2021 ANNUAL REPORT

ELECTRIFYING THE FUTURE

FREEPORT

FOREMOST IN COPPER

FREEPORT-MCMORAN

Freeport-McMoRan Inc. (FCX or Freeport) is a leading international mining company with headquarters in Phoenix, Arizona. FCX operates large, long-lived, geographically diverse assets with significant proven and probable mineral reserves of copper, gold and molybdenum. 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. As a founding member of the International Council on Mining and Metals (ICMM), FCX is committed to implementing ICMM's Mining Principles which serve as a best practice framework on sustainable development for the global mining and metals industry.

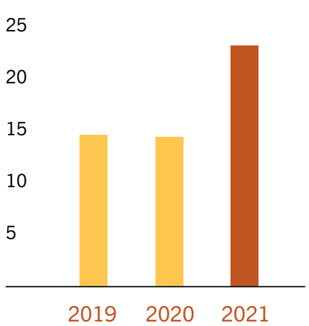
By supplying responsibly produced copper, FCX is proud to be a positive contributor to the world well beyond its operational boundaries. Additional information about FCX is available at fcx.com.

SUMMARY FINANCIAL HIGHLIGHTS

Years ended December 31,	2021	2020	2019
(In millions, except per share amounts)			
Revenues	$ 22,845	$ 14,198	$ 14,402
Operating income	8,366	2,437	1,091
Net income (loss) attributable to common stockholders	4,306	599	(239)
Diluted net income (loss) per common share	2.90	0.41	(0.17)
Dividends declared per common share	0.375	—	0.20
Operating cash flows	7,715	3,017	1,482
Capital expenditures	2,115	1,961	2,652
At December 31:			
Cash and cash equivalents	8,068	3,657	2,020
Total assets	48,022	42,144	40,809
Total debt, including current portion	9,450	9,711	9,826
Total stockholders' equity	13,980	10,174	9,298

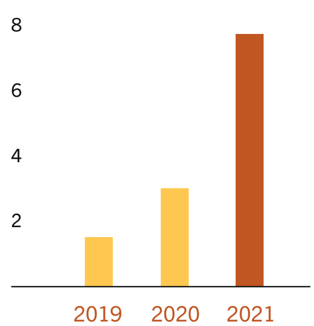
REVENUES

$ in billions



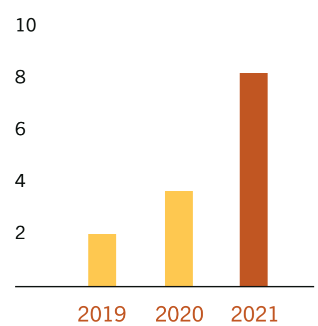
OPERATING CASH FLOWS

$ in billions



CASH AND CASH EQUIVALENTS

$ in billions



THE THEME OF THIS YEAR'S ANNUAL REPORT, "ELECTRIFYING THE FUTURE," HIGHLIGHTS OUR KEY ROLE IN SUPPLYING RESPONSIBLY PRODUCED COPPER TO SUPPORT THE GLOBAL ECONOMY AND THE TRANSITION TO CLEAN ENERGY.

FREEPORT IS FOREMOST IN COPPER AND THE PROSPECTS ARE BRIGHT FOR OUR ASSETS TO BECOME MORE HIGHLY VALUED IN THE FUTURE.

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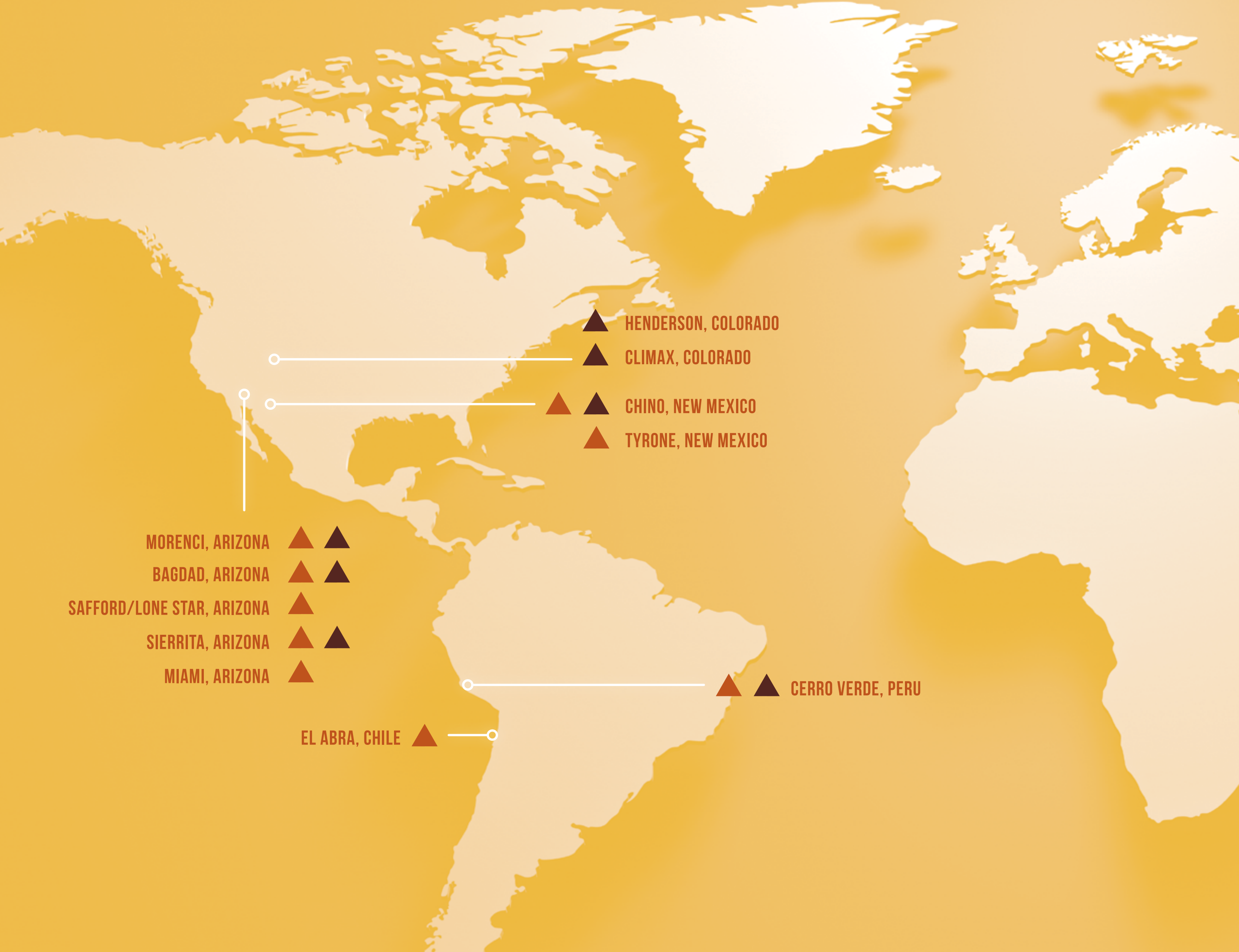
A member of ICMM International Council on Mining & Metals

FCX LISTED NYSE

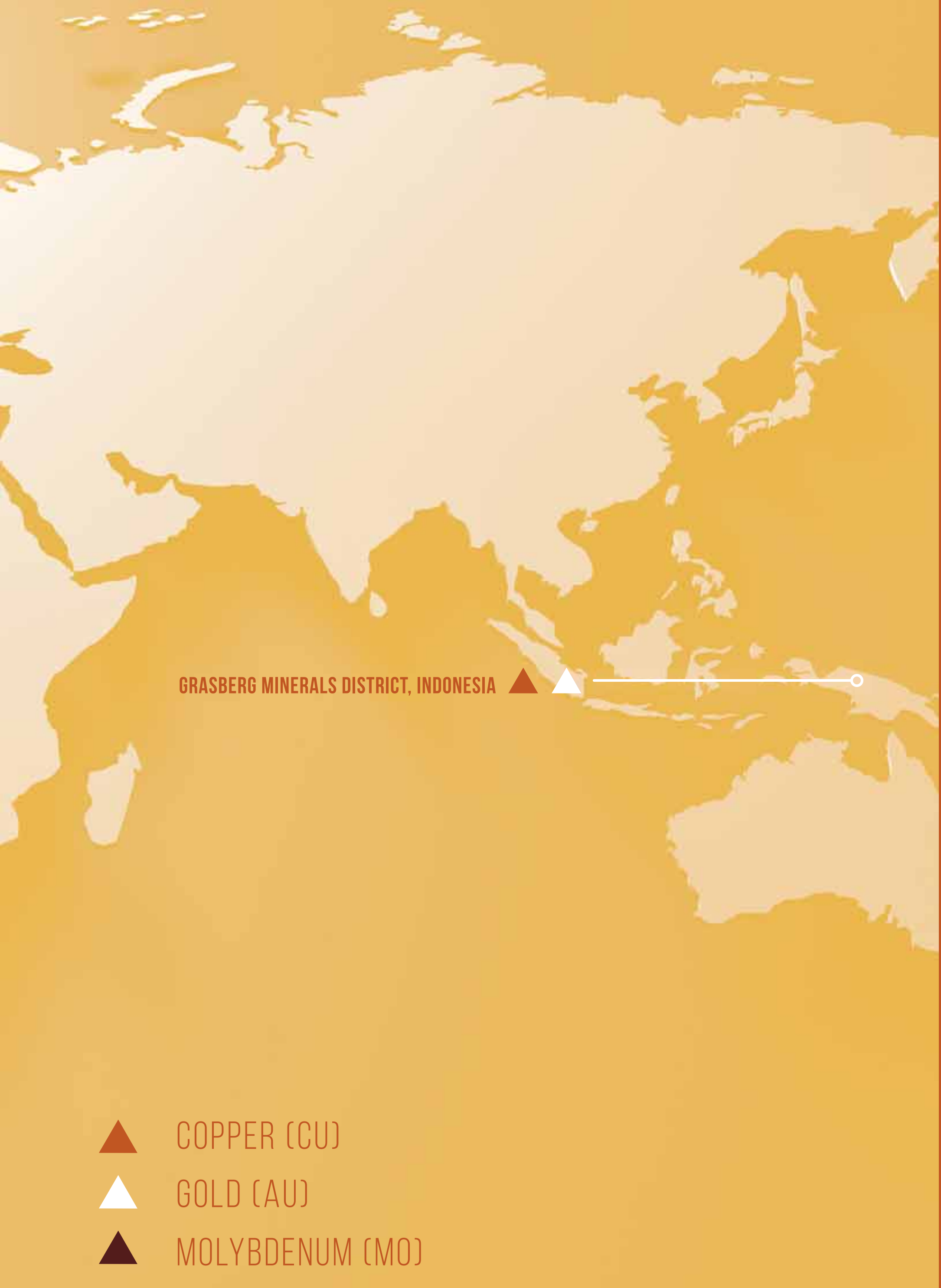
GEOGRAPHICALLY DIVERSE PORTFOLIO



	NORTH AMERICA	SOUTH AMERICA	INDONESIA	CONSOLIDATED TOTALS
RESERVES AT 12/31/21	Cu 43.0 billion lbs Au 0.5 million ozs Mo 2.69 billion lbs	Cu 31.9 billion lbs Mo 0.69 billion lbs	Cu 32.2 billion lbs Au 26.6 million ozs	Cu 107.2 billion lbs Au 27.1 million ozs Mo 3.39 billion lbs
2021 SALES	Cu 1.4 billion lbs Au 0.1 million ozs Mo 82 million lbs*	Cu 1.1 billion lbs	Cu 1.3 billion lbs Au 1.3 million ozs	Cu 3.8 billion lbs Au 1.4 million ozs Mo 82 million lbs

* Includes sales of molybdenum produced at FCX's North America and South America copper mines.

Note: lbs=pounds; ozs=ounces.



GLOBAL INDUSTRY LEADER

One of the world's largest publicly traded copper producers; seasoned and value-driven global team; ~25 year reserve life with substantial additional resources.

TRUSTED OPERATOR

Strong reputation and franchise in four countries; synergistic operation of all assets.

WORLD-CLASS DEVELOPER

Industry-leading track record for major project execution in complex jurisdictions.

BLOCK CAVE LEADER

Industry-leading technical capabilities; decades of block caving experience.

RESPONSIBLE PRODUCER

Long-standing commitment to all of our stakeholders including our employees, communities, host countries, customers and suppliers.

COPPER'S CRITICAL ROLE IN OUR FUTURE

INFRASTRUCTURE

Copper is the backbone of construction and urbanization. It is a critical metal for wire, plumbing and hardware and possesses the best electrical and thermal heat conductivity of any industrial metal.

TECHNOLOGY

Copper demand is expected to benefit from technology advances in communications, artificial intelligence applications, expanding connectivity through global infrastructure and public health initiatives.

Copper has been integral in driving economic progress over time as it enables a higher standard of living while contributing to infrastructure, the food chain, manufacturing and medical devices.

With the transition to clean energy accelerating on a global scale, we believe we are entering a multi-year period of growth and a new era for broad-based copper demand. These demand drivers position copper as a strategic metal for the future.

DECARBONIZATION

Copper is vital to energy efficiency. Global decarbonization is expected to drive intensity of copper use. For example, electric vehicles use up to four times more copper than internal combustion engines. By 2030, copper could support reduction of global carbon emissions by 16%.*

*Source: International Copper Association

DIFFICULT TO REPLICATE

Copper is an extremely versatile metal. Copper's physical attributes include superior electrical conductivity, corrosion resistance, structural capability, efficient heat transfer and aesthetics.

DEAR FELLOW SHAREHOLDERS

I am incredibly proud of our global team's performance during 2021. Our strong results reflect the success by our team in executing our long-term plan in an exceptional fashion. The theme of this year's annual report, "Electrifying the Future," highlights our key role in supplying responsibly produced copper to support the global economy and the transition to clean energy.

During 2021, our global team delivered significant growth in copper and gold volumes, effectively managed costs and capital in a challenging environment and advanced our sustainability objectives. Notably, we reached our targets of achieving our annual run rate for copper and gold production in the Grasberg minerals district in Papua, Indonesia. This major milestone, more than a decade in the making, is of great significance to our company, the global mining industry and the country of Indonesia. We are successfully managing the largest and most modern underground mining complex in the history of the global mining industry.

Our Americas team did great work restoring production curtailed in 2020 as a result of the pandemic, optimizing our new Lone Star mine in Arizona, advancing technologies and is now actively engaged in enhancing our opportunities for future organic growth.

We generated strong financial results in 2021, achieved our net debt targets, restored our investment grade credit ratings with two leading rating agencies and commenced a new performance-based payout framework to provide increasing cash returns to shareholders. Freeport was the top performing stock in our peer group for the second consecutive year and the seventh best performing stock in the S&P 500 for the two-year period ended 2021.

Looking ahead, the fundamental outlook for the copper market is increasingly positive. Copper is essential to decarbonization and is a strategic metal for the future. With the transition to clean energy accelerating on a global scale, we believe we are entering a multi-year period of growth and a new era for broad-based copper demand.

COPPER DEMAND IS GROWING AT A TIME WHEN THE INDUSTRY'S PIPELINE OF NEW MINE SUPPLY DEVELOPMENT IS SHRINKING. ABSENT A MAJOR DOWNTURN IN THE GLOBAL ECONOMY, THIS BACKDROP IS EXCEPTIONALLY FAVORABLE FOR LONG-TERM FUNDAMENTALS AND FOR OUR COMPANY.

As a responsible producer of scale with a strategy focused on copper, the prospects are bright for our assets to become more highly valued in the future. We have a long-lived portfolio of mineral reserves — spanning over 25 years — and substantial options to expand our reserve base in the future from our large inventory of mineral resources beyond reported reserves.

We have multiple options for brownfield, low-risk growth across our portfolio. We are highly optimistic about our opportunities in the U.S. to invest in mine expansions and unlock value through exciting new opportunities from leach recovery technologies. We also have an attractive expansion opportunity at our El Abra mine in Chile. Following the success of our block cave development in Indonesia, we commenced development of the Kucing Liar underground deposit in the Grasberg minerals district, which will provide long-term, low-cost copper and gold volumes. These opportunities provide significant value enhancing options for the future, particularly in the context of the scarcity of future development opportunities industry wide.

Our safety performance in 2021, measured by incident rates of 0.70, was similar to the average of the last three years. Regrettably, we had two fatalities in our operations during the year. Fatality prevention is our top priority and we are implementing programs to increase risk awareness and further embed fatal risk management in all of our processes and daily tasks.

We continue to expand resources dedicated to our sustainability objectives. During 2021, we advanced our climate strategy and our work with the International Council of Mining and Metals (ICMM). We lead the industry in achieving third-party validation of our operations using the robust criteria and process established by the Copper Mark. I am also proud of our strong partnerships with communities where we operate. I encourage you to review our annual sustainability and climate reports for details on our program and initiatives in all of these important areas.

We welcomed six new high-quality, independent directors in 2021, enhancing the skills, experience and diversity of our Board. This was an important initiative and I could not be more pleased with the depth and breadth of our Board. I am personally grateful to each of our directors for their service and contribution to the future success of Freeport.

I want to close by recognizing and thanking our global team for their performance and commitment to our future success. We are optimistic about our business and our strategy and have the capabilities and drive to continue to meet and exceed our own expectations and those of our stakeholders.

As Foremost in Copper, Freeport is "Electrifying the Future," and we will continue to do so responsibly, reliably and relentlessly.

Respectfully yours,

RICHARD C. ADKERSON
CHAIRMAN OF THE BOARD AND
CHIEF EXECUTIVE OFFICER

March 21, 2022

2021 HIGHLIGHTS

+61%

TOTAL STOCKHOLDER RETURN

Outperformed eight-member peer group average of 19% during 2021

$7.7

BILLION

2021 operating cash flows, 156% increase compared to 2020

$19

BILLION

Net debt reduction since year-end 2015

6

Additions to Board of Directors during 2021

CONSOLIDATED RESULTS

FCX's consolidated sales volumes of 3.8 billion pounds of copper and 1.4 million ounces of gold in 2021 were higher than 3.2 billion pounds of copper and 0.9 million ounces of gold in 2020, primarily reflecting the ramp-up of underground mining at the Grasberg minerals district.

Consolidated molybdenum sales totaled 82 million pounds in 2021 and 80 million pounds in 2020.

During 2022, FCX expects to grow production and sales volumes while continuing to execute its operating plans. FCX's consolidated sales for 2022 are expected to approximate 4.3 billion pounds of copper, 1.6 million ounces of gold and 80 million pounds of molybdenum. This operating plan coupled with a favorable market outlook positions FCX to generate strong cash flows, which will support the advancement of organic growth initiatives and cash returns to shareholders under its established financial policy.

FUTURE ORGANIC GROWTH OPPORTUNITIES

NEW LEACH TECHNOLOGIES IN THE AMERICAS

- **Focused on initiatives to advance sulfide leaching technologies and to drive continuous recovery improvement**
- **Leveraging both research and development and in-field trials at existing leach stockpiles and future opportunities to recover copper from below mill cut-off grade material**
- **Success would enable utilization of latent tank house capacity with limited capital investment**

DURING 2021, FCX DELIVERED GROWTH IN VOLUMES AND SOLID COST AND CAPITAL MANAGEMENT IN A CHALLENGING ENVIRONMENT. FCX HAS A CLEAR STRATEGY OF BEING FOREMOST IN COPPER, WITH A STRONG BALANCE SHEET AND STRONG CASH FLOWS.

In-pit shovel rebuild at the Morenci mine, Arizona

2021 HIGHLIGHTS

3.8

BILLION LBS

2021 consolidated copper sales

19%

INCREASE

Year over year change in copper sales

1.36

MILLION OZS

2021 consolidated gold sales

59%

INCREASE

Year over year change in gold sales

Exploration drilling at the Lone Star mine, Arizona

FCX IS INCREASING EXPLORATION IN THE LONE STAR AREA TO SUPPORT METALLURGICAL TESTING AND MINE DEVELOPMENT PLANNING FOR A POTENTIAL LONG-TERM INVESTMENT IN A CONCENTRATOR.

LONE STAR COPPER MINE IN ARIZONA

200

MILLION LBS

Initial design capacity for oxide production

235

MILLION LBS

2021 production rate

300

MILLION LBS

Target production following incremental expansion underway

~50

BILLION LBS

Mineral potential associated with deeper sulfide ores

NORTH AMERICA MINING

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

FCX has substantial mineral reserves and future opportunities in the United States (U.S.), primarily associated with existing mining operations. Current operations at the Lone Star copper leach project exceeded initial design capacity of 200 million pounds annually and produced approximately 235 million pounds of copper in 2021. FCX continues to advance opportunities to increase Lone Star operating rates and is advancing plans to increase volumes to achieve 300 million pounds of copper per year from oxide ores.

FCX is also evaluating an expansion of the Bagdad operation and is engaging stakeholders. Feasibility studies to double Bagdad's operating rates are expected to commence in 2022.

North America's consolidated copper sales totaled 1.4 billion pounds in both 2021 and 2020. FCX expects copper sales from its North America copper mines to approximate 1.55 billion pounds in 2022.

Consolidated molybdenum sales, including sales of molybdenum produced at FCX's North America and South America copper mines, totaled 82 million pounds in 2021 and 80 million pounds in 2020. FCX expects consolidated molybdenum sales to approximate 80 million pounds in 2022.

FUTURE ORGANIC GROWTH OPPORTUNITIES

BAGDAD EXPANSION IN ARIZONA

- Double concentrator capacity
- Commencing feasibility study, stakeholder engagement
- Increasing confidence in potential 2026 start-up

LONE STAR EXPANSIONS IN ARIZONA

- Near-term oxide expansions
- Increasing exploration to define resource
- Potential long-term sulfide investment in concentrator

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.

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

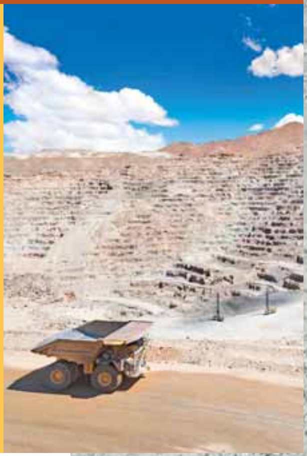
El Abra increased operating rates to pre-COVID-19 pandemic levels during 2021. Increased mining and stacking activities are expected to result in a 30 percent increase in El Abra copper production for the year 2022, compared with the year 2021.

Consolidated copper sales from FCX's South America mines of 1.1 billion pounds in 2021 were higher than 1.0 billion pounds in 2020, primarily reflecting higher mining and milling rates at Cerro Verde. FCX expects copper sales from its South America mines to approximate 1.2 billion pounds in 2022.

FUTURE ORGANIC GROWTH OPPORTUNITIES

EL ABRA EXPANSION IN CHILE

- Large sulfide resource supports a major expansion opportunity
- Preparations for submitting environmental impact statement and stakeholder engagement
- Monitoring regulatory considerations



FCX'S CERRO VERDE MINE IN PERU CONTAINS THE LARGEST MILL CONCENTRATING FACILITY IN THE WORLD.

2021 HIGHLIGHTS

3.5%

OF COPPER RESERVES

FCX consolidated copper reserves associated with El Abra in Chile

30%

INCREASE

Expected increase in El Abra production in 2022

380,000

METRIC TONS OF ORE PER DAY

2021 mill rate at Cerro Verde

400,000

METRIC TONS OF ORE PER DAY

Targeted mill rate at Cerro Verde during 2022

KEY UNDERGROUND DEVELOPMENT HIGHLIGHTS

2004

Year common infrastructure development commenced for underground reserves

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2019

Year production phase commenced for Grasberg Block Cave and Deep Mill Level Zone

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2021

Year PT-FI achieved annual run rate for underground copper and gold production

---

OVER

350

MILES

Of tunneling developed

FCX NOW HAS THE EXCITING FUTURE OF MANAGING THE LARGEST AND MOST MODERN UNDERGROUND OPERATIONS IN THE HISTORY OF THE GLOBAL MINING INDUSTRY.

Underground rail car loading at the Grasberg Block Cave mine

INDONESIA MINING

Through its subsidiary, PT Freeport Indonesia (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 ownership in PT-FI and manages its mining operations. PT-FI's results are consolidated in FCX's financial statements.

PT-FI currently has three underground operating mines in the Grasberg minerals district: Grasberg Block Cave, Deep Mill Level Zone and Big Gossan. During 2021, PT-FI began development of the Kucing Liar underground ore body. The ramp-up of underground production at the Grasberg minerals district continues to advance on schedule.

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

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

FUTURE ORGANIC GROWTH OPPORTUNITIES

KUCING LIAR GRASBERG MINERALS DISTRICT IN INDONESIA

- Commenced development of underground copper and gold reserves
- Approximate 10-year development timeframe
- Benefits from substantial shared infrastructure
- Sustain large-scale, low-cost production

MINING RESERVES AND MINERALIZED MATERIAL

FCX has significant mineral reserves, mineral resources and future development opportunities within its portfolio of mining assets. FCX's estimated consolidated recoverable proven and probable mineral reserves from its mines at December 31, 2021, included 107.2 billion pounds of copper, 27.1 million ounces of gold, 3.39 billion pounds of molybdenum and 345.7 million ounces of silver, which were determined using metal 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.

In addition to the estimated consolidated recoverable proven and probable mineral reserves, FCX's estimated mineral resources (including measured, indicated and inferred resources) at December 31, 2021, which were assessed using $3.00 per pound for copper, totaled 191 billion pounds of incremental contained copper. FCX continues to pursue opportunities to convert this material into mineral reserves, future production volumes and cash flow.

ESTIMATED RECOVERABLE PROVEN AND PROBABLE RESERVES

COPPER RESERVES BY REGION

107.2 billion lbs as of 2021

40%	30%	30%
NORTH AMERICA	SOUTH AMERICA	INDONESIA

FCX HAS LONG-LIVED RESERVES AND A SIGNIFICANT RESOURCE POSITION IN ITS EXISTING PORTFOLIO.

LONG-LIVED ASSET BASE

107.2

BILLION LBS

Estimated recoverable proven and probable copper mineral reserves as of December 31, 2021

$2.50

PER LB

Copper price used to determine recoverable reserves

25

YEARS

Implied reserve life for copper

191

BILLION LBS

Estimated incremental copper resources on a contained basis as of December 31, 2021

Haul road at the Lone Star mine, Arizona

FCX'S NEW PERFORMANCE-BASED PAYOUT FRAMEWORK IS PROVIDING INCREASING CASH RETURNS TO SHAREHOLDERS.

SHAREHOLDER RETURNS

UP TO

50%

Free cash flow to be returned to stockholders under performance-based payout framework

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$0.60

PER SHARE

IN DIVIDENDS

Includes $0.30 per share annual base dividend and $0.30 per share variable dividend for 2022

$3.0

BILLION

SHARE REPURCHASE PROGRAM

Board approved in November 2021

25

MILLION SHARES

Repurchased as of March 31, 2022, in open market

Haul trucks delivering ore from the Morenci mine, Arizona

FINANCIAL PERFORMANCE

FCX believes that its cash generating capability and financial condition will allow it to meet its operating, investing and financing needs over the next several years.

Operating Cash Flows and Liquidity

FCX generated consolidated operating cash flows of $7.7 billion in 2021. At December 31, 2021, FCX had consolidated total debt of $9.5 billion, consolidated cash and cash equivalents of $8.1 billion, and no borrowings and $3.5 billion available under its revolving credit facility.

Based on current sales volume and costs estimates, and assuming average prices of $4.50 per pound of copper, $1,800 per ounce of gold and $19.00 per pound of molybdenum, FCX's consolidated operating cash flows are expected to approximate $8.0 billion in 2022. The impact of copper price changes during 2022 on operating cash flows would approximate $365 million for each $0.10 per pound change in the average price of copper.

Investing Activities

FCX's capital expenditures totaled $2.1 billion in 2021, including $1.25 billion for major projects, primarily associated with underground development activities in the Grasberg minerals district.

Capital expenditures are expected to approximate $4.7 billion in 2022, including $2.0 billion for major mining projects ($1.4 billion for underground development activities in the Grasberg minerals district and $0.6 billion for discretionary growth projects) and $1.4 billion for development of additional smelting capacity in Indonesia.

Capital expenditures for the Indonesia smelter projects are currently being funded through PT-FI's $1.0 billion unsecured bank credit facility. PT-FI is currently arranging incremental financing for these projects, with the cost of debt shared by its shareholders.

Financing Transactions

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

FCX's next senior note maturity is in March 2023, with redemption rights, at par, beginning in December 2022.

Financial Policy

In February 2021, FCX's Board of Directors (the Board) adopted a financial policy for the allocation of cash flows aligned with FCX's strategic objectives of maintaining a strong balance sheet and increasing cash returns to shareholders while advancing opportunities for future growth.

In February 2021, the Board reinstated a cash dividend on FCX's common stock (base dividend) at an annual rate of $0.30 per share, and following achievement of FCX's net debt target in the range of $3.0 billion to $4.0 billion (excluding debt for additional smelting capacity in Indonesia), in November 2021 the Board approved the implementation of a performance-based payout framework, including (i) a new $3.0 billion share repurchase program and (ii) a variable cash dividend on common stock for 2022 at an expected annual rate of $0.30 per share. The combined annual rate of the base dividend and the variable dividend is expected to total $0.60 per share for 2022.

The policy is being implemented to direct up to 50 percent of cash flows, after planned capital spending (excluding the Indonesia smelter projects) and distributions to noncontrolling interests, to shareholder returns, with the balance available for investments in future value enhancing growth projects and further debt reductions. The Board will review the structure and the amount of performance-based payout at least annually.

SUSTAINABILITY

FCX is foremost in the global copper industry, a metal which plays an essential role in the technologies necessary to support global decarbonization, to advance reliable electrical grids, telecommunications and transportation, and to connect and advance society.

FCX's sustainability approach is underpinned by the recognition that its work and the products it produces are key contributors to progress around the world. FCX recognizes the importance of effective management, integration, and governance of key environmental, social and governance (ESG) matters. Strong ESG performance is imperative to the long-term success of FCX and its ability to deliver value to stakeholders.

FCX's highest priority is the health, safety and well-being of its workforce and the communities where it operates. FCX seeks to work collaboratively with its stakeholders to support shared value creation in its host communities and countries and to recognize, respect and promote human rights everywhere it conducts business. FCX is also dedicated to effective environmental protection and stewardship, which are key to ensuring the long-term viability of its business, including maintaining the necessary support from communities and governments.

One of the ways FCX is working to demonstrate its commitment to responsible production is through the Copper Mark, a comprehensive assurance framework developed specifically for the copper industry. To achieve the Copper Mark, each site is required to be independently assessed against a comprehensive set of 32 ESG criteria. In 2020, FCX began the process of validating all of its copper producing sites against the Copper Mark. To date, FCX has achieved the Copper Mark at 9 global operations, two sites have signed letters of commitment and FCX plans to commence the process at PT-FI in 2022. Read more about FCX's sustainability programs and progress in its 2021 Annual Report on Sustainability, available at fcx.com/sustainability.

THE COPPER MARK | RESPONSIBLY PRODUCED COPPER

FCX HAS ACHIEVED THE COPPER MARK AT THE FOLLOWING 9 SITES:

- Atlantic Copper smelter and refinery in Spain
- Bagdad mine in Arizona, U.S.
- Cerro Verde mine in Peru
- Chino mine in New Mexico, U.S.
- El Abra mine in Chile
- El Paso refinery in Texas, U.S.
- Miami mine and smelter in Arizona, U.S.
- Morenci mine in Arizona, U.S.
- Tyrone mine in Arizona, U.S.

COMMUNITY INVESTMENTS

$164 MILLION

2021 total investment

$2.1 BILLION

Cumulative investment since 2009

CLIMATE STRATEGY

As one of the world's largest copper producers, FCX understands its critical role in the low-carbon energy transition. FCX is dedicated to supplying the global economy with responsibly produced copper while operating in a manner that manages and mitigates its greenhouse gas (GHG) emissions and other climate-related risks.

Building upon its 2020 progress, in 2021, FCX completed its first global climate scenario analysis, significantly enhanced the climate expertise on its Board, directly aligned climate performance with its annual executive compensation program, and advanced its analysis of renewable energy opportunities in the U.S. During the year, FCX also established a 30 percent GHG emissions intensity reduction target for its Indonesia operations by 2030 (versus a 2018 baseline); the Indonesia target is in addition to FCX's 2030 intensity reduction target established in 2020 for its Americas copper business. FCX is committed to validating its 2030 interim targets with the Science Based Targets initiative.

FCX recognizes that climate change poses considerable near- and long-term challenges for society and for FCX's operational and financial performance. Mining is energy-intensive and generates significant GHG emissions that contribute to climate change. This is why FCX aspires to participate in — and positively contribute to — a 2050 net zero economy. In support of this ambition, FCX is working collaboratively with various industry consortiums and equipment manufacturers to develop viable technological solutions necessary to achieve its climate commitments. Read more about FCX's climate strategy and progress in its 2020 Climate Report, available at fcx.com/sustainability.

FCX ASPIRES TO PARTICIPATE IN — AND POSITIVELY CONTRIBUTE TO — A 2050 NET ZERO ECONOMY.

CLIMATE STRATEGY PILLARS

PILLAR 1

REDUCTION

Reduce GHG emissions including our Americas and PT-FI 2030 GHG intensity reduction targets

PILLAR 2

RESILIENCE

Enhance resilience to climate change risks

PILLAR 3

CONTRIBUTION

Contribute responsibly produced copper to the global energy transition

Mangrove reclamation in Papua, Indonesia

BOARD OF DIRECTORS

Richard C. Adkerson
Chairman of the Board
and Chief Executive Officer
Freeport-McMoRan Inc.

Dustan E. McCoy (1, 2)
Lead Independent Director
Freeport-McMoRan Inc.
Retired Chairman and
Chief Executive Officer
Brunswick Corporation

David P. Abney (1, 2)
Retired Chairman and
Chief Executive Officer
United Parcel Service, Inc.

Marcela E. Donadio (3)
Retired Partner
and Americas Oil & Gas Sector Leader
Ernst & Young LLP

Robert W. "Bob" Dudley (3, 4)
Retired Group Chief Executive
BP, p.l.c.

Hugh Grant (2)
Retired Chairman of the Board,
President and Chief Executive Officer
Monsanto Company

Lydia H. Kennard (3, 4)
President and Chief Executive Officer
KDG Construction Consulting
and Quality Engineering Solutions

Ryan M. Lance (4)
Chairman and Chief Executive Officer
ConocoPhillips

Sara Grootwassink Lewis (1)
Retired Chief Executive Officer
Lewis Corporate Advisors

John J. Stephens (1)
Retired Senior Executive Vice President
and Chief Financial Officer
AT&T Inc.

Frances Fragos Townsend (2, 4)
Executive Vice President for
Corporate Affairs,
Corporate Secretary and
Chief Compliance Officer
Activision Blizzard, Inc.

EMERITUS MEMBER:
Dr. Henry A. Kissinger
Director Emeritus

BOARD COMMITTEES:
1) Audit Committee
2) Compensation Committee
3) Governance Committee
4) Corporate Responsibility Committee

EXECUTIVE OFFICERS

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

Kathleen L. Quirk
President

Maree Robertson*
Senior Vice President and
Chief Financial Officer

Douglas N. Currault II
Senior Vice President and
General Counsel

Stephen T. Higgins
Senior Vice President and
Chief Administrative Officer

*Ms. Robertson's appointment was effective March 1, 2022.

SENIOR LEADERSHIP

Operations

Mark J. Johnson
Director and Executive Vice President
PT Freeport Indonesia
President and Chief Operating Officer
Freeport-McMoRan Indonesia

Joshua F. "Josh" Olmsted
President and Chief Operating Officer
Freeport-McMoRan Americas

Richard E. "Rick" Coleman
President
Freeport-McMoRan Growth Support

A. Cory Stevens
President
Freeport-McMoRan Mining Services

Michael J. Kendrick
President
Climax Molybdenum Co.

Javier Targhetta
President, Atlantic Copper S.L.U.
Senior Vice President, FCX
(Concentrates)

Clayton A. "Tony" Wenas
President Director
PT Freeport Indonesia

Administration

Robert R. Boyce
Vice President and Treasurer

William E. Cobb
Vice President and
Chief Sustainability Officer

Pamela Q. Masson
Vice President and Chief Human
Resources Officer

Bertrand L. Odinet, II
Vice President, Chief Information
Officer and Chief Innovation Officer

C. Donald Whitmire, Jr. *
Vice President and
Controller — Financial Reporting

Internal Auditors
Deloitte & Touche LLP

*Mr. Whitmire will retire June 30, 2022.

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

a. Amounts are net of Morenci's joint venture partners' undivided interest.
b. Cerro Verde mill operations were impacted by COVID-19 restrictions.

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

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

In Management's Discussion and Analysis of Financial Condition and Results of Operations and Quantitative and Qualitative Disclosures About Market Risk (MD&A), "we," "us" and "our" refer to Freeport-McMoRan Inc. and its consolidated subsidiaries. The results of operations reported and summarized below are not necessarily indicative of future operating results (refer to "Cautionary Statement" below for further discussion). References to "Notes" are Notes included in our Notes to Consolidated Financial Statements. Throughout MD&A, all references to earnings or losses per share are on a diluted basis.

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

OVERVIEW

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

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

In February 2021, our Board of Directors (Board) adopted a financial policy for the allocation of cash flows aligned with our strategic objectives of maintaining a strong balance sheet and increasing cash returns to shareholders while advancing opportunities for future growth. Following achievement of our net debt target in the range of $3.0 billion to $4.0 billion (excluding debt for additional smelting capacity in Indonesia), we announced in November 2021 the implementation of a performance-based payout framework, including the commencement of a new $3.0 billion share repurchase program (through February 15, 2022, we acquired 18.2 million shares of our common stock for a total cost of $710 million, $39.10 per share) and expected base and variable dividends on common stock totaling $0.60 per share for 2022. Our Board will review the structure and the amount of the performance-based payout framework at least annually. Refer to Note 10 and "Capital Resources and Liquidity" for further discussion of our financial policy.

As further discussed in "Operations," highlights during 2021 include:

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

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

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

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

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

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

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

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

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

OUTLOOK

We continue to view the long-term outlook for our business positively, supported by expected rising demand associated with limitations on supplies of copper, the global economic recovery and infrastructure development and new demand associated with clean energy. Our financial results vary as a result of fluctuations in market prices primarily for copper, gold and, to a lesser extent, molybdenum, as well as other factors. World market prices for these commodities have fluctuated historically and are affected by numerous factors beyond our control. Refer to "Markets" for further discussion. Because we cannot control the price of our products, the key measures that management focuses on in operating our business are sales volumes, unit net cash costs, operating cash flows and capital expenditures.

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

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

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

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

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

Consolidated Operating Cash Flows. Our consolidated operating cash flows vary with sales volumes; prices realized from copper, gold and molybdenum sales; production costs; income taxes; other working capital changes; and other factors. Based on current sales volume and cost estimates, and assuming average prices of $4.50 per pound of copper, $1,800 per ounce of gold and

$19.00 per pound of molybdenum, our consolidated operating cash flows are estimated to approximate $8.0 billion (net of $1.3 billion of working capital and other uses, mostly for income tax payments) for the year 2022. Estimated consolidated operating cash flows in 2022 also reflect a projected income tax provision of $3.2 billion (refer to "Consolidated Results—Income Taxes" for further discussion of our projected income tax rate for the year 2022). The impact of price changes during 2022 on operating cash flows would approximate $365 million for each $0.10 per pound change in the average price of copper, $100 million for each $100 per ounce change in the average price of gold and $110 million for each $2 per pound change in the average price of molybdenum.

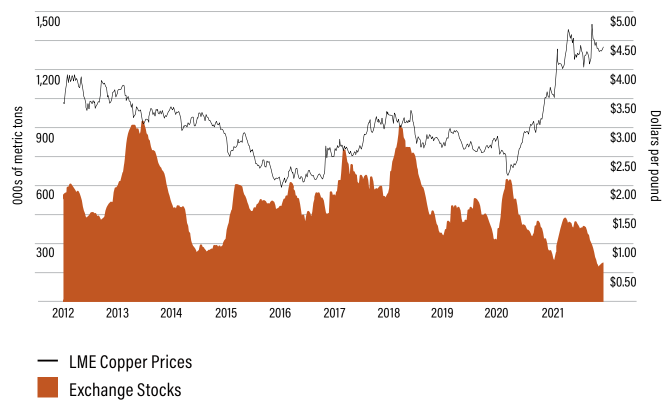
Consolidated Capital Expenditures. Capital expenditures for the year 2022 are expected to approximate $4.7 billion, $3.3 billion excluding the greenfield smelter and precious metals refinery (PMR) (collectively, the Indonesia smelter projects discussed below), including $2.0 billion for major mining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

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

MARKETS

World prices for copper, gold and molybdenum can fluctuate significantly. During the period from January 2012 through December 2021, the London Metal Exchange (LME) copper settlement price varied from a low of $1.96 per pound in 2016 to a record high of $4.86 per pound in 2021; the London Bullion Market Association (London) PM gold price fluctuated from a low of $1,049 per ounce in 2015 to a record high of $2,067 per ounce in 2020, and the *Metals Week* Molybdenum Dealer Oxide weekly average price ranged from a low of $4.46 per pound in 2015 to a high of $20.01 per pound in 2021. Copper, gold and molybdenum prices are affected by numerous factors beyond our control as described further in Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021.

LME Copper Prices
Through December 31, 2021



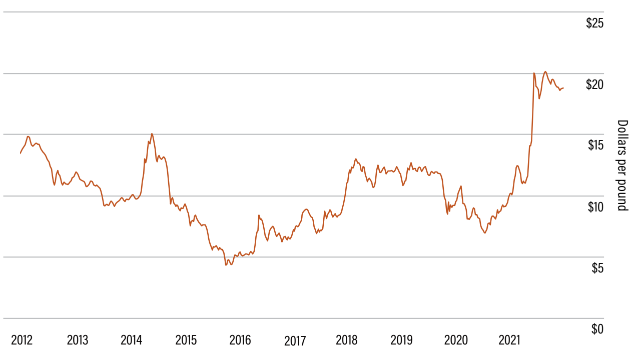
This graph presents LME copper settlement prices and the combined reported stocks of copper at the LME, Commodity Exchange Inc., and the Shanghai Futures Exchange from January 2012 through December 2021. For the year 2021, LME copper settlement prices ranged from a low of $3.52 per pound to a record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

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

London Gold Prices
Through December 31, 2021

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

Metals Week Molybdenum Dealer Oxide Prices
Through December 31, 2021



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

CRITICAL ACCOUNTING ESTIMATES

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

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

Our operations are in multiple jurisdictions where uncertainties arise in the application of complex tax regulations. Some of these tax regimes are defined by contractual agreements with the local government, while others are defined by general tax laws and regulations. We and our subsidiaries are subject to reviews of our income tax filings and other tax payments, and disputes can arise with the taxing authorities over the interpretation of our contracts or laws. During 2021, PT-FI recorded charges to provision for income taxes totaling $186 million associated with historical contested tax matters in Indonesia. Refer to Note 11 for further discussion.

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

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

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

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

Environmental Obligations. Our current and historical operating activities are subject to various national, state and local environmental laws and regulations that govern the protection of the environment, and compliance with those laws requires significant expenditures. Environmental expenditures are charged to expense or capitalized, depending upon their future economic benefits. The guidance provided by U.S. GAAP requires that liabilities for contingencies be recorded when it is probable that obligations have been incurred, and the cost can be reasonably estimated. At December 31, 2021, environmental obligations recorded in our consolidated balance sheet totaled $1.7 billion, which reflect obligations for environmental liabilities attributed to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) or analogous state programs and for estimated future costs associated with environmental matters. Refer to Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, and Notes 1 and 12 for further discussion of environmental obligations, including a summary of changes in our estimated environmental obligations for the three years ended December 31, 2021.

Accounting for environmental obligations represents a critical accounting estimate because (i) changes to environmental laws and regulations and/or circumstances affecting our operations could result in significant changes to our estimates, which could have a significant impact on our results of operations, (ii) we will not incur most of these costs for a number of years, requiring us to make estimates over a long period, (iii) calculating the discounted cash flows for certain of our environmental obligations requires management to estimate the amounts and timing of projected cash flows and make long-term assumptions about inflation rates and (iv) changes in estimates used in determining our environmental obligations could have a significant impact on our results of operations.

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

Asset Retirement Obligations. We record the fair value of our estimated asset retirement obligations (AROs) associated with tangible long-lived assets in the period incurred. Fair value is measured as the present value of cash flow estimates after considering inflation and a market risk premium. Our cost estimates are reflected on a third-party cost basis and comply with our legal obligation to retire tangible long-lived assets in the period incurred. These cost estimates may differ from financial assurance cost estimates for reclamation activities because of a variety of factors, including obtaining updated cost estimates for reclamation activities, the timing of reclamation activities, changes in scope and the exclusion of certain costs not considered reclamation and closure costs. At December 31, 2021, AROs recorded in our consolidated balance sheet totaled $2.7 billion, including $0.3 billion associated with our remaining oil and gas operations. In 2021, primarily because of safety constraints and other concerns regarding our reclamation activities associated with an overburden stockpile at our Indonesia operations, we recorded a $397 million adjustment to our Indonesia AROs. Refer to Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, and to Notes 1 and 12 for further discussion of reclamation and closure costs, including a summary of changes in our AROs for the three years ended December 31, 2021.

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

Mineral Reserves. Recoverable proven and probable mineral reserves were determined from the application of relevant modifying factors to geological data, in order to establish an operational, economically viable mine plan and have been prepared in accordance with the disclosure requirements of subpart 1300 of Securities and Exchange Commission Regulation S-K. The determination of mineral reserves involves numerous uncertainties with respect to the ultimate geology of the ore bodies, including quantities, grades and recoveries. Estimating the quantity and grade of mineral reserves requires us to determine the size, shape and depth of our ore bodies by analyzing geological data, such as samplings of drill holes, tunnels and other underground workings. In addition to the geology of our mines, assumptions are required to determine the economic feasibility of mining these reserves, including estimates of future commodity prices and demand, the mining methods we use and the related costs incurred to develop and mine our mineral reserves. Our estimates of recoverable proven and probable mineral reserves are prepared by and are the responsibility of our employees. These estimates are reviewed and verified regularly by independent experts in mining, geology and reserve determination.

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

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

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

Refer to Note 17, and Items 1. and 2. "Business and Properties" and Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, for further information regarding, and risks associated with, our estimated recoverable proven and probable mineral reserves.

As discussed in Note 1, we depreciate our life-of-mine mining and milling assets and values assigned to proven and probable mineral reserves using the unit-of-production (UOP) method based on our estimated recoverable proven and probable mineral reserves. Because the economic assumptions used to estimate mineral reserves may change from period to period and additional geological data is generated during the course of operations, estimates of mineral reserves may change, which could have a significant impact on our results of operations, including changes to prospective depreciation rates and impairments of long-lived asset carrying values. Based on projected copper sales volumes, if estimated copper reserves at our mines were 10 percent higher at December 31, 2021, we estimate that our annual depreciation, depletion and amortization (DD&A) expense for 2022 would decrease by approximately $50 million (approximately $30 million to net income attributable to common stock), and a 10 percent decrease in copper reserves would increase DD&A expense by approximately $165 million (approximately $85 million to net income attributable to common stock). We perform annual assessments of our existing assets in connection with the review of mine operating and development plans. If it is determined that assigned asset lives do not reflect the expected remaining period of benefit, any change could affect prospective DD&A rates.

As discussed below and in Note 1, we review and evaluate our long-lived assets for impairment when events or changes in circumstances indicate that the related carrying amount of such assets may not be recoverable, and changes to our estimates of recoverable proven and probable mineral reserves could have an impact on our assessment of asset recoverability.

Recoverable Copper in Stockpiles. We record, as inventory, applicable costs for copper contained in mill and leach stockpiles that are expected to be processed in the future based on proven processing technologies. Mill and leach stockpiles are evaluated periodically to ensure that they are stated at the lower of weighted-average cost or net realizable value (refer to Note 4 and "Consolidated Results" for further discussion of inventory adjustments recorded for the three years ended December 31, 2021). Accounting for recoverable copper from mill and leach stockpiles represents a critical accounting estimate because (i) it is impracticable to determine copper contained in mill and leach stockpiles by physical count, thus requiring management to employ reasonable estimation methods and (ii) recoveries from leach stockpiles can vary significantly. Refer to Note 1 for further discussion of our accounting policy for recoverable copper in stockpiles.

At December 31, 2021, estimated consolidated recoverable copper was 1.8 billion pounds in leach stockpiles (with a carrying value of $2.1 billion) and 0.3 billion pounds in mill stockpiles (with a carrying value of $0.4 billion).

Impairment of Long-Lived Assets. As discussed in Note 1, we assess the carrying values of our long-lived mining assets when events or changes in circumstances indicate that the related carrying amounts of such assets may not be recoverable. In evaluating our long-lived mining assets for recoverability, we use estimates of pre-tax undiscounted future cash flows of our mines.

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

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

In addition to decreases in future metal price assumptions, other events that could result in future impairment of our long-lived mining assets include, but are not limited to, decreases in estimated recoverable proven and probable mineral reserves and any event that might otherwise have a material adverse effect on mine site production levels or costs. Refer to Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021.

CONSOLIDATED RESULTS

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

a. Refer to Note 16 for a summary of revenues and operating income by operating division.
b. Includes adjustments to embedded derivatives for provisionally priced concentrate and cathode sales (refer to Note 14).
c. We defer recognizing profits on intercompany sales until final sales to third parties occur. Refer to "Operations—Smelting & Refining" for a summary of net impacts from changes in these deferrals.
d. Includes net charges in 2021 totaling $331 million ($0.22 per share), primarily associated with net adjustments to AROs mostly at PT Freeport Indonesia (PT-FI), historical contested tax matters at PT-FI (including historical tax audits and an administrative fine levied by the Indonesia government) and nonrecurring labor-related charges for labor agreements at Cerro Verde, partly offset by the release of a valuation allowance on NOLs at PT-FI's subsidiary, a gain on the sale of Freeport Cobalt, refunds of Arizona transaction privilege taxes related to purchased electricity and favorable adjustments to prior-years' profit sharing at Cerro Verde.
e. Includes net charges in 2020 totaling $191 million ($0.13 per share), primarily associated with the COVID-19 pandemic and revised operating plans (including employee separation costs), a framework for the resolution of all current and future potential talc-related litigation, net losses on early extinguishment of debt, metals inventory adjustments and historical contested tax audits at PT-FI. These charges were partly offset primarily by a gain on the sale of our interests in the Kisanfu exploration project.
f. Working capital and other sources totaled $755 million in 2021 and $665 million in 2020.

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

a. Reflects per pound weighted-average production and delivery costs and unit net cash costs (net of by-product credits) for all copper mines, before net noncash and other costs. For reconciliations of the per pound unit costs by operating division to production and delivery costs applicable to sales reported in our consolidated financial statements, refer to "Product Revenues and Production Costs."

Revenues

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

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

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

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

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

Average realized copper prices include net favorable adjustments to current year provisionally priced copper sales (*i.e.*, provisionally priced sales during the years 2021 and 2020) totaling $256 million for 2021 and $361 million for 2020. Refer to Note 14 for a summary of total adjustments to prior period and current period provisionally priced sales. As discussed below and in "Disclosures About Market Risks—Commodity Price Risk," substantially all of our copper concentrate and cathode sales contracts provide final copper pricing in a specified future month (generally one to four months from the shipment date). We record revenues and invoice customers at the time of shipment based on then-current LME prices, which results in an embedded derivative on provisionally priced concentrate and cathode sales that is adjusted to fair value through earnings each period, using the period-end forward prices, until final pricing on the date of settlement. To the extent final prices are higher or lower than what was recorded on a provisional basis, an increase or decrease to revenues is recorded each reporting period until the date of final pricing. Accordingly, in times of rising copper prices, our revenues benefit from adjustments to the final pricing of provisionally priced sales pursuant to contracts entered into in prior periods; in times of falling copper prices, the opposite occurs.

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

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

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

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

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

Production and Delivery Costs

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

Mining Unit Site Production and Delivery Costs. Site production and delivery costs for our copper mining operations primarily include labor, energy and commodity-based inputs, such as sulfuric acid, reagents, liners, tires and explosives. Consolidated unit site production and delivery costs (before net noncash and other costs) for our copper mines averaged $1.93 per pound of copper in 2021 and $1.88 per pound in 2020. Higher consolidated unit site production and delivery costs in 2021, compared with 2020, primarily reflect higher mining and milling costs associated with ramped-up operations and higher maintenance and input costs, partly offset by higher sales volumes. Consolidated site production and delivery costs per pound for the year 2021 included nonrecurring labor-related charges at Cerro Verde for collective labor agreements. Refer to "Operations—Unit Net Cash Costs" for further discussion of unit net cash costs associated with our operating divisions, and to "Product Revenues and Production Costs" for reconciliations of per pound costs by operating division to production and delivery costs applicable to sales reported in our consolidated financial statements.

Our copper mining operations require significant amounts of energy, principally diesel, electricity, coal and natural gas, most of which is obtained from third parties under long-term contracts. Our take-or-pay contractual obligations for electricity totaled approximately $0.3 billion at December 31, 2021. We do not have take-or-pay contractual obligations for other energy commodities. Energy represented approximately 21 percent of our copper mine site operating costs in 2021, including purchases of approximately 220 million gallons of diesel fuel; approximately 8,000 gigawatt hours of electricity at our North America and South America copper mining operations (we generate all of our power at our Indonesia mining operation); approximately 750 thousand metric tons of coal for our coal power plant in Indonesia; and approximately 1 million MMBtu (million British thermal units) of natural gas at certain of our North America mines. Based on current cost estimates, energy will approximate 25 percent of our copper mine site operating costs for 2022.

Depreciation, Depletion and Amortization

Depreciation will vary under the UOP method as a result of changes in sales volumes and the related UOP rates at our mining operations. Consolidated DD&A totaled $2.0 billion in 2021 and $1.5 billion in 2020. Higher DD&A in 2021, compared with 2020, primarily relates to significant assets placed in service associated with the ramp-up of underground mining at the Grasberg minerals district.

Metals Inventory Adjustments

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

Environmental Obligations and Shutdown Costs

Environmental obligation costs reflect net revisions to our long-term environmental obligations, which vary from period to period because of changes to environmental laws and regulations, the settlement of environmental matters and/or circumstances affecting our operations that could result in significant changes in our estimates (refer to "Critical Accounting Estimates—Environmental Obligations" for further discussion). Shutdown costs include care-and-maintenance costs and any litigation, remediation or related expenditures associated with closed facilities or operations.

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

Net Gain on Sales of Assets

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

Interest Expense, Net

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

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

Other (Expense) Income, Net

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

Income Taxes

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

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

a. Represents income (loss) before income taxes and equity in affiliated companies' net earnings.
b. In addition to our North America mining operations, the U.S. jurisdiction reflects corporate-level expenses, which include interest expense associated with senior notes, general and administrative expenses, and environmental obligations and shutdown costs.
c. Includes valuation allowance release on prior year unbenefited NOLs.
d. Includes tax benefits of $53 million associated with the reversal of a year-end 2019 tax charge related to the sale of our interest in the lower zone of the Timok exploration project and $6 million associated with the removal of a valuation allowance on deferred tax assets.
e. Includes a tax benefit at Cerro Verde of $18 million primarily associated with completion of tax audits for the years 2014 and 2015.
f. Includes tax charges at Cerro Verde of $15 million primarily associated with adjustments to profit sharing for prior years.
g. Includes net tax benefits associated with the release of valuation allowances recorded against PT Rio Tinto Indonesia NOLs totaling $189 million. The year 2021 also includes a tax benefit of $24 million, primarily associated with the reversal of a tax reserve related to the treatment of prior-year contractor support costs; partly offset by a tax charge of $10 million associated with the audit of PT-FI's 2019 tax returns.
h. Includes tax charges of $21 million associated with establishing a tax reserve related to the treatment of prior-year contractor support costs and $8 million associated with an unfavorable 2012 Indonesia Supreme Court ruling.
i. Refer to Note 11 for further discussion of these historical contested tax disputes.
j. Our consolidated effective income tax rate is a function of the combined effective tax rates for the jurisdictions in which we operate, excluding the U.S. jurisdiction.

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

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

Refer to Note 11 for further discussion of income taxes.

OPERATIONS

Responsible Production

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

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

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

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

Innovation Initiatives

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

North America Copper Mines

We operate seven open-pit copper mines in North America—Morenci, Bagdad, Safford (including Lone Star), Sierrita and Miami in Arizona, and Chino and Tyrone in New Mexico. All of the North America mining operations are wholly owned, except for Morenci. We record our 72 percent undivided joint venture interest in Morenci using the proportionate consolidation method.

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

Operating and Development Activities. We have substantial mineral reserves and future opportunities in the U.S., primarily associated with existing mining operations. Current operations at the Lone Star copper leach project at our Safford mine, which was completed in the second half of 2020, are exceeding the initial design capacity of 200 million pounds annually and produced approximately 235 million pounds of copper in 2021. We continue to advance opportunities to increase Lone Star operating rates and are advancing plans to increase volumes to achieve 300 million pounds of copper per year from oxide ores. The oxide project advances the opportunity for development of the large-scale sulfide resources at Lone Star. We are increasing exploration in the area to support metallurgical testing and mine development planning for a potential long-term investment in a concentrator.

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

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

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

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

Copper sales volumes from our North America copper mines totaled 1.4 billion pounds in 2021 and 2020. North America copper sales are estimated to approximate 1.55 billion pounds in 2022. Refer to "Outlook" for projected molybdenum sales volumes.

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

Gross Profit per Pound of Copper and Molybdenum. The following table summarizes unit net cash costs and gross profit per pound of copper at our North America copper mines for the two years ended December 31, 2021. Refer to "Product Revenues and Production Costs" for an explanation of the "by-product" and "co-product" methods and a reconciliation of unit net cash costs per pound to production and delivery costs applicable to sales reported in our consolidated financial statements.

	2021			2020		
	By-Product Method	Co-Product Method		By-Product Method	Co-Product Method	
		Copper	Molybdenum[a]		Copper	Molybdenum[a]
Revenues, excluding adjustments	$ 4.30	$ 4.30	$14.14	$ 2.82	$ 2.82	$ 8.62
Site production and delivery, before net noncash and other costs shown below	2.13	1.96	8.17	1.90	1.78	6.84
By-product credits	(0.33)	—	—	(0.19)	—	—
Treatment charges	0.09	0.09	—	0.10	0.10	—
Unit net cash costs	1.89	2.05	8.17	1.81	1.88	6.84
DD&A	0.25	0.24	0.62	0.25	0.23	0.56
Metals inventory adjustments	0.01	0.01	—	0.03	0.03	—
Noncash and other costs, net	0.07[b]	0.07	0.03	0.10[c]	0.10	0.09
Total unit costs	2.22	2.37	8.82	2.19	2.24	7.49
Revenue adjustments, primarily for pricing on prior period open sales	—	—	—	(0.02)	(0.02)	—
Gross profit per pound	$ 2.08	$ 1.93	$ 5.32	$ 0.61	$ 0.56	$ 1.13
Copper sales (millions of recoverable pounds)	1,436	1,436		1,420	1,420	
Molybdenum sales (millions of recoverable pounds)[a]			34			33

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

b. Includes credits totaling $0.02 per pound of copper associated with refunds of Arizona transaction privilege taxes related to purchased electricity.

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

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

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

South America Mining

We operate two copper mines in South America—Cerro Verde in Peru (in which we own a 53.56 percent interest) and El Abra in Chile (in which we own a 51.0 percent interest), which are consolidated in our financial statements.

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

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

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

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

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

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

a. Refer to "Consolidated Results" for our consolidated molybdenum sales volumes, which include sales of molybdenum produced at Cerro Verde.
b. Cerro Verde mill operations were impacted by COVID-19 restrictions.

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

Copper sales from South America mines are expected to approximate 1.2 billion pounds in 2022. Refer to "Outlook" for projected molybdenum sales volumes.

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

Gross Profit per Pound of Copper. The following table summarizes unit net cash costs and gross profit per pound of copper at our South America mining operations for the two years ended December 31, 2021. Unit net cash costs per pound of copper are reflected under the by-product and co-product methods as the South America mining operations also had sales of molybdenum and silver. Refer to "Product Revenues and Production Costs" for an explanation of the "by-product" and "co-product" methods and a reconciliation of unit net cash costs per pound to production and delivery costs applicable to sales reported in our consolidated financial statements.

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

a. Includes charges totaling $0.09 per pound of copper associated with nonrecurring labor-related charges at Cerro Verde for collective labor agreements reached with its hourly employees.
b. Includes credits totaling $0.03 per pound of copper associated with favorable adjustments to prior-years' profit sharing at Cerro Verde.
c. Includes charges totaling $0.09 per pound of copper, primarily associated with idle facility (Cerro Verde) and contract cancellation costs related to the COVID-19 pandemic, and employee separation costs associated with our April 2020 revised operating plans.

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

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

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

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

Average unit net cash costs (net of by-product credits) for our South America mines are expected to approximate $2.06 per pound of copper in 2022, based on current sales volume and cost estimates and assuming an average price of $19.00 per pound of molybdenum.

Indonesia Mining

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

a. Ore body depleted in 2021.

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

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

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

Gross Profit per Pound of Copper and per Ounce of Gold. The following table summarizes the unit net cash costs and gross profit per pound of copper and per ounce of gold at our Indonesia mining operations for the two years ended December 31, 2021. Refer to "Product Revenues and Production Costs" for an explanation of "by-product" and "co-product" methods and a reconciliation of unit net cash costs per pound to production and delivery costs applicable to sales reported in our consolidated financial statements.

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

a. Includes charges totaling $0.26 per pound of copper associated with an ARO adjustment.
b. Includes COVID-19 related costs (including one-time incremental employee benefits and health and safety costs) totaling $0.02 per pound of copper.

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

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

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

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

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

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

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

PT-FI's projected sales volumes and unit net cash costs for the year 2022 are dependent on a number of factors, including operational performance, timing of shipments and the Indonesia government's extension of PT-FI's export permit. In March 2021, PT-FI received a one-year extension of its export license through

March 15, 2022. Refer to Note 12 and Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, for a discussion of the administrative fine levied by the Indonesia government on PT-FI for failing to achieve physical development progress on the greenfield smelter and ongoing discussions with the Indonesia government regarding a deferred schedule for the completion of the greenfield smelter.

Molybdenum Mines

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

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

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

Unit net cash costs for our Molybdenum mines of $8.87 per pound of molybdenum in 2021 were lower than $9.50 per pound in 2020, primarily reflecting higher volumes. Based on current sales volume and cost estimates, average unit net cash costs for the Molybdenum mines are expected to approximate $12.50 per pound of molybdenum in 2022. The increase in expected unit net cash costs for 2022, compared with 2021, primarily reflects higher mining and input costs. Refer to "Product Revenues and Production Costs" for a reconciliation of unit net cash costs per pound to production and delivery costs applicable to sales reported in our consolidated financial statements.

Smelting & Refining

We wholly own and operate the Miami smelter in Arizona, the El Paso refinery in Texas and a smelter and refinery in Spain (Atlantic Copper). Additionally, PT-FI has a 39.5 percent ownership interest in PT Smelting and expects its ownership to increase to a majority interest upon completion of the project to expand PT Smelting's smelting capacity. See "Indonesia Smelter Capacity" above for additional information regarding the PT Smelting expansion and Note 13 for information regarding the tolling agreement effective in 2023. Treatment charges for smelting and refining copper concentrate consist of a base rate per pound of copper and per ounce of gold and are generally fixed. Treatment charges represent a cost to our mining operations and income to Atlantic Copper and PT Smelting. Thus, higher treatment charges benefit our smelter operations and adversely affect our mining operations. Our North America copper mines are less significantly affected by changes in treatment charges because these operations are largely integrated with our Miami smelter and El Paso refinery. Through this form of downstream integration, we are assured placement of a significant portion of our concentrate production.

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

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

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

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

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

PT-FI's contract with PT Smelting provides for PT-FI to supply 100 percent of the copper concentrate requirements (subject to a minimum or maximum treatment charge rate) necessary for PT Smelting to produce 205,000 metric tons of copper annually on a priority basis. PT-FI may also sell copper concentrate to PT Smelting at market rates for quantities in excess of 205,000 metric tons of copper annually. PT-FI supplied 100 percent of PT Smelting's concentrate requirements in 2021 and 74 percent in 2020. PT Smelting processed 41 percent of PT-FI's concentrate production in 2021 and 50 percent of such production in 2020.

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

PT Smelting's maintenance turnarounds (which range from two weeks to a month to complete) typically are expected to occur approximately every two years, with shorter-term maintenance turnarounds in the interim. PT Smelting completed a 30-day maintenance turnaround during December 2020, and the next major turnaround is scheduled for the second half of 2022. In addition, PT Smelting has a planned 75-day shutdown scheduled for the first half of 2023 associated with its expansion project.

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

CAPITAL RESOURCES AND LIQUIDITY

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

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

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

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

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

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

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

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

Cash

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

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

Cash held at our international operations is generally used to support our foreign operations' capital expenditures, operating expenses, debt repayments, working capital or other cash needs. Management believes that sufficient liquidity is available in the U.S. from cash balances and availability from our revolving credit facility. We have not elected to permanently reinvest earnings from our foreign subsidiaries, and we have recorded deferred tax liabilities for foreign earnings that are available to be repatriated to the U.S. From time to time, our foreign subsidiaries distribute earnings to the U.S. through dividends that are subject to applicable withholding taxes and noncontrolling interests' share. See Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, for further discussion of our holding company structure.

Debt

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

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

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

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

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

Operating Activities

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

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

Investing Activities

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

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

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

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

Refer to Note 2 for further discussion.

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

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

Financing Activities

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

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

Refer to Note 8 for further discussion of debt transactions.

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

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

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

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

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

CONTINGENCIES

Environmental

The cost of complying with environmental laws is a fundamental and substantial cost of our business. At December 31, 2021, we had $1.7 billion recorded in our consolidated balance sheet for environmental obligations attributed to CERCLA or analogous state programs and for estimated future costs associated with environmental obligations that are considered probable based on specific facts and circumstances.

We incurred environmental capital expenditures and other environmental costs (including our joint venture partners' shares) to comply with applicable environmental laws and regulations that affect our operations totaling $0.3 billion in both 2021 and 2020. For 2022, we expect to incur approximately $0.5 billion of aggregate environmental capital expenditures and other environmental costs. The timing and amount of estimated payments could change as a result of changes in regulatory requirements, changes in scope and timing of reclamation and plug and abandonment activities, the settlement of environmental matters and the rate at which actual spending occurs on continuing matters.

Refer to Items 1. and 2. "Business and Properties," and Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, Note 12 and "Critical Accounting Estimates—Environmental Obligations" above for further information about environmental regulation, including significant environmental matters.

Asset Retirement Obligations

We recognize AROs as liabilities when incurred, with the initial measurement at fair value. These obligations, which are initially estimated based on discounted cash flow estimates, are accreted to full value over time through charges to cost of sales. Mine reclamation costs for disturbances are recorded as an ARO and as a related asset retirement cost (included in property, plant, equipment and mine development costs) in the period of disturbance. For non-operating properties without mineral reserves, changes to the ARO are recorded in earnings. Our cost estimates are reflected on a third-party cost basis and comply with our legal obligation to retire tangible, long-lived assets. At December 31, 2021, we had $2.7 billion recorded in our consolidated balance sheet for AROs, including $0.3 billion related to our oil and gas properties. Spending on AROs totaled $201 million in 2021 and $156 million in 2020 (including $77 million in 2021 and $38 million in 2020 for our oil and gas operations). At our former Grasberg open-pit operations in Indonesia, we recorded an ARO adjustment of $397 million in 2021, with $340 million charged to production and delivery costs, as it relates to the depleted Grasberg open pit. For 2022, we expect to incur approximately $0.2 billion in aggregate ARO payments (including $0.1 billion for our oil and gas operations). Refer to Note 12 and "Critical Accounting Estimates—Asset Retirement Obligations" above for further discussion.

Litigation and Other Contingencies

Refer to Notes 2 and 12, and Item 1A. "Risk Factors" and Item 3. "Legal Proceedings" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, for further discussion of contingencies associated with legal proceedings and other matters.

DISCLOSURES ABOUT MARKET RISKS

Commodity Price Risk

Our consolidated revenues from our mining operations include the sale of copper concentrate, copper cathode, copper rod, gold, molybdenum and other metals by our North America and South America mines, the sale of copper concentrate (which also contains significant quantities of gold and silver) by our Indonesia mining operations, the sale of molybdenum in various forms by our molybdenum operations, and the sale of copper cathode, copper anode and gold in anode and slimes by Atlantic Copper. Our financial results will vary with fluctuations in the market prices of the commodities we produce, primarily copper and gold, and to a lesser extent molybdenum. For projected sensitivities of our operating cash flow to changes in commodity prices, refer to "Outlook." World market prices for these commodities have fluctuated historically and are affected by numerous factors beyond our control. Refer to Item 1A. "Risk Factors" contained in Part I of our annual report on Form 10-K for the year ended December 31, 2021, for further discussion of financial risks associated with fluctuations in the market prices of the commodities we sell.

During 2021, our mined copper was sold 59 percent in concentrate, 21 percent as cathode and 20 percent as rod from North America operations. Substantially all of our copper concentrate and cathode sales contracts provide final copper pricing in a specified future month (generally one to four months from the shipment date) based primarily on quoted LME monthly average copper settlement prices. We receive market prices based on prices in the specified future period, which results in price fluctuations recorded through revenues until the date of settlement. We record revenues and invoice customers at the time of shipment based on then-current LME prices, which results in an embedded derivative on our provisionally priced concentrate and cathode sales that is adjusted to fair value through earnings each period, using the period-end forward prices, until final pricing on the date of settlement. To the extent final prices are higher or lower than what was recorded on a provisional basis, an increase or decrease to revenues is recorded each reporting period until the date of final pricing. Accordingly, in times of rising copper prices, our revenues benefit from adjustments to the final pricing of provisionally priced sales pursuant to contracts entered into in prior periods; in times of falling copper prices, the opposite occurs.

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

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

At December 31, 2021, we had provisionally priced copper sales at our copper mining operations totaling 397 million pounds of copper (net of intercompany sales and noncontrolling interests) recorded at an average price of $4.42 per pound, subject to final pricing over the next several months. We estimate that each $0.05 change in the price realized from the December 31, 2021, provisional price recorded would have an approximate $12 million effect on 2022 net income attributable to common stock. The LME copper settlement price closed at $4.36 per pound on January 31, 2022.

Foreign Currency Exchange Risk

The functional currency for most of our operations is the U.S. dollar. Substantially all of our revenues and a significant portion of our costs are denominated in U.S. dollars; however, some costs and certain asset and liability accounts are denominated in local currencies, including the Indonesia rupiah, Australian dollar, Peruvian sol, Chilean peso and euro. We recognized foreign currency translation gains on balances denominated in foreign currencies totaling $66 million in 2021 and $34 million in 2020. Generally, our operating results are positively affected when the U.S. dollar strengthens in relation to those foreign currencies and are adversely affected when the U.S. dollar weakens in relation to those foreign currencies.

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

	Exchange Rate per $1 at December 31,		Estimated Annual Payments		10% Change in Exchange Rate (in millions of U.S. dollars)[a]	
	2021	2020	(in local currency)	(in millions of U.S. dollars)[b]	Increase	Decrease
Indonesia						
Rupiah	**14,198**	14,034	14.2 trillion	$1,000	$(91)	$111
Australian dollar	**1.37**	1.30	244 million	$ 178	$(16)	$ 20
South America						
Peruvian sol	**4.00**	3.62	2.9 billion	$ 735	$(67)	$ 82
Chilean peso	**845**	711	193 billion	$ 228	$(21)	$ 25
Atlantic Copper						
Euro	**0.88**	0.82	172 million	$ 195	$(18)	$ 22

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

Interest Rate Risk

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

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

NEW ACCOUNTING STANDARDS

We did not adopt any new accounting standards in 2021.

NET DEBT

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

Our net debt follows, which may not be comparable to similarly titled measures reported by other companies (in millions):

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

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

PRODUCT REVENUES AND PRODUCTION COSTS

Mining Product Revenues and Unit Net Cash Costs

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

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

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

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

Year Ended December 31, 2021	By-Product Method	Co-Product Method			
		Copper	Molybdenum[a]	Other[b]	Total
(In millions)					
Revenues, excluding adjustments	$ 6,174	$ 6,174	$ 481	$120	$6,775
Site production and delivery, before net noncash and other costs shown below	3,051	2,820	278	75	3,173
By-product credits	(479)	—	—	—	—
Treatment charges	135	130	—	5	135
Net cash costs	2,707	2,950	278	80	3,308
DD&A	368	340	21	7	368
Metals inventory adjustments	13	13	—	—	13
Noncash and other costs, net	105[c]	102	1	2	105
Total costs	3,193	3,405	300	89	3,794
Other revenue adjustments, primarily for pricing on prior period open sales	7	7	—	—	7
Gross profit	$ 2,988	$ 2,776	$ 181	$ 31	$2,988
Copper sales (millions of recoverable pounds)	1,436	1,436			
Molybdenum sales (millions of recoverable pounds)[a]			34		
Gross profit per pound of copper/molybdenum:					
Revenues, excluding adjustments	$ 4.30	$ 4.30	$14.14		
Site production and delivery, before net noncash and other costs shown below	2.13	1.96	8.17		
By-product credits	(0.33)	—	—		
Treatment charges	0.09	0.09	—		
Unit net cash costs	1.89	2.05	8.17		
DD&A	0.25	0.24	0.62		
Metals inventory adjustments	0.01	0.01	—		
Noncash and other costs, net	0.07[c]	0.07	0.03		
Total unit costs	2.22	2.37	8.82		
Other revenue adjustments, primarily for pricing on prior period open sales	—	—	—		
Gross profit per pound	$ 2.08	$ 1.93	$ 5.32		

Reconciliation to Amounts Reported

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

a. Reflects sales of molybdenum produced by certain of the North America copper mines to our molybdenum sales company at market-based pricing.
b. Includes gold and silver product revenues and production costs.
c. Includes credits totaling $27 million ($0.02 per pound of copper) associated with refunds of Arizona transaction privilege taxes related to purchased electricity.
d. Represents the combined total for our other mining operations as presented in Note 16.

North America Copper Mines Product Revenues, Production Costs and Unit Net Cash Costs *(continued)*

Year Ended December 31, 2020	By-Product Method	Co-Product Method: Copper	Co-Product Method: Molybdenum[a]	Co-Product Method: Other[b]	Co-Product Method: Total
(In millions)					
Revenues, excluding adjustments	$ 4,005[c]	$ 4,005	$ 281	$83	$4,369
Site production and delivery, before net noncash and other costs shown below	2,700	2,529	223	44	2,796
By-product credits	(268)	—	—	—	—
Treatment charges	139	136	—	3	139
Net cash costs	2,571	2,665	223	47	2,935
DD&A	355	330	18	7	355
Metals inventory adjustments	52	49	—	3	52
Noncash and other costs, net	138[d]	133	3	2	138
Total costs	3,116	3,177	244	59	3,480
Other revenue adjustments, primarily for pricing on prior period open sales	(22)	(22)	—	—	(22)
Gross profit	$ 867	$ 806	$ 37	$24	$ 867
Copper sales (millions of recoverable pounds)	1,420	1,420			
Molybdenum sales (millions of recoverable pounds)[a]			33		
Gross profit per pound of copper/molybdenum:					
Revenues, excluding adjustments	$ 2.82[c]	$ 2.82	$ 8.62		
Site production and delivery, before net noncash and other costs shown below	1.90	1.78	6.84		
By-product credits	(0.19)	—	—		
Treatment charges	0.10	0.10	—		
Unit net cash costs	1.81	1.88	6.84		
DD&A	0.25	0.23	0.56		
Metals inventory adjustments	0.03	0.03	—		
Noncash and other costs, net	0.10[d]	0.10	0.09		
Total unit costs	2.19	2.24	7.49		
Other revenue adjustments, primarily for pricing on prior period open sales	(0.02)	(0.02)	—		
Gross profit per pound	$ 0.61	$ 0.56	$ 1.13		

Reconciliation to Amounts Reported

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

a. Reflects sales of molybdenum produced by certain of the North America copper mines to our molybdenum sales company at market-based pricing.
b. Includes gold and silver product revenues and production costs.
c. Includes reductions to revenues and average realized prices totaling $24 million ($0.02 per pound of copper) related to forward sales contracts covering 150 million pounds of copper sales for May and June 2020 at a fixed price of $2.34 per pound.
d. Includes charges totaling $32 million ($0.02 per pound of copper) primarily associated with the April 2020 revised operating plans (including employee separation costs) and the COVID-19 pandemic (including health and safety costs).
e. Represents the combined total for our other mining operations as presented in Note 16.

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

Year Ended December 31, 2021	By-Product Method	Co-Product Method		
		Copper	Other[a]	Total
(In millions)				
Revenues, excluding adjustments	$ 4,585	$ 4,585	$ 383	$4,968
Site production and delivery, before net noncash and other costs shown below	2,349[b]	2,175	219	2,394
By-product credits	(338)	—	—	—
Treatment charges	140	140	—	140
Royalty on metals	10	9	1	10
Net cash costs	2,161	2,324	220	2,544
DD&A	413	379	34	413
Noncash and other costs, net	38[c]	36	2	38
Total costs	2,612	2,739	256	2,995
Other revenue adjustments, primarily for pricing on prior period open sales	99	99	—	99
Gross profit	$ 2,072	$ 1,945	$ 127	$2,072
Copper sales (millions of recoverable pounds)	1,055	1,055		
Gross profit per pound of copper:				
Revenues, excluding adjustments	$ 4.34	$ 4.34		
Site production and delivery, before net noncash and other costs shown below	2.23[b]	2.06		
By-product credits	(0.32)	—		
Treatment charges	0.13	0.13		
Royalty on metals	0.01	0.01		
Unit net cash costs	2.05	2.20		
DD&A	0.39	0.37		
Noncash and other costs, net	0.03[c]	0.03		
Total unit costs	2.47	2.60		
Other revenue adjustments, primarily for pricing on prior period open sales	0.09	0.09		
Gross profit per pound	$ 1.96	$ 1.83		

Reconciliation to Amounts Reported

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

a. Includes silver sales of 3.7 million ounces ($24.73 per ounce average realized price). Also reflects sales of molybdenum produced by Cerro Verde to our molybdenum sales company at market-based pricing.
b. Includes nonrecurring charges totaling $92 million ($0.09 per pound of copper) associated with labor-related charges at Cerro Verde for collective labor agreements reached with its hourly employees.
c. Includes credits totaling $26 million ($0.03 per pound) associated with favorable adjustments to prior-years' profit sharing at Cerro Verde.
d. Represents the combined total for our other mining operations as presented in Note 16.

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

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

Reconciliation to Amounts Reported

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

a. Includes silver sales of 3.4 million ounces ($21.86 per ounce average realized price). Also reflects sales of molybdenum produced by Cerro Verde to our molybdenum sales company at market-based pricing.
b. Includes charges totaling $91 million ($0.09 per pound of copper) primarily associated with idle facility (Cerro Verde) and contract cancellation costs related to the COVID-19 pandemic, and employee separation costs associated with the April 2020 revised operating plans.
c. Represents the combined total for our other mining operations as presented in Note 16.

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

Year Ended December 31, 2021	By-Product Method	Co-Product Method			
		Copper	Gold	Silver[a]	Total
(In millions)					
Revenues, excluding adjustments	$ 5,715	$ 5,715	$2,423	$143	$8,281
Site production and delivery, before net noncash and other costs shown below	1,953	1,348	572	33	1,953
Gold and silver credits	(2,562)	—	—	—	—
Treatment charges	320	221	93	6	320
Export duties	218	150	64	4	218
Royalty on metals	319	223	90	6	319
Net cash costs	248	1,942	819	49	2,810
DD&A	1,049	724	307	18	1,049
Noncash and other costs, net	355[b]	245	104	6	355
Total costs	1,652	2,911	1,230	73	4,214
Other revenue adjustments, primarily for pricing on prior period open sales	72	72	(4)	—	68
PT Smelting intercompany loss	(86)	(60)	(25)	(1)	(86)
Gross profit	$ 4,049	$ 2,816	$1,164	$ 69	$4,049
Copper sales (millions of recoverable pounds)	1,316	1,316			
Gold sales (thousands of recoverable ounces)			1,349		
Gross profit per pound of copper/per ounce of gold:					
Revenues, excluding adjustments	$ 4.34	$ 4.34	$1,796		
Site production and delivery, before net noncash and other costs shown below	1.49	1.03	424		
Gold and silver credits	(1.95)	—	—		
Treatment charges	0.24	0.17	69		
Export duties	0.17	0.11	47		
Royalty on metals	0.24	0.17	67		
Unit net cash costs	0.19	1.48	607		
DD&A	0.80	0.55	228		
Noncash and other costs, net	0.27[b]	0.18	77		
Total unit costs	1.26	2.21	912		
Other revenue adjustments, primarily for pricing on prior period open sales	0.05	0.05	(3)		
PT Smelting intercompany loss	(0.07)	(0.05)	(19)		
Gross profit per pound/ounce	$ 3.06	$ 2.13	$ 862		

Reconciliation to Amounts Reported

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

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

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

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

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

Year Ended December 31, 2020	By-Product Method	Co-Product Method Copper	Gold	Silver[a]	Total
(In millions)					
Revenues, excluding adjustments	$ 2,475	$ 2,475	$1,545	$81	$4,101
Site production and delivery, before net noncash and other costs shown below	1,508	910	568	30	1,508
Gold and silver credits	(1,630)	—	—	—	—
Treatment charges	219	132	83	4	219
Export duties	93	56	35	2	93
Royalty on metals	153	90	60	3	153
Net cash costs	343	1,188	746	39	1,973
DD&A	580	350	219	11	580
Noncash and other costs, net	93[b]	56	35	2	93
Total costs	1,016	1,594	1,000	52	2,646
Other revenue adjustments, primarily for pricing on prior period open sales	(20)	(20)	4	—	(16)
PT Smelting intercompany loss	(11)	(7)	(4)	—	(11)
Gross profit	$ 1,428	$ 854	$ 545	$29	$1,428
Copper sales (millions of recoverable pounds)	804	804			
Gold sales (thousands of recoverable ounces)			842		
Gross profit per pound of copper/per ounce of gold:					
Revenues, excluding adjustments	$ 3.08	$ 3.08	$1,832		
Site production and delivery, before net noncash and other costs shown below	1.88	1.13	674		
Gold and silver credits	(2.03)	—	—		
Treatment charges	0.27	0.17	98		
Export duties	0.12	0.07	41		
Royalty on metals	0.19	0.11	72		
Unit net cash costs	0.43	1.48	885		
DD&A	0.72	0.43	259		
Noncash and other costs, net	0.11[b]	0.07	41		
Total unit costs	1.26	1.98	1,185		
Other revenue adjustments, primarily for pricing on prior period open sales	(0.03)	(0.03)	5		
PT Smelting intercompany loss	(0.01)	(0.01)	(5)		
Gross profit per pound/ounce	$ 1.78	$ 1.06	$ 647		

Reconciliation to Amounts Reported

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

a. Includes silver sales of 3.6 million ounces ($22.40 per ounce average realized price).
b. Includes COVID-19 related costs (including one-time incremental employee benefits and health and safety costs) of $14 million ($0.02 per pound of copper).
c. Represents the combined total for our other mining operations as presented in Note 16.

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

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

Reconciliation to Amounts Reported

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

a. Reflects sales of the Molybdenum mines' production to the molybdenum sales company at market-based pricing. On a consolidated basis, realizations are based on the actual contract terms for sales to third parties; as a result, our consolidated average realized price per pound of molybdenum will differ from the amounts reported in this table.

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

c. Represents the combined total for our other mining operations as presented in Note 16. Also includes amounts associated with the molybdenum sales company, which includes sales of molybdenum produced by the Molybdenum mines and by certain of the North America and South America copper mines.

CAUTIONARY STATEMENT

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

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

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

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

Our annual report on Form 10-K for the year ended December 31, 2021, also contains financial measures such as net debt and unit net cash costs per pound of copper and molybdenum, which are not recognized under U.S. GAAP. Refer to "Operations—Unit Net Cash Costs" for further discussion of unit net cash costs associated with our operating divisions, and to "Product Revenues and Production Costs" for reconciliations of per pound costs by operating division to production and delivery costs applicable to sales reported in our consolidated financial statements. Refer to "Net Debt" for reconciliations of consolidated debt and consolidated cash and cash equivalents to net debt.

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

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

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

Our management, including our principal executive officer and principal financial officer, assessed the effectiveness of our internal control over financial reporting as of the end of the fiscal year covered by this annual report on Form 10-K. In making this assessment, our management used the criteria set forth in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). Based on its assessment, management concluded that, as of December 31, 2021, our Company's internal control over financial reporting is effective based on the COSO criteria.

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

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

Kathleen L. Quirk
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, 2021, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Freeport-McMoRan Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on the COSO criteria.

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

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

ERNST & YOUNG LLP

Phoenix, Arizona
February 15, 2022

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

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Freeport-McMoRan Inc. (the Company) as of December 31, 2021 and 2020, the related consolidated statements of operations, comprehensive income (loss), equity and cash flows for each of the three years in the period ended December 31, 2021, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 15, 2022 expressed an unqualified opinion thereon.

Basis for Opinion

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

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

Critical Audit Matters

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

Uncertain tax positions

Description of the Matter

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

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

How We Addressed the Matter in Our Audit

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

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

Environmental obligations

Description of the Matter

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

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

How We Addressed the Matter in Our Audit

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

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

ERNST & YOUNG LLP

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

Phoenix, Arizona
February 15, 2022

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

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

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

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

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

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

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

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

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

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

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation. The consolidated financial statements of Freeport-McMoRan Inc. (FCX) include the accounts of those subsidiaries where it directly or indirectly has more than 50 percent of the voting rights and/or has control over the subsidiary. As of December 31, 2021, the most significant entities that FCX consolidates include its 48.76 percent-owned subsidiary PT Freeport Indonesia (PT-FI), and the following wholly owned subsidiaries: Freeport Minerals Corporation (FMC) and Atlantic Copper, S.L.U. (Atlantic Copper). Refer to Note 3 for further discussion, including FCX's conclusion to consolidate PT-FI.

FMC's unincorporated joint venture at Morenci is reflected using the proportionate consolidation method (refer to Note 3 for further discussion). Investments in unconsolidated companies owned 20 percent or more are recorded using the equity method. Investments in unconsolidated companies owned less than 20 percent, and for which FCX does not exercise significant influence, are recorded at (i) fair value for those that have a readily determinable fair value or (ii) cost, less any impairment, for those that do not have a readily determinable fair value. All significant intercompany transactions have been eliminated. Dollar amounts in tables are stated in millions, except per share amounts.

Business Segments. FCX has organized its mining operations into four primary divisions—North America copper mines, South America mining, Indonesia mining and Molybdenum mines, and operating segments that meet certain thresholds are reportable segments. FCX's reportable segments include the Morenci, Cerro Verde and Grasberg (Indonesia mining) copper mines, the Rod & Refining operations and Atlantic Copper Smelting & Refining. Refer to Note 16 for further discussion.

Use of Estimates. The preparation of FCX's financial statements in conformity with accounting principles generally accepted in the United States (U.S.) requires management to make estimates and assumptions that affect the amounts reported in these financial statements and accompanying notes. The more significant areas requiring the use of management estimates include minerals reserve estimation; asset lives for depreciation, depletion and amortization; environmental obligations; asset retirement obligations; estimates of recoverable copper in mill and leach stockpiles; deferred taxes and valuation allowances; reserves for contingencies and litigation; asset acquisitions and impairment, including estimates used to derive future cash flows associated with those assets; pension benefits; and valuation of derivative instruments. Actual results could differ from those estimates.

Functional Currency. The functional currency for the majority of FCX's foreign operations is the U.S. dollar. For foreign subsidiaries whose functional currency is the U.S. dollar, monetary assets and liabilities denominated in the local currency are translated at current exchange rates, and non-monetary assets and liabilities, such as inventories, property, plant, equipment and mine development costs, are translated at historical rates. Gains and losses resulting from translation of such account balances are included in other (expense) income, net, as are gains and losses from foreign currency transactions. Foreign currency gains totaled $66 million in 2021, $34 million in 2020 and $24 million in 2019.

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

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

Inventories. Inventories include materials and supplies, mill and leach stockpiles, and product inventories. Inventories are stated at the lower of weighted-average cost or net realizable value (NRV).

Mill and Leach Stockpiles. Mill and leach stockpiles are work-in-process inventories for FCX's mining operations. Mill and leach stockpiles contain ore that has been extracted from an ore body and is available for metal recovery. Mill stockpiles contain sulfide ores, and recovery of metal is through milling, concentrating and smelting and refining or, alternatively, by concentrate leaching. Leach stockpiles contain oxide ores and certain secondary sulfide ores and recovery of metal is through exposure to acidic solutions that dissolve contained copper and deliver it in solution to extraction processing facilities (*i.e.*, solution extraction and electrowinning (SX/EW)). The recorded cost of mill and leach stockpiles includes mining and haulage costs incurred to deliver ore to stockpiles, depreciation, depletion, amortization and site overhead costs. Material is removed from the stockpiles at a weighted-average cost per pound.

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

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

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

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

Product. Product inventories include raw materials, work-in-process and finished goods. Corporate general and administrative costs are not included in inventory costs.

Raw materials are primarily unprocessed concentrate at Atlantic Copper's smelting and refining operations.

Work-in-process inventories are primarily copper concentrate at various stages of conversion into anode and cathode at Atlantic Copper's operations. Atlantic Copper's in-process inventories are valued at the weighted-average cost of the material fed to the smelting and refining process plus in-process conversion costs.

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

Property, Plant, Equipment and Mine Development Costs. Property, plant, equipment and mine development costs are carried at cost. Mineral exploration costs, as well as drilling and other costs incurred for the purpose of converting mineral resources to proven and probable mineral reserves or identifying new mineral resources at development or production stage properties, are charged to expense as incurred. Development costs are capitalized beginning after proven and probable mineral reserves have been established. Development costs include costs incurred resulting from mine pre-production activities undertaken to gain access to proven and probable mineral reserves, including shafts, adits, drifts, ramps, permanent excavations, infrastructure and removal of overburden. For underground mines certain costs related to panel development, such as undercutting and drawpoint development, are also capitalized as mine development costs until production reaches sustained design capacity for the mine. After reaching design capacity, the mine transitions to the production phase and panel development costs are allocated to inventory and then included as a component of cost of goods sold. Additionally, interest expense allocable to the cost of developing mining properties and to constructing new facilities is capitalized until assets are ready for their intended use.

Expenditures for replacements and improvements are capitalized. Costs related to periodic scheduled maintenance (*i.e.*, turnarounds) are charged to expense as incurred. Depreciation for mining and milling life-of-mine assets, infrastructure and other common costs is determined using the unit-of-production (UOP) method based on total estimated recoverable proven and probable copper reserves (for primary copper mines) and proven and probable molybdenum reserves (for primary molybdenum mines). Development costs and acquisition costs for proven and probable mineral reserves that relate to a specific ore body are depreciated using the UOP method based on estimated recoverable proven and probable mineral reserves for the ore body benefited. Depreciation, depletion and amortization using the UOP method is recorded upon extraction of the recoverable copper or molybdenum from the ore body or production of finished goods (as applicable), at which time it is allocated to inventory cost and then included as a component of cost of goods sold. Other assets are depreciated on a straight-line basis over estimated useful lives for the related assets of up to 50 years for buildings and 3 to 50 years for machinery and equipment, and mobile equipment.

Included in property, plant, equipment and mine development costs is value beyond proven and probable mineral reserves (VBPP), primarily resulting from FCX's acquisition of FMC in 2007. The concept of VBPP may be interpreted differently by different mining companies. FCX's VBPP is attributable to (i) measured and indicated mineral resources that FCX believes could be brought into production with the establishment or modification of required permits and should market conditions and technical assessments warrant, (ii) inferred mineral resources and (iii) exploration potential.

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

Impairment of Long-Lived Mining Assets. FCX assesses the carrying values of its long-lived mining assets for impairment when events or changes in circumstances indicate that the related carrying amounts of such assets may not be recoverable. In evaluating long-lived mining assets for recoverability, estimates of pre-tax undiscounted future cash flows of FCX's individual mines are used. An impairment is considered to exist if total estimated undiscounted future cash flows are less than the carrying amount of the asset. Once it is determined that an impairment exists, an impairment loss is measured as the amount by which the asset carrying value exceeds its fair value. The estimated undiscounted cash flows used to assess recoverability of long-lived assets and to measure the fair value of FCX's mining operations are derived from current business plans, which are developed using near-term price forecasts reflective of the current price environment and management's projections for long-term average metal prices. In addition to near- and long-term metal price assumptions, other key assumptions include estimates of commodity-based and other input costs; proven and probable mineral reserves estimates, including the timing and cost to develop and produce the reserves; VBPP estimates; and the use of appropriate discount rates in the measurement of fair value. FCX believes its estimates and models used to determine fair value are similar to what a market participant would use. As quoted market prices are unavailable for FCX's individual mining operations, fair value is determined through the use of after-tax discounted estimated future cash flows (*i.e.*, Level 3 measurement).

Deferred Mining Costs. Stripping costs (*i.e.*, the costs of removing overburden and waste material to access mineral deposits) incurred during the production phase of an open-pit mine are considered variable production costs and are included as a component of inventory produced during the period in which stripping costs are incurred. Major development expenditures, including stripping costs to prepare unique and identifiable areas outside the current mining area for future production that are considered to be pre-production mine development, are capitalized and amortized using the UOP method based on estimated recoverable proven and probable mineral reserves for the ore body benefited. However, where a second or subsequent pit or major expansion is considered to be a continuation of existing mining activities, stripping costs are accounted for as a current production cost and a component of the associated inventory.

Environmental Obligations. Environmental expenditures are charged to expense or capitalized, depending upon their future economic benefits. Accruals for such expenditures are recorded when it is probable that obligations have been incurred and the costs can be reasonably estimated. Environmental obligations attributed to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) or analogous state programs are considered probable when a claim is asserted, or is probable of assertion, and FCX, or any of its subsidiaries, have been associated with the site. Other environmental remediation obligations are considered probable based on specific facts and circumstances. FCX's estimates of these costs are based on an evaluation of various factors, including currently available facts, existing technology, presently enacted laws and regulations, remediation experience, whether or not FCX is a potentially responsible party (PRP) and the ability of other PRPs to pay their allocated portions. With the exception of those obligations assumed in the acquisition of FMC that were initially recorded at estimated fair values (refer to Note 12 for further discussion), environmental obligations are recorded on an undiscounted basis. Where the available information is sufficient to estimate the amount of the obligation, that estimate has been used. Where the information is only sufficient to establish a range of probable liability and no point within the range is more likely than any other, the lower end of the range has been used. Possible recoveries of some of these costs from other parties are not recognized in the consolidated financial statements until they become probable. Legal costs associated with environmental remediation (such as fees to third-party legal firms for work relating to determining the extent and type of remedial actions and the allocation of costs among PRPs) are included as part of the estimated obligation.

Environmental obligations assumed in the acquisition of FMC, which were initially recorded at fair value and estimated on a discounted basis, are accreted to full value over time through charges to interest expense. Adjustments arising from changes in amounts and timing of estimated costs and settlements may result in increases and decreases in these obligations and are calculated in the same manner as they were initially estimated. Unless these adjustments qualify for capitalization, changes in environmental obligations are charged to operating income when they occur.

FCX performs a comprehensive review of its environmental obligations annually and also reviews changes in facts and circumstances associated with these obligations at least quarterly.

Asset Retirement Obligations. FCX records the fair value of estimated asset retirement obligations (AROs) associated with tangible long-lived assets in the period incurred. AROs associated with long-lived assets are those for which there is a legal obligation to settle under existing or enacted law, statute, written or oral contract or by legal construction. These obligations, which are initially estimated based on discounted cash flow estimates, are accreted to full value over time through charges to cost of sales. In addition, asset retirement costs (ARCs) are capitalized as part of the related asset's carrying value and are depreciated over the asset's useful life.

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

For non-operating properties without reserves, changes to the ARO are recorded in earnings.

At least annually, FCX reviews its ARO estimates for changes in the projected timing of certain reclamation and closure/restoration costs, changes in cost estimates and additional AROs incurred during the period. Refer to Note 12 for further discussion.

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

FCX's product revenues are also recorded net of treatment charges, royalties and export duties. Moreover, because a portion of the metals contained in copper concentrate is unrecoverable as a result of the smelting process, FCX's revenues from concentrate sales are also recorded net of allowances based on the quantity and value of these unrecoverable metals. These allowances are a negotiated term of FCX's contracts and vary by customer. Treatment and refining charges represent payments or price adjustments to smelters and refiners that are generally fixed. Refer to Note 16 for a summary of revenue by product type.

Gold sales are priced according to individual contract terms, generally the average London PM gold price for a specified month near the month of shipment.

The majority of FCX's molybdenum sales are priced based on the average published *Metals Week* price, plus conversion premiums for products that undergo additional processing, such as ferromolybdenum and molybdenum chemical products, for the month prior to the month of shipment.

Stock-Based Compensation. Compensation costs for share-based payments to employees are measured at fair value and charged to expense over the requisite service period for awards that are expected to vest. The fair value of stock options is determined using the Black-Scholes-Merton option valuation model. The fair value for stock-settled restricted stock units (RSUs) is based on FCX's stock price on the date of grant. Shares of common stock are issued at the vesting date for stock-settled RSUs. The fair value of performance share units (PSUs) is determined using FCX's stock price and a Monte-Carlo simulation model. The fair value for liability-classified awards (*i.e.*, cash-settled RSUs) is remeasured each reporting period using FCX's stock price. FCX has elected to recognize compensation costs for stock option awards that vest over several years on a straight-line basis over the vesting period, and for RSUs on the graded-vesting method over the vesting period. Refer to Note 10 for further discussion.

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

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

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

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

Outstanding stock options with exercise prices greater than the average market price of FCX's common stock during the year are excluded from the computation of diluted net income (loss) per share of common stock. Stock options for 5 million shares of common stock in 2021, 31 million shares in 2020 and 42 million shares in 2019 were excluded.

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

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

Subsequent Events. FCX evaluated events after December 31, 2021, and through the date the financial statements were issued, and determined any events or transactions occurring during this period that would require recognition or disclosure are appropriately addressed in these financial statements.

NOTE 2. ACQUISITIONS AND DISPOSITIONS

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

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

Following these transactions, FCX no longer has cobalt operations.

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

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

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

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

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

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

TF Holdings Limited—Discontinued Operations. In 2016, FCX completed the sale of its 70 percent interest in TF Holdings Limited (TFHL) to CMOC for $2.65 billion in cash (before closing adjustments) and contingent consideration of up to $120 million in cash, consisting of $60 million if the average copper price exceeded $3.50 per pound and $60 million if the average cobalt price exceeded $20 per pound, both during the 24-month period ending December 31, 2019.

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

NOTE 3. OWNERSHIP IN SUBSIDIARIES AND JOINT VENTURE

Ownership in Subsidiaries. FMC produces copper and molybdenum from mines in North America and South America. At December 31, 2021, FMC's operating mines in North America were Morenci, Bagdad, Safford (including Lone Star), Sierrita and Miami located in Arizona; Tyrone and Chino located in New Mexico; and Henderson and Climax located in Colorado. FMC has a 72 percent interest in Morenci (refer to "Joint Venture—Sumitomo and SMM Morenci, Inc.") and owns 100 percent of the other North America mines. At December 31, 2021, operating mines in South America were Cerro Verde (53.56 percent owned) located in Peru and El Abra (51 percent owned) located in Chile. At December 31, 2021, FMC's net assets totaled $18.4 billion and its accumulated deficit totaled $12.6 billion. FCX had $111 million in loans to FMC outstanding at December 31, 2021.

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

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

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

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

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

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

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

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

Joint Venture. ***Sumitomo and SMM Morenci, Inc.*** FMC owns a 72 percent undivided interest in Morenci via an unincorporated joint venture. The remaining 28 percent is owned by Sumitomo (15 percent) and SMM Morenci, Inc. (13 percent). Each partner takes in kind its share of Morenci's production. FMC purchased 82 million pounds of Morenci's copper cathode from Sumitomo and SMM Morenci, Inc. at market prices for $349 million during 2021. FMC had receivables from Sumitomo and SMM Morenci, Inc. totaling $20 million at December 31, 2021, and $15 million at December 31, 2020.

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

The components of inventories follow:

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

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

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

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

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

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

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

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

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

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

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

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

NOTE 6. OTHER ASSETS

The components of other assets follow:

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

a. Indefinite-lived intangible assets totaled $215 million at December 31, 2021 and 2020. Accumulated amortization of definite-lived intangible assets totaled $35 million at December 31, 2021, and $32 million at December 31, 2020.
b. Includes $208 million at December 31, 2021, and $212 million at December 31, 2020, held in trusts for AROs related to properties in New Mexico (refer to Note 12 for further discussion).
c. Refer to Note 12 for further discussion.
d. Includes tax overpayments and refunds not expected to be realized within the next 12 months.
e. Relates to PT-FI's commitment for the development of a greenfield smelter in Indonesia (refer to Note 13 for further discussion).
f. PT-FI's ownership in PT Smelting is recorded using the equity method. Amounts were reduced by unrecognized profits on sales from PT-FI to PT Smelting totaling $126 million at December 31, 2021, and $39 million at December 31, 2020. Trade accounts receivable from PT Smelting totaled $411 million at December 31, 2021, and $265 million at December 31, 2020.
g. Refer to Note 15 for further discussion.
h. Refer to Note 2 for further discussion.

NOTE 7. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

The components of accounts payable and accrued liabilities follow:

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

a. Refer to Note 12 for further discussion.
b. Third-party interest paid, net of capitalized interest, was $640 million in 2021, $472 million in 2020 and $591 million in 2019.
c. Refer to Note 9 for long-term portion.
d. Refer to Note 13 for further discussion.

NOTE 8. DEBT

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

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

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

FCX's revolving credit facility contains customary affirmative covenants and representations, and also contains a number of negative covenants that, among other things, restrict, subject to certain exceptions, the ability of FCX's subsidiaries that are not borrowers or guarantors to incur additional indebtedness (including guarantee obligations) and FCX's or its subsidiaries' abilities to: create liens on assets; enter into sale and leaseback transactions; engage in mergers, liquidations and dissolutions; and sell assets. FCX's revolving credit facility also contains financial ratios governing maximum total leverage and minimum interest expense coverage. At December 31, 2021, FCX was in compliance with its revolving credit facility covenants.

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

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

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

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

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

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

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

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

The senior notes listed below are redeemable in whole or in part, at the option of FCX, at a make-whole redemption price prior to the dates stated below, at specified redemption prices beginning on the dates stated below, and at 100 percent of principal two years before maturity.

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

The senior notes listed below are redeemable in whole or in part, at the option of FCX, at a make-whole redemption price prior to the dates stated below, and beginning on the dates stated below at 100 percent of principal.

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

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

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

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

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

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

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

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

NOTE 9. OTHER LIABILITIES, INCLUDING EMPLOYEE BENEFITS

The components of other liabilities follow:

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

a. Refer to Note 7 for current portion.
b. Refer to Note 13 for further discussion.
c. Refer to Note 12 for further discussion.

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

FMC Plans. FMC has U.S. trusteed, non-contributory pension plans covering some U.S. employees and some employees of its international subsidiaries hired before 2007. The applicable FMC plan design determines the manner in which benefits are calculated for any particular group of employees. Benefits are calculated based on final average monthly compensation and years of service or based on a fixed amount for each year of service. Non-bargained FMC employees hired after December 31, 2006, are not eligible to participate in the FMC U.S. pension plan. See below for discussion of a 2020 plan amendment.

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

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

The expected rate of return on plan assets is evaluated at least annually, taking into consideration asset allocation, historical and expected future performance on the types of assets held in the Master Trust, and the current economic environment. Based on these factors, FCX expects the pension assets will earn an average of 3.00 percent per annum beginning January 1, 2022, which was based on the target asset allocation and long-term capital market return expectations.

For estimation purposes, FCX assumes the long-term asset mix for these plans generally will be consistent with the current mix. Changes in the asset mix could impact the amount of recorded pension costs, the funded status of the plans and the need for future cash contributions. A lower-than-expected return on assets also would decrease plan assets and increase the amount of recorded pension costs in future years. When calculating the expected return on plan assets, FCX uses the market value of assets.

Among the assumptions used to estimate the pension benefit obligation is a discount rate used to calculate the present value of expected future benefit payments for service to date. The discount rate assumption for FCX's U.S. plans is designed to reflect yields on high-quality, fixed-income investments for a given duration. The determination of the discount rate for these plans is based on expected future benefit payments together with the Mercer Yield Curve—Above Mean. The Mercer Yield Curve—Above Mean is constructed from the bonds in the Mercer Pension Discount Curve that have a yield higher than the regression mean yield curve. The Mercer Yield Curve—Above Mean consists of spot (*i.e.*, zero coupon) interest rates at one-half-year increments for each of the next 30 years and is developed based on pricing and yield information for high-quality corporate bonds. Changes in the discount rate are reflected in FCX's benefit obligation and, therefore, in future pension costs.

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

PT-FI Plan. PT-FI has a defined benefit pension plan denominated in Indonesia rupiah covering substantially all of its Indonesia national employees. PT-FI funds the plan and invests the assets in accordance with Indonesia pension guidelines. The pension obligation was valued at an exchange rate of 14,198 rupiah to one U.S. dollar on December 31, 2021, and 14,034 rupiah to one U.S. dollar on December 31, 2020. Indonesia labor laws require that companies provide a minimum severance to employees upon employment termination based on the reason for termination and the employee's years of service. PT-FI's pension benefit obligation includes benefits determined in accordance with this law. PT-FI's expected rate of return on plan assets is evaluated at least annually, taking into consideration its long-range estimated return for the plan based on the asset mix. Based on these factors, PT-FI expects its pension assets will earn an average of 7.00 percent per annum beginning January 1, 2022. The discount rate assumption for PT-FI's plan is based on the Indonesia Government Security Yield Curve. Changes in the discount rate are reflected in PT-FI's benefit obligation and, therefore, in future pension costs.

Plan Information. FCX uses a measurement date of December 31 for its plans. Information for qualified and non-qualified plans where the projected benefit obligations and the accumulated benefit obligations exceed the fair value of plan assets follows:

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

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

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

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

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

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

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

	2021	2020	2019
Weighted-average assumptions:[a]			
Discount rate	2.50%	2.98%	4.40%
Expected return on plan assets	5.25%	6.25%	6.50%
Rate of compensation increase	—%	3.25%	3.25%
Service cost	$ 12	$ 37	$ 42
Interest cost	66	77	95
Expected return on plan assets	(98)	(105)	(90)
Amortization of net actuarial losses	25	45	48
Curtailment loss	—	4	—
Net periodic benefit cost	$ 5	$ 58	$ 95

a. The assumptions shown relate only to the FMC Retirement Plan.

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

	2021	2020	2019
Weighted-average assumptions:			
Discount rate	6.25%	7.25%	8.25%
Expected return on plan assets	7.75%	7.75%	8.25%
Rate of compensation increase	4.00%	4.00%	4.00%
Service cost	$ 13	$ 11	$ 12
Interest cost	14	14	17
Expected return on plan assets	(19)	(19)	(17)
Amortization of prior service cost	1	2	1
Amortization of net actuarial gains	(1)	(3)	(1)
Net periodic benefit cost	$ 8	$ 5	$ 12

The service cost component of net periodic benefit cost is included in operating income, and the other components are included in other (expense) income, net in the consolidated statements of operations.

Included in accumulated other comprehensive loss are the following amounts that have not been recognized in net periodic pension cost as of December 31:

	2021		2020	
	Before Taxes	After Taxes and Noncontrolling Interests	Before Taxes	After Taxes and Noncontrolling Interests
Net actuarial losses	$488	$369	$673	$558
Prior service costs	2	—	6	1
	$490	$369	$679	$559

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

A summary of the fair value for pension plan assets, including those measured at net asset value (NAV) as a practical expedient, associated with the FCX plans follows:

	Fair Value at December 31, 2021				
	Total	NAV	Level 1	Level 2	Level 3
Commingled/collective funds:					
Fixed income securities	$ 522	$ 522	$ —	$ —	$ —
Real estate property	72	72	—	—	—
Short-term investments	38	38	—	—	—
Fixed income:					
Corporate bonds	911	—	—	911	—
Government bonds	437	—	—	437	—
Private equity investments	11	11	—	—	—
Other investments	74	—	1	73	—
Total investments	2,065	$ 643	$ 1	$1,421	$ —
Cash and receivables	18				
Payables	(12)				
Total pension plan net assets	$2,071				

	Fair Value at December 31, 2020				
	Total	NAV	Level 1	Level 2	Level 3
Commingled/collective funds:					
Global equity	$ 527	$ 527	$ —	$ —	$ —
Fixed income securities	404	404	—	—	—
International small-cap equity	76	76	—	—	—
Real estate property	59	59	—	—	—
U.S. real estate securities	51	51	—	—	—
Short-term investments	51	51	—	—	—
U.S. small-cap equity	25	25	—	—	—
Fixed income:					
Corporate bonds	381	—	—	381	—
Government bonds	181	—	—	181	—
Global large-cap equity securities	109	—	109	—	—
Private equity investments	10	10	—	—	—
Other investments	55	—	1	54	—
Total investments	1,929	$1,203	$110	$ 616	$ —
Cash and receivables	100				
Payables	(83)				
Total pension plan net assets	$1,946				

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

Commingled/collective funds are managed by several fund managers and are valued at the NAV per unit of the fund. For most of these funds, the majority of the underlying assets are actively traded securities. These funds (except the real estate property fund) primarily require up to a two-business-day notice for redemptions. The real estate property fund is valued at NAV using information from independent appraisal firms, who have knowledge and expertise about the current market values of real property in the same vicinity as the investments. Redemptions of the real estate property fund are allowed once per quarter (with a 30-calendar-day notice), subject to available cash.

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

Common stocks included in global large-cap equity securities and preferred stocks included in other investments are valued at the closing price reported on the active market on which the individual securities are traded and, as such, are classified within Level 1 of the fair value hierarchy.

Private equity investments are valued at NAV using information from general partners and have inherent restrictions on redemptions that may affect the ability to sell the investments at their NAV in the near term.

A summary of the fair value hierarchy for pension plan assets associated with the PT-FI plan follows:

	Fair Value at December 31, 2021			
	Total	Level 1	Level 2	Level 3
Government bonds	$114	$114	$ —	$ —
Common stocks	80	80	—	—
Mutual funds	18	18	—	—
Total investments	212	$212	$ —	$ —
Cash and receivables[a]	29			
Payables	(1)			
Total pension plan net assets	$240			

	Fair Value at December 31, 2020			
	Total	Level 1	Level 2	Level 3
Government bonds	$117	$117	$ —	$ —
Common stocks	77	77	—	—
Mutual funds	18	18	—	—
Total investments	212	$212	$ —	$ —
Cash and receivables[a]	41			
Payables	(2)			
Total pension plan net assets	$251			

a. Cash consists primarily of short-term time deposits.

Following is a description of the valuation techniques used for pension plan assets measured at fair value associated with the PT-FI plan. There have been no changes to the techniques used to measure fair value.

Government bonds, common stocks and mutual funds are valued at the closing price reported on the active market on which the individual securities are traded and, as such, are classified within Level 1 of the fair value hierarchy.

The techniques described above may produce a fair value calculation that may not be indicative of NRV or reflective of future fair values. Furthermore, while FCX believes its valuation techniques are appropriate and consistent with those used by other market participants, the use of different techniques or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

The expected benefit payments for FCX's and PT-FI's pension plans follow:

	FCX	PT-FI[a]
2022	$127	$ 17
2023	178	27
2024	130	30
2025	131	27
2026	132	30
2027 through 2031	653	146

a. Based on a December 31, 2021, exchange rate of 14,198 Indonesia rupiah to one U.S. dollar.

Postretirement and Other Benefits. FCX also provides postretirement medical and life insurance benefits for certain U.S. employees and, in some cases, employees of certain international subsidiaries. These postretirement benefits vary among plans, and many plans require contributions from retirees. The expected cost of providing such postretirement benefits is accrued during the years employees render service.

The benefit obligation (funded status) for the postretirement medical and life insurance benefit plans consisted of a current portion of $7 million (included in accounts payable and accrued liabilities) and a long-term portion of $57 million (included in other liabilities) at December 31, 2021, and a current portion of $7 million and a long-term portion of $69 million at December 31, 2020.

FCX has a number of postemployment plans covering severance, long-term disability income, continuation of health and life insurance coverage for disabled employees or other welfare benefits. The accumulated postemployment benefit obligation consisted of a current portion of $6 million (included in accounts payable and accrued liabilities) and a long-term portion of $35 million (included in other liabilities) at December 31, 2021, and a current portion of $6 million and a long-term portion of $42 million at December 31, 2020.

FCX also sponsors a retirement savings plan for most of its U.S. employees. The plan allows employees to contribute a portion of their income in accordance with specified guidelines. The savings plan is a qualified 401(k) plan for all U.S. salaried and non-bargained hourly employees. Participants exercise control and direct the investment of their contributions and account balances among various investment options under the plan. FCX contributes to the plan and matches a percentage of employee contributions up to certain limits. For employees whose eligible compensation exceeds certain levels, FCX provides a nonqualified unfunded defined contribution plan, which had a liability balance of $51 million at December 31, 2021, and $49 million at December 31, 2020, all of which was included in other liabilities.

The costs charged to operations for the employee savings plan totaled $95 million in 2021, $40 million in 2020 and $85 million in 2019. The costs were lower in 2020, compared with 2021 and 2019, because of a temporary suspension of FCX contributions implemented as part of FCX's April 2020 revised operating plans. FCX contributions resumed on January 1, 2021. FCX has other employee benefit plans, certain of which are related to FCX's financial results, which are recognized in operating costs.

NOTE 10. STOCKHOLDERS' EQUITY AND STOCK-BASED COMPENSATION

FCX's authorized shares of capital stock total 3.05 billion shares, consisting of 3.0 billion shares of common stock and 50 million shares of preferred stock.

Financial Policy. In February 2021, FCX's Board of Directors (Board) adopted a financial policy for the allocation of cash flows aligned with FCX's strategic objectives of maintaining a strong balance sheet and increasing cash returns to shareholders while advancing opportunities for future growth. The policy includes a base dividend and a performance-based payout framework, whereby up to 50 percent of available cash flows generated after planned capital spending and distributions to noncontrolling interests would be allocated to shareholder returns and the balance to debt reduction and investments in value enhancing growth projects, subject to FCX maintaining its net debt at a level not to exceed the net debt target of $3 billion to $4 billion (excluding project debt for additional smelting capacity in Indonesia).

In February 2021, the Board reinstated a cash dividend on FCX's common stock (base dividend), and on November 1, 2021, the Board approved (i) a new share repurchase program authorizing repurchases of up to $3.0 billion of FCX common stock and (ii) a variable cash dividend on FCX's common stock for 2022.

In fourth-quarter 2021, FCX acquired 12.7 million shares under the share repurchase program for a total cost of $488 million ($38.32 per share). Through February 15, 2022, FCX acquired 18.2 million shares of its common stock for a total cost of $710 million ($39.10 per share) and $2.3 billion remains available for repurchases.

On December 22, 2021, FCX declared dividends totaling $0.15 per share on its common stock, which was paid on February 1, 2022, to common stockholders of record as of January 14, 2022. This payment includes a $0.075 per share quarterly base cash dividend and a $0.075 per share quarterly variable cash dividend.

The declaration and payment of dividends (base or variable) and timing and amount of any share repurchases is at the discretion of FCX's Board and management, respectively, and is subject to a number of factors, including maintaining FCX's net debt target, capital availability, FCX's financial results, cash requirements, business prospects, global economic conditions, changes in laws, contractual restrictions and other factors deemed relevant by FCX's Board or management, as applicable. FCX's share repurchase program may be modified, increased, suspended or terminated at any time at the Board's discretion.

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

	Defined Benefit Plans	Translation Adjustment	Total
Balance at January 1, 2019	$(615)	$10	$(605)
Amounts arising during the period[a,b]	(118)	—	(118)
Amounts reclassified[c]	47	—	47
Balance at December 31, 2019	(686)	10	(676)
Amounts arising during the period[a,b]	47	—	47
Amounts reclassified[c]	46	—	46
Balance at December 31, 2020	(593)	10	(583)
Amounts arising during the period[a,b]	176	—	176
Amounts reclassified[c]	19	—	19
Balance at December 31, 2021	$(398)	$10	$(388)

a. Includes net actuarial (losses) gains, net of noncontrolling interest, totaling $(111) million for 2019, $40 million for 2020 and $174 million for 2021.

b. Includes tax (benefit) provision totaling $(8) million for 2019, $7 million for 2020 and $2 million for 2021.

c. Includes amortization primarily related to actuarial losses, net of taxes of less than $1 million for 2019, 2020 and 2021.

Stock Award Plans. FCX currently has awards outstanding under various stock-based compensation plans. The stockholder-approved 2016 Stock Incentive Plan (the 2016 Plan) provides for the issuance of stock options, stock appreciation rights, restricted stock, RSUs, PSUs and other stock-based awards for up to 72 million common shares. As of December 31, 2021, 30.7 million shares were available for grant under the 2016 Plan, and no shares were available under other plans.

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

	2021	2020	2019
Selling, general and administrative expenses	$64	$70	$48
Production and delivery	34	29	15
Total stock-based compensation	98	99	63
Tax benefit and noncontrolling interests' share[a]	(5)	(5)	(4)
Impact on net income (loss)	$93	$94	$59

a. Charges in the U.S. are not expected to generate a future tax benefit.

Stock Options. Stock options granted under the plans generally expire 10 years after the date of grant. Stock options vest in one-third annual increments beginning one year from the date of grant. The award agreements provide that participants will receive the following year's vesting upon retirement. Therefore, on the date of grant, FCX accelerates one year of amortization for retirement-eligible employees. The award agreements also provide for accelerated vesting upon certain qualifying terminations of employment within one year following a change of control.

A summary of stock options outstanding as of December 31, 2021, and activity during the year ended December 31, 2021, follows:

	Number of Options	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Balance at January 1	37,100,098	$25.58		
Granted	598,000	28.14		
Exercised	(11,527,957)	19.48		
Expired/Forfeited	(4,347,579)	51.15		
Balance at December 31	21,822,562	23.78	4.3	$411
Vested and exercisable at December 31	17,119,081	26.62	3.4	$278

The fair value of each stock option is estimated on the date of grant using the Black-Scholes-Merton option valuation model. Expected volatility is based on implied volatilities from traded options on FCX's common stock and historical volatility of FCX's common stock. FCX uses historical data to estimate future option exercises, forfeitures and expected life. When appropriate, separate groups of employees who have similar historical exercise behavior are considered separately for valuation purposes. The expected dividend rate is calculated using the expected annual dividend at the date of grant. The risk-free interest rate is based on Federal Reserve rates in effect for bonds with maturity dates equal to the expected term of the option.

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

	2021	2020	2019
Weighted-average assumptions used to value stock option awards:			
Expected volatility	58.1%	47.7%	47.8%
Expected life of options (in years)	5.90	5.83	6.10
Expected dividend rate	2.5%	1.7%	1.8%
Risk-free interest rate	0.6%	1.5%	2.5%
Weighted-average grant-date fair value (per option)	$11.92	$4.72	$4.87
Intrinsic value of options exercised	$ 194	$ 82	$ 3
Fair value of options vested	$ 16	$ 28	$ 26

As of December 31, 2021, FCX had $5 million of total unrecognized compensation cost related to unvested stock options expected to be recognized over a weighted-average period of approximately 1.0 years.

Stock-Settled PSUs and RSUs. Beginning in 2014, FCX's executive officers received annual grants of PSUs that vest after three years. The total grant date target shares related to the PSU grants were 0.7 million for 2019, 0.8 million for 2020 and 0.3 million for 2021, of which the executive officers will earn (i) between 0 percent and 200 percent of the target shares based on achievement of financial metrics and (ii) +/- up to 25 percent of the target shares based on FCX's total shareholder return compared to the total shareholder return of a peer group. All of FCX's executive officers who hold PSUs are retirement eligible, and their PSU awards are therefore non-forfeitable. As such, FCX charges the estimated fair value of the PSU awards to expense at the time the financial and operational, if applicable, metrics are established.

FCX grants RSUs that vest over a period of three years or at the end of three years to certain employees. Some award agreements allow for participants to receive the following year's vesting upon retirement. Therefore, on the date of grant of these RSU awards, FCX accelerates one year of amortization for retirement-eligible employees. FCX also grants RSUs to its directors, which vest on the first anniversary of the date of grant. The fair value of the RSUs is amortized over the vesting period or the period until the director becomes retirement eligible, whichever is shorter. Upon a director's retirement, all of their unvested RSUs immediately vest. For retirement-eligible directors, the fair value of RSUs is recognized in earnings on the date of grant.

The award agreements provide for accelerated vesting of all RSUs held by directors if there is a change of control (as defined in the award agreements) and for accelerated vesting of all RSUs held by employees if they experience a qualifying termination within one year following a change of control.

Dividends attributable to RSUs and PSUs accrue and are paid if the award vests. A summary of outstanding stock-settled RSUs and PSUs as of December 31, 2021, and activity during the year ended December 31, 2021, follows:

	Number of Awards	Weighted-Average Grant-Date Fair Value Per Award	Aggregate Intrinsic Value
Balance at January 1	7,523,022	$16.79	
Granted	2,121,755	29.15	
Vested	(1,814,976)	15.72	
Forfeited	(28,916)	20.29	
Balance at December 31	7,800,885	20.38	$326

The total fair value of stock-settled RSUs and PSUs granted was $62 million during 2021, $47 million during 2020 and $24 million during 2019. The total intrinsic value of stock-settled RSUs and PSUs vested was $56 million during 2021, $18 million during 2020 and $26 million during 2019. As of December 31, 2021, FCX had $17 million of total unrecognized compensation cost related to unvested stock-settled RSUs expected to be recognized over approximately 1.2 years.

Cash-Settled RSUs. Cash-settled RSUs are similar to stock-settled RSUs, but are settled in cash rather than in shares of common stock. These cash-settled RSUs generally vest over three years of service. Some award agreements allow for participants to receive the following year's vesting upon retirement. Therefore, on the date of grant of these cash-settled RSU awards, FCX accelerates one year of amortization for retirement-eligible employees. The cash-settled RSUs are classified as liability awards, and the fair value of these awards is remeasured each reporting period until the vesting dates. The award agreements for cash-settled RSUs provide for accelerated vesting upon certain qualifying terminations of employment within one year following a change of control.

Dividends attributable to cash-settled RSUs accrue and are paid if the award vests. A summary of outstanding cash-settled RSUs as of December 31, 2021, and activity during the year ended December 31, 2021, follows:

	Number of Awards	Weighted-Average Grant-Date Fair Value Per Award	Aggregate Intrinsic Value
Balance at January 1	1,521,097	$12.92	
Granted	308,600	28.00	
Vested	(753,574)	13.94	
Forfeited	(22,199)	15.37	
Balance at December 31	1,053,924	16.56	$44

The total grant-date fair value of cash-settled RSUs was $9 million during 2021, $11 million during 2020 and $10 million during 2019. The intrinsic value of cash-settled RSUs vested was $24 million during 2021, $11 million during 2020 and $8 million during 2019. The accrued liability associated with cash-settled RSUs consisted of a current portion of $26 million (included in accounts payable and accrued liabilities) and a long-term portion of $6 million (included in other liabilities) at December 31, 2021, and a current portion of $22 million and a long-term portion of $6 million at December 31, 2020.

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

	2021	2020	2019
FCX shares tendered to pay the exercise price and/or the minimum required withholding taxes[a]	1,358,101	1,193,183	670,508
Cash received from stock option exercises	$ 210	$ 51	$ 2
Actual tax benefit realized for tax deductions	$ 9	$ 2	$ 1
Amounts FCX paid for employee taxes	$ 29	$ 17	$ 8

a. Under terms of the related plans, upon exercise of stock options, vesting of stock-settled RSUs and payout of PSUs, employees may tender FCX shares to pay the exercise price and/or the minimum required withholding taxes.

NOTE 11. INCOME TAXES

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

	2021	2020	2019
U.S.	$1,861	$ (40)	$(287)
Foreign	5,798	1,837	593
Total	$7,659	$1,797	$ 306

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

FCX's provision for income taxes for the years ended December 31 consists of the following:

	2021	2020	2019
Current income taxes:			
Federal	$ —	$ 53[a]	$ (23)[b,c]
State	(11)	(1)	3
Foreign	(2,460)	(816)[d]	(462)
Total current	(2,471)	(764)	(482)
Deferred income taxes:			
Federal	(184)	3	48
State	(4)	5	8
Foreign	(23)	(306)	(101)
Total deferred	(211)	(298)	(45)
Adjustments	193[e]	37	12
Operating loss carryforwards	190	81	5
Provision for income taxes	$(2,299)	$(944)	$(510)

a. Includes a credit of $53 million associated with the reversal of the charge discussed in footnote c below.
b. As a result of the 2017 Tax Cuts and Jobs Act (the Act) guidance released in 2019, FCX recorded a $29 million credit.
c. Includes a charge of $53 million associated with the sale of FCX's interest in the lower zone of the Timok exploration project.
d. Includes a charge of $135 million associated with the gain on sale of Kisanfu.
e. Primarily reflects the release of valuation allowances on NOLs at PT Rio Tinto (see below).

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

	2021		2020		2019	
	Amount	Percent	Amount	Percent	Amount	Percent
U.S. federal statutory tax rate	$(1,608)	(21)%	$(377)	(21)%	$ (64)	(21)%
Valuation allowance[a]	221	3	(210)	(12)	(149)	(49)
PT Rio Tinto valuation allowance[a]	189	2	—	—	—	—
PT-FI historical tax disputes[b]	(193)	(3)	(8)	—	(145)	(47)
Percentage depletion	221	3	104	6	118	39
Effect of foreign rates different than the U.S. federal statutory rate	(328)	(4)	(109)	(6)	(64)	(21)
Withholding and other impacts on foreign earnings	(678)	(9)	(193)	(11)	(55)	(18)
Adjustment to deferred taxes	—	—	—	—	(49)[c]	(16)
Non-deductible permanent differences	—	—	—	—	(47)	(15)
Uncertain tax positions	13	—	(15)	(1)	(47)	(15)
U.S. tax reform	—	—	—	—	29[d]	9
Foreign tax credit limitation	(11)	—	28	2	(16)	(5)
State income taxes	(14)	—	(2)	—	16	6
Cerro Verde historical tax disputes[e]	—	—	(39)	(2)	2	1
Timok exploration project sale	—	—	53	3	(15)	(5)
Sale of Kisanfu	—	—	(135)	(8)	—	—
Other items, net	(111)	(1)	(41)	(3)	(24)	(9)
Provision for income taxes	$(2,299)	(30)%	$(944)	(53)%	$(510)	(166)%

a. Refer to "Valuation Allowance" below.
b. Refer to "Income Tax Matters" below.
c. Represents net charges primarily to adjust deferred taxes on historical balance sheet items in accordance with tax accounting principles.
d. As a result of the Act guidance released in 2019, FCX recorded a $29 million credit.
e. Refer to Note 12 for further discussion.

FCX paid federal, state and foreign income taxes totaling $1.3 billion in 2021, $397 million in 2020 and $610 million in 2019. FCX received refunds of federal, state and foreign income taxes of $109 million in 2021, $265 million in 2020 and $306 million in 2019.

The components of deferred taxes follow:

December 31,	2021	2020
Deferred tax assets:		
Foreign tax credits	$ 1,536	$ 1,641
Accrued expenses	1,193	1,194
Net operating losses (NOLs)	2,220	2,443
Employee benefit plans	105	177
Other	252	227
Deferred tax assets	5,306	5,682
Valuation allowances	(4,087)	(4,732)
Net deferred tax assets	1,219	950
Deferred tax liabilities:		
Property, plant, equipment and mine development costs	(4,492)	(4,489)
Undistributed earnings	(807)	(694)
Other	(152)	(175)
Total deferred tax liabilities	(5,451)	(5,358)
Net deferred tax liabilities	$(4,232)	$(4,408)

Tax Attributes. At December 31, 2021, FCX had (i) U.S. foreign tax credits of $1.5 billion that will expire between 2022 and 2027, (ii) U.S. federal net operating losses (NOLs) of $6.1 billion that primarily expire between 2036 and 2037, of which $0.2 billion can be carried forward indefinitely, (iii) U.S. state NOLs of $10.9 billion that primarily expire between 2022 and 2041, (iv) Spanish NOLs of $0.5 billion that can be carried forward indefinitely and (v) Indonesia NOLs of $0.9 billion that expire between 2022 and 2026.

Valuation Allowances. On the basis of available information at December 31, 2021, including positive and negative evidence, FCX has provided valuation allowances for certain of its deferred tax assets where it believes it is more-likely-than-not that some portion or all of such assets will not be realized. Valuation allowances totaled $4.1 billion at December 31, 2021, and covered all of FCX's U.S. foreign tax credits and U.S. federal NOLs, substantially all of its U.S. state NOLs, and a portion of its foreign NOLs. Valuation allowances totaled $4.7 billion at December 31, 2020, and covered all of FCX's U.S. foreign tax credits, U.S. federal NOLs, foreign net operating losses and substantially all of its U.S. state NOLs.

The valuation allowance related to FCX's U.S. foreign tax credits totaled $1.5 billion at December 31, 2021. FCX has operations in tax jurisdictions where statutory income taxes and withholding taxes are in excess of the U.S. federal income tax rate. Valuation allowances are recognized on foreign tax credits for which no benefit is expected to be realized.

The valuation allowance related to FCX's U.S. federal, state and foreign NOLs totaled $2.0 billion and other deferred tax assets totaled $561 million at December 31, 2021. NOLs and deferred tax assets represent future deductions for which a benefit will only be realized to the extent these deductions offset future income. FCX develops an estimate of which future tax deductions will be realized and recognizes a valuation allowance to the extent these deductions are not expected to be realized in future periods.

Valuation allowances will continue to be carried on U.S. foreign tax credits, U.S. federal, state and foreign NOLs and U.S. federal, state and foreign deferred tax assets, until such time that (i) FCX generates taxable income against which any of the assets, credits or NOLs can be used, (ii) forecasts of future income provide sufficient positive evidence to support reversal of the valuation allowances or (iii) FCX identifies a prudent and feasible means of securing the benefit of the assets, credits or net operating losses that can be implemented.

The $645 million net decrease in the valuation allowances during 2021 is primarily related to a $219 million decrease associated with U.S. federal NOLs utilized during 2021, a $105 million decrease related to expirations of U.S. foreign tax credits and a $228 million decrease associated with PT Rio Tinto NOLs resulting from positive evidence supporting future taxable income against which net operating losses can be used. Changes in assumptions about future taxable income against which PT Rio Tinto NOLs can be utilized resulted from delays in timing of the anticipated merger of PT Rio Tinto into PT-FI.

Other Events. In connection with the negative impacts of the COVID-19 pandemic on the global economy, governments throughout the world announced measures that are intended to provide tax and other financial relief. Such measures include the American Rescue Plan Act of 2021, enacted on March 11, 2021, and the Coronavirus Aid, Relief, and Economic Security Act (CARES Act), enacted on March 27, 2020. None of these measures resulted in material impacts to FCX's provision for income taxes for the years ended December 31, 2021 and 2020. However, certain provisions of the CARES Act provided FCX with the opportunity to accelerate collections of tax refunds, primarily those associated with the U.S. alternative minimum tax (AMT). FCX collected U.S. AMT refunds of $24 million in 2021 and $244 million in 2020. FCX continues to evaluate income tax accounting considerations of COVID-19 measures as they develop, including any impact on its measurement of existing deferred tax assets and deferred tax liabilities. FCX will recognize any impact from COVID-19 related changes to tax laws in the period in which the new legislation is enacted.

Indonesia Tax Matters. In 2018, PT-FI received unfavorable Indonesia Tax Court decisions with respect to its appeal of capitalized mine development costs on its 2012 and 2014 corporate income tax returns. PT-FI appealed those decisions to the Indonesia Supreme Court. In 2019, the Indonesia Supreme Court communicated an unfavorable ruling regarding the treatment of mine development costs on PT-FI's 2014 tax return. During the fourth quarter of 2019, PT-FI met with the Indonesia Tax Office and developed a framework for resolution of the disputed matters. On December 30, 2019, PT-FI made a payment of $250 million based on its understanding of the framework for resolution of disputes arising from the audits of the tax years 2012 through 2016, as well as tax years 2017 and 2018. Additional administrative steps would need to be completed by both PT-FI and the Indonesia Tax Office in order to implement the resolution.

During October 2021, PT-FI participated in discussions with the Indonesia tax office regarding progress on the framework for resolution of disputes arising from the audits of tax years 2012 through 2016. As a result of these discussions and the revised positions taken by both the Indonesia tax office and PT-FI, FCX believes it can no longer conclude a resolution of all of the disputed tax items at a more-likely-than-not threshold. PT-FI will continue to engage with the Indonesia tax office in pursuit of certain aspects of the original framework for resolution.

During 2019, in conjunction with the framework for resolution, PT-FI recorded net charges totaling $304 million, including $123 million for non-deductible penalties recorded to other (expense) income, net, $78 million for non-deductible interest recorded to interest expense, net and $103 million to provision for income tax expense, primarily for the impact of a reduction in the statutory rate on PT-FI's deferred tax assets.

During 2020, in connection with progress of the framework for resolution, PT-FI recorded additional net charges of $46 million, including $9 million for non-deductible penalties recorded to other (expense) income, net and $35 million for non-deductible interest recorded to interest expense, net, and $2 million to provision for income tax expense.

During 2021, mostly in connection with the October 2021 meeting with the Indonesia tax office and the progress of the framework for resolution, PT-FI recorded total additional net charges of $384 million, including $155 million for non-deductible penalties recorded to other (expense) income, net, $43 million for non-deductible interest recorded to interest expense, net, and $186 million to provision for income tax expense.

Peru Tax Matters. SUNAT (National Superintendency of Customs and Administration), the Peru national tax authority, has assessed mining royalties on ore processed by the Cerro Verde concentrator for the period December 2006 to December 2013, which Cerro Verde has contested on the basis that its 1998 stability agreement exempts from royalties all minerals extracted from its mining concessions, irrespective of the method used for processing those minerals. Refer to Note 12 for further discussion of the Cerro Verde royalty dispute.

In December 2016, the Peru parliament passed tax legislation that, in part, modified the applicable tax rates established in its December 2014 tax legislation, which progressively decreased the corporate income tax rate to 26 percent in 2019 and thereafter, and also increased the dividend tax rate on distributions to 9.3 percent in 2019 and thereafter. Under the tax legislation, which was effective January 1, 2017, the corporate income tax rate was 29.5 percent, and the dividend tax rate on distributions of earnings was 5 percent. Cerro Verde's current mining stability agreement subjects it to a stable income tax rate of 32 percent through the expiration of the agreement on December 31, 2028. The tax rate on dividend distributions is not stabilized by the agreement.

Chile Tax Matters. In September 2014, the Chile legislature approved a tax reform package that implemented a dual tax system, which was amended in January 2016. Under previous rules, FCX's share of income from Chile operations was subject to an effective 35 percent tax rate allocated between income taxes and dividend withholding taxes. Under the amended tax reform package, FCX's Chile operation is subject to the "Partially-Integrated System," resulting in FCX's share of income from El Abra being subject to progressively increasing effective tax rates of 35 percent through 2019 and 44.5 percent in 2020 and thereafter. In November 2017, the progression of increasing tax rates was delayed by the Chile legislature so that the 35 percent rate continued through 2021, increasing to 44.5 percent in 2022 and thereafter. In January 2020, the Chile legislature approved a tax reform package that would further delay the 44.5 percent rate until 2027 and thereafter.

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

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

A summary of the activities associated with FCX's reserve for unrecognized tax benefits for the years ended December 31 follows. The balance at year-end December 31, 2019, was revised by $115 million and the balance at year-end December 31, 2020, was revised by $179 million to adjust for amounts paid on accruals not yet settled.

	2021	2020	2019
Balance at beginning of year	**$474**	$491	$494
Additions:			
Prior year tax positions	**330**	56	86
Current year tax positions	**71**	60	11
Decreases:			
Prior year tax positions	**(30)**	(82)	(75)
Settlements with taxing authorities	**(37)**	(51)	(25)
Balance at end of year	**$808**	$474	$491

The total amount of accrued interest and penalties associated with unrecognized tax benefits was $620 million at December 31, 2021, primarily relating to unrecognized tax benefits associated with cost recovery methods and royalties and other related mining taxes, $307 million at December 31, 2020, and $339 million at December 31, 2019.

The reserve for unrecognized tax benefits of $808 million at December 31, 2021, included $694 million ($465 million net of income tax benefits and valuation allowances) that, if recognized, would reduce FCX's provision for income taxes. Changes in the reserve for unrecognized tax benefits associated with current and prior-year tax positions were primarily related to uncertainties associated with FCX's tax treatment of cost recovery methods. There continues to be uncertainty related to the timing of settlements with taxing authorities, but if additional settlements are agreed upon during the year 2022, FCX could experience a change in its reserve for unrecognized tax benefits.

FCX or its subsidiaries file income tax returns in the U.S. federal jurisdiction and various state and foreign jurisdictions. The tax years for FCX's major tax jurisdictions that remain subject to examination are as follows:

Jurisdiction	Years Subject to Examination	Additional Open Years
U.S. Federal	2017-2018	2014-2016, 2019-2021
Indonesia	2011-2018	2020-2021
Peru	2016	2017-2021
Chile	2020	2018-2019, 2021

NOTE 12. CONTINGENCIES

Environmental. FCX subsidiaries are subject to various national, state and local environmental laws and regulations that govern emissions of air pollutants; discharges of water pollutants; generation, handling, storage and disposal of hazardous substances, hazardous wastes and other toxic materials; and remediation, restoration and reclamation of environmental contamination. FCX subsidiaries that operate in the U.S. also are subject to potential liabilities arising under CERCLA and similar state laws that impose responsibility on current and previous owners and operators of a facility for the remediation of hazardous substances released from the facility into the environment, including damages to natural resources, in some cases irrespective of when the damage to the environment occurred or who caused it. Remediation liability also extends to persons who arranged for the disposal of hazardous substances or transported the hazardous substances to a disposal site selected by the transporter. These liabilities are often shared on a joint and several basis, meaning that each responsible party is fully responsible for the remediation if some or all of the other historical owners or operators no longer exist, do not have the financial ability to respond or cannot be found. As a result, because of FCX's acquisition of FMC in 2007, many of the subsidiary companies FCX now owns are responsible for a wide variety of environmental remediation projects throughout the U.S., and FCX expects to spend substantial sums annually for many years to address those remediation issues. Certain FCX subsidiaries have been advised by the U.S. Environmental Protection Agency (EPA), the Department of the Interior, the Department of Agriculture and various state agencies that, under CERCLA or similar state laws and regulations, they may be liable for costs of responding to environmental conditions at a number of sites that have been or are being investigated to determine whether releases of hazardous substances have occurred and, if so, to develop and implement remedial actions to address environmental concerns. FCX is also subject to claims where the release of hazardous substances is alleged to have damaged natural resources (NRD) and to litigation by individuals allegedly exposed to hazardous substances. As of December 31, 2021, FCX had more than 100 active remediation projects, including NRD claims, in 24 U.S. states. The aggregate environmental obligation for approximately 60 percent of the active remediation projects totaled less than $20 million at December 31, 2021.

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

	2021	2020	2019
Balance at beginning of year	**$1,584**	$1,561	$1,511
Accretion expense[a]	**104**	102	102
Additions[b]	**60**	38	23
Reductions[b]	**(20)**	(58)	(1)
Spending	**(64)**	(59)	(74)
Balance at end of year	**1,664**	1,584	1,561
Less current portion	**(64)**	(83)	(106)
Long-term portion	**$1,600**	$1,501	$1,455

a. Represents accretion of the fair value of environmental obligations assumed in the 2007 acquisition of FMC, which were determined on a discounted cash flow basis.

b. Adjustments to environmental obligations that do not provide future economic benefits are charged to operating income. Adjustments primarily reflect revisions for changes in the anticipated scope and timing of projects and other noncash adjustments.

Estimated future environmental cash payments (on an undiscounted and de-escalated basis) total $89 million in 2022, $80 million in 2023, $105 million in 2024, $98 million in 2025, $100 million in 2026 and $3.2 billion thereafter. The amount and timing of these estimated payments will change as a result of changes in regulatory requirements, changes in scope and timing of remediation activities, the settlement of environmental matters and as actual spending occurs.

At December 31, 2021, FCX's environmental obligations totaled $1.7 billion, including $1.5 billion recorded on a discounted basis for those obligations assumed in the FMC acquisition at fair value. On an undiscounted and de-escalated basis, these obligations totaled $3.7 billion. FCX estimates it is reasonably possible that these obligations could range between $3.3 billion and $4.2 billion on an undiscounted and de-escalated basis.

At December 31, 2021, the most significant environmental obligations were associated with the Pinal Creek site in Arizona; the Newtown Creek site in New York City; historical smelter sites principally located in Arizona, Indiana, Kansas, Missouri, New Jersey, Oklahoma and Pennsylvania; and uranium mining sites in the western U.S. The recorded environmental obligations for these sites totaled $1.4 billion at December 31, 2021. FCX may also be subject to litigation brought by private parties, regulators and local governmental authorities related to these historical sites. A discussion of these sites follows.

Pinal Creek. The Pinal Creek site was listed under the Arizona Department of Environmental Quality's (ADEQ) Water Quality Assurance Revolving Fund program in 1989 for contamination in the shallow alluvial aquifers within the Pinal Creek drainage near Miami, Arizona. Since that time, environmental remediation has been performed by members of the Pinal Creek Group, consisting of Freeport-McMoRan Miami Inc. (Miami), an indirect wholly owned subsidiary of FCX, and two other companies. Pursuant to a 2010 settlement agreement, Miami agreed to take full responsibility for future groundwater remediation at the Pinal Creek site, with limited exceptions. Remediation work consisting of groundwater extraction and treatment plus source control capping is expected to continue for many years.

Newtown Creek. From the 1930s until 1964, Phelps Dodge Refining Corporation (PDRC), an indirect wholly owned subsidiary of FCX, operated a copper smelter, and from the 1930s until 1984 operated a copper refinery, on the banks of Newtown Creek (the creek), which is a 3.5-mile-long waterway that forms part of the boundary between Brooklyn and Queens in New York City. Heavy industrialization along the banks of the creek and discharges from the City of New York's sewer system over more than a century resulted in significant environmental contamination of the waterway. In 2010, EPA notified PDRC, four other companies and the City of New York that EPA considers them PRPs under CERCLA. The notified parties began working with EPA to identify other PRPs. In 2010, EPA designated the creek as a Superfund site, and in 2011, PDRC and four other companies (the Newtown Creek Group, NCG) and the City of New York entered an Administrative Order on Consent (AOC) to perform a remedial investigation/feasibility study (RI/FS) to assess the nature and extent of environmental contamination in the creek and identify remedial options. The NCG's RI/FS work and efforts to identify other PRPs are ongoing. The NCG submitted a final draft RI report in October 2021, which is currently under review by EPA. The NCG expects to submit a draft FS report to EPA in late 2025 and currently expects EPA to select a creek-wide remedy in 2026, with the actual remediation construction starting several years later. In July 2019, the NCG entered into an AOC with EPA to conduct a Focused Feasibility Study (FFS) of the first two miles of the creek to support an evaluation of an early interim remedy for that section of the creek. In July 2021, EPA terminated the FFS, which effectively means remediation of the lower creek will be performed at the same time as the site-wide remedy. FCX's environmental liability balance for the creek was $318 million at December 31, 2021. The final costs of fulfilling this remedial obligation and the allocation of costs among PRPs are uncertain and subject to change based on the results of the RI/FS, the remedy ultimately selected by EPA and related allocation determinations. Changes to the overall cost of this remedial obligation and the portion ultimately allocated to PDRC could be material to FCX.

Historical Smelter Sites. FCX subsidiaries and their predecessors at various times owned or operated copper, zinc and lead smelters or refineries in states including Arizona, Indiana, Kansas, Missouri, New Jersey, Oklahoma and Pennsylvania. For some of these former processing sites, certain FCX subsidiaries have been advised by EPA or state agencies that they may be liable for costs of investigating and, if appropriate, remediating environmental conditions associated with these former processing facilities. At other sites, certain FCX subsidiaries have entered into state voluntary remediation programs to investigate and, if appropriate, remediate on-site and off-site conditions associated with the facilities. The historical processing sites are in various stages of assessment and remediation. At some of these sites, disputes with local residents and elected officials regarding alleged health effects or the effectiveness of remediation efforts have resulted in litigation of various types, and similar litigation at other sites is possible.

From 1920 until 1986, United States Metals Refining Company (USMR), an indirect wholly owned subsidiary of FCX, owned and operated a copper smelter and refinery in the Borough of Carteret, New Jersey. Since the early 1980s, the site has been the subject of environmental investigation and remediation, under the direction and supervision of the New Jersey Department of Environmental Protection (NJDEP). On-site contamination is in the later stages of remediation. In 2012, after receiving a request from NJDEP, USMR also began investigating and remediating off-site properties, which is ongoing. As a result of off-site soil sampling in public and private areas near the former Carteret smelter, FCX established an environmental obligation for known and potential off-site environmental remediation. Assessments of sediments in the adjacent Arthur Kill and sampling and analysis within the offsite area as we obtain access to residential properties are ongoing and could result in additional adjustments to the related environmental remediation obligation in future periods. The extent of contamination and potential remedial actions are uncertain and may take several years to evaluate.

On January 30, 2017, a putative class action titled Juan Duarte, Betsy Duarte and N.D., Infant, by Parents and Natural Guardians Juan Duarte and Betsy Duarte, Leroy Nobles and Betty Nobles, on behalf of themselves and all others similarly situated v. United States Metals Refining Company, Freeport-McMoRan Copper & Gold Inc. and Amax Realty Development, Inc., Docket No. 734-17, was filed in the Superior Court of New Jersey against USMR, FCX, and Amax Realty Development, Inc. The defendants removed this litigation to the U.S. District Court for the District of New Jersey, where it remains pending, and FMC was added as a defendant. The suit alleges that USMR generated and disposed of smelter waste at the site and allegedly released contaminants on-site and off-site through discharges to surface water and air emissions over a period of decades and seeks unspecified compensatory and punitive damages for economic losses, including diminished property values, additional soil investigation and remediation and other damages. In January 2020, the parties completed briefing on the plaintiffs' motion for class certification. The judge indicated in late 2021 that the plaintiffs may submit rebuttal expert reports, which will likely result in additional discovery and refiling of a new briefing on class certification. This will likely delay the court's decision on class certification. FCX continues to vigorously defend this matter.

Uranium Mining Sites. During a period between 1940 and the early 1980s, certain FCX subsidiaries and their predecessors were involved in uranium exploration and mining in the western U.S., primarily on federal and tribal lands in the Four Corners region of the southwest. Similar exploration and mining activities by other companies have also caused environmental impacts warranting remediation. In 2017, the Department of Justice, EPA, Navajo Nation, and two FCX subsidiaries reached an agreement regarding the financial contribution of the U.S. Government and the FCX subsidiaries and the scope of the environmental investigation and remediation work for 94 former uranium mining sites on tribal lands. Under the terms of the Consent Decree executed in May 2017, and approved by the U.S. District Court for the District of Arizona, the U.S. contributed $335 million into a trust fund to cover the government's initial share of the costs, and FCX's subsidiaries are proceeding with the environmental investigation and remediation work at the 94 sites. The program is expected to take more than 20 years to complete. In 2020, FCX reduced its associated obligation and recorded a $47 million credit to operating income to reflect the discounting effect of the recent and expected pace of project work under post-COVID-19 pandemic conditions. By letter dated September 29, 2021, EPA also informed an FCX subsidiary that it does not expect to have funds sufficient to remediate sites covered by a bankruptcy settlement with Tronox and EPA considers a subsidiary of FCX to be potentially liable for 23 of these sites. FCX is also conducting site surveys of historical uranium mining claims associated with FCX subsidiaries on non-tribal federal lands in the Four Corners region. Under a memorandum of understanding with the U.S. Bureau of Land Management (BLM), site surveys are being performed on approximately 15,000 mining claims, ranging from undisturbed claims to claims with mining features. Based on these surveys, BLM has issued no further action determinations for certain undisturbed claims. A similar agreement is in place with the U.S. Forest Service for mine features on U.S. Forest Service land. Either BLM or the U.S. Forest Service may request additional assessment or remediation activities for other claims with mining features. FCX will update this obligation when it has a sufficient number of remedy decisions from the BLM or the U.S. Forest Service to support a reasonably certain range of outcomes. FCX expects it will take several years to complete this work.

AROs. FCX's ARO estimates are reflected on a third-party cost basis and are based on FCX's legal obligation to retire tangible, long-lived assets. A summary of changes in FCX's AROs for the years ended December 31 follows:

	2021	2020	2019
Balance at beginning of year	$2,472	$2,505	$2,547
Liabilities incurred	2	7	20
Settlements and revisions to cash flow estimates, net	331[a]	(13)	(5)
Accretion expense	112	131	118
Dispositions	—	(2)	(5)
Spending	(201)	(156)	(170)
Balance at end of year	2,716	2,472	2,505
Less current portion	(200)	(268)	(330)
Long-term portion	$2,516	$2,204	$2,175

a. Includes an adjustment at PT-FI totaling $397 million, see further discussion below.

ARO costs may increase or decrease significantly in the future as a result of changes in regulations, changes in engineering designs and technology, permit modifications or updates, changes in mine plans, settlements, inflation or other factors and as reclamation (concurrent with mining operations or post mining) spending occurs. ARO activities and expenditures for mining operations generally are made over an extended period of time commencing near the end of the mine life; however, certain reclamation activities may be accelerated if legally required or if determined to be economically beneficial. The methods used or required to plug and abandon non-producing oil and gas wellbores; remove platforms, tanks, production equipment and flow lines; and restore wellsites could change over time.

Financial Assurance. New Mexico, Arizona, Colorado and other states, as well as federal regulations governing mine operations on federal land, require financial assurance to be provided for the estimated costs of mine reclamation and closure, including groundwater quality protection programs. FCX has satisfied financial assurance requirements by using a variety of mechanisms, primarily involving parent company performance guarantees and financial capability demonstrations, but also including trust funds, surety bonds, letters of credit and other collateral. The applicable regulations specify financial strength tests that are designed to confirm a company's or guarantor's financial capability to fund estimated reclamation and closure costs. The amount of financial assurance FCX subsidiaries are required to provide will vary with changes in laws, regulations, reclamation and closure requirements, and cost estimates. At December 31, 2021, FCX's financial assurance obligations associated with these U.S. mine closure and reclamation/restoration costs totaled $1.5 billion, of which $0.9 billion was in the form of guarantees issued by FCX and FMC. At December 31, 2021, FCX had trust assets totaling $208 million (included in other assets), which are legally restricted to be used to satisfy its financial assurance obligations for its mining properties in New Mexico. In addition, FCX subsidiaries have financial assurance obligations for its oil and gas properties associated with plugging and abandoning wells and facilities totaling $424 million. Where oil and gas guarantees associated with the Bureau of Ocean Energy Management do not include a stated cap, the amounts reflect management's estimates of the potential exposure.

New Mexico Environmental and Reclamation Programs. FCX's New Mexico operations are regulated under the New Mexico Water Quality Act and regulations adopted by the Water Quality Control Commission. In connection with discharge permits, the New Mexico Environment Department (NMED) has required each of these operations to submit closure plans for NMED's approval. The closure plans must include measures to assure meeting applicable groundwater quality standards following the closure of discharging facilities and to abate groundwater or surface water contamination to meet applicable standards. FCX's New Mexico operations also are subject to regulation under the 1993 New Mexico Mining Act (the Mining Act) and the related rules that are administered by the Mining and Minerals Division of the New Mexico Energy, Minerals and Natural Resources Department. Under the Mining Act, mines are required to obtain approval of reclamation plans. In 2020, the agencies approved updates to the closure plan and financial assurance instruments and completed a permit renewal for Chino. In 2021, the agencies approved updates to the closure plan and financial assurance instruments, and completed a permit renewal for Tyrone. At December 31, 2021, FCX had accrued reclamation and closure costs of $510 million for its New Mexico operations. Additional accruals may be required based on the state's periodic review of FCX's updated closure plans and any resulting permit conditions, and the amount of those accruals could be material.

Arizona Environmental and Reclamation Programs. FCX's Arizona operations are subject to regulatory oversight by the ADEQ. ADEQ has adopted regulations for its aquifer protection permit (APP) program that require permits for, among other things, certain facilities, activities and structures used for mining, leaching, concentrating and smelting, and require compliance with aquifer water quality standards during operations and closure. An application for an APP requires a proposed closure strategy that will meet applicable groundwater protection requirements following cessation of operations and an estimate of the implementation cost, with a more detailed closure plan required at the time operations cease. A permit applicant must demonstrate its financial ability to meet the closure costs approved by ADEQ. Closure costs for facilities covered by APPs are required to be updated every six years and financial assurance mechanisms are required to be updated every two years. Morenci's APP requires updated stockpile reclamation plans in 2022, which are expected to result in increased closure costs. Bagdad's APP also requires an updated cost estimate for its closure plan in 2022, which is expected to result in increased closure costs. FCX will continue updating its closure strategy and closure cost estimates at other Arizona sites and intends to submit an updated tailings dam system closure cost for Bagdad according to a schedule to be determined by ADEQ.

Portions of Arizona mining facilities that operated after January 1, 1986, also are subject to the Arizona Mined Land Reclamation Act (AMLRA). AMLRA requires reclamation to achieve stability and safety consistent with post-mining land use objectives specified in a reclamation plan. Reclamation plans must be approved by the State Mine Inspector and must include an estimate of the cost to perform the reclamation measures specified in the plan along with financial assurance. FCX will continue to evaluate options for future reclamation and closure activities at its operating and non-operating sites, which are likely to result in adjustments to FCX's AROs, and those adjustments could be material. At December 31, 2021, FCX had accrued reclamation and closure costs of $363 million for its Arizona operations.

Colorado Reclamation Programs. FCX's Colorado operations are regulated by the Colorado Mined Land Reclamation Act (Reclamation Act) and regulations promulgated thereunder. Under the Reclamation Act, mines are required to obtain approval of plans for reclamation of lands affected by mining operations to be performed during mining or upon cessation of mining operations. In March 2020, the Division of Reclamation, Mining, and Safety (DRMS) approved Henderson's proposed update to its closure plan and closure cost estimate. As of December 31, 2021, FCX had accrued reclamation and closure costs of $153 million for its Colorado operations.

In 2019, Colorado enacted legislation that requires proof of an end date for water treatment as a condition of permit authorizations for new mining operations and expansions beyond current permit authorizations. While this requirement does not apply to existing operations, it may lead to changes in long-term water management requirements at Climax and Henderson operations and AROs. In accordance with its permit from DRMS, Climax will submit an updated reclamation plan and cost estimate in 2024.

Chile Reclamation and Closure Programs. El Abra is subject to regulation under the Mine Closure Law administered by the Chile Mining and Geology Agency. In compliance with the requirement for five-year updates, in November 2018, El Abra submitted an updated plan with closure cost estimates based on the existing approved closure plan. Approval of the updated closure plan and cost estimates was received in August 2020, and did not result in a material increase to closure costs. At December 31, 2021, FCX had accrued reclamation and closure costs of $82 million for its El Abra operation.

Peru Reclamation and Closure Programs. Cerro Verde is subject to regulation under the Mine Closure Law administered by the Peru Ministry of Energy and Mines. Under the closure regulations, mines must submit a closure plan that includes the reclamation methods, closure cost estimates, methods of control and verification, closure and post-closure plans, and financial assurance. In compliance with the requirement for five-year updates, in 2017 Cerro Verde submitted its closure plan and cost estimate updated for the mine expansion, which was approved in February 2018. At December 31, 2021, FCX had accrued reclamation and closure costs of $141 million for its Cerro Verde operation.

Indonesia Reclamation and Closure Programs. The ultimate amount of reclamation and closure costs to be incurred at PT-FI's operations will be determined based on applicable laws and regulations and PT-FI's assessment of appropriate remedial activities under the circumstances, after consultation with governmental authorities, affected local residents and other affected parties and cannot currently be projected with precision. Some reclamation costs will be incurred during mining activities, while the remaining reclamation costs will be incurred at the end of mining activities, which are currently estimated to continue through 2041. The construction time frame for reclamation of the West Wanagon overburden stockpile has been extended from 2025 to 2029 because safety constraints for working in steep and difficult terrain have reduced labor and equipment operating efficiencies. The time frame extension resulted in longer and escalating fixed costs, combined with additional anticipated volumes of stockpile material to be moved. As a result of the change in estimated costs, an ARO adjustment of $397 million was recorded in 2021, with $340 million charged to production and delivery costs, as it relates to the depleted Grasberg open pit. At December 31, 2021, FCX had accrued reclamation and closure costs of $1.1 billion for its PT-FI operations.

Indonesia government regulations issued in 2010 require a company to provide a mine closure guarantee in the form of a time deposit placed in a state-owned bank in Indonesia. In December 2018, PT-FI, in conjunction with the issuance of its special mining license (IUPK), submitted a revised mine closure plan to Indonesia's Department of Energy and Mineral Resources to reflect the extension of operations to 2041. At December 31, 2021, PT-FI had restricted time deposits totaling $113 million for mine closure and reclamation guarantees.

Oil and Gas Properties. Substantially all of FM O&G's oil and gas leases require that, upon termination of economic production, the working interest owners plug and abandon non-producing wellbores, remove equipment and facilities from leased acreage, and restore land in accordance with applicable local, state and federal laws. Following several sales transactions, FM O&G's remaining operating areas primarily include offshore California and the Gulf of Mexico (GOM). As of December 31, 2021, FM O&G AROs cover 135 wells and approximately 100 platforms and other structures and it had accrued reclamation and closure costs of $337 million.

Litigation. In addition to the material pending legal proceedings discussed below and above under "Environmental," we are involved periodically in ordinary routine litigation incidental to our business and not required to be disclosed, some of which may result in adverse judgments, settlements, fines, penalties, injunctions or other relief. SEC regulations require us to disclose environmental proceedings involving a governmental authority if we reasonably believe that such proceedings may result in monetary sanctions above a stated threshold. Pursuant to the SEC regulations, we use a threshold of $1 million for purposes of determining whether disclosure of any such environmental proceedings is required. Management does not believe, based on currently available information, that the outcome of any current pending legal proceeding will have a material adverse effect on FCX's financial condition, although individual or cumulative outcomes could be material to FCX's operating results for a particular period, depending on the nature and magnitude of the outcome and the operating results for the period.

Louisiana Parishes Coastal Erosion Cases. Certain FCX affiliates were named as defendants, along with numerous co-defendants, in 13 cases out of a total of 42 cases filed in Louisiana state courts by six south Louisiana parishes (Cameron, Jefferson, Plaquemines, St. Bernard, St. John the Baptist and Vermilion), alleging that certain oil and gas exploration and production operations and sulfur mining and production operations in coastal Louisiana contaminated and damaged coastal wetlands and caused significant land loss along the Louisiana coast. The state of Louisiana, through the Attorney General and separately through the Louisiana Department of Natural Resources, intervened in the litigation in support of the parishes' claims. Specifically, the cases alleged the defendants failed to obtain and/or comply with required coastal use permits in violation of the Louisiana State and Local Coastal Resources Management Act of 1978, and sought unspecified damages for the alleged statutory violations, and restoration of the properties at issue to their original condition. Certain FCX affiliates were named as defendants in two of the five cases that had been set for trial, both originally filed on November 8, 2013: Parish of Plaquemines v. ConocoPhillips Company et al., 25th Judicial District Court, Plaquemines Parish, Louisiana; No. 60-982, Div. B and Parish of Plaquemines v. Hilcorp Energy Company et al., 25th Judicial District Court, Plaquemines Parish, Louisiana; No. 60-999, Div. B. In 2019, affiliates of FCX reached an agreement in principle to settle all 13 cases. The maximum out-of-pocket settlement payment will be $23.5 million with the initial payment of $15 million to be paid upon execution of the settlement agreement. The initial payment will be held in trust and later deposited into a newly formed Coastal Zone Recovery Fund (the Fund) if the state of Louisiana passes enabling legislation to establish the Fund. The settlement agreement will also require the FCX affiliates to pay into the Fund twenty annual installments of $4.25 million beginning in 2023 provided the state of Louisiana passes the enabling legislation. The first two of those annual installments are conditioned only on the enactment of the enabling legislation within three years of execution of the settlement agreement, but all subsequent installments are also conditioned on the FCX affiliates receiving simultaneous reimbursement on a dollar-for-dollar basis from the proceeds of environmental credit sales generated by the Fund, resulting in the $23.5 million maximum total payment obligation. The settlement agreement must be executed by all parties, including authorized representatives of the six south Louisiana parishes originally plaintiffs in the suit and certain other non-plaintiff Louisiana parishes and the state of Louisiana. The agreement in principle does not include any admission of liability by FCX or its affiliates. FCX recorded a charge in 2019 for the initial payment of $15 million, which will be paid upon execution of the settlement agreement. The settlement agreement has been executed by the FCX affiliates, several of the Louisiana parishes, and the state of Louisiana. FCX is continuing its efforts to obtain signatures from or on behalf of the remaining parishes to finalize the settlement. Upon execution of the settlement agreement by all parties, the FCX affiliates will be fully released and dismissed from all 13 pending cases.

Asbestos and Talc Claims. Since approximately 1990, various FCX affiliates have been named as defendants in a large number of lawsuits alleging personal injury from exposure to asbestos or talc allegedly contained in industrial products such as electrical wire and cable, raw materials such as paint and joint compounds, talc-based lubricants used in rubber manufacturing or from asbestos contained in buildings and facilities located at properties owned or operated by affiliates of FCX. Many of these suits involve a large number of codefendants. Based on litigation results to date and facts currently known, FCX believes there is a reasonable possibility that losses may have been incurred related to these matters; however, FCX also believes that the amounts of any such losses, individually or in the aggregate, are not material to its consolidated financial statements. There can be no assurance that future developments will not alter this conclusion.

There has been a significant increase in the number of cases alleging the presence of asbestos contamination in talc-based cosmetic and personal care products and in cases alleging exposure to talc products that are not alleged to be contaminated with asbestos. The primary targets have been the producers of those products, but defendants in many of these cases also include talc miners. Cyprus Amax Minerals Company (CAMC), an indirect wholly owned subsidiary of FCX, and Cyprus Mines Corporation (Cyprus Mines), a wholly owned subsidiary of CAMC, are among those targets. Cyprus Mines was engaged in talc mining and processing from 1964 until 1992 when it exited its talc business by conveying it to a third party in two related transactions. Those transactions involved (1) a transfer by Cyprus Mines of the assets of its talc business to a newly formed subsidiary that assumed all pre-sale and post-sale talc liabilities, subject to limited reservations, and (2) a sale of the stock of that subsidiary to the third party. In 2011, the third party sold that subsidiary to Imerys Talc America (Imerys), an affiliate of Imerys S.A. In accordance with the terms of the 1992 transactions and subsequent agreements, Imerys undertook the defense and indemnification of Cyprus Mines and CAMC in talc lawsuits.

Cyprus Mines has contractual indemnification rights, subject to limited reservations, against Imerys, which has historically acknowledged those indemnification obligations and took responsibility for all cases tendered to it. However, in February 2019, Imerys filed for Chapter 11 bankruptcy protection, which triggered an immediate automatic stay under the federal bankruptcy code prohibiting any party from continuing or initiating litigation or asserting new claims against Imerys. As a result, Imerys stopped defending the talc lawsuits against Cyprus Mines and CAMC. In addition, Imerys took the position that it alone owns, and has the sole right to access, the proceeds of the legacy insurance coverage of Cyprus Mines and CAMC for talc liabilities. In March 2019, Cyprus Mines and CAMC challenged this position and obtained emergency relief from the bankruptcy court to gain access to the insurance until the question of ownership and contractual access could be decided in an adversary proceeding before the bankruptcy court, which is currently on hold.

On December 22, 2020, Imerys filed an amended bankruptcy plan disclosing a global settlement with Cyprus Mines and CAMC, which provides a framework for a full and comprehensive resolution of all current and future potential liabilities arising out of the Cyprus Mines talc business, including claims against FCX, its affiliates, Cyprus Mines, and CAMC.

In 2021, Imerys obtained an injunction temporarily staying approximately 950 talc-related lawsuits against CAMC and Cyprus Mines, which has been extended through June 2022. The interim stay is a component of the global settlement but there can be no assurance that the bankruptcy court will continue to impose the interim stay.

On January 23, 2021, Imerys filed the form of a settlement and release agreement to be entered into by CAMC, Cyprus Mines, FCX, Imerys and the other debtors, tort claimants' committee and future claims representative in the Imerys bankruptcy. In accordance with the global settlement, among other things, (1) CAMC will pay a total of $130 million in cash to a settlement trust in seven annual installments, which will be guaranteed by FCX; (2) CAMC and Cyprus Mines and their affiliates will contribute to the settlement trust all rights that they have to the proceeds of certain legacy insurance policies as well as indemnity rights they have against Johnson & Johnson, and (3) Cyprus Mines will file for Chapter 11 bankruptcy protection with CAMC paying expenses of Cyprus Mines' bankruptcy process, subject to certain limitations. On February 11, 2021, Cyprus Mines filed for Chapter 11 bankruptcy protection. In connection with executing the settlement and release agreement, FCX concluded that it has a probable loss and, in 2020, recorded a $130 million charge to environmental obligations and shutdown costs.

In October 2021, Johnson & Johnson announced it established a new subsidiary to hold and manage its cosmetic talc liabilities, which entity subsequently filed for Chapter 11 bankruptcy protection. This filing could further slow and complicate FCX's efforts to implement a resolution.

FCX's global settlement is subject to, among other things, votes by claimants in both the Imerys and Cyprus Mines bankruptcy cases as well as bankruptcy court approvals in both cases, and there can be no assurance that the global settlement will be successfully implemented. FCX has a $130 million liability balance at December 31, 2021, associated with the proposed settlement.

Tax and Other Matters. FCX's operations are in multiple jurisdictions where uncertainties arise in the application of complex tax regulations. Some of these tax regimes are defined by contractual agreements with the local government, while others are defined by general tax laws and regulations. FCX and its subsidiaries are subject to reviews of its income tax filings and other tax payments, and disputes can arise with the taxing authorities over the interpretation of its contracts or laws. The final taxes paid may be dependent upon many factors, including negotiations with taxing authorities. In certain jurisdictions, FCX pays a portion of the disputed amount before formally appealing an assessment. Such payment is recorded as a receivable if FCX believes the amount is collectible.

Cerro Verde Royalty Dispute. SUNAT assessed mining royalties on ore processed by the Cerro Verde concentrator for the period from December 2006 to December 2013. No royalty assessments can be issued for the years after 2013, as Cerro Verde began paying royalties on all of its production in January 2014 under its new 15-year stability agreement. Cerro Verde contested each of these assessments because it believes that its 1998 stability agreement exempts from royalties all minerals extracted from its mining concession, irrespective of the method used for processing such minerals.

Since 2014, Cerro Verde has been paying under protest the disputed assessments mostly under installment payment programs provided under Peruvian law. During 2021, Cerro Verde made payments totaling $421 million, which was the balance of its royalty dispute liabilities.

On February 28, 2020, FCX filed on its own behalf and on behalf of Cerro Verde international arbitration proceedings against the Government of Peru under the United States-Peru Trade Promotion Agreement. The hearing on the merits is scheduled to take place in May 2023. In April 2020, SMM Cerro Verde Netherlands B.V., another shareholder of Cerro Verde, filed another international arbitration proceeding against the Government of Peru under the Netherlands-Peru Bilateral Investment Treaty. The hearing on the merits is scheduled to take place in February 2023.

Other Peru Tax Matters. Cerro Verde has also received assessments from SUNAT for additional taxes, penalties and interest related to various audit exceptions for income and other taxes. Cerro Verde has filed or will file objections to the assessments because it believes it has properly determined and paid its taxes. A summary of these assessments follows:

Tax Year	Tax Assessment	Penalties and Interest	Total
2003 to 2008	$ 48	$130	$178
2009	56	52	108
2010	54	122	176
2011 and 2012	41	72	113
2013	48	65	113
2014 to 2016	5	28	33
	$252	$469	$721

As of December 31, 2021, Cerro Verde had paid $642 million on these disputed tax assessments. A reserve has been applied against these payments totaling $405 million, resulting in a net receivable of $237 million (included in other assets), which Cerro Verde believes is collectible.

Cerro Verde's income tax assessments, penalties and interest included in the table above totaled $0.6 billion at December 31, 2021, of which $0.3 billion has not been recorded.

Indonesia Tax Matters. PT-FI has received assessments from the Indonesia tax authorities for additional taxes and interest related to various audit exceptions for income and other taxes. PT-FI has filed objections to the assessments because it believes it has properly determined and paid its taxes. Excluding surface water tax assessments discussed below and the Indonesia government's previous imposition of a 7.5 percent export duty that PT-FI paid under protest during the period April 2017 to December 21, 2018 (refer to Note 13), a summary of these assessments, including potential penalties follows:

Tax Year	Tax Assessment	Penalties and Interest	Total
2005	$ 62	$ 30	$ 92
2007	48	23	71
2008 and 2011	28	36	64
2012 and 2013	41	43	84
2014 and 2015	121	—	121
2016	257	483	740
2017 and 2019	48	47	95
	$605	$662	$1,267

As of December 31, 2021, PT-FI had paid $278 million on these disputed tax assessments. A reserve has been applied against these payments totaling $221 million, resulting in a net receivable of $57 million (included in other assets).

PT-FI's income tax assessments, penalties and interest included in the table above totaled $1.1 billion at December 31, 2021, of which $0.5 billion has not been recorded.

Surface Water Taxes. PT-FI received assessments from the local regional tax authority in Papua, Indonesia, for additional taxes and penalties related to surface water taxes for the period from January 2011 through December 2018. As a result, PT-FI offered to pay one trillion rupiah to settle these historical surface water tax disputes and charged $69 million to production and delivery costs in December 2018. In May 2019, PT-FI agreed to a final settlement of 1.394 trillion rupiah (approximately $99 million) and recorded an incremental charge of $28 million. PT-FI paid 708.5 billion rupiah ($50 million) in October 2019, and paid the balance of 685.5 billion rupiah ($48 million) during 2021.

Export Duty Matter. In April 2017, PT-FI entered into a memorandum of understanding with the Indonesia government (the 2017 MOU) confirming that the former contract of work (COW) would continue to be valid and honored until replaced by a mutually agreed IUPK and investment stability agreement and agreed to continue to pay export duties of 5 percent on copper concentrate export sales until completion of the divestment and new IUPK. Subsequently, the Customs Office of the Minister of Finance refused to recognize the 5 percent export duty agreed to under the 2017 MOU and imposed a 7.5 percent export duty under the Ministry of Finance regulations. PT-FI paid $155 million for these duties under protest and appealed the disputed amounts to the Indonesia Tax Court. The Indonesia Tax Court subsequently ruled in favor of PT-FI related to the cases involving $29 million of the disputed amounts, which were refunded by the Indonesia Customs Office to PT-FI. The Indonesia Customs Office appealed the Indonesia Tax Court decisions on these cases to the Indonesia Supreme Court. On October 29, 2019, the Indonesia Supreme Court posted on its website rulings unfavorable to PT-FI for certain of the appealed cases involving approximately half of the $29 million that had been refunded to PT-FI. As a result of the October 2019 ruling, FCX recorded a charge of $155 million in 2019 to fully reserve for this matter.

Withholding Tax Assessments. In January 2019, the Indonesia Supreme Court posted on its website an unfavorable decision related to a PT-FI 2005 withholding tax matter. PT-FI had also received an unfavorable Indonesia Supreme Court decision in November 2017. PT-FI currently has other pending cases at the Indonesia Supreme Court related to withholding taxes for employees and other service providers for the year 2005 and the year 2007, which total $47 million (based on the exchange rate as of December 31, 2021, and included in accounts payable and accrued liabilities in the consolidated balance sheet at December 31, 2021), including penalties and interest.

Smelter Development Progress. As a result of COVID-19 mitigation measures, there have been disruptions to work and travel schedules of international contractors and restrictions on access to the proposed physical site of the greenfield smelter in Gresik, Indonesia. PT-FI continues to discuss with the Indonesia government a deferred schedule for the greenfield smelter in light of the ongoing COVID-19 pandemic. Refer to Note 13 for discussion of PT-FI's commitment for the development of additional smelting capacity in Indonesia under the terms of its IUPK.

On January 7, 2021, the Indonesia government levied an administrative fine of $149 million for the period from March 30, 2020, through September 30, 2020, on PT-FI for failing to achieve physical development progress on the greenfield smelter as of July 31, 2020. On January 13, 2021, PT-FI responded to the Indonesia government objecting to the fine because of events outside of its control causing a delay of the greenfield smelter's development progress. PT-FI believes that its communications during 2020 with the Indonesia government were not properly considered before the administrative fine was levied.

In June 2021, the Indonesia government issued a ministerial decree for the calculation of an administrative fine for lack of smelter development in light of the COVID-19 pandemic. During 2021, PT-FI recorded charges totaling $16 million for a potential settlement of the administrative fine. On January 25, 2022, the Indonesia government submitted a new estimate of the administrative fine totaling $57 million. On February 15, 2022, PT-FI responded to the Indonesia government with a revised calculation of $37 million. PT-FI expects to record a charge in the first quarter of 2022 for an amount in excess of the previously recorded $16 million.

Letters of Credit, Bank Guarantees and Surety Bonds. Letters of credit and bank guarantees totaled $239 million at December 31, 2021, primarily associated with environmental obligations, AROs and for copper concentrate shipments from PT-FI to Atlantic Copper as required by Indonesia regulations. In addition, FCX had surety bonds totaling $492 million at December 31, 2021, primarily associated with environmental obligations and AROs.

Insurance. FCX purchases a variety of insurance products to mitigate potential losses, which typically have specified deductible amounts or self-insured retentions and policy limits. FCX generally is self-insured for U.S. workers' compensation, but purchases excess insurance up to statutory limits. An actuarial analysis is performed twice a year on the various casualty insurance programs covering FCX's U.S.-based mining operations, including workers' compensation, to estimate expected losses. At December 31, 2021, FCX's liability for expected losses under these insurance programs totaled $62 million, which consisted of a current portion of $11 million (included in accounts payable and accrued liabilities) and a long-term portion of $51 million (included in other liabilities). In addition, FCX has receivables of $26 million (a current portion of $7 million included in other accounts receivable and a long-term portion of $19 million included in other assets) for expected claims associated with these losses to be filed with insurance carriers.

FCX's oil and gas operations are subject to all of the risks normally incidental to the production of oil and gas, including well blowouts, cratering, explosions, oil spills, releases of gas or well fluids, fires, pollution and releases of toxic gas, each of which could result in damage to or destruction of oil and gas wells, production facilities or other property, or injury to persons. While FCX is not fully insured against all risks related to its oil and gas operations, its insurance policies provide limited coverage for losses or liabilities relating to pollution, with broader coverage for sudden and accidental occurrences. FCX is self-insured for named windstorms in the GOM.

NOTE 13. COMMITMENTS AND GUARANTEES

Leases. Effective January 1, 2019, FCX adopted the new Accounting Standards Update (ASU) for lease accounting, and nearly all of FCX's leases were considered operating leases under the new ASU. FCX leases various types of properties, including land, offices and equipment under non-cancelable leases.

The components of FCX's leases presented in the consolidated balance sheet for the years ended December 31 follow:

	2021	2020
Lease right-of-use assets (included in property, plant, equipment and mine development costs, net)	$277	$207
Short-term lease liabilities (included in accounts payable and accrued liabilities)	$ 38	$ 38
Long-term lease liabilities (included in other liabilities)	281[a]	190
Total lease liabilities	$319	$228

a. Includes a land lease by PT-FI for the greenfield smelter totaling $126 million. This is FCX's only significant finance lease.

Operating lease costs, primarily included in production and delivery expense in the consolidated statement of operations, for the three years ended December 31 follow:

	2021	2020	2019
Operating leases	$ 42	$ 42	$ 55
Variable and short-term leases	62	$ 74	79
Total operating lease costs	$104	$116	$134

FCX payments included in operating cash flows for its lease liabilities totaled $54 million in 2021, $36 million in 2020 and $38 million in 2019. FCX payments included in financing cash flows for its lease liabilities totaled $25 million in 2021 and $4 million in both 2020 and 2019. As of December 31, 2021, the weighted-average discount rate used to determine the lease liabilities was 4.2 percent (5.4 percent as of December 31, 2020) and the weighted-average remaining lease term was 12.4 years (7.7 years as of December 31, 2020).

The future minimum payments for leases presented in the consolidated balance sheet at December 31, 2021, follow:

2022	$ 46
2023	35
2024	73
2025	27
2026	24
Thereafter	194
Total payments	399
Less amount representing interest	(80)
Present value of net minimum lease payments	319
Less current portion	(38)
Long-term portion	$281

Contractual Obligations. At December 31, 2021, based on applicable prices on that date, FCX has unconditional purchase obligations (including take-or-pay contracts with terms less than one year) of $4.3 billion, primarily comprising the procurement of copper concentrate ($3.1 billion), transportation services ($0.4 billion) and electricity ($0.3 billion). Some of FCX's unconditional purchase obligations are settled based on the prevailing market rate for the service or commodity purchased. In some cases, the amount of the actual obligation may change over time because of market conditions. Obligations for copper concentrate provide for deliveries of specified volumes to Atlantic Copper at market-based prices. Transportation obligations are primarily for South America contracted ocean freight. Electricity obligations are primarily for long-term power purchase agreements in North America and contractual minimum demand at the South America mines.

FCX's unconditional purchase obligations by year total $1.6 billion in 2022, $1.5 billion in 2023, $0.5 billion in 2024, $0.2 billion in 2025, $0.2 billion in 2026 and $0.3 billion thereafter. During the three-year period ended December 31, 2021, FCX fulfilled its minimum contractual purchase obligations.

IUPK—Indonesia. On December 21, 2018, FCX completed the transaction with the Indonesia government regarding PT-FI's long-term mining rights and share ownership. Concurrent with the closing of the transaction, the Indonesia government granted PT-FI an IUPK to replace its former COW, enabling PT-FI to conduct operations in the Grasberg minerals district through 2041. Under the terms of the IUPK, PT-FI has been granted an extension of mining rights through 2031, with rights to extend mining rights through 2041, subject to PT-FI completing the development of additional smelting capacity in Indonesia by the end of 2023 (an extension of which has been requested due to COVID-19 mitigation measures subject to the approval of the Indonesia government, refer to Note 12), and fulfilling its defined fiscal obligations to the Indonesia government. The IUPK, and related documentation, contains legal and fiscal terms and is legally enforceable through 2041, assuming the additional extension is received. In addition, FCX, as a foreign investor, has rights to resolve investment disputes with the Indonesia government through international arbitration.

The key fiscal terms set forth in the IUPK include a 25 percent corporate income tax rate, a 10 percent profits tax on net income, and royalty rates of 4 percent for copper, 3.75 percent for gold and 3.25 percent for silver. PT-FI's royalties totaled $319 million in 2021, $160 million in 2020 and $106 million in 2019.

Dividend distributions from PT-FI to FCX totaled $1.0 billion in 2021 and are subject to a 10 percent withholding tax. There were no dividend distributions from PT-FI to FCX in 2020 or 2019.

The IUPK requires PT-FI to pay export duties of 5 percent, declining to 2.5 percent when smelter development progress exceeds 30 percent and eliminated when development progress for additional smelting capacity in Indonesia exceeds 50 percent. PT-FI had previously agreed to and has been paying export duties since July 2014 (refer to Note 12 for further discussion of disputed export duties). PT-FI's export duties charged against revenues totaled $218 million in 2021, $92 million in 2020 and $66 million in 2019 (excluding $155 million associated with the historical export duty matter discussed in Note 12).

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

In connection with a memorandum of understanding previously entered into with the Indonesia government in July 2014, PT-FI provided an assurance bond to support its commitment to construct a greenfield smelter in Indonesia ($132 million based on exchange rate as of December 31, 2021).

In March 2021, PT-FI received a one-year extension of its export license through March 15, 2022. In December 2021, PT Smelting received a twelve-month extension of its anodes slimes export license, which expires December 9, 2022, subject to review and approval by the Indonesia government every six months.

Chiyoda Contract. In July 2021, PT-FI awarded a construction contract to Chiyoda for the construction of a greenfield smelter in Gresik, Indonesia with an estimated contract cost of $2.8 billion. During 2021, PT-FI progressed site preparation activities and expects engineering procurement and construction activities to advance during 2022 and 2023. Construction of the greenfield smelter is expected to be completed as soon as feasible in 2024, which is subject to no additional COVID-19-related disruptions and other factors.

PT-FI Tolling Agreement. PT-FI entered into a tolling agreement with PT Smelting that will be effective January 1, 2023, and will replace the current concentrate sales agreements between PT-FI and PT Smelting. Under the tolling agreement, PT-FI will pay PT Smelting to smelt and refine its concentrate and will retain title to all products for sale to third parties.

Indemnification. The PT-FI divestment agreement, discussed in Note 3, provides that FCX will indemnify PT Inalum and PTI from any losses (reduced by receipts) arising from any tax disputes of PT-FI disclosed to PT Inalum in a Jakarta, Indonesia tax court letter limited to PTI's respective percentage share at the time the loss is finally incurred. Any net obligations arising from any tax settlement would be paid on December 21, 2025. FCX had accrued $78 million as of December 31, 2021, and $42 million as of December 31, 2020, (included in other liabilities in the consolidated balance sheets) related to this indemnification.

Community Development Programs. FCX has adopted policies that govern its working relationships with the communities where it operates. These policies are designed to guide its practices and programs in a manner that respects and promotes basic human rights and the culture of the local people impacted by FCX's operations. FCX continues to make significant expenditures on community development, education, training and cultural programs.

In 1996, PT-FI established the Freeport Partnership Fund for Community Development (Partnership Fund) through which PT-FI has made available funding and technical assistance to support community development initiatives in the areas of health, education, economic development and local infrastructure of the area. Throughout 2019, PT-FI consulted with key stakeholders to restructure the management of the Partnership Fund in compliance with PT-FI's IUPK. Throughout the restructuring process, PT-FI continued its contributions to ensure no disruptions in implementation of approved projects. Beginning in February 2020, the Partnership Fund is managed by a legally-recognized Indonesia foundation (*Yayasan Pemberdayaan Masyarakat Amungme dan Kamoro,* or YPMAK). PT-FI charged $75 million in 2021, $36 million in 2020 and $28 million in 2019 to cost of sales for this commitment.

Guarantees. FCX provides certain financial guarantees (including indirect guarantees of the indebtedness of others) and indemnities.

Prior to its acquisition by FCX, FMC and its subsidiaries have, as part of merger, acquisition, divestiture and other transactions, from time to time, indemnified certain sellers, buyers or other parties related to the transaction from and against certain liabilities associated with conditions in existence (or claims associated with actions taken) prior to the closing date of the transaction. As part of these transactions, FMC indemnified the counterparty from and against certain excluded or retained liabilities existing at the time of sale that would otherwise have been transferred to the party at closing. These indemnity provisions generally now require FCX to indemnify the party against certain liabilities that may arise in the future from the pre-closing activities of FMC for assets sold or purchased. The indemnity classifications include environmental, tax and certain operating liabilities, claims or litigation existing at closing and various excluded liabilities or obligations. Most of these indemnity obligations arise from transactions that closed many years ago, and given the nature of these indemnity obligations, it is not possible to estimate the maximum potential exposure. Except as described in the following sentence, FCX does not consider any of such obligations as having a probable likelihood of payment that is reasonably estimable, and accordingly, has not recorded any obligations associated with these indemnities. With respect to FCX's environmental indemnity obligations, any expected costs from these guarantees are accrued when potential environmental obligations are considered by management to be probable and the costs can be reasonably estimated.

NOTE 14. FINANCIAL INSTRUMENTS

FCX does not purchase, hold or sell derivative financial instruments unless there is an existing asset or obligation, or it anticipates a future activity that is likely to occur and will result in exposure to market risks, which FCX intends to offset or mitigate. FCX does not enter into any derivative financial instruments for speculative purposes, but has entered into derivative financial instruments in limited instances to achieve specific objectives. These objectives principally relate to managing risks associated with commodity price changes, foreign currency exchange rates and interest rates.

Commodity Contracts. From time to time, FCX has entered into derivative contracts to hedge the market risk associated with fluctuations in the prices of commodities it purchases and sells. Derivative financial instruments used by FCX to manage its risks do not contain credit risk-related contingent provisions.

In April 2020, FCX entered into forward sales contracts for 150 million pounds of copper for settlement in May and June of 2020. The forward sales provided for fixed pricing of $2.34 per pound of copper on approximately 60 percent of North America's sales volumes for May and June 2020. These contracts resulted in hedging losses totaling $24 million for the year ended December 31, 2020. There were no remaining forward sales contracts after June 30, 2020.

A discussion of FCX's other derivative contracts and programs follows.

Derivatives Designated as Hedging Instruments—Fair Value Hedges

Copper Futures and Swap Contracts. Some of FCX's U.S. copper rod and cathode customers request a fixed market price instead of the COMEX average copper price in the month of shipment. FCX hedges this price exposure in a manner that allows it to receive the COMEX average price in the month of shipment while the customers pay the fixed price they requested. FCX accomplishes this by entering into copper futures or swap contracts. Hedging gains or losses from these copper futures and swap contracts are recorded in revenues. FCX did not have any significant gains or losses resulting from hedge ineffectiveness during the year ended December 31, 2021. At December 31, 2021, FCX held copper futures and swap contracts that qualified for hedge accounting for 78 million pounds at an average contract price of $4.30 per pound, with maturities through October 2023.

A summary of gains (losses) recognized in revenues for derivative financial instruments related to commodity contracts that are designated and qualify as fair value hedge transactions, including the unrealized gains (losses) on the related hedged item follows (in millions):

	2021	2020	2019
Copper futures and swap contracts:			
Unrealized (losses) gains:			
Derivative financial instruments	$ (4)	$ 9	$ 15
Hedged item—firm sales commitments	4	(9)	(15)
Realized gains (losses):			
Matured derivative financial instruments	65	22	(8)

Derivatives Not Designated as Hedging Instruments

Embedded Derivatives. Certain FCX concentrate, copper cathode and gold sales contracts provide for provisional pricing primarily based on the LME copper price or the COMEX copper price and the London gold price at the time of shipment as specified in the contract. FCX receives market prices based on prices in the specified future month, which results in price fluctuations recorded in revenues until the date of settlement. FCX records revenues and invoices customers at the time of shipment based on then-current LME or COMEX copper prices and the London gold prices as specified in the contracts, which results in an embedded derivative (*i.e.*, a pricing mechanism that is finalized after the time of delivery) that is required to be bifurcated from the host contract. The host contract is the sale of the metals contained in the concentrate or cathode at the then-current LME or COMEX copper price and the London gold price. FCX applies the normal purchases and normal sales scope exception in accordance with derivatives and hedge accounting guidance to the host contract in its concentrate or cathode sales agreements since these contracts do not allow for net settlement and always result in physical delivery. The embedded derivative does not qualify for hedge accounting and is adjusted to fair value through earnings each period, using the period-end LME or COMEX copper forward prices and the adjusted London gold price, until the date of final pricing. Similarly, FCX purchases copper under contracts that provide for provisional pricing. Mark-to-market price fluctuations from these embedded derivatives are recorded through the settlement date and are reflected in revenues for sales contracts and in inventory for purchase contracts.

A summary of FCX's embedded derivatives at December 31, 2021, follows:

	Open Positions	Average Price Per Unit Contract	Average Price Per Unit Market	Maturities Through
Embedded derivatives in provisional sales contracts:				
Copper (millions of pounds)	**682**	**$ 4.37**	**$ 4.42**	**July 2022**
Gold (thousands of ounces)	**223**	**1,797**	**1,822**	**March 2022**
Embedded derivatives in provisional purchase contracts:				
Copper (millions of pounds)	**132**	**4.38**	**4.42**	**April 2022**

Copper Forward Contracts. Atlantic Copper enters into copper forward contracts designed to hedge its copper price risk whenever its physical purchases and sales pricing periods do not match. These economic hedge transactions are intended to hedge against changes in copper prices, with the mark-to-market hedging gains or losses recorded in production and delivery costs. At December 31, 2021, Atlantic Copper held net copper forward sales contracts for 2 million pounds at an average contract price of $4.53 per pound, with maturities through March 2022.

Summary of Gains (Losses). A summary of the realized and unrealized gains (losses) recognized in operating income for commodity contracts that do not qualify as hedge transactions, including embedded derivatives, follows (in millions):

	2021	2020	2019
Embedded derivatives in provisional sales contracts[a]:			
Copper	**$425**	$259	$34
Gold and other	**(2)**	45	20
Copper forward contracts[b]	**(15)**	3	(7)

a. Amounts recorded in revenues.
b. Amounts recorded in cost of sales as production and delivery costs.

Unsettled Derivative Financial Instruments

A summary of the fair values of unsettled commodity derivative financial instruments follows:

December 31,	2021	2020
Commodity Derivative Assets:		
Derivatives designated as hedging instruments:		
Copper futures and swap contracts	**$12**	$ 15
Derivatives not designated as hedging instruments:		
Embedded derivatives in provisional sales/purchase contracts	**64**	169
Copper forward contracts	**1**	—
Total derivative assets	**$77**	$184
Commodity Derivative Liabilities:		
Derivatives not designated as hedging instruments:		
Embedded derivatives in provisional sales/purchase contracts	**$27**	$ 21
Copper forward contracts	**1**	—
Total derivative liabilities	**$28**	$ 21

FCX's commodity contracts have netting arrangements with counterparties with which the right of offset exists, and it is FCX's policy to generally offset balances by contract on its balance sheet. FCX's embedded derivatives on provisional sales/purchase contracts are netted with the corresponding outstanding receivable/payable balances.

A summary of these unsettled commodity contracts that are offset in the balance sheet follows (in millions):

	Assets		Liabilities	
December 31,	2021	2020	2021	2020
Gross amounts recognized:				
Commodity contracts:				
Embedded derivatives in provisional sales/purchase contracts	$64	$169	$27	$21
Copper derivatives	13	15	1	—
	77	184	28	21
Less gross amounts of offset:				
Commodity contracts:				
Embedded derivatives in provisional sales/purchase contracts	3	1	3	1
Copper derivatives	1	—	1	—
	4	1	4	1
Net amounts presented in balance sheet:				
Commodity contracts:				
Embedded derivatives in provisional sales/purchase contracts	61	168	24	20
Copper derivatives	12	15	—	—
	$73	$183	$24	$20
Balance sheet classification:				
Trade accounts receivable	$51	$168	$14	$ —
Other current assets	12	15	—	—
Accounts payable and accrued liabilities	10	—	10	20
	$73	$183	$24	$20

Credit Risk. FCX is exposed to credit loss when financial institutions with which it has entered into derivative transactions (commodity, foreign exchange and interest rate swaps) are unable to pay. To minimize the risk of such losses, FCX uses counterparties that meet certain credit requirements and periodically reviews the creditworthiness of these counterparties. As of December 31, 2021, the maximum amount of credit exposure associated with derivative transactions was $77 million.

Other Financial Instruments. Other financial instruments include cash and cash equivalents, restricted cash, restricted cash equivalents, accounts receivable, investment securities, legally restricted funds, accounts payable and accrued liabilities, dividends payable and debt. The carrying value for cash and cash equivalents (which included time deposits of $0.2 billion at December 31, 2021, and $0.3 billion at December 31, 2020), restricted cash, restricted cash equivalents, accounts receivable, accounts payable and accrued liabilities, and dividends payable approximates fair value because of their short-term nature and generally negligible credit losses (refer to Note 15 for the fair values of investment securities, legally restricted funds and debt).

In addition, as of December 31, 2021, FCX has contingent consideration assets related to the sales of certain oil and gas properties (refer to Note 15 for the related fair values).

Trade Accounts Receivable Agreements. In first-quarter 2021, PT-FI entered into agreements to sell certain trade accounts receivables to unrelated third-party financial institutions. The agreements were entered into in the normal course of business to fund the working capital for the additional quantity of copper to be supplied by PT-FI to PT Smelting. The balances sold under the agreements were excluded from trade accounts receivable on the consolidated balance sheet at December 31, 2021. Receivables are considered sold when (i) they are transferred beyond the reach of PT-FI and its creditors, (ii) the purchaser has the right to pledge or exchange the receivables, and (iii) PT-FI has no continuing involvement in the transferred receivables. In addition, PT-FI provides no other forms of continued financial support to the purchaser of the receivables once the receivables are sold.

Gross amounts sold under these arrangements totaled $431 million in 2021. Discounts on the sold receivables totaled $2 million in 2021.

Cash, Cash Equivalents, Restricted Cash and Restricted Cash Equivalents. The following table provides a reconciliation of total cash, cash equivalents, restricted cash and restricted cash equivalents presented in the consolidated statements of cash flows (in millions):

December 31,	2021	2020
Balance sheet components:		
Cash and cash equivalents	$8,068	$3,657
Restricted cash and restricted cash equivalents included in:		
Other current assets	114	97
Other assets	132	149
Total cash, cash equivalents, restricted cash and restricted cash equivalents presented in the consolidated statements of cash flows	$8,314	$3,903

NOTE 15. FAIR VALUE MEASUREMENT

Fair value accounting guidance includes a hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). FCX did not have any significant transfers in or out of Level 3 for 2021.

FCX's financial instruments are recorded on the consolidated balance sheets at fair value except for contingent consideration associated with the sale of the Deepwater GOM oil and gas properties (which was recorded under the loss recovery approach) and debt. A summary of the carrying amount and fair value of FCX's financial instruments (including those measured at NAV as a practical expedient), other than cash and cash equivalents, restricted cash, restricted cash equivalents, accounts receivable, accounts payable and accrued liabilities, and dividends payable (refer to Note 14) follows:

	At December 31, 2021					
	Carrying Amount	Fair Value				
		Total	NAV	Level 1	Level 2	Level 3
Assets						
Investment securities:[a,b]						
Equity securities	$ 50	$ 50	$ —	$50	$ —	$ —
U.S. core fixed income fund	29	29	29	—	—	—
Total	79	79	29	50	—	—
Legally restricted funds:[a]						
U.S. core fixed income fund	64	64	64	—	—	—
Government bonds and notes	53	53	—	—	53	—
Corporate bonds	45	45	—	—	45	—
Government mortgage-backed securities	20	20	—	—	20	—
Asset-backed securities	18	18	—	—	18	—
Money market funds	8	8	—	8	—	—
Municipal bonds	1	1	—	—	1	—
Total	209	209	64	8	137	—
Derivatives:						
Embedded derivatives in provisional sales/purchase contracts in a gross asset position[c]	64	64	—	—	64	—
Copper futures and swap contracts[c]	12	12	—	9	3	—
Copper forward contracts[c]	1	1	—	1	—	—
Total	77	77	—	10	67	—
Contingent consideration for the sale of the Deepwater GOM oil and gas properties[a]	90	81	—	—	—	81
Liabilities						
Derivatives:[c]						
Embedded derivatives in provisional sales/purchase contracts in a gross liability position	27	27	—	—	27	—
Copper forward contracts	1	1	—	1	—	—
Total	28	28	—	1	27	—
Long-term debt, including current portion[d]	9,450	10,630	—	—	10,630	—

	At December 31, 2020					
	Carrying Amount	Fair Value				
		Total	NAV	Level 1	Level 2	Level 3
Assets						
Investment securities:[a,b]						
U.S. core fixed income fund	$ 29	$ 29	$ 29	$ —	$ —	$ —
Equity securities	7	7	—	7	—	—
Total	36	36	29	7	—	—
Legally restricted funds:[a]						
U.S. core fixed income fund	65	65	65	—	—	—
Government bonds and notes	49	49	—	—	49	—
Corporate bonds	43	43	—	—	43	—
Government mortgage-backed securities	30	30	—	—	30	—
Asset-backed securities	16	16	—	—	16	—
Money market funds	5	5	—	5	—	—
Collateralized mortgage-backed securities	4	4	—	—	4	—
Municipal bonds	1	1	—	—	1	—
Total	213	213	65	5	143	—
Derivatives:						
Embedded derivatives in provisional sales/purchase contracts in a gross asset position[c]	169	169	—	—	169	—
Copper futures and swap contracts[c]	15	15	—	13	2	—
Total	184	184	—	13	171	—
Contingent consideration for the sale of the Deepwater GOM oil and gas properties[a]	108	88	—	—	—	88
Liabilities						
Derivatives:[c]						
Embedded derivatives in provisional sales/purchase contracts in a gross liability position	21	21	—	—	21	—
Long-term debt, including current portion[d]	9,711	10,994	—	—	10,994	—

a. Current portion included in other current assets and long-term portion included in other assets.
b. Excludes time deposits (which approximated fair value) included in (i) other current assets of $114 million at December 31, 2021, and $97 million at December 31, 2020, and (ii) other assets of $132 million at December 31, 2021, and $148 million at December 31, 2020, primarily associated with an assurance bond to support PT-FI's commitment for the development of a greenfield smelter in Indonesia (refer to Note 13 for further discussion) and PT-FI's closure and reclamation guarantees (refer to Note 12 for further discussion).
c. Refer to Note 14 for further discussion and balance sheet classifications.
d. Recorded at cost except for debt assumed in acquisitions, which are recorded at fair value at the respective acquisition dates.

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

The U.S. core fixed income fund is valued at NAV. The fund strategy seeks total return consisting of income and capital appreciation primarily by investing in a broad range of investment-grade debt securities, including U.S. government obligations, corporate bonds, mortgage-backed securities, asset-backed securities and money market instruments. There are no restrictions on redemptions (which are usually within one business day of notice).

Fixed income securities (government securities, corporate bonds, asset-backed securities, collateralized mortgage-backed securities and municipal bonds) are valued using a bid-evaluation price or a mid-evaluation price. These evaluations are based on quoted prices, if available, or models that use observable inputs and, as such, are classified within Level 2 of the fair value hierarchy.

Money market funds are classified within Level 1 of the fair value hierarchy because they are valued using quoted market prices in active markets.

FCX's embedded derivatives on provisional copper concentrate, copper cathode and gold purchases and sales are valued using only quoted monthly LME or COMEX copper forward prices and the adjusted London gold prices at each reporting date based on the month of maturity (refer to Note 14 for further discussion); however, FCX's contracts themselves are not traded on an exchange. As a result, these derivatives are classified within Level 2 of the fair value hierarchy.

FCX's derivative financial instruments for copper futures and swap contracts and copper forward contracts that are traded on the respective exchanges are classified within Level 1 of the fair value hierarchy because they are valued using quoted monthly COMEX or LME prices at each reporting date based on the month of maturity (refer to Note 14 for further discussion). Certain of these contracts are traded on the over-the-counter market and are classified within Level 2 of the fair value hierarchy based on COMEX and LME forward prices.

In December 2016, FCX's sale of its Deepwater GOM oil and gas properties included up to $150 million in contingent consideration that was recorded at the total amount under the loss recovery approach. The contingent consideration is being received over time as future cash flows are realized from a third-party production handling agreement for an offshore platform, with the related payments commencing in third-quarter 2018. The contingent consideration included in (i) other current assets totaled $20 million at December 31, 2021, and $12 million at December 31, 2020, and (ii) other assets totaled $70 million at December 31, 2021, and $96 million at December 31, 2020. The fair value of this contingent consideration was calculated based on a discounted cash flow model using inputs that include third-party estimates for reserves, production rates and production timing, and discount rates. Because significant inputs are not observable in the market, the contingent consideration is classified within Level 3 of the fair value hierarchy.

Long-term debt, including current portion, is primarily valued using available market quotes and, as such, is classified within Level 2 of the fair value hierarchy.

The techniques described above may produce a fair value that may not be indicative of NRV or reflective of future fair values. Furthermore, while FCX believes its valuation techniques are appropriate and consistent with other market participants, the use of different techniques or assumptions to determine fair value of certain financial instruments could result in a different fair value measurement at the reporting date. There have been no changes in the techniques used at December 31, 2021, as compared to those techniques used at December 31, 2020.

A summary of the changes in the fair value of FCX's Level 3 instrument, contingent consideration for the sale of the Deepwater GOM oil and gas properties, for the years ended December 31 follows:

	2021	2020	2019
Balance at beginning of year	**$ 88**	$108	$127
Net unrealized gains (losses) related to assets still held at the end of the year	**12**	(6)	2
Settlements	**(19)**	(14)	(21)
Balance at end of year	**$ 81**	$ 88	$108

NOTE 16. BUSINESS SEGMENT INFORMATION

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

	2021	2020	2019
Copper:			
Concentrate	$ 8,705	$ 4,294	$ 4,566
Cathode	5,900	4,204	3,656
Rod and other refined copper products	3,369	2,052	2,110
Purchased copper[a]	757	821	1,060
Gold	2,580	1,702	1,620
Molybdenum	1,283	848	1,169
Other[b]	821	592	905
Adjustments to revenues:			
Treatment charges	(445)	(362)	(404)
Royalty expense[c]	(330)	(165)	(113)
Export duties[d]	(218)	(92)	(221)
Revenues from contracts with customers	22,422	13,894	14,348
Embedded derivatives[e]	423	304	54
Total consolidated revenues	$22,845	$14,198	$14,402

a. FCX purchases copper cathode primarily for processing by its Rod & Refining operations.
b. Primarily includes revenues associated with silver and cobalt.
c. Reflects royalties on sales from PT-FI and Cerro Verde that will vary with the volume of metal sold and prices.
d. Reflects PT-FI export duties. The year 2019 includes charges totaling $155 million primarily associated with an unfavorable Indonesia Supreme Court ruling related to certain disputed export duties (refer to Note 12).
e. Refer to Note 14 for discussion of embedded derivatives related to FCX's provisionally priced concentrate and cathode sales contracts.

Geographic Area. Information concerning financial data by geographic area follows:

December 31,	2021	2020
Long-lived assets:[a]		
Indonesia	$16,288	$15,567
U.S.	8,292	8,420
Peru	6,827	6,989
Chile	1,110	1,172
Other	261	290
Total	$32,778	$32,438

a. Excludes deferred tax assets and intangible assets.

Years Ended December 31,	2021	2020	2019
Revenues:[a]			
U.S.	$ 7,168	$ 5,248	$ 5,107
Switzerland	3,682	2,032	2,223
Indonesia	3,132	1,760	1,894
Japan	2,372	1,205	1,181
Spain	1,495	785	884
China	1,044	692	531
United Kingdom	659	491	233
Germany	469	248	311
Chile	343	221	242
Korea	270	89	140
Egypt	268	153	123
Philippines	264	34	73
India	207	152	107
Other	1,472	1,088	1,353
Total	$22,845	$14,198	$14,402

a. Revenues are attributed to countries based on the location of the customer.

Major Customers and Affiliated Companies. Copper concentrate sales to PT Smelting totaled 14 percent of FCX's consolidated revenues in 2021, 12 percent in 2020 and 13 percent in 2019, and they are the only customer that accounted for 10 percent or more of FCX's consolidated revenues during the three years ended December 31, 2021.

Consolidated revenues include sales to the noncontrolling interest owners of FCX's South America mining operations totaling $1.4 billion in 2021, $0.9 billion in 2020 and $1.0 billion in 2019, and PT-FI's sales to PT Smelting totaling $3.1 billion in 2021, $1.8 billion in 2020 and $1.9 billion in 2019.

Labor Matters. As of December 31, 2021, approximately 31 percent of FCX's global labor force was covered by collective bargaining agreements, and approximately 14 percent was covered by agreements that will or were scheduled to expire during 2022. In February 2022, PT-FI completed negotiations with its unions on a new two-year collective bargaining agreement that is effective through March 2024.

Business Segments. FCX has organized its mining operations into four primary divisions—North America copper mines, South America mining, Indonesia mining and Molybdenum mines, and operating segments that meet certain thresholds are reportable segments. Separately disclosed in the following tables are FCX's reportable segments, which include the Morenci, Cerro Verde and Grasberg (Indonesia Mining) copper mines, the Rod & Refining operations and Atlantic Copper Smelting & Refining.

Intersegment sales between FCX's business segments are based on terms similar to arm's length transactions with third parties at the time of the sale. Intersegment sales may not be reflective of the actual prices ultimately realized because of a variety of factors, including additional processing, timing of sales to unaffiliated customers and transportation premiums.

FCX defers recognizing profits on sales from its mines to other segments, including Atlantic Copper Smelting & Refining and on PT-FI's sales to PT Smelting (on 25.0 percent prior to April 30, 2021, and 39.5 percent thereafter) until final sales to third parties occur. Quarterly variations in ore grades, the timing of intercompany shipments and changes in product prices result in variability in FCX's net deferred profits and quarterly earnings.

FCX allocates certain operating costs, expenses and capital expenditures to its operating divisions and individual segments. However, not all costs and expenses applicable to an operation are allocated. U.S. federal and state income taxes are recorded and managed at the corporate level (included in Corporate, Other & Eliminations), whereas foreign income taxes are recorded and managed at the applicable country level. In addition, most mining exploration and research activities are managed on a consolidated basis, and those costs, along with some selling, general and administrative costs, are not allocated to the operating divisions or individual segments. Accordingly, the following Financial Information by Business Segment reflects management determinations that may not be indicative of what the actual financial performance of each operating division or segment would be if it was an independent entity.

North America Copper Mines. FCX operates seven open-pit copper mines in North America—Morenci, Safford (including Lone Star), Bagdad, Sierrita and Miami in Arizona, and Chino and Tyrone in New Mexico. The North America copper mines include open-pit mining, sulfide-ore concentrating, leaching and SX/EW operations. A majority of the copper produced at the North America copper mines is cast into copper rod by FCX's Rod & Refining segment. In addition to copper, certain of FCX's North America copper mines also produce molybdenum concentrate, gold and silver.

The Morenci open-pit mine, located in southeastern Arizona, produces copper cathode and copper concentrate. In addition to copper, the Morenci mine also produces molybdenum concentrate. During 2021, the Morenci mine produced 43 percent of FCX's North America copper and 16 percent of FCX's consolidated copper production.

South America Mining. South America mining includes two operating copper mines—Cerro Verde in Peru and El Abra in Chile. These operations include open-pit mining, sulfide ore concentrating, leaching and SX/EW operations.

The Cerro Verde open-pit copper mine, located near Arequipa, Peru, produces copper cathode and copper concentrate. In addition to copper, the Cerro Verde mine also produces molybdenum concentrate and silver. During 2021, the Cerro Verde mine produced 85 percent of FCX's South America copper and 23 percent of FCX's consolidated copper production.

Indonesia Mining. Indonesia mining includes PT-FI's Grasberg minerals district that produces copper concentrate that contains significant quantities of gold and silver. During 2021, PT-FI's Grasberg minerals district produced 35 percent of FCX's consolidated copper production and 99 percent of FCX's consolidated gold production.

Molybdenum Mines. Molybdenum mines include the wholly owned Henderson underground mine and Climax open-pit mine, both in Colorado. The Henderson and Climax mines produce high-purity, chemical-grade molybdenum concentrate, which is typically further processed into value-added molybdenum chemical products.

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

Atlantic Copper Smelting & Refining. Atlantic Copper smelts and refines copper concentrate and markets refined copper and precious metals in slimes. During 2021, Atlantic Copper purchased 18 percent of its concentrate requirements from FCX's North America copper mines, 7 percent from FCX's South America mining operations and 9 percent from FCX's Indonesia mining operations, with the remainder purchased from unaffiliated third parties.

Corporate, Other & Eliminations. Corporate, Other & Eliminations consists of FCX's other mining, oil and gas operations and other corporate and elimination items, which include the Miami smelter, Freeport Cobalt (until the sale of it in September 2021), molybdenum conversion facilities in the U.S. and Europe, the greenfield smelter and PMR in Indonesia, certain non-operating copper mines in North America (Ajo, Bisbee and Tohono in Arizona) and other mining support entities.

FINANCIAL INFORMATION BY BUSINESS SEGMENT

	North America Copper Mines			South America Mining								
	Morenci	Other	Total	Cerro Verde	Other	Total	Indonesia Mining	Molybdenum Mines	Rod & Refining	Atlantic Copper Smelting & Refining	Corporate, Other & Eliminations	FCX Total
Year Ended December 31, 2021												
Revenues:												
Unaffiliated customers	$ 82	$ 180	$ 262	$3,736	$ 720	$ 4,456	$ 7,241	$ —	$6,356	$2,961	$ 1,569[a]	$22,845
Intersegment	2,728	3,835	6,563	460	—	460	282	444	29	—	(7,778)	—
Production and delivery	1,226	2,235	3,461	2,000[b]	429	2,429	2,425[c]	253	6,381	2,907	(5,840)[d]	12,016
Depreciation, depletion and amortization	152	217	369	366	47	413	1,049	67	5	28	67	1,998
Metals inventory adjustments	13	—	13	—	—	—	—	1	—	—	2	16
Selling, general and administrative expenses	2	2	4	8	—	8	111	—	—	24	236	383
Mining exploration and research expenses	—	1	1	—	—	—	—	—	—	—	54	55
Environmental obligations and shutdown costs	—	(1)	(1)	—	—	—	—	—	—	—	92	91
Net gain on sales of assets	—	—	—	—	—	—	—	—	—	(19)	(61)[e]	(80)
Operating income (loss)	1,417	1,561	2,978	1,822	244	2,066	3,938	123	(1)	21	(759)	8,366
Interest expense, net	—	1	1	28	—	28	48	—	—	6	519	602
Provision for (benefit from) income taxes	—	—	—	730	90	820	1,524[f]	—	—	—	(45)	2,299
Total assets at December 31, 2021	2,708	5,208	7,916	8,694	1,921	10,615	18,971	1,713	228	1,318	7,261	48,022
Capital expenditures	135	207	342	132	30	162	1,296	6	2	34	273[g]	2,115

a. Includes revenues from FCX's molybdenum sales company, which includes sales of molybdenum produced by the Molybdenum mines and by certain of the North America and South America copper mines.
b. Includes nonrecurring charges totaling $92 million associated with labor-related charges at Cerro Verde for agreements reached with its hourly employees.
c. Includes charges totaling $340 million associated with unfavorable ARO change. Refer to Note 12 for further discussion.
d. Includes charges associated with the major maintenance turnaround at the Miami Smelter totaling $87 million.
e. Includes a $60 million gain on the sale of FCX's remaining cobalt business located in Kokkola, Finland. Refer to Note 2 for further discussion.
f. Includes net tax benefits of $189 million associated with the release of a portion of the valuation allowance recorded against PT Rio Tinto NOLs. Refer to Note 11 for further discussion.
g. Includes capital expenditures for the Indonesia smelter projects of $222 million.

FINANCIAL INFORMATION BY BUSINESS SEGMENT *(continued)*

	North America Copper Mines			South America Mining								
	Morenci	Other	Total	Cerro Verde	Other	Total	Indonesia Mining	Molybdenum Mines	Rod & Refining	Atlantic Copper Smelting & Refining	Corporate, Other & Eliminations	FCX Total
Year Ended December 31, 2020												
Revenues:												
Unaffiliated customers	$ 29	$ 48	$ 77	$2,282	$ 431	$ 2,713	$ 3,534	$ —	$4,781	$2,020	$ 1,073[a]	$14,198
Intersegment	2,015	2,272	4,287	242	—	242	80	222	33	17	(4,881)	—
Production and delivery	1,269	1,831	3,100	1,599	379	1,978	1,606	230	4,819	1,962	(3,664)	10,031
Depreciation, depletion and amortization	166	189	355	367	54	421	580	57	16	29	70	1,528
Metals inventory adjustments	4	48	52	—	3	3	—	10	3	—	28	96
Selling, general and administrative expenses	2	2	4	6	—	6	108	—	—	21	231	370
Mining exploration and research expenses	—	2	2	—	—	—	—	—	—	—	48	50
Environmental obligations and shutdown costs	—	(1)	(1)	—	—	—	—	—	1	—	159[b]	159
Net gain on sales of assets	—	—	—	—	—	—	—	—	—	—	(473)[c]	(473)
Operating income (loss)	603	249	852	552[d]	(5)	547	1,320	(75)	(25)[d]	25	(207)[d]	2,437[d]
Interest expense, net	2	—	2	139	—	139	39[e]	—	—	6	412	598
Provision for income taxes	—	—	—	238	1	239	606	—	—	2	97[f]	944
Total assets at December 31, 2020	2,574	5,163	7,737	8,474	1,678	10,152	16,918	1,760	211	877	4,489	42,144
Capital expenditures	102	326	428	141	42	183	1,161	19	6	29	135[g]	1,961

a. Includes revenues from FCX's molybdenum sales company, which includes sales of molybdenum produced by the Molybdenum mines and by certain of the North America and South America copper mines.
b. Includes charges totaling $130 million associated with a framework for the resolution of all current and future potential talc-related litigation. Refer to Note 12 for further discussion.
c. Includes a $486 million gain associated with the sale of FCX's interests in the Kisanfu undeveloped project. Refer to Note 2 for further discussion.
d. Includes charges totaling $258 million associated with (i) idle facility costs (Cerro Verde), contract cancellation and other charges directly related to the COVID-19 pandemic and (ii) the April 2020 revised operating plans (including employee separation costs). These charges were primarily recorded in the Cerro Verde segment ($89 million), Corporate, Other & Eliminations ($57 million) and the Rod & Refining segment ($30 million).
e. Includes charges totaling $35 million associated with PT-FI's historical contested tax audits. Refer to Note 12 for further discussion.
f. Includes tax charges totaling $135 million associated with the sale of the Kisanfu undeveloped project, partly offset by tax credits of $53 million associated with the reversal of a year-end 2019 tax charge related to the sale of FCX's interest in the lower zone of the Timok exploration project.
g. Includes capital expenditures for the Indonesia smelter projects of $105 million.

	North America Copper Mines			South America Mining								
	Morenci	Other	Total	Cerro Verde	Other	Total	Indonesia Mining	Molybdenum Mines	Rod & Refining	Atlantic Copper Smelting & Refining	Corporate, Other & 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	2,155	4,019	313	—	313	58	344	26	5	(4,765)	—
Production and delivery	1,376	1,943	3,319	1,852	474	2,326	2,055[c]	299	4,475	1,971	(2,911)	11,534
Depreciation, depletion and amortization	171	178	349	406	68	474	406	62	9	28	84	1,412
Metals inventory adjustments	1	29	30	2	—	2	5	50	—	—	92	179
Selling, general and administrative expenses	2	2	4	8	—	8	125	—	—	20	237	394
Mining exploration and research expenses	—	2	2	—	—	—	—	—	—	—	102	104
Environmental obligations and shutdown costs	1	—	1	—	—	—	—	—	—	—	104	105
Net gain on sales of assets	—	—	—	—	—	—	—	—	—	—	(417)[d]	(417)
Operating income (loss)	456	225	681	621	(43)	578	180	(67)	(1)	49	(329)	1,091
Interest expense, net	3	1	4	114	—	114	82[c]	—	—	22	398	620
Provision for (benefit from) income taxes	—	—	—	250	(11)	239	167[c]	—	—	5	99[e]	510
Total assets at December 31, 2019	2,880	5,109	7,989	8,612	1,676	10,288	16,345	1,798	193	761	3,435	40,809
Capital expenditures	231	646	877	232	24	256	1,369	19	5	34	92	2,652

a. Includes charges totaling $155 million associated with an unfavorable Indonesia Supreme Court ruling related to PT-FI export duties. Refer to Note 12 for further discussion.
b. Includes revenues from FCX's molybdenum sales company, which includes sales of molybdenum produced by the Molybdenum mines and by certain of the North America and South America copper mines.
c. Includes net charges totaling $28 million in production and delivery costs for an adjustment to the settlement of the historical surface water tax matters with the local regional tax authority in Papua, Indonesia, and $78 million in interest expense and $103 million of tax charges in provision for income taxes associated with PT-FI's historical contested tax disputes. Refer to Note 12 for further discussion.
d. Includes net gains totaling $343 million associated with the sale of FCX's interest in the lower zone of the Timok exploration project and $59 million for the sale of a portion of Freeport Cobalt. Refer to Note 2 for further discussion.
e. Includes tax charges totaling $53 million associated with the sale of FCX's interest in the lower zone of the Timok exploration project and $49 million primarily to adjust deferred taxes on historical balance sheet items in accordance with tax accounting principles.

NOTE 17. SUPPLEMENTARY MINERAL RESERVE INFORMATION (UNAUDITED)

Recoverable proven and probable mineral reserves as of December 31, 2021, have been prepared using industry accepted practice and conform to the disclosure requirements under Subpart 1300 of SEC Regulation S-K. FCX's proven and probable mineral reserves may not be comparable to similar information regarding mineral reserves disclosed in accordance with the guidance in other countries. Proven and probable mineral reserves were determined by the use of mapping, drilling, sampling, assaying and evaluation methods generally applied in the mining industry. Mineral reserves, as used in the reserve data presented here, mean an estimate of tonnage and grade of measured and indicated mineral resources that, in the opinion of the qualified person, can be the basis of an economically viable project. Proven mineral reserves are the economically mineable part of a measured mineral resource. To classify an estimate as a proven mineral reserve, the qualified person must possess a high degree of confidence of tonnage, grade and quality. Probable mineral reserves are the economically mineable part of an indicated or, in some cases, a measured mineral resource. The qualified person's level of confidence will be lower in determining a probable mineral reserve than it would be in determining a proven mineral reserve. To classify an estimate as a probable mineral reserve, the qualified person's confidence must still be sufficient to demonstrate that extraction is economically viable considering reasonable investment and market assumptions.

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

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

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

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

a. Estimated consolidated recoverable copper reserves included 1.8 billion pounds in leach stockpiles and 0.3 billion pounds in mill stockpiles.

b. Estimated recoverable proven and probable mineral reserves from Indonesia reflect estimates of minerals that can be recovered through 2041. As a result, PT-FI's current long-term mine plan and planned operations are based on the assumption that PT-FI will abide by the terms and conditions of the IUPK and will be granted the 10-year extension from 2031 through 2041 (refer to Note 13 for discussion of PT-FI's IUPK). As a result, PT-FI will not mine all of these mineral reserves during the initial term of the IUPK. Prior to the end of 2031, PT-FI expects to mine 48 percent of aggregate proven and probable recoverable mineral reserves at December 31, 2021, representing 53 percent of FCX's net equity share of recoverable copper reserves and 55 percent of FCX's net equity share of recoverable gold reserves.

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

d. May not foot because of rounding.

e. Net equity interest mineral reserves represent estimated consolidated metal quantities further reduced for noncontrolling interest ownership (refer to Note 3 for further discussion of FCX's ownership in subsidiaries). FCX's net equity interest for estimated metal quantities in Indonesia reflects approximately 81 percent for 2022 and 48.76 percent from 2023 through 2041. Excluded from the table above were FCX's estimated recoverable proven and probable mineral reserves of 230 million ounces of silver.

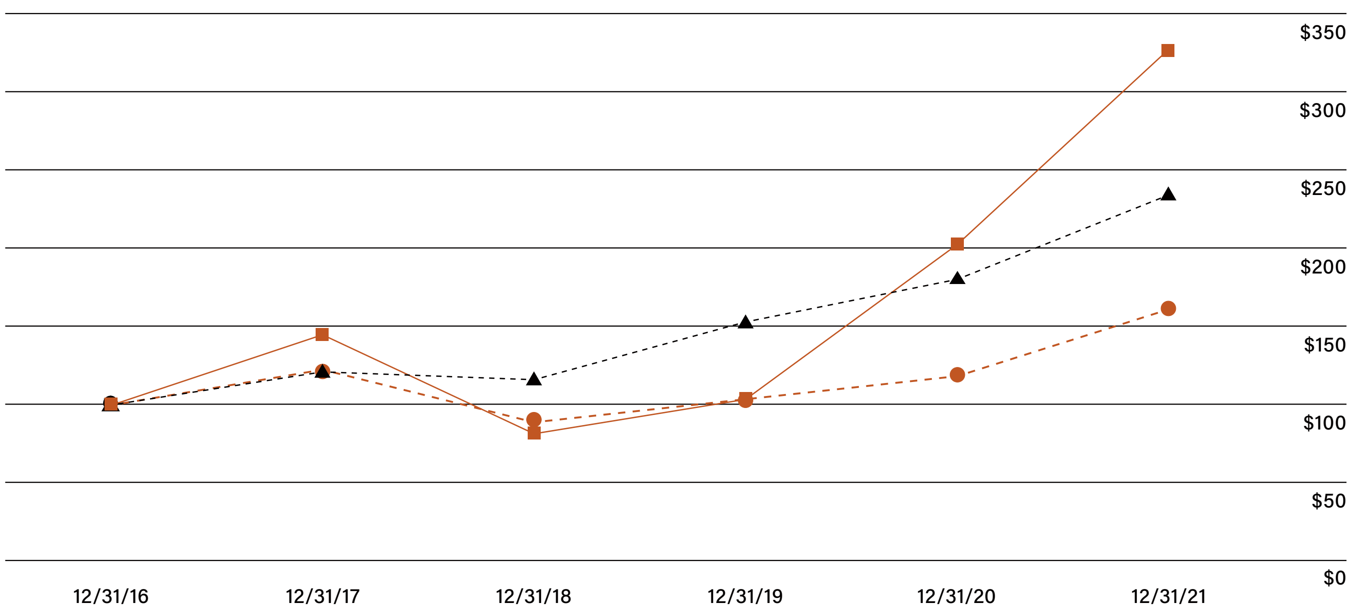
	Estimated Recoverable Proven and Probable Mineral Reserves at December 31, 2021						
		Average Ore Grade Per Metric Ton[a]			Recoverable Proven and Probable Reserves[b]		
	Ore[a] (million metric tons)	Copper (%)	Gold (grams)	Molybdenum (%)	Copper (billion pounds)	Gold (million ounces)	Molybdenum (billion pounds)
North America							
Production stage:							
Morenci	3,918	0.23	—	—[c]	13.1	—	0.15
Sierrita	2,430	0.23	—[c]	0.02	10.3	0.1	1.02
Bagdad	2,534	0.32	—[c]	0.02	15.5	0.2	0.92
Safford, including Lone Star	685	0.45	—	—	5.2	—	—
Chino, including Cobre	308	0.44	0.03	—	2.5	0.3	—
Climax	151	—	—	0.15	—	—	0.46
Henderson	54	—	—	0.16	—	—	0.17
Tyrone	19	0.28	—	—	0.2	—	—
Miami	—	—	—	—	—[c]	—	—
South America							
Production stage:							
Cerro Verde	3,999	0.36	—	0.01	27.9	—	0.69
El Abra	732	0.42	—	—	4.1	—	—
Indonesia[d]							
Production stage:							
Grasberg Block Cave	857	1.06	0.71	—	16.7	12.6	—
Deep Mill Level Zone	412	0.85	0.73	—	6.6	7.6	—
Big Gossan	51	2.26	0.97	—	2.3	1.1	—
Development stage:							
Kucing Liar	351	1.03	0.91	—	6.6	5.3	—
Total 100% basis[e]	16,501				110.8	27.1	3.43
Consolidated basis[f]					107.2	27.1	3.39
FCX's net equity interest[g]					76.2	14.2	3.06

a. Excludes material contained in stockpiles.
b. Includes estimated recoverable metals contained in stockpiles.
c. Amounts not shown because of rounding.
d. Estimated recoverable proven and probable mineral reserves from Indonesia reflect estimates of minerals that can be recovered through 2041. Refer to Note 13 for discussion of PT-FI's IUPK.
e. Totals may not foot because of rounding.
f. Consolidated mineral reserves represent estimated metal quantities after reduction for Morenci's joint venture partner interests (refer to Note 3 for further discussion).
g. Net equity interest mineral reserves represent estimated consolidated metal quantities further reduced for noncontrolling interest ownership (refer to Note 3 for further discussion of FCX's ownership in subsidiaries). FCX's net equity interest for estimated metal quantities in Indonesia reflects approximately 81 percent for 2022 and 48.76 percent from 2023 through 2041.

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 2017 through 2021. 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, 2016, 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,					
	2016	2017	2018	2019	2020	2021
Freeport-McMoRan Inc.	$100.00	$143.75	$ 78.92	$102.22	$203.50	$328.41
S&P 500 Stock Index	100.00	121.83	116.49	153.17	181.35	233.41
S&P Metals and Mining Select Industry Index	100.00	120.63	89.20	102.43	119.27	161.58

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 9, 2022. Notice of the annual meeting will be sent to stockholders of record as of the close of business on April 12, 2022. 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 March 15, 2022, the number of holders of record of FCX's common stock was 10,637.

NYSE composite tape common share price ranges during 2021 and 2020 were:

	2021		2020	
	High	Low	High	Low
First Quarter	$ 39.10	$ 24.71	$ 13.64	$ 4.82
Second Quarter	46.10	33.03	11.68	6.14
Third Quarter	39.20	30.02	17.50	11.24
Fourth Quarter	42.77	30.93	26.83	15.22

COMMON STOCK DIVIDENDS

On February 2, 2021, the Board of Directors (Board) adopted a financial policy for the allocation of cash flows aligned with FCX's strategic objectives of maintaining a strong balance sheet and increasing cash returns to shareholders while advancing opportunities for future growth. The combined base dividend, variable dividend and share repurchases are designed to achieve the objectives of this performance-based payout framework.

As a first step under the new financial policy, the Board reinstated a cash dividend on its common stock at an annual rate of $0.30 per share. FCX's previous cash dividend on its common stock was $0.20 per share prior to suspending these payments in April 2020 in connection with its comprehensive response to the global pandemic.

2021	Amount per Share	Record Date	Payment Date
Second Quarter	$0.075	April 15, 2021	May 3, 2021
Third Quarter	$0.075	July 15, 2021	Aug. 2, 2021
Fourth Quarter	$0.075	Oct. 15, 2021	Nov. 1, 2021

2020	Amount per Share	Record Date	Payment Date
First Quarter	$ 0.05	Jan. 15, 2020	Feb. 3, 2020

In November 2021, following the achievement of FCX's net debt target, the Board began to implement the new performance based-payout framework. A variable cash dividend on common stock for 2022 was approved at an expected annual rate of $0.30 per share. The combined annual rate of the base dividend and the variable dividend is expected to total $0.60 per share. The Board intends to declare quarterly dividends for 2022 of $0.15 per share (including the $0.075 variable component). The initial quarterly dividend was paid on February 1, 2022. Additionally, a new $3.0 billion share repurchase program was authorized. Through March 31, 2022, FCX acquired 25.0 million shares of FCX's common stock for a total cost of $1,028.9 million ($41.12 per share) under this program.

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