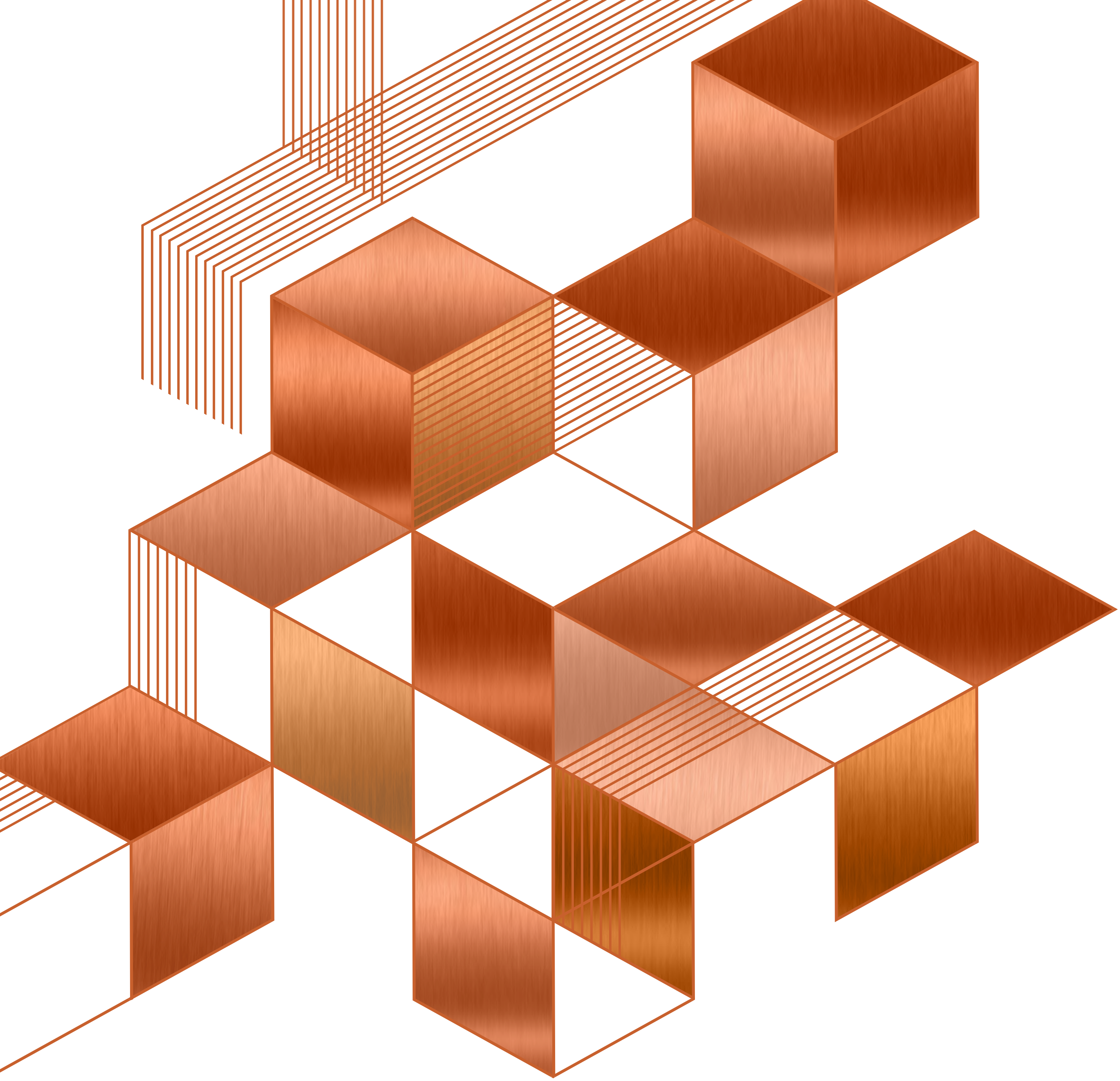

BUILDING ON STRENGTH

2019 ANNUAL REPORT

FREEPORT-McMoRAN

Freeport-McMoRan Inc. (FCX) is a leading international mining company with headquarters in Phoenix, Arizona. FCX operates large, long-lived, geographically diverse assets with significant proven and probable reserves of copper, gold and molybdenum. FCX is one of the world's largest publicly traded copper producers. FCX's 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.

FCX has a strong commitment to safety performance, environmental management and the communities where it operates. FCX is a founding member of the International Council on Mining and Metals (ICMM). Implementation of the ICMM Sustainable Development Framework across the company results in site-level sustainability programs that meet responsible sourcing objectives for the global marketplace.

Additional information about FCX is available at fcx.com.

A member of ICMM International Council on Mining & Metals

FCX LISTED NYSE

The current public health crisis is spotlighting the substantial antimicrobial properties of copper, which can reduce, and in certain cases significantly diminish, the transmission of bacteria, viruses and other pathogens. We can expect a future where copper will be increasingly used for personal health protection, in medical facilities and in other public spaces.

Copper is a major component in electric vehicles (EVs) and is used in electric motors, batteries, inverters, wiring and charging stations. EVs, 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, are expected to be a long-term demand driver for copper globally.

CAUTIONARY STATEMENT AND REGULATION G DISCLOSURE

This 2019 Annual Report contains forward-looking statements in which FCX discusses its potential future performance. FCX cautions 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. This report also includes statements regarding mineralized material not included in proven and probable mineral reserves. Mineralized material is a mineralized body that has been delineated by appropriately spaced drilling and/or underground sampling to support the reported tonnage and average metal grades. Such a deposit cannot qualify as recoverable proven and probable reserves until legal and economic feasibility are confirmed based upon a comprehensive evaluation. Accordingly, no assurances can be given that estimated mineralized material will become proven and probable reserves. Please refer to the Cautionary Statement on page 57 of this report. This 2019 Annual Report also contains certain financial measures, such as unit net cash costs, which are not recognized under U.S. generally accepted accounting principles. As required by U.S. Securities and Exchange Commission Regulation G, reconciliations of unit net cash costs to amounts reported in FCX's consolidated financial statements are available beginning on page 49 of this report.

The Lone Star mine is FCX's newest copper asset in eastern Arizona.

BUILDING ON STRENGTH

During 2019, Freeport-McMoRan advanced three key operating initiatives to build a strong foundation for long-term profitable growth. As the leading responsible copper producer, our core values — safety, respect, integrity, excellence and commitment — underpin the success of these initiatives, which build on the strength of our high-quality portfolio of long-lived copper reserves. Notwithstanding current global economic uncertainties, copper remains an essential metal for global growth and for a future with a lower carbon footprint. Our proven track record for navigating volatile market conditions provides confidence in our ability to maintain strength during uncertain economic times. We remain focused on executing our plans to provide long-term value and further advance Freeport as foremost in copper.

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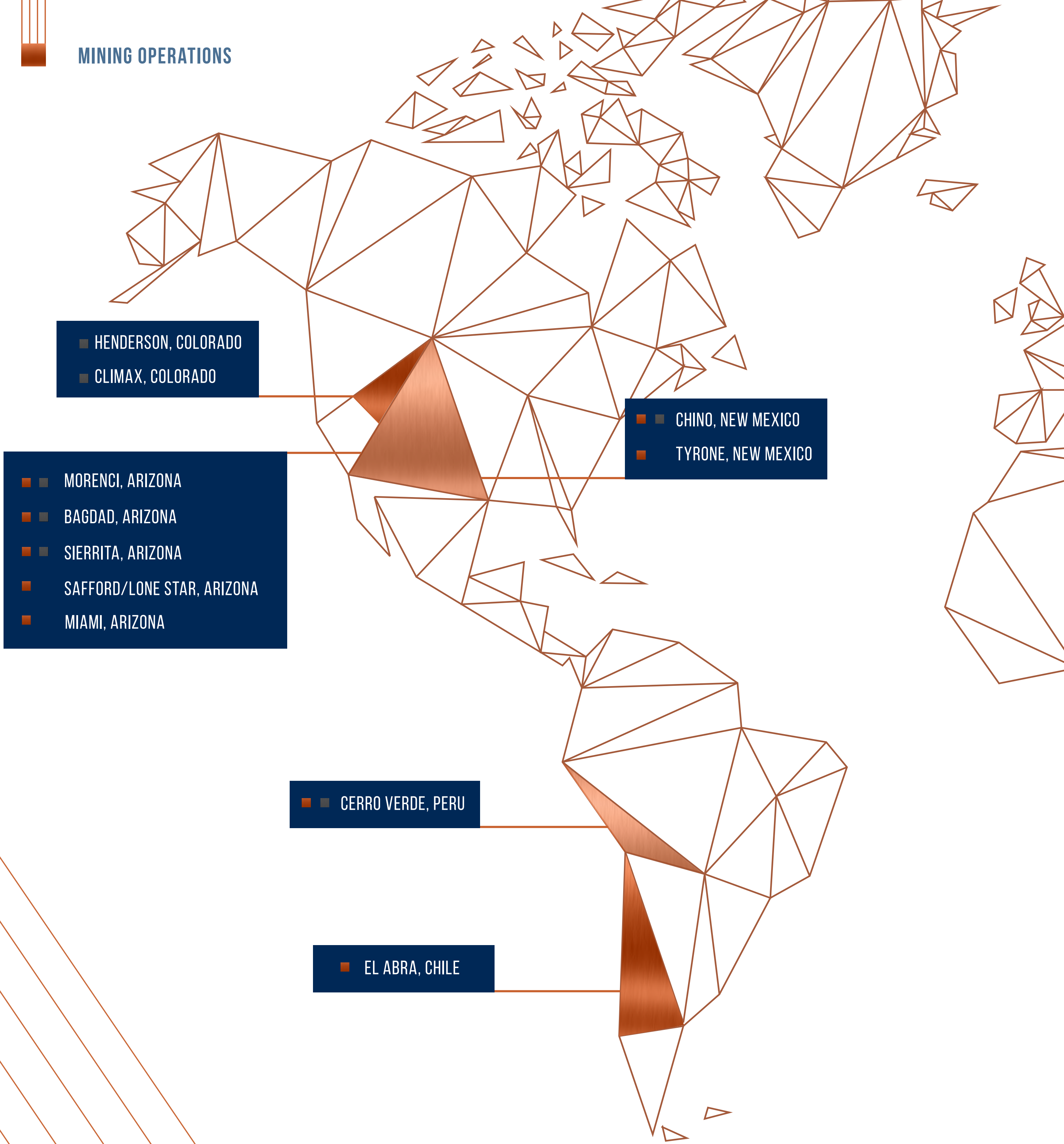
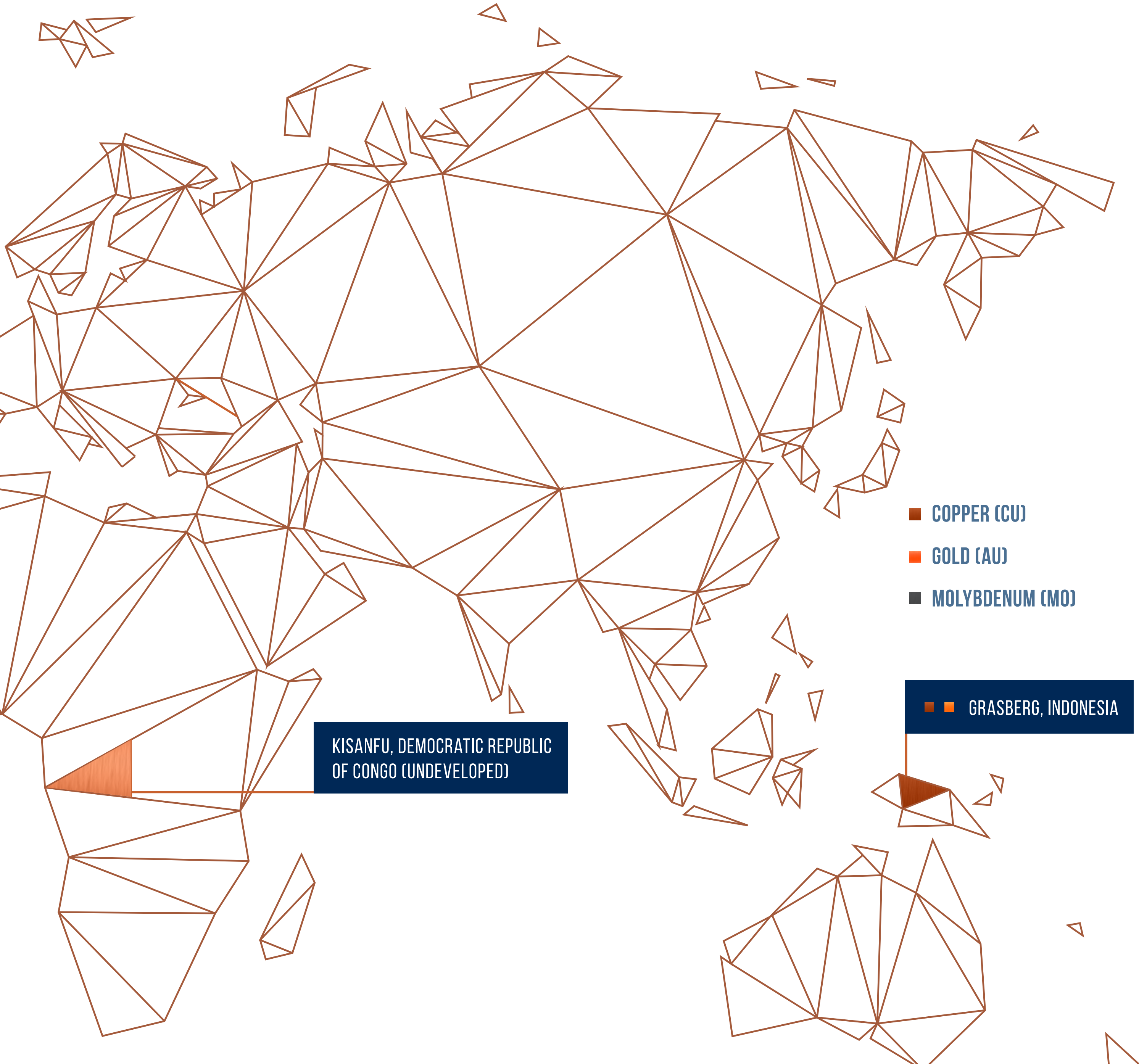


Our assets are long-lived, durable and have embedded organic options for reserve and resource growth.



GEOGRAPHICALLY DIVERSE PORTFOLIO

	NORTH AMERICA			SOUTH AMERICA			INDONESIA			CONSOLIDATED TOTALS		
RESERVES AT 12/31/19	Cu	47.2	billion lbs	Cu	33.2	billion lbs	Cu	35.6	billion lbs	Cu	116.0	billion lbs
	Au	0.5	million ozs				Au	29.1	million ozs	Au	29.6	million ozs
	Mo	2.87	billion lbs	Mo	0.71	billion lbs				Mo	3.58	billion lbs
2019 SALES	Cu	1.4	billion lbs	Cu	1.2	billion lbs	Cu	0.7	billion lbs	Cu	3.3	billion lbs
							Au	1.0	million ozs	Au	1.0	million ozs
	Mo	90	million lbs*							Mo	90	million lbs

* Includes sales of molybdenum produced at FCX's North America and South America copper mines.
Note: lbs=pounds; ozs=ounces.

DEAR FELLOW SHAREHOLDERS

As we write this letter, the world is dealing with major challenges associated with the COVID-19 pandemic. Our hearts go out to all affected by this global health crisis. We are especially grateful to medical personnel and all on the front lines helping those in need. Our company's principal focus is on the health, safety and well-being of our global workforce, their families and the communities where we operate.

We are also facing the economic impacts on our company because of the disruption to the global economy. We are working to manage costs, capital spending and revise operating plans to preserve our company's financial strength during this period of uncertainty. Our management team has substantial experience in successfully navigating challenging conditions. We are confident that success will be achieved in overcoming the near-term challenges that have suddenly emerged and remain confident about the long-term positive future of our business that will benefit all stakeholders — our workers, communities where we operate, our business partners and contractors, governments where our resources are located and our shareholders.

In 2019, Freeport-McMoRan achieved success in building a strong foundation for long-term, profitable growth. The theme of our 2019 Annual Report to Shareholders, "Building on Strength," reflects our progress as the leading global copper producer to advance three key operational initiatives that will expand our margins and cash flows to drive long-term value for our company.

Freeport is foremost in copper. Long-term copper market fundamentals are supported by favorable long-term supply and demand outlook. Copper is essential for the global economy, both for developed countries and for developing countries with large populations. Copper is an increasingly important metal for the global transition to a lower carbon footprint. The current public health crisis is spotlighting the substantial antimicrobial properties of copper, which can reduce, and in certain cases significantly diminish, the transmission of bacteria, viruses and other pathogens. We can expect a future where copper will be increasingly used for personal health protection, in medical facilities and in other public spaces.

Global supplies of copper continue to be limited. The current price environment is substantially below the incentive price needed for the industry to develop new supply, which will postpone and delay development projects. Supply side factors support a fundamental outlook to drive prices significantly higher over time.

The current price environment is substantially below the incentive price needed for the industry to develop new supply, which will postpone and delay development projects. Supply side factors support a fundamental outlook to drive prices significantly higher over time.

Our company's portfolio of copper assets is large and high quality, with strong and established franchises in North America, South America and Indonesia. Our production profile is growing, which will boost our margins and cash flows. Our company's assets are long-lived and durable with embedded organic options for reserve and resource growth. Our portfolio of copper assets would be difficult to replicate. The scarcity value of our assets will become evident over time.

Our company has industry-leading technical capabilities in all aspects of mining, processing and marketing in the global copper industry. We have a solid track record in developing and operating world-scale copper resources. Our large-scale underground block caving experience, extending over four decades, is the key factor in transitioning the Grasberg minerals district in Indonesia to become the largest block caving operation in the history of the global mining industry. During 2019, our Freeport Team achieved important production growth milestones after significant investments over the past 15 years in the massive infrastructure required to achieve the planned large-scale, low-cost production volumes.

In addition to the important progress achieved in developing and producing the long-lived underground ore bodies at Grasberg, our Lone Star project in Arizona is scheduled to be commissioned this year, and innovation and technology enhancements to our productivity and unit cost performance in the Americas are achieving durable results.

These three initiatives will enable us to grow our cash flows and reduce our unit costs in 2021 significantly compared with 2019 levels. A large portion of the capital required for these initiatives has already been invested. Our management is laser focused on delivering major milestones that will establish our company for a bright, long-term future in the copper industry.

In recent years, our company acted aggressively to strengthen our balance sheet. At the end of 2019, our net debt was less than $8 billion and our liquidity position was strong with no near-term debt maturities. As we ramp-up underground production at Grasberg, our cash flows will grow significantly.

We will continue to be disciplined about capital spending with a goal of increasing cash returns to shareholders.

Our company's assets are supported by a world-class technical team with proven capabilities in operating, developing and innovating in a safe, efficient and responsible manner. Our financial and administrative team is experienced, with a strong track record of competence and success. We recognize and appreciate the performance of our global organization. The Freeport Family is integral to our success.

A strong culture of safety at all levels of our organization is the foundation of everything we do. Our number one priority is ensuring that our employees and contractors return home safely and healthy each day. Regrettably, we had three fatalities at our operations in early 2019. While we have a strong culture of safety throughout our global organization with a program focused on fatality prevention, we must do better.

Our company is committed to sustainable and responsible mining. Our focus on workers, communities and the environment has been embedded in our corporate culture for many years. We recognized long ago that this commitment was essential to the long-standing sustainability and success of our company and our industry. We cannot be successful in generating long-term value for shareholders unless we address sustainability appropriately and effectively.

We appreciate the guidance and counsel from our Board of Directors as our management team executes business plans designed to drive sustainable long-term values for all stakeholders.

As we address current market challenges and uncertainty regarding the global economy, we will remain focused on what we can manage and influence — executing our plans, controlling our costs and, most importantly, doing it safely. We have overcome major challenges in the past and are confident we will be successful as we face these current challenges. We will accomplish this by working together for the benefit of our families, communities and all stakeholders.

Respectfully yours,

GERALD J. FORD
Non-Executive
Chairman of the Board

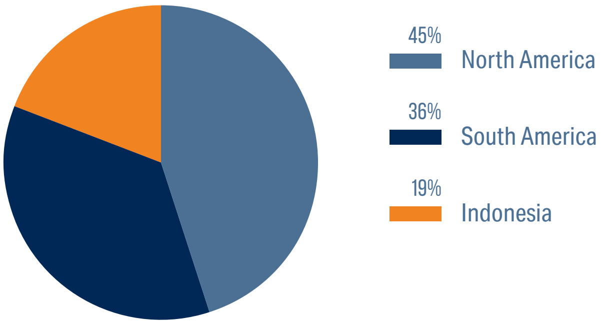
RICHARD C. ADKERSON
Vice Chairman of the Board,
President and Chief Executive Officer

March 24, 2020

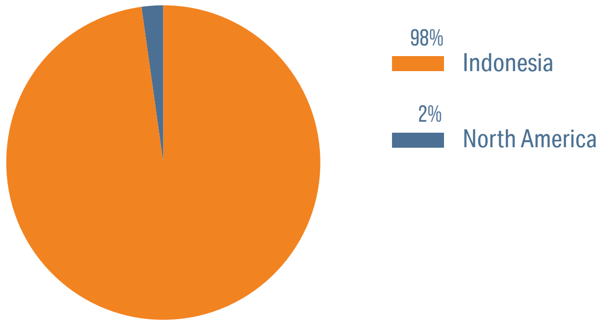
FREEPORT
FOREMOST IN COPPER

During fourth-quarter 2019, PT Freeport Indonesia (PT-FI) completed surface mining at the Grasberg open pit. We are now entirely focused on establishing production from our large-scale, low-cost and long-lived underground ore bodies, which will be a source for significant cash flows for 20-plus years to come. Since 1990, PT-FI has produced 33 billion pounds of copper and 53 million ounces of gold from the Grasberg minerals district, generating approximately $100 billion in gross revenues.

CONSOLIDATED COPPER PRODUCTION
3.2 billion lbs



CONSOLIDATED GOLD PRODUCTION
882 thousand ozs



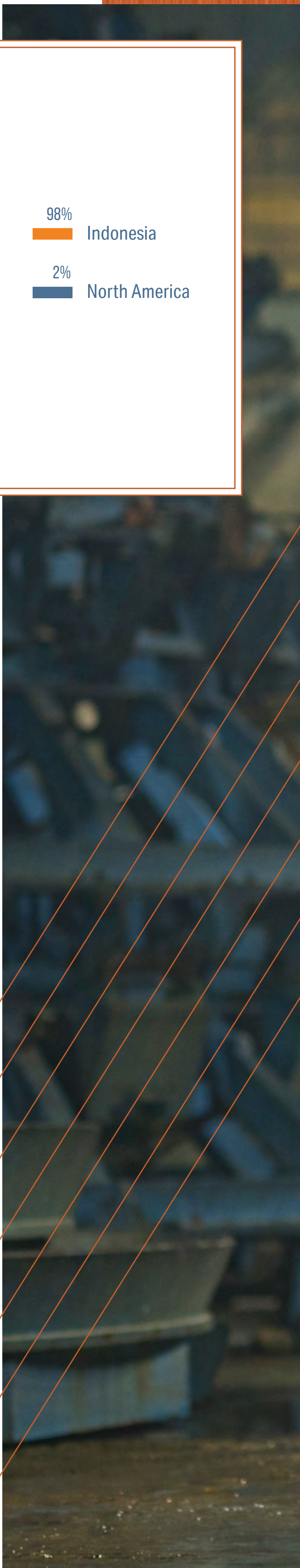
CONSOLIDATED RESULTS

FCX's consolidated copper sales of 3.3 billion pounds in 2019 were lower than 3.8 billion pounds in 2018, and consolidated gold sales of 1.0 million ounces in 2019 were lower than 2.4 million ounces in 2018. The lower copper and gold sales volumes in 2019, compared with 2018, primarily reflected anticipated lower mill rates and ore grades as PT-FI continues to ramp-up production from its underground ore bodies.

Consolidated molybdenum sales totaled 90 million pounds in 2019 and 94 million pounds in 2018.

PT-FI continues to advance several projects in the Grasberg minerals district related to the development of its large-scale, long-lived, high-grade underground ore bodies, and we are nearing completion of a project to develop the Lone Star leachable ores near the Safford operation in eastern Arizona.

FCX is also advancing initiatives at its North America and South America mining operations to enhance productivity, expand margins and reduce capital intensity of the business through the utilization of new technology applications with a more interactive operating structure.



During 2019, Freeport-McMoRan progressed three major initiatives to enhance future cash flows and value for our shareholders. Combined, these initiatives are expected to strengthen our cost position, future cash flows and long-term value for our shareholders, further advancing Freeport-McMoRan as foremost in the global copper industry.

The Grasberg Block Cave underground mine in Indonesia commenced its operational phase in 2019.

The first ore from the Lone Star mine is stacked on a newly constructed leach pad in Safford, Arizona.

Forbes | 2019
AMERICA'S BEST LARGE EMPLOYERS
POWERED BY STATISTA

In 2019, Freeport-McMoRan was named to *Forbes* magazine's 2019 Best Large Employers list — a ranking of companies liked best by employees. We are honored to be recognized as a workplace leader and take pride in creating a positive work environment where employees can contribute their skills and talents to meaningful work.

NORTH AMERICA MINING

In North America, FCX operates seven open-pit copper mines — Morenci, Bagdad, Safford, Sierrita and Miami in Arizona, and Chino and Tyrone in New Mexico; and two molybdenum mines — Henderson and Climax in Colorado. Molybdenum concentrate, gold and silver are also produced by certain of FCX's North America copper mines.

FCX's project to develop the Lone Star leachable ores located near its Safford operation in Arizona is nearing completion, and first production is expected during 2020. Initial production from the Lone Star leachable ores following a ramp-up period is expected to average approximately 200 million pounds of copper per year, with the potential for future expansion options.

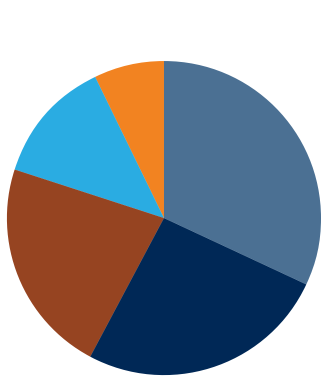
FCX has significant undeveloped reserves and resources in North America and a portfolio of potential long-term development projects. Future investments are dependent on market conditions and will be undertaken based on the results of economic and technical feasibility studies, including the incorporation of innovation initiatives to reduce capital intensity.

North America's consolidated copper sales totaled 1.4 billion pounds in both 2019 and 2018.

Consolidated molybdenum sales, including sales of molybdenum produced at FCX's North America and South America copper mines, totaled 90 million pounds in 2019 and 94 million pounds in 2018.

NORTH AMERICA COPPER RESERVES BY MINE

47.2 billions lbs



> *We are building value in our new North America cornerstone asset. The Lone Star project will benefit from the utilization of existing infrastructure at the nearby Safford operation and is expected to have an approximate 20-year mine life.*

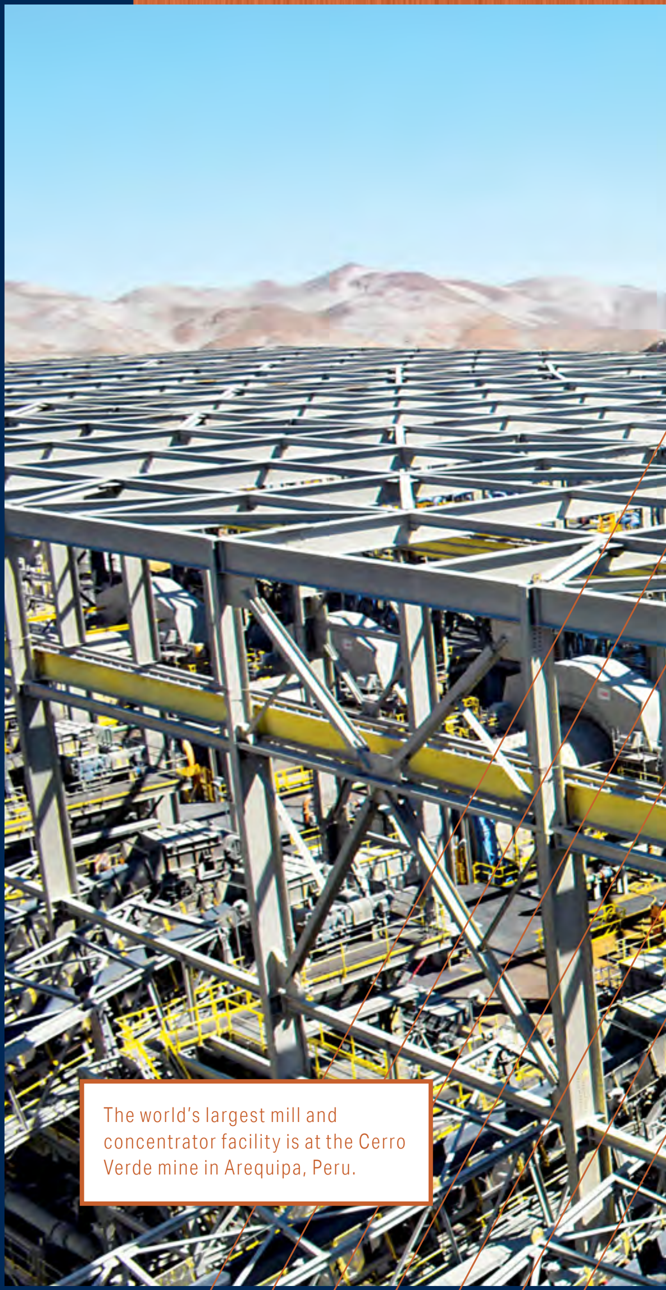
SOUTH AMERICA MINING

FCX operates two copper mines in South America — Cerro Verde in Peru and El Abra in Chile. In addition to copper, the Cerro Verde mine produces molybdenum concentrate and silver.

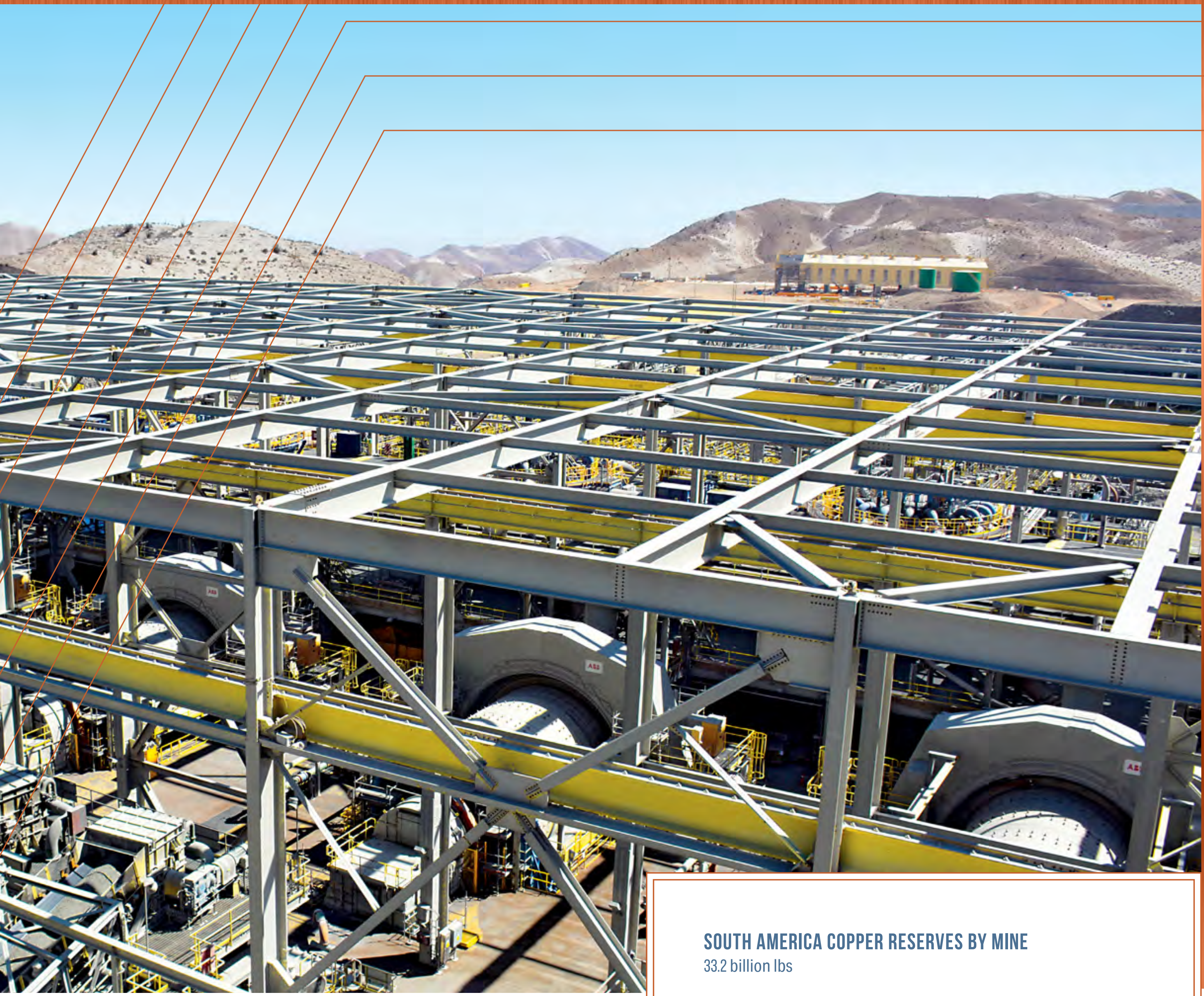
Cerro Verde's expanded operations benefit from its large-scale, long-lived reserves and cost efficiencies and have continued to perform well. Debottlenecking projects and additional initiatives to enhance operating rates continue to be advanced. Cerro Verde concentrating operations averaged 393,100 metric tons of ore per day in 2019. Ongoing productivity and innovation initiatives are targeting the opportunity to increase production to 420,000 metric tons of ore per day in 2021.

FCX continues to evaluate a large-scale expansion at El Abra to process additional sulfide material and to achieve higher recoveries. El Abra's large sulfide resource could potentially support a major mill project similar to facilities constructed at Cerro Verde. Technical and economic studies continue to be advanced to determine the optimal scope and timing of the project in parallel with extending the life of the current leaching operation.

Consolidated copper sales from FCX's South America mines of 1.18 billion pounds in 2019 were lower than 1.25 billion pounds in 2018, primarily reflecting lower mill ore grades and recovery rates.

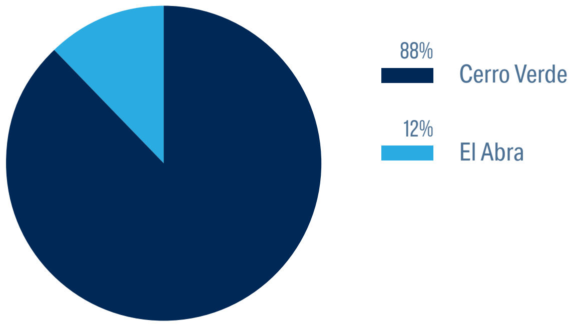


The world's largest mill and concentrator facility is at the Cerro Verde mine in Arequipa, Peru.



Results from our innovation initiatives to enhance productivity at our operations in the Americas are positive. We are incorporating data analytics to add volumes, improve efficiencies and grow margins.

SOUTH AMERICA COPPER RESERVES BY MINE
33.2 billion lbs



The Grasberg Block Cave underground mine in Indonesia includes a fully autonomous rail system.

INDONESIA MINING

Through its subsidiary, PT-FI, FCX mines one of the world's largest copper and gold deposits in the Grasberg minerals district in Papua, Indonesia. In addition to copper and gold, PT-FI produces silver. FCX has a 48.76 percent interest in PT-FI and manages its mining operations. PT-FI's results are consolidated in FCX's financial statements.

During fourth-quarter 2019, PT-FI completed mining the final phase of the Grasberg open pit and continues to achieve important milestones in ramping-up production of large-scale quantities of copper and gold from its significant underground ore bodies. Results to date from its underground mines are positive and in line with long-term plans to reach full production rates. In aggregate from 1990 through 2019, the Grasberg minerals district produced 33 billion pounds of copper and 53 million ounces of gold, including over 27 billion pounds of copper and 46 million ounces of gold from the Grasberg open pit.

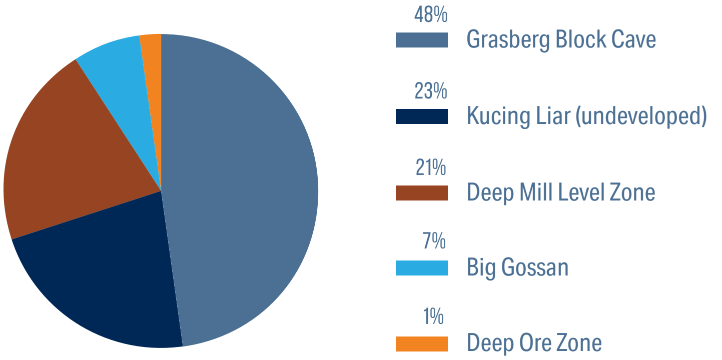
Consolidated sales from Indonesia mining of 0.7 billion pounds of copper and 1.0 million ounces of gold in 2019 were lower than 1.1 billion pounds of copper and 2.4 million ounces of gold in 2018, primarily reflecting anticipated lower mill rates and ore grades associated with PT-FI transitioning mining from the open pit to underground.

PT-FI completed mining in the Grasberg open pit in 2019 and continues to achieve important milestones in ramping-up production of large-scale quantities of copper and gold from its significant underground ore bodies.

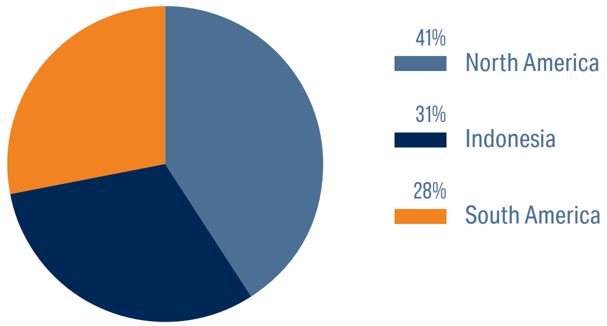
PT-FI is hiring and training women as remote equipment operators for underground mining. Instead of working hundreds of feet underground, remote equipment operators work in an office building on the surface.

INDONESIA COPPER RESERVES

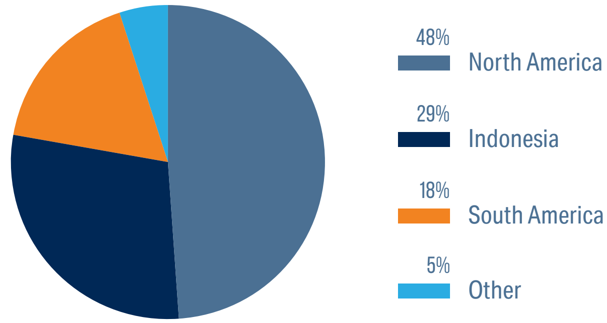
35.6 billions lbs



CONSOLIDATED COPPER RESERVES
116.0 billion lbs



MINERALIZED MATERIAL
133.0 billions lbs



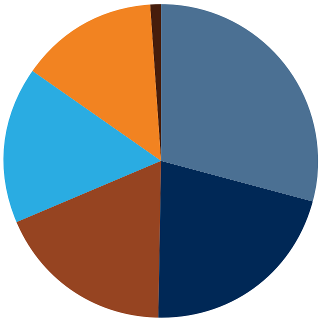
MINING RESERVES AND MINERALIZED MATERIAL

FCX has significant reserves, resources and future development opportunities within its portfolio of mining assets. At December 31, 2019, estimated consolidated recoverable proven and probable mineral reserves included 116.0 billion pounds of copper, 29.6 million ounces of gold, 3.58 billion pounds of molybdenum and 375.4 million ounces of silver. These estimates were determined using metals price assumptions of $2.50 per pound for copper, $1,200 per ounce for gold, $10 per pound for molybdenum and $15 per ounce for silver.

FCX's operating mines and other properties also contain mineralized material that it believes could be brought into production should market conditions warrant. At December 31, 2019, FCX identified estimated mineralized material totaling 133 billion pounds of incremental contained copper, which was assessed using $3.00 per pound.

Innovation drives results through FCX's America's Concentrator project, which is increasing ore throughput by 125,000 metric tons per day without building new infrastructure. Shown here is the concentrator at our Bagdad mine in Arizona.

2019 COMMUNITY INVESTMENT
$100 million



29%	Community Trust Funds
21%	Safety, Health and Environment
19%	Education and Training
16%	Economic Development and Infrastructure
14%	Other*
1%	Administration

* Arts, Culture, Resettlement, Mitigation, Stakeholder Engagement and Employee Programs, such as United Way and Matching Gifts.

Sediment sampling in the Ajkwa River estuary near the Grasberg minerals district in Indonesia is part of FCX's robust global environmental management program.

SUSTAINABLE DEVELOPMENT

Our company plays a critical role in providing the metals necessary for global economic growth, a successful transition to a low-carbon economy, and the technologies necessary to improve the quality of life for billions of people around the world. As a result, we expect an increasing demand for responsibly and ethically produced copper.

At FCX, our ambition is to be the leading responsible copper producer — foremost in copper. We recognize that executing on our financial and operational goals is vital, but our emphasis on achieving these goals responsibly is paramount.

That is why FCX embraces sustainability in all aspects of our business. We are committed to meeting the highest standards of environmental stewardship across our operations, respecting human rights in all of our business practices, and prioritizing the health, safety and well-being of our employees and the communities where we live and work.

We view effective management and integration of our key environmental, social and governance matters as a business imperative because they underpin the long-term success of FCX and our ability to deliver value for our stakeholders. And more than that, it's simply the right thing to do.

> FCX's focus on responsible copper production is visible in everything we do, driven by our core values of safety, respect, integrity, excellence and commitment. Our values represent who we are and how we work. *Everyone. Everywhere. Every day.*

At the Climax Tailings Storage Facilities' Mayflower impoundments, the recently relocated barge pump is in the foreground, and the Ten-mile embankment is in the background.

TAILINGS MANAGEMENT AND STEWARDSHIP

Freeport-McMoRan affiliates currently operate 18 tailings storage facilities (TSFs) and manage 58 that are inactive or reclaimed. Our Indonesian subsidiary, PT-FI, operates a controlled riverine tailings management system.

The safety of our people, communities and the environment is our top priority and fundamental to our extensive Tailings Stewardship Program. Freeport-McMoRan has comprehensive measures in place to ensure the safety and security of our tailings facilities at all of our operations and legacy properties, and we endeavor to continuously improve. We have a strong commitment from our Board of Directors and executive management team to allocate the necessary resources to protect safety. We support the objective of a safety focused Tailings Standard and the ICMM Tailings Guideline that can be widely adopted to improve performance of the broader industry and minimize risks of catastrophic failures to as low as reasonably practicable.

We recognize that a hypothetical scenario of a failure of tailings and other impoundments at any of our mining operations could cause severe, and in some cases catastrophic, property and environmental damage and loss of life. Many of our tailings impoundments are located in areas that have the potential to impact individual dwellings and communities. As a result, our programs take into account the significant consequences resulting from a potential failure, and we apply substantial financial and technical resources, both internal and external, to materially reduce the likelihood of failures.

Accountability and the importance of careful design, management and monitoring of large impoundments have been emphasized in recent years by large-scale tailings dam failures at unaffiliated mines, which resulted in numerous fatalities and caused extensive property and environmental damage. We believe our tailings management and stewardship program is robust and mitigates safety and environmental risks.

During 2019, as part of our commitment to continuous improvement, transparency and accountability, we increased our tailings stewardship program disclosures. Learn more about FCX's tailings stewardship, management and reclamation programs at fcx.com/sustainability in the Tailings Management section.

FCX's tailings dams are designed, built, operated and monitored to minimize risk to employees, neighboring communities and the environment. The safety of our people, communities and the environment is our top priority. We have a strong commitment from our Board of Directors and executive management team to commit the necessary resources to protect safety.

Cerro Verde's Linga TSF centerline design is constructed with cyclone tailings sands delivered via header pipeline and mechanically compacted for robust protection in a high-seismic environment.

BOARD OF DIRECTORS

GERALD J. FORD [1, 3]
Non-Executive Chairman of the Board
Freeport-McMoRan Inc.
Chairman of the Board
Hilltop Holdings Inc.

RICHARD C. ADKERSON
Vice Chairman of the Board,
President and Chief Executive Officer
Freeport-McMoRan Inc.

LYDIA H. KENNARD [1, 3, 4]
President and Chief Executive Officer
KDG Construction Consulting

DUSTAN E. McCOY [1, 2, 4]
Retired Chairman and
Chief Executive Officer
Brunswick Corporation

JOHN J. STEPHENS [1]
Senior Executive Vice President
and Chief Financial Officer
AT&T Inc.

FRANCES FRAGOS TOWNSEND [2, 4]
Executive Vice President of
Worldwide Government, Legal and
Business Affairs
MacAndrews & Forbes Incorporated

EMERITUS MEMBERS:

JAMES R. MOFFETT
Chairman Emeritus

DR. HENRY A. KISSINGER
Director Emeritus

BOARD COMMITTEES:

1) Audit Committee
2) Compensation Committee
3) Nominating and Corporate Governance Committee
4) Corporate Responsibility Committee

EXECUTIVE OFFICERS

RICHARD C. ADKERSON
Vice Chairman of the Board,
President and Chief Executive Officer

KATHLEEN L. QUIRK
Executive Vice President and
Chief Financial Officer

HARRY M. "RED" CONGER, IV
President and Chief Operating Officer –
Americas

OPERATIONS

RICHARD E. COLEMAN
President – Freeport-McMoRan
Mining Company

MARK J. JOHNSON
President – Freeport-McMoRan Indonesia

MICHAEL J. KENDRICK
President – Climax Molybdenum Co.

JAVIER TARGHETTA
President – Atlantic Copper, S.L.U.
Senior Vice President –
FCX (Concentrates)

FINANCE AND ADMINISTRATION

ROBERT R. BOYCE
Vice President and Treasurer

DOUGLAS N. CURRAULT II
Senior Vice President and
General Counsel

STEPHEN T. HIGGINS
Senior Vice President and
Chief Administrative Officer

W. RUSSELL KING
Senior Vice President –
International Relations and
Federal Government Affairs

C. DONALD WHITMIRE, JR.
Vice President and
Controller – Financial Reporting

INTERNAL AUDITORS
Deloitte & Touche LLP

BUILDING ON STRENGTH

Financial and Operating Information

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SELECTED FINANCIAL AND OPERATING DATA

Years Ended December 31,	2019	2018	2017	2016	2015
(In millions, except per share amounts)					
CONSOLIDATED FINANCIAL DATA					
Revenues	$14,402[a]	$ 18,628	$16,403	$ 14,830[b]	$ 14,607[b]
Operating income (loss)[c]	$ 1,091	$ 4,754[d,e]	$ 3,690[f]	$ (2,729)[g]	$(13,437)[h]
Net (loss) income from continuing operations	$ (192)[i,j,k,l,m]	$ 2,909[k,l,m,n]	$ 2,029[k,l,m]	$ (3,832)[l,m]	$(12,180)[n]
Net income (loss) from discontinued operations[o]	$ 3	$ (15)	$ 66	$ (193)	$ 91
Net (loss) income attributable to common stock	$ (239)	$ 2,602	$ 1,817	$ (4,154)[p]	$(12,236)
Diluted net (loss) income per share attributable to common stock:					
Continuing operations	$ (0.17)	$ 1.79	$ 1.21	$ (2.96)	$ (11.32)
Discontinued operations	—	(0.01)	0.04	(0.20)	0.01
	$ (0.17)	$ 1.78	$ 1.25	$ (3.16)	$ (11.31)
Weighted-average common shares outstanding:					
Basic	1,451	1,449	1,447	1,318	1,082
Diluted	1,451	1,458	1,454	1,318	1,082
Dividends declared per share of common stock	$ 0.20	$ 0.20	$ —	$ —	$ 0.2605
Operating cash flows	$ 1,482	$ 3,863	$ 4,666	$ 3,737	$ 3,220
Capital expenditures	$ 2,652	$ 1,971	$ 1,410	$ 2,813	$ 6,353
At December 31:					
Cash and cash equivalents	$ 2,020	$ 4,217	$ 4,526	$ 4,262	$ 193
Property, plant, equipment and mine development costs, net	$29,584	$ 28,010	$22,994	$ 23,348	$ 24,245
Oil and gas properties, net	$ —	$ —	$ —	$ 74	$ 7,093
Assets held for sale, including current portion	$ —	$ —	$ —	$ 5[q]	$ 4,862[q]
Total assets	$40,809	$ 42,216	$37,302	$ 37,317	$ 46,577
Total debt, including current portion	$ 9,826	$ 11,141	$13,229	$ 16,126	$ 20,428
Redeemable noncontrolling interest	$ —	$ —	$ —	$ —	$ 764
Total stockholders' equity	$ 9,298	$ 9,798	$ 7,977	$ 6,051	$ 7,828

The selected consolidated financial data shown above is derived from our audited consolidated financial statements. These historical results are not necessarily indicative of results that you can expect for any future period. You should read this data in conjunction with Items 7. and 7A. "Management's Discussion and Analysis of Financial Condition and Results of Operations and Quantitative and Qualitative Disclosures about Market Risks (MD&A)" and Item 8. "Financial Statements and Supplementary Data" thereto contained in our annual report on Form 10-K for the year ended December 31, 2019. All references to losses or income per share are on a diluted basis, unless otherwise noted.

a. Includes charges totaling $166 million ($91 million to net loss attributable to common stock or $0.06 per share) primarily associated with an unfavorable Indonesia Supreme Court ruling related to certain disputed PT Freeport Indonesia (PT-FI) export duties (refer to Note 12).

b. Includes net noncash mark-to-market losses associated with crude oil and natural gas derivative contracts totaling $41 million ($41 million to net loss attributable to common stock or $0.03 per share) in 2016 and $319 million ($198 million to net loss attributable to common stock or $0.18 per share) in 2015.

c. Includes net charges (credits) for adjustments to environmental obligations and related litigation reserves of $68 million ($68 million to net loss attributable to common stock or $0.05 per share) in 2019, $57 million ($57 million to net income attributable to common stock or $0.04 per share) in 2018, $210 million ($210 million to net income attributable to common stock or $0.14 per share) in 2017, $(16) million ($(16) million to net loss attributable to common stock or $(0.01) per share) in 2016 and $43 million ($28 million to net loss attributable to common stock or $0.03 per share) in 2015.

d. The year 2018 includes net credits totaling $96 million ($156 million to net income attributable to common stock or $0.11 per share) consisting of gains on sales of assets totaling $208 million, partly offset by net charges of $69 million associated with Cerro Verde's collective labor agreement and $43 million mostly associated with depreciation expense at Freeport Cobalt, which was suspended while it was classified as held for sale.

e. The year 2018 also includes net charges at PT-FI totaling $223 million ($110 million to net income attributable to common stock or $0.08 per share) consisting of $69 million for surface water tax settlements with the local regional tax authority in Papua, Indonesia, $32 million for assessments of prior period permit fees with Indonesia's Ministry of Environment and Forestry, $72 million for disputed payroll withholding taxes for prior years and other tax settlements, and $62 million to write-off certain previously capitalized project costs for the new smelter in Indonesia, partly offset by inventory adjustments totaling $12 million.

f. The year 2017 includes net charges totaling $68 million ($12 million to net income attributable to common stock or $0.01 per share) consisting of charges totaling $125 million for workforce reductions at PT-FI and other net charges of $24 million mostly for asset impairments and metals inventory adjustments, partly offset by net gains on sales of assets totaling $81 million primarily associated with oil and gas transactions.

g. The year 2016 includes net charges totaling $4.9 billion ($4.8 billion to net loss attributable to common stock or $3.67 per share) consisting of (i) $4.3 billion for impairment of oil and gas properties, (ii) $926 million for drillship settlements/idle rig and contract termination costs, (iii) $196 million for other charges at oil and gas operations primarily associated with inventory adjustments, asset impairment and other restructuring charges and (iv) $69 million for charges at mining operations for metals inventory adjustments, PT-FI asset retirement and Cerro Verde social commitments, partly offset by (v) net gains on sales of assets totaling $649 million mostly associated with the Morenci and Timok transactions, and net of estimated losses associated with assets held for sale.

h. The year 2015 includes net charges totaling $13.8 billion ($12.0 billion to net loss attributable to common stock or $11.10 per share) consisting of (i) $13.1 billion for impairment of oil and gas properties, (ii) $338 million for metals inventory adjustments, (iii) $188 million for charges at oil and gas operations primarily associated with other asset impairment and inventory adjustments, idle/terminated rig costs and prior year mineral tax assessments related to the California properties, (iv) $145 million for charges at mining operations primarily associated with asset impairment, restructuring and other net charges and (v) $18 million for executive retirement benefits, partly offset by (vi) a net gain of $39 million for the sale of our interest in the Luna Energy power facility.

i. The year 2019 includes net gains of $179 million ($169 million to net loss attributable to common stock or $0.12 per share) consisting of gains on sales of assets totaling $417 million and net credits for adjustments to asset retirement obligations totaling $19 million, partly offset by metals inventory adjustments totaling $179 million and other net charges totaling $78 million, mostly associated with weather-related issues at El Abra, asset impairments, adjustments to deferred profit sharing and oil and gas inventory adjustments.

j. The year 2019 also includes charges at PT-FI of $294 million ($288 million to net loss attributable to common stock or $0.20 per share) consisting of $234 million associated with PT-FI's historical contested tax disputes, $32 million for a currency exchange adjustment to value-added tax receivables and $28 million for an adjustment to the settlement of the historical surface water tax matters with the local regional tax authority in Papua, Indonesia.

k. Includes charges at Cerro Verde related to disputed royalty matters for prior years totaling $7 million to net loss attributable to common stock (less than $0.01 per share) in 2019, $195 million to net income attributable to common stock ($0.13 per share) in 2018 and $186 million to net income attributable to common stock ($0.13 per share) in 2017. Charges for 2019 represent $6 million to operating income and $10 million to interest expense. Net charges for 2018 consist of $14 million to operating income, $370 million to interest expense and $22 million to other expense, net of $35 million of net income tax benefits and $176 million to noncontrolling interests. Net charges for 2017 consist of $203 million to operating income, $145 million to interest expense and $7 million to provision for income taxes, net of $169 million to noncontrolling interests. Refer to Note 12 for further discussion.

l. Includes after-tax net (losses) gains on early extinguishment and exchanges of debt totaling $(26) million ($(0.02) per share) in 2019, $7 million (less than $0.01 per share) in 2018, $21 million ($0.01 per share) in 2017 and $26 million ($0.02 per share) in 2016.

m. As further discussed in "Consolidated Results – Income Taxes" contained in MD&A, amounts include net tax (charges) credits of $(1) million ($34 million net of noncontrolling interests or $0.02 per share) in 2019, $632 million ($574 million net of noncontrolling interests or $0.39 per share) in 2018, $438 million ($0.30 per share) in 2017 and $370 million ($374 million net of noncontrolling interests or $0.28 per share) in 2016.

n. The year 2018 includes a gain of $19 million to net income attributable to common stock or $0.01 per share for interest received on tax refunds. The year 2015 includes a gain of $92 million to net loss attributable to common stock or $0.09 per share related to net proceeds received from insurance carriers and other third parties related to the shareholder derivative litigation settlement.

o. Discontinued operations reflects the results of TF Holdings Limited (TFHL), through which we held an interest in the Tenke Fungurume (Tenke) mine until it was sold on November 16, 2016, and includes charges for allocated interest expense associated with the portion of the term loan that was required to be repaid as a result of the sale. Net income (loss) from discontinued operations in 2019, 2018 and 2017, primarily reflect adjustments to the fair value of the potential contingent consideration related to the sale and was adjusted through December 31, 2019. The year 2016 also includes a net charge of $198 million for the loss on disposal.
p. The year 2016 includes a gain on redemption of a redeemable noncontrolling interest of $199 million ($0.15 per share) associated with the settlement of a preferred stock obligation.
q. In accordance with accounting guidelines, the assets and liabilities of TFHL were presented as held for sale in the consolidated balance sheets.

Years Ended December 31,	2019	2018	2017	2016	2015
CONSOLIDATED MINING (CONTINUING OPERATIONS)[a]					
Copper (millions of recoverable pounds)					
Production	3,247	3,813	3,737	4,222	3,568
Sales, excluding purchases	3,292	3,811	3,700	4,227	3,603
Average realized price per pound	$ 2.73	$ 2.91	$ 2.93	$ 2.28	$ 2.42
Gold (thousands of recoverable ounces)					
Production	882	2,439	1,577	1,088	1,257
Sales, excluding purchases	991	2,389	1,562	1,079	1,247
Average realized price per ounce	$ 1,415	$ 1,254	$ 1,268	$ 1,238	$ 1,129
Molybdenum (millions of recoverable pounds)					
Production	90	95	92	80	92
Sales, excluding purchases	90	94	95	74	89
Average realized price per pound	$ 12.61	$ 12.50	$ 9.33	$ 8.33	$ 8.70
NORTH AMERICA COPPER MINES					
Operating Data, Net of Joint Venture Interests[b]					
Copper (millions of recoverable pounds)					
Production	1,457	1,404	1,518	1,831	1,947
Sales, excluding purchases	1,442	1,428	1,484	1,841	1,988
Average realized price per pound	$ 2.74	$ 2.96	$ 2.85	$ 2.24	$ 2.47
Molybdenum (millions of recoverable pounds)					
Production	32	32	33	33	37
100% Operating Data					
Leach operations					
Leach ore placed in stockpiles (metric tons per day)	750,900	681,400	679,000	737,400	913,000
Average copper ore grade (percent)	0.23	0.24	0.28	0.31	0.26
Copper production (millions of recoverable pounds)	993	951	1,016	1,120	1,086
Mill operations					
Ore milled (metric tons per day)	326,100	301,000	299,500	300,500	312,100
Average ore grade (percent):					
Copper	0.34	0.35	0.39	0.47	0.49
Molybdenum	0.02	0.02	0.03	0.03	0.03
Copper recovery rate (percent)	87.0	87.8	86.4	85.5	85.4
Copper production (millions of recoverable pounds)	748	719	788	958	1,020
SOUTH AMERICA MINING					
Copper (millions of recoverable pounds)					
Production	1,183	1,249	1,235	1,328	869
Sales	1,183	1,253	1,235	1,332	871
Average realized price per pound	$ 2.71	$ 2.87	$ 2.97	$ 2.31	$ 2.38
Molybdenum (millions of recoverable pounds)					
Production	29	28	27	21	7
Leach operations					
Leach ore placed in stockpiles (metric tons per day)	205,900	195,200	142,800	149,100	208,400
Average copper ore grade (percent)	0.37	0.33	0.37	0.41	0.44
Copper production (millions of recoverable pounds)	268	287	255	328	430
Mill operations					
Ore milled (metric tons per day)	393,100	387,600	360,100	353,400	152,100
Average ore grade (percent):					
Copper	0.36	0.38	0.44	0.43	0.46
Molybdenum	0.02	0.01	0.02	0.02	0.02
Copper recovery rate (percent)	83.5	84.3	81.2	85.8	81.5
Copper production (millions of recoverable pounds)	916	962	980	1,000	439

a. Excludes the results from the Tenke mine, which is reported as discontinued operations.
b. Net of Morenci's joint venture interest; effective May 31, 2016, our undivided interest in Morenci was prospectively reduced from 85 percent to 72 percent.

SELECTED FINANCIAL AND OPERATING DATA

Years Ended December 31,	2019	2018	2017	2016	2015
INDONESIA MINING					
Operating Data, Net of Rio Tinto Joint Venture Interest[a]					
Copper (millions of recoverable pounds)					
Production	607	1,160	984	1,063	752
Sales	667	1,130	981	1,054	744
Average realized price per pound	$ 2.72	$ 2.89	$ 3.00	$ 2.32	$ 2.33
Gold (thousands of recoverable ounces)					
Production	863	2,416	1,554	1,061	1,232
Sales	973	2,366	1,540	1,054	1,224
Average realized price per ounce	$ 1,416	$ 1,254	$ 1,268	$ 1,237	$ 1,129
100% Operating Data					
Ore milled (metric tons per day)	110,100	178,100	140,400	165,700	162,500
Average ore grade:					
Copper (percent)	0.84	0.98	1.01	0.91	0.67
Gold (grams per metric ton)	0.93	1.58	1.15	0.68	0.79
Recovery rates (percent):					
Copper	88.4	91.8	91.6	91.0	90.4
Gold	75.0	84.7	85.0	82.2	83.4
Production:					
Copper (millions of recoverable pounds)	607	1,227	996	1,063	752
Gold (thousands of recoverable ounces)	863	2,697	1,554	1,061	1,232
MOLYBDENUM MINES					
Molybdenum production (millions of recoverable pounds)	29	35	32	26	48
Ore milled (metric tons per day)	30,100	27,900	22,500	18,300	34,800
Average molybdenum ore grade (percent)	0.14	0.18	0.20	0.21	0.20
OIL AND GAS OPERATIONS[b]					
Sales Volumes:					
Oil (million barrels)	0.9	1.4	1.8	34.4	35.3
Natural gas (billion cubic feet)	1.1	10.1	15.8	65.1	89.7
Natural gas liquids (NGLs) (million barrels)	—	0.1	0.2	1.8	2.4
Million barrels of oil equivalents	1.1	3.1	4.6	47.1	52.6
Average Realizations:					
Oil (per barrel)	$ 45.17	$ 54.13	$ 40.71	$ 39.13	$ 57.11
Natural gas (per million British thermal units)	$ 3.32	$ 3.15	$ 3.18	$ 2.38	$ 2.59
NGLs (per barrel)	$ 60.93	$ 44.11	$ 30.65	$ 18.11	$ 18.90

a. Prior to December 21, 2018, PT-FI had an unincorporated joint venture with Rio Tinto. Refer to Notes 2 and 3 for further discussion.
b. In 2016, we sold the majority of our oil and gas assets.

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" 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. MD&A contained herein is a reproduction from our Form 10-K for the fiscal year ended December 31, 2019, filed on February 14, 2020. The disclosures in "Outlook" and throughout MD&A have not been updated to reflect recent events associated with the coronavirus and the related global impacts.

This section of our Form 10-K generally discusses 2019 and 2018 items and year-to-year comparisons between 2019 and 2018. Discussions of 2017 items and year-to-year comparisons between 2018 and 2017 that are not included in this Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations and Quantitative and Qualitative Disclosures About Market Risk" in Part II, Items 7. and 7A. of our Annual Report on Form 10-K for the fiscal year ended December 31, 2018.

OVERVIEW

We are a leading international mining company with headquarters in Phoenix, Arizona. We operate large, long-lived, geographically diverse assets with significant proven and probable reserves of copper, gold and molybdenum. We are 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.

We believe that we have a high-quality portfolio of long-lived copper assets positioned to generate long-term value. PT Freeport Indonesia (PT-FI) continues to advance several projects in the Grasberg minerals district related to the development of its large-scale, long-lived, high-grade underground ore bodies, and we are nearing completion of a project to develop the Lone Star leachable ores near the Safford operation in eastern Arizona. We are also pursuing other opportunities to enhance our mines' net present values, and we continue to advance studies for future development of our copper resources, the timing of which will be dependent on market conditions.

During 2019, we advanced initiatives in our North America and South America mining operations to enhance productivity, expand margins and reduce the capital intensity of the business through the utilization of new technology applications in combination with a more interactive operating structure. The pilot program initiated at the Bagdad mine in northwest Arizona in late 2018 was successful in utilizing data science, machine learning and integrated functional teams to address bottlenecks, provide cost benefits and drive improved overall performance. The program is being implemented across our North America and South America operations.

During fourth-quarter 2019, PT-FI completed mining the final phase of the Grasberg open pit and continues to achieve important milestones in ramping-up production of large-scale quantities of copper and gold from its significant underground ore bodies. 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. As PT-FI continues to ramp-up production from its underground ore bodies, our consolidated metal production is expected to improve significantly by 2021 (refer to "Operations—Indonesia Mining" for further discussion).

Net (loss) income attributable to common stock totaled $(239) million in 2019 and $2.6 billion in 2018. Our results in 2019, compared with 2018, primarily reflect lower copper and gold sales volumes resulting from anticipated lower mill rates and ore grades in Indonesia and lower copper prices. Refer to "Consolidated Results" for discussion of items impacting our consolidated results for the two years ended December 31, 2019.

At December 31, 2019, we had $2.0 billion in consolidated cash and cash equivalents, $9.8 billion in total debt, and no borrowings and approximately $3.5 billion available under our revolving credit facility.

We have significant mineral reserves, resources and future development opportunities within our portfolio of mining assets. At December 31, 2019, our estimated consolidated recoverable proven and probable mineral reserves totaled 116.0 billion pounds of copper, 29.6 million ounces of gold and 3.58 billion pounds of molybdenum. Refer to "Critical Accounting Estimates – Mineral Reserves" for further discussion.

During 2019, production from our mines totaled 3.2 billion pounds of copper, 0.9 million ounces of gold and 90 million pounds of molybdenum. Following is a summary of the geographic locations of our consolidated copper, gold and molybdenum production in 2019:

	Copper	Gold	Molybdenum
North America	45%	2%	68%[a]
South America	36	—	32
Indonesia	19	98	—
	100%	100%	100%

a. Our North America copper mines produced 36 percent of consolidated molybdenum production, and our Henderson and Climax molybdenum mines produced 32 percent.

Copper production from the Morenci mine in North America, Cerro Verde mine in Peru and the Grasberg minerals district in Indonesia together totaled 72 percent of our consolidated copper production in 2019.

OUTLOOK

We continue to view the long-term outlook for our business positively, supported by limitations on supplies of copper and by the requirements for copper in the world's economy. Our financial results vary as a result of fluctuations in market prices primarily for copper, gold and molybdenum, as well as other factors. World market prices for these commodities have fluctuated historically and are affected by numerous factors beyond our control. 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 2020 and actual consolidated sales volumes for 2019:

	2020 (Projected)	2019 (Actual)
Copper (millions of recoverable pounds):		
North America copper mines	1,580	1,442
South America mining	1,150	1,183
Indonesia mining	750	667
Total	3,480	3,292
Gold (thousands of recoverable ounces)	775	991
Molybdenum (millions of recoverable pounds)	88[a]	90

a. Includes 30 million pounds from our Molybdenum mines and 58 million pounds from our North America and South America copper mines.

Consolidated sales for first-quarter 2020 are expected to approximate 725 million pounds of copper, 105 thousand ounces of gold and 22 million pounds of molybdenum. Projected sales volumes for the year 2020 are dependent on operational performance, weather-related conditions, timing of shipments, the Indonesia government's extension of PT-FI's export license beyond March 8, 2020, and other factors. For other important factors that could cause results to differ materially from projections, refer to "Cautionary Statement" and "Risk Factors" contained in Part I, Item 1A. of our annual report on Form 10-K for the year ended December 31, 2019.

Consolidated sales for 2021 are currently expected to approximate 4.3 billion pounds of copper, 1.4 million ounces of gold and 90 million pounds of molybdenum. The increase from 2019 levels primarily reflects PT-FI's continued ramp-up of production from its significant underground ore bodies and the incorporation of higher mining and milling rates from our productivity and innovation initiatives (which represent an estimated incremental production of approximately 100 million pounds of copper in 2021 and approximately 200 million pounds in 2022).

Consolidated Unit Net Cash Costs. Assuming average prices of $1,500 per ounce of gold and $10.00 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 $1.75 per pound of copper in 2020. The impact of price changes on 2020 consolidated unit net cash costs would approximate $0.01 per pound for each $50 per ounce change in the average price of gold and $0.03 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 $2.85 per pound of copper, $1,500 per ounce of gold and $10.00 per pound of molybdenum, our consolidated operating cash flows are estimated to approximate $2.4 billion (including $0.2 billion in working capital and other sources) for the year 2020. Estimated consolidated operating cash flows in 2020 also reflect a projected income tax provision of $0.6 billion (refer to "Consolidated Results—Income Taxes" for further discussion of our projected income tax rate for the year 2020). The impact of price changes during 2020 on operating cash flows would approximate $350 million for each $0.10 per pound change in the average price of copper, $35 million for each $50 per ounce change in the average price of gold and $125 million for each $2 per pound change in the average price of molybdenum.

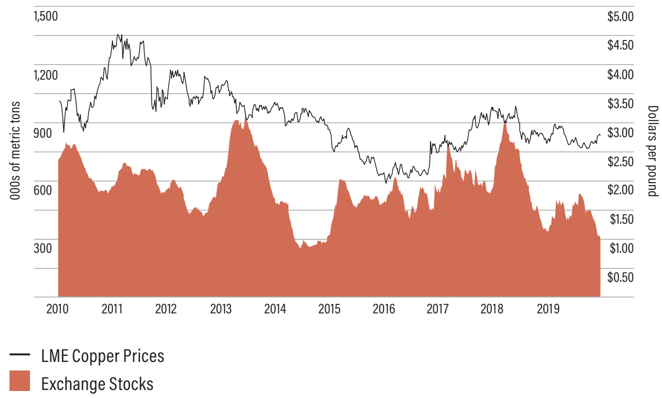
Consolidated Capital Expenditures. Consolidated capital expenditures are expected to approximate $2.8 billion in 2020, including $1.8 billion for major projects primarily associated with underground development activities in the Grasberg minerals district and completion of the Lone Star copper leach project, and exclude estimates associated with the new smelter in Indonesia. A large portion of projected capital expenditures in 2020 relate to projects that are expected to add significant production and cash flow in future periods, enabling us to generate operating cash flows exceeding capital expenditures in future years.

We expect capital expenditures for the development of the new smelter in Indonesia to approximate $0.5 billion in 2020, of which approximately 49 percent will be attributable to our equity interest. PT-FI expects these amounts to be funded by a new bank loan.

MARKETS

World prices for copper, gold and molybdenum can fluctuate significantly. During the period from January 2010 through December 2019, the London Metal Exchange (LME) copper settlement price varied from a low of $1.96 per pound in 2016 to a record high of $4.60 per pound in 2011; 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 $1,895 per ounce in 2011, and the *Metals Week* Molybdenum Dealer Oxide weekly average price ranged from a low of $4.46 per pound in 2015 to a high of $18.60 per pound in 2010. Copper, gold and molybdenum prices are affected by numerous factors beyond our control as described further in our "Risk Factors" contained in Part I, Item 1A. of our annual report on Form 10-K for the year ended December 31, 2019.

LME Copper Prices
Through December 31, 2019

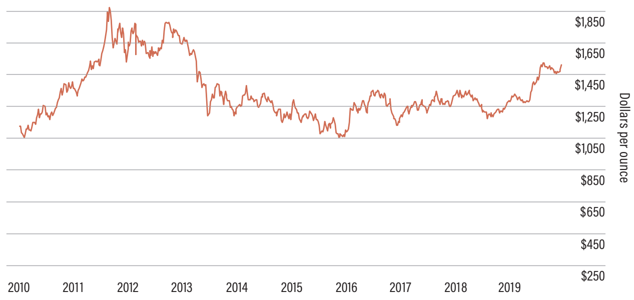


This graph presents LME copper settlement prices and combined reported stocks of copper at the LME, Commodity Exchange Inc., a division of the New York Mercantile Exchange, and the Shanghai Futures Exchange from January 2010 through December 2019. For the year 2019, LME copper settlement prices ranged from a low of $2.51 per pound to a high of $2.98 per pound, averaged $2.72 per pound and closed at $2.79 per pound on December 31, 2019. During 2019, copper prices continued to be negatively impacted primarily by the trade dispute between the United States (U.S.) and China and a slowing global economy. Beginning in late January 2020, copper prices declined as a result of economic uncertainty in China associated with concerns over the coronavirus. The LME copper settlement price was $2.53 per pound on January 31, 2020.

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

London Gold Prices

Through December 31, 2019



This graph presents London PM gold prices from January 2010 through December 2019. An improving economic outlook, stronger U.S. dollar and positive equity performance contributed to lower demand for gold from 2014 through 2018. Gold prices rose in 2019 because of geopolitical concerns in the Middle East, global economic uncertainty and lower U.S. interest rates. During 2019, London PM gold prices ranged from a low of $1,270 per ounce to a high of $1,546 per ounce, averaged $1,393 per ounce and closed at $1,515 per ounce on December 30, 2019 (there was no London PM gold price quote on December 31, 2019). The London PM gold price was $1,584 per ounce on January 31, 2020.

Metals Week Molybdenum Dealer Oxide Prices

Through December 31, 2019

This graph presents the *Metals Week* Molybdenum Dealer Oxide weekly average price from January 2010 through December 2019. Molybdenum prices declined from mid-2014 until 2016 because of weaker demand from global steel and stainless steel producers. During 2019, the weekly average price for molybdenum ranged from a low of $8.55 per pound to a high of $12.66 per pound, averaged $11.37 per pound and was $9.23 per pound on December 31, 2019. The *Metals Week* Molybdenum Dealer Oxide weekly average price was $10.40 per pound on January 31, 2020.

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 of Directors (the Board).

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

At December 31, 2019, our consolidated estimated recoverable proven and probable reserves were assessed using long-term prices 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 reserves during 2019 and 2018:

	Copper[a] (billion pounds)	Gold (million ounces)	Molybdenum (billion pounds)
Consolidated reserves at December 31, 2017	86.7	23.5	2.84
PT-FI acquisition of Rio Tinto Joint Venture interest	13.0	10.1	—
Other net additions (revisions)	23.7[b]	(0.4)	1.04[c]
Production	(3.8)	(2.4)	(0.10)
Consolidated reserves at December 31, 2018	119.6	30.8	3.78
Net revisions	(0.4)	(0.3)	(0.11)
Production	(3.2)	(0.9)	(0.09)
Consolidated reserves at December 31, 2019	116.0	29.6	3.58

a. Includes estimated recoverable metals contained in stockpiles. See below for additional discussion of recoverable copper in stockpiles.
b. Primarily reflects an increase in the copper price assumption from $2.00 per pound to $2.50 per pound for determining reserves in North America and South America.
c. Primarily reflects an increase in molybdenum reserves at North America copper mines and the Cerro Verde mine in Peru.

Refer to Note 20 and "Risk Factors" contained in Part I, Item 1A. of our annual report on Form 10-K for the year ended December 31, 2019, 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 reserves may change, which could have a significant impact on our results of operations, including changes to prospective depreciation rates and impairments of long-lived asset carrying values. Excluding impacts associated with changes in the levels of finished goods inventories and based on projected copper sales volumes, if estimated copper reserves at our mines were 10 percent higher at December 31, 2019, we estimate that our annual depreciation, depletion and amortization (DD&A) expense for 2020 would decrease by $37 million ($20 million to net income attributable to common stock), and a 10 percent decrease in copper reserves would increase DD&A expense by $86 million ($45 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, 2019). 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) recovery rates from leach stockpiles can vary significantly. Refer to Note 1 for further discussion of our accounting policy for recoverable copper in stockpiles.

At December 31, 2019, estimated consolidated recoverable copper was 1.7 billion pounds in leach stockpiles (with a carrying value of $2.2 billion) and 0.5 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 individual mines. Estimates of future cash flows are derived from current business plans, which are developed using near-term metal price forecasts reflective of the current price environment and management's projections for long-term average metal prices. In addition to near- and long-term metal price assumptions, other key assumptions include estimates of commodity-based and other input costs; proven and probable mineral reserves estimates, including the timing and cost to develop and produce the reserves; value beyond proven and probable mineral reserve estimates (refer to Note 1); and the use of appropriate discount rates in the measurement of fair value. We believe our estimates and models used to determine fair value are similar to what a market participant would use. As quoted market prices are unavailable for our individual mining operations, fair value is determined through the use of after-tax discounted estimated future cash flows.

For the two years ended December 31, 2019, we concluded there were no events or changes in circumstances that would indicate that the carrying amount of our long-lived mining assets might not be recoverable.

In addition to decreases in future metal price assumptions, other events that could result in future impairment of our long-lived mining assets include, but are not limited to, decreases in estimated recoverable proven and probable mineral reserves and any event that might otherwise have a material adverse effect on mine site production levels or costs. Refer to "Risk Factors" contained in Part I, Item 1A. of our annual report on Form 10-K for the year ended December 31, 2019.

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, 2019, environmental obligations recorded in our consolidated balance sheet totaled $1.6 billion, which reflect obligations for environmental liabilities attributed to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) or analogous state programs and for estimated future costs associated with environmental matters. Refer to Notes 1 and 12 for further discussion of environmental obligations, including a summary of changes in our estimated environmental obligations for the three years ended December 31, 2019.

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

Asset Retirement Obligations. We record the fair value of our estimated 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, 2019, AROs recorded in our consolidated balance sheet totaled $2.5 billion, including $0.4 billion associated with our remaining oil and gas operations. Refer to Notes 1 and 12 for further discussion of reclamation and closure costs, including a summary of changes in our AROs for the three years ended December 31, 2019.

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

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

Our operations are in multiple jurisdictions where uncertainties arise in the application of complex tax regulations. Some of these tax regimes are defined by contractual agreements with the local government, while others are defined by general tax laws and regulations. We and our subsidiaries are subject to reviews of our income tax filings and other tax payments, and disputes can arise with the taxing authorities over the interpretation of our contracts or laws. Final taxes paid may be dependent upon many factors, including negotiations with taxing authorities. In certain jurisdictions, we 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.

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 $4.6 billion at December 31, 2019, which covered all of our U.S. foreign tax credits, U.S. federal net operating losses, foreign net operating losses and substantially all of our U.S. state net operating losses. Refer to Note 11 for further discussion.

CONSOLIDATED RESULTS

Years Ended December 31,	2019	2018
SUMMARY FINANCIAL DATA (in millions, except per share amounts)		
Revenues[a,b]	$14,402[c]	$18,628
Operating income[a,d,e,f]	$ 1,091	$ 4,754[g,h]
Net (loss) income from continuing operations[i,j,k,l]	$ (192)[m,n]	$ 2,909[o]
Net income (loss) from discontinued operations	$ 3	$ (15)
Net (loss) income attributable to common stock	$ (239)	$ 2,602
Diluted net (loss) income per share attributable to common stock:		
Continuing operations	$ (0.17)	$ 1.79
Discontinued operations	—	(0.01)
	$ (0.17)	$ 1.78
Diluted weighted-average common shares outstanding	1,451	1,458
Operating cash flows[p]	$ 1,482	$ 3,863
Capital expenditures	$ 2,652	$ 1,971
At December 31:		
Cash and cash equivalents	$ 2,020	$ 4,217
Total debt, including current portion	$ 9,826	$11,141

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. Includes charges totaling $166 million ($91 million to net loss attributable to common stock or $0.06 per share) primarily associated with an unfavorable Indonesia Supreme Court ruling related to certain disputed PT-FI export duties (refer to Note 12).
d. Includes net gains on sales of assets totaling $417 million ($339 million to net loss attributable to common stock or $0.23 per share) in 2019 and $208 million ($208 million to net income attributable to common stock or $0.14 per share) in 2018. Refer to Note 2 and "Net Gain on Sales of Assets" below for further discussion.
e. Includes net charges for adjustments to environmental obligations and related litigation reserves of $68 million ($68 million to net loss attributable to common stock or $0.05 per share) in 2019 and $57 million ($57 million to net income attributable to common stock or $0.04 per share) in 2018.
f. Includes metals inventory adjustments totaling $179 million ($144 million to net loss attributable to common stock or $0.10 per share) for the year 2019 and $4 million ($4 million to net income attributable to common stock or less than $0.01 per share) for the year 2018.
g. Includes net charges at PT-FI of $223 million ($110 million to net income attributable to common stock or $0.08 per share) consisting of $69 million for surface water tax settlements with the local regional tax authority in Papua, Indonesia, $32 million for assessments for prior period permit fees with Indonesia's Ministry of Environment and Forestry, $72 million for disputed payroll withholding taxes for prior years and other tax settlements, and $62 million to write-off certain previously capitalized project costs for the new Indonesia smelter, partly offset by inventory adjustments totaling $12 million.
h. Includes net charges of $112 million ($52 million to net income attributable to common stock or $0.04 per share) consisting of $69 million for Cerro Verde's new three-year collective labor agreement (CLA) and $43 million, mostly associated with depreciation expense at Freeport Cobalt, which was suspended while it was classified as held for sale.
i. Includes net charges associated with disputed Cerro Verde royalties for prior years of $7 million to net loss attributable to common stock (less than $0.01 per share) in 2019 and $195 million to net income attributable to common stock ($0.13 per share) in 2018. Net charges for the year 2019 consist of charges to production and delivery costs ($6 million) and interest expense ($10 million). Net charges for the year 2018 primarily reflect charges to production and delivery costs ($14 million), interest expense ($370 million) and other expense ($22 million), net of income tax benefits ($35 million) and noncontrolling interests ($176 million). Refer to Note 12 for further discussion.
j. Includes after-tax net (losses) gains on early extinguishment and exchanges of debt totaling $(26) million ($(0.02) per share) in 2019 and $7 million (less than $0.01 per share) in 2018. Refer to Note 8 for further discussion.
k. Includes net tax (charges) credits of $(1) million ($34 million net of noncontrolling interests or $0.02 per share) in 2019 and $632 million ($574 million net of noncontrolling interests or $0.39 per share) in 2018. Refer to "Income Taxes" below for further discussion.
l. We defer recognizing profits on intercompany sales until final sales to third parties occur. Refer to "Operations – Smelting & Refining" for a summary of net impacts from changes in these deferrals.
m. Includes charges at PT-FI of $294 million ($288 million to net loss attributable to common stock or $0.20 per share) consisting of $234 million associated with PT-FI's historical contested tax disputes, $32 million for a currency exchange adjustment to value-added tax receivables and $28 million for an adjustment to the settlement of the historical surface water tax matters with the local regional tax authority in Papua, Indonesia.
n. The year 2019 also includes net charges totaling $59 million ($26 million to net loss attributable to common stock or $0.02 per share) primarily associated with weather-related issues at El Abra, adjustments to Cerro Verde's deferred profit sharing and mining asset impairments, partly offset by net credits mostly for asset retirement obligation adjustments.
o. Includes interest received on tax refunds totaling $30 million ($19 million to net income attributable to common stock or $0.01 per share), mostly associated with the refund of PT-FI's prior years' tax receivables.
p. Includes net working capital and other sources (uses) totaling $349 million in 2019 and $(656) million in 2018.

Years Ended December 31,	2019	2018
SUMMARY OPERATING DATA		
Copper (millions of recoverable pounds)		
Production	3,247	3,813
Sales, excluding purchases	3,292	3,811
Average realized price per pound	$ 2.73	$ 2.91
Site production and delivery costs per pound[a]	$ 2.15	$ 1.76
Unit net cash costs per pound[a]	$ 1.74	$ 1.07
Gold (thousands of recoverable ounces)		
Production	882	2,439
Sales, excluding purchases	991	2,389
Average realized price per ounce	$1,415	$1,254
Molybdenum (millions of recoverable pounds)		
Production	90	95
Sales, excluding purchases	90	94
Average realized price per pound	$12.61	$12.50

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 $14.4 billion in 2019 and $18.6 billion in 2018. 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 2018 to 2019 (in millions):

Consolidated revenues – 2018	$18,628
Mining operations:	
Lower sales volumes:	
Copper	(1,509)
Gold	(1,753)
Molybdenum	(51)
(Lower) higher averaged realized prices:	
Copper	(593)
Gold	160
Molybdenum	10
Adjustments for prior year provisionally priced copper sales	128
Higher revenues from sales of purchased copper	8
Lower cobalt revenues	(527)
Lower Atlantic Copper revenues	(234)
Lower treatment and refining charges	131
Lower royalties and export duties	92
Other, including intercompany eliminations	(88)
Consolidated revenues – 2019	$14,402

Sales Volumes. Lower copper and gold sales volumes in 2019, compared with 2018, primarily reflected anticipated lower mill rates and ore grades as PT-FI continues to ramp-up production from its underground ore bodies.

Lower molybdenum sales volumes in 2019, compared with 2018, primarily reflect lower production from our primary molybdenum mines because of market conditions.

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 2019, our average realized prices were 6 percent lower for copper, 13 percent higher for gold and 1 percent higher for molybdenum, compared with 2018.

Average realized copper prices include net unfavorable adjustments to current year provisionally priced copper sales (*i.e.*, provisionally priced sales for the years 2019 and 2018) totaling $24 million for 2019 and $240 million for 2018. 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 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, 2018 and 2017) recorded in consolidated revenues totaled $58 million in 2019 and $(70) million in 2018. 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.

Cobalt Revenues. Lower cobalt revenues in 2019, compared with 2018, primarily reflect lower cobalt prices.

Purchased Copper. We purchase copper cathode primarily for processing by our Rod & Refining operations. Purchased copper volumes totaled 379 million pounds in 2019 and 356 million pounds in 2018.

Atlantic Copper Revenues. Atlantic Copper revenues totaled $2.1 billion in 2019 and $2.3 billion in 2018. Lower Atlantic Copper revenues in 2019, compared with 2018, primarily reflect lower copper sales volumes and lower copper prices.

Treatment and Refining Charges. Treatment and refining charges represent payments to smelters and refiners and vary with the volume of metals sold. Lower treatment and refining charges in 2019, compared with 2018, primarily reflect lower sales volumes at PT-FI.

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, and PT-FI will continue to pay export duties until development progress for the new smelter in Indonesia exceeds 50 percent. Royalties and export duties totaled $334 million in 2019, compared with $426 million in 2018, primarily reflecting lower sales volumes at PT-FI. The year 2019 also included charges totaling $166 million, primarily associated with an unfavorable Indonesia Supreme Court ruling related to certain disputed PT-FI export duties. Refer to Note 13 for a summary of PT-FI's royalties and export duties.

Production and Delivery Costs

Consolidated production and delivery costs totaled $11.5 billion in 2019, compared with $11.7 billion in 2018. 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 sulphuric acid, reagents, liners, tires and explosives. Consolidated unit site production and delivery costs (before net noncash and other costs) for our copper mines averaged $2.15 per pound of copper in 2019 and $1.76 per pound in 2018. Higher consolidated unit site production and delivery costs in 2019, compared with 2018, primarily reflected lower volumes associated with PT-FI's transition from mining the open pit to underground. 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. Energy represented approximately 20 percent of our copper mine site operating costs in 2019, including purchases of approximately 230 million gallons of diesel fuel; 8,200 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); 675 thousand metric tons of coal for our coal power plant in Indonesia; and 1 million MMBtu (million British thermal units) of natural gas at certain of our North America mines. Based on current cost estimates, energy will also approximate 20 percent of our copper mine site operating costs for 2020.

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 $1.4 billion in 2019 and $1.8 billion in 2018. Lower DD&A in 2019, compared with 2018, primarily reflects lower sales volumes, and lower UOP rates because of increased proven and probable reserves at our North America and South America mines as a result of a higher copper price assumption at December 31, 2018.

Mining Exploration and Research Expenses

Consolidated exploration and research expenses for our mining operations totaled $104 million in 2019 and $105 million in 2018. Our mining exploration activities are generally associated with our existing mines, focusing on opportunities to expand reserves and resources to support development of additional future production capacity. A drilling program to further delineate the Lone Star resource continues to indicate significant additional mineralization in this district, with higher ore grades than our other North America copper mines. Exploration results continue to indicate opportunities for significant future potential reserve additions in North America and South America. Exploration spending is expected to approximate $70 million in 2020.

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 $105 million in 2019 and $89 million in 2018. Higher costs in 2019, compared with 2018, primarily reflect increased legal expenses associated with our legacy talc mining subsidiaries. Refer to Note 12 for environmental obligations and litigation matters.

Net Gain on Sales of Assets

Net gain on sales of assets totaled $417 million in 2019, primarily including $343 million associated with the sale of our interest in the lower zone of the Timok exploration project in Serbia and $59 million associated with the sale of our cobalt refinery in Kokkola, Finland, and related cobalt cathode precursor business.

Net gain on sales of assets totaled $208 million in 2018, primarily associated with oil and gas transactions and adjustments to assets held for sale.

Refer to Note 2 for further discussion of dispositions.

Interest Expense, Net

Consolidated interest costs (before capitalization and excluding interest expense associated with disputed Cerro Verde royalties and PT-FI's historical contested tax disputes) totaled $623 million in 2019 and $671 million in 2018. Lower interest expense in 2019, compared with 2018, reflects a decrease in total debt, primarily reflecting the redemption of our 3.100% Senior Notes due 2020 and a prepayment on the Cerro Verde credit facility. Refer to Note 8 for further discussion of our 2019 debt transactions. Interest expense associated with disputed Cerro Verde royalties totaled $68 million (including $58 million associated with installment payment programs) in 2019 and $370 million in 2018. Refer to Note 12 for further discussion.

Capitalized interest varies with the level of expenditures for our development projects and average interest rates on our borrowings, and totaled $149 million in 2019 and $96 million in 2018. 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 $(138) million in 2019 and $76 million in 2018. The year 2019 includes charges totaling $188 million associated with PT-FI's historical contested tax disputes (refer to Note 11) and a currency exchange adjustment to value-added tax receivables at PT-FI. The year 2018 includes $30 million of interest received on tax refunds, mostly associated with the refund of PT-FI's prior years' tax receivables.

Income Taxes

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

	2019			2018		
	Income (Loss)[a]	Effective Tax Rate	Income Tax (Provision) Benefit	Income (Loss)[a]	Effective Tax Rate	Income Tax (Provision) Benefit
U.S.[b]	$(277)	—%	$ —[c,d]	$ 352	7%	$ (24)[e]
South America	497	48%	(241)	706	43%	(303)
Indonesia	340	44%	(149)[f]	3,027	42%	(1,284)[g]
PT-FI historical contested tax disputes[h]	(201)	(39)%	(78)	—	—	—
PT-FI export duty matter[i]	(155)	31%	48	—	—	—
Change in PT-FI tax rates	—	N/A	—	—	N/A	504[j]
Adjustment to deferred taxes	—	N/A	(49)[k]	—	N/A	—
U.S. tax reform	—	N/A	—	—	N/A	123[l]
Cerro Verde royalty dispute	(16)	N/A	2	(406)	N/A	35[m]
Eliminations and other	118	N/A	(43)	213	N/A	(42)
Consolidated	$ 306	167%[n]	$(510)	$3,892	25%	$ (991)

a. Represents income (loss) from continuing operations by geographic location 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 tax credits of $29 million associated with adjustments to the calculation of transition tax related to the 2017 Tax Cuts and Jobs Act (the Act) and $24 million associated with state law changes and the settlement of state income tax examinations.
d. Includes a tax charge of $53 million associated with the sale of our interest in the lower zone of the Timok exploration project in Serbia.
e. Includes net tax charges of $20 million, primarily associated with adjustments to the calculation of transition tax related to the Act and a tax credit of $5 million associated with the settlement of a state income tax examination.
f. Includes a tax charge of $5 million ($4 million net of noncontrolling interests) primarily for non-deductible penalties related to PT-FI's surface water tax settlement.
g. Includes a tax credit of $20 million ($17 million net of noncontrolling interest) for adjustments to PT-FI's historical tax positions.
h. Refer to Note 11 for further discussion of the development of a framework for resolution of these historical contested tax disputes.
i. Refer to Note 12 for further discussion of the unfavorable Indonesia Supreme Court ruling related to certain disputed PT-FI export duties.
j. Reflects a tax credit of $504 million ($453 million net of noncontrolling interest) resulting from the change in PT-FI's tax rates in accordance with its special mining license (IUPK).
k. Includes net tax charges totaling $49 million ($15 million net of noncontrolling interests) primarily to adjust deferred taxes on historical balance sheet items in accordance with tax accounting principles.
l. In December 2018, we completed our analysis of the Act and recognized benefits totaling $123 million ($119 million net of noncontrolling interest) associated with alternative minimum tax credit refunds.
m. Refer to Note 12 for a summary of charges related to Cerro Verde's disputed royalties for prior years.
n. 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. Because our U.S. jurisdiction generated net losses during 2019 that will not result in a realized tax benefit, applicable accounting rules require us to adjust our estimated annual effective tax rate to exclude the impact of U.S. net losses.

Assuming achievement of current sales volume and cost estimates and average prices of $2.85 per pound for copper, $1,500 per ounce for gold and $10.00 per pound for molybdenum for 2020, we estimate our consolidated effective tax rate for the year 2020 would approximate 42 percent. Based on an average price of $2.60 per pound for copper and all other assumptions being the same as discussed above, we estimate our consolidated effective tax rate for 2020 would exceed 90 percent. Changes in sales volumes and average prices during 2020 would incur tax impacts at estimated effective rates of 38 percent for Indonesia, 40 percent for Peru and 0 percent for the U.S.

Changes to 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.; therefore, our consolidated effective rate is generally higher than the international rates at lower copper prices and lower than international rates at higher copper prices.

Refer to Note 11 for further discussion of income taxes.

OPERATIONS

Productivity and Innovation Initiatives

During 2019, we advanced initiatives in our North America and South America mining operations to enhance productivity, expand margins and reduce the capital intensity of the business through the utilization of new technology applications in combination with a more interactive operating structure. The pilot program initiated at the Bagdad mine in northwest Arizona in late 2018 was successful in utilizing data science, machine learning and integrated functional teams to address bottlenecks, provide cost benefits and drive improved overall performance. The program is now being implemented across the North America and South America operations.

A series of action items have been identified, prioritized and are being implemented. Based on the opportunities identified to date, we have incorporated higher mining and milling rates in our future plans, resulting in estimated incremental production of approximately 100 million pounds of copper in 2021 and approximately 200 million pounds in 2022.

Capital expenditures associated with these initiatives are expected to be attractive in relation to developing new copper supply. We currently estimate capital costs of these initiatives, principally for mining equipment and ongoing development of data science and machine learning programs, will approximate $200 million, most of which will be incurred in 2020.

North America Copper Mines

We operate seven open-pit copper mines in North America—Morenci, Bagdad, Safford, Sierrita and Miami in Arizona, and Chino and Tyrone in New Mexico. All of the North America mining operations are wholly owned, except for Morenci. We record our 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 significant undeveloped reserves and resources in North America and a portfolio of potential long-term development projects. Future investments are dependent on market conditions and will be undertaken based on the results of economic and technical feasibility studies, including the incorporation of innovation initiatives to reduce capital intensity.

Through exploration drilling, we have identified a significant resource at our wholly owned Lone Star copper leach project located near the Safford operation in eastern Arizona. An initial project to develop the Lone Star leachable ores commenced in 2018, with first production expected during 2020. Initial production from the Lone Star leachable ores following a ramp-up period is expected to average approximately 200 million pounds of copper per year, with the potential for future expansion options. Total capital costs for the initial project, including mine equipment and pre-production stripping, are expected to approximate $850 million and will benefit from the utilization of existing infrastructure at the adjacent Safford operation. As of December 31, 2019, approximately $655 million has been incurred for this project, which is on schedule and within budget. The project also advances exposure to a significant sulfide resource. We expect to incorporate positive drilling and ongoing results in our future development plans.

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

	2019	2018
Operating Data, Net of Joint Venture Interests		
Copper (millions of recoverable pounds)		
Production	1,457	1,404
Sales, excluding purchases	1,442	1,428
Average realized price per pound	$ 2.74	$ 2.96
Molybdenum (millions of recoverable pounds)		
Production[a]	32	32
100% Operating Data		
Leach operations		
Leach ore placed in stockpiles (metric tons per day)	750,900	681,400
Average copper ore grade (percent)	0.23	0.24
Copper production (millions of recoverable pounds)	993	951
Mill operations		
Ore milled (metric tons per day)	326,100	301,000
Average ore grade (percent):		
Copper	0.34	0.35
Molybdenum	0.02	0.02
Copper recovery rate (percent)	87.0	87.8
Copper production (millions of recoverable pounds)	748	719

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 2019 and 2018. North America copper sales are estimated to approximate 1.6 billion pounds of copper in 2020. Refer to "Outlook" for projected molybdenum sales volumes.

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

Gross Profit per Pound of Copper and Molybdenum. The following tables summarize unit net cash costs and gross profit per pound of copper at our North America copper mines for the two years ended December 31, 2019. 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.

	2019			2018		
	By-Product Method	Co-Product Method		By-Product Method	Co-Product Method	
		Copper	Molybdenum[a]		Copper	Molybdenum[a]
Revenues, excluding adjustments	$ 2.74	$ 2.74	$11.51	$ 2.96	$ 2.96	$11.64
Site production and delivery, before net noncash and other costs shown below	2.05	1.88	9.29	1.94	1.77	9.03
By-product credits	(0.24)	—	—	(0.26)	—	—
Treatment charges	0.11	0.11	—	0.11	0.10	—
Unit net cash costs	1.92	1.99	9.29	1.79	1.87	9.03
DD&A	0.24	0.21	0.72	0.25	0.23	0.73
Metals inventory adjustments	0.02	0.02	—	—	—	—
Noncash and other costs, net	0.08	0.07	0.29	0.07	0.06	0.17
Total unit costs	2.26	2.29	10.30	2.11	2.16	9.93
Revenue adjustments, primarily for pricing on prior period open sales	—	—	—	—	—	—
Gross profit per pound	$ 0.48	$ 0.45	$ 1.21	$ 0.85	$ 0.80	$ 1.71
Copper sales (millions of recoverable pounds)	1,441	1,441		1,426	1,426	
Molybdenum sales (millions of recoverable pounds)[a]			32			32

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

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 2019, average unit net cash costs (net of by-product credits) for the North America copper mines ranged from $1.48 per pound to $2.65 per pound at the individual mines and averaged $1.92 per pound. Higher average unit net cash costs (net of by-product credits) of $1.92 in 2019, compared with $1.79 per pound in 2018, primarily reflect higher milling and other site production costs.

Average unit net cash costs (net of by-product credits) for our North America copper mines are expected to approximate $1.93 per pound of copper in 2020, based on achievement of current sales volume and cost estimates and assuming an average molybdenum price of $10.00 per pound for the year 2020. The impact of price changes during 2020 on North America's average unit net cash costs for the year 2020 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 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. Cerro Verde's expanded operations benefit from its large-scale, long-lived reserves and cost efficiencies and have continued to perform well. Debottlenecking projects and additional initiatives to enhance operating rates continue to be advanced. Cerro Verde concentrating operations averaged 393,100 metric tons of ore per day in 2019. Ongoing productivity and innovation initiatives are targeting the opportunity to increase production to 420,000 metric tons of ore per day in 2021.

We continue to evaluate a large-scale expansion at El Abra to process additional sulfide material and to achieve higher recoveries. El Abra's large sulfide resource could potentially support a major mill project similar to facilities constructed at Cerro Verde. Technical and economic studies continue to be advanced to determine the optimal scope and timing of the project in parallel with extending the life of the current leaching operation.

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

	2019	2018
Copper (millions of recoverable pounds)		
Production	1,183	1,249
Sales	1,183	1,253
Average realized price per pound	$ 2.71	$ 2.87
Molybdenum (millions of recoverable pounds)		
Production[a]	29	28
Leach operations		
Leach ore placed in stockpiles (metric tons per day)	205,900	195,200
Average copper ore grade (percent)	0.37	0.33
Copper production (millions of recoverable pounds)	268	287
Mill operations		
Ore milled (metric tons per day)	393,100	387,600
Average ore grade (percent):		
Copper	0.36	0.38
Molybdenum	0.02	0.01
Copper recovery rate (percent)	83.5	84.3
Copper production (millions of recoverable pounds)	916	962

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

Lower consolidated copper sales volumes from South America of 1.18 billion pounds in 2019, compared with 1.25 billion pounds in 2018, primarily reflect lower mill ore grades and recovery rates.

Copper sales from South America mines are expected to approximate 1.15 billion pounds of copper in 2020. Refer to "Outlook" for projected molybdenum sales volumes.

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

Gross Profit per Pound of Copper. The following tables summarize unit net cash costs and gross profit per pound of copper at our South America mining operations for the two years ended December 31, 2019. 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.

	2019		2018	
	By-Product Method	Co-Product Method	By-Product Method	Co-Product Method
Revenues, excluding adjustments	$ 2.71	$ 2.71	$ 2.87	$ 2.87
Site production and delivery, before net noncash and other costs shown below	1.85	1.68	1.79[a]	1.65
By-product credits	(0.27)	—	(0.24)	—
Treatment charges	0.18	0.18	0.19	0.19
Royalty on metals	0.01	0.01	0.01	0.01
Unit net cash costs	1.77	1.87	1.75	1.85
DD&A	0.40	0.36	0.44	0.40
Noncash and other costs, net	0.08	0.07	0.06	0.06
Total unit costs	2.25	2.30	2.25	2.31
Revenue adjustments, primarily for pricing on prior period open sales	0.03	0.03	(0.03)	(0.03)
Gross profit per pound	$ 0.49	$ 0.44	$ 0.59	$ 0.53
Copper sales (millions of recoverable pounds)	1,183	1,183	1,253	1,253

a. Includes charges totaling $0.06 per pound of copper associated with Cerro Verde's three-year CLA.

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 $1.77 per pound of copper in 2019, compared with $1.75 per pound in 2018, primarily reflected lower sales volumes.

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. DD&A per pound of copper under the by-product method was $0.40 in 2019, compared with $0.44 in 2018, primarily reflecting an increase in proven and probable mineral reserves at December 31, 2018.

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 South America mining are expected to approximate $1.95 per pound of copper in 2020, based on current sales volume and cost estimates and assuming average prices of $10.00 per pound of molybdenum for the year 2020.

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 2, under the terms of the shareholders agreement, our economic interest in PT-FI approximates 81 percent through 2022. 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 2019, 64 percent of PT-FI's copper concentrate was sold to PT Smelting (PT-FI's 25-percent-owned smelter and refinery in Gresik, Indonesia).

PT-FI and union officials have commenced discussions for a new two-year labor agreement. The existing agreement, which expired in September 2019, will continue in effect until a new agreement is consummated.

Operating and Development Activities. During fourth-quarter 2019, PT-FI completed mining the final phase of the Grasberg open pit and continues to achieve important milestones in ramping-up production of large-scale quantities of copper and gold from its significant underground ore bodies. In the 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.

The following provides additional information on the development of the Grasberg Block Cave underground mine, the Deep Mill Level Zone (DMLZ) underground mine and the new Indonesia smelter. Results to date from the Grasberg Block Cave and DMLZ underground mines are positive and in line with long-term plans to reach full production rates. Estimates of timing of future production from the underground mines continue to be reviewed and may be modified as additional information becomes available.

Grasberg Block Cave. PT-FI has commenced extraction of ore from the Grasberg Block Cave underground mine, which is the same ore body historically mined from the surface in the Grasberg open pit. Reserves from the Grasberg Block Cave totaled 17.2 billion pounds of copper and 14.2 million ounces of gold at December 31, 2019, representing approximately half of PT-FI's total copper and gold reserves. Undercutting, drawbell construction and ore extraction activities in the Grasberg Block Cave underground mine continue to track expectations. Ore extraction from the Grasberg Block Cave underground mine averaged 8,600 metric tons of ore per day in 2019. Following completion of a maintenance program in mid-December, ore extraction from the Grasberg Block Cave averaged 17,000 metric tons of ore per day. 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 development is expected to increase production rates to an average of 30,000 metric tons of ore per day in 2020, over 60,000 metric tons of ore per day in 2021 and 130,000 metric tons of ore per day in 2023 from five production blocks spanning 335,000 square meters.

Mine development capital costs for the Grasberg Block Cave underground mine and associated common infrastructure are expected to approximate $6.7 billion, including $4.6 billion incurred through December 31, 2019 ($0.7 billion during 2019).

DMLZ. The DMLZ underground mine, located east of the Grasberg ore body and below the Deep Ore Zone (DOZ) underground mine, 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 in 2017 and 2018. Ore extraction continues to exceed expectations, averaging 9,800 metric tons of ore per day in 2019 and reached approximately 16,000 metric tons of ore per day at year-end 2019. 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 29,000 metric tons of ore per day in 2020, approach 60,000 metric tons of ore per day in 2021 and 80,000 metric tons of ore per day in 2022 from three production blocks.

Mine development capital costs for the DMLZ underground mine are expected to approximate $3.4 billion, including $2.8 billion incurred through December 31, 2019 ($0.3 billion during 2019).

Indonesia Smelter. In connection with the extension of PT-FI's mining rights from 2031 to 2041, PT-FI committed to construct a new smelter in Indonesia by December 21, 2023. A site for the new smelter has been selected, and ground preparation is advancing. Engineering and front-end engineering and design for the selected process technology are advancing and expected to be completed in 2020. The preliminary capital cost estimate for the project approximates $3 billion, pending completion of final engineering. Estimated related capital expenditures for 2020 approximate $0.5 billion. PT-FI has advanced financing discussions with a syndicate of banks and expects the project will be funded by a bank loan to PT-FI. The debt service for the new smelter will be shared by PT-FI's shareholders according to their respective equity ownership percentages. As a result, our future distributions from PT-FI will incorporate approximately 49 percent of the smelter debt service.

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

	2019	2018
Operating Data[a]		
Copper (millions of recoverable pounds)		
Production	607	1,160
Sales	667	1,130
Average realized price per pound	$ 2.72	$ 2.89
Gold (thousands of recoverable ounces)		
Production	863	2,416
Sales	973	2,366
Average realized price per ounce	$ 1,416	$ 1,254
100% Operating Data		
Ore milled (metric tons per day):		
Grasberg open pit[b]	60,100	133,300
DOZ underground mine[c]	25,500	33,800
DMLZ underground mine[c]	9,800	3,200
Grasberg Block Cave underground mine[c]	8,600	4,000
Big Gossan underground mine[c]	6,100	3,800
Total	110,100	178,100
Average ore grade:		
Copper (percent)	0.84	0.98
Gold (grams per metric ton)	0.93	1.58
Recovery rates (percent):		
Copper	88.4	91.8
Gold	75.0	84.7
Production (recoverable):		
Copper (millions of pounds)	607	1,227
Gold (thousands of ounces)	863	2,697

a. Operating data through December 21, 2018, is net of the former Rio Tinto Joint Venture interest. Refer to Note 2 for further discussion.
b. Includes ore from related stockpiles.
c. Reflects ore extracted, including ore from development activities that result in metal production.

Lower consolidated sales of 0.7 billion pounds of copper and 1.0 million ounces of gold in 2019, compared with 1.1 billion pounds of copper and 2.4 million ounces of gold in 2018, primarily reflected anticipated lower mill rates and ore grades associated with PT-FI transitioning mining from the open pit to underground.

Consolidated sales volumes from PT-FI are expected to approximate 750 million pounds of copper and 0.8 million ounces of gold in 2020. As PT-FI continues to ramp-up production from its underground ore bodies, metal production is expected to improve significantly by 2021.

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

Gross Profit per Pound of Copper and per Ounce of Gold. The following tables summarize the unit net cash costs (credits) and gross profit per pound of copper and per ounce of gold at our Indonesia mining operations for the two years ended December 31, 2019. 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 (credits) per pound to production and delivery costs applicable to sales reported in our consolidated financial statements.

	2019			2018		
	By-Product Method	Co-Product Method		By-Product Method	Co-Product Method	
		Copper	Gold		Copper	Gold
Revenues, excluding adjustments	$ 2.72	$ 2.72	$1,416	$ 2.89	$ 2.89	$1,254
Site production and delivery, before net noncash and other costs shown below	2.91	1.63	849	1.48	0.77	335
Gold and silver credits	(2.13)	—	—	(2.69)	—	—
Treatment charges	0.26	0.14	75	0.26	0.14	59
Export duties	0.08	0.05	25	0.16	0.08	36
Royalty on metals	0.16	0.09	49	0.21	0.11	48
Unit net cash costs (credits)	1.28	1.91	998	(0.58)	1.10	478
DD&A	0.61	0.34	178	0.54	0.28	121
Metals inventory adjustments	0.01	0.01	—	—	—	—
Noncash and other costs, net	0.37[a]	0.20	110	0.21[b]	0.11	48
Total unit costs	2.27	2.46	1,286	0.17	1.49	647
Revenue adjustments, primarily for pricing on prior period open sales	0.03	0.03	2	(0.03)	(0.03)	7
PT Smelting intercompany (loss) profit	(0.02)	(0.02)	(8)	0.04	0.03	12
Gross profit per pound/ounce	$ 0.46	$ 0.27	$ 124	$ 2.73	$ 1.40	$ 626
Copper sales (millions of recoverable pounds)	667	667		1,130	1,130	
Gold sales (thousands of recoverable ounces)			973			2,366

a. Includes charges in revenues totaling $0.25 per pound of copper primarily associated with an unfavorable Indonesia Supreme Court ruling related to certain disputed PT-FI export duties, partly offset by adjustments to prior year treatment charges totaling $0.03 per pound of copper. Also includes charges of $0.04 per pound of copper associated with adjustments to the settlement of the historical surface water tax disputes with the local regional tax authority in Papua, Indonesia.

b. Includes net charges of $0.20 per pound of copper (refer to "Consolidated Results" for a summary of these charges).

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 $1.28 per pound of copper in 2019 were higher than unit net cash credits of $0.58 per pound in 2018, primarily reflecting lower copper production and gold credits.

Treatment charges vary with the volume of metals sold and the price of copper, and royalties vary with the volume of metals sold and the prices of copper and gold. PT-FI will continue to pay export duties until development progress for the new smelter in Indonesia exceeds 50 percent.

PT-FI's export duties totaled $56 million in 2019 and $180 million in 2018, and PT-FI's royalties totaled $107 million in 2019 and $238 million in 2018. 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 the by-product method was $0.61 in 2019, compared with $0.54 in 2018, primarily reflecting lower copper sales volumes in 2019.

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

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

Assuming an average gold price of $1,500 per ounce for 2020 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 $1.04 per pound of copper for the year 2020. The impact of price changes during 2020 on PT-FI's average unit net cash costs would approximate $0.05 per pound for each $50 per ounce change in the average price of gold.

PT-FI's projected sales volumes and unit net cash costs for the year 2020 are dependent on a number of factors, including operational performance, timing of shipments and the Indonesia government's extension of PT-FI's export license beyond March 8, 2020.

PT-FI's estimated annual capital spending on underground mine development projects is expected to average $0.8 billion per year for the three-year period 2020 through 2022, net of scheduled contributions from PT Indonesia Asahan Aluminum (Persero) (PT Inalum). In accordance with applicable accounting guidance, aggregate costs (before scheduled contributions from PT Inalum), which are expected to average $1.0 billion per year for the three-year period 2020 through 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.

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 29 million pounds of molybdenum in 2019 and 35 million pounds in 2018. The decrease in 2019, compared with 2018, primarily reflects the impact of market conditions. Refer to "Consolidated Results" for our consolidated molybdenum operating data, which includes sales of molybdenum produced at our Molybdenum mines, and from our North America and South America copper mines, and refer to "Outlook" for projected consolidated molybdenum sales volumes.

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

Unit net cash costs for our Molybdenum mines of $10.80 per pound of molybdenum in 2019 were higher than $8.77 per pound in 2018, primarily reflecting lower sales volumes. Based on current sales volume and cost estimates, average unit net cash costs for the Molybdenum mines are expected to approximate $10.50 per pound of molybdenum for the year 2020. Refer to "Product Revenues and Production Costs" for a reconciliation of unit net cash costs per pound to production and delivery costs applicable to sales reported in our consolidated financial statements.

Smelting & Refining

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

During 2019, we incurred charges totaling $38 million for a maintenance turnaround at the Miami smelter. The next major maintenance turnaround at the Miami smelter is scheduled for 2021.

Atlantic Copper smelts and refines copper concentrate and markets refined copper and precious metals in slimes. Following is a summary of Atlantic Copper's concentrate purchases from unaffiliated third parties and our copper mining operations for the two years ended December 31, 2019:

	2019	2018
Third parties	73%	77%
North America copper mines	22	14
South America mining	2	5
Indonesia mining	3	4
	100%	100%

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 90 percent of PT Smelting's concentrate requirements in both 2019 and 2018. PT Smelting processed 64 percent of PT-FI's concentrate production in 2019 and 38 percent of such production in 2018.

PT Smelting produced 246,100 metric tons of copper anode from its smelter and 241,200 metric tons of copper cathode from its refinery in 2019; and 258,800 metric tons of copper anode from its smelter and 257,600 metric tons of copper cathode from its refinery in 2018.

In March 2019, PT Smelting received a one-year extension of its anode slimes export license, which currently expires March 11, 2020.

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 2018, and the next major turnaround is scheduled to start in November 2020.

We defer recognizing profits on sales from our mining operations to Atlantic Copper and on 25 percent of PT-FI's sales to PT Smelting until final sales to third parties occur. Changes in these deferrals attributable to variability in intercompany volumes resulted in net (reductions) additions to operating income totaling $(22) million ($(18) million to net income attributable to common stock) in 2019 and $69 million ($42 million to net income attributable to common stock) in 2018. 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 $38 million at December 31, 2019. 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.

CAPITAL RESOURCES AND LIQUIDITY

Our consolidated operating cash flows vary with prices realized from copper, gold and molybdenum sales; our sales volumes; production costs; income taxes; other working capital changes and other factors. We believe that we have a high-quality portfolio of long-lived copper assets positioned to generate long-term value. PT-FI has several projects in the Grasberg minerals district related to the development of its large-scale, long-lived, high-grade underground ore bodies (refer to "Operations—Indonesia Mining" for further discussion of PT-FI's transition of mining from the open pit to underground) and we are in the process of completing a project to develop the Lone Star leachable ores near the Safford operation in eastern Arizona. We are also pursuing other opportunities to enhance our mines' net present values, and we continue to advance studies for future development of our copper resources, the timing of which will be dependent on market conditions.

As presented in "Outlook," our projected capital expenditures for 2020 (excluding estimates associated with the new smelter in Indonesia) are approximately $0.4 billion higher than projected operating cash flows. 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 generate operating cash flows exceeding capital expenditures in future years. We have cash on hand and the financial flexibility to fund these expenditures and will continue to be disciplined in deploying capital. Subject to future commodity prices for copper, gold and molybdenum, we expect estimated consolidated operating cash flows in 2020, plus available cash and availability under our credit facility, to be sufficient to fund our budgeted capital expenditures, cash dividends, noncontrolling interest distributions and other cash requirements for the year.

We have no significant scheduled debt maturities until fourth-quarter 2021.

Refer to "Outlook" for further discussion of projected operating cash flows for 2020.

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, 2019 (in billions):

Cash at domestic companies	$ 1.3
Cash at international operations	0.7
Total consolidated cash and cash equivalents	2.0
Noncontrolling interests' share	(0.3)
Cash, net of noncontrolling interests' share	1.7
Withholding taxes	—[a]
Net cash available	$ 1.7

a. Rounds to less than $0.1 billion.

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.

Debt

At December 31, 2019, consolidated debt totaled $9.8 billion, with a related weighted-average interest rate of 4.5 percent. We had no borrowings, $13 million in letters of credit issued and approximately $3.5 billion available under our revolving credit facility at December 31, 2019. Refer to "Financing Activities" below and Note 8 for further discussion of debt.

As discussed in Note 8, on August 15, 2019, we completed the sale of $1.2 billion of senior notes and used the net proceeds to fund the make-whole redemption of all of our outstanding 6.875% Senior Notes due 2023, and the concurrent tender offers to purchase a portion of our 4.00% Senior Notes due 2021 and 3.55% Senior Notes due 2022. As a result of the redemption and tender offers, we recorded a loss on early extinguishment of debt totaling $26 million in 2019.

Operating Activities

We generated consolidated operating cash flows of $1.5 billion in 2019 (including $0.3 billion in working capital and other sources) and $3.9 billion in 2018 (net of $0.7 billion in working capital and other uses).

Lower operating cash flows for 2019, compared with 2018, primarily reflected lower copper and gold sales volumes and lower copper prices, partly offset by changes in working capital associated with decreases in inventory and timing of international tax payments.

Investing Activities

Capital Expenditures. Capital expenditures, including capitalized interest, totaled $2.65 billion (including $1.5 billion for major projects) in 2019 and $2.0 billion (including $1.2 billion for major projects) in 2018.

Higher capital expenditures in 2019, compared with 2018, primarily reflected underground development activities in the Grasberg minerals district and development of the Lone Star copper leach project in Arizona.

Refer to "Outlook" for further discussion of projected capital expenditures for 2020.

Acquisitions and Dispositions. During fourth-quarter 2019, we generated $452 million in proceeds from sales of (i) our interest in the lower zone of the Timok exploration project in Serbia and (ii) our cobalt refinery in Kokkola, Finland, and related cobalt cathode precursor business.

In December 2018, we completed the transaction with the Indonesia government regarding PT-FI's long-term mining rights and share ownership. In connection with the transaction, PT-FI acquired Rio Tinto's Joint Venture interests for $3.5 billion. In addition, we received proceeds of $350 million for the sale of 100 percent of our interests in PT Indonesia Papua Metal Dan Mineral (PTI—formerly known as PT Indocopper Investama) and $107 million from Rio Tinto for its share of the 2018 joint venture cash flows.

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

Financing Activities

Debt Transactions. Net repayments of debt in 2019 totaled $1.3 billion, primarily consisting of the redemption of $1.0 billion aggregate principal amount of our 3.100% Senior Notes due 2020 and the repayment of $200 million under the Cerro Verde credit facility. Additionally, during 2019, we issued $1.2 billion in new senior notes and used the net proceeds to redeem and purchase other senior notes.

Net repayments of debt in 2018 totaled $2.1 billion, primarily consisting of $1.4 billion for senior notes due March 2018 and $454 million for senior notes due in 2022 and 2023.

Refer to Note 8 for further discussion of debt transactions.

Equity Transactions. In December 2018, an aggregate 40 percent share ownership in PT-FI was issued to PT Inalum and PTI for $3.5 billion. See Note 2 for further discussion.

Cash Dividends and Distributions Paid. In February 2018, the Board reinstated a cash dividend on our common stock. We paid dividends on our common stock totaling $291 million in 2019 and $218 million in 2018. On December 18, 2019, we declared a quarterly cash dividend of $0.05 per share on our common stock, which was paid on February 3, 2020, to shareholders of record as of January 15, 2020. The declaration of dividends is at the discretion of our Board and will depend upon our financial results, cash requirements, future prospects and other factors deemed relevant by our Board.

Cash dividends and other distributions paid to noncontrolling interests totaled $82 million in 2019 and $278 million in 2018. These payments will vary based on the operating results and cash requirements of our consolidated subsidiaries.

Contributions from Noncontrolling Interests. During 2019, we received equity contributions totaling $165 million from PT Inalum for their share of capital spending on PT-FI underground mine development projects and costs for the new smelter in Indonesia.

CONTRACTUAL OBLIGATIONS

We have contractual and other long-term obligations, including debt maturities based on principal amounts, which we expect to fund with available cash, projected operating cash flows, availability under our revolving credit facility or future financing transactions, if necessary. Following is a summary of these various obligations at December 31, 2019 (in millions):

	Total	2020	2021 to 2022	2023 to 2024	Thereafter
Debt maturities	$ 9,881	$ 12	$2,916	$2,773	$ 4,180
Scheduled interest payment obligations[a]	4,564	452	832	576	2,704
ARO and environmental obligations[b]	7,862	440	696	436	6,290
Take-or-pay contracts[c]	3,608	1,646	1,031	544	387
Operating lease obligations	317	57	79	60	121
Total[d]	$26,232	$2,607	$5,554	$4,389	$13,682

a. Scheduled interest payment obligations were calculated using stated coupon rates for fixed-rate debt and interest rates applicable at December 31, 2019, for variable-rate debt.

b. Represents estimated cash payments, on an undiscounted and unescalated basis, associated with ARO and environmental activities (including $478 million for our oil and gas operations). The timing and the amount of these payments could change as a result of changes in regulatory requirements, changes in scope and timing of ARO activities, the settlement of environmental matters and as actual spending occurs. Refer to Note 12 for additional discussion of environmental and ARO matters.

c. Represents contractual obligations for purchases of goods or services agreements enforceable and legally binding and that specify all significant terms, and primarily include the procurement of copper concentrate ($2.3 billion), cobalt ($0.5 billion), electricity ($0.4 billion) and transportation services ($0.3 billion). Some of our take-or-pay contracts are settled based on the prevailing market rate for the service or commodity purchased, and in some cases, the amount of the actual obligation may change over time because of market conditions. Obligations for copper concentrate provide for deliveries of specified volumes to Atlantic Copper at market-based prices. Obligations for cobalt hydroxide intermediate provide for deliveries of specified volumes to Freeport Cobalt at market-based prices. Electricity obligations are primarily for long-term power purchase agreements in North America and contractual minimum demand at the South America mines. Transportation obligations are primarily for South America contracted ocean freight.

d. This table excludes certain other obligations in our consolidated balance sheets, such as estimated funding for pension, postretirement and other employee benefit obligations as the funding may vary from year to year based on changes in the fair value of plan assets and actuarial assumptions, commitments and contingencies totaling $122 million and unrecognized tax benefits totaling $255 million where the timing of settlement is not determinable, and other less significant amounts. This table also excludes purchase orders for inventory and other goods and services, as purchase orders typically represent authorizations to purchase rather than binding agreements.

In addition to our debt maturities and other contractual obligations discussed above, we have other commitments, which we expect to fund with available cash, projected operating cash flows, available credit facilities or future financing transactions, if necessary. These include (i) PT-FI's commitment to provide one percent of its annual revenue for the development of the local people in its area of operations through the Freeport Partnership Fund for Community Development, which expired on December 31, 2019, but negotiations for an extension are currently underway, (ii) Cerro Verde's scheduled installment payments for disputed mining royalty assessments and (iii) other commercial commitments, including standby letters of credit, surety bonds and guarantees. Refer to Notes 9, 12 and 13 for further discussion of these commitments.

CONTINGENCIES

Environmental

The cost of complying with environmental laws is a fundamental and substantial cost of our business. At December 31, 2019, we had $1.6 billion recorded in our consolidated balance sheet for environmental obligations attributed to CERCLA or analogous state programs and for estimated future costs associated with environmental obligations that are considered probable based on specific facts and circumstances.

We incurred environmental capital expenditures and other environmental costs (including our joint venture partners' shares) to comply with applicable environmental laws and regulations that affect our operations totaling $0.4 billion in both 2019 and 2018. For 2020, 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 Note 12 and "Risk Factors" contained in Part I, Item 1A. of our annual report on Form 10-K for the year ended December 31, 2019, for further information about environmental regulation, including significant environmental matters.

Asset Retirement Obligations

We recognize AROs as liabilities when incurred, with the initial measurement at fair value. These obligations, which are initially estimated based on discounted cash flow estimates, are accreted to full value over time through charges to cost of sales. Mine reclamation costs for disturbances are recorded as an ARO and as a related asset retirement cost (ARC) (included in property, plant, equipment and mine development costs) in the period of disturbance. Oil and gas plugging and abandonment costs are recognized as an ARO and as a related ARC (included in oil and gas properties) in the period in which the well is drilled or acquired. For non-operating properties without 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, 2019, we had $2.5 billion recorded in our consolidated balance sheet for AROs, including $0.4 billion related to our oil and gas properties. Spending on AROs totaled $170 million in 2019 and $160 million in 2018 (including $77 million in 2019 and $83 million in 2018 for our oil and gas operations). For 2020, we expect to incur approximately $0.3 billion in aggregate ARO payments (including $96 million for our oil and gas operations). Refer to Note 12 for further discussion.

Litigation and Other Contingencies

Refer to Notes 2 and 12, and "Legal Proceedings" contained in Part I, Item 3. of our annual report on Form 10-K for the year ended December 31, 2019, 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 and silver. For projected sensitivities of our operating cash flow to changes in commodity prices, refer to "Outlook." World market prices for these commodities have fluctuated historically and are affected by numerous factors beyond our control. Refer to "Risk Factors" contained in Part I, Item 1A. of our annual report on Form 10-K for the year ended December 31, 2019, for further discussion of financial risks associated with fluctuations in the market prices of the commodities we sell.

During 2019, our mined copper was sold 56 percent in concentrate, 22 percent as cathode and 22 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):

	2019	2018
Revenues	$ 58	$ (70)
Net income attributable to common stock	$ 24	$ (31)
Net income per share attributable to common stock	$0.02	$(0.02)

At December 31, 2019, we had provisionally priced copper sales at our copper mining operations totaling 269 million pounds of copper (net of intercompany sales and noncontrolling interests) recorded at an average price of $2.80 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, 2019, provisional price recorded would have an approximate $9 million effect on 2020 net income attributable to common stock. The LME copper settlement price closed at $2.53 per pound on January 31, 2020.

Foreign Currency Exchange Risk

The functional currency for most of our operations is the U.S. dollar. Substantially all of our revenues and a significant portion of our costs are denominated in U.S. dollars; however, some costs and certain asset and liability accounts are denominated in local currencies, including the Indonesian rupiah, Australian dollar, Peruvian sol, Chilean peso and euro. We recognized foreign currency translation gains on balances denominated in foreign currencies totaling $24 million in 2019 and $14 million in 2018, primarily at our Indonesia and South America mines. Generally, our operating results are positively affected when the U.S. dollar strengthens in relation to those foreign currencies and 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]	
	2019	2018	(in local currency)	(in millions of U.S. dollars)[b]	Increase	Decrease
Indonesia						
Rupiah	13,832	14,409	10.2 trillion	$737	$(67)	$82
Australian dollar	1.43	1.41	199 million	$139	$(13)	$15
South America						
Peruvian sol	3.32	3.38	2.2 billion	$675	$(61)	$75
Chilean peso	749	695	174 billion	$232	$(21)	$26
Atlantic Copper						
Euro	0.89	0.87	136 million	$153	$(14)	$17

a. Reflects the estimated impact on annual operating costs assuming a 10 percent increase or decrease in the exchange rate reported at December 31, 2019.
b. Based on exchange rates at December 31, 2019.

Interest Rate Risk

At December 31, 2019, we had total debt maturities based on principal amounts of $9.9 billion, of which approximately 10 percent was variable-rate debt with interest rates based on the London Interbank Offered Rate. Refer to "Risk Factors" contained in Part I, Item 1A. of our annual report on Form 10-K for the year ended December 31, 2019. The table below presents average interest rates for our scheduled maturities of principal for our outstanding debt (excluding fair value adjustments) and the related fair values at December 31, 2019 (in millions, except percentages):

	2020	2021	2022	2023	2024	Thereafter	Fair Value
Fixed-rate debt	$ 5	$ 195	$ 1,880	$ 1,923	$ 850	$ 4,163	$ 9,378
Average interest rate	—	4.0%	3.6%	3.9%	4.6%	5.5%	4.7%
Variable-rate debt	$ 7	$ 312	$ 529	—	—	$ 17	$ 861
Average interest rate	0.8%	3.6%	3.7%	—	—	5.4%	3.7%

NEW ACCOUNTING STANDARDS

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

OFF-BALANCE SHEET ARRANGEMENTS

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

PRODUCT REVENUES AND PRODUCTION COSTS

Mining Product Revenues and Unit Net Cash Costs

Unit net cash costs per pound of copper and molybdenum are measures intended to provide investors with information about the cash-generating capacity of our mining operations expressed on a basis relating to the primary metal product for the respective operations. We use this measure for the same purpose and for monitoring operating performance by our mining operations. This information differs from measures of performance determined in accordance with U.S. GAAP and should not be considered in isolation or as a substitute for measures of performance determined in accordance with U.S. GAAP. 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, start-up costs, inventory adjustments, long-lived asset impairments, restructuring and/or unusual charges. As discussed above, gold, molybdenum and other metal revenues at copper mines are reflected as credits against site production and delivery costs in the by-product method. The following schedules 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, 2019	By-Product Method	Co-Product Method Copper	Molybdenum[a]	Other[b]	Total
(In millions)					
Revenues, excluding adjustments	$ 3,950	$ 3,950	$ 370	$ 84	$4,404
Site production and delivery, before net noncash and other costs shown below	2,957	2,711	299	53	3,063
By-product credits	(348)	—	—	—	—
Treatment charges	161	155	—	6	161
Net cash costs	2,770	2,866	299	59	3,224
DD&A	348	318	23	7	348
Metals inventory adjustments	30	30	—	—	30
Noncash and other costs, net	110	98	9	3	110
Total costs	3,258	3,312	331	69	3,712
Other revenue adjustments, primarily for pricing on prior period open sales	4	4	—	—	4
Gross profit	$ 696	$ 642	$ 39	$ 15	$ 696
Copper sales (millions of recoverable pounds)	1,441	1,441			
Molybdenum sales (millions of recoverable pounds)[a]			32		
Gross profit per pound of copper/molybdenum:					
Revenues, excluding adjustments	$ 2.74	$ 2.74	$11.51		
Site production and delivery, before net noncash and other costs shown below	2.05	1.88	9.29		
By-product credits	(0.24)	—	—		
Treatment charges	0.11	0.11	—		
Unit net cash costs	1.92	1.99	9.29		
DD&A	0.24	0.21	0.72		
Metals inventory adjustments	0.02	0.02	—		
Noncash and other costs, net	0.08	0.07	0.29		
Total unit costs	2.26	2.29	10.30		
Other revenue adjustments, primarily for pricing on prior period open sales	—	—	—		
Gross profit per pound	$ 0.48	$ 0.45	$ 1.21		

Reconciliation to Amounts Reported

	Revenues	Production and Delivery	DD&A	Metals Inventory Adjustments
(In millions)				
Totals presented above	$ 4,404	$ 3,063	$ 348	$ 30
Treatment charges	(60)	101	—	—
Noncash and other costs, net	—	110	—	—
Other revenue adjustments, primarily for pricing on prior period open sales	4	—	—	—
Eliminations and other	38	45	1	—
North America copper mines	4,386	3,319	349	30
Other mining[c]	13,054	11,126	979	57
Corporate, other & eliminations	(3,038)	(2,931)	84	92
As reported in our consolidated financial statements	$14,402	$11,514	$1,412	$179

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. 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 *(continued)*

Year Ended December 31, 2018	By-Product Method	Co-Product Method			
		Copper	Molybdenum[a]	Other[b]	Total
(In millions)					
Revenues, excluding adjustments	$ 4,217	$ 4,217	$ 376	$90	$ 4,683
Site production and delivery, before net noncash and other costs shown below	2,766	2,522	291	52	2,865
By-product credits	(367)	—	—	—	—
Treatment charges	150	144	—	6	150
Net cash costs	2,549	2,666	291	58	3,015
DD&A	359	327	24	8	359
Metals inventory adjustments	4	4	—	—	4
Noncash and other costs, net	90	83	6	1	90
Total costs	3,002	3,080	321	67	3,468
Other revenue adjustments, primarily for pricing on prior period open sales	(5)	(5)	—	—	(5)
Gross profit	$ 1,210	$ 1,132	$ 55	$23	$ 1,210
Copper sales (millions of recoverable pounds)	1,426	1,426			
Molybdenum sales (millions of recoverable pounds)[a]			32		
Gross profit per pound of copper/molybdenum:					
Revenues, excluding adjustments	$ 2.96	$ 2.96	$11.64		
Site production and delivery, before net noncash and other costs shown below	1.94	1.77	9.03		
By-product credits	(0.26)	—	—		
Treatment charges	0.11	0.10	—		
Unit net cash costs	1.79	1.87	9.03		
DD&A	0.25	0.23	0.73		
Metals inventory adjustments	—	—	—		
Noncash and other costs, net	0.07	0.06	0.17		
Total unit costs	2.11	2.16	9.93		
Other revenue adjustments, primarily for pricing on prior period open sales	—	—	—		
Gross profit per pound	$ 0.85	$ 0.80	$ 1.71		

Reconciliation to Amounts Reported

	Revenues	Production and Delivery	DD&A	Metals Inventory Adjustments
(In millions)				
Totals presented above	$ 4,683	$ 2,865	$ 359	$ 4
Treatment charges	(30)	120	—	—
Noncash and other costs, net	—	90	—	—
Other revenue adjustments, primarily for pricing on prior period open sales	(5)	—	—	—
Eliminations and other	46	49	1	—
North America copper mines	4,694	3,124	360	4
Other mining[c]	17,060	11,853	1,269	—
Corporate, other & eliminations	(3,126)	(3,290)	125	—
As reported in our consolidated financial statements	$18,628	$11,687	$1,754	$ 4

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. 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, 2019	By-Product Method	Co-Product Method Copper	Co-Product Method Other[a]	Co-Product Method Total
(In millions)				
Revenues, excluding adjustments	$ 3,213	$ 3,213	$ 358	$3,571
Site production and delivery, before net noncash and other costs shown below	2,185	1,991	245	2,236
By-product credits	(307)	—	—	—
Treatment charges	212	212	—	212
Royalty on metals	7	6	1	7
Net cash costs	2,097	2,209	246	2,455
DD&A	474	427	47	474
Metals inventory adjustments	2	2	—	2
Noncash and other costs, net	94	90	4	94
Total costs	2,667	2,728	297	3,025
Other revenue adjustments, primarily for pricing on prior period open sales	37	37	—	37
Gross profit	$ 583	$ 522	$ 61	$ 583
Copper sales (millions of recoverable pounds)	1,183	1,183		
Gross profit per pound of copper:				
Revenues, excluding adjustments	$ 2.71	$ 2.71		
Site production and delivery, before net noncash and other costs shown below	1.85	1.68		
By-product credits	(0.27)	—		
Treatment charges	0.18	0.18		
Royalty on metals	0.01	0.01		
Unit net cash costs	1.77	1.87		
DD&A	0.40	0.36		
Metals inventory adjustments	—	—		
Noncash and other costs, net	0.08	0.07		
Total unit costs	2.25	2.30		
Other revenue adjustments, primarily for pricing on prior period open sales	0.03	0.03		
Gross profit per pound	$ 0.49	$ 0.44		

Reconciliation to Amounts Reported

(In millions)	Revenues	Production and Delivery	DD&A	Metals Inventory Adjustments
Totals presented above	$ 3,571	$ 2,236	$ 474	$ 2
Treatment charges	(212)	—	—	—
Royalty on metals	(7)	—	—	—
Noncash and other costs, net	—	94	—	—
Other revenue adjustments, primarily for pricing on prior period open sales	37	—	—	—
Eliminations and other	(1)	(4)	—	—
South America mining	3,388	2,326	474	2
Other mining[b]	14,052	12,119	854	85
Corporate, other & eliminations	(3,038)	(2,931)	84	92
As reported in our consolidated financial statements	$14,402	$11,514	$1,412	$ 179

a. Includes silver sales of 4.7 million ounces ($16.57 per ounce average realized price). Also reflects sales of molybdenum produced by Cerro Verde to our molybdenum sales company at market-based pricing.
b. Represents the combined total for our other mining operations as presented in Note 16.

South America Mining Product Revenues, Production Costs and Unit Net Cash Costs *(continued)*

Year Ended December 31, 2018	By-Product Method	Co-Product Method Copper	Co-Product Method Other[a]	Co-Product Method Total
(In millions)				
Revenues, excluding adjustments	$ 3,593	$ 3,593	$ 352	$3,945
Site production and delivery, before net noncash and other costs shown below	2,244[b]	2,065	226	2,291
By-product credits	(305)	—	—	—
Treatment charges	243	243	—	243
Royalty on metals	8	7	1	8
Net cash costs	2,190	2,315	227	2,542
DD&A	546	499	47	546
Noncash and other costs, net	79	75	4	79
Total costs	2,815	2,889	278	3,167
Other revenue adjustments, primarily for pricing on prior period open sales	(37)	(37)	—	(37)
Gross profit	$ 741	$ 667	$ 74	$ 741
Copper sales (millions of recoverable pounds)	1,253	1,253		
Gross profit per pound of copper:				
Revenues, excluding adjustments	$ 2.87	$ 2.87		
Site production and delivery, before net noncash and other costs shown below	1.79[b]	1.65		
By-product credits	(0.24)	—		
Treatment charges	0.19	0.19		
Royalty on metals	0.01	0.01		
Unit net cash costs	1.75	1.85		
DD&A	0.44	0.40		
Noncash and other costs, net	0.06	0.06		
Total unit costs	2.25	2.31		
Other revenue adjustments, primarily for pricing on prior period open sales	(0.03)	(0.03)		
Gross profit per pound	$ 0.59	$ 0.53		

Reconciliation to Amounts Reported

	Revenues	Production and Delivery	DD&A
(In millions)			
Totals presented above	$ 3,945	$ 2,291	$ 546
Treatment charges	(243)	—	—
Royalty on metals	(8)	—	—
Noncash and other costs, net	—	79	—
Other revenue adjustments, primarily for pricing on prior period open sales	(37)	—	—
Eliminations and other	(2)	(5)	—
South America mining	3,655	2,365	546
Other mining[c]	18,099	12,612	1,083
Corporate, other & eliminations	(3,126)	(3,290)	125
As reported in our consolidated financial statements	$18,628	$11,687	$1,754

a. Includes silver sales of 4.5 million ounces ($15.20 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 $69 million ($0.06 per pound of copper) for Cerro Verde's three-year CLA.
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, 2019	By-Product Method	Co-Product Method Copper	Gold	Silver[a]	Total
(In millions)					
Revenues, excluding adjustments	$ 1,814	$ 1,814	$1,378	$ 40	$3,232
Site production and delivery, before net noncash and other costs shown below	1,938	1,088	826	24	1,938
Gold and silver credits	(1,419)	—	—	—	—
Treatment charges	171	96	73	2	171
Export duties	56	31	24	1	56
Royalty on metals	107	58	48	1	107
Net cash costs	853	1,273	971	28	2,272
DD&A	406	228	173	5	406
Metals inventory adjustments	5	5	—	—	5
Noncash and other costs, net	246[b]	136	107	3	246
Total costs	1,510	1,642	1,251	36	2,929
Other revenue adjustments, primarily for pricing on prior period open sales	18	18	1	—	19
PT Smelting intercompany loss	(17)	(10)	(7)	—	(17)
Gross profit	$ 305	$ 180	$ 121	$ 4	$ 305
Copper sales (millions of recoverable pounds)	667	667			
Gold sales (thousands of recoverable ounces)			973		
Gross profit per pound of copper/per ounce of gold:					
Revenues, excluding adjustments	$ 2.72	$ 2.72	$1,416		
Site production and delivery, before net noncash and other costs shown below	2.91	1.63	849		
Gold and silver credits	(2.13)	—	—		
Treatment charges	0.26	0.14	75		
Export duties	0.08	0.05	25		
Royalty on metals	0.16	0.09	49		
Unit net cash costs	1.28	1.91	998		
DD&A	0.61	0.34	178		
Metals inventory adjustments	0.01	0.01	—		
Noncash and other costs, net	0.37[b]	0.20	110		
Total unit costs	2.27	2.46	1,286		
Other revenue adjustments, primarily for pricing on prior period open sales	0.03	0.03	2		
PT Smelting intercompany loss	(0.02)	(0.02)	(8)		
Gross profit per pound/ounce	$ 0.46	$ 0.27	$ 124		

Reconciliation to Amounts Reported

	Revenues	Production and Delivery	DD&A	Metals Inventory Adjustments
(In millions)				
Totals presented above	$ 3,232	$ 1,938	$ 406	$ 5
Treatment charges	(171)	—	—	—
Export duties	(56)	—	—	—
Royalty on metals	(107)	—	—	—
Noncash and other costs, net	(146)	100	—	—
Other revenue adjustments, primarily for pricing on prior period open sales	19	—	—	—
PT Smelting intercompany loss	—	17	—	—
Indonesia mining	2,771	2,055	406	5
Other mining[c]	14,669	12,390	922	82
Corporate, other & eliminations	(3,038)	(2,931)	84	92
As reported in our consolidated financial statements	$14,402	$11,514	$1,412	$179

a. Includes silver sales of 2.5 million ounces ($16.15 per ounce average realized price).

b. Includes charges in revenues totaling $166 million ($0.25 per pound of copper) primarily associated with an unfavorable Indonesia Supreme Court ruling related to certain disputed PT-FI export duties, partly offset by adjustments to prior year treatment charges totaling $20 million ($0.03 per pound of copper). Also includes charges of $28 million ($0.04 per pound of copper) associated with adjustments to the settlement of the historical surface water tax disputes with the local regional tax authority in Papua, Indonesia.

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 (Credits) Costs *(continued)*

Year Ended December 31, 2018	By-Product Method	Co-Product Method Copper	Gold	Silver[a]	Total
(In millions)					
Revenues, excluding adjustments	$ 3,264	$ 3,264	$ 2,967	$ 57	$ 6,288
Site production and delivery, before net noncash and other costs shown below	1,678	871	792	15	1,678
Gold and silver credits	(3,041)	—	—	—	—
Treatment charges	294	153	139	2	294
Export duties	180	93	85	2	180
Royalty on metals	238	122	114	2	238
Net cash (credits) costs	(651)	1,239	1,130	21	2,390
DD&A	606	314	286	6	606
Noncash and other costs, net	242[b]	126	114	2	242
Total costs	197	1,679	1,530	29	3,238
Other revenue adjustments, primarily for pricing on prior period open sales	(34)	(34)	17	—	(17)
PT Smelting intercompany profit	56	29	27	—	56
Gross profit	$ 3,089	$ 1,580	$ 1,481	$ 28	$ 3,089
Copper sales (millions of recoverable pounds)	1,130	1,130			
Gold sales (thousands of recoverable ounces)			2,366		
Gross profit per pound of copper/per ounce of gold:					
Revenues, excluding adjustments	$ 2.89	$ 2.89	$ 1,254		
Site production and delivery, before net noncash and other costs shown below	1.48	0.77	335		
Gold and silver credits	(2.69)	—	—		
Treatment charges	0.26	0.14	59		
Export duties	0.16	0.08	36		
Royalty on metals	0.21	0.11	48		
Unit net cash (credits) costs	(0.58)	1.10	478		
DD&A	0.54	0.28	121		
Noncash and other costs, net	0.21[b]	0.11	48		
Total unit costs	0.17	1.49	647		
Other revenue adjustments, primarily for pricing on prior period open sales	(0.03)	(0.03)	7		
PT Smelting intercompany profit	0.04	0.03	12		
Gross profit per pound/ounce	$ 2.73	$ 1.40	$ 626		

Reconciliation to Amounts Reported

	Revenues	Production and Delivery	DD&A
(In millions)			
Totals presented above	$ 6,288	$ 1,678	$ 606
Treatment charges	(294)	—	—
Export duties	(180)	—	—
Royalty on metals	(238)	—	—
Noncash and other costs, net	—	242	—
Other revenue adjustments, primarily for pricing on prior period open sales	(17)	—	—
PT Smelting intercompany profit	—	(56)	—
Indonesia mining	5,559	1,864	606
Other mining[c]	16,195	13,113	1,023
Corporate, other & eliminations	(3,126)	(3,290)	125
As reported in our consolidated financial statements	$18,628	$11,687	$1,754

a. Includes silver sales of 3.8 million ounces ($15.24 per ounce average realized price).
b. Includes net charges of $223 million ($0.20 per pound of copper). Refer to "Consolidated Results – Summary Financial Data" for a summary of these charges.
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

Years Ended December 31,	2019	2018
(In millions)		
Revenues, excluding adjustments[a]	$ 369	$ 440
Site production and delivery, before net noncash and other costs shown below	293	282
Treatment charges and other	25	30
Net cash costs	318	312
DD&A	62	79
Metals inventory adjustments	50	—
Noncash and other costs, net	6	7
Total costs	436	398
Gross (loss) profit	$ (67)	$ 42
Molybdenum sales (millions of recoverable pounds)[a]	29	35
Gross (loss) profit per pound of molybdenum:		
Revenues, excluding adjustments[a]	$ 12.51	$ 12.36
Site production and delivery, before net noncash and other costs shown below	9.95	7.92
Treatment charges and other	0.85	0.85
Unit net cash costs	10.80	8.77
DD&A	2.11	2.21
Metals inventory adjustments	1.69	—
Noncash and other costs, net	0.20	0.19
Total unit costs	14.80	11.17
Gross (loss) profit per pound	$ (2.29)	$ 1.19

Reconciliation to Amounts Reported

(In millions)	Revenues	Production and Delivery	DD&A	Metals Inventory Adjustments
Year Ended December 31, 2019				
Totals presented above	$ 369	$ 293	$ 62	$ 50
Treatment charges and other	(25)	—	—	—
Noncash and other costs, net	—	6	—	—
Molybdenum mines	344	299	62	50
Other mining[b]	17,096	14,146	1,266	37
Corporate, other & eliminations	(3,038)	(2,931)	84	92
As reported in our consolidated financial statements	$14,402	$11,514	$1,412	$179
Year Ended December 31, 2018				
Totals presented above	$ 440	$ 282	$ 79	$ —
Treatment charges and other	(30)	—	—	—
Noncash and other costs, net	—	7	—	—
Molybdenum mines	410	289	79	—
Other mining[b]	21,344	14,688	1,550	4
Corporate, other & eliminations	(3,126)	(3,290)	125	—
As reported in our consolidated financial statements	$18,628	$11,687	$1,754	$ 4

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. 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 ore grades and milling rates; production and sales volumes; unit net cash costs; operating cash flows; capital expenditures; our expectations regarding our share of PT-FI's net (loss) income and future cash flows through 2022; PT-FI's development, financing, construction and completion of a new smelter in Indonesia; our expectations regarding results associated with productivity and innovation initiatives; exploration efforts and results; development and production activities, rates and costs; liquidity; tax rates; export quotas and duties; the impact of copper, gold and molybdenum price changes; the impact of deferred intercompany profits on earnings; reserve estimates; execution of the settlement agreement associated with the Louisiana coastal erosion cases; and future dividend payments, share purchases and sales. The words "anticipates," "may," "can," "plans," "believes," "estimates," "expects," "projects," "targets," "intends," "likely," "will," "should," "to be," "potential" and any similar expressions are intended to identify those assertions as forward-looking statements. The declaration of dividends is at the discretion of the Board and will depend on our financial results, cash requirements, future prospects and other factors deemed relevant by the Board.

We caution readers that forward-looking statements are not guarantees of future performance and actual results may differ materially from those anticipated, 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, copper, gold and molybdenum; mine sequencing; changes in mine plans; production rates; timing of shipments; results of 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 8, 2020; risks associated with underground mining; satisfaction of requirements in accordance with PT-FI's IUPK to extend mining rights from 2031 through 2041; our ability to achieve the expected results of our productivity and innovation initiatives; industry risks; regulatory changes; political and social risks; labor relations; weather- and climate-related risks; environmental risks; litigation results; cybersecurity incidents; and other factors described in more detail in Part I, Item 1A. "Risk Factors" of this annual report on Form 10-K.

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

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, 2019, 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.

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

Kathleen L. Quirk
Executive Vice President and
Chief Financial Officer

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, 2019, 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, 2019, 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, 2019 and 2018, the related consolidated statements of operations, comprehensive (loss) income, equity and cash flows for each of the three years in the period ended December 31, 2019, and the related notes and our report dated February 14, 2020 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.

ERNST & YOUNG LLP

Phoenix, Arizona
February 14, 2020

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, 2019 and 2018, the related consolidated statements of operations, comprehensive (loss) income, equity and cash flows for each of the three years in the period ended December 31, 2019, 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, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, 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, 2019, 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 14, 2020 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 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 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 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 12 to the consolidated financial statements, the Company's operations are in certain taxing jurisdictions where uncertainties arise in the application of complex income tax regulations. The Company has disclosed uncertain tax positions related to income tax assessments in Indonesia and Peru totaling $1.7 billion, including penalties and interest, which have not been recorded at December 31, 2019. The Company recognizes a liability for income tax assessments when it is more likely than not that it will not sustain the benefit taken or expected to be taken in the tax return.

Because of the complexity of tax laws, regulations and contractual agreements with the applicable government, auditing the recognition and measurement of uncertain tax positions requires a high degree of auditor judgment and increased extent of effort, including the involvement of our tax professionals.

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, 2019, the Company's consolidated environmental obligations totaled $1.6 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 model and tested the significant assumptions discussed above along with the underlying data used by the Company in its analysis. We utilized our environmental specialists 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.

ERNST & YOUNG LLP

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

Phoenix, Arizona
February 14, 2020

CONSOLIDATED STATEMENTS OF OPERATIONS

Years Ended December 31,	2019	2018	2017
(In millions, except per share amounts)			
Revenues	$14,402	$18,628	$16,403
Cost of sales:			
Production and delivery	11,514	11,687	10,258
Depreciation, depletion and amortization	1,412	1,754	1,714
Metals inventory adjustments	179	4	8
Total cost of sales	13,105	13,445	11,980
Selling, general and administrative expenses	414	443	477
Mining exploration and research expenses	104	105	93
Environmental obligations and shutdown costs	105	89	244
Net gain on sales of assets	(417)	(208)	(81)
Total costs and expenses	13,311	13,874	12,713
Operating income	1,091	4,754	3,690
Interest expense, net	(620)	(945)	(801)
Net (loss) gain on early extinguishment of debt	(27)	7	21
Other (expense) income, net	(138)	76	(8)
Income from continuing operations before income taxes and equity in affiliated companies’ net earnings	306	3,892	2,902
Provision for income taxes	(510)	(991)	(883)
Equity in affiliated companies’ net earnings	12	8	10
Net (loss) income from continuing operations	(192)	2,909	2,029
Net income (loss) from discontinued operations	3	(15)	66
Net (loss) income	(189)	2,894	2,095
Net income attributable to noncontrolling interests:			
Continuing operations	(50)	(292)	(274)
Discontinued operations	—	—	(4)
Net (loss) income attributable to common stockholders	$ (239)	$ 2,602	$ 1,817
Basic net (loss) income per share attributable to common stockholders:			
Continuing operations	$ (0.17)	$ 1.80	$ 1.21
Discontinued operations	—	(0.01)	0.04
	$ (0.17)	$ 1.79	$ 1.25
Diluted net (loss) income per share attributable to common stockholders:			
Continuing operations	$ (0.17)	$ 1.79	$ 1.21
Discontinued operations	—	(0.01)	0.04
	$ (0.17)	$ 1.78	$ 1.25
Weighted-average common shares outstanding:			
Basic	1,451	1,449	1,447
Diluted	1,451	1,458	1,454
Dividends declared per share of common stock	$ 0.20	$ 0.20	$ —

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

CONSOLIDATED STATEMENTS OF COMPREHENSIVE (LOSS) INCOME

Years Ended December 31,	2019	2018	2017
(In millions)			
Net (loss) income	$(189)	$2,894	$2,095
Other comprehensive income (loss), net of taxes:			
Unrealized gains on securities	—	—	1
Defined benefit plans:			
Actuarial (losses) gains arising during the period, net of taxes	(116)	(77)	14
Prior service costs arising during the period	—	(4)	—
Amortization or curtailment of unrecognized amounts included in net periodic benefit costs	47	48	54
Foreign exchange gains (losses)	1	(1)	—
Other comprehensive (loss) income	(68)	(34)	69
Total comprehensive (loss) income	(257)	2,860	2,164
Total comprehensive income attributable to noncontrolling interests	(53)	(291)	(286)
Total comprehensive (loss) income attributable to common stockholders	$(310)	$2,569	$1,878

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

CONSOLIDATED STATEMENTS OF CASH FLOWS

Years Ended December 31,	2019	2018	2017
(In millions)			
Cash flow from operating activities:			
Net (loss) income	$ (189)	$ 2,894	$ 2,095
Adjustments to reconcile net (loss) income to net cash provided by operating activities:			
Depreciation, depletion and amortization	1,412	1,754	1,714
Metals inventory adjustments	179	4	8
Net gain on sales of assets	(417)	(208)	(81)
Stock-based compensation	63	76	71
Net charges for environmental and asset retirement obligations, including accretion	221	262	383
Payments for environmental and asset retirement obligations	(244)	(239)	(131)
Net charges for defined pension and postretirement plans	108	81	120
Pension plan contributions	(75)	(75)	(174)
Net loss (gain) on early extinguishment of debt	27	(7)	(21)
Deferred income taxes	29	100	76
(Income) loss on disposal of discontinued operations	(3)	15	(57)
Dividends received from PT Smelting, an equity method investee	40	—	—
Charges for PT Freeport Indonesia (PT-FI) surface water tax, withholding tax and environmental matters	30	162	—
Payments for PT-FI surface water and withholding tax matters	(67)	—	—
Charges for Cerro Verde royalty dispute	65	371	355
Payments for Cerro Verde royalty dispute	(187)	(56)	(53)
U.S. tax reform benefit	—	(123)	(393)
Change in PT-FI statutory tax rate	—	(504)	—
Other, net	141	12	(43)
Changes in working capital and other, excluding disposition amounts:			
Accounts receivable	119	649	427
Inventories	259	(537)	(169)
Other current assets	60	(28)	(28)
Accounts payable and accrued liabilities	(60)	(106)	110
Accrued income taxes and timing of other tax payments	(29)	(634)	457
Net cash provided by operating activities	1,482	3,863	4,666
Cash flow from investing activities:			
Capital expenditures:			
North America copper mines	(877)	(601)	(167)
South America	(256)	(237)	(115)
Indonesia	(1,369)	(1,001)	(875)
Molybdenum mines	(19)	(9)	(5)
Other	(131)	(123)	(248)
Acquisition of PT Rio Tinto Indonesia	—	(3,500)	—
Proceeds from sales of:			
Timok exploration project and a portion of Freeport Cobalt	452	—	—
PT Indonesia Papua Metal Dan Mineral	—	457	—
Other assets	109	93	72
Other, net	(12)	(97)	17
Net cash used in investing activities	(2,103)	(5,018)	(1,321)
Cash flow from financing activities:			
Proceeds from debt	1,879	632	955
Repayments of debt	(3,197)	(2,717)	(3,812)
Proceeds from sale of PT-FI shares	—	3,500	—
Cash dividends and distributions paid:			
Common stock	(291)	(218)	(2)
Noncontrolling interests	(82)	(278)	(174)
Contributions from noncontrolling interests	165	—	—
Other, net	(30)	(19)	(22)
Net cash (used in) provided by financing activities	(1,556)	900	(3,055)
Net (decrease) increase in cash, cash equivalents, restricted cash and restricted cash equivalents	(2,177)	(255)	290
Cash, cash equivalents, restricted cash and restricted cash equivalents at beginning of year	4,455	4,710	4,420
Cash, cash equivalents, restricted cash and restricted cash equivalents at end of year	$ 2,278	$ 4,455	$ 4,710

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

CONSOLIDATED BALANCE SHEETS

December 31,	2019	2018
(In millions, except par value)		
ASSETS		
Current assets:		
Cash and cash equivalents	$ 2,020	$ 4,217
Trade accounts receivable	741	829
Income and other tax receivables	426	493
Inventories:		
Materials and supplies, net	1,649	1,528
Mill and leach stockpiles	1,143	1,197
Product	1,281	1,778
Other current assets	655	422
Total current assets	7,915	10,464
Property, plant, equipment and mine development costs, net	29,584	28,010
Long-term mill and leach stockpiles	1,425	1,570
Other assets	1,885	2,172
Total assets	$40,809	$42,216
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable and accrued liabilities	$ 2,576	$ 2,625
Current portion of environmental and asset retirement obligations	436	449
Accrued income taxes	119	165
Dividends payable	73	73
Current portion of debt	5	17
Total current liabilities	3,209	3,329
Long-term debt, less current portion	9,821	11,124
Deferred income taxes	4,210	4,032
Environmental and asset retirement obligations, less current portion	3,630	3,609
Other liabilities	2,491	2,230
Total liabilities	23,361	24,324
Equity:		
Stockholders' equity:		
Common stock, par value $0.10, 1,582 shares and 1,579 shares issued, respectively	158	158
Capital in excess of par value	25,830	26,013
Accumulated deficit	(12,280)	(12,041)
Accumulated other comprehensive loss	(676)	(605)
Common stock held in treasury – 131 shares and 130 shares, respectively, at cost	(3,734)	(3,727)
Total stockholders' equity	9,298	9,798
Noncontrolling interests	8,150	8,094
Total equity	17,448	17,892
Total liabilities and equity	$40,809	$42,216

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

CONSOLIDATED STATEMENTS OF EQUITY

	Stockholders' Equity									
	Common Stock					Common Stock Held in Treasury				
(In millions)	Number of Shares	At Par Value	Capital in Excess of Par Value	Accumulated Deficit	Accumulated Other Comprehensive Loss	Number of Shares	At Cost	Total Stockholders' Equity	Noncontrolling Interests	Total Equity
Balance at January 1, 2017	1,574	$157	$26,690	$ (16,540)	$(548)	129	$(3,708)	$ 6,051	$ 3,206	$ 9,257
Exercised and issued stock-based awards	4	1	5	—	—	—	—	6	—	6
Stock-based compensation, including the tender of shares	—	—	56	—	—	1	(15)	41	1	42
Dividends, including forfeited dividends	—	—	—	1	—	—	—	1	(174)	(173)
Net income attributable to common stockholders	—	—	—	1,817	—	—	—	1,817	—	1,817
Net income attributable to noncontrolling interests, including discontinued operations	—	—	—	—	—	—	—	—	278	278
Other comprehensive income	—	—	—	—	61	—	—	61	8	69
Balance at December 31, 2017	1,578	158	26,751	(14,722)	(487)	130	(3,723)	7,977	3,319	11,296
Exercised and issued stock-based awards	1	—	8	—	—	—	—	8	—	8
Stock-based compensation, including the tender of shares	—	—	70	—	—	—	(4)	66	—	66
Dividends	—	—	(291)	—	—	—	—	(291)	(278)	(569)
Adoption of new accounting standard for reclassification of income taxes	—	—	—	79	(79)	—	—	—	—	—
Sale of interest in PT-FI (refer to Note 2)	—	—	(525)	—	(6)	—	—	(531)	4,762	4,231
Net income attributable to common stockholders	—	—	—	2,602	—	—	—	2,602	—	2,602
Net income attributable to noncontrolling interests	—	—	—	—	—	—	—	—	292	292
Other comprehensive loss	—	—	—	—	(33)	—	—	(33)	(1)	(34)
Balance at December 31, 2018	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

The accompanying Notes to Consolidated Financial Statements are an integral part of these 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, 2019, 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 Notes 2 and 3 for further discussion, including FCX's conclusion to consolidate PT-FI.

FCX's unincorporated joint ventures are reflected using the proportionate consolidation method (refer to Note 3 for further discussion). Investments in unconsolidated companies owned 20 percent or more are recorded using the equity method. Investments in 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, Bagdad, 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 (losses) totaled $24 million in 2019, $14 million in 2018 and $(5) million in 2017.

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 new smelter in Indonesia; and guarantees and commitments for certain mine closure and reclamation obligations, and customs duty taxes. 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 time 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 recovery rates for mill stockpiles are determined by metallurgical testing. The recoverable copper in mill stockpiles, once entered into the production process, can be produced into copper concentrate almost immediately.

Expected copper recovery rates for leach stockpiles are determined using small-scale laboratory tests, small- to large-scale column testing (which simulates the production process), historical trends and other factors, including mineralogy of the ore and rock type. Total copper recovery in leach stockpiles can vary significantly from a low percentage to more than 90 percent depending on several variables, including processing methodology, processing variables, mineralogy and particle size of the rock. For newly placed material on active stockpiles, as much as 80 percent of the total copper recovery may occur during the first year, and the remaining copper may be recovered over many years.

Processes and recovery rates for mill and leach stockpiles are monitored regularly, and recovery rate estimates are adjusted periodically as additional information becomes available and as related technology changes. Adjustments to recovery rates will typically result in a future impact to the value of the material removed from the stockpiles at a revised weighted-average cost per pound of recoverable copper.

Product. Product inventories include raw materials, work-in-process and finished goods. Raw materials are primarily unprocessed concentrate at Atlantic Copper's smelting and refining operations. Work-in-process inventories are primarily copper concentrate at various stages of conversion into anode and cathode at Atlantic Copper's operations. Atlantic Copper's in-process inventories are valued at the weighted-average cost of the material fed to the smelting and refining process plus in-process conversion costs. Finished goods for mining operations represent salable products (*e.g.*, copper and molybdenum concentrate, copper anode, copper cathode, copper rod, copper wire, molybdenum oxide, and high-purity molybdenum chemicals and other metallurgical products). Finished goods are valued based on the weighted-average cost of source material plus applicable conversion costs relating to associated process facilities. Costs of finished goods and work-in-process (*i.e.*, not raw materials) inventories include labor and benefits, supplies, energy, depreciation, depletion, amortization, site overhead costs and other necessary costs associated with the extraction and processing of ore, such as mining, milling, smelting, leaching, SX/EW, refining, roasting and chemical processing. Corporate general and administrative costs are not included in inventory costs.

Property, Plant, Equipment and Mine Development Costs. Property, plant, equipment and mine development costs are carried at cost. Mineral exploration costs, as well as drilling and other costs incurred for the purpose of converting mineral resources to proven and probable reserves or identifying new mineral resources at development or production stage properties, are charged to expense as incurred. Development costs are capitalized beginning after proven and probable mineral reserves have been established. Development costs include costs incurred resulting from mine pre-production activities undertaken to gain access to proven and probable reserves, including shafts, adits, drifts, ramps, permanent excavations, infrastructure and removal of overburden. 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, 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) mineralized material, which includes measured and indicated amounts, that FCX believes could be brought into production with the establishment or modification of required permits and should market conditions and technical assessments warrant, (ii) inferred mineral resources and (iii) exploration potential.

Carrying amounts assigned to VBPP are not charged to expense until the VBPP becomes associated with additional proven and probable mineral reserves and the reserves are produced or the VBPP is determined to be impaired. Additions to proven and probable mineral reserves for properties with VBPP will carry with them the value assigned to VBPP at the date acquired, less any impairment amounts. Refer to Note 5 for further discussion.

Impairment of Long-Lived Mining Assets. FCX assesses the carrying values of its long-lived mining assets for impairment when events or changes in circumstances indicate that the related carrying amounts of such assets may not be recoverable. In evaluating long-lived mining assets for recoverability, estimates of pre-tax undiscounted future cash flows of FCX's individual mines are used. An impairment is considered to exist if total estimated undiscounted future cash flows are less than the carrying amount of the asset. Once it is determined that an impairment exists, an impairment loss is measured as the amount by which the asset carrying value exceeds its fair value. The estimated undiscounted cash flows used to assess recoverability of long-lived assets and to measure the fair value of FCX's mining operations are derived from current business plans, which are developed using near-term price forecasts reflective of the current price environment and management's projections for long-term average metal prices. In addition to near- and long-term metal price assumptions, other key assumptions include estimates of commodity-based and other input costs; proven and probable mineral reserves estimates, including the timing and cost to develop and produce the reserves; VBPP estimates; and the use of appropriate discount rates 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 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. Retirement obligations associated with long-lived assets are those for which there is a legal obligation to settle under existing or enacted law, statute, written or oral contract or by legal construction. These obligations, which are initially estimated based on discounted cash flow estimates, are accreted to full value over time through charges to cost of sales. In addition, asset retirement costs (ARCs) are capitalized as part of the related asset's carrying value and are depreciated over the asset's respective useful life.

For mining operations, reclamation costs for disturbances are recognized as an ARO and as a related ARC in the period of the disturbance and depreciated primarily on a UOP basis. FCX's AROs for mining operations consist primarily of costs associated with mine reclamation and closure activities. These activities, which are site specific, generally include costs for earthwork, revegetation, water treatment and demolition.

For oil and gas properties, the fair value of the legal obligation is recognized as an ARO and as a related ARC in the period in which the well is drilled or acquired and is amortized on a UOP basis together with other capitalized costs. Substantially all of FCX's oil and gas leases require that, upon termination of economic production, the working interest owners plug and abandon non-producing wellbores; remove platforms, tanks, production equipment and flow lines; and restore the wellsite.

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 all of 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 payment is made 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), a division of the New York Mercantile Exchange, and quoted monthly average London Bullion Market Association (LBMA) gold settlement 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 LBMA gold settlement 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 (loss) income per share of common stock under the two-class method and calculates its diluted net (loss) income per share of common stock using the more dilutive of the two-class method or the treasury-stock method. Basic net (loss) income per share of common stock was computed by dividing net (loss) income 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 (loss) income 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 (loss) income and weighted-average shares of common stock outstanding for purposes of calculating basic and diluted net (loss) income per share for the years ended December 31 follow:

	2019	2018	2017
Net (loss) income from continuing operations	$(192)	$2,909	$2,029
Net income from continuing operations attributable to noncontrolling interests	(50)	(292)	(274)
Accumulated dividends and undistributed earnings allocated to participating securities	(3)	(4)	(4)
Net (loss) income from continuing operations attributable to common stockholders	(245)	2,613	1,751
Net income (loss) from discontinued operations	3	(15)	66
Net income from discontinued operations attributable to noncontrolling interests	—	—	(4)
Net income (loss) from discontinued operations attributable to common stockholders	3	(15)	62
Net (loss) income attributable to common stockholders	$(242)	$2,598	$1,813
Basic weighted-average shares of common stock outstanding (millions)	1,451	1,449	1,447
Add shares issuable upon exercise or vesting of dilutive stock options and RSUs (millions)	—[a]	9[a]	7
Diluted weighted-average shares of common stock outstanding (millions)	1,451	1,458	1,454
Basic net (loss) income per share attributable to common stockholders:			
Continuing operations	$(0.17)	$ 1.80	$ 1.21
Discontinued operations	—	(0.01)	0.04
	$(0.17)	$ 1.79	$ 1.25
Diluted net (loss) income per share attributable to common stockholders:			
Continuing operations	$(0.17)	$ 1.79	$ 1.21
Discontinued operations	—	(0.01)	0.04
	$(0.17)	$ 1.78	$ 1.25

a. Excludes approximately 11 million shares of common stock in 2019 and 1 million in 2018 associated with outstanding stock options with exercise prices less than the average market price of FCX's common stock and RSUs that were anti-dilutive.

Outstanding stock options with exercise prices greater than the average market price of FCX's common stock during the year are excluded from the computation of diluted net (loss) income per share of common stock. Stock options for 42 million shares of common stock in 2019, 37 million shares in 2018 and 41 million shares in 2017 were excluded.

New Accounting Standards. Following is a discussion of new accounting standards.

Income Taxes. In December 2019, the Financial Accounting Standards Board (FASB) issued an Accounting Standards Update (ASU) that simplifies the accounting for income taxes by eliminating certain exceptions related to the approach for intra-period tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. FCX adopted this ASU effective December 31, 2019, and the adoption of this ASU did not have a material impact on its consolidated financial statements.

Financial Instruments. In June 2016, FASB issued an ASU that requires entities to estimate all expected credit losses for most financial assets held at the reporting date based on an expected loss model, which requires consideration of historical experience, current conditions, and reasonable and supportable forecasts. This ASU also requires enhanced disclosure requirements to enable users of financial statements to understand the entity's assumptions, models and methods for estimating expected credit losses. FCX adopted this ASU effective January 1, 2020, and the adoption of this ASU did not have a material impact on its consolidated financial statements.

Leases. In February 2016, FASB issued an ASU that requires lessees to recognize most leases on the balance sheet. FCX adopted this ASU effective January 1, 2019, and elected the practical expedients allowing it to (i) apply the provisions of the updated lease guidance at the effective date, without adjusting the comparative periods presented and (ii) not reassess lease contracts, lease classification and initial direct costs of leases existing at adoption. FCX also elected an accounting policy to not recognize a lease asset and liability for leases with a term of 12 months or less and a purchase option that is not expected to be exercised. Nearly all of FCX's leases were considered operating leases under the new ASU. Adoption of this ASU resulted in the recognition of $243 million in lease right-of-use assets and lease liabilities as of January 1, 2019.

Reclassifications. For comparative purposes, certain prior year amounts have been reclassified to conform with the current year presentation. The reclassifications relate to a change in methodology for determining current leach stockpiles (refer to Note 4) and a revision to FCX's presentation of business segments to include a new reportable segment (refer to Note 16).

NOTE 2. ACQUISITIONS AND DISPOSITIONS

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.

Pursuant to the previously announced divestment agreement and related documents, PT Indonesia Asahan Aluminium (Persero) (PT Inalum), an Indonesia state-owned enterprise, acquired for cash consideration of $3.85 billion 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), which at the time owned 9.36 percent of PT-FI. Of the $3.85 billion in cash consideration, Rio Tinto received $3.5 billion and FCX received $350 million. In addition, Rio Tinto paid FCX $107 million for its share of the 2018 joint venture cash flows.

In connection with the transaction, an aggregate 40 percent share ownership in PT-FI was issued to PT Inalum and PTI (which is expected to be owned by PT Inalum and the provincial/regional government in Papua). Based on a subscription of PT Inalum's rights to acquire for cash consideration of $3.5 billion all of Rio Tinto's interests in the former Rio Tinto Joint Venture, PT-FI acquired all of the common stock of the entity (PT Rio Tinto Indonesia) that held Rio Tinto's 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 from 2019 through 2022.

The divestment agreement 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. As of December 31, 2019, FCX had accrued $33 million (included in other liabilities in the consolidated balance sheet at December 31, 2019) related to this indemnification.

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 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 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.

FCX also analyzed PT-FI's acquisition of the Rio Tinto Joint Venture interests and concluded the transaction should be accounted for as an asset acquisition as substantially all of the fair value of the gross assets acquired is concentrated in mineral reserves and related long-lived mining assets. The acquisition was a single asset because substantially all of the acquired assets are linked to each other and cannot be physically removed without causing a significant diminution to the fair value of the other assets. PT-FI allocated the $3.5 billion purchase price to the assets acquired and liabilities assumed based on their estimated fair values on the acquisition date. The fair value estimates were based on, but not limited to, long-term metal price assumptions of $3.00 per pound of copper and $1,300 per ounce of gold; expected future cash flows based on estimated reserve quantities; costs to produce and develop the related reserves; current replacement cost for similar capacity for certain fixed assets; and appropriate discount rates using an estimated international cost of capital of 14 percent. The estimates were primarily based on significant inputs not observable in the market (as discussed above) and thus represent Level 3 measurements.

The following table summarizes the allocation of the purchase price:

Current assets	$ 25
Property, plant, equipment and mine development costs:	
Mineral reserves	3,056
Mine development, infrastructure and other	1,559
Liabilities other than taxes	(77)
Deferred income taxes, net	(1,063)[a]
Total purchase price	$ 3,500

a. Deferred income taxes have been recognized on the fair value adjustments to net assets using an Indonesia corporate income tax rate of 25 percent.

Under applicable accounting guidance, changes in ownership that do not result in a change in control are accounted for as equity transactions with no impact on net income. The following table summarizes the consolidated impact of the transaction discussed above on FCX's consolidated balance sheet as of December 21, 2018:

Cash	$ 458
Other current assets	23
Property, plant, equipment and mine development costs:	
Mineral reserves	3,056
Mine development, infrastructure and other	1,559
Liabilities other than taxes	(77)
Deferred income taxes, net	(788)
Noncontrolling interests	(4,762)[a]
Capital in excess of par value	531

a. Primarily reflects the approximate 40 percent economic interest in the former Rio Tinto Joint Venture for the period from 2023 through 2041, which was acquired by PTI and PT Inalum.

FCX considered if the adjustment to capital in excess of par value was an indicator of impairment and after considering other factors, such as PT-FI's historical results and projected undiscounted cash flows, concluded that it did not indicate a potential impairment at PT-FI.

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's net loss for 2019 totaled $203 million, of which $165 million was attributed to FCX. PT-FI's cumulative net loss since December 21, 2018, through December 31, 2019, totaled $339 million, of which $276 million 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.

Cobalt Business. 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. Under the terms of the agreement, FCX separated its cobalt business, and Umicore acquired the refinery and cathode precursor business. FCX and the current noncontrolling interest partners in Freeport Cobalt will retain the remaining cobalt business, which is a producer of cobalt fine powders, chemicals, catalysts, ceramics and pigments. Lundin Mining Corporation, one of the noncontrolling interest partners, received 30 percent of the proceeds from this transaction. FCX recorded a gain of $59 million in 2019 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 project is still in the exploration phase) 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 such payment upon achievement of defined development milestones, the purchaser agreed to pay the $107 million contingent consideration provided for in the 2016 Transaction in three installment payments of $45 million by July 31, 2020, $50 million by December 31, 2021, and $12 million by March 31, 2022. As a result of this transaction, FCX recorded a gain of $343 million, consisting of the cash consideration ($240 million) and the aggregate discounted amount of the three installment payments ($103 million).

Oil and Gas Operations. In 2016, FCX sold the majority of its oil and gas assets held by its wholly owned subsidiary, FCX Oil & Gas LLC (FM O&G). In 2019, FM O&G sold certain property interests for cash consideration of $36 million (before closing adjustments), which resulted in the recognition of a gain of $20 million. In 2018, FM O&G disposed of certain property interests that resulted in the recognition of a gain of $27 million, primarily associated with the abandonment obligations that were assumed by the acquirer. In 2017, FM O&G sold certain property interests for cash consideration of $80 million (before closing adjustments), which resulted in the recognition of gains of $49 million.

TF Holdings Limited—Discontinued Operations. In November 2016, FCX completed the sale of its 70 percent interest in TF Holdings Limited (TFHL) to China Molybdenum Co., Ltd. for $2.65 billion in cash (before closing adjustments) and contingent consideration of up to $120 million in cash, consisting of $60 million if the average copper price exceeds $3.50 per pound and $60 million if the average cobalt price exceeds $20 per pound, both during 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), and was included in other current assets in the consolidated balance sheet at December 31, 2019. The fair value of the contingent consideration derivative was $57 million at December 31, 2018 (included in other assets). Gains (losses) resulting from changes in the fair value of the contingent consideration derivative totaling $3 million in 2019, $(17) million in 2018 and $61 million in 2017 were included in net income (loss) from discontinued operations and primarily resulted from fluctuations in cobalt and copper 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. The consolidated statements of comprehensive (loss) income were not impacted by discontinued operations as TFHL did not have any other comprehensive income (loss), and the consolidated statements of cash flows are reported on a combined basis without separately presenting discontinued operations.

Net income (loss) from discontinued operations in the consolidated statements of operations consists of the following:

Years Ended December 31,	2019	2018	2017
Income before income taxes and net gain (loss) on disposal	$ —	$ —	$13[a]
Net gain (loss) on disposal[b]	3	(15)	57
Net income (loss) before income taxes	3	(15)	70
Provision for income taxes	—	—	(4)
Net income (loss) from discontinued operations	$ 3	$(15)	$66

a. In accordance with accounting guidance, reflects the recognition of intercompany sales.
b. Primarily includes gains (losses) associated with the change in the fair value of contingent consideration.

NOTE 3. OWNERSHIP IN SUBSIDIARIES AND JOINT VENTURES

Ownership in Subsidiaries. FMC produces copper and molybdenum, with mines in North America and South America. At December 31, 2019, FMC's operating mines in North America were Morenci, Bagdad, Safford, Sierrita and Miami located in Arizona; Tyrone and Chino located in New Mexico; and Henderson and Climax located in Colorado. FCX has a 72 percent interest in Morenci (refer to "Joint Ventures—Sumitomo and SMM Morenci, Inc.") and owns 100 percent of the other North America mines. At December 31, 2019, 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, 2019, FMC's net assets totaled $14.5 billion and its accumulated deficit totaled $16.0 billion. FCX had no loans outstanding to FMC at December 31, 2019.

FCX's direct share ownership in PT-FI totaled 81.28 percent through December 21, 2018, and 48.76 percent thereafter. PTI owned 9.36 percent of PT-FI and FCX owned 100 percent of PTI through December 21, 2018. Refer to Note 2 for a discussion of the PT-FI divestment. Refer to "Joint Ventures—Former Rio Tinto Joint Venture" for discussion of PT-FI's unincorporated joint venture. At December 31, 2019, PT-FI's net assets totaled $10.4 billion and its retained earnings totaled $6.4 billion. FCX had $973 million in intercompany loans to PT-FI outstanding at December 31, 2019.

FCX owns 100 percent of the outstanding Atlantic Copper common stock. At December 31, 2019, Atlantic Copper's net assets totaled $38 million and its accumulated deficit totaled $411 million. FCX had $324 million in intercompany loans to Atlantic Copper outstanding at December 31, 2019.

Joint Ventures. FCX has the following unincorporated joint ventures.

Former Rio Tinto Joint Venture. On December 21, 2018, PT-FI acquired Rio Tinto's interest in the joint venture and is consolidating 100 percent of the Indonesia operations (refer to Note 2 for discussion of the PT-FI divestment). Pursuant to Rio Tinto's previous joint venture agreement with PT-FI, Rio Tinto had a 40 percent interest in certain assets and future production exceeding specified annual amounts of copper, gold and silver through 2022 in Block A of PT-FI's former Contract of Work (COW), and, after 2022, a 40 percent interest in all production from Block A.

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 147 million pounds of Morenci's copper cathode from Sumitomo and SMM Morenci, Inc. at market prices for $397 million during 2019. FMC had receivables from Sumitomo and SMM Morenci, Inc. totaling $19 million at December 31, 2019, and $13 million at December 31, 2018.

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

The components of inventories follow:

December 31,	2019	2018
Current inventories:		
Total materials and supplies, net[a]	$1,649	$1,528
Mill stockpiles	$ 220	$ 282
Leach stockpiles	923	915[b]
Total current mill and leach stockpiles	$1,143	$1,197[b]
Raw materials (primarily concentrate)	$ 318	$ 260
Work-in-process	124	192
Finished goods	839	1,326
Total product	$1,281	$1,778
Long-term inventories:		
Mill stockpiles	$ 181	$ 265
Leach stockpiles	1,244	1,305[b]
Total long-term mill and leach stockpiles[c]	$1,425	$1,570[b]

a. Materials and supplies inventory was net of obsolescence reserves totaling $24 million at December 31, 2019 and 2018.
b. In fourth-quarter 2019, FCX changed its method of estimating the current portion of its leach stockpiles and revised its December 31, 2018, balances to conform with the new methodology resulting in a $256 million decrease in the current balance and a corresponding increase in the long-term balance.
c. Estimated metals in stockpiles not expected to be recovered within the next 12 months.

FCX recorded charges to adjust metals inventory carrying values to NRV totaling $179 million in 2019, associated with molybdenum inventories ($84 million), cobalt inventories ($58 million) and copper inventories ($37 million), primarily because of lower market prices; $4 million in 2018; and $8 million in 2017. Refer to Note 16 for metals inventory adjustments by business segment.

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

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

December 31,	2019	2018
Proven and probable mineral reserves	$ 7,087	$ 7,089
VBPP	465	477
Mine development and other	8,180	8,195
Buildings and infrastructure	8,435	8,051
Machinery and equipment	13,312	12,985
Mobile equipment	4,320	4,010
Construction in progress	4,265	3,006
Oil and gas properties	27,293	27,292
Total	73,357	71,105
Accumulated depreciation, depletion and amortization[a]	(43,773)	(43,095)
Property, plant, equipment and mine development costs, net	$ 29,584	$ 28,010

a. Includes accumulated amortization for oil and gas properties of $27.3 billion at December 31, 2019 and 2018.

FCX recorded $1.7 billion for VBPP in connection with the FMC acquisition in 2007 (excluding $544 million associated with mining operations that were subsequently sold) and transferred $811 million to proven and probable mineral reserves through 2019 (none in 2019 and $59 million in 2018). 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 $149 million in 2019, $96 million in 2018 and $121 million in 2017.

During 2018 and 2019, FCX concluded there were no events or changes in circumstances that would indicate that the carrying amount of its long-lived mining assets might not be recoverable.

NOTE 6. OTHER ASSETS

The components of other assets follow:

December 31,	2019	2018
Disputed tax assessments:[a]		
PT-FI	$ 178	$ 493
Cerro Verde	187	183
Long-term receivable for taxes[b]	290	260
Intangible assets[c]	402	398
Investments:		
Assurance bond[d]	157	126
PT Smelting[e]	80	125
Fixed income and equity securities, and other	66	65
Legally restricted funds[f]	196	181
Contingent consideration associated with sales of assets[g]	115	189
Timok transaction receivable (refer to Note 2)	58	—
Long-term employee receivables	22	20
Other	134	132
Total other assets	$1,885	$2,172

a. Refer to Note 12 for further discussion.
b. Includes tax overpayments and refunds not expected to be realized within the next 12 months (primarily associated with U.S. tax reform, refer to Note 11).
c. Indefinite-lived intangible assets totaled $215 million at December 31, 2019 and 2018. Accumulated amortization of definite-lived intangible assets totaled $54 million at December 31, 2019, and $51 million at December 31, 2018.
d. Relates to PT-FI's commitment for the development of a new smelter in Indonesia (refer to Note 13 for further discussion).
e. PT-FI's 25 percent ownership in PT Smelting (smelter and refinery in Gresik, Indonesia) is recorded using the equity method. Amounts were reduced by unrecognized profits on sales from PT-FI to PT Smelting totaling $29 million at December 31, 2019, and $11 million at December 31, 2018. Trade accounts receivable from PT Smelting totaled $261 million at December 31, 2019, and $176 million at December 31, 2018.
f. Includes $196 million at December 31, 2019, and $180 million at December 31, 2018, held in trusts for AROs related to properties in New Mexico (refer to Note 12 for further discussion).
g. Refer to Note 15 for further discussion.

NOTE 7. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

The components of accounts payable and accrued liabilities follow:

December 31,	2019	2018
Accounts payable	$1,654	$1,661
Salaries, wages and other compensation	249	273
Accrued interest[a]	178	183
PT-FI contingencies[b]	115	162
Legal matters	88	16
Accrued taxes, other than income taxes	79	109
Pension, postretirement, postemployment and other employee benefits[c]	69	78
Leases[d]	44	—
Other	100	143
Total accounts payable and accrued liabilities	$2,576	$2,625

a. Third-party interest paid, net of capitalized interest, was $591 million in 2019, $500 million in 2018 and $565 million in 2017.
b. Refer to Note 12 for further discussion.
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, 2019, included additions of $11 million ($58 million at December 31, 2018) for unamortized fair value adjustments, and is net of reductions of $66 million ($69 million at December 31, 2018) for unamortized net discounts and unamortized debt issuance costs. The components of debt follow:

December 31,	2019	2018
Revolving credit facility	$ —	$ —
Cerro Verde credit facility	826	1,023
Senior notes and debentures:		
Issued by FCX:		
3.100% Senior Notes due 2020	—	999
4.00% Senior Notes due 2021	194	597
3.55% Senior Notes due 2022	1,876	1,886
6.875% Senior Notes due 2023	—	768
3.875% Senior Notes due 2023	1,917	1,915
4.55% Senior Notes due 2024	846	845
5.00% Senior Notes due 2027	592	—
5.25% Senior Notes due 2029	592	—
5.40% Senior Notes due 2034	741	741
5.450% Senior Notes due 2043	1,844	1,843
Issued by FMC:		
7⅛% Debentures due 2027	115	115
9½% Senior Notes due 2031	125	126
6⅛% Senior Notes due 2034	117	117
Other	41	166
Total debt	9,826	11,141
Less current portion of debt	(5)	(17)
Long-term debt	$9,821	$11,124

Revolving Credit Facility. At December 31, 2019, FCX had no borrowings outstanding and $13 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. For PT-FI, $500 million of the revolving credit facility is available.

In May 2019, FCX, PT-FI and Freeport-McMoRan Oil & Gas LLC (FM O&G LLC) amended the $3.5 billion, five-year, unsecured revolving credit facility to extend $3.26 billion of the facility by one year to April 20, 2024, with the remaining $240 million maturing on April 20, 2023. In November 2019, the revolving credit facility was amended to allow flexibility during ongoing transition to underground mining at Grasberg. The November 2019 amendment modified (i) the total leverage ratio from 3.75x to 5.25x through June 30, 2021, and (ii) the calculation of the total debt component used to determine the total leverage ratio by adjusting the amount of unrestricted cash that may be applied to reduce the amount of total debt from $2.5 billion to $1.25 billion through June 30, 2021.

Interest on loans made under the new 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.

Cerro Verde Credit Facility. In March 2014, Cerro Verde entered into a five-year, $1.8 billion senior unsecured credit facility that is nonrecourse to FCX and the other shareholders of Cerro Verde. In June 2017, Cerro Verde's credit facility was amended (balance outstanding at the time of amendment was $1.275 billion) to increase the commitment by $225 million to $1.5 billion, to modify the amortization schedule and to extend the maturity date to June 19, 2022. The amended credit facility amortizes in four installments, with $225 million due on December 31, 2020 (which was fully prepaid during 2018), $225 million due on June 30, 2021 (which was fully prepaid during 2018), $525 million due on December 31, 2021 (of which $200 million was prepaid during 2019 and $20 million was prepaid during 2018), and the remaining balance due on the maturity date of June 19, 2022. All other terms, including the interest rates, remain the same. Interest under the term loan is based on LIBOR plus a spread based on Cerro Verde's total net debt to earnings before interest, taxes, depreciation and amortization (EBITDA) ratio as defined in the agreement. The interest rate on Cerro Verde's credit facility was 3.70 percent at December 31, 2019.

Cerro Verde Shareholder Loans. In December 2014, Cerro Verde entered into loan agreements with three of its shareholders for borrowings up to $800 million. No amounts were outstanding at December 31, 2019 and 2018, and availability under these agreements totals $200 million at December 31, 2019.

Senior Notes issued by FCX. In August 2019, FCX sold $600 million of 5.00% Senior Notes due 2027 and $600 million of 5.25% Senior Notes due 2029 for total net proceeds of $1.187 billion. Interest on these senior notes is payable semiannually on March 1 and September 1 of each year. FCX used the net proceeds from this offering to fund the make-whole redemption of all of its outstanding 6.875% Senior Notes due 2023, and the concurrent tender offers 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.

The 4.00% Senior Notes due 2021 are redeemable in whole or in part, at the option of FCX, at a make-whole redemption price. The 5.00% Senior Notes due 2027 are redeemable in whole or in part, at the option of FCX, at a make-whole redemption price prior to September 1, 2022, and at specified redemption prices thereafter. The 5.25% Senior Notes due 2029 are redeemable in whole or in part, at the option of FCX, at a make-whole redemption price prior to September 1, 2024, and at specified redemption prices thereafter. The senior notes listed below are redeemable in whole or in part, at the option of FCX, at a make-whole redemption price prior to the dates stated below, and beginning on the dates stated below at 100 percent of principal.

Debt Instrument	Date
3.55% Senior Notes due 2022	December 1, 2021
3.875% Senior Notes due 2023	December 15, 2022
4.55% Senior Notes due 2024	August 14, 2024
5.40% Senior Notes due 2034	May 14, 2034
5.450% Senior Notes due 2043	September 15, 2042

These senior notes rank equally with FCX's other existing and future unsecured and unsubordinated indebtedness.

Early Extinguishment of Debt. During 2019, 2018 and 2017, FCX redeemed in full or purchased a portion of the following senior notes.

	Principal Amount	Net Adjustments	Book Value	Redemption/ Tender Value	Loss/ (Gain)
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
Year Ended December 31, 2018					
FCX 6.75% Senior Notes due 2022	$ 404	$22	$ 426	$ 418	$ (8)
FM O&G LLC 6⅞% Senior Notes due 2023	50	4	54	52	(2)
Total	$ 454	$26	$ 480	$ 470	$(10)
Year Ended December 31, 2017					
FCX 2.375% Senior Notes due 2018	$ 74	$ —	$ 74	$ 74	$ —
FCX 6.125% Senior Notes due 2019	179	5	184	182	(2)
FM O&G LLC 6.125% Senior Notes due 2019	58	2	60	59	(1)
FCX 6½% Senior Notes due 2020	552	23	575	562	(13)
FM O&G LLC 6½% Senior Notes due 2020	65	3	68	66	(2)
FCX 6.625% Senior Notes due 2021	228	12	240	234	(6)
FM O&G LLC 6.625% Senior Notes due 2021	33	2	35	34	(1)
FM O&G LLC 6.750% Senior Notes due 2022	45	2	47	46	(1)
Total	$ 1,234	$ 49	$1,283	$1,257	$(26)

In addition, FCX recorded net losses of $1 million in 2019, $3 million in 2018 and $5 million in 2017, primarily associated with Cerro Verde's prepayments on its credit facility and the modification of Cerro Verde's credit facility in 2017.

Guarantees. Refer to Note 17 for a discussion of FCX's senior notes guaranteed by FM O&G LLC.

Restrictive Covenants. FCX's revolving credit facility contains customary affirmative covenants and representations, and also 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. FCX's leverage ratio (ratio of total debt to consolidated EBITDA, as defined in the credit agreement) cannot exceed 5.25x during the quarterly periods ending December 31, 2019, through and including June 30, 2021, and cannot exceed 3.75x for the quarterly periods ending on or after September 30, 2021, and the minimum interest expense coverage ratio (ratio of consolidated EBITDA to consolidated cash interest expense, as defined in the credit agreement) is 2.25x. FCX's senior notes contain limitations on liens. At December 31, 2019, FCX was in compliance with all of its covenants.

Maturities. Maturities of debt instruments based on the principal amounts and terms outstanding at December 31, 2019, total $12 million in 2020, $507 million in 2021, $2.4 billion in 2022, $1.9 billion in 2023, $850 million in 2024 and $4.2 billion thereafter.

NOTE 9. OTHER LIABILITIES, INCLUDING EMPLOYEE BENEFITS

The components of other liabilities follow:

December 31,	2019	2018
Pension, postretirement, postemployment and other employment benefits[a]	$1,318	$ 1,174
Cerro Verde royalty dispute	502	631
Provision for tax positions	255	230
Leases[b]	204	—
Other	212	195
Total other liabilities	$2,491	$2,230

a. Refer to Note 7 for current portion.
b. Refer to Note 13 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 substantially all of its U.S. employees and some employees of its international subsidiaries hired before 2007. The applicable FMC plan design determines the manner in which benefits are calculated for any particular group of employees. Benefits are calculated based on final average monthly compensation and years of service or based on a fixed amount for each year of service. Non-bargained FMC employees hired after December 31, 2006, are not eligible to participate in the FMC U.S. pension plan.

FCX's funding policy for these plans provides that contributions to pension trusts shall be at least equal to the minimum funding requirements of the Employee Retirement Income Security Act of 1974, as amended, for U.S. plans; or, in the case of international plans, the minimum legal requirements that may be applicable in the various countries. Additional contributions also may be made from time to time.

FCX's policy for determining asset-mix targets for the FMC plan assets held in a master trust (Master Trust) includes the periodic development of asset allocation studies and review of the liabilities to determine expected long-term rates of return and expected risk for various investment portfolios. FCX's retirement plan administration and investment committee considers these studies in the formal establishment of asset-mix targets defined in the investment policy. FCX's investment objective emphasizes diversification through both the allocation of the Master Trust assets among various asset classes and the selection of investment managers whose various styles are fundamentally complementary to one another and serve to achieve satisfactory rates of return. Diversification, by asset class and by investment manager, is FCX's principal means of reducing volatility and exercising prudent investment judgment. FCX's present target asset allocation approximates 42 percent equity investments (primarily global equities), 50 percent fixed income (primarily long-term treasury STRIPS or "separate trading or registered interest and principal securities"; long-term U.S. treasury/agency bonds; global fixed income securities; long-term, high-credit quality corporate bonds; high-yield and emerging markets fixed income securities; and fixed income debt securities) and 8 percent alternative investments (private real estate, real estate investment trusts and private equity).

The expected rate of return on plan assets is evaluated at least annually, taking into consideration asset allocation, historical 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 6.25 percent per annum beginning January 1, 2020, 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 for service to date together with the Mercer Pension Discount Curve—Above Mean Yield. The Mercer Pension Discount Curve—Above Mean Yield is constructed from the bonds in the Mercer Pension Discount Curve that have a yield higher than the regression mean yield curve. The Mercer Pension Discount Curve consists of spot (*i.e.*, zero coupon) interest rates at one-half-year increments for each of the next 30 years and is developed based on pricing and yield information for high-quality corporate bonds. Changes in the discount rate are reflected in FCX's benefit obligation and, therefore, in future pension costs.

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, which is determined on January 1 of the year in which the participant completed 25 years of credited service. The annuity will equal a percentage of the 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 13,832 rupiah to one U.S. dollar on December 31, 2019, and 14,409 rupiah to one U.S. dollar on December 31, 2018. Indonesia labor laws require that companies provide a minimum level of benefits to employees upon employment termination based on the reason for termination and the employee's years of service. PT-FI's pension benefit 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 7.75 percent per annum beginning January 1, 2020. The discount rate assumption for PT-FI's plan is based on the Mercer Indonesia zero coupon bond yield curve derived from 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 those plans where the projected benefit obligations and the accumulated benefit obligations exceed the fair value of plan assets follows:

	December 31,	
	2019	2018
Projected benefit obligation	$2,522	$ 2,177
Accumulated benefit obligation	2,361	2,048
Fair value of plan assets	1,615	1,373

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

	FCX		PT-FI	
	2019	2018	2019	2018
Change in benefit obligation:				
Benefit obligation at beginning of year	$2,230	$2,343	$220	$240
Service cost	42	44	12	13
Interest cost	95	84	17	14
Actuarial losses (gains)	328	(124)	(27)	(19)
Plan amendments	—	4	—	—
Foreign exchange losses (gains)	1	(1)	8	(15)
Benefits and administrative expenses paid	(120)	(120)	(13)	(13)
Benefit obligation at end of year	2,576	2,230	217	220
Change in plan assets:				
Fair value of plan assets at beginning of year	1,433	1,588	238	269
Actual return on plan assets	289	(104)	19	(5)
Employer contributions[a]	74	70	—	4
Foreign exchange gains (losses)	1	(1)	10	(17)
Benefits and administrative expenses paid	(120)	(120)	(13)	(13)
Fair value of plan assets at end of year	1,677	1,433	254	238
Funded status	$ (899)	$ (797)	$ 37	$ 18
Accumulated benefit obligation	$2,414	$2,101	$175	$181
Weighted-average assumptions used to determine benefit obligations:				
Discount rate	3.40%	4.40%	7.25%	8.25%
Rate of compensation increase	3.25%	3.25%	4.00%	4.00%
Balance sheet classification of funded status:				
Other assets	$ 8	$ 7	$ 37	$ 18
Accounts payable and accrued liabilities	(4)	(4)	—	—
Other liabilities	(903)	(800)	—	—
Total	$ (899)	$ (797)	$ 37	$ 18

a. Employer contributions for 2020 are expected to approximate $132 million for the FCX plans and $2 million for the PT-FI plan (based on a December 31, 2019, exchange rate of 13,832 Indonesia rupiah to one U.S. dollar).

During 2019, the actuarial loss of $328 million for the FCX pension plans primarily resulted from the decrease in the discount rate from 4.40 percent to 3.40 percent. During 2018, the actuarial gain of $124 million for the FCX pension plans primarily resulted from the increase in the discount rate from 3.70 percent to 4.40 percent ($205 million), partially offset by new census data incorporated into the valuations ($33 million) and updated demographic assumptions ($49 million) mainly resulting from mortality updates.

During 2019, the actuarial gain of $27 million for the PT-FI pension plan primarily resulted from a change in estimated plan administration costs, partially offset by a decrease in the discount rate from 8.25 percent to 7.25 percent. During 2018, the actuarial gain of $19 million for the PT-FI pension plan primarily resulted from the increase in the discount rate from 6.75 percent to 8.25 percent and demographic experience gains.

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:

	2019	2018	2017
Weighted-average assumptions:[a]			
Discount rate	4.40%	3.70%	4.40%
Expected return on plan assets	6.50%	6.50%	7.00%
Rate of compensation increase	3.25%	3.25%	3.25%
Service cost	$ 42	$ 44	$ 44
Interest cost	95	84	91
Expected return on plan assets	(90)	(101)	(93)
Amortization of net actuarial losses	48	49	49
Net periodic benefit cost	$ 95	$ 76	$ 91

a. The assumptions shown relate only to the FMC plans.

The weighted-average assumptions used to determine net periodic benefit cost and the components of net periodic benefit cost for PT-FI's pension plan for the years ended December 31 follow:

	2019	2018	2017
Weighted-average assumptions:			
Discount rate	8.25%	6.75%	8.25%
Expected return on plan assets	8.25%	6.75%	7.75%
Rate of compensation increase	4.00%	4.00%	8.00%
Service cost	$ 12	$ 13	$ 20
Interest cost	17	14	23
Expected return on plan assets	(17)	(19)	(21)
Amortization of prior service cost	1	2	2
Amortization of net actuarial gains	(1)	(1)	—
Curtailment loss	—	—	4
Net periodic benefit cost	$ 12	$ 9	$ 28

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:

	2019		2018	
	Before Taxes	After Taxes and Noncontrolling Interests	Before Taxes	After Taxes and Noncontrolling Interests
Net actuarial losses	$710	$604	$659	$539
Prior service costs	11	6	13	8
	$721	$610	$672	$547

Plan assets are classified within a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1), then to significant observable inputs (Level 2) and the lowest priority to significant unobservable inputs (Level 3).

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, 2019				
	Total	NAV	Level 1	Level 2	Level 3
Commingled/collective funds:					
Global equity	$ 425	$425	$ —	$ —	$ —
Fixed income securities	239	239	—	—	—
U.S. small-cap equity	67	67	—	—	—
Real estate property	58	58	—	—	—
International small-cap equity	55	55	—	—	—
U.S. real estate securities	53	53	—	—	—
Short-term investments	16	16	—	—	—
Fixed income:					
Government bonds	279	—	—	279	—
Corporate bonds	256	—	—	256	—
Global large-cap equity securities	107	—	107	—	—
Private equity investments	11	11	—	—	—
Other investments	64	—	14	50	—
Total investments	1,630	$924	$121	$585	$ —
Cash and receivables	86				
Payables	(39)				
Total pension plan net assets	$1,677				

	Fair Value at December 31, 2018				
	Total	NAV	Level 1	Level 2	Level 3
Commingled/collective funds:					
Global equity	$ 291	$291	$ —	$ —	$ —
Fixed income securities	144	144	—	—	—
Global fixed income securities	108	108	—	—	—
Emerging markets equity	71	71	—	—	—
Real estate property	55	55	—	—	—
U.S. small-cap equity	54	54	—	—	—
International small-cap equity	47	47	—	—	—
U.S. real estate securities	41	41	—	—	—
Short-term investments	15	15	—	—	—
Fixed income:					
Government bonds	224	—	—	224	—
Corporate bonds	211	—	—	211	—
Global large-cap equity securities	94	—	94	—	—
Private equity investments	15	15	—	—	—
Other investments	61	—	16	45	—
Total investments	1,431	$841	$110	$480	$ —
Cash and receivables	32				
Payables	(30)				
Total pension plan net assets	$1,433				

Following is a description of the pension plan asset categories and the valuation techniques used to measure fair value. There have been no changes to the techniques used to measure fair value.

Commingled/collective funds are managed by several fund managers and are valued at the NAV per unit of the fund. For most of these funds, the majority of the underlying assets are actively traded securities. These funds (except the real estate property fund) require up to a 15-calendar-day notice for redemptions. The real estate property fund is valued at NAV using information from independent appraisal firms, who have knowledge and expertise about the current market values of real property in the same vicinity as the investments. Redemptions of the real estate property fund are allowed once per quarter, subject to available cash.

Fixed income investments include government and corporate bonds held directly by the Master Trust. Fixed income securities are valued using a bid-evaluation price or a mid-evaluation price and, as such, are classified within Level 2 of the fair value hierarchy. A bid-evaluation price is an estimated price at which a dealer would pay for a security. A mid-evaluation price is the average of the estimated price at which a dealer would sell a security and the estimated price at which a dealer would pay for a security. These evaluations are based on quoted prices, if available, or models that use observable inputs.

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, 2019			
	Total	Level 1	Level 2	Level 3
Government bonds	$ 93	$ 93	$ —	$ —
Common stocks	80	80	—	—
Mutual funds	17	17	—	—
Total investments	190	$190	$ —	$ —
Cash and receivables[a]	65			
Payables	(1)			
Total pension plan net assets	$254			

	Fair Value at December 31, 2018			
	Total	Level 1	Level 2	Level 3
Government bonds	$ 72	$ 72	$ —	$ —
Common stocks	72	72	—	—
Mutual funds	20	20	—	—
Total investments	164	$164	$ —	$ —
Cash and receivables[a]	75			
Payables	(1)			
Total pension plan net assets	$238			

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]
2020	$120	$ 12
2021	166	19
2022	127	22
2023	129	30
2024	131	32
2025 through 2029	679	155

a. Based on a December 31, 2019, exchange rate of 13,832 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 $13 million (included in accounts payable and accrued liabilities) and a long-term portion of $112 million (included in other liabilities) at December 31, 2019, and a current portion of $13 million and a long-term portion of $115 million at December 31, 2018. The discount rate used to determine the benefit obligation for these plans, which was determined on the same basis as FCX's pension plans, was 3.00 percent at December 31, 2019, and 4.20 percent at December 31, 2018. Expected benefit payments for these plans total $13 million for 2020, $12 million for 2021, $11 million for 2022, $11 million for 2023, $10 million for 2024 and $42 million for 2025 through 2029.

The net periodic benefit cost charged to operations for FCX's postretirement benefits (primarily for interest costs) totaled $4 million in 2019 and $5 million in each of 2018 and 2017. The discount rate used to determine net periodic benefit cost and the components of net periodic benefit cost for FCX's postretirement benefits was 4.20 percent in 2019, 3.50 percent in 2018 and 3.80 percent in 2017. The medical-care trend rates assumed the first year trend rate was 7.75 percent at December 31, 2019, which declines over the next 15 years with an ultimate trend rate of 4.25 percent.

FCX has a number of postemployment plans covering severance, long-term disability income, continuation of health and life insurance coverage for disabled employees or other welfare benefits. The accumulated postemployment benefit obligation consisted of a current portion of $7 million (included in accounts payable and accrued liabilities) and a long-term portion of $44 million (included in other liabilities) at December 31, 2019, and a current portion of $6 million and a long-term portion of $39 million at December 31, 2018.

FCX also sponsors savings plans for the majority of its U.S. employees. The plans allow employees to contribute a portion of their pre-tax income in accordance with specified guidelines. These savings plans are principally qualified 401(k) plans for all U.S. salaried and non-bargained hourly employees. In these plans, participants exercise control and direct the investment of their contributions and account balances among various investment options. FCX contributes to these plans at varying rates and matches a percentage of employee pre-tax deferral contributions up to certain limits, which vary by plan. For employees whose eligible compensation exceeds certain levels, FCX provides an unfunded defined contribution plan, which had a liability balance of $46 million at December 31, 2019, and $45 million at December 31, 2018, all of which was included in other liabilities.

The costs charged to operations for employee savings plans totaled $85 million in 2019, $75 million in 2018 and $65 million in 2017. FCX has other employee benefit plans, certain of which are related to FCX's financial results, which are recognized in operating costs.

Restructuring Charges. As a result of the first-quarter 2017 regulatory restrictions and uncertainties regarding long-term investment stability, PT-FI took actions to adjust its cost structure, reduce its workforce and slow investments in its underground development projects and new smelter. These actions included workforce reductions through furlough and voluntary retirement programs. Following the furlough and voluntary retirement programs, a significant number of employees and contractors elected to participate in an illegal strike action beginning in May 2017, and were subsequently deemed to have voluntarily resigned under the existing Indonesia laws and regulations. As a result, PT-FI recorded charges in 2017 to production costs of $120 million, and selling, general and administrative costs of $5 million for employee severance and related costs, and a pension curtailment loss of $4 million in production 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.

Common Stock. In February 2018, FCX's Board of Directors (the Board) reinstated a cash dividend on FCX's common stock at an annual rate of $0.20 per share. On December 18, 2019, FCX declared a quarterly cash dividend of $0.05 per share, which was paid on February 3, 2020, to common stockholders of record as of January 15, 2020. The declaration of dividends is at the discretion of the Board and will depend on FCX's financial results, cash requirements, future prospects and other factors deemed relevant by the Board.

Accumulated Other Comprehensive Loss. A summary of changes in the balances of each component of accumulated other comprehensive loss, net of tax, follows:

	Defined Benefit Plans	Unrealized Losses on Securities	Translation Adjustment	Total
Balance at January 1, 2017	$(554)	$(4)	$10	$(548)
Amounts arising during the period[a,b]	7	1	—	8
Amounts reclassified[c]	53	—	—	53
Balance at December 31, 2017	(494)	(3)	10	(487)
Adoption of accounting standard for reclassification of income taxes	(79)	—	—	(79)
Amounts arising during the period[a,b]	(84)	—	—	(84)
Amounts reclassified[c]	48	3	—	51
Sale of interest in PT-FI (refer to Note 2)	(6)	—	—	(6)
Balance at December 31, 2018	(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)

a. Includes net actuarial gains (losses), net of noncontrolling interest, totaling $52 million for 2017, $(87) million for 2018 and $(111) million for 2019.
b. Includes tax provision (benefit) totaling $45 million for 2017, $4 million for 2018 and $(8) million for 2019.
c. Includes amortization primarily related to actuarial losses, net of taxes of $5 million for 2017, and none for 2018 and 2019.

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 (SARs), restricted stock, RSUs, PSUs and other stock-based awards for up to 72 million common shares. As of December 31, 2019, 46.9 million shares were available for grant under the 2016 Plan, and no shares were available under other plans.

Stock-Based Compensation Cost. Compensation cost charged against earnings for stock-based awards for the years ended December 31 follows:

	2019	2018	2017
Selling, general and administrative expenses	$48	$62	$55
Production and delivery	15	12	16
Total stock-based compensation	63	74	71
Tax benefit and noncontrolling interests' share[a]	(4)	(4)	(4)
Impact on net (loss) income	$59	$70	$67

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 granted prior to 2018 generally vest in 25 percent annual increments; beginning in 2018, awards granted vest in 33 percent annual increments beginning one year from the date of grant. The award agreements provide that participants will receive the following year's vesting upon retirement. Therefore, on the date of grant, FCX accelerates one year of amortization for retirement-eligible employees. Stock options provide for accelerated vesting only upon certain qualifying terminations of employment within one year following a change of control.

A summary of stock options outstanding as of December 31, 2019, and activity during the year ended December 31, 2019, follows:

	Number of Options	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Balance at January 1	46,806,364	$27.40		
Granted	6,425,500	11.88		
Exercised	(391,075)	4.72		
Expired/Forfeited	(4,528,736)	20.55		
Balance at December 31	48,312,053	26.16	4.4	$60
Vested and exercisable at December 31	39,981,705	28.86	3.5	$51

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 annual dividend (excluding supplemental dividends) at the date of grant. The risk-free interest rate is based on Federal Reserve rates in effect for bonds with maturity dates equal to the expected term of the option.

Information related to stock options during the years ended December 31 follows:

	2019	2018	2017
Weighted-average assumptions used to value stock option awards:			
Expected volatility	47.8%	46.1%	51.4%
Expected life of options (in years)	6.10	5.92	5.70
Expected dividend rate	1.8%	1.2%	—
Risk-free interest rate	2.5%	2.6%	2.0%
Weighted-average grant-date fair value (per option)	$4.87	$7.84	$7.61
Intrinsic value of options exercised	$ 3	$ 7	$ 5
Fair value of options vested	$ 26	$ 24	$ 25

As of December 31, 2019, FCX had $23 million of total unrecognized compensation cost related to unvested stock options expected to be recognized over a weighted-average period of approximately 1.6 years.

Stock-Settled PSUs and RSUs. Beginning in 2014, FCX's executive officers received annual grants of PSUs that vest after three years. For the PSUs granted in 2017, the total grant date target shares related to the PSU grants were 0.6 million, of which the executive officers will earn (i) between 0 percent and 175 percent of the target shares based on achievement of financial and operating metrics and (ii) +/- 25 percent of the target shares based on FCX's total shareholder return compared to the total shareholder return of a peer group. For the PSUs granted in 2018 and 2019, the total grant date target shares related to the PSU grants were 0.5 million for 2018 and 0.7 million for 2019, 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) +/- 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 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, 2019, and activity during the year ended December 31, 2019, follows:

	Number of Awards	Weighted-Average Grant-Date Fair Value Per Award	Aggregate Intrinsic Value
Balance at January 1	5,804,637	$19.97	
Granted	2,135,224	11.13	
Vested	(2,191,743)	14.99	
Forfeited	(157,433)	17.58	
Balance at December 31	5,590,685	18.61	$73

The total fair value of stock-settled RSUs and PSUs granted was $24 million during 2019, $41 million during 2018 and $32 million during 2017. The total intrinsic value of stock-settled RSUs vested was $26 million during 2019, $14 million during 2018 and $45 million during 2017. As of December 31, 2019, FCX had $13 million of total unrecognized compensation cost related to unvested stock-settled RSUs expected to be recognized over approximately 1.7 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, 2019, and activity during the year ended December 31, 2019, follows:

	Number of Awards	Weighted-Average Grant-Date Fair Value Per Award	Aggregate Intrinsic Value
Balance at January 1	1,486,866	$15.61	
Granted	819,000	11.88	
Vested	(698,817)	13.70	
Forfeited	(24,162)	14.43	
Balance at December 31	1,582,887	14.54	$21

The total grant-date fair value of cash-settled RSUs was $10 million during 2019, $16 million during 2018 and $10 million during 2017. The intrinsic value of cash-settled RSUs vested was $8 million during 2019, $11 million during 2018 and $24 million during 2017. The accrued liability associated with cash-settled RSUs consisted of a current portion of $11 million (included in accounts payable and accrued liabilities) and a long-term portion of $3 million (included in other liabilities) at December 31, 2019, and a current portion of $7 million and a long-term portion of $3 million at December 31, 2018.

Other Information. The following table includes amounts related to exercises of stock options and vesting of RSUs during the years ended December 31:

	2019	2018	2017
FCX shares tendered to pay the exercise price and/or the minimum required taxes[a]	670,508	195,322	1,041,937
Cash received from stock option exercises	$ 2	$ 8	$ 5
Actual tax benefit realized for tax deductions	$ 1	$ 3	$ 1
Amounts FCX paid for employee taxes	$ 8	$ 4	$ 15

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 taxes.

NOTE 11. INCOME TAXES

Geographic sources of (losses) income before income taxes and equity in affiliated companies' net earnings for the years ended December 31 consist of the following:

	2019	2018	2017
U.S.	$(287)	$ 390	$ 20
Foreign	593	3,502	2,882
Total	$ 306	$3,892	$2,902

Income taxes are provided on the earnings of FCX's material foreign subsidiaries under the assumption that these earnings will be distributed. FCX has not provided deferred income taxes for other differences between the book and tax carrying amounts of its investments in material foreign subsidiaries as FCX considers its ownership positions to be permanent in duration, and quantification of the related deferred tax liability is not practicable.

FCX's (provision for) benefit from income taxes for the years ended December 31 consist of the following:

	2019	2018	2017
Current income taxes:			
Federal	$ (23)[a,b]	$ 46[a,c]	$ (3)
State	3	1	(10)
Foreign	(462)	(1,445)[c]	(1,426)
Total current	(482)	(1,398)	(1,439)
Deferred income taxes:			
Federal	48	(106)	64
State	8	(8)	10
Foreign	(101)	(102)	89
Total deferred	(45)	(216)	163
Adjustments	12	504[d]	393[e]
Operating loss carryforwards	5	119	—
Provision for income taxes	$(510)	$ (991)	$ (883)

a. As a result of the 2017 Tax Cuts and Jobs Act (the Act) guidance regarding a transition tax issued in 2018, FCX recognized a $29 million tax charge in 2018. Additional guidance released in 2019 resulted in a $29 million tax credit in 2019.
b. Includes a tax charge of $53 million associated with the sale of FCX's interest in the lower zone of the Timok exploration project in Serbia.
c. In 2018, FCX completed its analysis of the Act and recognized benefits totaling $123 million ($76 million to the U.S. tax provision and $47 million to PT-FI's tax provision) associated with alternative minimum tax (AMT) credit refunds.
d. Represents net tax credits resulting from the reduction in PT-FI's statutory tax rates in accordance with its new special mining license (IUPK).
e. Represents net tax credits associated with the Act, including $272 million for the reversal of valuation allowances associated with AMT credit refunds and $121 million for a decrease in corporate income tax rates.

A reconciliation of the U.S. federal statutory tax rate to FCX's effective income tax rate for the years ended December 31 follows:

	2019		2018		2017	
	Amount	Percent	Amount	Percent	Amount	Percent
U.S. federal statutory tax rate	$ (64)	(21)%	$(817)	(21)%	$(1,016)	(35)%
Valuation allowance	(149)[a]	(49)	129[a]	3	28	1
PT-FI historical contested tax disputes	(145)	(47)	—	—	—	—
Percentage depletion	118	39	141	4	227	8
Effect of foreign rates different than the U.S. federal statutory rate	(64)	(21)	(494)	(13)	17	1
Withholding and other impacts on foreign earnings	(55)	(18)	(232)	(6)	(216)	(7)
Adjustment to deferred taxes	(49)[b]	(16)	—	—	—	—
Non-deductible permanent differences	(47)	(15)	(25)	(1)	(31)	(1)
Uncertain tax positions	(47)	(15)	(7)	—	(20)	(1)
U.S. tax reform	29[c]	9	94[c,d]	2	393[e]	14
Foreign tax credit limitation	(16)	(5)	(195)	(5)	(159)	(5)
State income taxes	16	6	7	1	(5)	(1)
Cerro Verde royalty dispute[f]	2	1	(55)	(1)	(129)	(5)
Change in PT-FI tax rates	—	—	504	13	—	—
Timok exploration project sale	(15)	(5)	—	—	—	—
Other items, net	(24)	(9)	(41)	(1)	28	1
Provision for income taxes	$(510)	(166)%	$(991)	(25)%	$ (883)	(30)%

a. Refer to "Valuation Allowance" below for discussion of changes.
b. Represents net tax charges primarily to adjust deferred taxes on historical balance sheet items in accordance with tax accounting principles.
c. As a result of the Act guidance regarding a transition tax issued in 2018, FCX recognized a $29 million tax charge in 2018. Additional guidance released in 2019 resulted in a $29 million tax credit in 2019.
d. In 2018, FCX completed its analysis of the Act and recognized benefits totaling $123 million ($76 million to the U.S. tax provisions and $47 million to PT-FI's tax provision) associated with AMT credit refunds.
e. Represents net tax credits associated with the Act, including $272 million for the reversal of valuation allowances associated with AMT credit refunds and $121 million for a decrease in corporate income tax rates.
f. Refer to Note 12 for further discussion of the Cerro Verde royalty dispute.

FCX paid federal, state and foreign income taxes totaling $610 million in 2019, $2.0 billion in 2018 and $702 million in 2017. FCX received refunds of federal, state and foreign income taxes of $306 million in 2019, $108 million in 2018 and $329 million in 2017.

The components of deferred taxes follow:

December 31,	2019	2018
Deferred tax assets:		
Foreign tax credits	$ 1,716	$ 1,814
Accrued expenses	1,108	1,069
Net operating losses	2,249	2,235
Employee benefit plans	198	204
Other	267	270
Deferred tax assets	5,538	5,592
Valuation allowances	(4,576)	(4,507)
Net deferred tax assets	962	1,085
Deferred tax liabilities:		
Property, plant, equipment and mine development costs	(4,372)	(4,405)
Undistributed earnings	(639)	(601)
Other	(157)	(107)
Total deferred tax liabilities	(5,168)	(5,113)
Net deferred tax liabilities	$(4,206)	$(4,028)

Tax Attributes. At December 31, 2019, FCX had (i) U.S. foreign tax credits of $1.7 billion that will expire between 2020 and 2027, (ii) U.S. federal net operating losses of $5.9 billion that primarily expire between 2036 and 2037, (iii) U.S. state net operating losses of $10.8 billion that primarily expire between 2020 and 2039, (iv) Spanish net operating losses of $516 million that can be carried forward indefinitely and (v) Indonesia net operating losses of $1.2 billion that expire between 2020 and 2027.

Valuation Allowance. On the basis of available information at December 31, 2019, 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 $4.6 billion at December 31, 2019, and $4.5 billion at December 31, 2018, and covered all of FCX's U.S. foreign tax credits, U.S. federal net operating losses, foreign net operating losses and substantially all of its U.S. state net operating losses.

The valuation allowance related to FCX's U.S. foreign tax credits totaled $1.7 billion at December 31, 2019. 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 net operating losses totaled $2.2 billion and foreign deferred tax assets totaled $671 million at December 31, 2019. Net operating losses 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 net operating losses 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 net operating losses 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 $69 million net increase in the valuation allowances during 2019 primarily related to increases totaling $208 million 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 net operating loss carryforwards.

Other Events. 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 closing the transaction, the Indonesia government granted PT-FI an IUPK to replace its former COW. Under the terms of the IUPK, PT-FI is subject to a 25 percent corporate income tax rate and a 10 percent profits tax on net income beginning in 2019. As a result of the change in statutory tax rate applicable to deferred income tax liabilities, during fourth-quarter 2018, FCX recognized a tax credit of $504 million.

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. On October 31, 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 (for which a tax audit is not complete) and 2018 (for which a tax audit has not begun). Additional administrative steps will need to be completed by both PT-FI and the Indonesia Tax Office in order to implement the resolution.

In conjunction with the framework for resolution above, PT-FI recorded total net charges of $304 million, including $123 million for non-deductible penalties recorded to other (expense) income, $78 million for non-deductible interest recorded to interest expense 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.

SUNAT, 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 and net charges recorded in 2019, 2018 and 2017.

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 from 30 percent in 2014 to 26 percent in 2019 and thereafter, and also increased the dividend tax rate on distributions from 4.1 percent in 2014 to 9.3 percent in 2019 and thereafter. Under the 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 FCX to a stable income tax rate of 32 percent through the expiration of the agreement on December 31, 2028. The tax rate on dividend distributions is not stabilized by the agreement.

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 continues 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. FCX does not expect a material impact from the 2020 legislation.

In 2010, the Chile legislature approved an increase in mining royalty taxes to help fund earthquake reconstruction activities, education and health programs. Mining royalty taxes at FCX's El Abra mine were 4 percent for the years 2013 through 2017. Beginning in 2018, and through 2023, rates moved to a sliding scale of 5 to 14 percent (depending on a defined operational margin).

Uncertain Tax Positions. FCX accounts for uncertain income tax positions using a threshold and measurement criteria for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. FCX's policy associated with uncertain tax positions is to record accrued interest in interest expense and accrued penalties in other (expense) income 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:

	2019	2018	2017
Balance at beginning of year	$404	$390	$101
Additions:			
Prior year tax positions	73	100	302
Current year tax positions	11	14	6
Decreases:			
Prior year tax positions	(75)	(86)	(1)
Settlements with taxing authorities	(37)	(9)	(17)
Lapse of statute of limitations	—	(5)	(1)
Balance at end of year	$376	$404	$390

The total amount of accrued interest and penalties associated with unrecognized tax benefits included in the consolidated balance sheets was $231 million at December 31, 2019, primarily relating to unrecognized tax benefits associated with royalties and other related mining taxes, $186 million at December 31, 2018, and $22 million at December 31, 2017.

The reserve for unrecognized tax benefits of $376 million at December 31, 2019, included $282 million ($150 million net of income tax benefits and valuation allowances) that, if recognized, would reduce FCX's provision for income taxes. Changes to the reserve for unrecognized tax benefits associated with current year tax positions were primarily related to uncertainties associated with FCX's tax treatment of social welfare payments and cost recovery methods. Changes in the reserve for unrecognized tax benefits associated with prior year tax positions were primarily related to uncertainties associated with royalties and other related mining taxes and cost recovery methods. There continues to be uncertainty related to the timing of settlements with taxing authorities. In January 2020, PT-FI noted an unfavorable ruling related to its 2012 tax return on the Indonesia Supreme Court's website. Once PT-FI receives the written ruling it will determine the amount of any required accruals, which are not expected to be material. If additional settlements are agreed upon during the year 2020, FCX could experience an additional 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	N/A	2014-2019
Indonesia	2008, 2011-2017	2018-2019
Peru	2013-2015	2016-2019
Chile	2017-2018	2019

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, 2019, FCX had more than 100 active remediation projects, including NRD claims, in 24 U.S. states.

A summary of changes in estimated environmental obligations for the years ended December 31 follows:

	2019	2018	2017
Balance at beginning of year	$1,511	$1,439	$1,221
Accretion expense[a]	102	100	84
Additions[b]	23	56	241
Reductions[b]	(1)	—	(43)
Spending	(74)	(84)	(64)
Balance at end of year	1,561	1,511	1,439
Less current portion	(106)	(132)	(134)
Long-term portion	$1,455	$1,379	$1,305

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. Reductions primarily reflect revisions for changes in the anticipated scope and timing of projects and other noncash adjustments.

Estimated future environmental cash payments (on an undiscounted and unescalated basis) total $106 million in 2020, $119 million in 2021, $95 million in 2022, $100 million in 2023, $100 million in 2024 and $2.7 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, 2019, FCX's environmental obligations totaled $1.6 billion, including $1.4 billion recorded on a discounted basis for those obligations assumed in the FMC acquisition at fair value. On an undiscounted and unescalated basis, these obligations totaled $3.2 billion. FCX estimates it is reasonably possible that these obligations could range between $2.7 billion and $3.7 billion on an undiscounted and unescalated basis.

At December 31, 2019, 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, 2019. 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 are expected to continue for many years in the future.

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 to be 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 five other parties (the Newtown Creek Group, NCG) 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 potential remedial options. The parties' RI/FS work under the AOC and their efforts to identify other PRPs are ongoing. EPA recently identified eight additional parties as PRPs for the creek. The draft RI was submitted to EPA in November 2016, and the draft FS is expected to be submitted to EPA in 2022. EPA is not expected to propose a final creek-wide remedy until after the RI/FS is completed, with remedial design possibly beginning in 2022, and the actual remediation construction starting several years later. In July 2019, NCG entered into an AOC to conduct a Focused Feasibility Study (FFS) of the first two miles of the creek to support an evaluation of an interim remedy for that section of the creek (Early Action). The FFS was submitted to EPA in December 2019, and a decision on this Early Action is expected in late 2020. The actual costs of fulfilling this remedial obligation and the allocation of costs among PRPs are uncertain and subject to change based on the results of the Early Action, the RI/FS, the remedy ultimately selected by EPA and related allocation determinations. The overall cost and the portion ultimately allocated to PDRC could be material to FCX. As a result of revised cost estimates, FCX recorded charges of $138 million during 2017 for the Newtown Creek environmental obligation.

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. On January 30, 2017, a class action titled Juan Duarte, Betsy Duarte and N.D., Infant, by Parents and Natural Guardians Juan Duarte and Betsy Duarte, Leroy Nobles and Betty Nobles, on behalf of themselves and all others similarly situated v. United States Metals Refining Company, Freeport-McMoRan Copper & Gold Inc. and Amax Realty Development, Inc., Docket No. 734-17, was filed in the Superior Court of New Jersey against USMR, FCX, and Amax Realty Development, Inc. The defendants removed this litigation to the U.S. District Court for the District of New Jersey, where it remains pending. In December 2017, the plaintiffs amended their complaint and FCX was dismissed as a defendant and FMC was added as a defendant to the lawsuit. In 2019, the court allowed the plaintiffs to add FCX back into the case 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 to certify a class, which is expected to take at least several months for the court to decide. FCX continues to vigorously defend this matter.

As a result of off-site soil sampling in public and private areas near the former Carteret smelter, FCX increased its associated environmental obligation for known and potential off-site environmental remediation by recording a $59 million charge to operating income in 2017. Additional sampling and analysis continued through 2019 and is ongoing and could result in additional adjustments to the related environmental remediation obligation in future periods. In 2019, FCX established a new project for off-site sediment contamination. The extent of contamination and potential remedial actions are uncertain and may take several years to evaluate.

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 early 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. The settlement terms are contained in a Consent Decree executed on May 22, 2017, and approved by the U.S. District Court for the District of Arizona. Under the Consent Decree, 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. Based on updated cash flow and timing estimates, FCX reduced its associated obligation by recording a $41 million credit to operating income in 2017 after receiving court approval of the Consent Decree. In addition to uranium activities on tribal lands, FCX is 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 over 10,000 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. BLM may request additional assessment or reclamation activities for other claims with mining features.

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:

	2019	2018	2017
Balance at beginning of year	$2,547	$2,583	$2,638
Liabilities incurred	20	1	14
Settlements and revisions to cash flow estimates, net	(5)	50	(112)
Accretion expense	118	110	124
Dispositions	(5)	(37)	(10)
Spending	(170)	(160)	(71)
Balance at end of year	2,505	2,547	2,583
Less current portion	(330)	(317)	(286)
Long-term portion	$2,175	$2,230	$2,297

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, 2019, FCX's financial assurance obligations associated with these U.S. mine closure and reclamation/restoration costs totaled $1.3 billion, of which $822 million was in the form of guarantees issued by FCX and FMC. At December 31, 2019, FCX had trust assets totaling $196 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 $481 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. A finalized closure plan for Chino that met the requirements of these rules was submitted in 2019 for approval. The agencies accepted the closure and post-closure scopes of work cost estimates, and FCX expects to reach an agreement with the agencies on financial assurance calculations and remaining issues in early 2020. Following agency approval of Chino's closure plan and costs, updated closure plans for Tyrone and Cobre will also be submitted for approval, which FCX expects will result in increases in closure costs for its New Mexico operations. At December 31, 2019, FCX had accrued reclamation and closure costs of $454 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 properties are subject to regulatory oversight in several areas. ADEQ has adopted regulations for its aquifer protection permit (APP) program that require permits for, among other things, certain facilities, activities and structures used for mining, leaching, concentrating and smelting, and require compliance with aquifer water quality standards at an applicable point of compliance well or location during both operations and closure. The APP program also may require mitigation and discharge reduction or elimination of some discharges.

An application for an APP requires a proposed closure strategy that will meet applicable groundwater protection requirements following cessation of operations and an estimate of the cost to implement the closure strategy. An APP application specifies closure obligations, including post-closure monitoring and maintenance. A more detailed closure plan must be submitted within 90 days after a permitted entity notifies ADEQ of its intent to cease operations. A permit applicant must demonstrate its financial ability to meet the closure costs approved by ADEQ. In 2014, the state enacted legislation requiring closure costs for facilities covered by APPs to be updated no more frequently than every six years and financial assurance mechanisms to be updated no more frequently than every two years. In 2016, ADEQ approved a closure plan update for Sierrita, which resulted in increased closure costs. In 2019, ADEQ approved a closure plan update for Morenci (specific to the tailing dams), which resulted in increased closure costs. Morenci's APP requires it to also update stockpile reclamation plans by 2022, which will 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 by 2024.

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, 2019, FCX had accrued reclamation and closure costs of $345 million for its Arizona operations.

Colorado Reclamation Programs. FCX's Colorado operations are regulated by the Colorado Mined Land Reclamation Act (Reclamation Act) and regulations promulgated thereunder. Under the Reclamation Act, mines are required to obtain approval of plans for reclamation of lands affected by mining operations to be performed during mining or upon cessation of mining operations. During 2016, at the request of the Colorado Division of Reclamation Mining & Safety, the Climax mine submitted a revised cost estimate for its current reclamation plan, which did not materially change the closure plan cost. In 2017, Henderson began considering alternatives for the closure of the tailings facility and, in 2018, began evaluating potential options for long-term water treatment. In December 2019, Henderson submitted an updated closure plan, which resulted in increased closure costs. As of December 31, 2019, FCX had accrued reclamation and closure costs of $130 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.

Chile Reclamation and Closure Programs. In July 2011, the Chile senate passed legislation regulating mine closure, which established new requirements for closure plans. In compliance with the requirement for five-year updates, in November 2018, FCX's El Abra operation submitted an updated plan with closure cost estimates based on the existing approved closure plan. Approval is expected in 2020. This update will not result in a material increase to closure costs. At December 31, 2019, FCX had accrued reclamation and closure costs of $62 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 five-year closure plan and cost update required by the Mine Closure Law, the latest closure plan and cost estimate for the Cerro Verde mine expansion were submitted to the Peru regulatory authorities in 2017 and approved in February 2018. This update did not result in a material increase to closure costs. At December 31, 2019, FCX had accrued reclamation and closure costs of $125 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 in the circumstances, after consultation with governmental authorities, affected local residents and other affected parties and cannot currently be projected with precision. Some reclamation costs will be incurred during mining activities, while the remaining reclamation costs will be incurred at the end of mining activities, which are currently estimated to continue through 2041. At December 31, 2019, FCX had accrued reclamation and closure costs of $936 million for its PT-FI operations. During fourth-quarter 2019, PT-FI mined the final phase of the Grasberg open pit. As a result, any adjustments to the estimated costs to reclaim PT-FI's overburden stockpile will impact earnings.

In December 2009, PT-FI submitted its revised mine closure plan to the Department of Energy and Mineral Resources for review and addressed comments received during the course of this review process. In December 2010, the Indonesia government issued a regulation regarding mine reclamation and closure, which requires a company to provide a mine closure guarantee in the form of a time deposit placed in a state-owned bank in Indonesia. In December 2018, PT-FI, in conjunction with the issuance of the IUPK, submitted a revised mine closure plan to reflect the extension of operations to 2041. At December 31, 2019, PT-FI had $92 million in a restricted time deposit account for mine closure guarantees and $8 million for reclamation guarantees.

In October 2017, Indonesia's Ministry of Environment and Forestry (the MOEF) notified PT-FI of administrative sanctions related to certain activities the MOEF indicated are not reflected in PT-FI's environmental permit. The MOEF also notified PT-FI that certain operational activities were inconsistent with factors set forth in its environmental permitting studies and that additional monitoring and improvements need to be undertaken related to air quality, water drainage, treatment and handling of certain wastes, and tailings management. In December 2018, the MOEF issued a revised environmental permit to PT-FI to address many of the operational activities that it alleged were inconsistent with earlier studies. The remaining administrative sanctions are being resolved through adoption of revised practices and, in a few situations, PT-FI has agreed with the MOEF on an appropriate multi-year work plan, including the closure of an overburden stockpile. In addition, PT-FI continues to work with MOEF to finalize environmental permitting related to the rail facilities and certain of the underground mining production operations as well as permitting for the extension of levees to contain the lateral flow of tailings in the lowlands.

In December 2018, PT-FI and the MOEF also established a new framework for continuous improvement in environmental practices in PT-FI's operations, including initiatives that PT-FI will pursue to increase tailings retention and to evaluate large-scale beneficial uses of tailings within Indonesia. The MOEF issued a new decree that incorporates various initiatives and studies to be completed by PT-FI that would target continuous improvement in a manner that would not impose new technical risks or significant long-term costs to PT-FI's operations. The new framework enables PT-FI to maintain compliance with site-specific standards and provides for ongoing monitoring by the MOEF. In 2018, PT-FI recorded a $32 million charge for MOEF assessments of prior period permit fees.

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, 2019. FM O&G AROs cover approximately 210 wells and 120 platforms and other structures. At December 31, 2019, FM O&G had accrued reclamation and closure costs of $420 million.

Litigation. FCX is involved in numerous legal proceedings that arise in the ordinary course of business or are associated with environmental issues as discussed in this note under "Environmental." FCX is also involved periodically in reviews, inquiries, investigations and other proceedings initiated by or involving government agencies, some of which may result in adverse judgments, settlements, fines, penalties, injunctions or other relief. Management does not believe, based on currently available information, that the outcome of any legal proceeding will have a material adverse effect on FCX's financial condition, although individual 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 sulphur 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 September 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) once 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 will need to 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. Upon execution of the settlement agreement, the FCX affiliates will be fully released and dismissed from all 13 pending cases. The agreement in principle does not include any admission of liability by FCX or its affiliates. FCX recorded a charge in third-quarter 2019 for the initial payment of $15 million, which will be paid upon execution of the settlement agreement. FCX currently expects the settlement agreement to be executed during the first half of 2020.

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 from 1964 until 1992 when it exited its talc business by conveying it to a third party in two related transactions. Those transactions involved (i) 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 (ii) 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.

Cyprus Mines has contractual indemnification rights, subject to limited reservations, against Imerys, which has historically acknowledged those indemnification obligations, and has taken responsibility for all cases tendered to it. However, on February 13, 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 is no longer defending the talc lawsuits against Cyprus Mines and CAMC. In addition, Imerys has taken 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 late 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 can be decided in an adversary proceeding before the bankruptcy court, which is currently scheduled for March 2020.

During first-quarter 2019, in a case pending at the time Imerys filed bankruptcy, a California jury entered a $29 million verdict against Johnson & Johnson and Cyprus Mines, of which approximately $2 million was attributed to Cyprus Mines. Taking advantage of the temporary access to the insurance authorized by the bankruptcy court, Cyprus Mines used the insurance to fully resolve the case. Cyprus Mines and the insurers also settled several other cases that were set for trial through the end of 2019 and in the first half of 2020, and secured delays or dismissals in other cases. Multiple trials have been scheduled over the first half of 2020, and others may be scheduled prior to the adversary proceeding regarding the legacy insurance.

FCX believes that Cyprus Mines and CAMC each has strong defenses to legal liability and that both should have access to the legacy insurance to cover defense costs, settlement and judgments, at least until the bankruptcy court decides otherwise or the insurance is exhausted. At this time, FCX cannot estimate the range of possible loss associated with these proceedings, but it does not currently believe the amount of any such losses are material to its consolidated financial statements. However, there can be no assurance that future developments will not alter this conclusion.

Tax and Other Matters. FCX's operations are in multiple jurisdictions where uncertainties arise in the application of complex tax regulations. Some of these tax regimes are defined by contractual agreements with the local government, while others are defined by general tax laws and regulations. FCX and its subsidiaries are subject to reviews of its income tax filings and other tax payments, and disputes can arise with the taxing authorities over the interpretation of its contracts or laws. The final taxes paid may be dependent upon many factors, including negotiations with taxing authorities. In certain jurisdictions, FCX 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 has assessed mining royalties on ore processed by the Cerro Verde concentrator, which commenced operations in late 2006, for the period December 2006 to December 2013. Cerro Verde has 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. No assessments can be issued for years after 2013, as Cerro Verde began paying royalties on all of its production in January 2014 under its new 15-year stability agreement. Since 2014, Cerro Verde has been paying the disputed assessments for the period from December 2006 through December 2013 under installment payment programs provided under Peru law. Through December 31, 2019, Cerro Verde has paid $354 million under these installment payment programs.

In October 2017, the Peru Supreme Court issued a ruling in favor of SUNAT that the assessments of royalties for the year 2008 on ore processed by the Cerro Verde concentrator were proper under Peru law. As a result of the unfavorable Peru Supreme Court ruling, Cerro Verde recorded net charges of $186 million in 2017 (consisting of pre-tax charges of $348 million and $7 million of net tax charges, net of $169 million of noncontrolling interests) primarily for royalty assessments for the period December 2006 through the year 2013, penalties and interest related to assessments for the period December 2006 through the year 2008, and other related items that Cerro Verde would have incurred under the view that its concentrator was not stabilized.

In September 2018, the Peru Tax Tribunal denied Cerro Verde's request to waive penalties and interest for the period January 2009 through September 2011. In December 2018, Cerro Verde elected not to appeal the Peru Tax Tribunal's decisions. As a result, Cerro Verde recorded net charges of $211 million in 2018 (consisting of pre-tax charges of $420 million, net of $18 million of tax benefits and $191 million of noncontrolling interests) primarily for penalties and interest related to assessments for the years 2009 through 2013 and other related items. In November 2019, Cerro Verde filed a notice of intent to initiate international arbitration, which triggered a period for mandatory good faith settlement discussions.

Cerro Verde also recognized a net gain of $16 million (consisting of pre-tax gains of $14 million and net tax benefits of $17 million, net of $15 million in noncontrolling interests) in 2018 for refunds received for the overpayment of special (voluntary) levies (GEM) for the period October 2012 through the year 2013. Cerro Verde has also submitted a refund request for the remainder of the GEM assessments for the period October 2011 through September 2012 totaling $57 million, but will not record a receivable for this amount until the request is granted by SUNAT.

During 2019, Cerro Verde recorded net charges of $7 million (consisting of pre-tax charges of $16 million, net of $2 million of tax benefits and $7 million of noncontrolling interests) associated with disputed royalties for prior years.

A summary of the charges recorded for the years ended December 31 related to the Cerro Verde royalty dispute follows:

	2019	2018[a]	2017	Total
Royalty and related assessment charges:				
Production and delivery	$ 6	$ 14	$203[b]	$ 223
Interest expense, net	10[c]	370	145	525
Other expense	—	22	—	22
(Benefit from) provision for income taxes	(2)	(35)	7[d]	(30)
Net loss attributable to noncontrolling interests	(7)	(176)	(169)	(352)
	$ 7	$ 195	$186	$ 388

a. Amounts are net of gains from the refund of GEM for the period October 2012 through the year 2013.
b. Includes $175 million related to disputed royalty assessments for the period from December 2006 to September 2011 (when royalties were determined based on revenues).
c. Excludes $58 million of interest costs associated with the installment payment programs.
d. Includes tax charges of $136 million for disputed royalties ($69 million) and other related mining taxes ($67 million) for the period October 2011 through the year 2013 when royalties were determined based on operating income, mostly offset by a tax benefit of $129 million associated with disputed royalties and other related mining taxes for the period December 2006 through December 2013.

As of December 31, 2019, Cerro Verde has recorded all of its exposure associated with its royalty dispute with the Peru tax authorities and will continue to record interest charges until all obligations are settled. Any future recoveries would be recorded when collected.

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	Penalty and Interest Assessment	Total
2003 to 2008	$ 53	$122	$175
2009	56	52	108
2010	63	107	170
2011	49	65	114
2012	52	11	63
2014 to 2019	39	—	39
	$312	$357	$669

As of December 31, 2019, Cerro Verde had paid $397 million on these disputed tax assessments. A reserve has been applied against these payments totaling $210 million, resulting in a net receivable of $187 million (included in other assets), which Cerro Verde believes is collectible.

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 and withholding 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 follows:

Tax Year	Tax Assessment	Interest Assessment	Total
2005	$ 73	$ 35	$ 108
2007	48	23	71
2008, 2010 to 2011	55	31	86
2012	124	—	124
2013	154	74	228
2014	139	6	145
2015	159	—	159
2016	257	113	370
	$1,009	$282	$1,291

As of December 31, 2019, PT-FI had paid $178 million (included in other assets) on disputed tax assessments, which it believes is collectible.

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 will pay the balance of 685.5 billion rupiah ($50 million based on the exchange rate at December 31, 2019, and included in other liabilities in the consolidated balance sheet at December 31, 2019) in February 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 COW would continue to be valid and honored until replaced by a mutually agreed IUPK and investment stability agreement. In the 2017 MOU, PT-FI agreed to continue to pay export duties of 5 percent on the value of 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, which PT-FI paid under protest during the period April 2017 to December 21, 2018. PT-FI paid $155 million for this period and appealed the disputed amounts to the Indonesia Tax Court. The Indonesia Tax Court subsequently announced rulings in favor of PT-FI related to the individual 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 during third-quarter 2019 to fully reserve for this matter. PT-FI continues to believe that a five percent export duty was applicable during this period and is evaluating options to recover these overpayments.

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 and 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 approximately $46 million (based on the exchange rate as of December 31, 2019, and included in accounts payable and accrued liabilities in the consolidated balance sheet at December 31, 2019), including penalties and interest. As a result of the January 2019 ruling, PT-FI concluded a loss on all outstanding withholding tax matters is probable under applicable accounting guidance, and it recorded a charge of $61 million in 2018.

For information regarding PT-FI mine development cost tax matters, refer to Note 11.

Letters of Credit, Bank Guarantees and Surety Bonds. Letters of credit and bank guarantees totaled $665 million at December 31, 2019, primarily for environmental and asset retirement obligations, the Cerro Verde royalty dispute (refer to discussion above), workers' compensation insurance programs, tax and customs obligations, and other commercial obligations. In addition, FCX had surety bonds totaling $344 million at December 31, 2019, primarily associated with environmental and asset retirement obligations.

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, 2019, FCX's liability for expected losses under these insurance programs totaled $52 million, which consisted of a current portion of $11 million (included in accounts payable and accrued liabilities) and a long-term portion of $41 million (included in other liabilities). In addition, FCX has receivables of $11 million (a current portion of $2 million included in other accounts receivable and a long-term portion of $9 million included in other assets) for expected claims associated with these losses to be filed with insurance carriers.

FCX's oil and gas operations are subject to all of the risks normally incident to the production of oil and gas, including well blowouts, cratering, explosions, oil spills, releases of gas or well fluids, fires, pollution and releases of toxic gas, each of which could result in damage to or destruction of oil and gas wells, production facilities or other property, or injury to persons. 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 ASU for lease accounting (refer to Note 1 for further discussion). FCX leases various types of properties, including offices and equipment under non-cancelable leases. Nearly all of FCX's leases were considered operating leases under the new ASU.

The components of FCX's leases presented in the consolidated balance sheet as of December 31, 2019, follow:

Lease right-of-use assets (included in property, plant, equipment and mine development costs, net)	$232
Short-term lease liabilities (included in accounts payable and accrued liabilities)	$ 44
Long-term lease liabilities (included in other liabilities)	204
Total lease liabilities	$248

Operating lease costs for the year ended December 31, 2019, primarily included in production and delivery expense in the consolidated statement of operations, are as follows:

Operating leases	$ 55
Variable and short-term leases	79
Total operating lease costs	$134

Prior to the adoption of the new ASU, lease costs totaled $80 million in 2018 and $59 million in 2017 (FCX elected the practical expedient not to adjust these years).

FCX paid $43 million during 2019 for lease liabilities recorded in the consolidated balance sheet (primarily included in operating cash flows in the consolidated statements of cash flows). As of December 31, 2019, the weighted-average discount rate used to determine the lease liabilities was 5.5 percent, and the weighted-average remaining lease term was 8.2 years.

The future minimum payments for leases presented in the consolidated balance sheet at December 31, 2019, follow:

2020	$ 57
2021	43
2022	36
2023	31
2024	29
Thereafter	121
Total payments	317
Less amount representing interest	(69)
Present value of net minimum lease payments	248
Less current portion	(44)
Long-term portion	$204

Future minimum rentals under non-cancelable leases at December 31, 2018, under the prior lease accounting standard, totaled $53 million in 2019, $42 million in 2020, $38 million in 2021, $32 million in 2022, $29 million in 2023 and $171 million thereafter.

Contractual Obligations. At December 31, 2019, based on applicable prices on that date, FCX has unconditional purchase obligations (including take-or-pay contracts with terms less than one year) of $3.6 billion, primarily comprising the procurement of copper concentrate ($2.3 billion), cobalt ($470 million), electricity ($382 million) and transportation services ($268 million). Some of FCX's unconditional purchase obligations are settled based on the prevailing market rate for the service or commodity purchased. In some cases, the amount of the actual obligation may change over time because of market conditions. Obligations for copper concentrate provide for deliveries of specified volumes to Atlantic Copper at market-based prices. Obligations for cobalt hydroxide intermediate provide for deliveries of specified volumes to Freeport Cobalt at market-based prices. Electricity obligations are primarily for long-term power purchase agreements in North America and contractual minimum demand at the South America mines. Transportation obligations are primarily for South America contracted ocean freight.

FCX's unconditional purchase obligations by year total $1.6 billion in 2020, $731 million in 2021, $300 million in 2022, $274 million in 2023, $270 million in 2024 and $387 million thereafter. During the three-year period ended December 31, 2019, FCX fulfilled its minimum contractual purchase obligations.

Special Mining License (IUPK)—Indonesia. As discussed in Note 2, 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 construction of a new smelter in Indonesia within five years of closing the transaction 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, 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 $106 million in 2019, $238 million in 2018 and $173 million in 2017.

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 smelter progress 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 for the period April 2017 to December 21, 2018). PT-FI's export duties charged against revenues totaled $66 million in 2019 (excluding $155 million associated with the historical export duty matter as discussed in Note 12), $180 million in 2018 and $115 million in 2017.

The IUPK also requires PT-FI to pay surface water taxes of $15 million annually, beginning in 2019, which are recognized in production and delivery costs as incurred.

In connection with a memorandum of understanding previously entered into with the Indonesia government in July 2014, PT-FI provided an assurance bond at that time to support its commitment to construct a new smelter in Indonesia ($157 million based on exchange rate as of December 31, 2019).

On September 12, 2019, PT-FI received approval from the Indonesia government to increase its export quota from approximately 180,000 dry metric tons (DMT) of concentrate to approximately 680,000 DMT for the current export period, which expires March 8, 2020.

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. PT-FI had committed through December 31, 2019, to provide one percent of its annual revenue for the development of the local communities in its area of operations through the Partnership Fund. Negotiations to extend this agreement are currently underway though PT-FI will continue its contributions to ensure there are no interruptions in the implementation of approved projects. PT-FI charged $28 million in 2019, $55 million in 2018 and $44 million in 2017 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. As of December 31, 2019 and 2018, FCX had no price protection contracts relating to its mine production. A discussion of FCX's derivative contracts and programs follows.

Derivatives Designated as Hedging Instruments— Fair Value Hedges

Copper Futures and Swap Contracts. Some of FCX's U.S. copper rod customers request a fixed market price instead of the COMEX average copper price in the month of shipment. FCX hedges this price exposure in a manner that allows it to receive the COMEX average price in the month of shipment while the customers pay the fixed price they requested. FCX accomplishes this by entering into copper futures or swap contracts. Hedging gains or losses from these copper futures and swap contracts are recorded in revenues. FCX did not have any significant gains or losses during the three years ended December 31, 2019, resulting from hedge ineffectiveness. At December 31, 2019, FCX held copper futures and swap contracts that qualified for hedge accounting for 54 million pounds at an average contract price of $2.69 per pound, with maturities through August 2021.

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 (losses) gains on the related hedged item for the years ended December 31 follows:

	2019	2018	2017
Copper futures and swap contracts:			
Unrealized gains (losses):			
Derivative financial instruments	$ 15	$(20)	$ 4
Hedged item – firm sales commitments	(15)	20	(4)
Realized (losses) gains:			
Matured derivative financial instruments	(8)	(22)	30

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 LBMA 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 LBMA 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 LBMA 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 LBMA gold price, until the date of final pricing. Similarly, FCX purchases copper and cobalt 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, 2019, follows:

	Open Positions	Average Price Per Unit: Contract	Average Price Per Unit: Market	Maturities Through
Embedded derivatives in provisional sales contracts:				
Copper (millions of pounds)	481	$ 2.67	$ 2.80	May 2020
Gold (thousands of ounces)	112	1,471	1,527	February 2020
Embedded derivatives in provisional purchase contracts:				
Copper (millions of pounds)	129	2.64	2.80	April 2020

Copper Forward Contracts. Atlantic Copper, FCX's wholly owned smelting and refining unit in Spain, enters into copper forward contracts designed to hedge its copper price risk whenever its physical purchases and sales pricing periods do not match. These economic hedge transactions are intended to hedge against changes in copper prices, with the mark-to-market hedging gains or losses recorded in cost of sales. At December 31, 2019, Atlantic Copper held net copper forward sales contracts for 30 million pounds at an average contract price of $2.75 per pound, with maturities through February 2020.

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, for the years ended December 31 follows:

	2019	2018	2017
Embedded derivatives in provisional sales contracts[a]			
Copper	$34	$(310)	$489
Gold and other	20	(7)	26
Copper forward contracts[b]	(7)	18	(15)

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,	2019	2018
Commodity Derivative Assets:		
Derivatives designated as hedging instruments:		
Copper futures and swap contracts	$ 6	$ —
Derivatives not designated as hedging instruments:		
Embedded derivatives in provisional sales/purchase contracts	68	23
Total derivative assets	$74	$23
Commodity Derivative Liabilities:		
Derivatives designated as hedging instruments:		
Copper futures and swap contracts	$ —	$ 9
Derivatives not designated as hedging instruments:		
Embedded derivatives in provisional sales/purchase contracts	20	39
Copper forward contracts	1	—
Total derivative liabilities	$21	$48

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:

	Assets		Liabilities	
December 31,	2019	2018	2019	2018
Gross amounts recognized:				
Commodity contracts:				
Embedded derivatives in provisional sales/purchase contracts	$68	$23	$20	$39
Copper derivatives	6	—	1	9
	74	23	21	48
Less gross amounts of offset:				
Commodity contracts:				
Embedded derivatives in provisional sales/purchase contracts	—	7	—	7
Copper derivatives	—	—	—	—
	—	7	—	7
Net amounts presented in balance sheet:				
Commodity contracts:				
Embedded derivatives in provisional sales/purchase contracts	68	16	20	32
Copper derivatives	6	—	1	9
	$74	$16	$21	$41
Balance sheet classification:				
Trade accounts receivable	$66	$ 3	$ —	$24
Other current assets	6	—	—	—
Accounts payable and accrued liabilities	2	13	21	17
	$74	$16	$21	$41

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. FCX does not anticipate that any of the counterparties it deals with will default on their obligations. As of December 31, 2019, the maximum amount of credit exposure associated with derivative transactions was $74 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 long-term debt. The carrying value for cash and cash equivalents (which included time deposits of $1.3 billion at December 31, 2019, and $2.3 billion at December 31, 2018), 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 long-term debt).

In addition, as of December 31, 2019, FCX has contingent consideration assets related to the sales of certain oil and gas properties (refer to Note 15 for the related fair values).

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 to the components presented in the consolidated balance sheets:

December 31,	2019	2018
Balance sheet components:		
Cash and cash equivalents	$2,020	$4,217
Restricted cash and restricted cash equivalents included in:		
Other current assets	100	110
Other assets	158	128
Total cash, cash equivalents, restricted cash and restricted cash equivalents presented in the consolidated statements of cash flows	$2,278	$4,455

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 2019.

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, 2019					
	Carrying Amount	Fair Value				
		Total	NAV	Level 1	Level 2	Level 3
Assets						
Investment securities:[a,b]						
U.S. core fixed income fund	$ 27	$ 27	$27	$ —	$ —	$ —
Equity securities	4	4	—	4	—	—
Total	31	31	27	4	—	—
Legally restricted funds:[a]						
U.S. core fixed income fund	59	59	59	—	—	—
Government mortgage-backed securities	43	43	—	—	43	—
Government bonds and notes	36	36	—	—	36	—
Corporate bonds	33	33	—	—	33	—
Asset-backed securities	14	14	—	—	14	—
Collateralized mortgage-backed securities	7	7	—	—	7	—
Money market funds	3	3	—	3	—	—
Municipal bonds	1	1	—	—	1	—
Total	196	196	59	3	134	—
Derivatives:						
Embedded derivatives in provisional copper, gold and cobalt sales/purchase contracts in a gross asset position[c]	68	68	—	—	68	—
Copper futures and swap contracts[c]	6	6	—	5	1	—
Contingent consideration for the sale of onshore California oil and gas properties[a]	11	11	—	—	11	—
Total	85	85	—	5	80	—
Contingent consideration for the sale of the Deepwater GOM oil and gas properties[a]	122	108	—	—	—	108
Liabilities						
Derivatives:[c]						
Embedded derivatives in provisional copper, gold and cobalt sales/purchase contracts in a gross liability position	20	20	—	—	20	—
Copper forward contracts	1	1	—	—	1	—
Total	21	21	—	—	21	—
Long-term debt, including current portion[d]	9,826	10,239	—	—	10,239	—

	At December 31, 2018					
	Carrying Amount	Fair Value				
		Total	NAV	Level 1	Level 2	Level 3
Assets						
Investment securities:[a,b]						
U.S. core fixed income fund	$ 25	$ 25	$25	$ —	$ —	$ —
Equity securities	4	4	—	4	—	—
Total	29	29	25	4	—	—
Legally restricted funds:[a]						
U.S. core fixed income fund	55	55	55	—	—	—
Government mortgage-backed securities	38	38	—	—	38	—
Government bonds and notes	36	36	—	—	36	—
Corporate bonds	28	28	—	—	28	—
Asset-backed securities	11	11	—	—	11	—
Collateralized mortgage-backed securities	7	7	—	—	7	—
Money market funds	5	5	—	5	—	—
Municipal bonds	1	1	—	—	1	—
Total	181	181	55	5	121	—
Derivatives:						
Embedded derivatives in provisional copper, gold and cobalt sales/purchase contracts in a gross asset position[c]	23	23	—	—	23	—
Contingent consideration for the sales of TFHL and onshore California oil and gas properties[a]	73	73	—	—	73	—
Total	96	96	—	—	96	—
Contingent consideration for the sale of the Deepwater GOM oil and gas properties[a]	143	127	—	—	—	127
Liabilities						
Derivatives:[c]						
Embedded derivatives in provisional copper, gold and cobalt sales/purchase contracts in a gross liability position	39	39	—	—	39	—
Copper futures and swap contracts	9	9	—	7	2	—
Total	48	48	—	7	41	—
Long-term debt, including current portion[d]	11,141	10,238	—	—	10,238	—

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 $100 million at December 31, 2019, and $109 million at December 31, 2018, and (ii) other assets of $157 million at December 31, 2019, and $126 million at December 31, 2018, primarily associated with an assurance bond to support PT-FI's commitment for the development of a new 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. 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).

Equity securities are valued at the closing price reported on the active market on which the individual securities are traded and, as such, are classified within Level 1 of the fair value hierarchy.

Fixed income securities (government securities, corporate bonds, asset-backed securities, collateralized mortgage-backed securities and municipal bonds) are valued using a bid-evaluation price or a mid-evaluation price. 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 LBMA 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. FCX's embedded derivatives on provisional cobalt purchases are valued using quoted monthly LME cobalt forward prices or average published *Metals Bulletin* cobalt prices, subject to certain adjustments as specified by the terms of the contracts, at each reporting date based on the month of maturity. 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 copper 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 copper forward prices.

In 2016, FCX completed the sale of its onshore California oil and gas properties, which included contingent consideration of up to $150 million, consisting of $50 million per year for 2018, 2019 and 2020 if the price of Brent crude oil averages over $70 per barrel in each of these calendar years. The fair value of the contingent consideration derivative (included in other assets in the consolidated balance sheets) was $11 million at December 31, 2019, and $16 million at December 31, 2018. Future changes in the fair value of this contingent consideration derivative will continue to be recorded in operating income. Also, contingent consideration of $50 million (included in other current assets in the consolidated balance sheet at December 31, 2018) was realized in 2018 and collected in first-quarter 2019 (included in proceeds from sales of oil and gas properties in the consolidated statements of cash flows) because the average Brent crude oil price exceeded $70 per barrel for 2018. Contingent consideration of $50 million was not realized in 2019 because the average Brent crude oil price did not exceed $70 per barrel for 2019. The fair values, including the contingent consideration derivative associated with the 2016 TFHL sale (refer to Note 2 for further discussion), are calculated based on average commodity price forecasts through applicable maturity dates using a Monte-Carlo simulation model. The models use various observable inputs, including Brent crude oil forward prices, historical copper and cobalt prices, volatilities, discount rates and settlement terms. As a result, these contingent consideration assets are classified within Level 2 of the fair value hierarchy.

In 2016, FCX completed the sale of its Deepwater GOM oil and gas properties, which included up to $150 million in contingent consideration that was recorded at the total amount under the loss recovery approach. The contingent consideration will be received over time as future cash flows are realized in connection with a third-party production handling agreement for an offshore platform. The first collection occurred in 2018. The balance included in (i) other current assets totaled $18 million at December 31, 2019, and $27 million at December 31, 2018, and (ii) other assets totaled $104 million at December 31, 2019, and $116 million at December 31, 2018. 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 valued using available market quotes and, as such, is classified within Level 2 of the fair value hierarchy.

The techniques described above may produce a fair value calculation that may not be indicative of NRV or reflective of future fair values. Furthermore, while FCX believes its valuation techniques are appropriate and consistent with those used by 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, 2019.

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:

	2019	2018	2017
Balance at beginning of year	$127	$134	$135
Net unrealized gains (losses) related to assets still held at the end of the year	2	—	(1)
Settlements	(21)	(7)	—
Balance at end of year	$108	$127	$134

Refer to Notes 1 and 2 for a discussion of the fair value estimates associated with other assets acquired and liabilities assumed related to the PT-FI divestment, which were determined based on inputs not observable in the market and thus represent Level 3 measurements.

NOTE 16. BUSINESS SEGMENT INFORMATION

Product Revenues. FCX's revenues attributable to the products it sold for the years ended December 31 follow:

	2019	2018	2017
Copper:			
Concentrate	$ 4,566	$ 6,180	$ 5,604
Cathode	3,656	4,366	3,759
Rod and other refined copper products	2,110	2,396	2,387
Purchased copper[a]	1,060	1,053	789
Gold	1,620	3,231	2,126
Molybdenum	1,169	1,190	896
Other[b]	905	1,490	1,159
Adjustments to revenues:			
Treatment charges	(404)	(535)	(536)
Royalty expense[c]	(113)	(246)	(181)
Export duties[d]	(221)	(180)	(115)
Revenues from contracts with customers	14,348	18,945	15,888
Embedded derivatives[e]	54	(317)	515
Total consolidated revenues	$14,402	$18,628	$16,403

a. FCX purchases copper cathode primarily for processing by its Rod & Refining operations.
b. Primarily includes revenues associated with cobalt and silver.
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,	2019	2018
Long-lived assets:[a]		
Indonesia	$14,971	$14,025
U.S.	8,834	8,476
Peru	7,215	7,313
Chile	1,084	1,077
Other	384	458
Total	$32,488	$31,349

a. Excludes deferred tax assets and intangible assets.

Years Ended December 31,	2019	2018	2017
Revenues:[a]			
U.S.	$ 5,107	$ 5,790	$ 5,344
Switzerland	2,223	2,941	1,200
Indonesia	1,894	2,226	2,023
Japan	1,181	1,946	1,882
Spain	884	1,070	1,086
China	531	873	1,136
Germany	311	256	161
Chile	242	294	248
United Kingdom	233	296	226
France	198	255	122
Belgium	160	278	39
Korea	140	269	364
India	107	389	782
Philippines	73	221	378
Bermuda	38	207	226
Other	1,080	1,317	1,186
Total	$14,402	$18,628	$16,403

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 13 percent of FCX's consolidated revenues for the year ended December 31, 2019, and 12 percent for both the years ended December 31, 2018 and 2017, which is the only customer that accounted for 10 percent or more of FCX's consolidated revenues during the three years ended December 31, 2019.

Consolidated revenues include sales to the noncontrolling interest owners of FCX's South America mining operations totaling $1.0 billion in 2019, $1.2 billion in 2018 and $1.1 billion in 2017, and PT-FI's sales to PT Smelting totaling $1.9 billion in 2019, $2.2 billion in 2018 and $2.0 billion in 2017.

Labor Matters. As of December 31, 2019, approximately 37 percent of FCX's global labor force was covered by collective bargaining agreements, and approximately 21 percent was covered by agreements that expired and are currently being negotiated or will expire within one year. PT-FI and union officials have commenced discussions for a new two-year labor agreement. The existing agreement, which expired in September 2019, will continue in effect until a new agreement is consummated.

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, Bagdad, Cerro Verde and Grasberg (Indonesia Mining) copper mines, the Rod & Refining operations and Atlantic Copper Smelting & Refining.

Beginning in 2019, Bagdad became a reportable segment. As a result, FCX revised its segment disclosure for the years ended December 31, 2018 and 2017, to conform with the current year presentation.

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 25 percent of PT-FI's sales to PT Smelting, 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, Bagdad, Safford, 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. The Morenci mine produced 50 percent of FCX's North America copper during 2019.

The Bagdad open-pit mine, located in west-central Arizona, produces copper cathode and copper concentrate. In addition to copper, the Bagdad mine also produces molybdenum concentrate. The Bagdad mine produced 15 percent of FCX's North America copper during 2019.

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. The Cerro Verde mine produced 85 percent of FCX's South America copper during 2019.

Indonesia Mining. Indonesia mining includes PT-FI's Grasberg minerals district that produces copper concentrate that contains significant quantities of gold and silver.

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, three rod mills and a specialty copper products facility, which are combined in accordance with segment reporting aggregation guidance. These operations process copper produced at FCX's North America copper mines and purchased copper into copper cathode, rod and custom copper shapes. At times these operations refine copper and produce copper rod and shapes for customers on a toll basis. Toll arrangements require the tolling customer to deliver appropriate copper-bearing material to FCX's facilities for processing into a product that is returned to the customer, who pays FCX for processing its material into the specified products.

Atlantic Copper Smelting & Refining. Atlantic Copper smelts and refines copper concentrate and markets refined copper and precious metals in slimes. During 2019, Atlantic Copper purchased 22 percent of its concentrate requirements from FCX's North America copper mines, 2 percent from FCX's South America mining operations and 3 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. Other mining includes the Miami smelter (a smelter at FCX's Miami, Arizona, mining operation), Freeport Cobalt, molybdenum conversion facilities in the U.S. and Europe, five non-operating copper mines in North America (Ajo, Bisbee, Tohono, Twin Buttes and Christmas in Arizona) and other mining support entities.

FINANCIAL INFORMATION BY BUSINESS SEGMENT

	North America Copper Mines				South America Mining								
	Morenci	Bagdad	Other	Total	Cerro Verde	Other	Total	Indonesia Mining	Molybdenum Mines	Rod & Refining	Atlantic Copper Smelting & Refining	Corporate, Other & Eliminations	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	763	1,392	4,019	313	—	313	58	344	26	5	(4,765)	—
Production and delivery	1,376	512	1,431	3,319	1,852	474	2,326	2,055[c]	299	4,475	1,971	(2,931)	11,514
Depreciation, depletion and amortization	171	46	132	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	1	1	4	8	—	8	125	—	—	20	257	414
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	204	21	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	783	4,326	7,989	8,612	1,676	10,288	16,485	1,798	193	761	3,295	40,809
Capital expenditures	231	150	496	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.
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.

FINANCIAL INFORMATION BY BUSINESS SEGMENT *(continued)*

	North America Copper Mines				South America Mining								
	Morenci	Bagdad	Other	Total	Cerro Verde	Other	Total	Indonesia Mining	Molybdenum Mines	Rod & Refining	Atlantic Copper Smelting & Refining	Corporate, Other & Eliminations	FCX Total
Year Ended December 31, 2018													
Revenues:													
Unaffiliated customers	$ 90	$ —	$ 54	$ 144	$2,709	$ 594	$ 3,303	$ 5,446	$ —	$5,103	$2,299	$ 2,333[a]	$18,628
Intersegment	2,051	710	1,789	4,550	352	—	352	113	410	31	3	(5,459)	—
Production and delivery	1,183	483	1,458	3,124	1,887[b,c]	478	2,365	1,864[d]	289	5,117	2,218	(3,290)	11,687
Depreciation, depletion and amortization	176	41	143	360	456	90	546	606	79	11	27	125[e]	1,754
Metals inventory adjustments	—	—	4	4	—	—	—	—	—	—	—	—	4
Selling, general and administrative expenses	3	1	2	6	9	—	9	123	—	—	21	284	443
Mining exploration and research expenses	—	—	3	3	—	—	—	—	—	—	—	102	105
Environmental obligations and shutdown costs	—	—	2	2	—	—	—	—	—	—	—	87	89
Net gain on sales of assets	—	—	—	—	—	—	—	—	—	—	—	(208)[f]	(208)
Operating income (loss)	779	185	231	1,195	709	26	735	2,966	42	6	36	(226)	4,754
Interest expense, net	3	—	1	4	429[b]	—	429	1	—	—	25	486	945
Provision for (benefit from) income taxes	—	—	—	—	253[b]	15	268	755[g]	—	—	1	(33)[h]	991
Total assets at December 31, 2018	2,922	671	3,937	7,530	8,524	1,707	10,231	15,646	1,796	233	773	6,007	42,216
Capital expenditures	216	39	346	601	220	17	237	1,001	9	5	16	102	1,971

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 net charges totaling $14 million in production and delivery costs, $370 million in interest expense and $35 million of net tax benefits in provision for income taxes associated with disputed royalties for prior years.
c. Includes charges totaling $69 million associated with Cerro Verde's three-year collective labor agreement.
d. Includes net charges of $223 million, primarily associated with surface water tax disputes with the local regional tax authority in Papua, Indonesia, assessments for prior period permit fees with Indonesia's MOEF, disputed payroll withholding taxes for prior years and other tax settlements, and to write-off certain previously capitalized project costs for the new smelter in Indonesia, partially offset by inventory adjustments.
e. Includes $31 million of depreciation expense at Freeport Cobalt from December 2016 through December 2017 that was suspended while it was classified as held for sale.
f. Includes net gains totaling $97 million associated with a favorable adjustment to the estimated fair value less costs to sell for Freeport Cobalt and fair value adjustments of $31 million associated with potential contingent consideration related to the 2016 sale of onshore California oil and gas properties.
g. Includes tax credits totaling $549 million related to the change in PT-FI's tax rates in accordance with its IUPK ($482 million), U.S. tax reform ($47 million) and adjustments to PT-FI's historical tax positions ($20 million).
h. Includes net tax credits totaling $76 million, primarily related to the Act and $22 million related to the change in PT-FI's tax rates in accordance with its IUPK. Refer to Note 11 for further discussion.

FINANCIAL INFORMATION BY BUSINESS SEGMENT *(continued)*

	North America Copper Mines				South America Mining								
	Morenci	Bagdad	Other	Total	Cerro Verde	Other	Total	Indonesia Mining	Molybdenum Mines	Rod & Refining	Atlantic Copper Smelting & Refining	Corporate, Other & Eliminations	FCX Total
Year Ended December 31, 2017													
Revenues:													
Unaffiliated customers	$ 228	$ 22	$ 158	$ 408	$2,811	$ 498	$ 3,309	$ 4,445	$ —	$4,456	$2,031	$ 1,754[a]	$16,403
Intersegment	1,865	528	1,764	4,157	385	—	385	—	268	26	1	(4,837)	—
Production and delivery	1,043	367	1,333	2,743	1,878[b]	366	2,244	1,735[c]	226	4,467	1,966	(3,123)	10,258
Depreciation, depletion and amortization	178	40	207	425	441	84	525	556	76	10	28	94	1,714
Metals inventory adjustments	—	—	2	2	—	—	—	—	1	—	—	5	8
Selling, general and administrative expenses	2	—	2	4	9	—	9	126[c]	—	—	18	320	477
Mining exploration and research expenses	—	—	2	2	—	—	—	—	—	—	—	91	93
Environmental obligations and shutdown costs	—	—	—	—	—	—	—	—	—	—	—	244	244
Net gain on sales of assets	—	—	—	—	—	—	—	—	—	—	—	(81)	(81)
Operating income (loss)	870	143	376	1,389	868	48	916	2,028	(35)	5	20	(633)	3,690
Interest expense, net	3	—	1	4	212[b]	—	212	4	—	—	18	563	801
Provision for (benefit from) income taxes	—	—	—	—	436[b]	10	446	869	—	—	5	(437)[d]	883
Total assets at December 31, 2017	2,861	650	3,591	7,102	8,878	1,702	10,580	10,911	1,858	277	822	5,752	37,302
Capital expenditures	114	12	41	167	103	12	115	875	5	4	41	203	1,410

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 net charges totaling $203 million in production and delivery costs, $145 million in interest expense, and $7 million of net tax charges associated with disputed royalties for prior years.
c. Includes net charges at PT-FI associated with workforce reductions totaling $120 million in production and delivery costs and $5 million in selling, general and administrative expenses.
d. Includes net tax credits of $438 million primarily related to the Act. Refer to Note 11 for further discussion.

NOTE 17. GUARANTOR FINANCIAL STATEMENTS

All of the senior notes issued by FCX and discussed in Note 8 are fully and unconditionally guaranteed on a senior basis jointly and severally by FM O&G LLC, as guarantor, which is a 100-percent-owned subsidiary of FM O&G and FCX. The guarantee is an unsecured obligation of the guarantor and ranks equal in right of payment with all existing and future indebtedness of FM O&G LLC, including indebtedness under FCX's revolving credit facility. The guarantee ranks senior in right of payment with all of FM O&G LLC's future subordinated obligations and is effectively subordinated in right of payment to any debt of FM O&G LLC's subsidiaries. The indentures provide that FM O&G LLC's guarantee obligations may be released or terminated upon: (i) the sale of all or substantially all of the equity interests or assets of FM O&G LLC to a third party that is not a subsidiary or an affiliate of FCX; (ii) FM O&G LLC no longer having any obligations under any FM O&G senior notes or any refinancing thereof and no longer being a co-borrower or guarantor of any obligations of FCX under the revolving credit facility or any other senior debt or, in each case, any refinancing thereof; or (iii) the discharge of FCX's obligations under the indentures in accordance with their terms.

The following condensed consolidating financial information includes information regarding FCX, as issuer, FM O&G LLC, as guarantor, and all other non-guarantor subsidiaries of FCX. Included are the condensed consolidating balance sheets at December 31, 2019 and 2018, and the related condensed consolidating statements of comprehensive (loss) income and the condensed consolidating statements of cash flows for the three years ended December 31, 2019, which should be read in conjunction with the other notes in these consolidated financial statements.

CONDENSED CONSOLIDATING BALANCE SHEETS

	December 31, 2019				
	FCX Issuer	FM O&G LLC Guarantor	Non-guarantor Subsidiaries	Eliminations	Consolidated FCX
ASSETS					
Current assets	$ 154	$ 657	$ 7,778	$ (674)	$ 7,915
Property, plant, equipment and mine development costs, net	16	1	29,555	12	29,584
Investments in consolidated subsidiaries	17,027	—	—	(17,027)	—
Other assets	1,604	21	3,137	(1,452)	3,310
Total assets	$18,801	$ 679	$40,470	$(19,141)	$40,809
LIABILITIES AND EQUITY					
Current liabilities	$ 323	$ 42	$ 3,550	$ (706)	$ 3,209
Long-term debt, less current portion	8,602	7,328	6,292	(12,401)	9,821
Deferred income taxes	468[a]	—	3,742	—	4,210
Environmental and asset retirement obligations, less current portion	—	224	3,406	—	3,630
Investments in consolidated subsidiary	—	652	10,906	(11,558)	—
Other liabilities	110	3,340	2,535	(3,494)	2,491
Total liabilities	9,503	11,586	30,431	(28,159)	23,361
Equity:					
Stockholders' equity	9,298	(10,907)	7,343	3,564	9,298
Noncontrolling interests	—	—	2,696	5,454	8,150
Total equity	9,298	(10,907)	10,039	9,018	17,448
Total liabilities and equity	$18,801	$ 679	$40,470	$(19,141)	$40,809

a. All U.S.-related deferred income taxes are recorded at the parent company.

CONDENSED CONSOLIDATING BALANCE SHEETS *(continued)*

	December 31, 2018				
	FCX Issuer	FM O&G LLC Guarantor	Non-guarantor Subsidiaries	Eliminations	Consolidated FCX
ASSETS					
Current assets	$ 309	$ 620	$10,120	$ (585)	$10,464
Property, plant, equipment and mine development costs, net	19	7	27,984	—	28,010
Investments in consolidated subsidiaries	19,064	—	—	(19,064)	—
Other assets	880	23	3,474	(635)	3,742
Total assets	$20,272	$ 650	$41,578	$(20,284)	$42,216
LIABILITIES AND EQUITY					
Current liabilities	$ 245	$ 34	$ 3,667	$ (617)	$ 3,329
Long-term debt, less current portion	9,594	6,984	5,649	(11,103)	11,124
Deferred income taxes	524[a]	—	3,508	—	4,032
Environmental and asset retirement obligations, less current portion	—	227	3,382	—	3,609
Investments in consolidated subsidiary	—	578	10,513	(11,091)	—
Other liabilities	111	3,340	2,265	(3,486)	2,230
Total liabilities	10,474	11,163	28,984	(26,297)	24,324
Equity:					
Stockholders' equity	9,798	(10,513)	9,912	601	9,798
Noncontrolling interests	—	—	2,682	5,412	8,094
Total equity	9,798	(10,513)	12,594	6,013	17,892
Total liabilities and equity	$20,272	$ 650	$41,578	$(20,284)	$42,216

a. All U.S.-related deferred income taxes are recorded at the parent company.

CONDENSED CONSOLIDATING STATEMENTS OF COMPREHENSIVE (LOSS) INCOME

	Year Ended December 31, 2019				
	FCX Issuer	FM O&G LLC Guarantor	Non-guarantor Subsidiaries	Eliminations	Consolidated FCX
Revenues	$ —	$ 40	$14,362	$ —	$14,402
Total costs and expenses	25	54	13,244	(12)	13,311
Operating (loss) income	(25)	(14)	1,118	12	1,091
Interest expense, net	(337)	(322)	(494)	533	(620)
Net loss on early extinguishment of debt	(26)	—	(1)	—	(27)
Other expense, net	(22)	—	(95)	(21)	(138)
(Loss) income before income taxes and equity in affiliated companies' net earnings (losses)	(410)	(336)	528	524	306
Benefit from (provision for) income taxes	58	76	(642)	(2)	(510)
Equity in affiliated companies' net earnings (losses)	113	(73)	(321)	293	12
Net (loss) income from continuing operations	(239)	(333)	(435)	815	(192)
Net income from discontinued operations	—	—	3	—	3
Net (loss) income	(239)	(333)	(432)	815	(189)
Net (income) loss attributable to noncontrolling interests	—	—	(86)	36	(50)
Net (loss) income attributable to common stockholders	$ (239)	$(333)	$ (518)	$ 851	$ (239)
Other comprehensive (loss) income	(71)	—	(71)	71	(71)
Total comprehensive (loss) income	$ (310)	$(333)	$ (589)	$ 922	$ (310)

	Year Ended December 31, 2018				
	FCX Issuer	FM O&G LLC Guarantor	Non-guarantor Subsidiaries	Eliminations	Consolidated FCX
Revenues	$ —	$ 59	$18,569	$ —	$18,628
Total costs and expenses	28	58	13,798	(10)	13,874
Operating (loss) income	(28)	1	4,771	10	4,754
Interest expense, net	(388)	(301)	(734)	478	(945)
Net gain (loss) on early extinguishment of debt	7	2	(2)	—	7
Other income (expense), net	477	—	77	(478)	76
Income (loss) before income taxes and equity in affiliated companies' net earnings (losses)	68	(298)	4,112	10	3,892
(Provision for) benefit from income taxes	(176)	61	(874)	(2)	(991)
Equity in affiliated companies' net earnings (losses)	2,710	10	(219)	(2,493)	8
Net income (loss) from continuing operations	2,602	(227)	3,019	(2,485)	2,909
Net loss from discontinued operations	—	—	(15)	—	(15)
Net income (loss)	2,602	(227)	3,004	(2,485)	2,894
Net income attributable to noncontrolling interests:	—	—	(68)	(224)	(292)
Net income (loss) attributable to common stockholders	$2,602	$(227)	$ 2,936	$(2,709)	$ 2,602
Other comprehensive (loss) income	(33)	—	(33)	33	(33)
Total comprehensive income (loss)	$2,569	$(227)	$ 2,903	$(2,676)	$ 2,569

CONDENSED CONSOLIDATING STATEMENTS OF COMPREHENSIVE (LOSS) INCOME *(continued)*

	Year Ended December 31, 2017				
	FCX Issuer	FM O&G LLC Guarantor	Non-guarantor Subsidiaries	Eliminations	Consolidated FCX
Revenues	$ —	$ 52	$16,351	$ —	$16,403
Total costs and expenses	39	78	12,586	10	12,713
Operating (loss) income	(39)	(26)	3,765	(10)	3,690
Interest expense, net	(467)	(227)	(455)	348	(801)
Net gain (loss) on early extinguishment of debt	22	5	(6)	—	21
Other income (expense), net	336	—	4	(348)	(8)
(Loss) income before income taxes and equity in affiliated companies' net earnings (losses)	(148)	(248)	3,308	(10)	2,902
Benefit from (provision for) income taxes	220	(108)	(998)	3	(883)
Equity in affiliated companies' net earnings (losses)	1,745	10	(337)	(1,408)	10
Net income (loss) from continuing operations	1,817	(346)	1,973	(1,415)	2,029
Net income from discontinued operations	—	—	66	—	66
Net income (loss)	1,817	(346)	2,039	(1,415)	2,095
Net income attributable to noncontrolling interests:					
Continuing operations	—	—	(150)	(124)	(274)
Discontinued operations	—	—	(4)	—	(4)
Net income (loss) attributable to common stockholders	$1,817	$(346)	$ 1,885	$(1,539)	$ 1,817
Other comprehensive income (loss)	61	—	61	(61)	61
Total comprehensive income (loss)	$1,878	$(346)	$ 1,946	$(1,600)	$ 1,878

CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS

	Year Ended December 31, 2019				
	FCX Issuer	FM O&G LLC Guarantor	Non-guarantor Subsidiaries	Eliminations	Consolidated FCX
Net cash provided by (used in) operating activities	$ 443	$(444)	$ 1,483	$ —	$ 1,482
Cash flow from investing activities:					
Capital expenditures	—	(4)	(2,648)	—	(2,652)
Intercompany loans	(1,299)	—	—	1,299	—
Dividends from (investments in) consolidated subsidiaries	2,177	—	96	(2,275)	(2)
Asset sales and other, net	(1)	104	448	—	551
Net cash provided by (used in) investing activities	877	100	(2,104)	(976)	(2,103)
Cash flow from financing activities:					
Proceeds from debt	1,200	—	679	—	1,879
Repayments of debt	(2,202)	—	(995)	—	(3,197)
Intercompany loans	—	344	955	(1,299)	—
Cash dividends paid and distributions received, net	(291)	—	(2,172)	2,255	(208)
Other, net	(27)	—	(23)	20	(30)
Net cash (used in) provided by financing activities	(1,320)	344	(1,556)	976	(1,556)
Net decrease in cash, cash equivalents, restricted cash and restricted cash equivalents	—	—	(2,177)	—	(2,177)
Cash, cash equivalents, restricted cash and restricted cash equivalents at beginning of year	—	—	4,455	—	4,455
Cash, cash equivalents, restricted cash and restricted cash equivalents at end of year	$ —	$ —	$ 2,278	$ —	$ 2,278

	Year Ended December 31, 2018				
	FCX Issuer	FM O&G LLC Guarantor	Non-guarantor Subsidiaries	Eliminations	Consolidated FCX
Net cash (used in) provided by operating activities	$ (40)	$(487)	$ 4,390	$ —	$ 3,863
Cash flow from investing activities:					
Capital expenditures	(2)	—	(1,969)	—	(1,971)
Acquisition of PT Rio Tinto Indonesia	—	—	(3,500)	—	(3,500)
Intercompany loans	(832)	—	—	832	—
Dividends from (investments in) consolidated subsidiaries	2,475	—	84	(2,559)	—
Asset sales and other, net	460	6	(13)	—	453
Net cash provided by (used in) investing activities	2,101	6	(5,398)	(1,727)	(5,018)
Cash flow from financing activities:					
Proceeds from debt	—	—	632	—	632
Repayments of debt	(1,826)	(53)	(838)	—	(2,717)
Intercompany loans	—	526	306	(832)	—
Proceeds from sale of PT Freeport Indonesia shares	—	—	3,710	(210)	3,500
Cash dividends paid and distributions received, net	(217)	—	(3,032)	2,753	(496)
Other, net	(18)	—	(17)	16	(19)
Net cash (used in) provided by financing activities	(2,061)	473	761	1,727	900
Net decrease in cash, cash equivalents, restricted cash and restricted cash equivalents	—	(8)	(247)	—	(255)
Cash, cash equivalents, restricted cash and restricted cash equivalents at beginning of year	—	8	4,702	—	4,710
Cash, cash equivalents, restricted cash and restricted cash equivalents at end of year	$ —	$ —	$ 4,455	$ —	$ 4,455

CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS *(continued)*

	Year Ended December 31, 2017				
	FCX Issuer	FM O&G LLC Guarantor	Non-guarantor Subsidiaries	Eliminations	Consolidated FCX
Net cash (used in) provided by operating activities	$ (156)	$(467)	$ 5,289	$ —	$ 4,666
Cash flow from investing activities:					
Capital expenditures	—	(25)	(1,385)	—	(1,410)
Intercompany loans	(777)	—	—	777	—
Dividends from (investments in) consolidated subsidiaries	3,226	(15)	120	(3,331)	—
Asset sales and other, net	—	57	32	—	89
Net cash provided by (used in) investing activities	2,449	17	(1,233)	(2,554)	(1,321)
Cash flow from financing activities:					
Proceeds from debt	—	—	955	—	955
Repayments of debt	(2,281)	(205)	(1,326)	—	(3,812)
Intercompany loans	—	663	114	(777)	—
Cash dividends paid and distributions received, net	(2)	—	(3,440)	3,266	(176)
Other, net	(10)	(10)	(67)	65	(22)
Net cash (used in) provided by financing activities	(2,293)	448	(3,764)	2,554	(3,055)
Net (decrease) increase in cash, cash equivalents, restricted cash and restricted cash equivalents	—	(2)	292	—	290
Cash, cash equivalents, restricted cash and restricted cash equivalents at beginning of year	—	10	4,410	—	4,420
Cash, cash equivalents, restricted cash and restricted cash equivalents at end of year	$ —	$ 8	$ 4,702	$ —	$ 4,710

NOTE 18. SUBSEQUENT EVENTS

FCX evaluated events after December 31, 2019, and through the date the financial statements were issued, and determined any events or transactions occurring during this period that would require recognition or disclosure are appropriately addressed in these financial statements.

NOTE 19. QUARTERLY FINANCIAL INFORMATION (UNAUDITED)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year
2019					
Revenues	$3,792	$3,546	$3,153	$3,911	$14,402
Operating income (loss)	321	33	(38)	775	1,091
Net income (loss) from continuing operations	75	(74)	(235)	42	(192)
Net income from discontinued operations	1	—	1	1	3
Net income (loss)	76	(74)	(234)	43	(189)
Net (income) loss attributable to noncontrolling interests from continuing operations	(45)	2	27	(34)	(50)
Net income (loss) attributable to common stockholders	31	(72)	(207)	9	(239)
Net income (loss) per share attributable to common stockholders:					
Basic	$ 0.02	$ (0.05)	$ (0.15)	$ —	$ (0.17)
Diluted	$ 0.02	$ (0.05)	$ (0.15)	$ —	$ (0.17)
Weighted-average shares outstanding:					
Basic	1,451	1,451	1,452	1,452	1,451
Diluted	1,457	1,451	1,452	1,457	1,451

Following summarizes significant items included in FCX's net income (loss) attributable to common stockholders for the 2019 quarters:

- Charges at PT-FI totaled $460 million ($379 million to net loss attributable to common stockholders or $0.26 per share) consisting of $266 million in the fourth quarter, primarily associated with historical contested tax disputes ($78 million to interest expense, net and $188 million to other expense, net); $166 million in the third quarter recorded in revenues, primarily associated with an unfavorable Indonesia Supreme Court ruling related to PT-FI export duties; and $28 million in the second quarter to production and delivery costs for an adjustment to the settlement of the historical surface water tax disputes with the local regional tax authority in Papua, Indonesia.
- Net gains on sales of assets for the year totaled $417 million ($339 million to net loss attributable to common stockholders or $0.23 per share), primarily associated with the sales of FCX's interest in the lower zone of the Timok exploration project in Serbia and a portion of Freeport Cobalt, most of which was recorded in the fourth quarter. Refer to Note 2 for further discussion.
- Metals inventory adjustments for the year totaled $179 million ($144 million to net loss attributable to common stockholders or $0.10 per share) and included $59 million in the second quarter, $41 million in the third quarter and $79 million in the fourth quarter. Refer to Note 4 for further discussion.
- Net adjustments to environmental obligations and related litigation reserves totaled $68 million to operating income and net loss attributable to common stockholders ($0.05 per share) for the year, most of which was recorded in the first quarter ($35 million) and the third quarter ($19 million). Of the charges in the third quarter, $15 million were recorded to production and delivery costs.
- After-tax net losses on early extinguishment of debt totaled $26 million ($0.02 per share), most of which was recorded in the third quarter. Refer to Note 8 for further discussion.

QUARTERLY FINANCIAL INFORMATION (UNAUDITED) *(continued)*

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year
2018					
Revenues	$4,868	$5,168	$4,908	$3,684	$18,628
Operating income	1,459	1,664	1,315	316	4,754
Net income from continuing operations	828	1,039	668	374	2,909
Net (loss) income from discontinued operations	(11)	(4)	(4)	4	(15)
Net income	817	1,035	664	378	2,894
Net (income) loss attributable to noncontrolling interests	(125)	(166)	(108)	107	(292)
Net income attributable to common stockholders	692	869	556	485	2,602
Basic net income (loss) per share attributable to common stockholders:					
Continuing operations	$ 0.48	$ 0.60	$ 0.38	$ 0.33	$ 1.80
Discontinued operations	(0.01)	—	—	—	(0.01)
	$ 0.47	$ 0.60	$ 0.38	$ 0.33	$ 1.79
Diluted net income (loss) per share attributable to common stockholders:					
Continuing operations	$ 0.48	$ 0.59	$ 0.38	$ 0.33	$ 1.79
Discontinued operations	(0.01)	—	—	—	(0.01)
	$ 0.47	$ 0.59	$ 0.38	$ 0.33	$ 1.78
Weighted-average shares outstanding:					
Basic	1,449	1,449	1,450	1,450	1,449
Diluted	1,458	1,458	1,458	1,457	1,458

Following summarizes significant items included in FCX's net income attributable to common stockholders for the 2018 quarters:

- Net charges at Cerro Verde related to Peru government claims for disputed royalties totaled $195 million to net income attributable to common stockholders or $0.13 per share for the year (consisting of $14 million to production and delivery costs, $370 million to interest expense and $22 million to other expense, net), most of which was recorded in the fourth quarter. Refer to Note 12 for further discussion.
- Net charges at PT-FI totaled $223 million ($110 million to net income attributable to common stockholders or $0.08 per share) consisting of charges to production and delivery of $69 million for surface water tax disputes with the local regional tax authority in Papua, Indonesia, $32 million for assessments of prior period permit fees with the MOEF, $72 million for disputed payroll withholding taxes for prior years and other tax settlements and $62 million to write-off certain previously capitalized project costs for the new smelter in Indonesia in the fourth quarter, partly offset by inventory adjustments of $12 million recorded in the second quarter. The fourth quarter also included $43 million of favorable inventory adjustments at PT-FI related to prior 2018 quarterly periods.
- Net charges at Cerro Verde related to its new three-year collective bargaining agreement totaled $69 million ($22 million to net income attributable to common stockholders or $0.02 per share) for the year, which was recorded in the third quarter.
- Net adjustments to environmental obligations and related litigation reserves totaled $57 million to operating income and net income attributable to common stockholders ($0.04 per share) for the year, most of which was recorded in the second quarter.
- Net gains on sales of assets for the year totaled $208 million to operating income and net income attributable to common stockholders ($0.14 per share), mostly associated with adjustments to assets no longer classified as held for sale, adjustments to the fair value of contingent consideration related to the 2016 sale of onshore California oil and gas properties (which will continue to be adjusted through December 31, 2020) and the sale of Port Carteret (assets held for sale), and included $11 million in the first quarter, $45 million in the second quarter, $70 million in the third quarter and $82 million in the fourth quarter. Refer to Note 2 for further discussion of asset dispositions.

- Other net charges for the year totaled $50 million ($30 million to net income attributable to common stockholders or $0.02 per share), including prior period depreciation expense at Freeport Cobalt that was suspended while it was classified as held for sale ($48 million in the fourth quarter and $31 million for the year).
- Net tax credits for the year totaled $632 million ($574 million net of noncontrolling interest or $0.39 per share), primarily associated with a reduction in PT-FI's statutory rates in accordance with the IUPK ($504 million) and benefits associated with the Act ($123 million), most of which was recorded in the fourth quarter. Refer to Note 11 for further discussion.

NOTE 20. SUPPLEMENTARY MINERAL RESERVE INFORMATION (UNAUDITED)

Recoverable proven and probable reserves have been estimated as of December 31, 2019, in accordance with Industry Guide 7 as required by the Securities Exchange Act of 1934. FCX's proven and probable reserves may not be comparable to similar information regarding mineral reserves disclosed in accordance with the guidance in other countries. Proven and probable reserves were determined by the use of mapping, drilling, sampling, assaying and evaluation methods generally applied in the mining industry, as more fully discussed below. The term "reserve," as used in the reserve data presented here, means that part of a mineral deposit that can be economically and legally extracted or produced at the time of the reserve determination. The term "proven reserves" means reserves for which (i) quantity is computed from dimensions revealed in outcrops, trenches, workings or drill holes; (ii) grade and/or quality are computed from the results of detailed sampling; and (iii) the sites for inspection, sampling and measurements are spaced so closely and the geologic character is sufficiently defined that size, shape, depth and mineral content of reserves are well established. The term "probable reserves" means reserves for which quantity and grade are computed from information similar to that used for proven reserves but the sites for sampling are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for proven reserves, is high enough to assume continuity between points of observation.

FCX's reserve estimates are based on the latest available geological and geotechnical studies. FCX conducts ongoing studies of its ore bodies to optimize economic values and to manage risk. FCX revises its mine plans and estimates of proven and probable mineral reserves as required in accordance with the latest available studies.

Estimated recoverable proven and probable reserves at December 31, 2019, 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, 2019, LME copper settlement prices averaged $2.83 per pound, LBMA gold prices averaged $1,306 per ounce and the weekly average price for molybdenum quoted by *Metals Week* averaged $10.50 per pound.

The recoverable proven and probable reserves presented in the table below represent the estimated metal quantities from which FCX expects to be paid after application of estimated metallurgical recovery rates and smelter recovery rates, where applicable. Recoverable reserves are that part of a mineral deposit that FCX estimates can be economically and legally extracted or produced at the time of the reserve determination.

	Estimated Recoverable Proven and Probable Mineral Reserves at December 31, 2019		
	Copper[a] (billion pounds)	Gold (million ounces)	Molybdenum (billion pounds)
North America	47.2	0.5	2.87
South America	33.2	—	0.71
Indonesia[b]	35.6	29.1	—
Consolidated[c]	116.0	29.6	3.58
Net equity interest[d]	83.4	16.1	3.25

a. Estimated consolidated recoverable copper reserves included 1.7 billion pounds in leach stockpiles and 0.5 billion pounds in mill stockpiles.

b. Reflects estimates of minerals that can be recovered through 2041. Refer to Note 13 for discussion of PT-FI's IUPK.

c. Consolidated 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 reserves of 375 million ounces of silver, which were determined using $15 per ounce.

d. Net equity interest reserves represent estimated consolidated metal quantities further reduced for noncontrolling interest ownership (refer to Note 3 for further discussion of FCX's ownership in subsidiaries). FCX's net equity interest for estimated metal quantities in Indonesia reflects approximately 81 percent from 2020 through 2022 and 48.76 percent from 2023 through 2041. Excluded from the table above were FCX's estimated recoverable proven and probable reserves of 251 million ounces of silver.

	Estimated Recoverable Proven and Probable Mineral Reserves at December 31, 2019						
		Average Ore Grade Per Metric Ton[a]			Recoverable Proven and Probable Reserves[b]		
	Ore[a] (million metric tons)	Copper (%)	Gold (grams)	Molybdenum (%)	Copper (billion pounds)	Gold (million ounces)	Molybdenum (billion pounds)
North America							
Developed and producing:							
Morenci	4,435	0.23	—	—[c]	14.5	—	0.19
Sierrita	2,960	0.23	—[c]	0.02	12.5	0.1	1.23
Bagdad	2,535	0.32	—[c]	0.02	15.3	0.2	0.79
Safford, including Lone Star[d]	812	0.45	—	—	5.9	—	—
Chino, including Cobre	324	0.45	0.03	—[c]	2.7	0.3	0.01
Climax	160	—	—	0.15	—	—	0.49
Henderson	67	—	—	0.17	—	—	0.22
Tyrone	49	0.25	—	—	0.3	—	—
Miami	—	—	—	—	0.1	—	—
South America							
Developed and producing:							
Cerro Verde	4,265	0.35	—	0.01	29.3	—	0.71
El Abra	717	0.41	—	—	3.9	—	—
Indonesia[e]							
Developed and producing:							
Grasberg Block Cave	959	0.97	0.73	—	17.2	14.2	—
Deep Mill Level Zone	429	0.92	0.75	—	7.6	8.2	—
Big Gossan	55	2.33	0.97	—	2.6	1.2	—
Deep Ore Zone	29	0.50	0.48	—	0.3	0.4	—
Undeveloped:							
Kucing Liar	340	1.25	1.04	—	8.0	5.1	—
Total 100% basis	18,137[f]				120.0[f]	29.6[f]	3.64
Consolidated[g]					116.0	29.6	3.58
FCX's equity share[h]					83.4	16.1	3.25

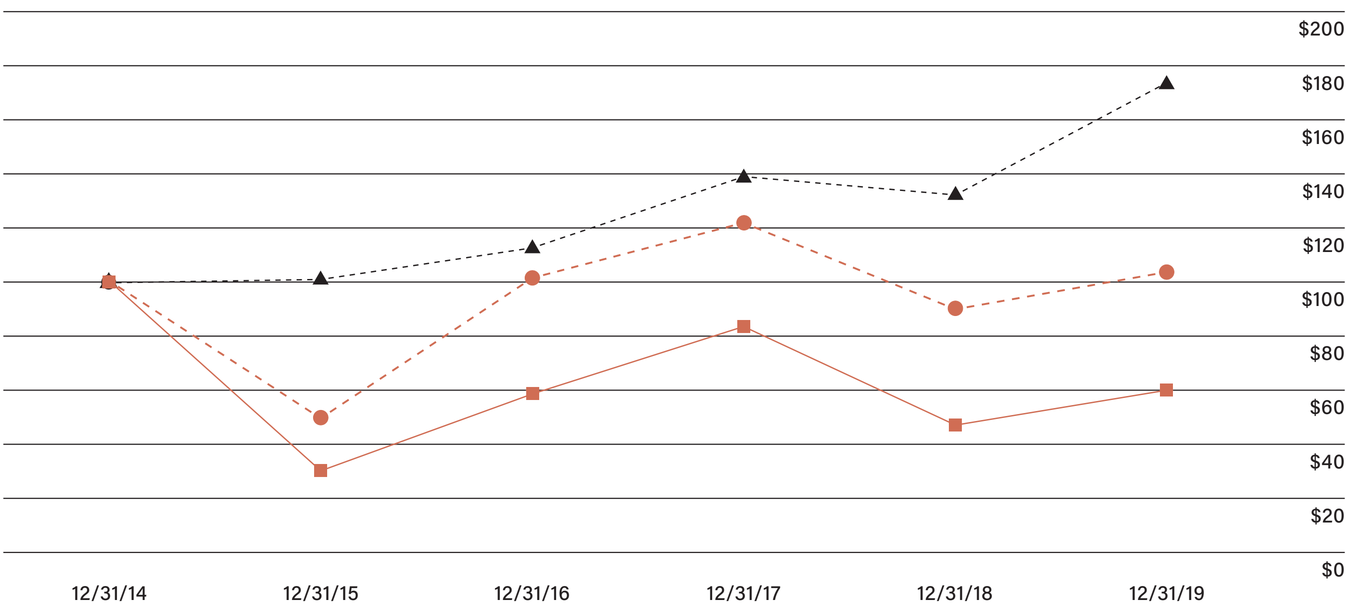
a. Excludes material contained in stockpiles.
b. Includes estimated recoverable metals contained in stockpiles.
c. Amounts not shown because of rounding.
d. The Lone Star leachable ores project is under development.
e. Estimated recoverable proven and probable reserves from Indonesia reflect estimates of minerals that can be recovered through 2041. Refer to Note 13 for discussion of PT-FI's IUPK.
f. Does not foot because of rounding.
g. Consolidated 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.
h. Net equity interest reserves represent estimated consolidated metal quantities further reduced for noncontrolling interest ownership. FCX's net equity interest for estimated metal quantities in Indonesia reflects an approximate 81 percent from 2020 through 2022 and 48.76 percent from 2023 through 2041. Refer to Note 3 for further discussion of FCX's ownership in subsidiaries.

PERFORMANCE GRAPH

The following graph compares the change in the cumulative total stockholder return on our common stock with the cumulative total return of the S&P 500 Stock Index and the S&P Metals and Mining Select Industry Index from 2015 through 2019. The S&P Metals and Mining Select Industry Index comprises stocks in the S&P Total Market Index that are classified in the metals and mining sub-industry. This comparison assumes $100 invested on December 31, 2014, in (a) Freeport-McMoRan Inc. common stock, (b) the S&P 500 Stock Index and (c) the S&P Metals and Mining Select Industry Index (with the reinvestment of all dividends).

Comparison of 5 Year Cumulative Total Return

Among Freeport-McMoRan Inc., the S&P 500 Stock Index and the S&P Metals and Mining Select Industry Index



	December 31,					
	2014	2015	2016	2017	2018	2019
Freeport-McMoRan Inc.	$100.00	$ 29.89	$ 58.23	$ 83.71	$ 45.96	$ 59.53
S&P 500 Stock Index	100.00	101.38	113.51	138.29	132.23	173.86
S&P Metals and Mining Select Industry Index	100.00	49.22	101.00	121.84	90.09	103.45

INVESTOR INQUIRIES

The Investor Relations Department is pleased to receive any inquiries about the company. Our Principles of Business Conduct and our Annual Report on Form 10-K filed with the U.S. Securities and Exchange Commission (SEC), which includes certifications of our Chief Executive Officer and Chief Financial Officer, are available on our website. Additionally, copies will be furnished, without charge, to any stockholder of the company entitled to vote at the annual meeting, upon written request. The Investor Relations Department can be contacted as follows:

Freeport-McMoRan Inc.
Investor Relations Department
333 North Central Avenue
Phoenix, AZ 85004
Telephone 602.366.8400
fcx.com

TRANSFER AGENT

Questions about lost certificates, lost or missing dividend checks, or notifications of change of address should be directed to our transfer agent, registrar and dividend disbursement agent:

Computershare
462 South 4th Street, Suite 1600
Louisville, KY 40202

Telephone 800.953.2493

https://www-us.computershare.com/investor/Contact

NOTICE OF ANNUAL MEETING

The annual meeting of stockholders will be held June 3, 2020. Notice of the annual meeting will be sent to stockholders of record as of the close of business on April 8, 2020. In accordance with SEC rules, we will report the voting results of our annual meeting on a Form 8-K, which will be available on our website (fcx.com).

FCX COMMON STOCK

FCX's common stock trades on the New York Stock Exchange (NYSE) under the symbol "FCX." As of January 21, 2020, the number of holders of record of FCX's common stock was 11,718.

NYSE composite tape common share price ranges during 2019 and 2018 were:

	2019		2018	
	High	Low	High	Low
First Quarter	$ 13.86	$ 9.84	$ 20.25	$ 16.51
Second Quarter	14.68	9.47	19.70	14.64
Third Quarter	12.07	8.58	18.14	12.18
Fourth Quarter	13.38	8.43	14.28	9.60

COMMON STOCK DIVIDENDS

There were no cash dividends paid on our common stock during first-quarter 2018. After suspending the cash dividend on common stock in December 2015, our Board of Directors in February 2018 reinstated a quarterly cash dividend on our common stock of $0.05 per share beginning May 1, 2018.

2019	Amount Per Share	Record Date	Payment Date
First Quarter	$ 0.05	Jan. 15, 2019	Feb. 1, 2019
Second Quarter	0.05	Apr. 15, 2019	May 1, 2019
Third Quarter	0.05	July 15, 2019	Aug. 1, 2019
Fourth Quarter	0.05	Oct. 15, 2019	Nov. 1, 2019

2018	Amount Per Share	Record Date	Payment Date
Second Quarter	$ 0.05	Apr. 13, 2018	May 1, 2018
Third Quarter	0.05	July 13, 2018	Aug. 1, 2018
Fourth Quarter	0.05	Oct. 15, 2018	Nov. 1, 2018

The declaration of dividends is at the discretion of our Board of Directors and will depend upon our financial results, cash requirements, global economic conditions and other factors deemed relevant.

FREEPORT-McMoRAN

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