration and payment of dividends (base or variable) and timing and amount of any share repurchases is at the discretion of FCX's Board and management, respectively, and is subject to a number of factors, including maintaining FCX's net debt target, capital availability, FCX's financial results, cash requirements, business prospects, global economic conditions, changes in laws, contractual restrictions and other factors deemed relevant by FCX's Board or management, as applicable. FCX's share repurchase program may be modified, increased, suspended or terminated at any time at the Board's discretion.

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	Translation Adjustment	Total
Balance at January 1, 2019	$ (615)	$ 10	$ (605)
Amounts arising during the period[a,b]	(118)	—	(118)
Amounts reclassified[c]	47	—	47
Balance at December 31, 2019	(686)	10	(676)
Amounts arising during the period[a,b]	47	—	47
Amounts reclassified[c]	46	—	46
Balance at December 31, 2020	(593)	10	(583)
Amounts arising during the period[a,b]	176	—	176
Amounts reclassified[c]	19	—	19
Balance at December 31, 2021	$ (398)	$ 10	$ (388)

a. Includes net actuarial (losses) gains, net of noncontrolling interest, totaling $(111) million for 2019, $40 million for 2020 and $174 million for 2021.

b. Includes tax (benefit) provision totaling $(8) million for 2019, $7 million for 2020 and $2 million for 2021.

c. Includes amortization primarily related to actuarial losses, net of taxes of less than $1 million for 2019, 2020 and 2021.

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, stock appreciation rights, restricted stock, RSUs, PSUs and other stock-based awards for up to 72 million common shares. As of December 31, 2021, 30.7 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:

	2021	2020	2019
Selling, general and administrative expenses	$ 64	$ 70	$ 48
Production and delivery	34	29	15
Total stock-based compensation	98	99	63
Tax benefit and noncontrolling interests' share[a]	(5)	(5)	(4)
Impact on net income (loss)	$ 93	$ 94	$ 59

a. Charges in the U.S. are not expected to generate a future tax benefit.

Stock Options. Stock options granted under the plans generally expire 10 years after the date of grant. Stock options vest in one-third 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. The award agreements also provide for accelerated vesting upon certain qualifying terminations of employment within one year following a change of control.

A summary of stock options outstanding as of December 31, 2021, and activity during the year ended December 31, 2021, follows:

	Number of Options	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Balance at January 1	37,100,098	$ 25.58		
Granted	598,000	28.14		
Exercised	(11,527,957)	19.48		
Expired/Forfeited	(4,347,579)	51.15		
Balance at December 31	21,822,562	23.78	4.3	$ 411
Vested and exercisable at December 31	17,119,081	26.62	3.4	$ 278

The fair value of each stock option is estimated on the date of grant using the Black-Scholes-Merton option valuation model. 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 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 expected annual dividend 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.

Information related to stock options during the years ended December 31 follows:

	2021	2020	2019
Weighted-average assumptions used to value stock option awards:			
Expected volatility	58.1 %	47.7 %	47.8 %
Expected life of options (in years)	5.90	5.83	6.10
Expected dividend rate	2.5 %	1.7 %	1.8 %
Risk-free interest rate	0.6 %	1.5 %	2.5 %
Weighted-average grant-date fair value (per option)	$ 11.92	$ 4.72	$ 4.87
Intrinsic value of options exercised	$ 194	$ 82	$ 3
Fair value of options vested	$ 16	$ 28	$ 26

As of December 31, 2021, FCX had $5 million of total unrecognized compensation cost related to unvested stock options expected to be recognized over a weighted-average period of approximately 1.0 years.

Stock-Settled PSUs and RSUs. Beginning in 2014, FCX's executive officers received annual grants of PSUs that vest after three years. The total grant date target shares related to the PSU grants were 0.7 million for 2019, 0.8 million for 2020 and 0.3 million for 2021, of which the executive officers will earn (i) between 0 percent and 200

percent of the target shares based on achievement of financial metrics and (ii) +/- up to 25 percent of the target shares based on FCX's total shareholder return compared to the total shareholder return of a peer group. All of FCX's executive officers who hold PSUs are retirement eligible, and their PSU awards are therefore non-forfeitable. As such, FCX charges the estimated fair value of the PSU awards to expense at the time the financial and operational, if applicable, metrics are established.

FCX grants RSUs that vest over a period of three years or at the end of three years to certain employees. Some award agreements allow for participants to receive the following year's vesting upon retirement. Therefore, on the date of grant of these RSU awards, FCX accelerates one year of amortization for retirement-eligible employees. FCX also grants RSUs to its directors, which vest on the first anniversary of the date of grant. 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. A summary of outstanding stock-settled RSUs and PSUs as of December 31, 2021, and activity during the year ended December 31, 2021, follows:

	Number of Awards	Weighted-Average Grant-Date Fair Value Per Award	Aggregate Intrinsic Value
Balance at January 1	7,523,022	$ 16.79	
Granted	2,121,755	29.15	
Vested	(1,814,976)	15.72	
Forfeited	(28,916)	20.29	
Balance at December 31	7,800,885	20.38	$ 326

The total fair value of stock-settled RSUs and PSUs granted was $62 million during 2021, $47 million during 2020 and $24 million during 2019. The total intrinsic value of stock-settled RSUs and PSUs vested was $56 million during 2021, $18 million during 2020 and $26 million during 2019. As of December 31, 2021, FCX had $17 million of total unrecognized compensation cost related to unvested stock-settled RSUs expected to be recognized over approximately 1.2 years.

Cash-Settled RSUs. 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 three years of service. Some award agreements allow for participants to receive the following year's vesting upon retirement. Therefore, on the date of grant of these cash-settled RSU awards, FCX accelerates one year of amortization for retirement-eligible employees. The cash-settled RSUs are classified as liability awards, and the fair value of these awards is remeasured each reporting period until the vesting dates. 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.

Dividends attributable to cash-settled RSUs accrue and are paid if the award vests. A summary of outstanding cash-settled RSUs as of December 31, 2021, and activity during the year ended December 31, 2021, follows:

	Number of Awards	Weighted-Average Grant-Date Fair Value Per Award	Aggregate Intrinsic Value
Balance at January 1	1,521,097	$ 12.92	
Granted	308,600	28.00	
Vested	(753,574)	13.94	
Forfeited	(22,199)	15.37	
Balance at December 31	1,053,924	16.56	$ 44

The total grant-date fair value of cash-settled RSUs was $9 million during 2021, $11 million during 2020 and $10 million during 2019. The intrinsic value of cash-settled RSUs vested was $24 million during 2021, $11 million during 2020 and $8 million during 2019. The accrued liability associated with cash-settled RSUs consisted of a current portion of $26 million (included in accounts payable and accrued liabilities) and a long-term portion of $6 million (included in other liabilities) at December 31, 2021, and a current portion of $22 million and a long-term portion of $6 million at December 31, 2020.

Other Information. The following table includes amounts related to exercises of stock options and vesting of RSUs and PSUs during the years ended December 31:

	2021	2020	2019
FCX shares tendered to pay the exercise price and/or the minimum required withholding taxes[a]	1,358,101	1,193,183	670,508
Cash received from stock option exercises	$ 210	$ 51	$ 2
Actual tax benefit realized for tax deductions	$ 9	$ 2	$ 1
Amounts FCX paid for employee taxes	$ 29	$ 17	$ 8

a. Under terms of the related plans, upon exercise of stock options, vesting of stock-settled RSUs and payout of PSUs, employees may tender FCX shares to pay the exercise price and/or the minimum required withholding taxes.

NOTE 11. INCOME TAXES

Geographic sources of income (losses) before income taxes and equity in affiliated companies' net earnings for the years ended December 31 consist of the following:

	2021	2020	2019
U.S.	$ 1,861	$ (40)	$ (287)
Foreign	5,798	1,837	593
Total	$ 7,659	$ 1,797	$ 306

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 income taxes for the years ended December 31 consists of the following:

	2021	2020	2019
Current income taxes:			
Federal	$ —	$ 53 [a]	$ (23) [b,c]
State	(11)	(1)	3
Foreign	(2,460)	(816) [d]	(462)
Total current	(2,471)	(764)	(482)
Deferred income taxes:			
Federal	(184)	3	48
State	(4)	5	8
Foreign	(23)	(306)	(101)
Total deferred	(211)	(298)	(45)
Adjustments	193 [e]	37	12
Operating loss carryforwards	190	81	5
Provision for income taxes	$ (2,299)	$ (944)	$ (510)

a. Includes a credit of $53 million associated with the reversal of the charge discussed in footnote c below.

b. As a result of the 2017 Tax Cuts and Jobs Act (the Act) guidance released in 2019, FCX recorded a $29 million credit.

c. Includes a charge of $53 million associated with the sale of FCX's interest in the lower zone of the Timok exploration project.

d. Includes a charge of $135 million associated with the gain on sale of Kisanfu.

e. Primarily reflects the release of valuation allowances on NOLs at PT Rio Tinto (see below).

A reconciliation of the U.S. federal statutory tax rate to FCX's effective income tax rate for the years ended December 31 follows:

	2021		2020		2019	
	Amount	Percent	Amount	Percent	Amount	Percent
U.S. federal statutory tax rate	$ (1,608)	(21)%	$ (377)	(21)%	$ (64)	(21)%
Valuation allowance[a]	221	3	(210)	(12)	(149)	(49)
PT Rio Tinto valuation allowance[a]	189	2	—	—	—	—
PT-FI historical tax disputes[b]	(193)	(3)	(8)	—	(145)	(47)
Percentage depletion	221	3	104	6	118	39
Effect of foreign rates different than the U.S. federal statutory rate	(328)	(4)	(109)	(6)	(64)	(21)
Withholding and other impacts on foreign earnings	(678)	(9)	(193)	(11)	(55)	(18)
Adjustment to deferred taxes	—	—	—	—	(49)[c]	(16)
Non-deductible permanent differences	—	—	—	—	(47)	(15)
Uncertain tax positions	13	—	(15)	(1)	(47)	(15)
U.S. tax reform	—	—	—	—	29[d]	9
Foreign tax credit limitation	(11)	—	28	2	(16)	(5)
State income taxes	(14)	—	(2)	—	16	6
Cerro Verde historical tax disputes[e]	—	—	(39)	(2)	2	1
Timok exploration project sale	—	—	53	3	(15)	(5)
Sale of Kisanfu	—	—	(135)	(8)	—	—
Other items, net	(111)	(1)	(41)	(3)	(24)	(9)
Provision for income taxes	$ (2,299)	(30)%	$ (944)	(53)%	$ (510)	(166)%

a. Refer to "Valuation Allowance" below.

b. Refer to "Income Tax Matters" below.

c. Represents net charges primarily to adjust deferred taxes on historical balance sheet items in accordance with tax accounting principles.

d. As a result of the Act guidance released in 2019, FCX recorded a $29 million credit.

e. Refer to Note 12 for further discussion.

FCX paid federal, state and foreign income taxes totaling $1.3 billion in 2021, $397 million in 2020 and $610 million in 2019. FCX received refunds of federal, state and foreign income taxes of $109 million in 2021, $265 million in 2020 and $306 million in 2019.

The components of deferred taxes follow:

	December 31,	
	2021	2020
Deferred tax assets:		
Foreign tax credits	$ 1,536	$ 1,641
Accrued expenses	1,193	1,194
Net operating losses (NOLs)	2,220	2,443
Employee benefit plans	105	177
Other	252	227
Deferred tax assets	5,306	5,682
Valuation allowances	(4,087)	(4,732)
Net deferred tax assets	1,219	950
Deferred tax liabilities:		
Property, plant, equipment and mine development costs	(4,492)	(4,489)
Undistributed earnings	(807)	(694)
Other	(152)	(175)
Total deferred tax liabilities	(5,451)	(5,358)
Net deferred tax liabilities	$ (4,232)	$ (4,408)

Tax Attributes. At December 31, 2021, FCX had (i) U.S. foreign tax credits of $1.5 billion that will expire between 2022 and 2027, (ii) U.S. federal net operating losses (NOLs) of $6.1 billion that primarily expire between 2036 and 2037, of which $0.2 billion can be carried forward indefinitely, (iii) U.S. state NOLs of $10.9 billion that primarily expire between 2022 and 2041, (iv) Spanish NOLs of $0.5 billion that can be carried forward indefinitely and (v) Indonesia NOLs of $0.9 billion that expire between 2022 and 2026.

Valuation Allowances. On the basis of available information at December 31, 2021, 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 $4.1 billion at December 31, 2021, and covered all of FCX's U.S. foreign tax credits and U.S. federal NOLs, substantially all of its U.S. state NOLs, and a portion of its foreign NOLs. Valuation allowances totaled $4.7 billion at December 31, 2020, and covered all of FCX's U.S. foreign tax credits, U.S. federal NOLs, foreign net operating losses and substantially all of its U.S. state NOLs.

The valuation allowance related to FCX's U.S. foreign tax credits totaled $1.5 billion at December 31, 2021. FCX has operations in tax jurisdictions where statutory income taxes and withholding taxes are in excess of the U.S. federal income tax rate. Valuation allowances are recognized on foreign tax credits for which no benefit is expected to be realized.

The valuation allowance related to FCX's U.S. federal, state and foreign NOLs totaled $2.0 billion and other deferred tax assets totaled $561 million at December 31, 2021. NOLs and 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 recognizes a valuation allowance to the extent these deductions are not expected to be realized in future periods.

Valuation allowances will continue to be carried on U.S. foreign tax credits, U.S. federal, state and foreign NOLs and U.S. federal, state and foreign deferred tax assets, until such time that (i) FCX generates taxable income against which any of the assets, credits or NOLs 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, credits or net operating losses that can be implemented.

The $645 million net decrease in the valuation allowances during 2021 is primarily related to a $219 million decrease associated with U.S. federal NOLs utilized during 2021, a $105 million decrease related to expirations of U.S. foreign tax credits and $228 million decrease associated with PT Rio Tinto NOLs resulting from positive evidence supporting future taxable income against which net operating losses can be used. Changes in assumptions about future taxable income against which PT Rio Tinto NOLs can be utilized resulted from delays in timing of the anticipated merger of PT Rio Tinto into PT-FI.

Other Events. In connection with the negative impacts of the COVID-19 pandemic on the global economy, governments throughout the world announced measures that are intended to provide tax and other financial relief. Such measures include the American Rescue Plan Act of 2021, enacted on March 11, 2021, and the Coronavirus Aid, Relief, and Economic Security Act (CARES Act), enacted on March 27, 2020. None of these measures resulted in material impacts to FCX's provision for income taxes for the years ended December 31, 2021 and 2020. However, certain provisions of the CARES Act provided FCX with the opportunity to accelerate collections of tax refunds, primarily those associated with the U.S. alternative minimum tax (AMT). FCX collected U.S. AMT refunds of $24 million in 2021 and $244 million in 2020. FCX continues to evaluate income tax accounting considerations of COVID-19 measures as they develop, including any impact on its measurement of existing deferred tax assets and deferred tax liabilities. FCX will recognize any impact from COVID-19 related changes to tax laws in the period in which the new legislation is enacted.

Indonesia Tax Matters. In 2018, PT-FI received unfavorable Indonesia Tax Court decisions with respect to its appeal of capitalized mine development costs on its 2012 and 2014 corporate income tax returns. PT-FI appealed those decisions to the Indonesia Supreme Court. In 2019, the Indonesia Supreme Court communicated an unfavorable ruling regarding the treatment of mine development costs on PT-FI's 2014 tax return. During the fourth quarter of 2019, PT-FI met with the Indonesia Tax Office and developed a framework for resolution of the disputed matters. On December 30, 2019, PT-FI made a payment of $250 million based on its understanding of the framework for resolution of disputes arising from the audits of the tax years 2012 through 2016, as well as tax years 2017 and 2018. Additional administrative steps would need to be completed by both PT-FI and the Indonesia Tax Office in order to implement the resolution.

During October 2021, PT-FI participated in discussions with the Indonesia tax office regarding progress on the framework for resolution of disputes arising from the audits of tax years 2012 through 2016. As a result of these discussions and the revised positions taken by both the Indonesia tax office and PT-FI, FCX believes it can no longer conclude a resolution of all of the disputed tax items at a more-likely-than-not threshold. PT-FI will continue to engage with the Indonesia tax office in pursuit of certain aspects of the original framework for resolution.

During 2019, in conjunction with the framework for resolution, PT-FI recorded net charges totaling $304 million, including $123 million for non-deductible penalties recorded to other (expense) income, net, $78 million for non-deductible interest recorded to interest expense, net and $103 million to provision for income tax expense, primarily for the impact of a reduction in the statutory rate on PT-FI's deferred tax assets.

During 2020, in connection with progress of the framework for resolution, PT-FI recorded additional net charges of $46 million, including $9 million for non-deductible penalties recorded to other (expense) income, net and $35 million for non-deductible interest recorded to interest expense, net, and $2 million to provision for income tax expense.

During 2021, mostly in connection with the October 2021 meeting with the Indonesia tax office and the progress of the framework for resolution, PT-FI recorded total additional net charges of $384 million, including $155 million for non-deductible penalties recorded to other (expense) income, net, $43 million for non-deductible interest recorded to interest expense, net, and $186 million to provision for income tax expense.

Peru Tax Matters. SUNAT (National Superintendency of Customs and Administration), the Peru national tax authority, has assessed mining royalties on ore processed by the Cerro Verde concentrator for the period December 2006 to December 2013, which Cerro Verde has contested on the basis that its 1998 stability agreement exempts from royalties all minerals extracted from its mining concessions, irrespective of the method used for processing those minerals. Refer to Note 12 for further discussion of the Cerro Verde royalty dispute.

In December 2016, the Peru 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 to 26 percent in 2019 and thereafter, and also increased the dividend tax rate on distributions to 9.3 percent in 2019 and thereafter. Under the tax legislation, which was effective January 1, 2017, the corporate income tax rate was 29.5 percent, and the dividend tax rate on distributions of earnings was 5 percent. Cerro Verde's current mining stability agreement subjects it 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.

Chile Tax Matters. In September 2014, the Chile 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 Chile 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 Chile 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 November 2017, the progression of increasing tax rates was delayed by the Chile legislature so that the 35 percent rate continued through 2021, increasing to 44.5 percent in 2022 and thereafter. In January 2020, the Chile legislature approved a tax reform package that would further delay the 44.5 percent rate until 2027 and thereafter.

In 2010, the Chile legislature approved an increase in mining royalty taxes to help fund earthquake reconstruction activities, education and health programs. Beginning in 2018, and through 2023 mining royalty rates at FCX's El Abra mine are based on 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 (expense) income, net 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. The balance at year-end December 31, 2019, was revised by $115 million and the balance at year-end December 31, 2020, was revised by $179 million to adjust for amounts paid on accruals not yet settled.

	2021	2020	2019
Balance at beginning of year	$ 474	$ 491	$ 494
Additions:			
Prior year tax positions	330	56	86
Current year tax positions	71	60	11
Decreases:			
Prior year tax positions	(30)	(82)	(75)
Settlements with taxing authorities	(37)	(51)	(25)
Balance at end of year	$ 808	$ 474	$ 491

The total amount of accrued interest and penalties associated with unrecognized tax benefits was $620 million at December 31, 2021, primarily relating to unrecognized tax benefits associated with cost recovery methods and royalties and other related mining taxes, and $307 million at December 31, 2020, and $339 million at December 31, 2019.

The reserve for unrecognized tax benefits of $808 million at December 31, 2021, included $694 million ($465 million net of income tax benefits and valuation allowances) that, if recognized, would reduce FCX's provision for income taxes. Changes in the reserve for unrecognized tax benefits associated with current and prior-year tax positions were primarily related to uncertainties associated with FCX's tax treatment of 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 2022, 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	2017-2018	2014-2016, 2019-2021
Indonesia	2011-2018	2020-2021
Peru	2016	2017-2021
Chile	2020	2018-2019, 2021

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, 2021, FCX had more than 100 active remediation projects, including NRD claims, in 24 U.S. states. The aggregate environmental obligation for approximately 60 percent of the active remediation projects totaled less than $20 million at December 31, 2021.

A summary of changes in estimated environmental obligations for the years ended December 31 follows:

	2021	2020	2019
Balance at beginning of year	$ 1,584	$ 1,561	$ 1,511
Accretion expense[a]	104	102	102
Additions[b]	60	38	23
Reductions[b]	(20)	(58)	(1)
Spending	(64)	(59)	(74)
Balance at end of year	1,664	1,584	1,561
Less current portion	(64)	(83)	(106)
Long-term portion	$ 1,600	$ 1,501	$ 1,455

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. Adjustments to environmental obligations that do not provide future economic benefits are charged to operating income. Adjustments 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 de-escalated basis) total $89 million in 2022, $80 million in 2023, $105 million in 2024, $98 million in 2025, $100 million in 2026 and $3.2 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, 2021, FCX's environmental obligations totaled $1.7 billion, including $1.5 billion recorded on a discounted basis for those obligations assumed in the FMC acquisition at fair value. On an undiscounted and de-escalated basis, these obligations totaled $3.7 billion. FCX estimates it is reasonably possible that these obligations could range between $3.3 billion and $4.2 billion on an undiscounted and de-escalated basis.

At December 31, 2021, 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, Indiana, Kansas, Missouri, New Jersey, Oklahoma and Pennsylvania; and uranium mining sites in the western U.S. The recorded environmental obligations for these sites totaled $1.4 billion at December 31, 2021. 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 has been performed by members of the Pinal Creek Group, consisting of Freeport-McMoRan Miami Inc. (Miami), an indirect 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 groundwater extraction and treatment plus source control capping is expected to continue for many years.

Newtown Creek. From the 1930s until 1964, Phelps Dodge Refining Corporation (PDRC), an indirect wholly owned 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 PRPs under CERCLA. The notified parties began working with EPA to identify other PRPs. In 2010, EPA designated the creek as a Superfund site, and in 2011, PDRC and four other companies (the Newtown Creek Group, NCG) and the City of New York entered an Administrative Order on Consent (AOC) to perform a remedial investigation/feasibility study (RI/FS) to assess the nature and extent of environmental contamination in the creek and identify remedial options. The NCG's RI/FS work and efforts to identify other PRPs are ongoing. The NCG submitted a final draft RI report in October 2021, which is currently under review by EPA. The NCG expects to submit a draft FS report to EPA in late 2025 and currently expects EPA to select a creek-wide remedy in 2026, with the actual remediation construction starting several years later. In July 2019, the NCG entered into an AOC with EPA to conduct a Focused Feasibility Study (FFS) of the first two miles of the creek to support an evaluation of an early interim remedy for that section of the creek. In July 2021, EPA terminated the FFS, which effectively means remediation of the lower creek will be performed at the same time as the site-wide remedy. FCX's environmental liability balance for the creek was $318 million at December 31, 2021. The final 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 remedy ultimately selected by EPA and related allocation determinations. Changes to the overall cost of this remedial obligation and the portion ultimately allocated to PDRC could be material to FCX.

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 on-site and off-site 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 Metals Refining Company (USMR), an indirect wholly owned subsidiary of FCX, 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, under the direction and supervision of the New Jersey Department of Environmental Protection (NJDEP). On-site contamination is in the later stages of remediation. In 2012, after receiving a request from NJDEP, USMR also began investigating and remediating off-site properties, which is ongoing. As a result of off-site soil sampling in public and private areas near the former Carteret smelter, FCX established an environmental obligation for known and potential off-site environmental remediation. Assessments of sediments in the adjacent Arthur Kill and sampling and analysis within the offsite area as we obtain access to residential properties are ongoing and could result in additional adjustments to the related environmental remediation obligation in future periods. The extent of contamination and potential remedial actions are uncertain and may take several years to evaluate.

On January 30, 2017, a putative 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 defendants removed this litigation to the U.S. District Court for the District of New Jersey, where it remains pending, and FMC was added as a defendant. The suit alleges that USMR generated and disposed of smelter waste at the site and allegedly released contaminants on-site and off-site through discharges to surface water and air emissions over a period of decades and seeks unspecified compensatory and punitive damages for economic losses, including diminished property values, additional soil investigation and remediation and other damages. In January 2020, the parties completed briefing on the plaintiffs' motion for class certification. The judge indicated in late 2021 that the plaintiffs may submit rebuttal expert reports, which will likely result in additional discovery and refiling of a new briefing on class certification. This will likely delay the court's decision on class certification. FCX continues to vigorously defend this matter.

Uranium Mining Sites. During a period between 1940 and the early 1980s, 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. In 2017, the Department of Justice, EPA, Navajo Nation, and two FCX 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 94 former uranium mining sites on tribal lands. Under the terms of the Consent Decree executed in May 2017, and approved by the U.S. District Court for the District of Arizona, the U.S. contributed $335 million into a trust fund to cover the government's initial share of the costs, and FCX's subsidiaries are proceeding with the environmental investigation and remediation work at the 94 sites. The program is expected to take more than 20 years to complete. In 2020, FCX reduced its associated obligation and recorded a $47 million credit to operating income to reflect the discounting effect of the recent and expected pace of project work under post-COVID-19 pandemic conditions. By letter dated September 29, 2021, EPA also informed an FCX subsidiary that it does not expect to have funds sufficient to remediate sites covered by a bankruptcy settlement with Tronox and EPA considers a subsidiary of FCX to be potentially liable for 23 of these sites. FCX is also conducting site surveys of historical uranium mining claims associated with FCX subsidiaries on non-tribal federal lands in the Four Corners region. Under a memorandum of understanding with the U.S. Bureau of Land Management (BLM), site surveys are being performed on approximately 15,000 mining claims, ranging from undisturbed claims to claims with mining features. Based on these surveys, BLM has issued no further action determinations for certain undisturbed claims. A similar agreement is in place with the U.S. Forest Service for mine features on U.S. Forest Service land. Either BLM or the U.S Forest Service may request additional assessment or remediation activities for other claims with mining features. FCX will update this obligation when it has a sufficient number of remedy decisions from the BLM or the U.S Forest Service to support a reasonably certain range of outcomes. FCX expects it will take several years to complete this work.

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:

	2021	2020	2019
Balance at beginning of year	$ 2,472	$ 2,505	$ 2,547
Liabilities incurred	2	7	20
Settlements and revisions to cash flow estimates, net	331 [a]	(13)	(5)
Accretion expense	112	131	118
Dispositions	—	(2)	(5)
Spending	(201)	(156)	(170)
Balance at end of year	2,716	2,472	2,505
Less current portion	(200)	(268)	(330)
Long-term portion	$ 2,516	$ 2,204	$ 2,175

a. Includes an adjustment at PT-FI totaling $397 million, see further discussion below.

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, settlements, inflation or other factors and as reclamation (concurrent with mining operations or post mining) 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 subsidiaries are required to provide will vary with changes in laws, regulations, reclamation and closure requirements, and cost estimates. At December 31, 2021, FCX's financial assurance obligations associated with these U.S. mine closure and reclamation/restoration costs totaled $1.5 billion, of which $0.9 billion was in the form of guarantees issued by FCX and FMC. At December 31, 2021, FCX had trust assets totaling $208 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 subsidiaries have financial assurance obligations for its oil and gas properties associated with plugging and abandoning wells and facilities totaling $424 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. 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. 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 of the New Mexico Energy, Minerals and Natural Resources Department. Under the Mining Act, mines are required to obtain approval of reclamation plans. In 2020, the agencies approved updates to the closure plan and financial assurance instruments and completed a permit renewal for Chino. In 2021, the agencies approved updates to the closure plan and financial assurance instruments, and completed a permit renewal for Tyrone. At December 31, 2021, FCX had accrued reclamation and closure costs of $510 million for its New Mexico operations. 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 operations are subject to regulatory oversight by the ADEQ. 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 during operations and closure. 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 implementation cost, with a more detailed closure plan required at the time operations cease. A permit applicant must demonstrate its financial ability to meet the closure costs approved by ADEQ. Closure costs for facilities covered by APPs are required to be updated every six years and financial assurance mechanisms are required to be updated every two years. Morenci's APP requires updated stockpile reclamation plans in 2022, which are expected to result in increased closure costs. Bagdad's APP also requires an updated cost estimate for its closure plan in 2022, which is expected to result in increased closure costs. FCX will continue updating its closure strategy and closure cost estimates at other Arizona sites and intends to submit an updated tailings dam system closure cost for Bagdad according to a schedule to be determined by ADEQ.

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. 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 AROs, and those adjustments

could be material. At December 31, 2021, FCX had accrued reclamation and closure costs of $363 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. In March 2020, the Division of Reclamation, Mining, and Safety (DRMS) approved Henderson's proposed update to its closure plan and closure cost estimate. As of December 31, 2021, FCX had accrued reclamation and closure costs of $153 million for its Colorado operations.

In 2019, Colorado enacted legislation that requires proof of an end date for water treatment as a condition of permit authorizations for new mining operations and expansions beyond current permit authorizations. While this requirement does not apply to existing operations, it may lead to changes in long-term water management requirements at Climax and Henderson operations and AROs. In accordance with its permit from DRMS, Climax will submit an updated reclamation plan and cost estimate in 2024.

Chile Reclamation and Closure Programs. El Abra is subject to regulation under the Mine Closure Law administered by the Chile Mining and Geology Agency. In compliance with the requirement for five-year updates, in November 2018, El Abra submitted an updated plan with closure cost estimates based on the existing approved closure plan. Approval of the updated closure plan and cost estimates was received in August 2020, and did not result in a material increase to closure costs. At December 31, 2021, FCX had accrued reclamation and closure costs of $82 million for its El Abra operation.

Peru Reclamation and Closure Programs. Cerro Verde is subject to regulation under the Mine Closure Law administered by the Peru 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. In compliance with the requirement for five-year updates, in 2017 Cerro Verde submitted its closure plan and cost estimate updated for the mine expansion, which was approved in February 2018. At December 31, 2021, FCX had accrued reclamation and closure costs of $141 million for its Cerro Verde operation.

Indonesia 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 under 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 through 2041. The construction time frame for reclamation of the West Wanagon overburden stockpile has been extended from 2025 to 2029 because safety constraints for working in steep and difficult terrain has reduced labor and equipment operating efficiencies. The time frame extension resulted in longer and escalating fixed costs, combined with additional anticipated volumes of stockpile material to be moved. As a result of the change in estimated costs, an ARO adjustment of $397 million was recorded in 2021, with $340 million charged to production and delivery costs, as it relates to the depleted Grasberg open pit. At December 31, 2021, FCX had accrued reclamation and closure costs of $1.1 billion for its PT-FI operations.

Indonesia government regulations issued in 2010 require a company to provide a mine closure guarantee in the form of a time deposit placed in a state-owned bank in Indonesia. In December 2018, PT-FI, in conjunction with the issuance of its special mining license (IUPK), submitted a revised mine closure plan to Indonesia's Department of Energy and Mineral Resources to reflect the extension of operations to 2041. At December 31, 2021, PT-FI had restricted time deposits totaling $113 million for mine closure and reclamation guarantees.

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, FM O&G's remaining operating areas primarily include offshore California and the Gulf of Mexico (GOM). As of December 31, 2021, FM O&G AROs cover 135 wells and approximately 100 platforms and other structures and it had accrued reclamation and closure costs of $337 million.

Litigation. In addition to the material pending legal proceedings discussed below and above under "Environmental," we are involved periodically in ordinary routine litigation incidental to our business and not required to be disclosed, some of which may result in adverse judgments, settlements, fines, penalties, injunctions or other relief. SEC regulations require us to disclose environmental proceedings involving a governmental authority if we reasonably believe that such proceedings may result in monetary sanctions above a stated threshold. Pursuant to the SEC regulations, we use a threshold of $1 million for purposes of determining whether disclosure of any such environmental proceedings is required. Management does not believe, based on currently available information, that the outcome of any current pending legal proceeding will have a material adverse effect on FCX's financial condition, although individual or cumulative 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.

Louisiana Parishes Coastal Erosion Cases. Certain FCX affiliates were named as defendants, along with numerous co-defendants, in 13 cases out of a total of 42 cases filed in Louisiana state courts by six south Louisiana parishes (Cameron, Jefferson, Plaquemines, St. Bernard, St. John the Baptist and Vermilion), alleging that certain oil and gas exploration and production operations and sulfur mining and production operations in coastal Louisiana contaminated and damaged coastal wetlands and caused significant land loss along the Louisiana coast. The state of Louisiana, through the Attorney General and separately through the Louisiana Department of Natural Resources, intervened in the litigation in support of the parishes' claims. Specifically, the cases alleged the defendants failed to obtain and/or comply with required coastal use permits in violation of the Louisiana State and Local Coastal Resources Management Act of 1978, and sought unspecified damages for the alleged statutory violations, and restoration of the properties at issue to their original condition. Certain FCX affiliates were named as defendants in two of the five cases that had been set for trial, both originally filed on November 8, 2013: Parish of Plaquemines v. ConocoPhillips Company et al., 25th Judicial District Court, Plaquemines Parish, Louisiana; No. 60-982, Div. B and Parish of Plaquemines v. Hilcorp Energy Company et al., 25th Judicial District Court, Plaquemines Parish, Louisiana; No. 60-999, Div. B. In 2019, affiliates of FCX reached an agreement in principle to settle all 13 cases. The maximum out-of-pocket settlement payment will be $23.5 million with the initial payment of $15 million to be paid upon execution of the settlement agreement. The initial payment will be held in trust and later deposited into a newly formed Coastal Zone Recovery Fund (the Fund) if the state of Louisiana passes enabling legislation to establish the Fund. The settlement agreement will also require the FCX affiliates to pay into the Fund twenty annual installments of $4.25 million beginning in 2023 provided the state of Louisiana passes the enabling legislation. The first two of those annual installments are conditioned only on the enactment of the enabling legislation within three years of execution of the settlement agreement, but all subsequent installments are also conditioned on the FCX affiliates receiving simultaneous reimbursement on a dollar-for-dollar basis from the proceeds of environmental credit sales generated by the Fund, resulting in the $23.5 million maximum total payment obligation. The settlement agreement must be executed by all parties, including authorized representatives of the six south Louisiana parishes originally plaintiffs in the suit and certain other non-plaintiff Louisiana parishes and the state of Louisiana. The agreement in principle does not include any admission of liability by FCX or its affiliates. FCX recorded a charge in 2019 for the initial payment of $15 million, which will be paid upon execution of the settlement agreement. The settlement agreement has been executed by the FCX affiliates, several of the Louisiana parishes, and the state of Louisiana. FCX is continuing its efforts to obtain signatures from or on behalf of the remaining parishes to finalize the settlement. Upon execution of the settlement agreement by all parties, the FCX affiliates will be fully released and dismissed from all 13 pending cases.

Asbestos and Talc Claims. Since approximately 1990, various FCX affiliates have been named as defendants in a large number of lawsuits alleging personal injury from exposure to asbestos or talc allegedly contained in industrial products such as electrical wire and cable, raw materials such as paint and joint compounds, talc-based lubricants used in rubber manufacturing or from asbestos contained in buildings and facilities located at properties owned or operated by affiliates of FCX. 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 that future developments will not alter this conclusion.

There has been a significant increase in the number of cases alleging the presence of asbestos contamination in talc-based cosmetic and personal care products and in cases alleging exposure to talc products that are not alleged to be contaminated with asbestos. The primary targets have been the producers of those products, but defendants in many of these cases also include talc miners. Cyprus Amax Minerals Company (CAMC), an indirect wholly owned subsidiary of FCX, and Cyprus Mines Corporation (Cyprus Mines), a wholly owned subsidiary of CAMC, are among those targets. Cyprus Mines was engaged in talc mining and processing from 1964 until 1992 when it exited

its talc business by conveying it to a third party in two related transactions. Those transactions involved (1) a transfer by Cyprus Mines of the assets of its talc business to a newly formed subsidiary that assumed all pre-sale and post-sale talc liabilities, subject to limited reservations, and (2) a sale of the stock of that subsidiary to the third party. In 2011, the third party sold that subsidiary to Imerys Talc America (Imerys), an affiliate of Imerys S.A. In accordance with the terms of the 1992 transactions and subsequent agreements, Imerys undertook the defense and indemnification of Cyprus Mines and CAMC in talc lawsuits.

Cyprus Mines has contractual indemnification rights, subject to limited reservations, against Imerys, which has historically acknowledged those indemnification obligations and took responsibility for all cases tendered to it. However, in February 2019, Imerys filed for Chapter 11 bankruptcy protection, which triggered an immediate automatic stay under the federal bankruptcy code prohibiting any party from continuing or initiating litigation or asserting new claims against Imerys. As a result, Imerys stopped defending the talc lawsuits against Cyprus Mines and CAMC. In addition, Imerys took the position that it alone owns, and has the sole right to access, the proceeds of the legacy insurance coverage of Cyprus Mines and CAMC for talc liabilities. In March 2019, Cyprus Mines and CAMC challenged this position and obtained emergency relief from the bankruptcy court to gain access to the insurance until the question of ownership and contractual access could be decided in an adversary proceeding before the bankruptcy court, which is currently on hold.

On December 22, 2020, Imerys filed an amended bankruptcy plan disclosing a global settlement with Cyprus Mines and CAMC, which provides a framework for a full and comprehensive resolution of all current and future potential liabilities arising out of the Cyprus Mines talc business, including claims against FCX, its affiliates, Cyprus Mines, and CAMC.

In 2021, Imerys obtained an injunction temporarily staying approximately 950 talc-related lawsuits against CAMC and Cyprus Mines, which has been extended through June 2022. The interim stay is a component of the global settlement but there can be no assurance that the bankruptcy court will continue to impose the interim stay.

On January 23, 2021, Imerys filed the form of a settlement and release agreement to be entered into by CAMC, Cyprus Mines, FCX, Imerys and the other debtors, tort claimants' committee and future claims representative in the Imerys bankruptcy. In accordance with the global settlement, among other things, (1) CAMC will pay a total of $130 million in cash to a settlement trust in seven annual installments, which will be guaranteed by FCX; (2) CAMC and Cyprus Mines and their affiliates will contribute to the settlement trust all rights that they have to the proceeds of certain legacy insurance policies as well as indemnity rights they have against Johnson & Johnson, and (3) Cyprus Mines will file for Chapter 11 bankruptcy protection with CAMC paying expenses of Cyprus Mines' bankruptcy process, subject to certain limitations. On February 11, 2021, Cyprus Mines filed for Chapter 11 bankruptcy protection. In connection with executing the settlement and release agreement, FCX concluded that it has a probable loss and, in 2020, recorded a $130 million charge to environmental obligations and shutdown costs.

In October 2021, Johnson & Johnson announced it established a new subsidiary to hold and manage its cosmetic talc liabilities, which entity subsequently filed for Chapter 11 bankruptcy protection. This filing could further slow and complicate FCX's efforts to implement a resolution.

FCX's global settlement is subject to, among other things, votes by claimants in both the Imerys and Cyprus Mines bankruptcy cases as well as bankruptcy court approvals in both cases, and there can be no assurance that the global settlement will be successfully implemented. FCX has a $130 million liability balance at December 31, 2021, associated with the proposed settlement.

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 pays a portion of the disputed amount before formally appealing an assessment. Such payment is recorded as a receivable if FCX believes the amount is collectible.

Cerro Verde Royalty Dispute. SUNAT assessed mining royalties on ore processed by the Cerro Verde concentrator for the period from December 2006 to December 2013. No royalty assessments can be issued for the years after 2013, as Cerro Verde began paying royalties on all of its production in January 2014 under its new 15-year stability

agreement. Cerro Verde contested each of these 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 such minerals.

Since 2014, Cerro Verde has been paying under protest the disputed assessments mostly under installment payment programs provided under Peruvian law. During 2021, Cerro Verde made payments totaling $421 million, which was the balance of its royalty dispute liabilities.

On February 28, 2020, FCX filed on its own behalf and on behalf of Cerro Verde international arbitration proceedings against the Government of Peru under the United States-Peru Trade Promotion Agreement. The hearing on the merits is scheduled to take place in May 2023. In April 2020, SMM Cerro Verde Netherlands B.V., another shareholder of Cerro Verde, filed another international arbitration proceeding against the Government of Peru under the Netherlands-Peru Bilateral Investment Treaty. The hearing on the merits is scheduled to take place in February 2023.

Other Peru 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	Penalties and Interest	Total
2003 to 2008	$ 48	$ 130	$ 178
2009	56	52	108
2010	54	122	176
2011 and 2012	41	72	113
2013	48	65	113
2014 to 2016	5	28	33
	$ 252	$ 469	$ 721

As of December 31, 2021, Cerro Verde had paid $642 million on these disputed tax assessments. A reserve has been applied against these payments totaling $405 million, resulting in a net receivable of $237 million (included in other assets), which Cerro Verde believes is collectible.

Cerro Verde's income tax assessments, penalties and interest included in the table above totaled $0.6 billion at December 31, 2021, of which $0.3 billion has not been recorded.

Indonesia Tax Matters. PT-FI has received assessments from the Indonesia 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. Excluding surface water tax assessments discussed below and the Indonesia government's previous imposition of a 7.5 percent export duty that PT-FI paid under protest during the period April 2017 to December 21, 2018 (refer to Note 13), a summary of these assessments, including potential penalties follows:

Tax Year	Tax Assessment	Penalties and Interest	Total
2005	$ 62	$ 30	$ 92
2007	48	23	71
2008 and 2011	28	36	64
2012 and 2013	41	43	84
2014 and 2015	121	—	121
2016	257	483	740
2017 and 2019	48	47	95
	$ 605	$ 662	$ 1,267

As of December 31, 2021, PT-FI had paid $278 million on these disputed tax assessments. A reserve has been applied against these payments totaling $221 million, resulting in a net receivable of $57 million (included in other assets).

PT-FI's income tax assessments, penalties and interest included in the table above totaled $1.1 billion at December 31, 2021, of which $0.5 billion has not been recorded.

Surface Water Taxes. 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 2018. As a result, PT-FI offered to pay one trillion rupiah to settle these historical surface water tax disputes and charged $69 million to production and delivery costs in December 2018. In May 2019, PT-FI agreed to a final settlement of 1.394 trillion rupiah (approximately $99 million) and recorded an incremental charge of $28 million. PT-FI paid 708.5 billion rupiah ($50 million) in October 2019, and paid the balance of 685.5 billion rupiah ($48 million) during 2021.

Export Duty Matter. In April 2017, PT-FI entered into a memorandum of understanding with the Indonesia government (the 2017 MOU) confirming that the former contract of work (COW) would continue to be valid and honored until replaced by a mutually agreed IUPK and investment stability agreement and agreed to continue to pay export duties of 5 percent on copper concentrate export sales until completion of the divestment and new IUPK. Subsequently, the Customs Office of the Minister of Finance refused to recognize the 5 percent export duty agreed to under the 2017 MOU and imposed a 7.5 percent export duty under the Ministry of Finance regulations. PT-FI paid $155 million for these duties under protest and appealed the disputed amounts to the Indonesia Tax Court. The Indonesia Tax Court subsequently ruled in favor of PT-FI related to the cases involving $29 million of the disputed amounts, which were refunded by the Indonesia Customs Office to PT-FI. The Indonesia Customs Office appealed the Indonesia Tax Court decisions on these cases to the Indonesia Supreme Court. On October 29, 2019, the Indonesia Supreme Court posted on its website rulings unfavorable to PT-FI for certain of the appealed cases involving approximately half of the $29 million that had been refunded to PT-FI. As a result of the October 2019 ruling, FCX recorded a charge of $155 million in 2019 to fully reserve for this matter.

Withholding Tax Assessments. In January 2019, the Indonesia Supreme Court posted on its website an unfavorable decision related to a PT-FI 2005 withholding tax matter. PT-FI had also received an unfavorable Indonesia Supreme Court decision in November 2017. PT-FI currently has other pending cases at the Indonesia Supreme Court related to withholding taxes for employees and other service providers for the year 2005 and the year 2007, which total $47 million (based on the exchange rate as of December 31, 2021, and included in accounts payable and accrued liabilities in the consolidated balance sheet at December 31, 2021), including penalties and interest.

Smelter Development Progress. As a result of COVID-19 mitigation measures, there have been disruptions to work and travel schedules of international contractors and restrictions on access to the proposed physical site of the greenfield smelter in Gresik, Indonesia. PT-FI continues to discuss with the Indonesia government a deferred schedule for the greenfield smelter in light of the ongoing COVID-19 pandemic. Refer to Note 13 for discussion of PT-FI's commitment for the development of additional smelting capacity in Indonesia under the terms of its IUPK.

On January 7, 2021, the Indonesia government levied an administrative fine of $149 million for the period from March 30, 2020, through September 30, 2020, on PT-FI for failing to achieve physical development progress on the greenfield smelter as of July 31, 2020. On January 13, 2021, PT-FI responded to the Indonesia government objecting to the fine because of events outside of its control causing a delay of the greenfield smelter's development progress. PT-FI believes that its communications during 2020 with the Indonesia government were not properly considered before the administrative fine was levied.

In June 2021, the Indonesia government issued a ministerial decree for the calculation of an administrative fine for lack of smelter development in light of the COVID-19 pandemic. During 2021, PT-FI recorded charges totaling $16 million for a potential settlement of the administrative fine. On January 25, 2022, the Indonesia government submitted a new estimate of the administrative fine totaling $57 million. On February 15, 2022, PT-FI responded to the Indonesia government with a revised calculation of $37 million. PT-FI expects to record a charge in the first quarter of 2022 for an amount in excess of the previously recorded $16 million.

Letters of Credit, Bank Guarantees and Surety Bonds. Letters of credit and bank guarantees totaled $239 million at December 31, 2021, primarily associated with environmental obligations, AROs and for copper concentrate shipments from PT-FI to Atlantic Copper as required by Indonesia regulations. In addition, FCX had surety bonds totaling $492 million at December 31, 2021, primarily associated with environmental obligations and AROs.

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, 2021, FCX's liability for expected losses under these insurance programs totaled $62 million, which consisted of a current portion of $11 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 $26 million (a current portion of $7 million included in other accounts receivable and a long-term portion of $19 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 incidental 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. While FCX is not fully insured against all risks related to its oil and gas operations, its insurance policies provide limited coverage for losses or liabilities relating to pollution, with broader coverage for sudden and accidental occurrences. FCX is self-insured for named windstorms in the GOM.

NOTE 13. COMMITMENTS AND GUARANTEES

Leases. Effective January 1, 2019, FCX adopted the new Accounting Standards Update (ASU) for lease accounting, and nearly all of FCX's leases were considered operating leases under the new ASU. FCX leases various types of properties, including land, offices and equipment under non-cancelable leases.

The components of FCX's leases presented in the consolidated balance sheet for the years ended December 31 follow:

	December 31,	
	2021	2020
Lease right-of-use assets (included in property, plant, equipment and mine development costs, net)	$ 277	$ 207
Short-term lease liabilities (included in accounts payable and accrued liabilities)	$ 38	$ 38
Long-term lease liabilities (included in other liabilities)	281 [a]	190
Total lease liabilities	$ 319	$ 228

a. Includes a land lease by PT-FI for the greenfield smelter totaling $126 million. This is FCX's only significant finance lease.

Operating lease costs, primarily included in production and delivery expense in the consolidated statement of operations, for the two years ended December 31 follow:

	2021	2020	2019
Operating leases	$ 42	$ 42	$ 55
Variable and short-term leases	62	74	79
Total operating lease costs	$ 104	$ 116	$ 134

FCX payments included in operating cash flows for its lease liabilities totaled $54 million in 2021, $36 million in 2020 and $38 million in 2019. FCX payments included in financing cash flows for its lease liabilities totaled $25 million in 2021 and $4 million in both 2020 and 2019. As of December 31, 2021, the weighted-average discount rate used to determine the lease liabilities was 4.2 percent (5.4 percent as of December 31, 2020) and the weighted-average remaining lease term was 12.4 years (7.7 years as of December 31, 2020).

The future minimum payments for leases presented in the consolidated balance sheet at December 31, 2021, follow:

2022	$	46
2023		35
2024		73
2025		27
2026		24
Thereafter		194
Total payments		399
Less amount representing interest		(80)
Present value of net minimum lease payments		319
Less current portion		(38)
Long-term portion	$	281

Contractual Obligations. At December 31, 2021, based on applicable prices on that date, FCX has unconditional purchase obligations (including take-or-pay contracts with terms less than one year) of $4.3 billion, primarily comprising the procurement of copper concentrate ($3.1 billion), transportation services ($0.4 billion) and electricity ($0.3 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. Transportation obligations are primarily for South America contracted ocean freight. Electricity obligations are primarily for long-term power purchase agreements in North America and contractual minimum demand at the South America mines.

FCX's unconditional purchase obligations by year total $1.6 billion in 2022, $1.5 billion in 2023, $0.5 billion in 2024, $0.2 billion in 2025, $0.2 billion in 2026 and $0.3 billion thereafter. During the three-year period ended December 31, 2021, FCX fulfilled its minimum contractual purchase obligations.

IUPK - Indonesia. On December 21, 2018, FCX completed the transaction with the Indonesia government regarding PT-FI's long-term mining rights and share ownership. Concurrent with the closing of the transaction, the Indonesia government granted PT-FI an IUPK to replace its former COW, enabling PT-FI to conduct operations in the Grasberg minerals district through 2041. Under the terms of the IUPK, PT-FI has been granted an extension of mining rights through 2031, with rights to extend mining rights through 2041, subject to PT-FI completing the development of additional smelting capacity in Indonesia by the end of 2023 (an extension of which has been requested due to COVID-19 mitigation measures subject to the approval of the Indonesia government, refer to Note 12), and fulfilling its defined fiscal obligations to the Indonesia government. The IUPK, and related documentation, contains legal and fiscal terms and is legally enforceable through 2041, assuming the additional extension is received. In addition, FCX, as a foreign investor, has rights to resolve investment disputes with the Indonesia government through international arbitration.

The key fiscal terms set forth in the IUPK include a 25 percent corporate income tax rate, a 10 percent profits tax on net income, and royalty rates of 4 percent for copper, 3.75 percent for gold and 3.25 percent for silver. PT-FI's royalties totaled $319 million in 2021, $160 million in 2020 and $106 million in 2019.

Dividend distributions from PT-FI to FCX totaled $1.0 billion in 2021 and are subject to a 10 percent withholding tax. There were no dividend distributions from PT-FI to FCX in 2020 or 2019.

The IUPK requires PT-FI to pay export duties of 5 percent, declining to 2.5 percent when smelter development progress exceeds 30 percent and eliminated when development progress for additional smelting capacity in Indonesia exceeds 50 percent. PT-FI had previously agreed to and has been paying export duties since July 2014 (refer to Note 12 for further discussion of disputed export duties). PT-FI's export duties charged against revenues totaled $218 million in 2021, $92 million in 2020 and $66 million in 2019 (excluding $155 million associated with the historical export duty matter discussed in Note 12).

The IUPK also requires PT-FI to pay surface water taxes of $15 million annually, which began in 2019 and are recognized in production and delivery costs.

In connection with a memorandum of understanding previously entered into with the Indonesia government in July 2014, PT-FI provided an assurance bond to support its commitment to construct a greenfield smelter in Indonesia ($132 million based on exchange rate as of December 31, 2021).

In March 2021, PT-FI received a one-year extension of its export license through March 15, 2022. In December 2021, PT Smelting received a twelve-month extension of its anodes slimes export license, which expires December 9, 2022, subject to review and approval by the Indonesia government every six months.

Chiyoda Contract. In July 2021, PT-FI awarded a construction contract to Chiyoda for the construction of a greenfield smelter in Gresik, Indonesia with an estimated contract cost of $2.8 billion. During 2021, PT-FI progressed site preparation activities and expects engineering procurement and construction activities to advance during 2022 and 2023. Construction of the greenfield smelter is expected to be completed as soon as feasible in 2024, which is subject to no additional COVID-19-related disruptions and other factors.

PT-FI Tolling Agreement. PT-FI entered into a tolling agreement with PT Smelting that will be effective January 1, 2023, and will replace the current concentrate sales agreements between PT-FI and PT Smelting. Under the tolling agreement, PT-FI will pay PT Smelting to smelt and refine its concentrate and will retain title to all products for sale to third parties.

Indemnification. The PT-FI divestment agreement, discussed in Note 3, provides that FCX will indemnify PT Inalum and PTI from any losses (reduced by receipts) arising from any tax disputes of PT-FI disclosed to PT Inalum in a Jakarta, Indonesia tax court letter limited to PTI's respective percentage share at the time the loss is finally incurred. Any net obligations arising from any tax settlement would be paid on December 21, 2025. FCX had accrued $78 million as of December 31, 2021, and $42 million as of December 31, 2020, (included in other liabilities in the consolidated balance sheets) related to this indemnification.

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 and promotes 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 areas of health, education, economic development and local infrastructure of the area. Throughout 2019, PT-FI consulted with key stakeholders to restructure the management of the Partnership Fund in compliance with PT-FI's IUPK. Throughout the restructuring process, PT-FI continued its contributions to ensure no disruptions in implementation of approved projects. Beginning in February 2020, the Partnership Fund is managed by a legally-recognized Indonesia foundation (*Yayasan Pemberdayaan Masyarakat Amungme dan Kamoro,* or YPMAK). PT-FI charged $75 million in 2021, $36 million in 2020 and $28 million in 2019 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 derivative 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.

In April 2020, FCX entered into forward sales contracts for 150 million pounds of copper for settlement in May and June of 2020. The forward sales provided for fixed pricing of $2.34 per pound of copper on approximately 60 percent of North America's sales volumes for May and June 2020. These contracts resulted in hedging losses totaling $24 million for the year ended December 31, 2020. There were no remaining forward sales contracts after June 30, 2020.

A discussion of FCX's other 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 and cathode 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 resulting from hedge ineffectiveness during the year ended December 31, 2021. At December 31, 2021, FCX held copper futures and swap contracts that qualified for hedge accounting for 78 million pounds at an average contract price of $4.30 per pound, with maturities through October 2023.

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, including the unrealized gains (losses) on the related hedged item follows (in millions):

	2021	2020	2019
Copper futures and swap contracts:			
Unrealized (losses) gains:			
Derivative financial instruments	$ (4)	$ 9	$ 15
Hedged item - firm sales commitments	4	(9)	(15)
Realized gains (losses):			
Matured derivative financial instruments	65	22	(8)

Derivatives Not Designated as Hedging Instruments

Embedded Derivatives. Certain FCX 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. FCX receives market prices based on prices in the specified future month, which results in price fluctuations recorded in revenues until the date of settlement. FCX records revenues and invoices customers at the time of shipment based on then-current LME or COMEX copper prices and the London gold prices as specified in the contracts, 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 copper price and the London gold 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 LME or COMEX copper forward prices and the adjusted London gold price, until the date of final pricing. 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 inventory for purchase contracts.

A summary of FCX's embedded derivatives at December 31, 2021, follows:

	Open Positions	Average Price Per Unit		Maturities Through
		Contract	Market	
Embedded derivatives in provisional sales contracts:				
Copper (millions of pounds)	682	$ 4.37	$ 4.42	July 2022
Gold (thousands of ounces)	223	1,797	1,822	March 2022
Embedded derivatives in provisional purchase contracts:				
Copper (millions of pounds)	132	4.38	4.42	April 2022

Copper Forward Contracts. Atlantic Copper 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 production and delivery costs. At December 31, 2021, Atlantic Copper held net copper forward sales contracts for 2 million pounds at an average contract price of $4.53 per pound, with maturities through March 2022.

Summary of Gains (Losses). A summary of the realized and unrealized gains (losses) recognized in operating income for commodity contracts that do not qualify as hedge transactions, including embedded derivatives, follows (in millions):

	2021	2020	2019
Embedded derivatives in provisional sales contracts[a]:			
Copper	$ 425	$ 259	$ 34
Gold and other	(2)	45	20
Copper forward contracts[b]	(15)	3	(7)

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,	
	2021	2020
Commodity Derivative Assets:		
Derivatives designated as hedging instruments:		
Copper futures and swap contracts	$ 12	$ 15
Derivatives not designated as hedging instruments:		
Embedded derivatives in provisional sales/purchase contracts	64	169
Copper forward contracts	1	—
Total derivative assets	$ 77	$ 184
Commodity Derivative Liabilities:		
Derivatives not designated as hedging instruments:		
Embedded derivatives in provisional sales/purchase contracts	$ 27	$ 21
Copper forward contracts	1	—
Total derivative liabilities	$ 28	$ 21

FCX's commodity contracts have netting arrangements with counterparties with which the right of offset exists, and it is FCX's policy to generally offset balances by contract on its balance sheet. FCX's embedded derivatives on provisional sales/purchase contracts are netted with the corresponding outstanding receivable/payable balances.

A summary of these unsettled commodity contracts that are offset in the balance sheet follows (in millions):

	Assets at December 31,		Liabilities at December 31,	
	2021	2020	2021	2020
Gross amounts recognized:				
Commodity contracts:				
Embedded derivatives in provisional sales/purchase contracts	$ 64	$ 169	$ 27	$ 21
Copper derivatives	13	15	1	—
	77	184	28	21
Less gross amounts of offset:				
Commodity contracts:				
Embedded derivatives in provisional sales/purchase contracts	3	1	3	1
Copper derivatives	1	—	1	—
	4	1	4	1
Net amounts presented in balance sheet:				
Commodity contracts:				
Embedded derivatives in provisional sales/purchase contracts	61	168	24	20
Copper derivatives	12	15	—	—
	$ 73	$ 183	$ 24	$ 20
Balance sheet classification:				
Trade accounts receivable	$ 51	$ 168	$ 14	$ —
Other current assets	12	15	—	—
Accounts payable and accrued liabilities	10	—	10	20
	$ 73	$ 183	$ 24	$ 20

Credit Risk. FCX is exposed to credit loss when financial institutions with which it 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. As of December 31, 2021, the maximum amount of credit exposure associated with derivative transactions was $77 million.

Other Financial Instruments. Other financial instruments include cash and cash equivalents, restricted cash, restricted cash equivalents, accounts receivable, investment securities, legally restricted funds, accounts payable and accrued liabilities, dividends payable and debt. The carrying value for cash and cash equivalents (which included time deposits of $0.2 billion at December 31, 2021, and $0.3 billion at December 31, 2020), restricted cash, restricted cash equivalents, accounts receivable, accounts payable and accrued liabilities, and dividends payable 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 debt).

In addition, as of December 31, 2021, FCX has contingent consideration assets related to the sales of certain oil and gas properties (refer to Note 15 for the related fair values).

Trade Accounts Receivable Agreements. In first-quarter 2021, PT-FI entered into agreements to sell certain trade accounts receivables to unrelated third-party financial institutions. The agreements were entered into in the normal course of business to fund the working capital for the additional quantity of copper to be supplied by PT-FI to PT Smelting. The balances sold under the agreements were excluded from trade accounts receivable on the consolidated balance sheet at December 31, 2021. Receivables are considered sold when (i) they are transferred beyond the reach of PT-FI and its creditors, (ii) the purchaser has the right to pledge or exchange the receivables, and (iii) PT-FI has no continuing involvement in the transferred receivables. In addition, PT-FI provides no other forms of continued financial support to the purchaser of the receivables once the receivables are sold.

Gross amounts sold under these arrangements totaled $431 million in 2021. Discounts on the sold receivables totaled $2 million in 2021.

Cash, Cash Equivalents, Restricted Cash and Restricted Cash Equivalents. The following table provides a reconciliation of total cash, cash equivalents, restricted cash and restricted cash equivalents presented in the consolidated statements of cash flows (in millions):

	December 31,	
	2021	2020
Balance sheet components:		
Cash and cash equivalents	$ 8,068	$ 3,657
Restricted cash and restricted cash equivalents included in:		
Other current assets	114	97
Other assets	132	149
Total cash, cash equivalents, restricted cash and restricted cash equivalents presented in the consolidated statements of cash flows	$ 8,314	$ 3,903

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) and the lowest priority to unobservable inputs (Level 3). FCX did not have any significant transfers in or out of Level 3 for 2021.

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. A summary of the carrying amount and fair value of FCX's financial instruments (including those measured at NAV as a practical expedient), other than cash and cash equivalents, restricted cash, restricted cash equivalents, accounts receivable, accounts payable and accrued liabilities, and dividends payable (refer to Note 14) follows:

	At December 31, 2021					
	Carrying Amount	Fair Value				
		Total	NAV	Level 1	Level 2	Level 3
Assets						
Investment securities:[a,b]						
Equity securities	$ 50	$ 50	$ —	$ 50	$ —	$ —
U.S. core fixed income fund	29	29	29	—	—	—
Total	79	79	29	50	—	—
Legally restricted funds:[a]						
U.S. core fixed income fund	64	64	64	—	—	—
Government bonds and notes	53	53	—	—	53	—
Corporate bonds	45	45	—	—	45	—
Government mortgage-backed securities	20	20	—	—	20	—
Asset-backed securities	18	18	—	—	18	—
Money market funds	8	8	—	8	—	—
Municipal bonds	1	1	—	—	1	—
Total	209	209	64	8	137	—
Derivatives:						
Embedded derivatives in provisional sales/purchase contracts in a gross asset position[c]	64	64	—	—	64	—
Copper futures and swap contracts[c]	12	12	—	9	3	—
Copper forward contracts[c]	1	1	—	1	—	—
Total	77	77	—	10	67	—
Contingent consideration for the sale of the Deepwater GOM oil and gas properties[a]	90	81	—	—	—	81
Liabilities						
Derivatives:[c]						
Embedded derivatives in provisional sales/purchase contracts in a gross liability position	27	27	—	—	27	—
Copper forward contracts	1	1	—	1	—	—
Total	28	28	—	1	27	—
Long-term debt, including current portion[d]	9,450	10,630	—	—	10,630	—

	At December 31, 2020					
	Carrying Amount	Fair Value				
		Total	NAV	Level 1	Level 2	Level 3
Assets						
Investment securities:[a,b]						
U.S. core fixed income fund	$ 29	$ 29	$ 29	$ —	$ —	$ —
Equity securities	7	7	—	7	—	—
Total	36	36	29	7	—	—
Legally restricted funds:[a]						
U.S. core fixed income fund	65	65	65	—	—	—
Government bonds and notes	49	49	—	—	49	—
Corporate bonds	43	43	—	—	43	—
Government mortgage-backed securities	30	30	—	—	30	—
Asset-backed securities	16	16	—	—	16	—
Money market funds	5	5	—	5	—	—
Collateralized mortgage-backed securities	4	4	—	—	4	—
Municipal bonds	1	1	—	—	1	—
Total	213	213	65	5	143	—
Derivatives:						
Embedded derivatives in provisional sales/purchase contracts in a gross asset position[c]	169	169	—	—	169	—
Copper futures and swap contracts[c]	15	15	—	13	2	—
Total	184	184	—	13	171	—
Contingent consideration for the sale of the Deepwater GOM oil and gas properties[a]	108	88	—	—	—	88
Liabilities						
Derivatives:[c]						
Embedded derivatives in provisional sales/purchase contracts in a gross liability position	21	21	—	—	21	—
Long-term debt, including current portion[d]	9,711	10,994	—	—	10,994	—

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 $114 million at December 31, 2021, and $97 million at December 31, 2020, and (ii) other assets of $132 million at December 31, 2021, and $148 million at December 31, 2020, primarily associated with an assurance bond to support PT-FI's commitment for the development of a greenfield smelter in Indonesia (refer to Note 13 for further discussion) and PT-FI's closure and reclamation guarantees (refer to Note 12 for further discussion).

c. Refer to Note 14 for further discussion and balance sheet classifications.

d. Recorded at cost except for debt assumed in acquisitions, which are recorded at fair value at the respective acquisition dates.

Valuation Techniques. 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.

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 (which are usually within one business day of notice).

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. 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.

Money market funds are classified within Level 1 of the fair value hierarchy because they are valued using quoted market prices in active markets.

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 adjusted London gold prices 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.

In December 2016, FCX's sale of its Deepwater GOM oil and gas properties included up to $150 million in contingent consideration that was recorded at the total amount under the loss recovery approach. The contingent consideration is being received over time as future cash flows are realized from a third-party production handling agreement for an offshore platform, with the related payments commencing in third-quarter 2018. The contingent consideration included in (i) other current assets totaled $20 million at December 31, 2021, and $12 million at December 31, 2020, and (ii) other assets totaled $70 million at December 31, 2021, and $96 million at December 31, 2020. The fair value of this contingent consideration was calculated based on a discounted cash flow model using inputs that include third-party estimates for reserves, production rates and 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.

Long-term debt, including current portion, is primarily 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 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, 2021, as compared to those techniques used at December 31, 2020.

A summary of the changes in the fair value of FCX's Level 3 instrument, contingent consideration for the sale of the Deepwater GOM oil and gas properties, for the years ended December 31 follows:

	2021	2020	2019
Balance at beginning of year	$ 88	$ 108	$ 127
Net unrealized gains (losses) related to assets still held at the end of the year	12	(6)	2
Settlements	(19)	(14)	(21)
Balance at end of year	$ 81	$ 88	$ 108

NOTE 16. BUSINESS SEGMENT INFORMATION

Product Revenues. FCX's revenues attributable to the products it sold for the years ended December 31 follow:

	2021	2020	2019
Copper:			
Concentrate	$ 8,705	$ 4,294	$ 4,566
Cathode	5,900	4,204	3,656
Rod and other refined copper products	3,369	2,052	2,110
Purchased copper[a]	757	821	1,060
Gold	2,580	1,702	1,620
Molybdenum	1,283	848	1,169
Other[b]	821	592	905
Adjustments to revenues:			
Treatment charges	(445)	(362)	(404)
Royalty expense[c]	(330)	(165)	(113)
Export duties[d]	(218)	(92)	(221)
Revenues from contracts with customers	22,422	13,894	14,348
Embedded derivatives[e]	423	304	54
Total consolidated revenues	$ 22,845	$ 14,198	$ 14,402

a. FCX purchases copper cathode primarily for processing by its Rod & Refining operations.

b. Primarily includes revenues associated with silver and cobalt.

c. Reflects royalties on sales from PT-FI and Cerro Verde that will vary with the volume of metal sold and prices.

d. Reflects PT-FI export duties. The year 2019 includes charges totaling $155 million primarily associated with an unfavorable Indonesia Supreme Court ruling related to certain disputed export duties (refer to Note 12).

e. Refer to Note 14 for discussion of embedded derivatives related to FCX's provisionally priced concentrate and cathode sales contracts.

Geographic Area. Information concerning financial data by geographic area follows:

	December 31,	
	2021	2020
Long-lived assets:[a]		
Indonesia	$ 16,288	$ 15,567
U.S.	8,292	8,420
Peru	6,827	6,989
Chile	1,110	1,172
Other	261	290
Total	$ 32,778	$ 32,438

a. Excludes deferred tax assets and intangible assets.

	Years Ended December 31,		
	2021	2020	2019
Revenues:[a]			
U.S.	$ 7,168	$ 5,248	$ 5,107
Switzerland	3,682	2,032	2,223
Indonesia	3,132	1,760	1,894
Japan	2,372	1,205	1,181
Spain	1,495	785	884
China	1,044	692	531
United Kingdom	659	491	233
Germany	469	248	311
Chile	343	221	242
Korea	270	89	140
Egypt	268	153	123
Philippines	264	34	73
India	207	152	107
Other	1,472	1,088	1,353
Total	$ 22,845	$ 14,198	$ 14,402

a. Revenues are attributed to countries based on the location of the customer.

Major Customers and Affiliated Companies. Copper concentrate sales to PT Smelting totaled 14 percent of FCX's consolidated revenues in 2021, 12 percent in 2020 and 13 percent in 2019, and they are the only customer that accounted for 10 percent or more of FCX's consolidated revenues during the three years ended December 31, 2021.

Consolidated revenues include sales to the noncontrolling interest owners of FCX's South America mining operations totaling $1.4 billion in 2021, $0.9 billion in 2020 and $1.0 billion in 2019, and PT-FI's sales to PT Smelting totaling $3.1 billion in 2021, $1.8 billion in 2020 and $1.9 billion in 2019.

Labor Matters. As of December 31, 2021, approximately 31 percent of FCX's global labor force was covered by collective bargaining agreements, and approximately 14 percent was covered by agreements that will or was scheduled to expire during 2022. In February 2022, PT-FI completed negotiations with its unions on a new two-year collective bargaining agreement that is effective through March 2024.

Business Segments. FCX has organized its 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. Separately disclosed in the following tables are FCX's reportable segments, which include the Morenci, Cerro Verde and Grasberg (Indonesia Mining) copper mines, the Rod & Refining operations and Atlantic Copper Smelting & Refining.

Intersegment sales between FCX's business segments are based on terms similar to arms-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.

FCX defers recognizing profits on sales from its mines to other segments, including Atlantic Copper Smelting & Refining and on PT-FI's sales to PT Smelting (on 25.0 percent prior to April 30, 2021, and 39.5 percent thereafter) 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 Financial Information by Business Segment 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 operates seven open-pit copper mines in North America - Morenci, Safford (including Lone Star), Bagdad, Sierrita and Miami in Arizona, and Chino and Tyrone 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 segment. In addition to copper, certain of FCX's North America copper mines also produce molybdenum concentrate, gold 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. During 2021, the Morenci mine produced 43 percent of FCX's North America copper and 16 percent of FCX's consolidated copper production.

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.

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. During 2021, the Cerro Verde mine produced 85 percent of FCX's South America copper and 23 percent of FCX's consolidated copper production.

Indonesia Mining. Indonesia mining includes PT-FI's Grasberg minerals district that produces copper concentrate that contains significant quantities of gold and silver. During 2021, PT-FI's Grasberg minerals district produced 35 percent of FCX's consolidated copper production and 99 percent of FCX's consolidated gold production.

Molybdenum Mines. Molybdenum mines include the wholly owned Henderson underground mine and 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.

Rod & Refining. The Rod & Refining segment consists of copper conversion facilities located in North America, and includes a refinery and two rod mills, 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 and rod. At times these operations refine copper and produce copper rod 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 2021, Atlantic Copper purchased 18 percent of its concentrate requirements from FCX's North America copper mines, 7 percent from FCX's South America mining operations and 9 percent from FCX's Indonesia mining operations, with the remainder purchased from unaffiliated third parties.

Corporate, Other & Eliminations. Corporate, Other & Eliminations consists of FCX's other mining, oil and gas operations and other corporate and elimination items, which include the Miami smelter, Freeport Cobalt (until the sale of it in September 2021), molybdenum conversion facilities in the U.S. and Europe, the greenfield smelter and PMR in Indonesia, certain non-operating copper mines in North America (Ajo, Bisbee and Tohono in Arizona) and other mining support entities.

Financial Information by Business Segment

	North America Copper Mines			South America Mining								
	Morenci	Other	Total	Cerro Verde	Other	Total	Indonesia Mining	Molybdenum Mines	Rod & Refining	Atlantic Copper Smelting & Refining	Corporate, Other & Elimi-nations	FCX Total
Year Ended December 31, 2021												
Revenues:												
Unaffiliated customers	$ 82	$ 180	$ 262	$ 3,736	$ 720	$ 4,456	$ 7,241	$ —	$ 6,356	$ 2,961	$ 1,569 [a]	$22,845
Intersegment	2,728	3,835	6,563	460	—	460	282	444	29	—	(7,778)	—
Production and delivery	1,226	2,235	3,461	2,000 [b]	429	2,429	2,425 [c]	253	6,381	2,907	(5,840) [d]	12,016
Depreciation, depletion and amortization	152	217	369	366	47	413	1,049	67	5	28	67	1,998
Metals inventory adjustments	13	—	13	—	—	—	—	1	—	—	2	16
Selling, general and administrative expenses	2	2	4	8	—	8	111	—	—	24	236	383
Mining exploration and research expenses	—	1	1	—	—	—	—	—	—	—	54	55
Environmental obligations and shutdown costs	—	(1)	(1)	—	—	—	—	—	—	—	92	91
Net gain on sales of assets	—	—	—	—	—	—	—	—	—	(19)	(61) [e]	(80)
Operating income (loss)	1,417	1,561	2,978	1,822	244	2,066	3,938	123	(1)	21	(759)	8,366
Interest expense, net	—	1	1	28	—	28	48	—	—	6	519	602
Provision for (benefit from) income taxes	—	—	—	730	90	820	1,524 [f]	—	—	—	(45)	2,299
Total assets at December 31, 2021	2,708	5,208	7,916	8,694	1,921	10,615	18,971	1,713	228	1,318	7,261	48,022
Capital expenditures	135	207	342	132	30	162	1,296	6	2	34	273 [g]	2,115

a. Includes revenues from FCX's molybdenum sales company, which includes sales of molybdenum produced by the Molybdenum mines and by certain of the North America and South America copper mines.

b. Includes nonrecurring charges totaling $92 million associated with labor-related charges at Cerro Verde for agreements reached with its hourly employees.

c. Includes charges totaling $340 million associated with unfavorable ARO change. Refer to Note 12 for further discussion.

d. Includes charges associated with the major maintenance turnaround at the Miami Smelter totaling $87 million.

e. Includes a $60 million gain on the sale of FCX's remaining cobalt business located in Kokkola, Finland. Refer to Note 2 for further discussion.

f. Includes net tax benefits of $189 million associated with the release of a portion of the valuation allowance recorded against PT Rio Tinto NOLs. Refer to Note 11 for further discussion.

g. Includes capital expenditures for the Indonesia smelter projects of $222 million.

	North America Copper Mines			South America Mining								
	Morenci	Other	Total	Cerro Verde	Other	Total	Indonesia Mining	Molybdenum Mines	Rod & Refining	Atlantic Copper Smelting & Refining	Corporate, Other & Elimi-nations	FCX Total
Year Ended December 31, 2020												
Revenues:												
Unaffiliated customers	$ 29	$ 48	$ 77	$ 2,282	$ 431	$ 2,713	$ 3,534	$ —	$ 4,781	$ 2,020	$ 1,073 [a]	$14,198
Intersegment	2,015	2,272	4,287	242	—	242	80	222	33	17	(4,881)	—
Production and delivery	1,269	1,831	3,100	1,599	379	1,978	1,606	230	4,819	1,962	(3,664)	10,031
Depreciation, depletion and amortization	166	189	355	367	54	421	580	57	16	29	70	1,528
Metals inventory adjustments	4	48	52	—	3	3	—	10	3	—	28	96
Selling, general and administrative expenses	2	2	4	6	—	6	108	—	—	21	231	370
Mining exploration and research expenses	—	2	2	—	—	—	—	—	—	—	48	50
Environmental obligations and shutdown costs	—	(1)	(1)	—	—	—	—	—	1	—	159 [b]	159
Net gain on sales of assets	—	—	—	—	—	—	—	—	—	—	(473) [c]	(473)
Operating income (loss)	603	249	852	552 [d]	(5)	547	1,320	(75)	(25) [d]	25	(207) [d]	2,437 [d]
Interest expense, net	2	—	2	139	—	139	39 [e]	—	—	6	412	598
Provision for income taxes	—	—	—	238	1	239	606	—	—	2	97 [f]	944
Total assets at December 31, 2020	2,574	5,163	7,737	8,474	1,678	10,152	16,918	1,760	211	877	4,489	42,144
Capital expenditures	102	326	428	141	42	183	1,161	19	6	29	135 [g]	1,961

a. Includes revenues from FCX's molybdenum sales company, which includes sales of molybdenum produced by the Molybdenum mines and by certain of the North America and South America copper mines.

b. Includes charges totaling $130 million associated with a framework for the resolution of all current and future potential talc-related litigation. Refer to Note 12 for further discussion.

c. Includes a $486 million gain associated with the sale of FCX's interests in the Kisanfu undeveloped project. Refer to Note 2 for further discussion.

d. Includes charges totaling $258 million associated with (i) idle facility costs (Cerro Verde), contract cancellation and other charges directly related to the COVID-19 pandemic and (ii) the April 2020 revised operating plans (including employee separation costs). These charges were primarily recorded in the Cerro Verde segment ($89 million), Corporate, Other & Eliminations ($57 million) and the Rod & Refining segment ($30 million).

e. Includes charges totaling $35 million associated with PT-FI's historical contested tax audits. Refer to Note 12 for further discussion.

f. Includes tax charges totaling $135 million associated with the sale of the Kisanfu undeveloped project, partly offset by tax credits of $53 million associated with the reversal of a year-end 2019 tax charge related to the sale of FCX's interest in the lower zone of the Timok exploration project.

g. Includes capital expenditures for the Indonesia smelter projects of $105 million.

	North America Copper Mines			South America Mining								
	Morenci	Other	Total	Cerro Verde	Other	Total	Indonesia Mining	Molybdenum Mines	Rod & Refining	Atlantic Copper Smelting & Refining	Corporate, Other & Elimi-nations	FCX Total
Year Ended December 31, 2019												
Revenues:												
Unaffiliated customers	$ 143	$ 224	$ 367	$2,576	$ 499	$ 3,075	$ 2,713 [a]	$ —	$ 4,457	$ 2,063	$ 1,727 [b]	$14,402
Intersegment	1,864	2,155	4,019	313	—	313	58	344	26	5	(4,765)	—
Production and delivery	1,376	1,943	3,319	1,852	474	2,326	2,055 [c]	299	4,475	1,971	(2,911)	11,534
Depreciation, depletion and amortization	171	178	349	406	68	474	406	62	9	28	84	1,412
Metals inventory adjustments	1	29	30	2	—	2	5	50	—	—	92	179
Selling, general and administrative expenses	2	2	4	8	—	8	125	—	—	20	237	394
Mining exploration and research expenses	—	2	2	—	—	—	—	—	—	—	102	104
Environmental obligations and shutdown costs	1	—	1	—	—	—	—	—	—	—	104	105
Net gain on sales of assets	—	—	—	—	—	—	—	—	—	—	(417) [d]	(417)
Operating income (loss)	456	225	681	621	(43)	578	180	(67)	(1)	49	(329)	1,091
Interest expense, net	3	1	4	114	—	114	82 [c]	—	—	22	398	620
Provision for (benefit from) income taxes	—	—	—	250	(11)	239	167 [c]	—	—	5	99 [e]	510
Total assets at December 31, 2019	2,880	5,109	7,989	8,612	1,676	10,288	16,345	1,798	193	761	3,435	40,809
Capital expenditures	231	646	877	232	24	256	1,369	19	5	34	92	2,652

a. Includes charges totaling $155 million associated with an unfavorable Indonesia Supreme Court ruling related to PT-FI export duties. Refer to Note 12 for further discussion.

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 America and South America copper mines.

c. Includes net charges totaling $28 million in production and delivery costs for an adjustment to the settlement of the historical surface water tax matters with the local regional tax authority in Papua, Indonesia, and $78 million in interest expense and $103 million of tax charges in provision for income taxes associated with PT-FI's historical contested tax disputes. Refer to Note 12 for further discussion.

d. Includes net gains totaling $343 million associated with the sale of FCX's interest in the lower zone of the Timok exploration project and $59 million for the sale of a portion of Freeport Cobalt. Refer to Note 2 for further discussion.

e. Includes tax charges totaling $53 million associated with the sale of FCX's interest in the lower zone of the Timok exploration project and $49 million primarily to adjust deferred taxes on historical balance sheet items in accordance with tax accounting principles.

NOTE 17. SUPPLEMENTARY MINERAL RESERVE INFORMATION (UNAUDITED)

Recoverable proven and probable mineral reserves as of December 31, 2021, have been prepared using industry accepted practice and conform to the disclosure requirements under Subpart 1300 of SEC Regulation S-K. FCX's proven and probable mineral reserves may not be comparable to similar information regarding mineral reserves disclosed in accordance with the guidance in other countries. Proven and probable mineral reserves were determined by the use of mapping, drilling, sampling, assaying and evaluation methods generally applied in the mining industry. Mineral reserves, as used in the reserve data presented here, mean an estimate of tonnage and grade of measured and indicated mineral resources that, in the opinion of the qualified person, can be the basis of an economically viable project. Proven mineral reserves are the economically mineable part of a measured mineral resource. To classify an estimate as a proven mineral reserve, the qualified person must possess a high degree of confidence of tonnage, grade and quality. Probable mineral reserves are the economically mineable part of an indicated or, in some cases, a measured mineral resource. The qualified person's level of confidence will be lower in determining a probable mineral reserve than it would be in determining a proven mineral reserve. To classify an estimate as a probable mineral reserve, the qualified person's confidence must still be sufficient to demonstrate that extraction is economically viable considering reasonable investment and market assumptions.

FCX's mineral 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 mineral reserves at December 31, 2021, were determined using metals price assumptions of $2.50 per pound for copper, $1,200 per ounce for gold and $10 per pound for molybdenum. For the three-year period ended December 31, 2021, LME copper settlement prices averaged $3.25 per pound, London PM gold prices averaged $1,654 per ounce and the weekly average price for molybdenum quoted by *Metals Week* averaged $11.97 per pound.

The recoverable proven and probable mineral reserves presented in the table below represent the estimated metal quantities from which FCX expects to be paid after application of estimated metallurgical recoveries and smelter recoveries, where applicable.

	Estimated Recoverable Proven and Probable Mineral Reserves at December 31, 2021		
	Copper[a] (billion pounds)	**Gold** (million ounces)	**Molybdenum** (billion pounds)
North America	43.0	0.5	2.69
South America	31.9	—	0.69
Indonesia[b]	32.2	26.6	—
Consolidated basis[c,d]	107.2	27.1	3.39
Net equity interest[b,e]	76.2	14.2	3.06

a. Estimated consolidated recoverable copper reserves included 1.8 billion pounds in leach stockpiles and 0.3 billion pounds in mill stockpiles.

b. Estimated recoverable proven and probable mineral reserves from Indonesia reflect estimates of minerals that can be recovered through 2041. As a result, PT-FI's current long-term mine plan and planned operations are based on the assumption that PT-FI will abide by the terms and conditions of the IUPK and will be granted the 10-year extension from 2031 through 2041 (refer to Note 13 for discussion of PT-FI's IUPK). As a result, PT-FI will not mine all of these mineral reserves during the initial term of the IUPK. Prior to the end of 2031, PT-FI expects to mine 48 percent of aggregate proven and probable recoverable mineral reserves at December 31, 2021, representing 53 percent of FCX's net equity share of recoverable copper reserves and 55 percent of FCX's net equity share of recoverable gold reserves.

c. Consolidated mineral reserves represent estimated metal quantities after reduction for joint venture partner interests at the Morenci mine in North America (refer to Note 3 for further discussion). Excluded from the table above were FCX's estimated recoverable proven and probable mineral reserves of 346 million ounces of silver, which were determined using $15 per ounce.

d. May not foot because of rounding.

e. Net equity interest mineral 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). FCX's net equity interest for estimated metal quantities in Indonesia reflects approximately 81 percent for 2022 and 48.76 percent from 2023 through 2041. Excluded from the table above were FCX's estimated recoverable proven and probable mineral reserves of 230 million ounces of silver.

Estimated Recoverable Proven and Probable Mineral Reserves at December 31, 2021

	Ore[a] (million metric tons)	Average Ore Grade Per Metric Ton[a] Copper (%)	Gold (grams)	Molybdenum (%)	Recoverable Proven and Probable Mineral Reserves[b] Copper (billion pounds)	Gold (million ounces)	Molybdenum (billion pounds)
North America							
Production stage:							
Morenci	3,918	0.23	—	— [c]	13.1	—	0.15
Sierrita	2,430	0.23	— [c]	0.02	10.3	0.1	1.02
Bagdad	2,534	0.32	— [c]	0.02	15.5	0.2	0.92
Safford, including Lone Star	685	0.45	—	—	5.2	—	—
Chino, including Cobre	308	0.44	0.03	—	2.5	0.3	—
Climax	151	—	—	0.15	—	—	0.46
Henderson	54	—	—	0.16	—	—	0.17
Tyrone	19	0.28	—	—	0.2	—	—
Miami	—	—	—	—	— [c]	—	—
South America							
Production stage:							
Cerro Verde	3,999	0.36	—	0.01	27.9	—	0.69
El Abra	732	0.42	—	—	4.1	—	—
Indonesia[d]							
Production stage:							
Grasberg Block Cave	857	1.06	0.71	—	16.7	12.6	—
Deep Mill Level Zone	412	0.85	0.73	—	6.6	7.6	—
Big Gossan	51	2.26	0.97	—	2.3	1.1	—
Development stage:							
Kucing Liar	351	1.03	0.91	—	6.6	5.3	—
Total 100% basis[e]	**16,501**				**110.8**	**27.1**	**3.43**
Consolidated basis[f]					**107.2**	**27.1**	**3.39**
FCX's net equity interest[g]					**76.2**	**14.2**	**3.06**

a. Excludes material contained in stockpiles.

b. Includes estimated recoverable metals contained in stockpiles.

c. Amounts not shown because of rounding.

d. Estimated recoverable proven and probable mineral reserves from Indonesia reflect estimates of minerals that can be recovered through 2041. Refer to Note 13 for discussion of PT-FI's IUPK.

e. Totals may not foot because of rounding.

f. Consolidated mineral reserves represent estimated metal quantities after reduction for Morenci's joint venture partner interests (refer to Note 3 for further discussion).

g. Net equity interest mineral 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). FCX's net equity interest for estimated metal quantities in Indonesia reflects approximately 81 percent for 2022 and 48.76 percent from 2023 through 2041.

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 over financial reporting. There has been no change in our internal control over financial reporting that occurred during the quarter ended December 31, 2021, 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 Supplementary Data."

Item 9B. Other Information.

Not applicable.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information set forth under the captions "Information About Director Nominees," "Board Committees," and "Board and Committee Independence; Audit Committee Financial Experts," and "Corporate Governance Guidelines; Principles of Business Conduct," of our definitive proxy statement to be filed with the United States Securities and Exchange Commission (SEC), relating to our 2022 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. "Information About our Executive Officers" 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 2022 annual meeting of stockholders, is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information set forth under the captions "Stock Ownership of Directors and Executive Officers" and "Stock Ownership of Certain Beneficial Owners" of our definitive proxy statement to be filed with the SEC, relating to our 2022 annual meeting of stockholders, is incorporated herein by reference.

Equity Compensation Plan Information

Only our 2016 Stock Incentive 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.

The following table presents information regarding our equity compensation plans as of December 31, 2021:

	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	29,954,073	a	$ 23.74	30,713,851
Equity compensation plans not approved by security holders	157,545	b	$ 27.00	—
Total	30,111,618		$ 23.76	30,713,851

a. Includes shares of our common stock issuable upon the vesting of 3,338,781 restricted stock units (RSUs) and 3,875,625 performance share units at maximum performance levels, and the termination of deferrals with respect to 1,197,900 RSUs that were vested as of December 31, 2021. 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 RSUs that are payable solely in cash.

b. Represents securities to be issued under awards assumed in our acquisition of McMoRan Exploration Co. and includes shares issuable upon the termination of deferrals with respect to 13,500 RSUs that were vested as of December 31, 2021, which awards are not reflected in column (b) because they do not have an exercise price.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information set forth under the captions “Certain Transactions” and “Board and Committee Independence; Audit Committee Financial Experts” of our definitive proxy statement to be filed with the SEC, relating to our 2022 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 (including fees billed to us by Ernst & Young, PCAOB ID No. 42), relating to our 2022 annual meeting of stockholders, is incorporated herein by reference.

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PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a)(1). Financial Statements.

The consolidated statements of operations, comprehensive income (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.

The following financial statement schedule is presented below.

Schedule II - Valuation and Qualifying Accounts

Schedules other than the one 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. (the Company) as of December 31, 2021 and 2020, for each of the three years in the period ended December 31, 2021, and have issued our report thereon dated February 15, 2022 included elsewhere in this Form 10-K. Our audits of the consolidated financial statements included the financial statement schedule listed in Item 15 (a)(2) of this Form 10-K (the "schedule"). This schedule is the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's schedule based on our audits.

In our opinion, the schedule presents fairly, in all material respects, the information set forth therein when considered in conjunction with the consolidated financial statements.

/s/ Ernst & Young LLP

Phoenix, Arizona
February 15, 2022

SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS (In millions)

	Balance at Beginning of Year	Additions (Deductions) Charged to Costs and Expense	Additions (Deductions) Charged to Other Accounts	Other (Deductions) Additions	Balance at End of Year
Reserves and allowances deducted from asset accounts:					
Valuation allowance for deferred tax assets					
Year Ended December 31, 2021	$ 4,732	$ (596) [a]	$ (49) [b]	$ —	$ 4,087
Year Ended December 31, 2020	4,576	200 [c]	(16) [b]	(28) [d]	4,732
Year Ended December 31, 2019	4,507	50 [e]	19 [b]	—	4,576
Reserves for non-income taxes:					
Year Ended December 31, 2021	$ 82	$ 18	$ —	$ (41) [f]	$ 59
Year Ended December 31, 2020	58	21	(1)	4 [f]	82
Year Ended December 31, 2019	62	—	—	(4) [f]	58

a. Primarily relates to a $219 million decrease associated with U.S. federal net operating losses (NOLs) utilized during 2021, a $105 million decrease related to expiration of U.S. foreign tax credits, and a $228 million decrease associated with PT Rio Tinto NOLs resulting from positive evidence supporting future taxable income against which NOLs can be used.

b. Relates to a valuation allowance for tax benefits primarily associated with actuarial (gains) losses for U.S. defined benefit plans included in other comprehensive income (loss).

c. Primarily relates to a $250 million increase in U.S. federal NOL carryforwards, partly offset by a $75 million decrease in U.S. foreign tax credits associated with expirations, and a $11 million decrease in U.S. deferred tax assets for which no benefit is expected to be realized.

d. Relates to sale of interest in Kisanfu.

e. Primarily relates to a $208 million increase in U.S. federal deferred tax assets for which no benefit is expected to be realized, partly offset by a $98 million decrease in U.S. foreign tax credits associated with expirations and prior-year adjustments, and a $44 million decrease in U.S. federal and state NOL carryforwards

f. Represents amounts paid or adjustments to reserves based on revised estimates.

(a)(3). Exhibits.

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	001-11307-01	11/20/2006
2.2	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
2.3	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
2.4	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	5/9/2016
2.5	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
2.6+	PT-FI Divestment Agreement dated as of September 27, 2018 among FCX, International Support LLC, PT Freeport Indonesia, PT Indocopper Investama (subsequently renamed PT Indonesia Papua Metal Dan Mineral) and PT Indonesia Asahan Aluminium (Persero).		10-Q	001-11307-01	11/9/2018
2.7	Supplemental and Amendment Agreement to the PT-FI Divestment Agreement, dated December 21, 2018, among FCX, PT Freeport Indonesia, PT Indonesia Papua Metal Dan Mineral (f/k/a PT Indocopper Investama), PT Indonesia Asahan Aluminium (Persero) and International Support LLC.		10-K	001-11307-01	2/15/2019
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 3, 2020.		8-K	001-11307-01	6/3/2020
4.1	Description of Common Stock of Freeport-McMoRan Inc.		10-K	001-11307-01	2/16/2021
4.2	Indenture dated as of February 13, 2012, between FCX and U.S. Bank National Association, as Trustee (relating to the 4.55% Senior Notes due 2024 and the 5.40% Senior Notes due 2034).		8-K	001-11307-01	2/13/2012
4.3	Fourth Supplemental Indenture dated as of May 31, 2013, between FCX and U.S. Bank National Association, as Trustee (relating to the 4.55% Senior Notes due 2024 and the 5.40% Senior Notes due 2034).		8-K	001-11307-01	6/3/2013
4.4	Seventh Supplemental Indenture dated as of November 14, 2014 between FCX 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
4.5	Eighth Supplemental Indenture dated as of November 14, 2014 between FCX 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

Exhibit Number	Exhibit Title	Filed with this Form 10-K	Incorporated by Reference		
			Form	File No.	Date Filed
4.6	Indenture dated as of March 7, 2013, between FCX and U.S. Bank National Association, as Trustee (relating to the 3.875% Senior Notes due 2023 and the 5.450% Senior Notes due 2043).		8-K	001-11307-01	3/7/2013
4.7	Supplemental Indenture dated as of May 31, 2013, between FCX and U.S. Bank National Association, as Trustee (relating to the 3.875% Senior Notes due 2023 and the 5.450% Senior Notes due 2043).		8-K	001-11307-01	6/3/2013
4.8	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
4.9	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
4.10	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
4.11	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
4.12	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	001-11307-01	2/26/2016
4.13	Form of Certificate representing shares of common stock, par value $0.10.		8-A/A	001-11307-01	8/10/2015
4.14	Indenture dated as of August 15, 2019, between FCX and U.S. Bank National Association, as Trustee (relating to the 5.00% Senior Notes due 2027, the 4.125% Senior Notes due 2028, the 4.375% Senior Notes due 2028, the 5.25% Senior Notes due 2029, the 4.25% Senior Notes due 2030 and the 4.625% Senior Notes due 2030).		8-K	001-11307-01	8/15/2019
4.15	First Supplemental Indenture dated as of August 15, 2019, between FCX and U.S. Bank National Association, as Trustee (including the form of 5.00% Senior Notes due 2027).		8-K	001-11307-01	8/15/2019
4.16	Second Supplemental Indenture dated as of August 15, 2019, between FCX and U.S. Bank National Association, as Trustee (including the form of 5.25% Senior Notes due 2029).		8-K	001-11307-01	8/15/2019
4.17	Third Supplemental Indenture dated as of March 4, 2020, between FCX and U.S. Bank National Association, as Trustee (including the form of 4.125% Senior Notes due 2028).		8-K	001-11307-01	3/4/2020

Exhibit Number	Exhibit Title	Filed with this Form 10-K	Incorporated by Reference		
			Form	File No.	Date Filed
4.18	Fourth Supplemental Indenture dated as of March 4, 2020, between FCX and U.S. Bank National Association, as Trustee (including the form of 4.25% Senior Notes due 2030).		8-K	001-11307-01	3/4/2020
4.19	Fifth Supplemental Indenture dated as of March 31, 2020, between FCX and U.S. Bank National Association, as Trustee (relating to the 4.125% Senior Notes due 2028 and the 4.25% Senior Notes due 2030).		10-Q	001-11307-01	8/7/2020
4.20	Sixth Supplemental Indenture dated as of July 27, 2020, between FCX and U.S. Bank National Association, as Trustee (including the form of 4.375% Senior Notes due 2028).		8-K	001-11307-01	7/27/2020
4.21	Seventh Supplemental Indenture dated as of July 27, 2020, between FCX and U.S. Bank National Association, as Trustee (including the form of 4.625% Senior Notes due 2030).		8-K	001-11307-01	7/27/2020
10.1	Concentrate Purchase and Sales Agreement dated effective December 11, 1996, between PT Freeport Indonesia and PT Smelting.		S-3	333-72760	11/5/2001
10.2	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	001-11307-01	2/27/2015
10.3	Amendment No. 8 dated as of April 16, 2014 to the Concentrate Purchase and Sales Agreement dated December 11,1996 between PT Freeport Indonesia and PT Smelting.		10-K	001-11307-01	2/20/2018
10.4	Amendment No. 9 dated as of April 10, 2017 to the Concentrate Purchase and Sales Agreement dated December 11,1996 between PT Freeport Indonesia and PT Smelting.		10-K	001-11307-01	2/20/2018
10.5	Shareholders Agreement dated as of December 21, 2018, among FCX, PT Freeport Indonesia, PT Indonesia Papua Metal Dan Mineral and PT Indonesia Asahan Aluminium (Persero).		10-K	001-11307-01	2/15/2019
10.6	PT Freeport Indonesia Special Mining License (IUPK) from the Minister of Energy and Mineral Resources of the Republic of Indonesia (English translation).		10-K	001-11307-01	2/15/2019
10.7	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	001-11307-01	2/27/2015
10.8	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, Compañia 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

Exhibit Number	Exhibit Title	Filed with this Form 10-K	Incorporated by Reference		
			Form	File No.	Date Filed
10.9	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, Compañia 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
10.10	Revolving Credit Agreement dated as of April 20, 2018, among FCX, PT Freeport Indonesia, JPMorgan Chase Bank, N.A., as administrative agent, Bank of America, N.A., as syndication agent, and each of the lenders and issuing banks party thereto.		8-K	001-11307-0	4/23/2018
10.11	First Amendment dated as of May 2, 2019 to the Revolving Credit Agreement dated as of April 20, 2018, among Freeport-McMoRan Inc., PT Freeport Indonesia, JPMorgan Chase Bank, N.A., as administrative agent, Bank of America, N.A., as syndication agent, and each of the lenders and issuing banks party thereto.		8-K	001-11307-01	5/2/2019
10.12	Second Amendment dated as of November 25, 2019 to the Revolving Credit Agreement dated as of April 20, 2018, as amended by that certain First Amendment dated as of May 2, 2019, among Freeport-McMoRan Inc., PT Freeport Indonesia, JPMorgan Chase Bank, N.A., as administrative agent, Bank of America, N.A., as syndication agent, and each of the lenders and issuing banks party thereto.		8-K	001-11307-01	11/25/2019
10.13	Third Amendment dated as of June 3, 2020 to the Revolving Credit Agreement dated as of April 20, 2018, as amended, among FCX, PT Freeport Indonesia, JPMorgan Chase Bank, N.A., as administrative agent, and each of the lenders and issuing banks party thereto.		8-K	001-11307-01	6/3/2020
10.14*	Letter Agreement dated as of December 19, 2013, by and between FCX and Richard C. Adkerson.		8-K	001-11307-01	12/23/2013
10.15*	FCX Director Compensation.	X			
10.16*	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
10.17*	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
10.18*	FCX Executive Services Program.	X			
10.19*	FCX Supplemental Executive Retirement Plan, as amended and restated.		8-K	001-11307-01	2/5/2007
10.20*	FCX 1996 Supplemental Executive Capital Accumulation Plan.		10-Q	001-11307-01	5/12/2008
10.21*	FCX 1996 Supplemental Executive Capital Accumulation Plan Amendment One.		10-Q	001-11307-01	5/12/2008
10.22*	FCX 1996 Supplemental Executive Capital Accumulation Plan Amendment Two.		10-K	001-11307-01	2/26/2009
10.23*	FCX 1996 Supplemental Executive Capital Accumulation Plan Amendment Three.		10-K	001-11307-01	2/27/2015

Exhibit Number	Exhibit Title	Filed with this Form 10-K	Incorporated by Reference		
			Form	File No.	Date Filed
10.24*	FCX 1996 Supplemental Executive Capital Accumulation Plan Amendment Four.		10-K	001-11307-01	2/27/2015
10.25*	FCX 2005 Supplemental Executive Capital Accumulation Plan, as amended and restated effective January 1, 2015.		10-K	001-11307-01	2/27/2015
10.26*	FCX 2005 Supplemental Executive Capital Accumulation Plan Amendment One.		10-K	001-11307-01	2/16/2021
10.27*	FCX 2005 Supplemental Executive Capital Accumulation Plan Amendment Two.		10-K	001-11307-01	2/16/2021
10.28*	FCX 2005 Supplemental Executive Capital Accumulation Plan Amendment Three.		10-K	001-11307-01	2/16/2021
10.29*	Freeport Minerals Corporation Supplemental Retirement Plan, as amended and restated.		10-K	001-11307-01	2/15/2019
10.30*	FCX 2003 Stock Incentive Plan, as amended and restated.		10-Q	001-11307-01	5/10/2007
10.31*	FCX 2004 Director Compensation Plan, as amended and restated.		10-Q	001-11307-01	8/6/2010
10.32*	FCX Amended and Restated 2006 Stock Incentive Plan.		10-K	001-11307-01	2/27/2014
10.33*	FCX 2016 Stock Incentive Plan.		8-K	001-11307-01	6/9/2016
10.34*	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
10.35*	Form of Nonqualified Stock Options Grant Agreement under the FCX stock incentive plans (effective February 2014).		10-K	001-11307-01	2/27/2014
10.36*	Form of Notice of Grant of Restricted Stock Units (for grants made to non-management directors).		10-K	001-11307-01	2/24/2017
10.37*	Form of Performance Share Unit Agreement (effective February 2018).		10-K	001-11307-01	2/20/2018
10.38*	Form of Performance Share Unit Agreement (effective February 2021).	X			
10.39*	Form of Nonqualified Stock Options Grant Agreement (effective February 2018).		10-K	001-11307-01	2/20/2018
10.40*	Form of Restricted Stock Unit Agreement (effective February 2018).		10-K	001-11307-01	2/20/2018
10.41*	FCX Annual Incentive Plan (effective January 2019).		10-K	001-11307-01	2/15/2019
10.42*	FCX Executive Change in Control Severance Plan.	X			
14.1	FCX Principles of Business Conduct.		10-K	001-11307-01	2/14/2020
21.1	List of Subsidiaries of FCX.	X			
22.1	List of Subsidiary Guarantors and Subsidiary Issuers of Guaranteed Securities.	X			
23.1	Consent of Ernst & Young LLP.	X			
23.2	Consents of Qualified Persons for Technical Report Summary of Mineral Reserves and Mineral Resources for Cerro Verde Mine.	X			
23.3	Consents of Qualified Persons for Technical Report Summary of Mineral Reserves and Mineral Resources for Grasberg Minerals District.	X			
23.4	Consents of Qualified Persons for Technical Report Summary of Mineral Reserves and Mineral Resources for Morenci Mine.	X			

Exhibit Number	Exhibit Title	Filed with this Form 10-K	Incorporated by Reference		
			Form	File No.	Date Filed
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			
96.1	Technical Report Summary of Mineral Reserves and Mineral Resources for Cerro Verde Mine, effective as of December 31, 2021.	X			
96.2	Technical Report Summary of Mineral Reserves and Mineral Resources for Grasberg Minerals District, effective as of December 31, 2021.	X			
96.3	Technical Report Summary of Mineral Reserves and Mineral Resources for Morenci Mine, effective as of December 31, 2021.	X			
101.INS	XBRL Instance Document - the XBRL Instance Document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.	X			
101.SCH	Inline XBRL Taxonomy Extension Schema.	X			
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase.	X			
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase.	X			
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase.	X			
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase.	X			
104	The cover page from this Annual Report on Form 10-K, formatted in Inline XBRL and contained in Exhibit 101.	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 (SEC).

* Indicates management contract or compensatory plan or arrangement.

\+ The registrant agrees to furnish supplementally to the SEC a copy of any omitted schedule or exhibit upon the request of the SEC in accordance with Item 601(b)(2) of Regulation S-K.

Item 16. Form 10-K Summary.

Not applicable.

GLOSSARY OF TERMS

Following is a glossary of selected terms used throughout this Annual Report on Form 10-K that are technical in nature:

Adits. A horizontal passage leading into a mine for the purposes of access or drainage.

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, anodes 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.

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.

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 metal. The amount of metal 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 grade contained in the ore for processing. When percentages are below this grade, the material would be routed to an overburden stockpile or left unmined. When percentages are above grade, the material would be processed using concentrating or leaching methods.

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.

Indigenous Peoples. Indigenous Peoples are distinct social and cultural groups that share collective ancestral ties to the lands and natural resources where they live, occupy or from which they have been displaced.

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. Also, referred to as crushed leach.

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 tailings 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).

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.

Tailings. The crushed and ground material remaining after economically recoverable minerals have been extracted. In upstream design and construction, tailings are deposited on the upstream side of the starter embankment, with subsequent crest raises progressively shifting upstream of each previous raise, using deposited tailings as a foundation. In downstream design and construction, tailings are deposited on the upstream side of the starter embankment. Borrow fill or a portion of the tailings are placed on the downstream side of the starter embankment. Subsequent crest raises progressively shift downstream of each previous raise, such that the previous raise becomes the foundation of the subsequent raise. As a result, the toe and the crest of the embankment progressively shift downstream as the embankment is raised. In centerline design and construction, tailings are deposited on the upstream side of the starter embankment. Borrow fill or a portion of the tailings are placed on the crest of the starter embankment. Subsequent crest raises are constructed vertically along the centerline of the previous raise such that the previous raise becomes the foundation of the subsequent raise. As a result, the toe of the embankment shifts downstream but the crest stays along initial alignment as the embankment is raised.

Tolling. The process of converting customer-owned material into specified products, which is then returned to the customer.

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.

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 15, 2022.

Freeport-McMoRan Inc.

By: /s/ Richard C. Adkerson
Richard C. Adkerson
Chairman of the Board 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 15, 2022.

/s/ Richard C. Adkerson Richard C. Adkerson	Chairman of the Board and Chief Executive Officer (Principal Executive Officer)
/s/ Kathleen L. Quirk Kathleen L. Quirk	President and Chief Financial Officer (Principal Financial Officer)
* C. Donald Whitmire, Jr.	Vice President and Controller - Financial Reporting (Principal Accounting Officer)
* David P. Abney	Director
* Marcela E. Donadio	Director
* Robert W. Dudley	Director
* Hugh Grant	Director
* Lydia H. Kennard	Director
* Ryan M. Lance	Director
* Sara Grootwassink Lewis	Director
* Dustan E. McCoy	Director
* John J. Stephens	Director
* Frances Fragos Townsend	Director

* By: /s/ Richard C. Adkerson
Richard C. Adkerson
Attorney-in-Fact