

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

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**FORM 10-K**

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- ☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF  
THE SECURITIES EXCHANGE ACT OF 1934**  
For the year ended December 31, 2023
- ☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF  
THE SECURITIES EXCHANGE ACT OF 1934**  
For the transition period from \_\_\_\_ to \_\_\_\_  
Commission file number 001-32327

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**The Mosaic Company**

(Exact name of registrant as specified in its charter)

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

**20-1026454**  
(I.R.S. Employer  
Identification No.)

**101 East Kennedy Blvd  
Suite 2500  
Tampa, Florida 33602  
(800) 918-8270**

(Address and zip code of principal executive offices and registrant's telephone number, including area code)

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

Title of each class	Trading symbol	Name of each exchange on which registered
Common Stock, par value \$0.01 per share	MOS	New York Stock Exchange

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

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

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

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports); and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

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

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

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b) ☐

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

As of June 30, 2023, the aggregate market value of the registrant's voting common stock held by stockholders, other than directors, executive officers, subsidiaries of the Registrant and any other person known by the Registrant as of the date hereof to beneficially own ten percent or more of any class of Registrant's outstanding voting common stock, and consisting of shares of Common Stock, was approximately \$11.6 billion based upon the closing price of a share of Common Stock on the New York Stock Exchange on that date.

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Indicate the number of shares outstanding of each of the registrant's classes of common stock: 321,688,938 shares of Common Stock as of February 16, 2024.

### **DOCUMENTS INCORPORATED BY REFERENCE**

1. Portions of the registrant's definitive proxy statement to be delivered in conjunction with the 2024 Annual Meeting of Stockholders (Part III)
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## **PART I.**

### **Item 1. Business.**

#### **OVERVIEW**

The Mosaic Company is the world's leading producer and marketer of concentrated phosphate and potash crop nutrients. Through our broad product offering, we are a single source supplier of phosphate- and potash-based crop nutrients and animal feed ingredients. We serve customers in approximately 40 countries. We are the second largest integrated phosphate producer in the world and one of the largest producers and marketers of phosphate-based animal feed ingredients in North America and Brazil. We are the leading fertilizer production and distribution company in Brazil. We mine phosphate rock in Florida, Brazil and Peru. We process rock into finished phosphate products at facilities in Florida, Louisiana and Brazil. We are typically one of the top four global potash producers in the world. We mine potash in Saskatchewan, New Mexico and Brazil. We have other production, blending or distribution operations in Brazil, China, India and Paraguay, as well as an equity investment in a joint venture that operates a phosphate rock mine and chemical complexes in the Kingdom of Saudi Arabia. Our operations serve the top four nutrient-consuming countries in the world: China, India, U.S. and Brazil.

The Mosaic Company is a Delaware corporation that was incorporated in March 2004 and serves as the parent company of the business that was formed through the October 2004 combination of IMC Global Inc. ("**IMC**") and the fertilizer businesses of Cargill, Incorporated. We are publicly traded on the New York Stock Exchange under the ticker symbol "MOS" and are headquartered in Tampa, Florida.

We conduct our business through wholly- and majority-owned subsidiaries as well as businesses in which we own less than a majority or a non-controlling interest. We are organized into three reportable business segments: Phosphates, Potash and Mosaic Fertilizantes. Intersegment eliminations, unrealized mark-to-market gains/losses on derivatives, debt expenses, and the results of the China and India distribution businesses are included within Corporate, Eliminations and Other.

The following charts show the respective contributions to 2023 sales volumes, net sales and gross margin for each of our business segments in effect at December 31, 2023:

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We account for approximately 12% of estimated global annual phosphate production. We also account for approximately 13% of estimated global annual potash production.

Phosphates Segment—We sell phosphate-based crop nutrients and animal feed ingredients throughout North America and internationally. We account for approximately 80% of estimated North American annual production of concentrated phosphate crop nutrients.

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**Potash Segment**—We sell potash throughout North America and internationally, principally as fertilizer, but also for use in industrial applications and, to a lesser degree, as animal feed ingredients. We account for approximately 35% of estimated North American annual potash production.

**Mosaic Fertilizantes Segment**—We produce and sell phosphate- and potash-based crop nutrients, and animal feed ingredients, in Brazil. In addition to five phosphate rock mines, four chemical plants and a potash mine in Brazil, this segment consists of sales offices, crop nutrient blending and bagging facilities, port terminals and warehouses in Brazil and Paraguay. The Mosaic Fertilizantes segment also serves as a distribution outlet for our Phosphates and Potash segments. We account for approximately 72% of estimated annual production of concentrated phosphate crop nutrients in Brazil and 100% of estimated annual potash production in Brazil.

As used in this report:

- **“Mosaic”** or **“Company”** means The Mosaic Company;
  - **“we,” “us,”** and **“our”** refer to Mosaic and its direct and indirect subsidiaries, individually or in any combination;
  - **“Cargill”** means Cargill, Incorporated and its direct and indirect subsidiaries, individually or in any combination;
  - **“Cargill Crop Nutrition”** means the crop nutrient business we acquired from Cargill in the Combination;
  - **“Combination”** means the October 22, 2004 combination of IMC and Cargill Crop Nutrition; and
- statements as to our industry position reflect information from the most recent period available.

### **Business Developments during 2023**

- In January 2023, we completed the sale of the Streamsong Resort® (the **“Resort”**) and the approximately 7,000 acres on which it sits for net proceeds of \$158 million. The Resort is a destination resort and conference center, which we developed in an area of previously mined land as part of our long-term business strategy to maximize the value and utility of our extensive land holdings in Florida. In addition to a hotel and conference center, the Resort includes multiple golf courses, a clubhouse and ancillary facilities. The sale resulted in a gain of \$57 million.
- In the first quarter of 2023, we purchased the other 50% interest of equity of Gulf Sulphur Services (**“GSS”**), which gives us full ownership and secures control of our sulfur supply chain in the Gulf of Mexico.
- In the first quarter of 2023, our Board of Directors approved a special dividend of \$0.25 per share to be distributed in March to our stockholders of record as of March 15, 2023. In the fourth quarter of 2023, our Board of Directors approved a regular dividend increase to \$0.84 per share annually from \$0.80, beginning with the dividend declared in December 2023.



- In February 2023, pursuant to existing stock repurchase authorizations, we entered into an accelerated share repurchase agreement (the “**2023 ASR Agreement**”) with a third-party financial institution to repurchase \$300 million of our Common Stock. In 2023, we repurchased 16,879,059 shares of Common Stock in the open market for approximately \$748 million. This includes 5,624,574 shares that we purchased under the 2023 ASR Agreement.
- In May 2023, we entered into a 10-year senior unsecured term loan facility pursuant to which we can draw up to \$700 million. The term loan matures on May 18, 2033. We may voluntarily prepay the outstanding principal without premium or penalty. As of December 31, 2023, \$500 million has been drawn under this facility.
- In 2023, we paid the outstanding balance of \$900 million on our 4.25% senior notes, due November 15, 2023, without premium or penalty. On December 4, 2023, we issued new 5.375% senior notes consisting of \$400 million aggregate principal, amount due 2028.
- In 2021, the U.S. Department of Commerce (“**DOC**”) issued countervailing duty (“**CVD**”) orders on imports of phosphate fertilizers from Morocco and Russia, in response to petitions filed by Mosaic. The orders were based on DOC's determination that the imports were unfairly subsidized and the U.S. International Trade Commission's (“**ITC**”) determination that the imports materially injure the U.S. fertilizer industry. The purpose of the CVD orders was to remedy the injury and thereby restore fair competition. CVD orders normally stay in place for at least five years, with possible extensions.

Moroccan and Russian producers have initiated actions at the U.S. Court of International Trade (“**CIT**”) seeking to overturn the orders. Mosaic has also made claims contesting certain aspects of DOC's final determinations that, we

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believe, failed to capture the full extent of Moroccan and Russian subsidies. These litigation challenges remain underway. Most recently, in January 2024, DOC and the ITC issued revised determinations on remand from the CIT, upholding their original determinations that Moroccan phosphate fertilizer is unfairly subsidized, and that Moroccan and Russian imports materially injure the U.S. industry, respectively. The CIT is now reviewing these remand determinations. Also in January 2024, the CIT issued a ruling affirming DOC's original determinations that Russian phosphate fertilizer is unfairly subsidized.

When a CVD order is in place, DOC normally conducts annual administrative reviews, which establish a final CVD assessment rate for past imports during a defined period, and a CVD cash deposit rate for future imports. In November 2023, DOC announced the final results of the first administrative reviews for the CVD orders on phosphate fertilizers for Russia and Morocco, covering the period November 30, 2020 to December 31, 2021. DOC calculated new subsidy rates of 2.12% for Moroccan producer OCP and 28.50% for Russian producer PhosAgro. Mosaic, foreign producers, and a U.S. importer have appealed these decisions to the CIT. DOC is also conducting administrative reviews covering the period January 1, 2022 to December 31, 2022. The applicable final CVD assessment rates and cash deposit rates for imports of phosphate fertilizer from Morocco and Russia could change as a result of these various proceedings and potential associated appeals, whether in federal courts or at the World Trade Organization.

We have included additional information about these and other developments in our business during 2023 in our Management's Discussion and Analysis of Financial Condition and Results of Operations ("**Management's Analysis**") and in the Notes to Consolidated Financial Statements.

Throughout the discussion below, we measure units of production, sales and raw materials in metric tonnes, which are the equivalent of 2,205 pounds, or 1.102 tons (U.S. standard), unless we specifically state that we mean short or long ton(s), which are the equivalent of 2,000 pounds and 2,240 pounds, respectively. In addition, we measure natural gas, a raw material used in the production of our products, in MM BTU, which stands for one million British Thermal Units ("**BTU**"). One BTU is equivalent to 1.06 Joules.

Information concerning our mining properties in this Annual Report on Form 10-K has been prepared in accordance with Subpart 1300 of Regulation S-K ("**S-K 1300**"). S-K 1300 requires us to disclose our mineral resources, in addition to our mineral reserves, as of the end of our most recently completed fiscal year, both in the aggregate and for each of our individually material mining properties. We have four material properties: Belle Plaine, Esterhazy, Florida and Tapira. See Item 2. "Properties," for further information regarding mineral reserves and resource and discussion of our material mining properties.

This report includes market share and industry data and forecasts that we obtained from publicly available information and industry publications, surveys, market research, internal company surveys and consultant surveys. We believe these sources to be reliable, but there can be no assurance as to the accuracy and completeness of such information. We have not independently verified the data from third-party sources, nor have we ascertained the

underlying economic assumptions relied upon therein. Similarly, internal company surveys, industry forecasts and market research, which we believe to be reliable based upon management's knowledge of the industry, have not been verified by any independent sources.

## **BUSINESS SEGMENT INFORMATION**

The discussion below of our business segment operations should be read in conjunction with the following information that we have included in this report:

- The risk factors discussed in this report in Part I, Item 1A, "Risk Factors".
- Our Management's Analysis.
- The financial statements and supplementary financial information in our Consolidated Financial Statements ("**Consolidated Financial Statements**").

This information is incorporated by reference into this section from Part II, Item 8, "Financial Statements and Supplementary Data".

## Phosphates Segment

Our Phosphates business segment owns and operates mines and production facilities in Florida which produce concentrated phosphate crop nutrients and phosphate-based animal feed ingredients, and processing plants in Louisiana which produce concentrated phosphate crop nutrients. We have a 75% economic interest in the Miski Mayo Phosphate Mine in Peru ("**Miski Mayo Mine**"), which is included in the results of our Phosphates segment.

The following map shows the locations of each of our phosphate concentrates plants in the U.S. and each of our active, temporarily idled, and planned phosphate mine locations, including beneficiation plants, in Florida. The reserves associated with our Ona, Florida location have been allocated to other active mines based on our future mining plans:

mos phosphates map .jan2022.jpg

## U.S. Phosphate Crop Nutrients and Animal Feed Ingredients

Our U.S. Phosphate operations have capacity to produce approximately 4.5 million tonnes of phosphoric acid ("**P<sub>2</sub>O<sub>5</sub>**") per year, or about 7% of world annual capacity and about 60% of North American annual capacity. P<sub>2</sub>O<sub>5</sub> is produced by reacting finely ground phosphate rock with sulfuric acid. P<sub>2</sub>O<sub>5</sub> is the key building block for the production of high analysis or concentrated phosphate crop nutrients and animal feed products and is the most comprehensive measure of phosphate capacity and production and a commonly used benchmark in our industry. Our U.S. P<sub>2</sub>O<sub>5</sub> production totaled approximately 3.0 million tonnes during 2023. Our U.S. operations account for approximately 6% of estimated global annual production and 54% of estimated North American annual output.

Our phosphate crop nutrient products are marketed worldwide to crop nutrient manufacturers, distributors, retailers and farmers. Our principal phosphate crop nutrient products are:

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- **Diammonium Phosphate (18-46-0):** Diammonium Phosphate (“**DAP**”) is the most widely used high-analysis phosphate crop nutrient worldwide. DAP is produced by first combining phosphoric acid with anhydrous ammonia in a reaction vessel. This initial reaction creates a slurry that is then pumped into a granulation plant where it is reacted with additional ammonia to produce DAP. DAP is a solid granular product that is applied directly or blended with other solid plant nutrient products, such as urea and potash.
- **Monoammonium Phosphate (11-52-0):** Monoammonium Phosphate (“**MAP**”) is the second most widely used high-analysis phosphate crop nutrient. MAP is also produced by first combining phosphoric acid with anhydrous ammonia in a reaction vessel. The resulting slurry is then pumped into the granulation plant where it is reacted with additional  $P_2O_5$  to produce MAP. MAP is a solid granular product that is applied directly or blended with other solid plant nutrient products.
- **MicroEssentials®** is a value-added ammoniated phosphate product that is enhanced through a patented process that creates very thin platelets of sulfur and other micronutrients, such as zinc, on the granulated product. The patented process incorporates both the sulfate and elemental forms of sulfur, providing season-long availability to crops.

Production of our animal feed ingredients products is located at our New Wales, Florida facility. We market our feed phosphate primarily under the leading brand names of Biofos® and Nexfos®.

Annual capacity by plant as of December 31, 2023 and production volumes by plant for 2023 are listed below:

(tonnes in millions)	Phosphoric Acid		Processed Phosphate <sup>(a)</sup> /DAP/ MAP/ MicroEssentials®/Feed Phosphate	
	Operational Capacity <sup>(b)</sup>	Production <sup>(c)</sup>	Operational Capacity <sup>(b)</sup>	Production <sup>(c)</sup>
Facility				
<b>Florida:</b>				
Bartow	1.1	0.8	2.5	1.9
New Wales	1.7	1.1	4.0	2.4
Riverview	0.9	0.7	1.8	1.4
	3.7	2.6	8.3	5.7
<b>Louisiana:</b>				
Faustina	—	—	1.6	0.9
Uncle Sam	0.8	0.4	—	—
	0.8	0.4	1.6	0.9
<b>Total</b>	4.5	3.0	9.9	6.6

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- (a) Our ability to produce processed phosphates has been less than our annual operational capacity stated in the table above, except to the extent we purchase  $P_2O_5$ . Factors affecting actual production are described in note (c) below.
  - (b) Operational capacity is our estimated long-term capacity based on an average amount of scheduled down time, including maintenance and scheduled turnaround time, and product mix, and no significant modifications to operating conditions, equipment or facilities.
  - (c) Actual production varies from annual operational capacity shown in the above table due to factors that include, among others, the level of demand for our products, maintenance and turnaround time, accidents, mechanical failure, product mix, and other operating conditions.

The  $P_2O_5$  produced at Uncle Sam is shipped to Faustina, where it is used to produce DAP, MAP and MicroEssentials<sup>®</sup>. Our Faustina plant also manufactures ammonia that is mostly consumed in our concentrate plants.

We produced approximately 6.2 million tonnes of concentrated phosphate crop nutrients during 2023 and accounted for approximately 80% of estimated North American annual production.

### **Phosphate Rock**

Phosphate rock is the key mineral used to produce phosphate crop nutrients and feed phosphate. Our Florida phosphate rock mines produced approximately 10.0 million tonnes in 2023 and accounted for approximately 47% of estimated North American annual production. We are the world's second largest miner of phosphate rock (excluding China) and currently

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operate four mines in North America with a combined annual capacity of approximately 18.0 million tonnes. Additionally, we own 75% of the Miski Mayo Mine, which has an annual capacity of 4.8 million tonnes. Production of one tonne of DAP requires between 1.6 and 1.7 tonnes of phosphate rock.

All of our wholly-owned phosphate mines and related mining operations in North America are located in central Florida. During 2023, we operated three active mines in Florida: Four Corners, South Fort Meade and Wingate. We plan to explore and develop the DeSoto property and the South Pasture property, which was previously idled, to offset future depletion at our Florida properties. We have a 75% economic interest in the Miski Mayo Mine, which allows us to supplement our other produced rock to meet our overall fertilizer production needs and is the primary source of rock for our Louisiana operations. We have the right to use or sell to third parties 75% of the Miski Mayo Mine's annual production.

See "Item 2. Properties" for a discussion of our phosphate mining properties, including processing methods, facilities, production and summaries of our mineral resources and reserves, both in the aggregate and for our individual material phosphate mining properties.

### **Investment in Ma'aden Wa'ad Al Shamal Phosphate Company ("MWSPC")**

We own a 25% interest in MWSPC and, in connection with our equity share, we are entitled to market approximately 25% of MWSPC's production. MWSPC consists of a mine and two chemical complexes (the "**Project**") that produce phosphate fertilizers and other downstream phosphates products in the Kingdom of Saudi Arabia. The greenfield project was built in the northern region of Saudi Arabia at Wa'ad Al Shamal Minerals Industrial City and included further expansion of processing plants in Ras Al Khair Minerals Industrial City, which is located on the east coast of Saudi Arabia. Ammonia operations commenced in late 2016 and on December 1, 2018, MWSPC commenced commercial operations of the phosphate plant, thereby bringing the entire project to the commercial production phase and an annual production capacity of 3.0 million tonnes. Actual phosphate production was 3.1 million tonnes in 2023. The Project benefits from the availability of key raw nutrients from sources within Saudi Arabia.

### **Sulfur**

We use molten sulfur at our phosphates concentrates plants to produce sulfuric acid, primarily for use in our production of  $P_2O_5$ . We purchased approximately 3.3 million long tons of sulfur during 2023. We purchase the majority of this sulfur from North American oil and natural gas refiners who are required to remove or recover sulfur during the refining process. Production of one tonne of DAP requires approximately 0.40 long tons of sulfur. We procure our sulfur from multiple sources and receive it by truck, rail, barge and vessel, either directly at our phosphate plants or have it sent for gathering to terminals that are located on the U.S. gulf coast. In addition, we use formed sulfur received through Tampa, Florida ports, which are delivered by truck to our New Wales facility and melted through our sulfur melter.

We own and operate sulfur terminals in Riverview and Tampa, Florida, along with Galveston, Texas and Faustina, Louisiana. We also lease terminal space in Beaumont, Texas. We have long-term time charters on two ocean-going tugs/barges and one ocean-going vessel that transports molten sulfur from the Texas terminals to Tampa. We then further transport by

truck to our Florida phosphate plants. Our sulfur logistic assets also include a large fleet of leased railcars that supplement our marine sulfur logistic system. Our Louisiana operations are served by truck from nearby refineries.

Although sulfur is readily available from many different suppliers and can be transported to our phosphate facilities by a variety of means, sulfur is an important raw material used in our business that has in the past been, and may in the future, be the subject of volatile pricing and availability. Alternative transportation and terminaling facilities might not have sufficient capacity to fully serve all of our facilities in the event of a disruption to current transportation or terminaling facilities. Changes in the price of sulfur or disruptions to sulfur transportation or terminaling facilities could have a material impact on our business. We have included a discussion of sulfur prices in our Management's Analysis.

## **Ammonia**

We use ammonia together with  $P_2O_5$  to produce DAP, MAP and MicroEssentials®. We consumed approximately 1.0 million tonnes of ammonia during 2023. Production of one tonne of DAP requires approximately 0.23 tonnes of ammonia. We purchase approximately one-third of our ammonia from various suppliers in the spot market with the remaining two-thirds either purchased through our ammonia supply agreement (the "**CF Ammonia Supply Agreement**") with an affiliate of CF Industries Inc. ("**CF**") or produced internally at our Faustina, Louisiana location.



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Our Florida ammonia needs are currently supplied under multi-year contracts with both domestic and offshore producers. Ammonia for our Florida plants is terminaled through owned ammonia facilities at the Port of Tampa and Port Sutton, Florida. Ammonia is transported by pipeline from the terminals to our production facilities. We have service agreements with the operators of the pipelines for Bartow, New Wales and Riverview, which provide service through June 30, 2025 with two year auto-renewal provisions unless either party objects.

Under the CF Ammonia Supply Agreement, we purchased 562,000 metric tonnes in 2023. On October 14, 2022, we received notice from CF to exercise the bilateral, contractual right to end the ammonia supply agreement in its current form, effective January 1, 2025. We are confident that we will continue to have adequate sources of supply for ammonia at competitive pricing.

We produce ammonia at Faustina, Louisiana primarily for our own consumption. Our annual capacity is approximately 530,000 tonnes. From time to time, we sell surplus ammonia to unrelated parties and/or may transport surplus ammonia to the Port of Tampa. In certain circumstances, we source ammonia from alternative sources to receive at Faustina.

Although ammonia is readily available from many different suppliers and can be transported to our Phosphate facilities by a variety of means, ammonia is an important raw material used in our business that has in the past been, and may in the future be, the subject of volatile pricing. In addition, alternative transportation and terminaling facilities might not have sufficient capacity to fully serve all of our facilities in the event of a disruption to existing transportation or terminaling facilities. Changes in the price of ammonia or disruptions to ammonia transportation or terminaling could have a material impact on our business. We have included a discussion of ammonia prices in our Management's Analysis.

### **Natural Gas for Phosphates**

Natural gas is the primary raw material used to manufacture ammonia. At our Faustina facility, ammonia is manufactured on site. The majority of natural gas is purchased through firm delivery contracts based on published index-based prices and is sourced from Texas and Louisiana via pipelines interconnected to the Henry Hub. We use over-the-counter swap and/or option contracts to forward price portions of future natural gas purchases. We typically purchase approximately 15.5 million MM BTU of natural gas per year for use in ammonia production at Faustina.

Our ammonia requirements for our Florida operations are purchased rather than manufactured on site. Therefore, while we typically purchase approximately 2.7 million MM BTU of natural gas per year in Florida, it is only used as a thermal fuel for various phosphate production processes.

### **Florida Land Holdings**

We are a significant landowner in the State of Florida, which has in the past been considered one of the fastest areas of population growth in the U.S. We have land holdings totaling over 368,000 acres. These landholdings give Mosaic access to phosphate rock reserves and exist as fee simple, mining agreements or mineral rights. Some of our land holdings are needed to

operate our Phosphates business, while a portion of our land assets, such as certain reclaimed properties, are no longer required for our ongoing operations. As a general matter, more of our reclaimed property becomes available for uses other than for phosphate operations each year. Our real property assets are generally comprised of concentrates plants, port facilities, phosphate mines and other property which we have acquired through our presence in Florida. Our long-term future land use strategy is to optimize the value of our land assets.

## **Potash Segment**

We are one of the leading potash producers in the world. We mine and process potash in Canada and the U.S. and sell potash in North America and internationally. The term “potash” applies generally to the common salts of potassium. Muriate of potash (“**MOP**”) is the primary source of potassium for the crop nutrient industry. Red MOP has traces of iron oxide. The granular and standard grade red MOP products are well suited for direct fertilizer application and bulk blending. White MOP has a higher percent potassium oxide (“**K<sub>2</sub>O**”). White MOP, besides being well suited for the agricultural market, is used in many industrial applications. We also produce a double sulfate of potash magnesia product, which we market under our brand name K-Mag®, at our Carlsbad, New Mexico facility.

Our potash products are marketed worldwide to crop nutrient manufacturers, distributors and retailers and are also used in the manufacturing of mixed crop nutrients and, to a lesser extent, in animal feed ingredients. We also sell potash to customers for industrial use. In addition, our potash products are used for de-icing and as a water softener regenerant.

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In 2023, we operated three potash mines in Canada, including two shaft mines and one solution mine, as well as one potash shaft mine in the U.S. Esterhazy, the largest Potash mine in the world, is expected to complete full ramp up of capacity and production during 2024 or early 2025. The K3 expansion has been supplying the capacity and production needed since the closure of the K1 and K2 mines in the second quarter of 2021. Decommissioning of the K1 and K2 shafts at our Esterhazy, Saskatchewan mine was completed in 2022. The Colonsay mine was idled through the first half of 2023 and returned to production in July 2023. We utilize the Colonsay mine as needed to help meet market demand.

Mosaic leases approximately 291,500 acres of mineral rights from the government of Saskatchewan, and approximately 99,700 acres of freehold mineral rights in the Kronau/Regina area, which have not been developed.

We pay Canadian resource taxes consisting of the Potash Production Tax and resource surcharge. The Potash Production Tax is a Saskatchewan provincial tax on potash production and consists of a base payment and a profits tax. We also pay a percentage of the value of resource sales from our Saskatchewan mines. In addition to the Canadian resource taxes, royalties are payable to the mineral owners in respect of potash reserves or production of potash. We have included a further discussion of the Canadian resource taxes and royalties in our Management's Analysis.

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The map below shows the location of each of our potash properties:  
Mosaic potash footprint jan2022.jpg

Our North American potash annualized operational capacity totals 11.5 million tonnes of product per year and accounts for approximately 14% of world annual capacity and 41% of North American annual operational capacity. Production during 2023 totaled 8.3 million tonnes. We account for approximately 13% of estimated world annual production and 35% of estimated North American annual production.

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The following table shows, for each of our potash mines, annual capacity as of December 31, 2023 and finished product output for 2023:

(tonnes in millions)

Facility	Annualized Proven Peaking Capacity (a)(c)	Annual Operational Capacity (a)(b)(e)	Finished Product <sup>(b)</sup>
<b>Canada</b>			
Belle Plaine—MOP <sup>(d)</sup>	3.9	3.0	2.8
Colonsay—MOP <sup>(d)(f)</sup>	2.6	1.5	0.6
Esterhazy—MOP <sup>(d)(g)</sup>	6.3	6.3	4.4
Canadian Total	12.8	10.8	7.8
<b>United States</b>			
Carlsbad—K-Mag <sup>®(h)</sup>	0.9	0.7	0.5
United States Total	0.9	0.7	0.5
<b>Totals</b>	<b>13.7</b>	<b>11.5</b>	<b>8.3</b>

(a) Finished product.

(b) Actual production varies from annual operational capacity shown in the above table due to factors that include, among others, the level of demand for our products, maintenance and turnaround time, the quality of the reserves and the nature of the geologic formations we are mining at any particular time, accidents, mechanical failure, product mix, and other operating conditions.

(c) Represents full capacity assuming no turnaround or maintenance time.

(d) The annualized proven peaking capacity shown above is the capacity currently used to determine our share of Canpotex, Limited (“**Canpotex**”) sales. Canpotex members’ respective shares of Canpotex sales are based upon the members’ respective proven peaking capacities for producing potash. When a Canpotex member expands an existing mine, the new capacity is added to that member’s proven peaking capacity based on either a 90-day production run at the maximum production levels or an engineering audit of the expansion performed by an independent engineering firm in accordance with approved protocols. The annual operational capacity of a mine reported in the table above can exceed the annualized proven peaking capacity until the proving run or engineering audit has been completed. Subject to Note (g), our current entitlement percentage of Canpotex is 36.2%.

(e) Annual operational capacity is our estimated potash production capacity based on the quality of reserves and the nature of the geologic formations expected to be mined, milled and/or processed over the long term, average amount of scheduled down time, including maintenance and scheduled turnaround time, and product mix, and no significant modifications to operating conditions, equipment or facilities. Operational capacities will continue to be updated to the extent new production results impact ore grades assumptions.

- (f) Our Colonsay mine operates as a swing mine to meet market demands. We have the ability to reach an annual operating capacity of 2.1 million tonnes over time by increasing our staffing levels and investment in mine development activities.
- (g) Following completion of our Esterhazy K3 expansion project, a third-party audit assessed our Esterhazy Facility's nameplate capacity at 7.8 million tonnes. We are currently working with Canpotex through established procedures to determine our adjusted Canpotex entitlement percentage based on our Esterhazy Facility's audited productive capacity.
- (h) K-Mag<sup>®</sup> is a specialty product that we produce at our Carlsbad facility.

See Item 2. "Properties" for a discussion of our potash mining properties, including processing methods, facilities, production and summaries of our mineral resources and reserves, both in the aggregate and for our individual material potash mining properties.

### **Natural Gas**

Natural gas is used at our Belle Plaine solution mine as a fuel to produce steam and to dry potash products. The steam is used to generate electricity and provide thermal energy to the evaporation, crystallization and solution mining processes. The Belle Plaine solution mine typically accounts for approximately 80% of our Potash segment's total natural gas requirements for potash production. At our shaft mines, natural gas is used as a fuel to heat fresh air supplied to the shaft mines and for drying potash products. Combined natural gas usage for both the solution and shaft mines totaled 16.6 million MM BTU during 2023. We purchase our natural gas requirements on firm delivery index price-based physical contracts and on short-term spot-priced physical contracts. Our Canadian operations purchase physical natural gas from companies in Alberta and Saskatchewan using AECO price indices references and transport the gas to our plants via the TransGas pipeline system. The U.S. potash operation in New Mexico purchases physical gas in the southwest respective regional market using the El Paso

San Juan Basin market pricing reference. We use financial derivative contracts to manage the pricing on portions of our natural gas requirements.

### **Mosaic Fertilizantes Segment**

Our Mosaic Fertilizantes segment owns and operates mines, chemical plants, crop nutrient blending and bagging facilities, port terminals and warehouses in Brazil and Paraguay, which produce and sell concentrated phosphates crop nutrients, phosphate-based animal feed ingredients and potash fertilizer. The following map shows the locations of our operations in Brazil and Paraguay:

Mosaic-Maps Brazil-(10-K) (002).jpg

We are the largest producer and one of the largest distributors of blended crop nutrients for agricultural use in Brazil. We produce and sell phosphate- and potash-based crop nutrients, and animal feed ingredients through our operations. Our operations in Brazil include five phosphate mines, four chemical plants and a potash mine. We own and operate ten blending plants in Brazil and one blending plant and port in Paraguay. We are currently constructing a one million tonne distribution facility in northern Brazil in Palmeirante. In addition, we lease several other warehouses and blending units depending on sales and production levels. We also have a 62% ownership interest in Fospar, S.A. ("**Fospar**"). Fospar owns and operates an SSP (defined below) granulation plant, which produces approximately 0.5 million tonnes of SSP per year, and a deep-water port and throughput warehouse terminal facility in Paranagua, Brazil. The port facility at Paranagua handles approximately

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3.6 million tonnes of imported crop nutrients. In 2023, Mosaic Fertilizantes sold approximately 9.7 million tonnes of crop nutrient products and accounted for approximately 20% of fertilizer shipments in Brazil.

We have the capability to annually produce approximately 4.5 million tonnes of phosphate- and potash-based crop nutrients and animal feed ingredients. Crop nutrient products produced are marketed to crop nutrient manufacturers, distributors, retailers and farmers.

In addition to producing crop nutrients, Mosaic Fertilizantes purchases phosphates, potash and nitrogen products which are either used to produce blended crop nutrients (“**Blends**”) or for resale. In 2023, Mosaic Fertilizantes purchased 1.4 million tonnes of phosphate-based products, primarily MicroEssentials®, from our Phosphates segment, and 2.1 million tonnes of potash products from our Potash segment and Canpotex.

### **Phosphate Crop Nutrients and Animal Feed Ingredients**

Our Brazilian phosphates operations have capacity to produce approximately 1.1 million tonnes of  $P_2O_5$  per year, or about 70% of Brazilian annual capacity. Phosphoric acid is produced by reacting ground phosphate rock with sulfuric acid.  $P_2O_5$  is the key building block for the production of high analysis or concentrated phosphate crop nutrients and animal feed products and is the most comprehensive measure of phosphate capacity and production and a commonly used benchmark in our industry. Our Brazilian phosphoric acid production totaled approximately 1.0 million tonnes in 2023 and accounted for approximately 84% of Brazilian annual output.

Our principal phosphate crop nutrient products are:

- **Monoammonium Phosphate (11-52-0) (“MAP”):** MAP is a crop nutrient composed of two macronutrients, nitrogen and phosphoric acid. This slurry is added inside a rotary drum type granulator with ammonia to complete the neutralization reaction and produce MAP.
- **Triple superphosphate (“TSP”):** TSP is a highly concentrated phosphate crop nutrient. TSP is produced from the phosphate rock reaction with phosphoric acid in a kuhlmann type reactor. The process for the production of TSP in Brazil is run of pile where the product undergoes a curing process of approximately seven days for later granulation.
- **Single superphosphate (“SSP”):** SSP is a crop nutrient with a low concentration of phosphorus that is used in agriculture because of the sulfur content in its formulation. SSP is produced from mixing phosphate rock with sulfuric acid in a kuhlmann or malaxador type reactor. After the reaction, the product goes to the curing process and then feeds the granulation units.
- **Dicalcium phosphate (“DCP”):** Dicalcium phosphate is produced by the reaction of desulphurized phosphoric acid with limestone. At Uberaba, it is produced from the reaction of concentrated phosphoric acid with limestone slurry. At Cajati, the phosphoric acid is diluted with dry limestone. The reaction of the DCP occurs in a kuhlmann or spinden type reactor.

Our primary mines and chemical plants are located in the states of Minas Gerais, São Paulo, and Goiás. Production of our animal feed ingredients products is located at our Uberaba,



Minas Gerais and Cajati, São Paulo facilities. We market our feed phosphate primarily under the brand name Fosfálcio.

Annual capacity and production volume by plant as of December 31, 2023 are listed below:

		Processed Phosphate <sup>(a)</sup> (MAP/TSP/SSP/DCP/Feed)		
	(tonnes of ore in millions)	Phosphoric Acid		
Facility		Capacity <sup>(b)</sup>	Production <sup>(c)</sup>	Capacity <sup>(b)</sup> Production <sup>(c)</sup>
Phosphate				
Uberaba		0.9	0.8	2.0 1.6
Cajati		0.2	0.2	0.5 0.4
Araxá		—	—	1.1 0.8
Catalão		—	—	0.4 0.3
Total		1.1	1.0	4.0 3.1

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- (a) Our ability to produce processed phosphates has been less than our annual operational capacity as stated in the table above, except to the extent we purchase phosphoric acid. Factors affecting actual production are described in note (c) below.
- (b) The annual production capacity was calculated using the hourly capacity, days stopped for annual maintenance and OEE (historical utilization factor and capacity factor).
- (c) Actual production varies from annual operational capacity shown in the table above due to factors that include, among others, the level of demand for our products, maintenance and turnaround time, accidents and mechanical failure.

The phosphoric acid produced at Cajati is used to produce DCP. The phosphoric acid produced at Uberaba is used to produce MAP, TSP and DCP.

We produced approximately 2.6 million tonnes of concentrated phosphate crop nutrients during 2023 which accounted for approximately 48% of estimated Brazilian annual production.

### **Phosphate Rock**

Phosphate rock is the key mineral used to produce phosphate crop nutrients and animal feed product. Our phosphate rock production in Brazil totaled approximately 3.9 million tonnes in 2023, which accounted for approximately 70% of estimated Brazilian annual production. We are the largest producer of phosphate rock in Brazil and currently have an annual capacity of approximately 4.6 million tonnes. During 2023, we operated five properties; Araxá, Patrocínio and Tapira, in the state of Minas Gerais; Catalão, in the state of Goiás; and Cajati, in the state of São Paulo.

Production of one tonne of MAP requires 1.6 to 1.7 tonnes of phosphate rock. Production of one tonne of SSP requires between 0.6 to 0.7 tonnes of phosphate rock. Production of one tonne of TSP requires 1.4 tonnes of phosphate rock.

See Item 2. “Properties” for a discussion of our Brazilian mining properties, including processing methods, facilities, production and summaries of our mineral resources and reserves, both in the aggregate and for our individually material Brazilian properties.

We are required to pay royalties to mineral owners and resource taxes to the Brazilian government for phosphate and potash production. The resource taxes, known as *Compensação Financeira pela Exploração de Recursos Minerais* or CFEM, are regulated by the National Mining Agency. In 2023, we paid royalties and resource taxes of approximately \$15.5 million.

### **Sulfur**

We use molten sulfur at our phosphates concentrates plants to produce sulfuric acid, one of the key components used in the production of phosphoric acid. We consumed approximately 1.2 million long tons of sulfur for our own production during 2023. We purchase approximately 21% of the volume under annual supply agreements from oil and natural gas refiners, who are required to remove or recover sulfur during the refining process. The remaining 79% is purchased in the spot market. Sulfur is imported through the Tiplam port and transported by rail to the Uberaba plant and by truck to the Araxá and Cajati locations.

Although sulfur is readily available from many different suppliers and can be transported to our phosphate facilities by a variety of means, sulfur is an important raw material used in our business that has in the past been, and could in the future be, subject to volatile pricing and availability. Alternative transportation and terminaling facilities might not have sufficient capacity to fully serve all of our facilities in the event of a disruption to current transportation or terminaling facilities. Changes in the price of sulfur or disruptions to sulfur transportation or terminaling facilities could have a material impact on our business.

## **Ammonia**

We use ammonia, together with phosphoric acid, to produce MAP, and to a lesser extent for SSP production. We consumed approximately 129,710 tonnes of ammonia during 2023. Production of one tonne of MAP requires approximately 0.137 tonnes of ammonia. We purchase all of our ammonia under a long-term supply agreement with two suppliers. Ammonia is imported through the Tiplam port and transported by truck to Uberaba, Araxá and Catalão.

We own approximately 1% of the Tiplam terminal in Santos, São Paulo. Our ownership percentage, along with a contractual agreement, guarantee us unloading priority for ammonia and also provide us unloading capacity for rock, sulfur and crop nutrients.

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Although ammonia is readily available from many different suppliers and can be transported to our phosphates facilities by a variety of means, ammonia is an important raw material used in our business that has in the past been, and in the future could be, subject to volatile pricing. Alternative transportation and terminaling facilities might not have sufficient capacity to fully serve all of our facilities in the event of a disruption to existing transportation or terminaling facilities. Changes in the price of ammonia or disruptions to ammonia transportation or terminaling could have a material impact on our business.

### **Brazilian Potash**

We conduct potash operations through the leased Taquari-Vassouras shaft mine, which is the only potash mine in Brazil, located in Rosário do Catete in the Brazilian state of Sergipe. We also own a related refinery at the site. We produce and sell potash product domestically. MOP is the primary source of potassium for the crop nutrient industry in Brazil. Red MOP has traces of iron oxide. The granular and standard grade red MOP products are well-suited for direct fertilizer application and bulk blending. Our potash product is marketed in Brazil to crop nutrient manufacturers, distributors and retailers and is also used in the manufacturing of crop nutrients.

In 2023, we paid royalties of approximately \$9.8 million related to the leasing of potash assets and mining rights for Taquari.

### **Land Holdings**

Mosaic Fertilizantes owns properties and the surface rights of certain rural lands comprising over 34,000 hectares (84,000 acres) in the States of São Paulo, Minas Gerais, Goiás, Paraná, Mato Grosso, Santa Catarina, Bahia and Sergipe, and has the right to mine additional properties which contain phosphate rock or potash reserves. Most of our land holdings are needed to operate our phosphate and potash production and fertilizer distribution businesses. A portion of our land assets may no longer be required for our current operations and may be leased to third parties, for agricultural or other purposes, or may be set aside for mineral or environmental conservation. Our real property assets are generally comprised of concentrates plants, port facilities and phosphate and potash mines, crop nutrient blending and bagging facilities and other properties which we have acquired through our presence in Brazil.

### **India and China Distribution Businesses**

Our China and India distribution businesses market phosphate-, potash- and nitrogen-based crop nutrients and provide other ancillary services to wholesalers, cooperatives, independent retailers, and farmers in the Asia-Pacific regions. These operations provide our Phosphates and Potash segments access to key markets outside of North and South America and serve as a marketing agent for our Phosphates segment. In 2023, the India and China operations purchased 341,047 tonnes of phosphate-based products from our Phosphates segment and MWSPC, and 742,528 tonnes of potash products from our Potash segment and Canpotex. They also purchase phosphates, potash and nitrogen products from unrelated third parties, which we either use to produce blended crop nutrients or for resale.

In China, we own two 300,000-tonne per year capacity blending plants. In 2023, we sold approximately 271,000 tonnes of Blends and distributed another 1,073,000 tonnes of phosphate and potash crop nutrients in China.

In India, we have distribution facilities to import and sell crop nutrients. In 2023, we distributed approximately 536,000 tonnes of phosphate and potash crop nutrient products in India.

## **SALES AND DISTRIBUTION ACTIVITIES**

### **United States and Canada**

We have a U.S. and Canada sales and marketing team that serves our business segments. We sell to wholesale distributors, retail chains, cooperatives, independent retailers and national accounts.

Customer service and the ability to effectively minimize the overall supply chain costs are key competitive factors in the crop nutrient and animal feed ingredients businesses. In addition to our production facilities, to service the needs of our customers, we own or have contractual throughput or other arrangements at strategically located distribution warehouses along or near the Mississippi and Ohio Rivers, as well as in other key agricultural regions of the U.S. and Canada. From these facilities, we distribute Mosaic-produced phosphate and potash products for customers who in turn resell the product into the distribution channel or directly to farmers in the U.S. and Canada.

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We own port facilities in Tampa, Florida which have deep water berth capabilities providing access to the Gulf of Mexico. We also own warehouse distribution facilities in: Rosemount, Minnesota; Pekin, Illinois; and Henderson, Kentucky.

In addition to the facilities that we own, our U.S. distribution operations also include leased distribution space or contractual throughput agreements in other key geographical areas including California, Florida, Illinois, Indiana, Iowa, Kentucky, Louisiana, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, Texas and Wisconsin.

Our Canadian customers include independent dealers and national accounts. We also lease or own warehouse facilities in Saskatchewan, Ontario, Quebec and Manitoba in Canada.

### **International**

Outside of the U.S. and Canada, we market our Phosphates segment's products through our Mosaic Fertilizantes segment and our China and India distribution businesses, as well as a salesforce focused on geographies outside of North America. The countries that account for the largest amount of our phosphates sales outside the U.S., by volume, are Brazil, Canada, Mexico and Colombia.

Our sales of potash products outside of the U.S. and Canada are made through Canpotex. Canpotex sales are allocated among its members based on peaking capacity. In 2023, our entitlement percentage of Canpotex was 36.2%.

Our potash exports from Carlsbad are sold through our own sales force. We also market our Potash segment's products through our Mosaic Fertilizantes segment and our China and India distribution businesses, which acquire potash primarily through Canpotex. The countries that account for the largest amount of international potash sales, by volume, are Brazil, China, Indonesia, India and Malaysia.

To service the needs of our customers, our Mosaic Fertilizantes segment includes a network of strategically located sales offices, crop nutrient blending and bagging facilities, port terminals and warehouse distribution facilities that we own and operate. The blending and bagging facilities primarily produce Blends from phosphate, potash and nitrogen. The average product mix in our Blends (by volume) contains approximately 19% nitrogen, 51% phosphate and 30% potash, although this mix differs based on seasonal and other factors. All of our production in Brazil is consumed within the country.

Our India and China distribution businesses also includes a network of strategically located sales offices, crop nutrient blending and bagging facilities, port terminals and warehouse distribution facilities. These businesses serve primarily as a sales outlet for our North American phosphates production, as well as additional phosphate production we market from our MWSPC joint venture, both for resale and as an input for Blends. Our Potash segment also has historically furnished the majority of the raw materials needs for the production of Blends, primarily via Canpotex, and is expected to continue to do so in the future.

### **Other Products**

With a strong brand position in a multi-billion dollar animal feed ingredients global market, our Phosphates segment supplies animal feed ingredients for poultry and livestock to

customers in North America, Latin America and Asia. Our potash sales to non-agricultural users are primarily to large industrial accounts and the animal feed industry. Additionally, in North America, we sell potash for de-icing and as a water softener regenerant. In Brazil, we also sell phosphogypsum.

In 2023, we announced the formation of the Mosaic Biosciences platform, a global initiative to bring the latest science and innovation to the agricultural market. The Mosaic Biosciences portfolio includes biological fertilizer complements which improve nutrient use efficiency and enhance plant growth and vigor.

## **COMPETITION**

Because crop nutrients are global commodities available from numerous sources, crop nutrition companies compete primarily on the basis of delivered price. Other competitive factors include product quality, cost and availability of raw materials, customer service, plant efficiency and availability of product. As a result, markets for our products are highly competitive. We compete with a broad range of domestic and international producers, including farmer cooperatives, subsidiaries of larger companies, and independent crop nutrient companies. Foreign competitors may have access to less expensive raw materials, may not have to comply with as stringent regulatory requirements or are owned or subsidized by governments and, as a result, may have cost advantages over North American companies. We believe that our extensive North American and

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international production and distribution system provides us with a competitive advantage by allowing us to achieve economies of scale, transportation and storage efficiencies, and obtain market intelligence. Also, we believe our performance products, such as MicroEssentials®, provide us a competitive advantage with customers in North and South America.

Unlike many of our competitors, we have our own distribution system to sell phosphate- and potash-based crop nutrients and animal feed ingredients, whether produced by us or by other third parties, around the globe. In North America, we have one of the largest and most strategically located distribution systems for crop nutrients, including warehouse facilities in key agricultural regions. We also have an extensive network of distribution facilities internationally, including in the key growth regions of South America and Asia, with port terminals, warehouses, and blending plants in Brazil, Paraguay, China, and India. Our global presence allows us to efficiently serve customers in approximately 40 countries.

### **Phosphates Segment**

Our Phosphates segment operates in a highly competitive global market. Among the competitors in the global phosphate industry are domestic and foreign companies, as well as foreign government-supported producers in Asia and North Africa. Phosphate producers compete primarily based on price, as well as product quality, service and innovation. Major integrated producers of feed phosphates are located in the U.S., Europe and China. Many smaller producers are located in emerging markets around the world. Many of these smaller producers are not miners of phosphate rock or manufacturers of phosphoric acid and are required to purchase this material on the open market.

We believe that we are a low-cost integrated producer of phosphate-based crop nutrients, due in part to our scale, vertical integration and strategic network of production and distribution facilities. As the world's second largest producer of concentrated phosphates, as well as the second largest miner of phosphate rock in the world and the largest in the U.S., we maintain an advantage over some competitors as the scale of operations effectively reduces production costs per unit. We are also vertically integrated to captively supply one of our key inputs, phosphate rock, to our phosphate production facilities. We believe that our position as an integrated producer of phosphate rock provides us with a significant cost advantage over competitors that are non-integrated phosphate producers. In addition, our ownership in the Miski Mayo Mine allows us to supplement our overall phosphate rock needs. MWSPC enables us to not only further diversify our sources of phosphates but also improve our access to key agricultural countries in Asia.

We produce ammonia at our Faustina, Louisiana concentrates plant in quantities sufficient to meet approximately one third of our total ammonia needs in North America. We do not have ammonia production capacity within Florida to serve our Florida operations, but we have capacity to supply a portion of our requirements by transporting produced ammonia from Louisiana to Florida. We purchase additional ammonia from world markets and thus are subject to significant volatility in our purchase price of ammonia. The CF Ammonia Supply Agreement provides us with a supply of a substantial volume of ammonia at prices based on the price of natural gas.



With our dedicated sulfur transportation barges and tugs, and our ownership of GSS, we are also well-positioned to source an adequate, flexible and cost-effective supply of sulfur, our third key input, to our Florida and Louisiana phosphate production facilities. We believe that our investments in sulfur logistical and melting assets continue to afford us a competitive advantage compared to other producers in cost and access to sulfur.

With facilities in both central Florida and Louisiana, we are logistically well positioned to fulfill our material needs at very competitive prices. Those multiple production points also afford us the flexibility to optimally balance supply and demand.

### **Potash Segment**

Potash is a commodity available from several geographical regions around the world and, consequently, the market is highly competitive. Through our participation in Canpotex, we compete outside of North America against various independent and state-owned potash producers. Canpotex has substantial expertise and logistical resources for the international distribution of potash, including strategically located export assets in Portland, Oregon, St. John, New Brunswick and Vancouver, British Columbia. Our principal methods of competition with respect to the sale of potash include product pricing and offering consistent, high-quality products and superior service. We believe that our potash cost structure is competitive in the industry and should improve as we continue to complete our potash expansion projects.

## **Mosaic Fertilizantes**

The Mosaic Fertilizantes segment operates in a highly competitive market in Brazil. We compete with a broad range of domestic and international producers, including farmer cooperatives, subsidiaries of larger companies, and independent crop nutrient companies. We believe that having a vertically integrated business, internationally but also in Brazil, provides us with a competitive advantage by allowing us to achieve economies of scale, transportation and storage efficiencies, and obtain market intelligence.

Mosaic Fertilizantes has a wide variety of customers including farmers, blenders, and other local distributors. We compete with local businesses that offer a wide variety of products that are available from many sources. We believe the strategic location of our mines and chemical plants, in close proximity to our customers, and the benefit of our own distribution network, gives us an advantage over most of our competitors. The vertical integration of our wholly-owned production, along with our distribution network, as well as our focus on product innovation and customer solutions, position us with an advantage over many of our competitors. We have a strong brand in Brazil. In addition to having access to our own production, our distribution activities have the capability to supply a wide variety of crop nutrients to our dealer and farmer customer base.

## **FACTORS AFFECTING DEMAND**

Our results of operations historically have reflected the effects of several external factors which are beyond our control and have in the past produced significant downward and upward swings in operating results. Revenues are highly dependent upon conditions in the agriculture industry and can be affected by, among other factors: crop conditions; changes in agricultural production practices; worldwide economic conditions, including the increasing world population, household incomes, and demand for more protein-rich food, particularly in developing regions such as China, India and Latin America; changing demand for biofuels; variability in commodity pricing; governmental policies; the level of inventories in the crop nutrient distribution channels; customer expectations regarding farmer economics, future crop nutrient prices and availability, and transportation costs, among other matters; market trends in raw material costs; market prices for crop nutrients; and weather. Furthermore, our crop nutrients business is seasonal to the extent farmers and agricultural enterprises in the markets in which we compete purchase more crop nutrient products during the spring and fall. The international scope of our business, spanning the northern and southern hemispheres, reduces to some extent the seasonal impact on our business. The degree of seasonality of our business can change significantly from year to year due to conditions in the agricultural industry and other factors. The seasonal nature of our businesses requires significant working capital for inventory in advance of the planting seasons.

We sell products throughout the world. Unfavorable changes in trade protection laws, policies and measures, government policies and other regulatory requirements affecting trade; unexpected changes in tax and trade treaties; and strengthening or weakening of foreign economies as well as political relations with the U.S. may cause sales trends to customers in one or more foreign countries to differ from sales trends in the U.S.

Our international operations are subject to risks from changes in foreign currencies, or government policy, which can affect local farmer economics.

## **OTHER MATTERS**

### **Employees**

We had 14,049 employees as of December 31, 2023, consisting of approximately 10,352 salaried and 3,697 hourly employees. This includes approximately 289 salaried and 424 hourly employees at the Miski Mayo Mine, of which we own 75% and its results are consolidated within our results of operations.

### **Labor Relations**

As of December 31, 2023:

- We had eight collective bargaining agreements with unions covering certain hourly employees in the U.S. and Canada. Of these employees, approximately 33% are covered under agreements that expire in 2024. All are expected to collectively bargain for new contracts in 2024.

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- We had agreements with 35 unions covering all employees in Brazil. More than one agreement may govern our relations with each of these unions. In general, the agreements are renewable on an annual basis.

Failure to renew any of our union agreements could result in a strike or labor stoppage that could have a material adverse effect on our operations. However, we have not experienced a significant work stoppage in many years and historically have had good labor relations.

### Information Available on our Website

Our Annual Report Form on 10-K ("**Form 10-K**"), Quarterly Reports on Form 10-Q ("**Form 10-Q**"), Current Reports on Form 8-K ("**Form 8-K**"), and amendments thereto, filed with the Securities and Exchange Commission ("**SEC**") pursuant to Section 13(a) of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder are made available free of charge on our website ([www.mosaicco.com](http://www.mosaicco.com)) as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. These reports are also available on the SEC's website ([www.sec.gov](http://www.sec.gov)). The information contained on our website and the SEC's website is not being incorporated in this report.

### HUMAN CAPITAL

Our employees are the foundation of our Company. Our 14,049 colleagues embody Mosaic's core values of innovation, collaboration, drive and responsibility, and are the key to enabling us to execute our mission to help the world grow the food it needs.

As of December 31, 2023, our regular employee base was made up of the following:

Country	Male	Female	Total
Brazil	5,853	1,325	7,178
United States	3,273	627	3,900
Canada	1,674	300	1,974
Peru	635	78	713
China	107	51	158
India	60	7	67
Paraguay	34	17	51
Saudi Arabia	8	—	8
Total	11,644	2,405	14,049

Mosaic is committed to the well-being and development of our employees by creating and cultivating an innovative and collaborative workplace that welcomes, values and respects diversity of people, thoughts, and perspectives; a workplace free of discrimination and intolerant of bias. As part of Mosaic's strategic priorities, we are committed to prioritizing our internal culture and external partnerships to meet our commitments to our employees and stakeholders and to be an employer of choice for generations to come.

Employee Health and Safety–Safety is a top priority and we strive for zero harm to people and zero environmental incidents. Through the implementation of the Mosaic Management System, we have established a structured approach to effectively manage and control risk for the safety and well-being of our colleagues, the environment and our stockholders. The management system defines processes that help support a safe work environment and establish a continuous improvement cycle to adjust for changing conditions and identified risks.

Global Worker Wellness–extending beyond safety, our wellness programs seek to improve the well-being of our employees – and their families – in the areas of physical and psychological health, and financial security. These programs include health screenings, insurance plans, psychological health training and mental health resources, as well as our Environmental, Health and Safety (“**EHS**”) Risk Reduction Program, various trainings and flexible schedules.

Development–Mosaic believes in continually investing in people and their lifelong learning. Mosaic holds training events throughout the year across all of our locations, invests in leadership competencies through facilitated learning opportunities and hosts an online education platform through Workday Learning, which all employees are encouraged to access for mandatory and self-guided education. Mosaic offers companywide educational reimbursement programs to help employees in

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each of our operating companies acquire new skills and capabilities to better meet their job responsibilities and provide for future career opportunities within the Company. Mosaic supports membership in numerous professional associations and encourages participation in work-related external networking groups

- In 2023, Mosaic continued its programs to help employees gain the knowledge and skills that we believe will be necessary for the next evolution of our business. Like any company, Mosaic experiences turnover and the need to replace talent related to retirement and succession. Mosaic seeks to minimize unwanted turnover through its talent review, succession management, performance management, and compensation processes. For certain roles critical to our operations, such as engineering, operations, and employee health and safety professionals, we maintain specific talent programs, internal development strategies, apprentice and Co-Op programs and recruitment pipelines.

Community-Mosaic is a thoughtful and engaged neighbor who invests carefully and generously through long-term partnerships with organizations that are making a difference. We are proud to support organizations and initiatives that create growth and leave a lasting impact in our communities in three main focus areas: food, water and local community. In 2023, we invested \$16.7 million. In addition to philanthropic grants and sponsorships of local programs, we also support and facilitate volunteerism by our employees. Similarly, we participate on local committees, boards, and associations focused on contributing to the vitality of the people and communities around us.

- 2023 was the third year of the Mosaic Employee Giving Program (the “**Program**”) that provides employees with flexibility to connect their personal causes to corporate giving, matching and volunteerism opportunities. The Program aligns to Mosaic’s strategic priorities, our 2025 Environmental, Social and Governance performance targets, and companywide 2030 global diversity and inclusion goals. Employees can take advantage of Company matching funds through financial contributions, volunteering on personal time, or both - in North America this can be up to \$2,000 annually. Our 2030 diversity and inclusion goal for community investment provides intentional focus to support underserved or underrepresented populations in regions where we operate. In 2023, 29 percent of our global giving met this focus.

Diversity, Inclusion and Equal Opportunities-in 2023, Mosaic’s Diversity and Inclusion Program continued to advance progress, engaging in several initiatives to advance Mosaic’s commitments to our employees and stakeholders, increase accountability, and promote a more diverse and inclusive environment. Initiatives included launching a self-identification campaign which gives employees the opportunity to voluntarily provide personal characteristics that create more individual visibility and provides Mosaic with a better and deeper understanding of our workforce, helping to identify meaningful policies, programs and benefits that lead to a more inclusive culture. We continued to make progress towards our previously announced global 2030 representation goals and are driving accountability into the business units by establishing business-level initiatives and programs to address opportunities to progress towards a more diverse and inclusive workforce. We continued to build leadership competencies by providing education on enabling authentic connections,

establishing trust and modeling inclusive behaviors and provided an online, curated, self-directed learning platform to employees to continue their own learning journeys. We are building awareness and recognition through embedded learning moments, leader-led roundtable discussions and a quarterly Diversity & Inclusion Newsletter. We continue to refocus and expand our recruitment efforts to create a more diverse talent pipeline, partnering with our executive-led Employee Inclusion Networks to help identify additional opportunities to attract qualified, diverse talent and are working towards advancing our talent acquisition processes to be more inclusive. Additional information about our human capital, including our diversity and inclusion goals for 2030, is available in the sustainability report posted on our website. The information contained on our website is not being incorporated in this report.

- Pay equity is fundamental to our compensation philosophy and our commitment to diversity and inclusion. Mosaic annually evaluates pay equity and compensation practices to ensure fair and equitable treatment of employees based on our pay-for-performance framework. In 2023, Mosaic established internal analytical capabilities and restructured our pay equity process to bring more employees within scope across our global operations and to enhance our assessment of pay disparities. The results of our assessment revealed outliers without adequate business justifications. Mosaic intends to address each of the instances during our 2024 compensation cycle. Pay equity will be reviewed internally every year and we expect to conduct external independent reviews every three years.

## INFORMATION ABOUT OUR EXECUTIVE OFFICERS

Information regarding our executive officers as of February 22, 2024 is set forth below:

Name	Age	Position
Philip E. Bauer	51	Senior Vice President, General Counsel and Corporate Secretary
Bruce M. Bodine Jr.	52	Chief Executive Officer, President and Director
Clint C. Freeland	55	Executive Vice President and Chief Financial Officer
Walter F. Precourt III	59	Senior Vice President and Chief Administrative Officer
Corrine D. Ricard	60	Senior Vice President - Digital Strategy
Karen A. Swager	53	Executive Vice President - Operations
Yijun (“Jenny”) Wang	56	Executive Vice President - Commercial

Philip E. Bauer. Mr. Bauer was promoted to Senior Vice President, General Counsel and Corporate Secretary in January 2023. Since joining Mosaic in 2007, Mr. Bauer has managed legal support for business development activities, potash operations, offshore finance, commercial transactions and corporate governance. Most recently, he was the Vice President - Growth and Development where he helped drive strategic vision across the organization. Prior to Mosaic, he was a partner at an international law firm where he focused his practice on mergers and acquisitions, public and private securities offerings and public company compliance matters, as well as general business advising. Mr. Bauer earned his Juris Doctor degree from The George Washington University Law School in Washington D.C., his Bachelor of Science in Foreign Service with honors from Georgetown University’s School of Foreign Service where he majored in international politics, and his Master of Business Administration from the Kellogg School of Management at Northwestern University.

Bruce M. Bodine Jr. Mr. Bodine was elected our Chief Executive Officer effective January 2024 and our President effective August 2023. He previously served as our Senior Vice President - North America from April 2020 to August 2023, and as our Senior Vice President - Phosphates from January 2019 to April 2020 during which time he also provided executive oversight for the corporate procurement organization. Prior to that, Mr. Bodine served as Senior Vice President - Potash (from June 2016 to December 31, 2018); as Vice President - Potash (from April to May 2016); as Vice President - Supply Chain (from August 2015 to March 2016); as Vice President - Operations Business Development (from October 2014 to August 2015); as Vice President - Operations for our Esterhazy and Colonsay potash production facilities (from July 2013 to October 2014); as the General Manager, Esterhazy (from September 2012 to June 2013); and as the General Manager, Four Corners (from March 2010 to August 2012). Before that, Mr. Bodine held various plant and mine development management positions in the Phosphates segment beginning with Mosaic’s formation in 2004.

Clint C. Freeland. Mr. Freeland was elected our Executive Vice President and Chief Financial Officer in November 2023 and had previously served as our Senior Vice President and Chief Financial Officer since June 2018. Prior to joining Mosaic, Mr. Freeland served as Executive Vice President and Chief Financial Officer of Dynegy Inc. from July 2011 until Dynegy’s merger with Vistra Energy Corp. in April 2018. Mr. Freeland was responsible for Dynegy’s



financial affairs, including finance and accounting, treasury, tax and banking and credit agency relationships. Prior to joining Dynegy, Mr. Freeland served as Senior Vice President, Strategy & Financial Structure of NRG Energy, Inc ("**NRG**"). from February 2009 to July 2011. Mr. Freeland served as NRG's Senior Vice President and Chief Financial Officer from February 2008 to February 2009 and its Vice President and Treasurer from April 2006 to February 2008. Prior to joining NRG, Mr. Freeland held various key financial roles within the energy sector.

Walter F. Precourt III. Mr. Precourt was elected our Senior Vice President and Chief Administrative Officer in November 2023. In this role, Mr. Precourt has responsibility for the Company's Human Resources, Public Affairs, Procurement and Shared Services teams. He had previously served as our Senior Vice President - Strategy and Growth since January 1, 2019. From June 2016 through March 2020 he also provided executive oversight for the EHS organization. He previously served as Senior Vice President - Phosphates and provided executive oversight for the corporate procurement organization from June 2016 until January 1, 2019, as Senior Vice President - Potash Operations from May 2012 to June 2016, and before that he led the Environment, Health and Safety organization since joining Mosaic in 2009. Prior to joining Mosaic, Mr. Precourt was employed by cement and mineral component producer Holcim (U.S.) where he initially led its safety transformation and later became Vice President of Environment and Government Affairs. Mr. Precourt started his career at The Dow Chemical Company where he served in a variety of roles in Operations, Technology, Capital Project Management, and Environmental,

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Health and Safety. Mr. Precourt served as a director and was the past Chairman of the Board of the Saskatchewan Potash Producers Association and was a director of Fertilizer Canada.

Corrine D. Ricard. Ms. Ricard was elected Mosaic's Senior Vice President – Digital Strategy in January 2024 after serving as our Senior Vice President - Mosaic Fertilizantes since November 15, 2019. Prior to that she served as Senior Vice President - Commercial since February 2017, Senior Vice President - Human Resources from April 2012 to February 2017, and before that she held a number of other leadership positions at Mosaic, including Vice President - International Distribution, Vice President - Business Development and Vice President - Supply Chain. Prior to Mosaic's formation, Ms. Ricard worked for Cargill in various roles, including risk management, supply chain and commodity trading. Ms. Ricard serves on the board of directors for Canpotex Limited, the Canadian potash marketing association, and Carlisle Companies, a publicly traded company.

Karen A. Swager. Ms. Swager was elected our Executive Vice President – Operations in November 2023. In this role, Ms. Swager is responsible for the Company's enterprise-wide operations, including the Environment, Health and Safety ("**EHS**") organization, and the North America Supply Chain organization. Ms. Swager had previously served as our Senior Vice President - Supply Chain, including executive oversight for the Procurement and corporate EHS teams, since April 1, 2020. From January 1, 2019 until her appointment as Senior Vice President - Supply Chain, she served as Senior Vice President - Potash. Previously, Ms. Swager held leadership positions at Mosaic, including Vice President - Minerals, Vice President - Mining Operations and General Manager in our Phosphates business. She also led the mine planning and strategy group for the Phosphates business. Ms. Swager serves as a director of MVM Resources International, B.V., the general partner of Compañía Minera Miski Mayo S.R.L., the joint venture that operates the mines in Peru, and as a director of SSR Mining Inc., a publicly traded company.

Yijun ("Jenny") Wang. Ms. Wang was elected Executive Vice President – Commercial in January 2024 after serving as the Company's Senior Vice President – Global Strategic Marketing since May 2023. From January 2022 until May 2023, Ms. Wang served as our Senior Vice President - Global Strategic Marketing, Head of China and India. From October 15, 2020 until her current appointment, Ms. Wang served as Vice President - Global Strategic Marketing. Prior to October 2020, Ms. Wang served as Vice President - Global Product Management and International Distribution and before May 2019, Ms. Wang served as Country Head for China. Ms. Wang serves on the Board of Directors of Canpotex Limited, the Canadian potash marketing association.

Our executive officers are generally elected to serve until their respective successors are elected and qualified or until their earlier death, resignation or removal. No "family relationships," as that term is defined in Item 401(d) of Regulation S-K, exist among any of the listed officers or between any such officer and any member of our Board of Directors.

### **Item 1A. Risk Factors.**

Our business, financial condition or results of operations could be materially adversely affected by any of the risks and uncertainties described below.

## **Operational Risks**

**Our operating results are highly dependent upon and fluctuate based upon business, economic and other conditions and governmental policies affecting the agricultural industry in which we or our customers operate. These factors are outside of our control and may significantly affect our profitability.**

The most important factors are:

- weather and field conditions (particularly during periods of traditionally high crop nutrients application);
- quantities of crop nutrients imported and exported;
- current and projected inventories and prices, which are heavily influenced by U.S. exports and world-wide markets; and
- governmental policies, including farm and biofuel policies, which may directly or indirectly influence the number of acres planted, the level of inventories, the mix of crops planted or crop prices or otherwise negatively affect our operating results.

International market conditions and the effects of recent countervailing duty orders, which are also outside of our control, may also significantly influence our operating results. The international market for crop nutrients is influenced by such

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factors as the relative value of the U.S. dollar and its impact upon the cost of importing crop nutrients, foreign agricultural policies, including subsidy policies, the existence of, or changes in, import or foreign currency exchange barriers in certain foreign markets, changes in the hard currency demands of certain countries and other regulatory policies of foreign governments, as well as the laws and policies of the U.S. affecting foreign trade and investment, including use of tariffs.

In 2021, the DOC issued CVD orders on imports of phosphate fertilizers from Morocco and Russia, in response to petitions filed by Mosaic. The orders were based on DOC's determination that the imports were unfairly subsidized, and the U.S. International Trade Commission's determination that the imports materially injure the U.S. phosphate fertilizer industry. The purpose of the CVD orders was to remedy the injury and thereby restore fair competition. CVD orders normally stay in place for at least five years, with possible extensions.

Moroccan and Russian producers have initiated actions at the CIT seeking to overturn the orders. Mosaic has also made claims contesting certain aspects of DOC's final determinations that, we believe, failed to capture the full extent of Moroccan and Russian subsidies. These litigation challenges remain underway. Most recently, in January 2024, DOC and the ITC issued revised determinations on remand from the CIT, upholding their original determinations that Moroccan phosphate fertilizer is unfairly subsidized, and that Moroccan and Russian imports materially injure the U.S. industry, respectively. The CIT is now reviewing these remand determinations. Also in January 2024, the CIT issued a ruling affirming DOC's original determinations that Russian phosphate fertilizer is unfairly subsidized.

When a CVD order is in place, DOC normally conducts annual administrative reviews, which establish a final CVD assessment rate for past imports during a defined period, and a CVD cash deposit rate for future imports. In November 2023, DOC announced the final results of the first administrative reviews for the CVD orders on phosphate fertilizers for Russia and Morocco, covering the period November 30, 2020 to December 31, 2021. DOC calculated new subsidy rates of 2.12% for Moroccan producer OCP and 28.50% for Russian producer PhosAgro. Mosaic, foreign producers, and a U.S. importer have appealed these decisions to the CIT. DOC is also conducting administrative reviews covering the period January 1, 2022 to December 31, 2022. The applicable final CVD assessment rates and cash deposit rates for imports of phosphate fertilizer from Morocco and Russia could change as a result of these various proceedings and potential associated appeals, whether in federal courts or at the World Trade Organization. A reversal of, or change in, the ITC's or DOC's prior determination in the CVD investigations could have an adverse effect on our business, financial condition or operating results.

### **Pandemics, epidemics or other health outbreaks could materially adversely affect our business operations and financial condition.**

Pandemics, epidemics or other health outbreaks have, and could again, adversely affect the global economy and have, and could again, significantly disrupt our operations, key suppliers or third-party logistics providers, customers and ultimate end-users. These disruptions could arise due to the spread of the outbreak and/or from measures to contain or mitigate it such as quarantines and extended closures of businesses mandated by government authorities.

For example, the Covid-19 pandemic adversely affected our businesses in multiple ways, including by creating short-term labor shortages, due to illness, and transportation issues, such as trucking delays and port congestion, which slowed delivery of inputs to our facilities and products to our end customers.

The full impact of another public health event depends on various factors any of which could materially increase our costs, negatively impact our revenue and/or adversely impact our results of operations and liquidity, possibly to a significant degree. A public health event could also have the effect of heightening many of the other risks described in this Item 1A of this Form 10-K.

**Unfavorable worldwide economic and market conditions could adversely affect our business, financial condition or operating results.**

Economic and market conditions, including inflation, supply chain challenges, high interest rates and foreign exchange volatility, have and may continue to have an impact on our business. Our production costs have increased due to higher prices for raw materials, including purchased nitrogen, sulfur and ammonia, as well as supply chain challenges, including increased costs and delays caused by transportation and labor shortages. These adverse economic events have adversely affected, and may continue to adversely affect our operating results.

**Our crop nutrient business is seasonal and varies based on application rates, which may result in carrying significant amounts of inventory and seasonal variations in working capital, and our inability to predict future seasonal crop nutrient demand accurately may result in excess inventory or product shortages.**

The use of crop nutrients is seasonal and varies based on application rates. Farmers tend to apply crop nutrients during two short application periods, the strongest one in the spring, before planting, and the other in the fall, after harvest. As a result, the strongest demand for our products typically occurs during the spring planting season, with a second period of strong demand following the fall harvest. In contrast, we generally produce our products throughout the year. As a result, we and our customers generally build inventories during the low demand periods of the year in order to provide timely product availability during the peak sales seasons. The seasonality of crop nutrient demand results in our sales volumes and net sales typically being the highest during the North American spring season and our working capital requirements typically being the highest just prior to the start of the spring season. Our quarterly financial results can vary significantly from one year to the next due to weather-related shifts in planting schedules and purchasing patterns.

If seasonal demand exceeds our projections, we will not have enough product, which would negatively impact our profitability. If seasonal demand is less than we expect, we will have excess inventory and higher working capital and liquidity requirements. The degree of seasonality of our business can change significantly from year to year due to conditions in the agricultural industry and other factors.

**Changes in transportation costs can affect our sales volumes and selling prices.**

Delivery costs are a significant factor in the total cost to customers. As a result, changes in transportation costs, or in customer expectations about them, may adversely affect our sales volumes and prices.

**A disruption at our production, distribution or terminaling facilities could have a material adverse impact on our business. The risk of material disruption increases when demand for our products results in high operating rates at our facilities.**

We conduct our operations through a limited number of key production, distribution and terminaling facilities. These facilities include our phosphate mines and concentrates plants; our potash mines; and the ports and other distribution facilities through which we, Canpotex and the other joint ventures in which we participate, conduct our respective businesses, as well as other commercial arrangements with unrelated third parties. Any disruption of operations at any of these facilities may significantly negatively affect our production or our ability to distribute our products.

Examples of the types of events that could result, and have resulted, in a disruption at these facilities include: adverse weather; strikes or other work stoppages; civil unrest; deliberate, malicious acts, including acts of terrorism and armed conflict; political or economic instability; cyberattacks; changes in permitting, financial assurance or certain environmental, health and safety laws or other changes in the regulatory environment in which we operate; legal and regulatory proceedings; our relationships with the other member of Canpotex and the other joint ventures in which we participate and their or our exit from participation in

such joint ventures; other changes in our commercial arrangements with unrelated third parties; brine inflows at our Esterhazy, Saskatchewan mine or our other shaft mines; mechanical failure and accidents or other failures occurring in the course of operating activities, including at our gypstacks, clay settling areas and tailing dams; accidents occurring in the course of operating activities; lack of truck, rail, barge or ship transportation; and other factors.

**Reduced oil refinery operating rates in North America could have a material adverse impact on our business, financial condition or operating results.**

Reduced oil refinery operating rates in the U.S. and Canada could, and have resulted in, the past, in decreased availability of molten sulfur, which could increase costs of sulfur procurement or decrease availability of sulfur needed in our phosphate fertilizer production operations. If it becomes necessary to procure sulfur at higher costs, and if we are unable to pass those costs on in our product prices, or if we are unable to procure sulfur at volumes necessary for our operations, such events could have a material adverse effect on our phosphate business, and/or our financial condition or operating results.

**Key inputs for the production of our finished goods, including fertilizer, sulfur and ammonia, and energy used in our businesses in the past have been and may in the future be the subject of volatile pricing and availability. Changes in**

**the price or availability of these key inputs for production of finished goods have had, and could again have, a material adverse impact on our businesses.**

Fertilizer is a key input for production of our blended finished goods products. Natural gas, ammonia and sulfur are key raw materials used in the manufacture of phosphate crop nutrient products. Natural gas is used as both a chemical feedstock and a fuel to produce anhydrous ammonia, which is a raw material used in the production of concentrated phosphate products. Natural gas is also a significant energy source used in the potash solution mining process. From time to time, our profitability has been and may in the future be adversely impacted by the price and availability of these key inputs and other energy costs. For example, the ongoing conflict between Russia and Ukraine and the related sanctions have led, and may continue to lead, to disruption and instability in global markets, supply chains and volatile pricing and availability of these key inputs and raw materials. Because most of our products are commodities, there can be no assurance that we will be able to pass through increased costs to our customers. A significant increase in the price of fertilizer, natural gas, ammonia, sulfur or energy costs that is not recovered through an increase in the price of our related crop nutrients products could have a material adverse impact on our business. In addition, under an ammonia supply agreement with CF, we have agreed to purchase approximately 545,000 to 725,000 tonnes of ammonia per year at a price to be determined by a formula based on the prevailing price of U.S. natural gas. If the price of natural gas rises or the market price for ammonia falls outside of the range anticipated at execution of this agreement, we may not realize a cost benefit from the natural gas-based pricing over the term of the agreement, or the cost of our ammonia under the agreement could become a competitive disadvantage. At times, we have paid considerably more for ammonia under the agreement than what we would have paid had we purchased it in the spot market. On October 14, 2022, we received notice from CF to exercise the bilateral, contractual right to end the ammonia supply agreement in its current form, effective January 1, 2025. The contract allows for either party to exercise rights on certain dates through 2032 that can result in changes to terms and conditions.

**We are subject to risks associated with our international sales and operations, which could negatively affect our sales to customers in foreign countries as well as our operations and assets in foreign countries. Some of these factors may also make it less attractive to distribute cash generated by our operations outside the U.S. to our stockholders, or to utilize cash generated by our operations in one country to fund our operations or repayments of indebtedness in another country or to support other corporate purposes.**

In 2023, we derived approximately 66% of our net sales from customers located outside of the U.S. As a result, we are subject to numerous risks and uncertainties relating to international sales and operations, including:

- difficulties and costs associated with complying with a wide variety of complex laws, treaties and regulations;
- unpredictable changes in regulatory environments;
- increased government regulation of the economy in the countries we serve;



- political and economic instability, inflation and adverse economic conditions resulting from governmental attempts to reduce inflation, such as imposition of higher interest rates and wage and price controls;
- unpredictable tax audit practices of various governments;
- nationalization of properties by foreign governments;
- the imposition of tariffs, exchange controls, trade barriers or other restrictions, or government-imposed increases in the cost of resources and materials necessary for the conduct of our operations or the completion of strategic initiatives, including with respect to our joint ventures; and
- currency exchange rate fluctuations between the U.S. dollar and foreign currencies, particularly the Brazilian real and the Canadian dollar.

The occurrence of any of the above in the countries in which we operate or elsewhere could jeopardize or affect our ability to transact business there and could adversely affect our revenues and operating results and the value of our assets located outside of the U.S.

In addition, tax regulations and tax audit practices, currency exchange controls and other restrictions may also make it economically unattractive to:

- distribute cash generated by our operations outside the U.S. to our stockholders; or
- utilize cash generated by our operations in one country to fund our operations or repayments of indebtedness in another country or to support other corporate purposes.

**Our assets outside of North America are located in countries with volatile conditions, which could subject us and our assets to significant risks.**

We are a global business with substantial assets located outside of North America. Our operations in Brazil, China, India and Paraguay are fundamental to our business. We have a majority interest in the joint venture entity operating the Miski Mayo Mine that supplies phosphate rock to us. We also have a minority joint venture investment in MWSPC, which operates a mine and chemical complexes that produce phosphate fertilizers and other downstream products in the Kingdom of Saudi Arabia. Volatile economic, market and political conditions may have a negative impact on our operations, operating results and financial condition. In addition, unfavorable changes in trade protection laws, policies and measures, or governmental actions and policies and other regulatory requirements affecting trade and the pricing and sourcing of our raw materials, may also have a negative impact on our operations, operating results and financial condition.

Natural resource extraction is an important part of the economy in Peru, and, in the past, there have been protests against other natural resource operations in Peru. There remain numerous social conflicts that exist within the natural resource extraction sector in Peru, and there is potential for active protests against natural resource extraction companies. If the Government of Peru's proactive efforts to address the social and environmental issues surrounding natural resource activities are not successful, protests could extend to or impact the Miski Mayo Mine and adversely affect our interest in the Miski Mayo joint venture or the supply of phosphate rock to us from the mine.

**Adverse weather conditions, including hurricanes, and excess heat, cold, snow, rainfall and drought, have in the past, and may in the future, adversely affect our operations, and result in increased costs, decreased sales or production and potential liabilities.**

Adverse weather conditions have in the past and may in the future adversely affect our operations, particularly our Phosphates operations. In the past, hurricanes have resulted in physical damage to our facilities in Florida and Louisiana.

Additionally, water treatment costs tend to increase significantly following excess rainfall. Some of our Florida and Louisiana facilities have had, and others could have, high water levels that have required, or may require, treatment. High water balances in the past at phosphate facilities in Florida also led the Florida Department of Environmental Protection ("FDEP") to adopt rules requiring phosphate production facilities to meet more stringent process water management objectives for phosphogypsum stack systems. In addition to the FDEP, the U.S. Environmental Protection Agency ("EPA") and the Louisiana Department of Environmental Quality also have similar requirements for water management objectives as outlined in our U.S. Resource Conservation and Recovery Act ("RCRA") Consent Decree's.

If adverse weather occurs in coming years, our facilities may be required to take additional measures to manage process water to comply with existing or future requirements and these measures could potentially have a material effect on our business and financial condition.

Adverse weather may also cause a loss of production and may disrupt our supply chain or adversely affect delivery of our products to our customers. For example, oil refineries that

supply sulfur to us may suspend operations as a result of a hurricane, and incoming shipments of ammonia can be delayed, disrupting production at our Florida or Louisiana facilities and delivery of our products. In the second half of 2021, we experienced production impacts related to Hurricane Ida at our Louisiana operations. We also experienced down time and delayed shipments caused by impacts from Hurricane Ian which occurred at the end of the third quarter in 2022.

Excess rainfall and drought have in the past, and may in the future, adversely affect us. For example, in 2019, we experienced the wettest year in North America in nearly 50 years, which reduced fertilizer applications by farmers. Excess rainfall also resulted in higher river levels which adversely affected delivery of our products. Drought can reduce farmers' crop yields and the uptake of phosphates and potash, reducing the need for application of additional phosphates and potash for the next planting season. Drought can also lower river levels, adversely affecting delivery of our products to our customers. For example, the Mississippi River was in drought condition for parts of 2022 and 2023, affecting barge movement on the river.

**Climate change could adversely affect us.**

The impact of climate change on our operations and those of our customers remains uncertain. The impacts of climate change could include changes in rainfall patterns, water shortages, changing sea levels, changing storm patterns and intensities, and changing temperature levels and that these changes could be severe. These impacts could vary by geographic location. Severe

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climate change could impact our costs and operating activities, the location and cost of global grain and oilseed production, and the supply and demand for grains and oilseeds. At the present time, we cannot predict the prospective impact of climate change on our results of operations, liquidity or capital resources, or whether any such effects could be material to us.

**We do not own a controlling equity interest in our non-consolidated companies, some of which are foreign companies, and therefore our operating results and cash flow may be materially affected by how the governing boards and majority owners operate such businesses. There may also be limitations on monetary distributions from these companies that are outside of our control. Together, these factors may lower our equity earnings or cash flow from such businesses and negatively impact our results of operations.**

In 2013, we entered into an agreement to form MWSPC, a joint venture in which we hold a 25% interest, to develop a mine and chemical complexes for an estimated \$8.0 billion cost, that produces phosphate fertilizers and other downstream products in the Kingdom of Saudi Arabia. MWSPC is now operational, but the success of its operations depends on, among other matters, the availability and affordability of necessary resources and materials and access to appropriate infrastructure, availability and affordability of transportation, operational decisions of MWSPC management, ability to operate without material disruption to the facilities, as well as the general economic and political stability of the region.

We also hold minority ownership interests in other companies that are not controlled by us. The operations and results of MWSPC and some of the other companies are significant to us, and their operations can affect our earnings. Because we do not control these companies either at the board or stockholder levels and because local laws in foreign jurisdictions and contractual obligations may place restrictions on monetary distributions by these companies, we cannot ensure that these companies will operate efficiently, pay dividends, or generally follow the desires of our management by virtue of our board or stockholder representation. As a result, these companies may contribute less than anticipated to our earnings and cash flow, negatively impacting our results of operations and liquidity.

**Strikes or other forms of work stoppage or slowdown could disrupt our business and lead to increased costs.**

Our financial performance is dependent on a reliable and productive work force. A significant portion of our workforce, and that of the joint ventures in which we participate, is covered by collective bargaining agreements with unions. Unsuccessful contract negotiations or adverse labor relations could result in strikes or slowdowns. Any disruption may decrease our production and sales or impose additional costs to resolve disputes. The risk of adverse labor relations may increase as our profitability increases because labor unions' expectations and demands generally rise at those times.

**Our underground potash shaft mines are subject to risks of water inflows.**

Over the past century, several potash mines experiencing water inflow problems have flooded. Since December 1985, we have had inflows of brine water into our Esterhazy, Saskatchewan K1 and K2 potash mines. Due to an acceleration of brine inflows, on June 4,

2021, the Company announced a closure of our K1 and K2 potash mine shafts. Our potash mines at Colonsay, Saskatchewan, Carlsbad, New Mexico and our Esterhazy, Saskatchewan K3 mine (though not contiguous with the K1/K2 underground inflow region) are also subject to risks from inflow. Though minor inflows are regularly managed, it is possible that significant water inflows could occur which may present risks to our employees and our operations, and which may require us to incur brine management costs, change our mining processes, or abandon our operating mines.

See “Key Factors that can Affect Results of Operations and Financial Condition” and “Potash Net Sales and Gross Margin” sections of our Management’s Analysis in this Form 10-K and the Esterhazy closure costs in Note 26 of this Form 10-K, which sections are incorporated herein by reference, for a discussion of costs, risks and other information relating to the brine inflows.

**Accidents or equipment failures occurring in the course of our operating activities could result in significant liabilities, interruptions or shutdowns of facilities or the need for significant safety or other expenditures.**

We engage in mining and industrial activities, including rail transportation, that can result in serious accidents or experience equipment failures. If our procedures are not effective, or if an accident or equipment failure were to occur, we could be subject to liabilities arising out of property damage, personal injuries or death, our operations could be interrupted and we might have to shut down or abandon affected facilities. Accidents could cause us to expend significant amounts to remediate safety issues or to repair damaged facilities and could result in significant liabilities and/or impact on the financial performance of the Company, including material adverse effects on our results of operations, liquidity or financial condition. For example:

- **Some of our facilities are subject to potential damage from seismic activity or other geologic concerns.**

The excavation of mines in some parts of the world can result in potential seismic events or can increase the likelihood or potential severity of a seismic event. Our Esterhazy mine and Louisiana facilities have experienced minor seismic events from time to time. A significant seismic event at one of our facilities or mines could result in serious injuries or death, or damage to or flooding of operations, or damage to adjoining properties or facilities of unrelated third parties. Geologic features may affect the integrity of our impoundments, particularly in central Florida. Our efforts to deploy new technologies to identify and repair features to mitigate impacts and risk may not be successful, adversely impacting our operations or could cause us to incur significant costs.

- **Our underground potash shaft mines are subject to risk from fire. In addition, fire at one of our underground shaft mines could halt our operations at the affected mine or for longer periods for remedial work or otherwise.**

Our underground potash shaft mines are subject to risk from fire. In the event of a fire, if our emergency procedures are not successful, we could have significant injuries or deaths, or shutdowns of our facilities, or could cause us to expend significant amounts to remediate safety issues or repair damaged facilities.

- **We handle significant quantities of ammonia at several of our facilities.**

We produce ammonia at our Faustina, Louisiana phosphate concentrates plant, use ammonia in significant quantities at all of our Florida and Louisiana phosphates concentrates plants and store ammonia at some of our distribution facilities. In Florida, ammonia is received at terminals in Tampa and transported by pipelines and trucks to our facilities. We also use ammonia in our Brazil phosphate operations. Our ammonia is generally stored and transported at high pressures or cryogenically. Accidents at any of our ammonia facilities could result in serious injury or death and could adversely impact our operations.

- **We also use or produce other hazardous chemicals at some of our facilities. If our safety procedures are not effective, an accident involving these other hazardous chemicals could result in serious injuries or death, or result in the shutdown of our facilities.**

We use sulfuric acid to produce concentrated phosphates in our Florida and Louisiana operations and our Brazil operations. We also use or produce other hazardous chemicals at some of our facilities. An accident involving any of these chemicals could result in serious injuries or death, or evacuation of areas near an accident. An accident could also result in property damage or shutdown of our facilities, or cause us to expend significant amounts to remediate safety issues or to repair damaged facilities.

**Our business operations rely on our information systems and any material disruption or slowdown of our systems could cause operational delays or loss of revenue.**

We depend on information systems to, among other things, manage our inventory, process transactions, operate our websites, purchase and ship goods on a timely basis, and maintain cost-effective operations. We have invested significant capital and expect future capital expenditures associated with the implementation and integration of our information technology systems across our businesses. This process involves the replacement and consolidation of technology platforms, resulting in operational efficiencies and reduced costs. Our inability to effectively implement or convert our operations to the new systems could cause delays in product fulfillment and reduced efficiency in our operations and could have a material impact on our financial condition or operating results.

**Regulatory Risks**

**Environmental, health and safety regulations and requirements to which we are subject may have a material adverse effect on our business, financial condition and results of operations.**

We are subject to numerous environmental, health and safety laws and regulations (“**EHS laws**”) in countries in which we operate. These EHS laws govern a wide range of matters, including environmental controls, land reclamation, discharges to air and water, remediation of hazardous substance releases and in some cases, demonstration of financial assurance. They significantly affect our operating activities as well as the level of our operating costs and capital expenditures. In some jurisdictions, environmental laws change frequently and it may be challenging for us to achieve and maintain compliance

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with all material environmental laws at all times. If we are not in compliance, we may be subject to enforcement or third-party claims, and may require new investment in our business. In those circumstances, our financial condition and results of operations may be materially adversely affected.

The U.S. Comprehensive Environmental Response, Compensation, and Liability Act (“**CERCLA**”) imposes liability, including for cleanup costs, without regard to fault or to the legality of a party’s conduct, on certain categories of persons, including current and former owners and operators of a site and parties who are considered to have contributed to the release of “hazardous substances” into the environment. Under CERCLA, or various U.S. state analogues, a party may, under certain circumstances, be required to bear more than its proportional share of cleanup costs at a site where it has liability if payments cannot be obtained from other responsible parties. We periodically have incurred and may incur liabilities and cleanup costs, under CERCLA and other environmental laws, with regard to our current or former facilities, adjacent or nearby third-party facilities or offsite disposal locations.

**Our operations are dependent on having the required permits and approvals from governmental authorities. Denial or delay by a government agency in issuing any of our permits and approvals or imposition of restrictive conditions on us with respect to these permits and approvals may impair our business and operations.**

Our operations, including our mines, are dependent on having the required permits and approvals from governmental authorities. Denial or delay by a government agency in issuing, modifying or renewing any of our permits and approvals or imposition of restrictive or cost prohibitive conditions on us with respect to these permits and approvals may impair our business and operations and could have a material adverse effect on our business, financial condition or results of operations. For example, in Florida, local community involvement has become an increasingly important factor in the permitting process for mining companies, and various counties and other parties in Florida have in the past filed and continue to file lawsuits challenging the issuance or renewal of some of the permits we require. These actions can significantly delay issuance of the permits we need to operate or expand operations.

We have included additional discussion about permitting for our phosphate mines in Florida under “Environmental, Health, Safety and Security Matters–Operating Requirements and Impacts–Permitting” in our Management’s Analysis.

**We are, and may in the future be, involved in legal and regulatory proceedings that could be material to us.**

We have in the past been, are currently, and in the future may be, subject to legal and regulatory proceedings that could be material to our business, results of operations, liquidity or financial condition. Joint ventures in which we participate could also become subject to these sorts of proceedings. These proceedings may be brought by the government or private parties and may arise out of a variety of matters, including:

- Allegations that we have violated environmental, health and safety laws and regulations or that we are responsible for adversely affecting nearby properties. We are currently



involved in proceedings alleging that, or to review whether, we have violated environmental laws in the U.S. and Brazil.

- Allegations by private parties that our operations have resulted in personal injury, property damage or damage to business operations.
- Antitrust, commercial, tax (including tax audits) and other disputes.

The legal and regulatory proceedings to which we are currently or may in the future be subject may, depending on the circumstances, result in monetary damage awards, fines, penalties, other liabilities, injunctions or other court or administrative rulings that interrupt, impede or otherwise materially affect our business operations or criminal sanctions.

We have included additional information with respect to pending legal and regulatory proceedings in Note 23 of our Notes to Consolidated Financial Statements and in this Form 10-K in Part I, Item 3. "Legal Proceedings".

**Environmental, health and safety and food and crop laws and regulations to which we are subject may become more stringent over time. This could increase the effects on us of these laws and regulations, and the increased effects could be materially adverse to our business, operations, liquidity and/or results of operations.**

Heightened regulation on food and crop inputs (including crop nutrients) and environmental, health and safety issues in countries in which we operate can be expected to result in requirements that apply to us and our operations that may be more stringent than those described elsewhere in this report. These requirements may include:

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- Increased levels of future investments and expenditures for environmental controls at ongoing operations, which will be charged against income from future operations; increased levels of the financial assurance requirements to which we are subject, and increased efforts or costs to obtain permits or denial of permits.
- New or interpretations of existing statutes or regulations that impose new or more stringent standards, restrictions or liabilities related to elevated levels of naturally-occurring radiation that arise on formerly mined land and other matters that could increase our expenses, capital requirements or liabilities or adversely affect our business, liquidity or financial condition.

### **Environmental justice considerations could have a material adverse effect on our business, financial condition or results of operations.**

The U.S. federal and some state governments increasingly are adopting standards or policies requiring environmental justice reviews in some permitting actions. In general, they require governmental agencies to evaluate projects for disproportionate impacts to disadvantaged or already burdened communities. If such conditions are found, they might result in a permit denial, or restrictive or cost prohibitive conditions imposed on our operations and may impair our business and operations and could have a material adverse effect on our business, financial condition or results of operations.

### **We are subject to financial assurance requirements as part of our routine business operations. If we were unable to satisfy financial assurance requirements, we might not be able to obtain or maintain permits we need to operate our business as we have in the past. In addition, our compliance with these requirements could materially affect our business, results of operations or financial condition.**

In many cases, as a condition to obtaining or maintaining permits and approvals or otherwise, we are required to comply with financial assurance requirements of governmental authorities. The purpose of these requirements is to provide comfort to the government that sufficient funds will be available for the ultimate closure, post-closure care or reclamation of our facilities.

In some cases, we comply through the satisfaction of applicable state financial strength tests; but if we are unable to do so, we must utilize alternative methods of complying with these requirements; if we do not, we would be prevented from continuing our operations and also could be subject to enforcement proceedings brought by relevant government agencies. Alternative compliance methods include providing credit support in the form of cash escrows or trusts, surety bonds from surety or insurance companies, letters of credit from banks, or other forms of financial instruments or collateral to satisfy the financial assurance requirements. Use of alternative means of financial assurance imposes additional expense on us and could affect our liquidity.

We have included additional discussion about financial assurance requirements under “Off-Balance Sheet Arrangements and Obligations–Other Commercial Commitments” in our Management’s Analysis.

**Regulatory restrictions on greenhouse gas emissions and climate change regulations in the U.S., Canada or elsewhere could adversely affect us, and these effects could be material.**

Various governmental initiatives to limit greenhouse gas emissions are under way or under consideration around the world. These initiatives could restrict our operating activities, require us to make changes in our operating activities that would increase our operating costs, reduce our efficiency or limit our output, require us to make capital improvements to our facilities, increase our energy, raw material and transportation costs or limit their availability, or otherwise adversely affect our results of operations, liquidity or capital resources, and these effects could be material to us.

Governmental greenhouse gas emission initiatives include, among others, the December 2015 agreement (the “**Paris Agreement**”) which was the outcome of the 21<sup>st</sup> session of the Conference of the Parties under the United Nations Framework Convention on Climate Change (“**UNFCCC**”). The Paris Agreement, which was signed by nearly 200 nations, including the U.S. and Canada, entered into force in late 2016 and sets out a goal of limiting the average rise in temperatures for this century to below 2 degrees Celsius. Each signatory is expected to develop its own plan (referred to as a Nationally Determined Contribution, or “**NDC**”) for reaching that goal.

Previously, the U.S. had submitted an NDC aiming to achieve, by 2025, an economy-wide target of reducing greenhouse gas emissions by 26-28% below its 2005 level. The NDC also aims to use best efforts to reduce emissions by 28%. The U.S. target covers all greenhouse gases that were a part of the 2014 Inventory of Greenhouse Gas Emissions and Sinks. While the status of this NDC is unclear, various legislative or regulatory initiatives relating to greenhouse gases have been adopted or

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considered by the U.S. Congress, the EPA or various states and those initiatives already adopted may be used to implement a U.S. NDC. Additionally, more stringent laws and regulations may be enacted to accomplish the goals set out in the NDC.

Brazil ratified the Paris Agreement in September 2016, committing to an NDC that includes an economy-wide target of 1.3 GtCO<sub>2</sub>e by 2025 and 1.2 GtCO<sub>2</sub>e by 2030. In 2020, Brazil submitted a new NDC, which reaffirms the country's commitment to reducing total net greenhouse gas emissions by 37% in 2025 and by 43% in 2030. The NDC further commits to achieving climate neutrality in 2060. Complete details surrounding Brazil's plan for achieving the greenhouse gas emissions reductions and climate neutrality are uncertain. The government of Brazil may intervene with new or different policy instruments to meet the goals set out in the 2020 NDC.

Canada's intended NDC aims to achieve, by 2030, an economy-wide target of reducing greenhouse gas emissions by 40-45% below 2005 levels. The Canadian federal government has also introduced legislation establishing a long-term target of "net-zero" greenhouse gas emissions by 2050. More stringent laws and regulations may be enacted to accomplish the goals set out in Canada's NDC and Canada's own long-term emissions reduction targets.

In March 2022, the SEC issued proposed rules on climate change disclosure requirements that, if adopted as proposed, will require disclosure of extensive detailed climate-related information. The Company is monitoring the SEC's proposed rules and recently enacted standards in the European Union and California on climate change disclosure and is taking necessary steps to plan for the anticipated or adopted disclosure requirements. It is possible that such legislation and other future legislation or regulation addressing climate change, including the Paris Agreement or any new international agreements, could adversely affect our operating activities, energy, raw material and transportation costs, results of operations, liquidity or capital resources, and these effects could be material or adversely impact our competitive advantage. In addition, to the extent climate change restrictions imposed in countries where our competitors operate, such as India, China, Russia, Belarus or Morocco, are less stringent than in the U.S., Canada or Brazil, our competitors could gain cost or other competitive advantages over us.

**We use tailings, sediments and water dams and other impoundments to manage residual materials generated by our facilities, including Brazilian mining operations. If our safety procedures are not effective, an accident involving these impoundments could result in serious injuries or death, damage to property or the environment, or result in the shutdown of our facilities, any of which could materially adversely affect our results of operations.**

Mining and processing of potash and phosphate generate residual materials that must be managed both during the operation of the facility and upon facility closure. Potash tailings, consisting primarily of salt and clay, are stored in surface disposal sites. Phosphate residuals from mining or processing are deposited in large tailing dams and in clay settling areas and phosphogypsum stacks. They are regularly monitored to evaluate structural stability and for leaks. The failure of or a breach at any of our impoundments at any of our operations could cause severe property and environmental damage and loss of life, could result in the shut down or idling of our facilities and could have a material adverse effect on our results of operations.

Brazilian federal and state governments have new rules regarding tailings dam safety, construction, licensing and operations. We cannot predict the full impact of these rules or potentially related judicial actions, or future actions, or whether or how it would affect our Brazilian operations or customers.

Any accident involving our tailings or other dams, or any shut down or idling of our related mines, could have a material adverse effect on our results of operations.

### **Competitive Risks**

#### **Our competitive position could be adversely affected if we are unable to participate in continuing industry consolidation.**

Most of our products are readily available from a number of competitors, and price and other competition in the crop nutrient industry is intense. In addition, crop nutrient production facilities and distribution activities frequently benefit from economies of scale. As a result, particularly during pronounced cyclical troughs, the crop nutrient industry has a long history of consolidation. Mosaic itself is the result of a number of industry consolidations. We expect consolidation among crop nutrient producers to continue. Our competitive position could suffer to the extent we are not able to expand our own resources either through consolidations, acquisitions, joint ventures or partnerships. In the future, we may not be able to find suitable companies to combine with, assets to purchase or joint venture or partnership opportunities to pursue. Even if we are able to locate desirable opportunities, we may not be able to enter into transactions on economically acceptable terms. If we

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do not successfully participate in continuing industry consolidation, our ability to compete successfully could be adversely affected and result in the loss of customers or an uncompetitive cost structure, which could adversely affect our sales and profitability.

### **Our strategy for managing market and interest rate risk may not be effective.**

Our businesses are affected by fluctuations in market prices for our products, the purchase price of key inputs to operations, freight and shipping costs, foreign currency exchange rates and interest rates. We periodically enter into derivatives and forward purchase contracts to mitigate some of these risks. However, our strategy may not be successful in minimizing our exposure to these fluctuations. See “Market Risk” in our Management’s Analysis and Note 15 of our Notes to Consolidated Financial Statements which sections are incorporated herein by reference.

### **A shortage or unavailability of trucks, railcars, tugs, barges and ships for carrying our products and the raw materials we use in our business could result in customer dissatisfaction, loss of production or sales and higher transportation or equipment costs.**

We rely heavily upon truck, rail, tug, barge and ocean freight transportation to obtain raw materials needed at our mines and concentrates facilities and to deliver our products to our customers. In addition, the cost of transportation is an important part of the final sale price of our products. Finding affordable and dependable transportation is important in obtaining our raw materials and to supply our customers. Higher costs for these transportation services or an interruption or slowdown due to factors including high demand, high fuel prices, labor disputes, layoffs or other factors affecting the availability of qualified transportation workers, adverse weather or other environmental events, or changes to rail, barge or ocean freight systems, could negatively affect our ability to produce our products or deliver them to our customers, which could affect our performance and results of operations.

Strong demand for grain and other products and a strong world economy increases the demand for and reduces the availability of transportation, both domestically and internationally. Shortages of railcars, barges and ocean transport for carrying product and increased transit time may result in customer dissatisfaction, loss of sales and higher equipment and transportation costs. In addition, during periods when the shipping industry has a shortage of ships, the substantial time needed to build new ships prevents rapid market response. Delays and missed shipments due to transportation shortages, including vessels, barges, railcars and trucks, could result in customer dissatisfaction or loss of sales potential, which could negatively affect our performance and results of operations.

### **Our success will continue to depend on our ability to attract and retain highly qualified and motivated employees.**

Our continued success depends on the collective abilities and efforts of our employees. A significant number of our employees, including some of our most highly skilled employees with specialized expertise in general corporate matters, potash and phosphates operations, will approach retirement age throughout the next decade. In addition, we compete for a talented workforce with other businesses, particularly within the mining and chemicals industries, in general, and the crop nutrients industry, in particular. Our expansion plans are

highly dependent on our ability to attract, retain and train highly qualified and motivated employees who are essential to the success of our ongoing operations as well as to our expansion plans. If we were to be unsuccessful in attracting, retaining and training the employees we require, our ongoing operations and expansion plans could be materially and adversely affected.

**Our most important products are global commodities, and we face intense global competition from other crop nutrient producers that can affect our prices and volumes.**

Our most important products are concentrated phosphate crop nutrients, including diammonium phosphate, or DAP, monoammonium phosphate, or MAP, MicroEssentials® and muriate of potash, or MOP. We sell most of our DAP, MAP and MOP as global commodities. Our sales of these products face intense global competition from other crop nutrient producers.

Changes in competitors' production or shifts in their marketing focus have in the past significantly affected both the prices at which we sell our products and the volumes that we sell, and are likely to continue to do so in the future. Increases in the global supply of DAP, MAP and MOP or competitors' increased sales into regions in which we have significant sales could adversely affect our prices and volumes.

Competitors and new entrants in the markets for both concentrated phosphate crop nutrients and potash have in recent years expanded capacity, or begun, or announced plans, to expand capacity or build new facilities. The extent to which current

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global or local economic and financial conditions, changes in global or local economic and financial conditions, or other factors may cause delays or cancellation of some of these ongoing or planned projects, or result in the acceleration of existing or new projects, is unclear. In addition, certain of our products sold to China may be subject to additional tariffs due to ongoing trade tensions between China and the U.S. The level of exports by Chinese producers of concentrated phosphate crop nutrients depends to a significant extent on Chinese government actions to curb exports through, among other measures, prohibitive export taxes at times when the government believes it desirable to assure ample domestic supplies of concentrated phosphate crop nutrients to stimulate grain and oilseed production.

The other member of Canpotex is among our competitors who may, in the future, independently expand its potash production capacity at a time when each Canpotex member's respective shares of Canpotex sales is based upon that member's respective proven peaking capacity for producing potash. When a Canpotex member expands its production capacity, the new capacity is added to that member's proven peaking capacity based on a proving run at the maximum production level. Alternatively, Canpotex members may elect to rely on an independent engineering firm and approved protocols to calculate their proven peaking capacity. Antitrust and competition laws prohibit the members of Canpotex from coordinating their production decisions, including the timing of their respective proving runs. Worldwide potash production levels could exceed then-current market demand, resulting in an oversupply of potash and lower potash prices.

All of the foregoing events are beyond our control. The effects of any of these events occurring could be materially adverse to our results of operations.

**Some of our competitors and potential competitors have greater resources than we do, which may place us at a competitive disadvantage and adversely affect our sales and profitability. These competitors include state-owned and government-subsidized entities in other countries.**

We compete with a number of producers throughout the world, including state-owned and government-subsidized entities. Some have greater total resources than we do, and may be less dependent on earnings from crop nutrients sales than we are. In addition, some of these entities have access to lower cost or government-subsidized natural gas supplies, mining rights and reserves, financing, transportation and tax incentives, placing us at a competitive disadvantage. Furthermore, certain governments as owners of some of our competitors may be willing to accept lower prices and profitability on their products in order to support domestic employment or other political or social goals. To the extent other producers of crop nutrients enjoy competitive advantages or are willing to accept lower profit levels, the price of our products, our sales volumes and our profits may be adversely affected.

### **Industry Risks**

**Future product or technological innovation could affect our business.**

Future product or technological innovations by third parties, such as the development of seeds that require less crop nutrients, the development of substitutes for our products or developments in the application of crop nutrients, if they occur, could have the potential to



adversely affect the demand for our products and our results of operations, liquidity and capital resources.

**The success of our strategic initiatives depends on our ability to effectively manage them, and to successfully integrate and grow acquired businesses.**

We have significant ongoing strategic initiatives. They involve capital and other expenditures and require effective project management and, in the case of potential strategic acquisitions, successful integration. To the extent the processes we (or, for our joint venture, we together with our joint venture partners) put in place to manage these initiatives or integrate and grow acquired businesses are not effective, our capital expenditure and other costs may exceed our expectations or the benefits we expect from these initiatives might not be fully realized, or both, thereby resulting in adverse effects on our operating results and financial condition.

**Cyberattacks could disrupt our operations and have a material adverse impact on our business.**

We utilize and rely upon information technology systems in many aspects of our business, including internal and external communications and the management of our accounting, financial, production and supply chain functions. As we become more dependent on information technologies to conduct our operations, and as the number and sophistication of cyberattacks increase, the risks associated with cybersecurity increase. These risks apply to us, our employees, and to third parties on whose systems we rely to conduct our business. To our knowledge, we have not experienced any material cybersecurity

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incidents of our technology systems. Failure to effectively anticipate, prevent, detect and recover from the increasing number and sophistication of cyberattacks could result in theft, loss or misuse of, or damage or modification of our information, and cause disruptions or delays in our business, reputational damage and third-party claims, which could have a material adverse effect on our results of operations or financial condition.

**Our crop nutrients and other products are subject to price and demand volatility resulting from periodic imbalances of supply and demand, which may cause our results of operations to fluctuate.**

Historically, the market for crop nutrients has been cyclical, and prices and demand for our products have fluctuated significantly. Periods of high demand, increasing profits and high capacity utilization tend to lead to new plant investment and increased production in the industry. This growth increases supply until the market is over-saturated, leading to declining prices and declining capacity utilization until the cycle repeats.

As a result, crop nutrient prices and volumes have been, and are expected to continue to be, volatile. This volatility may cause our results of operations to fluctuate and potentially deteriorate. The price at which we sell our crop nutrient products and our sales volumes could fall in the event of industry oversupply conditions, which could have a material adverse effect on our business, financial condition and results of operations. In contrast, high prices may lead our customers and farmers to delay purchasing decisions in anticipation of future lower prices, thus impacting our sales volumes.

Due to reduced market demand, depressed agricultural economic conditions and other factors, we have at various times suspended or curtailed production at some of our facilities. The extent to which we utilize available capacity at our facilities will cause fluctuations in our results of operations, as we will incur costs for any temporary or indefinite shutdowns of our facilities. In addition, lower sales tend to lead to higher fixed costs as a percentage of sales.

### **Financial Risks**

**During periods when the prices for our products are falling because of falling raw material prices, we could be required to write-down the value of our inventories. Any such write-down could adversely affect our results of operations and the value of our assets.**

We carry our inventories at the lower of cost or market. In periods when the market prices for our products are falling rapidly, including in response to falling market prices for raw materials, it is possible that we could be required to write-down the value of our inventories if market prices fall below our costs. Any such write-down could adversely affect our results of operations and the value of our assets. Any such effect could be material.

Our estimates of future selling prices reflect in part the purchase commitments we have from our customers. As a result, defaults on these existing purchase commitments because of the global or local economic and financial conditions or for other reasons could adversely affect our estimates of future selling prices and require additional inventory write-downs.

**We may incur significant non-cash charges if our goodwill or long-lived assets become impaired in the future.**

Under accounting principles generally accepted in the U.S. (“**GAAP**”), we review goodwill for impairment on an annual basis or more frequently if events or circumstances indicate that their carrying value may not be recoverable. Other long-lived assets, including property, plant and equipment, are reviewed if events or circumstances indicate that their carrying value may not be recoverable. The process of impairment testing involves a number of judgments and estimates made by management, including the fair values of assets and liabilities, future cash flows, our interpretation of current economic indicators and market conditions, overall economic conditions and our strategic operational plans with regard to our business units. If the judgments and estimates used in our analysis are not realized or change due to external factors, then actual results may not be consistent with these judgments and estimates, and our goodwill and intangible assets may become impaired in future periods. If our goodwill or long-lived assets are determined to be impaired in the future, we may be required to record non-cash charges to earnings during the period in which the impairment is determined, which could be significant and have an adverse effect on our financial condition and results of operations. We have, in the past, and may in the future, be required to write down the value of our goodwill or other long-lived assets, and such future write downs could be material. See Note 10, Goodwill and Note 26, Mine Closure Costs, in the accompanying consolidated financial statements for further information related to charges incurred in 2019.

**Changes in tax laws or regulations or their interpretation, or exposure to additional tax liabilities, could materially adversely affect our operating results and financial condition.**

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We are subject to taxes, including income taxes, resource taxes and royalties, and non-income based taxes in countries where we operate. Changes in tax laws or regulations or their interpretation could result in higher taxes, which could materially adversely affect our operating results and financial condition.

We are subject to periodic audits by various tax authorities in all countries where we have meaningful operations. The due process, audit and appeal practices and procedures of such authorities may vary significantly by jurisdiction, may be unpredictable (and unreliable) in nature and may result in significant risk to us. For various reasons, some governments may issue significant reassessments on audit based positions not fully grounded in law or fact, even though, upon disputing the reassessments, a great many are overturned on administrative appeal and through the court system. Certain systems involve tax litigation as a common practice. In certain countries, there are requirements to pay a reassessment (even though the matter has not been finally decided by the tax administration or a court of law) while the taxpayer has a well-supported objection and appeals administratively or in court. This may result in tying up significant funds and/or creating adverse treasury and credit risks that may interrupt, impede or otherwise materially affect our business operations.

**We extend trade credit to our customers and guarantee the financing that some of our customers use to purchase our products. Our results of operations may be adversely affected if these customers are unable to repay the trade credit from us or financing from their banks. Increases in prices for crop nutrient, other agricultural inputs and grain may increase this risk.**

We extend trade credit to our customers throughout the world, in some cases for extended periods of time. In Brazil, where there are fewer third-party financing sources available to farmers, we also have several programs under which we guarantee customers' financing from financial institutions that they use to purchase our products. As our exposure to longer trade credit extends throughout the world and use of guarantees in Brazil increases, we are increasingly exposed to the risk that some of our customers will not pay us or the amounts we have guaranteed. Additionally, we become increasingly exposed to risk due to weather and crop growing conditions, fluctuations in crop nutrient prices, commodity prices or foreign currencies, and other factors that influence the price, supply and demand for agricultural commodities. Significant defaults by our customers could adversely affect our financial condition and results of operations.

**Due to the global nature of our operations, we are exposed to currency exchange rate changes, which may cause fluctuations in earnings and cash flows.**

Our primary foreign currency exposures are the Canadian dollar and Brazilian real. The functional currency for our Brazilian subsidiaries is the Brazilian real. However, we finance our Brazilian inventory purchases with U.S. dollar-denominated liabilities. The functional currency of several of our Canadian entities is the Canadian dollar. For those entities, sales are primarily denominated in U.S. dollars, but the costs are paid principally in Canadian dollars. Canadian entities have significant U.S. dollar denominated intercompany loans and U.S. entities, with the U.S. dollar as functional currency, have Brazilian real denominated loans. During periods of local or global economic crises, local currencies may be devalued significantly against the U.S. dollar. During times of a strengthening dollar, our net earnings

can be reduced due to transaction currency losses arising from these exposures of U.S. dollar denominated liabilities held in the Brazilian and Canadian entities and Brazilian real denominated assets held in U.S. entities. To reduce economic risk and volatility on expected cash flows that are denominated in the Canadian dollar and Brazilian real, we use financial instruments that may include forward contracts, options or collars when unable to naturally offset the exposures.

**Item 1B. Unresolved Staff Comments.**

None.

**Item 1C. Cybersecurity.**

**Risk Management and Strategy**

As a global company, we utilize and rely upon information technology systems in many aspects of our business, including internal and external communications and the management of our accounting, financial, production and supply chain functions. As we become more dependent on information technologies to conduct our operations, and as the number and sophistication of cyberattacks increase, the risks associated with cybersecurity increase. Failure to effectively anticipate, prevent, detect, and recover from the increasing number and sophistication of cyberattacks could have a material adverse

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effect on our results of operations or financial condition. To our knowledge, we have not experienced any material cybersecurity incidents of our technology systems.

Mosaic's cybersecurity program is comprised of people, processes, and technology that are designed to adequately protect the confidentiality, integrity, and availability of information technology systems and data. Mosaic has strategically integrated cybersecurity risk management into our broader risk management framework to promote a company-wide culture of cybersecurity risk awareness. This integration ensures that cybersecurity considerations are an integral part of our decision-making processes at every level. We have a Governance Risk and Compliance team which is a dedicated team within the cybersecurity department that focuses on identifying and mitigating cybersecurity and compliance risk. The team works closely with the Information Technology department to continuously evaluate and address cybersecurity risks in alignment with our business objectives and operational needs. Our Enterprise Risk Management committee, which is comprised of members from our executive leadership team, reviews and evaluates key risks identified through cybersecurity risk management processes. Mosaic develops and continues to refine mitigation plans that adhere to industry best practices.

Regularly, Mosaic engages external vendors to provide independent insight to overall cybersecurity program effectiveness and to assist with evaluating response preparedness. As part of our third-party risk oversight, we regularly review the vendor's ratings and conduct assessments and interviews with their personnel. The results are then reported to leaders in the Information Technology department.

### **Governance**

#### Board of Director Oversight

The Board of Directors oversees Mosaic's Enterprise Risk Management program, and the Audit Committee is tasked with oversight of risk from cybersecurity threats. The Board receives an annual cybersecurity update while the Audit Committee receives reports from the Chief Information Security Officer ("CISO") and Chief Information Officer ("CIO") regularly. The reports to the Audit Committee include updates on key performance indicators and key risk indicators, including short-term, intermediate-term and emerging risks. The Audit Committee then briefs the Board on these matters. Ad hoc updates occur as needed.

#### Management's Role in Managing Risk

The Information Technology organization is led by the CIO who is responsible for cybersecurity and risk management, with oversight by the Audit Committee. The cybersecurity program is overseen by the Mosaic's CISO and supporting cybersecurity leadership, who lead teams to protect and preserve the confidentiality, integrity and continued availability of all information owned by, or in the care of, Mosaic. The CISO, along with the leadership team, possess many years of relevant Information Technology, cybersecurity, and risk management experience in the manufacturing, electric, defense, financial, and retail sectors. Educational backgrounds include advanced degrees and certifications, such as Certified Information Systems Security Professional. During the course of leadership team's careers, they have built and sustained programs protecting other Fortune 500 companies, critical national infrastructure, and military defense systems.

The CIO and CISO regularly update the Board and/or the Audit Committee on cybersecurity matters and the effectiveness of the cybersecurity program. The Board and Audit Committee also engage directly with senior leaders from the Information Technology department.

## **Item 2. Properties.**

### **SUMMARY OVERVIEW OF MINING**

As used in this Form 10-K, the terms “mineral resource,” “measured mineral resource,” “indicated mineral resource,” “inferred mineral resource,” “mineral reserve,” “proven mineral reserve” and “probable mineral reserve” are defined and used in accordance with S-K 1300. All determinates of mineral resources and mineral reserves have been prepared by qualified persons. Under S-K 1300, mineral resources may not be classified as “mineral reserves” unless the determination has been made by a qualified person that the mineral resources can be the basis of an economically viable project. Mineral resources are not mineral reserves and do not meet the threshold for mineral reserve modifying factors, such as estimated economic viability, that would allow for conversion to mineral reserves. There is no certainty that any part of the mineral resources estimated will be converted into mineral reserves.

Except for that portion of mineral resources classified as mineral reserves, mineral resources have not demonstrated economic value. Inferred mineral resources are estimates based on limited geological evidence and sampling and have too high of a degree of uncertainty to apply relevant technical and economic factors likely to influence the prospects of economic extraction in a manner useful for evaluation of economic viability. Estimates of inferred mineral resources may not be converted to a mineral reserve. It cannot be assumed that all or any part of an inferred mineral resource will be upgraded to a higher category. A significant amount of exploration must be completed to determine whether an inferred mineral resource may be upgraded to a higher category. Therefore, you are cautioned not to assume that all or any part of an inferred mineral resource exists, that it can be the basis of an economically viable project, or that it will be upgraded to a higher category.

### **Properties**

The subsections below describe the property locations, overviews and mineral resource and mineral reserve estimates. Our material properties, as determined pursuant to S-K 1300, are Florida Phosphates, Esterhazy, Belle Plaine and Tapira. Further information about these properties can be found in the technical report summaries (“**TRSS**” or “**TRS**”) filed as exhibits to this Form 10-K.

Except as otherwise stated, the scientific and technical information relating to Florida contained in this Form 10-K is derived from the 2022 S-K 1300 report for Florida titled “Florida Phosphate Mining Technical Report Summary” effective December 31, 2022 prepared by employees of Mosaic. Except as otherwise stated, the scientific and technical information relating to Belle Plaine and Esterhazy in this Form 10-K is derived from the 2021 S-K 1300 reports titled “Belle Plaine Potash Facility Technical Report Summary” and “Esterhazy Potash Facility Technical Report Summary” effective December 31, 2022 prepared by employees of Mosaic.

Except as otherwise stated, the scientific and technical information relating to Tapira contained in this Form 10-K is derived from the 2023 S-K 1300 report for Tapira titled “SEC S-K 1300 Technical Report Summary Mosaic Fertilizantes: Complexo Mineracao de Tapira”



effective December 31, 2023 prepared by qualified persons who are employees of WSP USA Inc., which is not affiliated with Mosaic.

### **Property Locations**

Figure 2.1 and Figure 2.2 show the locations of each Resource and Reserve property.

**Figure 2.1: North America Resource and Reserve Location Map**

North America Map.jpg

**Figure 2.2: South America Resource and Reserve Location Map**

Figure 2 2.jpg

## Property Overview

Annual Production

Table 2.1 shows the production tonnage and grade for all phosphate properties for 2023, 2022 and 2021.

**Table 2.1 Summary of Production - Phosphate Properties**

(in millions of tonnes)

		December 31,					
		2023		2022		2021	
Mine Property	Annual Operational Capacity (tonnes) <sup>(a)</sup>	Production		Production		Production	
	(b)	(tonnes)	%P <sub>2</sub> O <sub>5</sub> <sup>(c)</sup>	(tonnes)	%P <sub>2</sub> O <sub>5</sub> <sup>(c)</sup>	(tonnes)	%P <sub>2</sub> O <sub>5</sub> <sup>(c)</sup>
Phosphate (Grade: P <sub>2</sub> O <sub>5</sub> ) <sup>(c)</sup>							
Florida	14.0	9.1	27.8	9.6	27.6	11.1	28.0
Total United States	14.0	9.1	27.8	9.6	27.6	11.1	28.0
Miski Mayo <sup>(d)</sup>	4.8	4.7	29.7	4.2	29.7	4.2	29.8
Total Peru	4.8	4.7	29.7	4.2	29.7	4.2	29.8
Araxá / Patrocinio	1.1	0.9	34.7	0.9	34.5	0.8	34.9
Cajati	0.5	0.3	33.7	0.3	34.3	0.3	34.1
Catalão	1.0	1.0	34.8	1.1	34.8	1.1	34.9
Tapira	2.0	1.7	35.2	1.9	35.1	1.8	35.1
Total Brazil	4.6	3.9	34.9	4.2	34.8	4.0	34.9
Total Phosphate	23.4	17.7	29.9	18.0	29.8	19.3	29.8

- (a) Annual operational capacity is the expected average long-term annual capacity for finished goods considering constraints represented by the grade, quality and quantity of the reserves being mined as well as equipment performance and other operational factors.
- (b) Actual production varies from annual operational capacity shown in the above table due to factors that include, among others, the level of demand for our products, the quality of the reserves, the nature of the geologic formations we are mining at any particular time, maintenance and turnaround time, mechanical failure, weather conditions, and other operating conditions.
- (c) The percent of P<sub>2</sub>O<sub>5</sub> represents a measure of the phosphate content in phosphate rock or a phosphate ore body. A higher percentage corresponds to a higher percentage of phosphate content in phosphate rock or a phosphate ore body.

- (d) We have a 75% economic interest in the Miski Mayo Mine and consolidate its results. Miski Mayo's annual operating capacity and production tonnes are presented at 100% economic interest. These amounts are presented in wet tonnes based on average moisture levels of 3.0% to 5.0%. These quantities are the production of the drying plant.

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Table 2.2 shows the production tonnage and grade for the potash properties for 2023, 2022 and 2021.

**Table 2.2 Summary of Production - Potash Properties**

(in millions of tonnes)

Facility	Annualized Proven Peaking Capacity (tonnes) <sup>(a)</sup> (b)	Annual Operational Capacity (tonnes) <sup>(b)</sup> (c)(d)	December 31,					
			2023		2022		2021	
			Ore Mined (tonnes)	Grade % K <sub>2</sub> O <sup>(e)</sup>	Ore Mined (tonnes)	Grade % K <sub>2</sub> O <sup>(e)</sup>	Ore Mined (tonnes)	Grade % K <sub>2</sub> O <sup>(e)</sup>
Belle Plaine – MOP <sup>(f)</sup>	3.9	3.0	10.2	19.3	11.3	19.3	11.0	19.3
Esterhazy – MOP <sup>(i)</sup>	6.3	6.3	14.1	23.4	13.7	24.5	13.3	23.9
Colonsay – MOP <sup>(g)</sup>	2.6	1.5	1.8	25.6	2.6	26.4	1.0	26.6
<b>Total Canada</b>	<b>12.8</b>	<b>10.8</b>	<b>26.1</b>	<b>21.9</b>	<b>27.6</b>	<b>22.5</b>	<b>25.3</b>	<b>22.0</b>
Carlsbad – K-Mag <sup>®(h)</sup>	0.9	0.7	2.3	6.7	3.0	6.2	3.1	6.3
<b>Total United States</b>	<b>0.9</b>	<b>0.7</b>	<b>2.3</b>	<b>6.7</b>	<b>3.0</b>	<b>6.2</b>	<b>3.1</b>	<b>6.3</b>
Taquari – MOP	0.7	0.5	1.8	14.7	1.5	14.3	1.8	15.1
<b>Total Brazil</b>	<b>0.7</b>	<b>0.5</b>	<b>1.8</b>	<b>14.7</b>	<b>1.5</b>	<b>14.3</b>	<b>1.8</b>	<b>15.1</b>
<b>Total Potash</b>	<b>14.4</b>	<b>12.0</b>	<b>30.2</b>	<b>20.3</b>	<b>32.1</b>	<b>20.6</b>	<b>30.2</b>	<b>20.0</b>

(a) Represents full capacity based on 350 operating days per annum.

(b) Capacity is based on finished goods capacity, not ore mined. The annualized proven peaking capacity shown above is the capacity currently used to determine our share of Canpotex sales. Canpotex members' respective shares of Canpotex sales are based upon the members' respective proven peaking capacities for producing potash. When a Canpotex member expands its production capacity, the new capacity is added to that member's proven peaking capacity based on a proving run at the maximum production level. Alternatively, after January 2017, Canpotex members may elect to rely on an independent engineering firm and approved protocols to calculate their proven peaking capacity. The annual operational capacity reported in the table above can exceed the annualized proven peaking capacity until the proving run has been completed.

(c) Annual operational capacity is the expected average long-term annual capacity considering constraints represented by the grade, quality and quantity of the reserves being mined as well as equipment performance and other operational factors.

- (d) Actual production varies from annual operational capacity shown in the above table due to factors that include, among others, the level of demand for our products, the quality of the reserves, the nature of the geologic formations we are mining at any particular time, maintenance and turnaround time, mechanical failure, weather conditions, and other operating conditions, as well as the effect of recent initiatives intended to improve operational excellence.
- (e) Grade % K<sub>2</sub>O is a traditional reference to the percentage (by weight) of potassium oxide contained in the ore. A higher percentage corresponds to a higher percentage of potassium oxide in the ore.
- (f) Equivalent to tonnes hoisted to surface at an underground shaft mine. Ore mined for Belle Plaine is calculated (KCl concentrate mined by solution divided by the estimated global grade of the deposit). The calculation is based on actual KCl tonnes mined for January 1, 2023 through December 31, 2023).
- (g) We have the ability to reach an annual operating capacity of 2.1 million tonnes over time at Colonsay by increasing our staffing levels and investment in mine development activities.
- (h) K-Mag<sup>®</sup> is a specialty product that we produce at our Carlsbad facility.
- (i) Following completion of our Esterhazy K3 expansion project, a third-party audit assessed our Esterhazy Facility's annual nameplate capacity at 7.8 million tonnes. We are currently working with Canpotex through established procedures to determine our adjusted Canpotex entitlement percentage based on our Esterhazy Facility's audited productive capacity.

## Overview

Overviews for Phosphates, Potash and Mosaic Fertilizantes are shown in Table 2.3, Table 2.4, and Table 2.5 below. All properties are operated by Mosaic. All properties listed below are production stage, except Araxá/Patrocínio. Araxá/Patrocínio is an operating mine but is considered an exploration stage mine because Mosaic is extracting minerals from this

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mine without having determined there are mineral reserves under S-K 1300. Information concerning our material properties is located in this Item 2 under the headings “Florida Phosphates,” “Esterhazy,” “Belle Plaine” and “Tapira”.

**Table 2.3: Phosphates Overview**

### **Florida Phosphates**

See Florida Phosphates Individual Property Disclosure below.

### **Peru - Compañía Minera Miski Mayo S.R.L. (“Miski Mayo”)**

Location	Sechura Province in the Piura Region, Peru
Type and amount of ownership interests	75% owned by Compañía Minera Miski Mayo S.R.L., a wholly-owned indirect subsidiary of Mosaic.
Titles, mineral rights, leases or options and acreage	Miski Mayo is the holder of 20 non-metallics mining concessions (76,000 hectares).
Key permit conditions	<p>Permit conditions are dictated by operating licenses, which are maintained and renewed on a regular basis. As of December 31, 2023, all environmental licenses were either still valid or were being renewed pursuant to applications with the Peruvian Environmental Agency within the legal deadlines.</p> <p>In general, environmental commitments are being met; however, there are environmental requirements and commitments related to the expansion of Miski Mayo Line 3 of the Second Amendment of the EIA (2015) that have to be verified and implemented.</p> <p>Miski Mayo’s environmental controls are related to monitoring the quality of wastewater, surface water, groundwater and air, as well as waste management. Additional environmental controls are in place for air emissions, air quality and noise.</p> <p>Tailings storage facilities and other impoundment’s stability are monitored through specified routine internal and third party inspections.</p>
Mine types and mineralization styles	Miski Mayo is a surface mine. The phosphate deposits of Peru are located within the shallow north-trending Sechura Basin, in the Piura region, hosting successive inter-layered marine sediments of phosphate. We extract phosphate ore from Miski Mayo using excavators. The ore is then transported by truck for beneficiation in a plant that we own. The beneficiated concentrate is then shipped to North America for use in our own production or sold to third parties.
Processing plants and other facilities	Beneficiation plant

**Table 2.4: North America Potash Overview**



**Belle Plaine Potash Facility (“Belle Plaine Facility”)**

See Belle Plaine Individual Property Disclosure below.

**Esterhazy Potash Facility (“Esterhazy Facility”)**

See Esterhazy Individual Property Disclosure below.

**Colonsay Potash Facility (“Colonsay Facility”)**

Location	Saskatchewan, Canada
Type and amount of ownership interests	100% owned by Mosaic Potash Colonsay ULC, a wholly-owned, indirect subsidiary of Mosaic.

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Titles, mineral rights, leases or options and acreage	<p>We lease approximately 118,378 acres of mineral rights for the Colonsay Facility from the Province of Saskatchewan (the “<b>Crown</b>”) under Subsurface Mineral Lease KL 108. The lease term is for a period of 21 years, with renewals at our option for additional 21-year lease periods.</p> <p>In addition, we own or lease approximately 14,451 acres of mineral rights within the Colonsay area. All mineral properties owned or leased by Mosaic are for the “subsurface mineral” commodity as defined in The Subsurface Mineral Tenure Regulations (Saskatchewan).</p> <p>We own approximately 5,972 acres of surface rights in the Colonsay area. All infrastructure including the processing plant and tailings management areas ( “<b>TMA</b>s” or “<b>TMA</b>”) are located on our owned land.</p>
Key permit conditions	<p>A water rights license issued by the Saskatchewan Water Security Agency is in place and expires in 2032. The license is associated with the allocation of surface water rights for the site. An Approval to Operate Pollutant Control Facilities, issued by the Saskatchewan Ministry of Environment, is also in place and expires in July 2028. It is expected to be renewed at or before expiration.</p> <p>There are no other significant encumbrances, including permitting requirements (existing or anticipated in the future) associated with the Colonsay Facility. Except for the royalties, we do not anticipate any future significant encumbrances based on current known regulations and existing permitting processes. There are no outstanding violations and fines.</p>
Mine types and mineralization styles	<p>The intracratonic Elk Point Basin is a major sedimentary geological feature in western Canada and the northwest U.S. It contains one of the world’s largest stratabound potash resources that represents almost 25% of the global potash production. The Prairie Evaporite hosts rich deposits of evaporite minerals including NaCl, KCl and locally, carnallite that occur in three potash deposits: the Esterhazy, Belle Plaine and Patience Lake members.</p> <p>The Colonsay deposit includes two potash-bearing members within its local stratigraphy; the Patience Lake Member and the Belle Plaine Member. Mining at Colonsay is conducted within the upper portion of the Patience Lake Member using a room and pillar mining method.</p> <p>The Colonsay Facility uses an underground room and pillar mining method to extract potash. After being transported along a network of conveyor systems to the shaft, it is hoisted to the surface for onsite processing.</p>
Processing plants and other facilities	Mill facility, beneficiation plant

### **Carlsbad Potash Facility (“Carlsbad Facility”)**

Location	New Mexico, U.S.
Type and amount of ownership interests	100% owned by Mosaic Potash Carlsbad Inc., a wholly-owned, indirect subsidiary of Mosaic.
	The property consists of 89% federally owned and 11% state owned land, and 40 acres of privately owned mineral rights that Mosaic leases. We lease approximately 64,267 acres of mineral rights from



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Primary environmental resource areas identified include groundwater quality and shorebird habitat. Environmental monitoring for effluents, air and surface/groundwater is in place.

Currently, 11 permits or approvals are active for the property. We are in compliance with all such permits or approvals. One of the 11, groundwater discharge permit (DP-1399) issued by the New Mexico Environmental Department (“**NMED**”), is currently being renewed. The discharge permit governs operation of the TMA. A tailings management and inspection plan is in place and active. The permit includes closure and post-closure requirements and financial assurance requirements.

Key permit conditions

A mining and reclamation plan has been developed and approved by the BLM. This plan includes standards for operation and closure of the mine that comply with federal and state of New Mexico environmental regulations. Current and final mine closure plans and reclamation cost estimates are completed and the closure plans have been approved by NMED and the BLM.

There are no significant environmental permitting encumbrances (existing or anticipated in the future) associated with the Carlsbad Facility. We do not anticipate any future encumbrances based on current known regulations and existing permitting processes. There are no outstanding violations and fines.

Mine types and mineralization styles

The Carlsbad potash district is located within the northern New Mexico portion of the Delaware Basin. The Delaware Basin is the western subdivision of the greater Permian Basin, one of the deepest intracratonic basins in North America.

Potash mineralization at Carlsbad occurs in the Ochoan Epoch (Upper Permian Age) Salado Formation. The Salado Formation, up to a maximum of 2,200 feet (671 m) ft. thick, is an evaporite sequence dominated by 650 to 1,300 feet (198 to 396 m) of halite and muddy halite. It hosts 12 ore zones, 11 in the middle or McNutt Member and the 12th in the Upper Member. The area underlain by the 12 ore zones is about 1,900 sq. miles (4,920 sq. km). The 400 foot (122 m) thick McNutt Member is at a depth of 300 to 1,500 feet (91 to 457 m) below the surface.

The Carlsbad Facility utilizes an underground room-and-pillar mining method. Pillars are cut in a manner that creates a panel; panel sizes can be changed based on grade, ground conditions and lease or oil and gas boundaries. The mine currently has five mine panels that consist of nine to 11 rooms. Drum-style continuous miners are utilized for mining. As the continuous miner advances, ore is fed off a boom located at the back of the miner into battery-powered ore haulage units. These units transport the ore through the open mine workings and dump it onto an extensive belt system that conveys the ore to the surface for milling.

Processing plants and other facilities

Langbeinite (K-Mag®) refinery and a granulation plant

**Table 2.5: Mosaic Fertilizantes Overview**

<b>Complexo Mineroquímico de Araxá (“Araxá”) / Complexo de Mineração de Patrocínio (“Patrocínio”)</b>	
Location	Near Araxá / Patrocínio, Minas Gerais, Brazil
Type and amount of ownership interests	100% owned by Mosaic Fertilizantes P&K S.A., a wholly-owned indirect subsidiary of Mosaic.
Titles, mineral rights, leases or options and acreage	Mining rights in Brazil are governed by the Mining Code, Decree 227, dated February 27, 1967, and further regulation enacted by Agência Nacional de Mineração (the “ <b>ANM</b> ”). All subsoil situated within Brazilian territory is deemed state property, with the mining activities subject to specific permits granted by the ANM.

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Mosaic currently holds a total of four mining permits within the Araxá area (2,769 hectares) and two mining permits and two exploration permits within the Patrocínio area (3,480 hectares). Permit conditions are dictated by operating licenses, which are maintained and renewed on a regular basis. As of December 31, 2023, all environmental licenses were valid or were being renewed pursuant to applications filed with the Brazilian Environmental Agency.

#### Key permit conditions

There are action plans in progress to comply with the environmental conditions of the permits that are not met yet within the applicable regulations. Araxá and Patrocínio's environmental controls are related to monitoring the quality of wastewater, surface water, groundwater and air, as well as waste management. Additional environmental controls are in place for air emissions, air quality and noise.

Tailings storage facilities and other impoundment's stability are monitored through a continuous monitoring program, as well as routine inspections.

#### Mine types and mineralization styles

The Araxá and Patrocínio phosphate deposits are part of a series of Late-Cretaceous, carbonatite-bearing alkaline ultramafic plutonic complexes belong to the Alto Paranaíba Igneous Province.

The tropical weather regime prevailing in the region and the inward drainage patterns developed from the weather-resistant quartzite margins of the dome structures resulted in the development of an extremely thick soil cover in most of the complexes. The extreme weathering was responsible for the residual concentration of apatite.

The phosphate ore is extracted through surface mining by limited drilling and blasting, loaded into trucks and transported to the beneficiation plants. Patrocínio does not have its own beneficiation plant, so the ore is transported by rail to Araxá for processing.

#### Processing plants and other facilities

Two beneficiation plants at Araxá

### **Complexo Mineralógico de Cajati ("Cajati")**

#### Location

Near Cajati, São Paulo, Brazil

#### Type and amount of ownership interests

100% owned by Mosaic Fertilizantes P&K S.A., a wholly-owned indirect subsidiary of Mosaic.

#### Titles, mineral rights, leases or options and acreage

Mining rights in Brazil are governed by the Mining Code, Decree 227, dated February 27, 1967, and further regulation enacted by the ANM. All subsoil situated within Brazilian territory is deemed state property, with the mining activities subject to specific permits granted by the ANM.

Mosaic currently holds a total of nine mining permits within the Cajati area (5,078 hectares). Permit conditions are dictated by operating licenses, which are maintained and renewed on a regular basis. As of December 31, 2023, all environmental licenses were still valid or were being renewed pursuant to applications filed with the Brazilian Environmental Agency.

There are action plans in progress to comply with the



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Processing plants and other facilities

Beneficiation plant

### **Complexo Mineração de Catalão (“CMC”)**

Location	Near Catalão, Minas Gerais (and Goiás), Brazil
Type and amount of ownership interests	100% owned by Mosaic Fertilizantes P&K S.A., a wholly-owned indirect subsidiary of Mosaic.
Titles, mineral rights, leases or options and acreage	Mining rights in Brazil are governed by the Mining Code, Decree 227, dated February 27, 1967, and further regulation enacted by the ANM. All subsoil situated within Brazilian territory is deemed state property, with the mining activities subject to specific permits granted by the ANM.
Key permit conditions	<p>Mosaic currently holds a total of eight permits within the CMC area (2,131 hectares). Permit conditions are dictated by operating licenses, which are maintained and renewed on a regular basis. As of December 31, 2023, all environmental licenses were either valid or were being renewed pursuant to applications filed with the Brazilian Environmental Agency.</p> <p>There are action plans in progress to comply with the environmental conditions that are not met yet within the environmental permits. CMC’s environmental controls are related to monitoring the quality of wastewater, surface and groundwater and air, as well as waste management. Additional environmental controls are in place for air emissions, air quality and noise.</p> <p>Tailings storage facilities and other impoundment’s stability are monitored through a continuous monitoring program as well as routine inspections.</p>
Mine types and mineralization styles	<p>The CMC phosphate deposit is part of a series of Late-Cretaceous, carbonatite-bearing alkaline ultramafic plutonic complexes belong to the Alto Paranaíba Igneous Province.</p> <p>The tropical weather regime prevailing in the region and the inward drainage patterns developed from the weather-resistant quartzite margins of the dome structures resulted in the development of an extremely thick soil cover in most of the complexes. The extreme weathering process was responsible for the residual concentration of apatite.</p> <p>The phosphate ore is extracted through surface mining by limited drilling and blasting, loaded into trucks and transported to the beneficiation plant onsite at CMC.</p>
Processing plants and other facilities	Beneficiation plant

### **Complexo Mineração de Tapira (“Tapira”)**

See the Tapira Individual Property Disclosure below.

### **Complexo Mineralógico de Taquari-Vassouras (“Taquari”)**

Location	Near Rosario de Catete, Sergipe, Brazil
Type and amount of ownership interests	100% owned by Mosaic Potássio Mineração Ltda, a wholly-owned indirect subsidiary of Mosaic.
	Mining rights in Brazil are governed by the Mining Code, Decree



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	<p>Mosaic currently holds one mining permit within the Taquari area (92,498 hectares). Permit conditions are dictated by operating licenses, which are maintained and renewed on a regular basis. As of December 31, 2023, all environmental licenses were either valid or being renewed pursuant to applications filed with the Brazilian Environmental Agency within the legal deadlines. Licenses are managed through national and state databases.</p>
Key permit conditions	<p>There are action plans in progress to comply with the environmental conditions that are not met yet within the environmental permits. Taquari's environmental controls are related to monitoring the quality of wastewater, surface water, groundwater and air, as well as waste management. Additional environmental controls are in place for air emissions, air quality and noise.</p> <p>The brine pipeline and other impoundment's stability are monitored through a monitoring program as well as routine inspections.</p>
Mine types and mineralization styles	<p>The deposit is in the Taquari-Vassouras sub-basin and is a bedded evaporite where sylvinites is mined in an underground room and pillar mine at depths of 1,640 to 2,207 feet (500 to 700m) below surface using continuous miners. The beneficiation process operation begins at the run-of-mine stockpile. The material is conveyed to the processing circuit where it is divided into seven major units: crushing, concentration, dissolution, drying, compaction, storage and shipping.</p>
Processing plants and other facilities	<p>Beneficiation plant</p>

## Mineral Resource and Mineral Reserve Estimates

Table 2.6 shows the Mineral Resource tonnage and grade for all properties as of December 31, 2023.

**Table 2.6 Summary of Mineral Resources as of December 31, 2023<sup>(a)</sup>**

(in millions of tonnes)

Commodity/ Geography/Mine Property Name	Measured Mineral Resources		Indicated Mineral Resources		Measured + Indicated Mineral Resources		Inferred Mineral Resources	
	tonnes	Grade	tonnes	Grade	tonnes	Grade	tonnes	Grade
<b>Phosphate (Grade: P<sub>2</sub>O<sub>5</sub>)<sup>(b)</sup></b>								
<b>United States</b>								
Florida <sup>(c)</sup>	102.0	29.9	415.0	30.1	517.0	30.0	83.0	30
<b>Peru</b>								
Miski Mayo <sup>(d)</sup>	151.7	15.7	139.0	16.3	290.7	16.5	27.7	16
<b>Brazil</b>								
Araxá/Patrocínio <sup>(e)(f)</sup>	214.4	13.0	305.2	13.7	519.6	13.4	7.0	15
Cajati <sup>(e)(g)</sup>	25.4	5.2	15.0	5.2	40.4	5.2	4.4	5
Catalão <sup>(e)(h)</sup>	59.5	9.9	102.8	10.6	162.3	10.3	17.9	9
Tapira <sup>(e)(i)</sup>	22.7	8.7	55.3	8.6	78.0	8.6	181.2	9
<b>Total Phosphate</b>	<b>575.7</b>	<b>16.0</b>	<b>1,032.3</b>	<b>19.9</b>	<b>1,608.0</b>	<b>17.7</b>	<b>321.2</b>	<b>15</b>
<b>Potash (Grade: K<sub>2</sub>O)<sup>(j)</sup></b>								
<b>Canada</b>								
Belle Plaine <sup>(k)</sup>	—	—	—	—	—	—	4,647.0	19
Esterhazy <sup>(l)</sup>	255.0	23.3	2,092.0	22.8	2,347.0	22.9	—	—
Colonsay <sup>(l)</sup>	—	—	—	—	—	—	977.0	29
<b>United States</b>								
Carlsbad <sup>(m)</sup>	—	—	—	—	—	—	39.0	6
<b>Brazil</b>								
Taquari <sup>(n)</sup>	—	—	6.8	23.6	6.8	23.6	58.0	23
<b>Total Potash</b>	<b>255.0</b>	<b>23.3</b>	<b>2,098.8</b>	<b>22.8</b>	<b>2,353.8</b>	<b>22.8</b>	<b>5,721.0</b>	<b>21</b>

(a) Mineral resources are reported exclusive of mineral reserves, and except as otherwise noted, are stated in-situ. Mineral resources are not mineral reserves and do not meet the threshold for mineral reserve modifying factors, such as estimated economic viability, that would allow for

conversion to mineral reserves. There is no certainty that any part of the mineral resources estimated will be converted into mineral reserves.

- (b) The percentage of  $P_2O_5$  represents a measure of the phosphate content in phosphate rock or a phosphate ore body. A higher percentage corresponds to a higher percentage of phosphate content in phosphate rock or a phosphate ore body. Brazilian grades, except for Cajati, are  $P_2O_{5ap}$ , which represents the  $P_2O_5$  associated with apatite and was calculated by the evaluation of the  $CaO / P_2O_5$  ratio. Where  $CaO / P_2O_5$  ratio was greater than or equal to 1.34,  $P_2O_{5ap}$  was equal to the total of  $P_2O_5$ ; where the  $CaO / P_2O_5$  ratio was less than 1.35,  $P_2O_{5ap}$  was equal to the  $CaO / 1.35$  ratio.
- (c) Mineral resource tonnages and grade are reported as a beneficiation plant product (phosphate rock) tonnage and  $P_2O_5$  grade. The cut-offs used to estimate mineral resources include, minimum beneficiation plant concentrate BPL (27.45%  $P_2O_5$ ), minimum pebble BPL (18.30%  $P_2O_5$ , except 22.88%  $P_2O_5$  for DeSoto and Pioneer), maximum pebble magnesium oxide concentration and a maximum clay content cut-off for a logged matrix layer and the composite matrix volume. A Life of Mine ("**LOM**") commodity price of US\$118/tonne of phosphate rock was used for 2024 to 2036 to assess prospects for economic extraction but is not used for cut-off purposes.



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- (d) Mineral resources are presented on the basis of our 75% interest. Cut-off grade of  $> 8\% \text{ P}_2\text{O}_5$  was applied for mineral resources. A breakeven pit shell was developed with costs, grade requirements and a sales price of US \$97.69/tonne of phosphate concentrate (2022 price evaluation) to develop the mineral resource pit shell.
- (e) Measured, indicated and inferred blocks were included in mineral resource estimates if they were inside mining concessions and exploration permits with a final report approved by the ANM, but exclusive of physical structures. For example, depending on the site, a physical structure may consist of a beneficiation plant, crusher or waste pile.
- (f) Araxá Oxidized Cut-off grade: Mass Recovery ( $\text{rend}_t$ )  $> 0$ ,  $\text{P}_2\text{O}_5 \geq 4.0$ ,  $\text{Fe}_2\text{O}_3 \geq 4.0$ ,  $\text{SiO}_2 \geq 0.05$ ,  $\text{BaO} \leq 18.0$ . Araxá Micaceous Cut-off grade: Cut-off grade for Micaceous: Mass Recovery ( $\text{rend}_t$ )  $> 0$ ,  $\text{P}_2\text{O}_5 \geq 3.0$ ,  $\text{Fe}_2\text{O}_3 \geq 6.0$ ,  $\text{SiO}_2 \geq 1.0$ ,  $\text{BaO} \leq 13.0$ . For Araxá, a revenue factor of 1.0 with sales price in Brazilian Reais (\$R) of R\$1,953 per tonne of phosphate concentrate (2023 price evaluation) was used to develop mineral resource pit shell. Patrocínio BEB-OXI Cut-off grade:  $\text{P}_2\text{O}_5 \geq 2.5$ ,  $\text{Fe}_2\text{O}_3 \leq 62.0$ . Patrocínio CBN-OXI Cut-off grade:  $\text{P}_2\text{O}_5 \geq 3.2$ ,  $\text{SiO}_2 \geq 0.1$ . Patrocínio BEB-MIC Cut-off grade:  $\text{P}_2\text{O}_5 \geq 3.0$ ,  $\text{SiO}_2 \geq 0.8$ . Patrocínio FET Cut-off grade:  $\text{P}_2\text{O}_5 > 0.0$ . Patrocínio RSI Cut-off grade:  $\text{P}_2\text{O}_5 \geq 2.9$ . For Patrocínio, a revenue factor of 1.0 with a sales price of R\$1,869.84 per tonne of phosphate concentrate (2023 LOM price evaluation) was used to develop mineral resource pit shell.
- (g) Cut-off grade of  $> 3\% \text{ P}_2\text{O}_5$  was applied for mineral resources. A revenue factor of 1.0 with sales price of R\$2,963.40 per tonne of phosphate concentrate (2023 LOM price evaluation) was used to develop the mineral resource pit shell.
- (h) Cut-off grade of  $\text{P}_2\text{O}_5\text{ap} \geq 5.0\%$  and  $0.8 \leq \text{RCP} \leq 1.6$  and  $\text{MgO} < 12\%$  was applied to mineral resources. A revenue factor of 1.0 with a constant sales price of R\$1,918.75 per tonne of phosphate concentrate (2023 LOM price evaluation) was used to develop mineral resource pit shell.
- (i) Cut-off grade of  $\text{P}_2\text{O}_5\text{ap} \geq 5.0\%$  and  $0.9 \leq \text{RCP} \leq 3.0$  was applied to mineral resources. A revenue factor of 1.0 with a sales price of R\$1,939.57 per tonne of phosphate concentrate (2023 LOM price evaluation) was used to develop the mineral resource pit shell.
- (j)  $\% \text{K}_2\text{O}$  refers to the total  $\% \text{K}_2\text{O}$  of the samples.
- (k) No cut-off grade is used to estimate mineral resources as the solution mining method used at the Belle Plaine Facility is not selective. At no point in the cavern development and mining process can a decision be made to mine or not mine the potash mineralization that is in contact with the mining solution. The mining solution dissolves the potash, regardless of its grade, to make a concentrate that is pumped to surface from the mining caverns for processing. A KCl commodity price of US \$325/tonne was used for 2024 to 2084 to assess prospects for economic extraction for the mineral resources but is not used for cut-off purposes. A US\$/CAD\$ exchange rate of 1.32 was used to assess prospects for economic extraction for the mineral resources but was not used for cut-off purposes.
- (l) No cut-off grade or value based on commodity price is used to estimate mineral resources as the mining method used at Colonsay or Esterhazy is not grade selective. The potash mineralization is mined on one level by continuous miners following the well-defined and continuous beds of mineralization with relatively consistent grades. The following KCl commodity prices were used to assess prospects for economic extraction for the mineral resources but are not used for cut-off purposes: US \$320/tonne for Esterhazy for 2024 to 2054 and US \$327/tonne for 2024 to 2116 for

Colonsay. A US\$/CAD\$ exchange rate of 1.32 was used to assess prospects for economic extraction for the mineral resources but was not used for cut-off purposes.

- (m) A 4% K<sub>2</sub>O cut-off grade with less than 2% kieserite is used to estimate mineral resources. This is consistent with the definition of mineable potash established by the U.S. Geological Survey. A US \$293/tonne price was used for 2024 to 2064 to assess economic viability for the mineral resources, but was not used for cut-off purposes.
- (n) Mineral resources for Taquari are reported as of December 31, 2022 and have not been adjusted for depletion incurred in 2023. Cut-off grade of > 20% KCl, a minimum sylvinite thickness of 1.8 m, and a minimum sylvinite percentage per block of 50% was applied for mineral resources.

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Table 2.7 shows the Mineral Reserve tonnage and grade for all properties as of December 31, 2023.

**Table 2.7: Summary of Mineral Reserves as of December 31, 2023<sup>(a)</sup>**

(in millions of tonnes)

Commodity/ Geography/Mine Property Name	Proven Mineral Reserves		Probable Mineral Reserves		Total Mineral Reserves	
	tonnes	Grade	tonnes	Grade	tonnes	Grade
<b>Phosphate (Grade: P<sub>2</sub>O<sub>5</sub>)<sup>(b)</sup></b>						
United States						
Florida <sup>(c)</sup>	47.0	27.8	65.0	26.8	112.0	27.2
Peru						
Miski Mayo <sup>(d)</sup>	130.2	16.1	72.1	15.0	202.3	15.7
Brazil						
Cajati <sup>(e)</sup>	38.1	5.4	21.0	5.4	59.1	5.4
Catalão <sup>(f)</sup>	62.3	10.5	8.9	10.1	71.2	10.4
Tapira <sup>(g)</sup>	131.7	9.1	311.9	8.9	443.6	9.0
<b>Total Phosphate</b>	<b>409.3</b>	<b>13.2</b>	<b>478.9</b>	<b>12.4</b>	<b>888.2</b>	<b>12.8</b>
<b>Potash (Grade: K<sub>2</sub>O)</b>						
Canada						
Belle Plaine <sup>(h)</sup>	264.0	19.3	388.0	19.3	652.0	19.3
Esterhazy <sup>(i)</sup>	113.0	23.0	402.0	20.7	515.0	21.2
Colonsay <sup>(i)</sup>	101.0	25.2	163.0	27.2	264.0	26.5
United States						
Carlsbad <sup>(j)</sup>	170.3	6.5	0.0	0.0	170.3	6.5
Brazil						
Taquari <sup>(k)</sup>	0.0	0.0	26.9	14.7	26.9	14.7
<b>Total Potash</b>	<b>648.3</b>	<b>17.7</b>	<b>979.9</b>	<b>21.1</b>	<b>1,628.2</b>	<b>19.7</b>

(a) A mineral reserve is the economically mineable part of a measured or indicated mineral resource, which includes diluting materials and allowances for losses that may occur when the material is mined or extracted. Reserves are measured as Run of Mine (“**ROM**”) unless otherwise noted.

(b) Brazil grades except for Cajati are P<sub>2</sub>O<sub>5</sub>ap, which represents the P<sub>2</sub>O<sub>5</sub> associated with apatite and was calculated by the evaluation of the CaO / P<sub>2</sub>O<sub>5</sub> ratio. Where CaO / P<sub>2</sub>O<sub>5</sub> ratio was greater than or equal to 1.34, P<sub>2</sub>O<sub>5</sub>ap was equal to the total of P<sub>2</sub>O<sub>5</sub>; where the CaO / P<sub>2</sub>O<sub>5</sub> ratio was less than 1.35, P<sub>2</sub>O<sub>5</sub>ap was equal to the CaO / 1.35 ratio.

- (c) Mineral reserve tonnages and grade are reported as a beneficiation plant product (phosphate rock) tonnage and  $P_2O_5$  grade. A LOM commodity price of US\$118/tonne of phosphate rock was used to assess prospects for economic extraction but is not used for cut-off purposes. Cut-off based on productivity factors per site have been applied to estimate mineral reserves. Recoverable Finished Product tonnes vs. Matrix Volume Mined ranges from 9.4 to 9.9%. Recoverable Finished Product tonnes vs. Total Volume Mined is 2.2%.
- (d) Mineral reserves are presented on the basis of our 75% interest. The reference point for cut-off grade and pit optimization analysis is tonnes of concentrate at a price of US\$97.69/tonne concentrate (2022 LOM price evaluation). We applied a cut-off grade of  $> 8\% P_2O_5$  mineral reserves. Additionally, we used a phosphate concentrate grade limitation of a minimum  $P_2O_5$  concentrate grade of 29.5% in the LOM plan.
- (e) The reference point for cut-off grade and pit optimization analysis is tonnes of concentrate at a price of R\$2,963.40/tonne concentrate (2023 price evaluation). Cut-off grade of  $> 3\% P_2O_5$  and  $< 11\% SiO_2$  was applied to mineral reserves. Mineral reserves were proven to be economic based on an internal transfer price of R\$1,061/tonne of phosphate rock (2023 LOM price evaluation) that was derived in the discounted cash flow and compared to the gross margin available.

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- (f) The reference point for cut-off grade and pit optimization analysis is tonnes of concentrate at a price of R\$1,918.75/tonne concentrate (2023 price evaluation). Cut-off grade of  $P_2O_5ap \geq 5.0\%$  and  $0.8 \leq RCP \leq 1.6$  and  $MgO < 12\%$  was applied to mineral reserves. Mineral reserves were proven to be economic based on internal transfer price of R\$649/tonne of phosphate rock (2023 LOM price evaluation) that was derived in the discounted cash flow and compared to the gross margin available.
- (g) The reference point for cut-off grade and pit optimization analysis is tonnes of concentrate at a price of R\$1,939.57/tonne concentrate (2023 price evaluation). Cut-off grade of  $P_2O_5ap \geq 5.0\%$  and  $0.9 \leq RCP \leq 3.0$  was applied to mineral reserves. Mineral reserves were proven to be economic based on internal transfer price of R\$543/tonne of phosphate rock (2023 LOM price evaluation) that was derived in the discounted cash flow and compared to the gross margin available.
- (h) No cut-off grade is used to estimate mineral reserves as the solution mining method used at the Belle Plaine Facility is not selective. At no point in the cavern development and mining process can a decision be made to mine or not mine the potash mineralization that is in contact with the mining solution. The mining solution dissolves the potash, regardless of its grade, to make a concentrate that is pumped to surface from the mining cavities for processing. Mine designs based on a solution mining method and design criteria are used to constrain mineral reserves within mineable shapes. The following KCl commodity prices were used to assess economic viability for the mineral reserves, but were not used for cut-off purposes, 2023-\$334/tonne, 2024-\$200/tonne, 2025-\$222/tonne, 2026-\$292/tonne, 2027-\$320/tonne and for the LOM \$331/tonne. A US\$/CAD\$ exchange rate of 1.32 was used to assess economic viability for the mineral reserves but was not used for cut-off purposes.
- (i) The following KCl commodity prices were used to assess economic viability for the mineral reserves: US \$320/tonne for Esterhazy, US \$325/tonne for Belle Plaine, and US \$327/tonne for Colonsay. A US\$/CAD\$ exchange rate of 1.32 was used to economic viability for the Esterhazy and Belle Plaine mineral reserves.
- (j) A 4%  $K_2O$  cut-off grade with less than 2% kieserite is used to estimate mineral reserves. This is consistent with the definition of mineable potash established by the U.S. Geological Survey. A US \$293/tonne price was used to assess economic viability for the mineral resources but was not used for cut-off purposes.
- (k) Mineral Reserves for Taquari are effective as of December 31, 2022 and have not been adjusted for depletion incurred in 2023. A tonnage reduction of 20% has been applied to the Probable mineral reserves to account for geological uncertainty. A KCl grade downgrade of -10% was applied to the Probable mineral reserves in order to adjust in-situ grades to ROM grades. A mean density of 2.10 g/cc was applied to all mineral reserve volumes to convert to tonnages. Cut-off grade of  $\geq 20\%$  KCl and a minimum sylvinite thickness of 1.8m was applied for mineral reserves. The reference point for the discounted cash flow utilized  $K_2O$  commodity prices (US\$) of \$418/tonne for 2022, \$369/tonne for 2023, \$353/tonne for 2024, \$324/tonne for 2025, \$330/tonne for 2026 and \$359 for the remaining LOM. Mineral reserves were proven to be economic based on a positive discounted cash flow.

## **FLORIDA PHOSPHATES**

Our three phosphate production stage mining facilities (South Fort Meade, Four Corners and Wingate) and three exploration properties (DeSoto, Pioneer and South Pasture) in Florida consist of over 210,000 acres of property in central Florida (Table 2.8 and Figure 2.3). We

idled the mining and beneficiation activities at South Pasture. The facilities and properties are in DeSoto, Hardee, Hillsborough, Manatee and Polk counties. Even though we continue to add real property to one or more of these locations, most of the property currently being mined or planned for future mining have been in industry ownership for over 50 years. The mining facilities and exploration properties are owned by or have controlling interest granted to Mosaic Fertilizer LLC, South Ft. Meade Land Management or South Ft. Meade Land Partnership, L.P. ("**SFMLP**"), each a subsidiary of Mosaic.

We either own or have a controlling interest in the mineral rights to the current and future facilities. Mineral and surface rights are joined at the Four Corners, Wingate, Pioneer and South Pasture properties. Portions of the DeSoto property and South Fort Meade facility have the surface and mineral interests severed.

The net book value for our Florida phosphate mining facilities and exploration properties is \$1.9 billion as of December 31, 2023.

Table 2.9 lists the land status and acreages for the facilities and properties.

**Table 2.8: Property Locations**

<b>Property</b>	<b>Location</b>
South Fort Meade Facility	Straddles the county line road beginning 1.3 miles (2.1 km) east of the City of Bowling Green and continuing another five miles (8 km). Located at 27.667195 N, 81.761349 W.
Four Corners Facility	Located in southeast Hillsborough County, northeast Manatee County and southwest Polk County. Located at 27.646144 N, 82.087305 W.
Wingate Facility	Most of the property associated with this mine is west of Duette Road and north of State Road 64. There is a portion of this property that exists on the east side of Duette Road that begins approximately three miles (2 km) north of State Road 64. Located at 27.504452 N, 82.132221 W.
DeSoto Property	This exploration property is bisected by State Road 70 and State Road 72 running east and west and the county line running north and south. A portion of the DeSoto property is owned fee simple and the mining interests on the remaining portion is secured by mineral rights. Located at 27.263018 N, 82.035208 W.
Pioneer Property	This exploration property is bisected by County Road 663 running north and south. Several local roads (Murphy, Bridges, Bennett and Post Plant) cross this parcel. Located at 27.439391 N, 81.940020 W.
South Pasture Property	The property is situated along a 10 mile stretch of State Road 64 and a seven mile stretch along Country Road 663. All parcels are bisected by County Road 663, State Road 62, State Road 64 and several local roads. The mining and beneficiation activities at this location have been idled. Located at 27.585787 N, 81.942888 W.

**Figure 2.3: Location Plan**

Florida Map.jpg

The table below includes only land holdings associated with our mining properties.

**Table 2.9: Property Status and Acreages**

	Status (Acres)				
	Florida Phosphate Property Status and Acreages				
	Fee Simple	Mining Agreement	Mineral Rights <sup>(b)</sup>	Lease	Total
South Fort Meade Facility	15,970	25,528 <sup>(a)</sup>	92	711	42,301
Four Corners Facility	55,647	—	—	—	55,647
Wingate Facility	8,761	—	—	—	8,761
DeSoto Property	24,113	8	18,943	—	43,064
Pioneer Property	26,017	—	—	—	26,017
South Pasture Property	38,928	—	—	—	38,928
Total	169,436	25,536	19,035	711	214,718

(a) The mining agreement relates to the SFMLP which is 100% controlled by Mosaic or its subsidiaries.

(b) All acres include surface rights with the exception of the DeSoto mineral rights.



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Governmental permits and approvals for mining are obtained from federal, state and county authorities, including the Environmental Resource Permit (“**ERP**”) issued by FDEP and permits required by Section 404 of the federal Clean Water Act. In connection with these permits, we are required to develop a reclamation plan with respect to these areas. The ERP is associated with a FDEP-approved reclamation plan that requires “acre for acre and type for type” reclamation to reclaim mined areas. Mitigation may also be required by ERP conditions which may also require conservation easements to provide permanent protection.

The integrated water use permit (“**IWUP**”) issued by the Southwest Florida Water Management District (“**SWFWMD**”) in 2012 authorizes the withdrawal of groundwater from underground aquifers through permitted wells to provide potable and production-water supplies in support of mining and other operations. The IWUP addresses all of our active mining operations. A separate water use permit (“**WUP**”) was issued by SWFWMD for the South Pasture property in 2017. The IWUP and the South Pasture WUP also regulate mine dewatering to avoid adverse impacts to wetlands and offsite properties. Both the IWUP and the WUP are 20 year permits expiring in 2032 and 2037, respectively.

Pre-mining development follows the issuance of regulatory permits. This involves ditch and berm construction for stormwater control, groundwater draw down mitigation where applicable, land clearing, installation of infrastructure and pre-mining dewatering (only for dragline mining).

There are no significant environmental permitting encumbrances, existing or anticipated, associated with the mining facilities and exploration properties. We do not anticipate any future encumbrances based on current known regulations and existing permitting processes. There are no material outstanding violations and fines.

### **Existing Infrastructure**

The three mining facilities are in rural central Florida located southeast of Tampa in Hardee, Hillsborough, Manatee and Polk counties. The sites are located in agricultural zones with associated population centers and easy access to multiple transportation hubs in central Florida. The three exploration properties are located south of the mining facilities. Each will utilize the same water, electrical, railway, and road networks as the active mines.

The mining facilities at South Fort Meade, Four Corners, Wingate and South Pasture commenced operations between 1981 and 1995, as noted below under “History and Exploration”. The phosphate mines have the infrastructure to meet our current production plans and long-range production goals. The current infrastructure includes major roads and highway access, railway support from CSX Transportation and electricity supplied by Duke Energy, TECO, PRECO, Florida Power and Mosaic cogeneration in associated distribution areas. Water supply is from Mosaic-owned deep wells and recycle sources. Current clay and tailings management areas footprints are expected to meet present demands, with additional capacity planned to meet the maximum volume and deposition rates from the 2023 LOM plan. An integrated operations center remotely controls certain functions at our Florida phosphate mines.

Additional infrastructure may be added to increase production reliability or flexibility. The assets currently in place are maintained through a workflow process that focuses on

proactive inspections and preventative maintenance, while trying to minimize reactive maintenance. Except for South Pasture, which is currently idled, minimal infrastructure is currently in place at the other exploration properties.

We expect the sites to continue to operate effectively during the LOM while continuing to maintain the built infrastructure and renewing the long-term agreements in place for the site's water, electricity, and logistics needs.

We focus on reliability-centered maintenance with the goal of extending the life of the majority of assets to align with the LOM plan. We expect that some infrastructure will need to be replaced as it reaches end of life and has been factored into the relevant capital cost requirements.

Phosphate mining in central Florida is a mature industry. A network of suppliers, machine shops, fabricators, and specialty contractors exist to support mining, and post-mining, land reclamation activities. Many large component vendors have branch offices in either Lakeland or Tampa, Florida. Engineering, design, and technical services are readily available in Bartow, Lakeland and Tampa, Florida.

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### **Mining Method**

Our mining operations in central Florida extract phosphate using surface mining techniques. The active mines utilize either electric walking draglines or dredges to remove overburden and mine phosphate ore (matrix). Matrix is hydraulically transported via centrifugal pumping systems to the beneficiation plant.

Pre-mining development follows the issuance of regulatory permits. This involves ditch and berm construction for stormwater control, groundwater draw down mitigation where applicable, land clearing, installation of infrastructure and pre-mining dewatering (only for dragline mining).

Development of the mine plan is based on several factors, including geological data, equipment, property boundaries, geotechnical considerations, clay impoundment, reclamation schedule, production (volume and quality) demands, permits (local, state and federal) and third-party agreements, such as agreements with local community groups, neighboring properties or NGO's which do not materially impair the mine plan. Production is monitored through dragline/dredge monitoring systems, mass-flow instrumentation on slurry pumping systems and pit surveys. In addition to draglines and dredges, heavy mobile equipment is used to support mining activities. While each mine is staffed with Mosaic personnel to handle production and maintenance, contractors are used on an as-needed basis.

### **Processing Recovery Method**

Phosphate matrix mined at the three mining facilities is processed through onsite beneficiation plants. The principal production components of the beneficiation plants consist of a washer, sizing system and flotation plant.

Matrix at each mine is slurried for transport to the beneficiation plant. After receiving matrix, washers separate minerals into four separate material groups. These are debris, pebbles, clay, and under-sized flotation feed. The pebble is one of the final products and the under-sized flotation feed material contains recoverable phosphate rock. The washers separate >1.0 mm phosphate product and the <1.0 mm slurry of liberated clay, sand and phosphate particles. The clay is removed with hydrocyclones and pumped to clay settling areas while the >0.1 mm sand and phosphate move on to the sizing section.

The >0.1 mm sand and phosphate is separated into different size fractions using hydrosizers. An upward flow of water is injected into the hydrosizer that forces the fine particles to rise and overflow the sizer, while the coarse particles gently fall and flow out the sizer's underflow. The segregated fine and coarse particles are then sent to the flotation plant so the phosphate can be separated from the sand.

The two-step flotation process, rougher flotation and cleaning flotation, is next utilized to separate phosphate from the sand. In the rougher flotation process, the phosphate mineral is recovered using flotation machines by adding fatty acid, oil, soda ash, and sodium silicate. To increase the recovered rougher phosphate grade, a second cleaning flotation process is used to remove the residual sand using amine.

### **History and Exploration**

Table 2.10 lists the important historical dates and events relevant to the mining facilities and exploration properties:

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**Table 2.10: History**

Date	Event/Activity
1881	Pebble phosphate discovered along the Peace River south of Fort Meade by Captain J. Francis LeBaron, chief engineer of a detachment of the Engineering Corps, United States Army.
1888	Phosphate rock first commercially mined along the Peace River.
1977	Farmland Industries purchased the Pioneer (eastern portion a.k.a. Hickory Creek) property.
1981	Beker Phosphate Company opened Wingate.
1983	Four Corners construction was completed. The operation was an equal partnership between IMC and W.R. Grace Corporation.
1985	Wingate was closed after Beker Phosphate Company filed for bankruptcy.
1985	Four Corners started production.
1986	IMC purchased Brewster Phosphates and closed the Lonesome Mine which would later be consolidated into Four Corners.
1986	Four Corners is idled due to market conditions.
1986	The DeSoto (also known as Pine Level) property is sold by AMAX Chemical Company to Consolidated Minerals, Incorporated.
1988	IMC gained 100% control of Four Corners.
1989	IMC restarted Four Corners.
1990	Wingate is acquired by Nu-Gulf.
1992	Wingate is reopened after a joint venture by Nu-Gulf and Royster Industries but closed later that year.
1993	IMC-Agrico is created by a joint venture between IMC and Agrico Chemical Company (a subsidiary of Freeport McMoRan).
1995	CF Industries opened and started production at South Pasture.
1995	Mobil Chemical Corporation opened and started production at South Fort Meade.
1996	Cargill Fertilizer (later Cargill Crop Nutrition) acquired South Fort Meade.
1996	DeSoto (a.k.a. Pine Level) and Ona (includes western portion of the Pioneer property) properties are sold by CMI to IMC-Agrico.
1997	IMC acquired Freeport McMoRan's share of IMC-Agrico.
1998	Wingate is reopened.
1999	Wingate is closed.
2002	Cargill Crop Nutrition acquired the Pioneer property (eastern portion a.k.a. Hickory Creek) from Farmland-Hydro.
2004	Cargill Crop Nutrition acquired and reopened the Wingate Facility.
2004	Mosaic created out of a merger between IMC and Cargill Crop Nutrition.
2005	Wingate is shutdown.
2006	The Fort Green site is closed permanently, and the property is consolidated into Four Corners and Wingate.
2008	Wingate is reopened.
2014	Mosaic acquired CF Industries' phosphate business in Florida, which included the South Pasture property.
2018	South Pasture Facility is idled.
2018	Ona (western portion) property is consolidated into Four Corners.
2020	South Fort Meade acquired the Eastern Reserves Phase I.
2022	South Fort Meade acquired the Eastern Reserves Phase II.





## **Geology and Mineralization**

The phosphate deposits of Florida are sedimentary in origin and part of a phosphate-bearing province that extends from southern Florida north along the Atlantic coast into southern Virginia. Sedimentary phosphate deposits consist of rock in which the phosphate mineral(s) occur in grains, pellets, nodules, and as phosphate replacement of calcium in the remains of animal skeletal material and excrement.

Florida has phosphate rock distributed along the entire peninsula with varying lateral extents and abundance. There are five phosphate districts recognized in Florida identified as Northern, Northeast, Hardrock, Southeast and Central. The phosphates of Florida occur in sedimentary rocks and are of secondary origin, having been redeposited either by mechanical or chemical action. During deposition, most of the carbonate platform was drowned, and deposition was widespread. The intensity of reworking by marine processes allows some deposits to remain relatively near their origins and contribute to massive deposits while others were transported and winnowed into deposits of nodules, grains and pellets.

All our phosphate deposits are located in the central Florida Phosphate District. The general description of the phosphatic deposits in central Florida consist of two geological facies. The phosphate bearing units are within the Bone Valley Member of the Peace River Formation and the Undifferentiated Member of the Peace River Formation within the South Florida Extension region of the Central District. The deposit characteristics transition from north east to the south west. The major phosphate bearing units in the north east consist of a productive Bone Valley Member with limited production in the Undifferentiated Member. The phosphate bearing units in the south west exhibit limited production in the Bone Valley Member and a productive Undifferentiated Member of the Peace River Formation.

The phosphate stratigraphy consists of 5 to 50 feet (1.5 to 15.2 m) thick, white to brown poorly graded quartz sand with varying abundance of reworked phosphate grains as waste overburden. The economic zone is 13 to 50 feet (4.0 to 15.2 m) thick, with a grade ranging from 27 to 35%  $P_2O_5$ . It consists of tan-gray to gray quartz sands, dark gray to dark gray-blue-green clays and silts with phosphate nodules and pellets present with phosphate grains and clasts predominate. There can be interbedded waste zones of 0 to 15 feet (0.0 to 4.6 m) thick comprised of beds of cream to green barren sandy clay, clays or dense dolomitic clays. The basal units are dark gray to black clays to phosphatic limestone rubble to beds of phosphatic limestone.

## **Mineral Resource and Mineral Reserve Assumptions and Modifying Factors**

The key mineral resource and mineral reserve assumptions and modifying factors are listed in Table 2.11.



**Table 2.11: Key Assumptions and Modifying Factors:**

Parameter	Value	TRS Section
Supporting Information	Regional geologic studies, 56,411 drill holes and greater than 40 years of mining history.	Section 7
Average total thickness of the phosphate mineralization	13 to 50 feet (4 to 15 m)	Section 6
Minimum Concentrate %P <sub>2</sub> O <sub>5</sub>	0.2745	Section 11
Minimum Pebble %P <sub>2</sub> O <sub>5</sub>	18.3 to 22.9%	Section 11
Maximum pebble magnesium oxide (“ <b>MgO</b> ”) cut-off volume	0.025	Section 11
Maximum Clay Content	40 to 50%	Section 11
Maximum Dragline Mining depth	85 feet (26 m)	Section 11
Maximum dredge mining depth	109 feet (33 m)	Section 11
Production Days per Year	365 days	Section 11
Mining Method	Dredge and dragline mining	Section 13
Production Rate	Approximately 9 to 13 million tonnes per year (2023-2033).	Section 13
	The cut-offs used to estimate mineral resources by site include, the minimum beneficiation plant concentrate BPL (%P <sub>2</sub> O <sub>5</sub> ), minimum pebble BPL (%P <sub>2</sub> O <sub>5</sub> ), maximum pebble magnesium oxide concentration and a maximum clay content cut-off for a logged matrix layer and the composite matrix volume.	
Mineral Resource Cut-offs		Section 11
Mineral Reserve Cut-off	Cut-off based on productivity factors per site have been applied to estimate mineral reserves.	Section 12
Mining Dilution	15.5 to 21.5% minimum pebble volume dilution and 10.3 to 16.0% minimum concentrate volume dilution.	Section 11
Mineral Resource Impurity Recovery	100%	Section 11
Mineral Reserve Pebble Impurity Recovery	93 to 98% Fe <sub>2</sub> O <sub>3</sub> , 97 to 115% aluminum oxide (“ <b>Al<sub>2</sub>O<sub>3</sub></b> ”), 87 to 100% CaO, 110 to 120% MgO	Section 12
Mineral Reserve Concentrate Impurity Recovery	92 to 96% Fe <sub>2</sub> O <sub>3</sub> , 88 to 105% Al <sub>2</sub> O <sub>3</sub> , 87 to 100% CaO, 95 to 102% MgO	Section 12
Processing Method	Beneficiation plants at the facilities consisting of washer, sizing and flotation processes.	Section 14
Mineral Resource Beneficiation Plant Recovery	100%	Section 11
Mineral Reserves Beneficiation Plant Recovery	Pebble: 87.8 to 97.2%, Concentrate: 68.5 to 79.5%	Section 12
Deleterious Elements and Impact	Major elements include MgO, pyrite (FeS <sub>2</sub> ) and Al <sub>2</sub> O <sub>3</sub> affecting flotation and filtering processes.	Section 10, 11,12



## Mineral Resource Estimates

Mosaic's phosphate mineral resources are reported as a beneficiation plant product (phosphate rock) tonnage and  $P_2O_5$  grade, including a total primary impurities ratio ("**MER**").

The geological information used to estimate the phosphate mineral resources for the mining facilities and exploration properties is based on drilling and sampling. The mineral resource estimates are completed using a proprietary software that applies specific grade, physical and impurity limits to the raw drill data of the property. These factors are used to select material that contains sufficient grade, limited impurities and is physically extractable to be included in the mineral resource estimate. The confidence and classification of the mineral resources is estimated based on the drill density of the evaluated area.

Mineral resources that are not mineral reserves have not demonstrated economic viability utilizing the criteria and assumptions required.

The methodology for estimating mineral resources consists of interpreting the available geological data to create composites of lithological units that meet the specified criteria. These composites are then mapped to determine the mineral resource boundary. The boundary is then trimmed to account for permit and mine boundary limitations. The composite data is also used to create a geologic model composed of volume, density, grade, and impurity grids created using inverse distance weighted as the interpolation method. Elevation grids are created using triangulation based on LiDAR (Light Detection and Ranging) or survey data assigned to each drill hole. A utility macro is used to adjust elevations to account for holes with no matrix that meets the mine requirements. The data from each grid is then volumetrically combined using product volumes for the specific mineral resource shape and mineral resource classification creating a block of uniform constituents. Estimation of mineralization tonnage, grade and impurities is done by applying the volume weight percent of pebble, feed, and clay for the given mineral resource shape.

Additional details regarding the estimation methodology are listed in Section 11 of the 2022 Florida Phosphate Mining TRS filed as an Exhibit to this Form 10-K.

Table 2.12 lists the total mineral resource estimates. Mineral resources are reported exclusive of the mineral reserves.

**Table 2.12: Mineral Resources at the End of the Fiscal Year Ended December 31, 2023 Based on a LOM Plan Phosphate Rock Price of \$103 per tonne<sup>(a)(b)(c)(d)(f)</sup>**

(tonnes in millions)

Category	Tonnes <sup>(e)</sup>	Grade % $P_2O_5$ <sup>(e)</sup>	Cut-off Grade	Metallurgical Recovery %
Measured	102.0	30.0	n/a	100 %
Indicated	415.0	30.1	n/a	100 %
<b>Measured + Indicated</b>	<b>517.0</b>	<b>30.1</b>	n/a	100 %
Inferred	83.0	30.0	n/a	100 %

- (a) Mineral resources are not mineral reserves and do not meet the threshold for mineral reserve modifying factors, such as estimated economic viability, that would allow for conversion to mineral reserves. There is no certainty that any part of the mineral resources estimated will be converted into mineral reserves.
- (b) Mineral resources are reported as mineralization (matrix) tonnage, grade and impurities after beneficiation.
- (c) Mineral resources assume dragline mining at all sites except Wingate mine where dredging is assumed.
- (d) Mineral resources amenable to a dragline mining method are contained within a conceptual mine pit design using the same technical parameters as used for mineral reserves.
- (e) The cut-offs used to estimate mineral resources include: minimum beneficiation plant concentrate BPL (27.45%P<sub>2</sub>O<sub>5</sub>), minimum pebble BPL (18.30%P<sub>2</sub>O<sub>5</sub>, except 22.88%P<sub>2</sub>O<sub>5</sub> for DeSoto and Pioneer), maximum pebble magnesium oxide concentration and a maximum clay content cut-off for a logged matrix layer, and the composite matrix volume.
- (f) A LOM commodity price of \$103 per tonne of phosphate rock was used to assess prospects for economic extraction but is not used for cut-off purposes.

The mineral resource estimated tonnage and grades did not change from 2022 to 2023.

## Mineral Reserve Estimates

Mosaic's estimated mineral reserves are located at the South Fort Meade, Four Corners and Wingate mine facilities and are reported as a beneficiation plant product (phosphate rock) tonnage and  $P_2O_5$  grade including a total MER. Mineral reserves have demonstrated economic viability utilizing the criteria and assumptions required at each phosphate facility and meet all the mining criteria required including, but not limited to mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social, and governmental factors.

The methodology for estimating mineral reserves consists of interpreting the available geological data to create composites of lithological units that meet the specified reserve criteria. A utility macro is used to apply reserve plant volume recoveries, adjust insoluble limits to the geologic model and to adjust elevations grids to account for holes with no matrix that meets the mine requirements. Dragline or dredge pit design work and scheduling are applied to the geologic model by the mine planner. Tonnes, grades and product quality are estimated by applying the mining shapes to the geological model. The data from each grid is then volumetrically combined using product volumes for the specific mine pit shape creating a block of uniform constituents. The recoverable tonnes of pebble and feed for the entire mine pit are calculated based on the area of the mine pit. The beneficiation plant grade recoveries are then applied to the recoverable feed tonnes to estimate the mineral reserves and recoverable concentrate tonnes.

Additional details regarding the estimation methodology are listed in Section 12 of the 2022 Florida Phosphate Mining TRS filed as an Exhibit to this Form 10-K.

The mineral reserve estimates are listed in Table 2.13.

**Table 2.13: Mineral Reserves at the End of the Fiscal Year Ended December 31, 2023 Based on a LOM Plan Phosphate Rock Price of \$118 per tonne<sup>(a)(b)(c)(d)(e)</sup>**

(tonnes in millions)

Category	Tonnes	Grade % $P_2O_5$	Metallurgical Recovery %
Proven	47	27.8	Pebble: 84.9 to 100%, Concentrate: 67.7 to 76.0%
Probable	65	26.8	Pebble: 84.9 to 100%, Concentrate: 67.7 to 100%
<b>Proven + Probable</b>	<b>112</b>	<b>27.2</b>	Pebble: 84.9 to 100%, Concentrate: 67.7 to 76.0%

(a) South Fort Meade and Four Corners mineral reserves are mined by a dragline mining method. Wingate mineral reserves are mined by dredge mining.



- (b) Cut-off based on productivity factors per site have been applied to estimate mineral reserves. Recoverable finished product tonnes vs. matrix volume mined ranges from 9.4-9.9%. Recoverable finished product tonnes vs. total volume mined is 2.2%,
- (c) Mine designs are used to constrain measured and indicated mineral resources within mineable pit shapes.
- (d) Only after a positive economic test and inclusion in the LOM plan are the mineral reserve estimates considered and disclosed as mineral reserves.
- (e) A commodity price of \$118 per tonne of phosphate rock was used to assess the economic viability of the mineral reserves in the LOM.

### **Mineral Resources and Mineral Reserves Comparison**

As of December 31, 2023, we had mineral reserves of 112 million tonnes compared to 126 million in the prior year, resulting in a decrease of 11% for proven reserves. Changes in mineral reserve tonnage from the prior year are the result of mining depletion, re-evaluations and mineral reserve acquisitions.

## **BELLE PLAINE**

The Belle Plaine Facility is in the rural municipality of Pense (No. 160) in the province of Saskatchewan, Canada. It is located north of the TransCanada Highway (Hwy. 1) approximately 32 miles (51 km) west of Regina (Figure 2.4). It is the oldest and largest potash solution mine in the world. Coordinates for the Belle Plaine Facility are +50° 25' 39.57, -105° 11' 53.87" +50° 25' 39.57," -105° 11' 53.87".

We lease 53,133 acres of mineral rights from the Crown under Subsurface Mineral Lease KL 106-R. Table 2.14 lists additional information regarding the lease. Table 2.15 outlines the lease acreage designated by township and section. The lease term is for a period of 21 years from July 2012, with renewals at the Company's option for additional 21-year periods.

In addition, we own 16,523 acres of mineral rights within the Belle Plaine area as shown in Table 2.16 below. All mineral titles owned or leased by us include "subsurface minerals," which under The Subsurface Mineral Tenure Regulations, 2015 (Saskatchewan) means "all-natural mineral salts of boron, calcium, lithium, magnesium, potassium, sodium, bromine, chlorine, fluorine, iodine, nitrogen, phosphorus and sulfur, and their compounds, occurring more than 197.0 feet (60.0 m) below the surface of the land". Other commodities (e.g., petroleum and natural gas, coal, etc.) may be included within mineral rights we lease or own but are not specifically sought after when acquired.

Within the total acreage leased from the Crown or owned by us are parcels of land where we own or lease less than a 100% share of the mineral rights. 100% control by lease or ownership is required for mineral extraction. Acreages currently not mineable for this reason are listed in Table 2.17 below.

There are no significant environmental permitting encumbrances, existing or anticipated in the future, associated with the Belle Plaine Facility. We do not anticipate any future encumbrances based on current known regulations and existing permitting processes. There are no outstanding fines or material violations.

The net book value for Belle Plaine is \$0.9 billion as of December 31, 2023.

**Figure 2.4: Location Plan**

Belle Plaine Map.jpg

**Table 2.14: Mineral Lease**

Crown Lease			
Number	Type	Area (Ha)	Expiration Date
KL 106-R	Subsurface Mineral Lease	21,501	July 1, 2033

**Table 2.15: Sections and Acreages Owned by the Crown**

Township/Range	Sections of Mineral Rights Owned by Crown*	Area of Mineral Rights Owned by Crown (acres)
18/21	2/100	12
19/21	4-13/16	3,087
17/22	4-14/16	3,118
18/22	9-10/16	6,166
19/22	9-6/16	5,991
17/23	9-11/16	6,201
18/23	14-13/16	9,475
17/24	7-1/16	4,500
18/24	18-7/16	11,813
18/25	4-5/16	2,768
Total	83-2/100	53,131

\*Full sections range from 640 acres to 644 acres; total acreage shown above is based on 640 acres per section where actual survey acreage is not available.

**Table 2.16: Sections and Acreages of Mosaic Owned Mineral Rights**

Township/Range	Sections of Mineral Rights Owned by Mosaic*	Area of Mineral Rights Owned by Mosaic (acres)	Area of Full Quarter Sections Owned by Mosaic (acres)
17/23	11-2/16	7,121	6,069
18/23	7-1/16	4,831	4,057
17/24	7-11/16	4,922	3,526
18/24	5-6/16	3,441	2,871
Total	31-4/16	20,315	16,523

\*Full sections range from 640 acres to 644 acres; total acreage shown above is based on 640 acres per section where actual survey acreage is not available.

**Table 2.17: Partial Mineral Rights Area**

<b>Township/Range</b>	<b>Sections of Crown Mineral Rights Leased by Mosaic, Currently Not Mineable*</b>	<b>Crown Mineral Rights Leased by Mosaic, Currently Not Mineable (acres)</b>
18/22	1-2/100	652
19/22	1-7/100	682
18/23	38/100	241
17/24	39/100	250
18/24	97/100	624
Total	3-83/100	2,449

\*Full sections range from 640 acres to 644 acres; total acreage shown above is based on 640 acres per section where actual survey acreage is not available.

### **Existing Infrastructure**

The Belle Plaine Facility consists of a mining area and a processing plant. Based on the current mine life, the mineral reserves support mining for 61 years. The processing plant consists of a refinery and cooling pond. The Belle Plaine Facility has the infrastructure in place to meet the current production goals and LOM plan. The current infrastructure includes major

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road and highway access, railway support from Canadian National Railway (“**CNR**”) and Canadian Pacific Railway (“**CPR**”), SaskPower-supplied electricity, Trans Gas-supplied natural gas and potable and non-potable water supplied from a local fresh water source. The current Tailings Management Area (“**TMA**”) footprint is designed to support the volume and deposition rates indicated in the 2023 LOM plan.

The main source of water (non-potable) required for production is provided by SaskWater from Buffalo Pound Lake, an 18 mile (29 km) long, 0.6 mile (1 km) wide lake with an average depth of 10 ft. (3 m), located northwest of the mine (Figure 15-1). Buffalo Pound Lake also supplies potable water for the cities of Regina, Moose Jaw and surrounding regions. Water levels are controlled by the SaskWater Security Agency and managed through the Lake Diefenbaker Dam. SaskWater operates a dedicated pumping station located on the south shore of Buffalo Pound Lake near the eastern edge of the lake with capacity of approximately 13,000 US gallons per minute. There are three on duty pumps and a fourth on standby to ensure steady supply. Belle Plaine typically runs two pumps to meet the current water needs with the other pumps providing peaking capacity for future mining. Potable water is supplied for the site from the Buffalo Pound Water Treatment facility that is operated by SaskWater. Belle Plaine also has a tie-in to the potable water line that feeds the City of Regina.

SaskPower provides a portion of the power required to run the Belle Plaine Facility. This power comes in off their main grid that could be fed from any number of power plants, along the highline running north and south along Kalum Road. A total of 138 kV comes into the Belle Plaine substation through overhead lines where it is then stepped down to 13.8 kV using two transformers (28 MVA and 33.3 MVA) to their substation where there is also a 138 kV grounding transformer and a 138 kV gas insulated switchgear lineup. The Belle Plaine Facility generates power from the site powerhouse from two turbine generators. Typically, the total required Belle Plaine power requirement is 90% in-house generated power with the remaining being 10% fed from SaskPower. Belle Plaine does not have the option to send power back to the SaskPower grid.

From the on-site substation, 13.8 kV transformer secondary wires are fed to 13.8 kV switchgear lineup in the Powerhouse to MCC rooms throughout the plant area and mine area. Belle Plaine uses overhead and buried cables throughout the mine area and cable trays in the refinery for the 13.8 kV wires. Belle Plaine owns a 138 kV air disconnect that is tied into SaskPower.

SaskEnergy supplies natural gas to the Belle Plaine Facility. The gas flows from the main lines into a local regulator station situated just north of the administration building and powerhouse. This station takes the high-pressure feed from the main lines and cuts it down through on-site filtration and also does some pre-heating to provide low pressure gas directly to the facility.

There are a variety of local or site roads on or to the Belle Plaine property. These are typically gravel roads. Roads around the processing plant are paved.

CNR and CPR are available to the Belle Plaine Facility to move final product to port. There is a tri party joint operating agreement among Mosaic, CPR and CNR which governs the joint operation and interaction of all parties for freight services at the Mosaic Belle Plaine Facility.

The Belle Plaine Facility is located between the cities of Moose Jaw and Regina, Saskatchewan. Moose Jaw has a population of approximately 34,000 people and is located 17 miles (28 km) west of the Belle Plaine Potash Facility.

The Belle Plaine Facility workforce primarily lives in Regina and Moose Jaw. Belle Plaine Facility personnel are typically trained through a variety of trades programs offered at the Saskatchewan Polytechnic campuses, the University of Regina or the University of Saskatchewan.

The province of Saskatchewan offers a large variety of suppliers for the potash mine operators. The potash industry in Saskatchewan is very mature which makes it easier to attract vendors to support the needs of the various mine sites throughout the province.

Saskatoon and Regina both have large industrial sectors with a variety of machine shops and industrial support services. Some specialty services are provided from the Alberta oil and gas industry.

Supplies are sourced locally, regionally and internationally based on availability or commercial considerations. Lead times and on-hand inventory are balanced to meet the needs of the site.

### **Mining Method**

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The Belle Plaine Facility accesses the potash mineral reserves remotely by solution mining the ore. Paired wells are directionally drilled, cased, and cemented to the base of the potash beds and are then connected underground using proprietary potash mining techniques. Solution mining can target extraction of the potash (“**KCl**”) beds. Current mining practices allow for all three potash beds in the Prairie Evaporite formation to be recovered. Water, or a weaker brine, is injected into the cavern to return a salt saturated and potash rich brine. This fluid is pumped through pipelines from the mining area and sent to the refinery complex as raw feed for further processing. The total life cycle of each cavern is approximately 25 years. Once the potash recovery is exhausted, each cavern is plugged and decommissioned in accordance with local government regulations.

The current production capacity of the Belle Plaine Facility is 3.2 million finished KCl tons/year (2.9 million finished tonnes/year).

Capability is scheduled to ramp up to support a finished tonnage projection of 3.3 million tons (3.0 million tonnes) per year and will do so until drilling is completed in the year 2066 at which point there will be a ramp down in production until 2084.

The 2023 Belle Plaine LOM plan based on mineral reserves has a total mine life of 61 years, ending in 2084.

### **Processing Recovery Method**

The Belle Plaine Facility processing plant receives KCl-NaCl rich brine, known as raw feed, from the mine and achieves KCl recovery through the refinery and cooling pond areas. Well established solubility curves of H<sub>2</sub>O-NaCl-KCl systems are utilized to monitor the selective dropout of products in the process.

The refinery subjects the raw feed brine from the mining area to changing temperatures and pressures that selectively precipitates the NaCl and then the KCl out of solution in different stages of the process. Selective drop out of NaCl is achieved through two parallel lines of evaporators that heat the brine with steam that is generated on-site through natural gas fired boilers. The heating of the raw feed brine results in water liberation, causing NaCl to concentrate in the brine and then precipitate out of solution. After the brine is conditioned in the evaporator circuit, it is pumped to the thickener area for clarification and then pumped into a crystallizer circuit for KCl recovery. The crystallizer circuit subjects the process brine to a vacuum that allows further boiling, creating a cooling effect on the brine. As the brine cools, the KCl is forced to precipitate out of solution. The solid KCl is withdrawn from the crystallizer vessel as a slurry and pumped to the dewatering and drying area. The brine that overflows the crystallizer circuit, which still contains some dissolved KCl and NaCl, is fed to the cooling pond area for further KCl recovery.

The cooling pond area consists of multiple ponds that are fed with brine from the refinery and with raw feed brine from the mining area. The ponds facilitate atmospheric cooling, which allows KCl to preferentially precipitate out of the brine and then settle to the bottom of the ponds. The cooling pond area contains several KCl dredges that are comprised of a cutter wheel that fluidizes the deposited KCl from the bottom of a cooling pond and a slurry pump that moves the KCl slurry toward the dewatering and drying areas.



The dewatering and drying area removes the bulk of the brine in the slurry through process equipment and then conveys the KCl product into natural gas fired industrial dryers. The dried KCl product is then fed into the sizing area or compaction area for compacting, crushing, and screening processes to achieve product size specifications. Finished product is then conveyed to the on-site storage area, where it is held until being reclaimed, rescreened and shipped off-site, primarily through rail.

Site production is expected to increase to a stabilized 3.0 million tonnes per year until the year 2066, at which time the site will stop drilling new cavities and ramp down production to 2084. The site's ability to produce at a sustained 3.0 million tonnes per year in future years is backed by a Canpotex proving run in 2016/2017, in which the Belle Plaine Facility achieved a production nameplate of 12,179 tons/day. Total site processing recovery will average approximately 79% throughout the remaining life of the mine and is dependent on sustained drilling activities. Future projections are modeled with mass and energy balance software to predict the future production and recovery capabilities.

### **History and Exploration**

The Belle Plaine Facility started production in 1964, after a period of significant research into solution mining, potash recovery and processing plant construction. Table 2.18 summarizes the important historical dates and events for the Belle Plaine Facility.

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**Table 2.18: History**

Date	Event/Activity
1928	Discovery of evaporites in the sedimentary sequence in Saskatchewan.
1956 to 1966	Pittsburgh Plate Glass completed significant research and development over a decade and published several research papers concerning solution mining and potash recovery.
1960	A pilot solution mining project located at the current site was constructed, convincing Pittsburgh Plate Glass to develop the first commercial potash solution mining operation in the world based on the pilot plant results. The first exploration well drilled at the Belle Plaine property was Standard Chemical Stony Beach #1 in August 1960. Fourteen additional exploration wells were drilled from August 1960 to June 1968.
1963	Kalium Chemicals, Ltd, a joint subsidiary of Pittsburgh Plate Glass and Armour and Co. started construction of the original processing plant for a capacity of 0.544 million tonnes annually. The main plant construction consisted of the North and South evaporators (all 8), crystallizers #1 to #4, #1 and #2 compactor systems, #1 to #5 beehive warehouses, loadout building and the office and maintenance buildings.
1964	Mine and processing plant construction completed and production commences. The first rail car of potash was produced and shipped in August.
1968	Capacity expansion to 0.9 million tonnes per year. Main assets added included three more crystallizers (#5, #6 and #7), a third cooling tower, a sixth beehive warehouse and a barn style warehouse #7, a fluid bed dryer and filter table and a third boiler.
1980 to 1984	Two capacity expansions, first to 1.1 million tonnes and the second to 1.5 million tonnes per year. The major assets added included bucket elevators for each product, the fine fluid bed dryer, #4 compactor, reheat system barometric, additional galleries and conveyors to the warehouse (1A), cooling ponds, scrubbers and the Cold Leach Area.
1989	Belle Plaine Facility sold to Sullivan & Proops (Vigoro).
1990s	Capacity expansion to 2.0 million tonnes per year. Assets added included the K-Life System, #4 Turbo Generator, dual conveyors, conversion of the compaction system and additional compactors installed.
1995	IMC purchased Belle Plaine.
1998	The first 2D seismic survey at the Belle Plaine mine site was completed. A total of 160 line km was completed covering an area of approximately 5.4 sq. miles (14 sq. km).
2000	The first 3D seismic survey at the Belle Plaine Facility was completed, providing critical geological information about the geology of the potash members. This has become a critical tool used to provide confidence in the interpretation of the potash mineralization.
2001	The 2001 Belle Plaine Facility 3D seismic survey was completed. The survey covered approximately 5 sq. miles (13 sq. km) and was adjacent to and merged with the 2000 survey. This survey program utilized 35 miles (56 km) of source lines and 45 miles (72 km) of receiver lines.
2004	Mosaic created out of a merger between IMC and Cargill Crop Nutrition.
2005	The 2005 Belle Plaine Facility 3D seismic survey was completed. The survey covered approximately 4 sq. miles (11 sq. km) and was adjacent to and merged with previous 3D surveys. This survey program utilized 29 miles (47 km) of source lines and 34 miles (55 km) of receiver lines.
	The 2008 3D seismic survey covered approximately 28 sq. miles (72 sq. km) and was adjacent to and merged with previous 3D surveys. This



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2010	The Pense 3D seismic survey was completed that covered approximately 15 sq. miles (40 sq. km) and was adjacent to and merged with the previous 3D surveys. This survey program consisted of 136 miles (219 km) of source lines and 129 miles (208 km) of receiver lines.
2014	Plant upgrades included the adding and commissioning of Compaction #6.
2016/2017	The site's ability to produce at a sustained 3.0 million tonnes per year in future years was validated through a "proving run" completed in 2016 when the Belle Plaine Facility achieved a proven peak capacity of 3.9 million tonnes per year.
2019	Plant upgrades were completed, consisting of adding the east thickener and advanced dewatering techniques.
2020	Two production wells were cored in 2020 to support the grade interpretation and calibration of the gamma geophysical logging system. The recent calibration check has been evaluated by a third party potash consultant to ensure applicability of the method regarding sample quality grade estimation.

## **Geology and Mineralization**

The intracratonic Elk Point Basin is a major sedimentary geological feature in western Canada and the northwest U.S. It contains one of the world's largest stratabound potash resources. The nature of this type of deposition is largely continuous with predictable depths and thickness. It is mined at several locations, including Mosaic's Esterhazy Facility.

Potash at the Belle Plaine Facility occurs conformably within Middle Devonian-age sedimentary rocks ranging in thicknesses from approximately 100 to 131 feet (30.0 to 40.0 m) at a depth of approximately 5,345 to 5,740 feet (1,630 to 1,750 m).

The Prairie Evaporite Formation, host to the potash mineralization, is divided into a basal lower salt and an overlying unnamed unit containing three potash-bearing units and one unit containing thin marker beds. In ascending order, the potash horizons in the upper unit are the Esterhazy Member, White Bear Marker Beds, Belle Plaine Member, and Patience Lake Member. Mineralogically, these members consist of sylvite and halite with minor amounts of carnallite (KCl, MgCl<sub>2</sub>, 6H<sub>2</sub>O).

The Esterhazy, Belle Plaine, and Patience Lake members underly the Belle Plaine property. Also present are the White Bear Formation marker beds which occur between the Belle Plaine and Esterhazy members but are of insufficient thickness to be minable.

The following is a summary of the key stratigraphic units for the Belle Plaine Facility area:

- Patience Lake Member: The uppermost member of the Prairie Evaporite Formation with potash production potential. Between the top of the Prairie Evaporite and the top of the Patience Lake Member is a 0 to 45 feet (0.0 to 14.0 m) thick unit of halite with clay bands called the Salt Back. The sylvite-rich horizons within the Patience Lake Member are mined using conventional underground mining techniques along a trend

from Vanscoy to Lanigan in the Saskatoon area and by solution mining techniques at Belle Plaine.

- Belle Plaine Member: The Belle Plaine Member underlies the Patience Lake Member and is separated from it by a zone of low grade sylvinite. The Belle Plaine Member is mined using solution mining techniques at the Belle Plaine Facility.
- White Bear Formation: The White Bear Formation consists of marker beds that are a distinctive unit of thin interbedded clay, halite, and sylvinite horizons that are not minable due to insufficient thicknesses of only 4.0 to 5.0 feet (1.2 to 1.5 m).
- Esterhazy Member: The Esterhazy Member is separated from the Belle Plaine Member by the White Bear Formation marker beds, a sequence of clay seams, low-grade sylvinite, and halite. The Esterhazy Member is mined using conventional underground techniques at the Esterhazy Facility in southeastern Saskatchewan, and by solution mining techniques at the Belle Plaine Facility.

The mineable potash mineralization at Belle Plaine occurs in the three major potash bearing members, all of which are included in the solution mining. The potash mined at Belle Plaine is a mixture of halite and sylvite and in some parts of the Mining Area, small amounts of carnallite. There are several clay-rich zones that are not recovered in the solution mining process which recovers a concentrate portion of the minerals rather than the entire bed.

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When considering the sequence of mining at the Belle Plaine Facility, the following terminology is applied to the beds. This describes the geology in a way that best summarizes the grades that are available for solution mining.

- The Upper Mining Zone consists of beds 38 to 31 of the Patience Lake Member and beds 23 to 21 of the Belle Plaine Member. The Upper Mining Zone is about 90 feet (27.4 m) thick.
- The Salt Stringer is a thin bed of salt located between Beds 31 and 23 in the Upper Mining Zone. The Salt Stringer is approximately 10 feet (3.0 m) thick.
- The Interzonal Salt is a thick bed of salt located between the Lower and Upper Mining Zones.
- The Marker Bed is a small, very rich potash bed located midway through the Interzonal Salt.
- The Lower Mining Zone consists of beds 13, 12 and 11 of the Esterhazy Member. The Lower Mining Zone is approximately 20 feet (6.1 m) thick.

Potash mineralization contains sylvinite: a mixture of the iron oxide-stained halite, sylvite and local carnallite. When present interstitially or as massive pods, carnallite can deteriorate rapidly or be preferentially dissolved. The color of the potash can vary from light orange to deep red rimmed crystals. The mineralization can be locally bedded or massive. The halite and sylvite crystals can range from small to more typically coarse to large which can be attributed to the conditions during deposition as there has been no alteration.

### **Mineral Resource and Mineral Reserve Assumption and Modifying Factors**

The key mineral resource and mineral reserve assumptions and modifying factors are listed in Table 2.19.

**Table 2.19: Key Assumptions and Modifying Factors**

Parameter	Value	TRS Section
Supporting Information	Regional geologic studies, 700 production wells, seismic surveys and greater than 55 years of mining history from approximately 350 caverns.	Section 7, 11
Average composited total thickness of the potash mineralization amenable to solution mining	102.2 feet (31.1 m)	Section 11
Tonnage Factor	17.2 cu ft./tonne (2,054 kilograms per cubic meter).	Section 11
Average KCl grade from all drilling	30.6% (19.3% K <sub>2</sub> O)	Section 11
Operating Days per Year	365 days	Section 13
Mining Method	Solution mining from surface installations.	Section 13
Production Rate	3.0 million tonnes per year.	Section 13
Cut-off	No cut-off grade or value based on commodity price is used to estimate mineral resources. This is because the solution mining method used at Belle Plaine mining is not grade selective.	Section 11, 12
Mining Recovery	21.5%	Section 13
External Dilution	None	Section 12
Processing Method	KCl recovered from brine solution.	Section 14
Processing Recovery	79 to 90%	Section 14
Deleterious Elements and Impact	Trace NaCl and MgCl <sub>2</sub>	Section 10
Environmental Requirements – Permits, etc.	No significant environmental permitting encumbrances.	Section 17
Geotechnical Factors (if any)	No concerns.	Section 13
Hydrological or Hydrogeological Factors (if any)	No concerns.	Section 13
Commodity Prices	KCl commodity prices of US\$325 for mineral reserves.	Section 17
Exchange Rate (US\$/C\$)	1.32	Section 17

### Mineral Resource Estimates

The Belle Plaine Facility mineral resources are reported as in-situ mineralization and are exclusive of mineral reserves. The mineral resources occur in the Esterhazy, Belle Plaine and Patience Lake members. Mineral resources that are not mineral reserves have demonstrated economic viability utilizing the criteria and assumptions required at the Belle Plaine Facility.



Mineral resources that are not mineral reserves have demonstrated economic viability utilizing the criteria and assumptions required at Esterhazy.

The methodology for estimating mineral resources consists of interpreting the available geological data in plan view using AutoCAD 2020 software. The plan is updated to include the current mineral rights status, seismic survey interpretations, the limits of the current mining footprint, known areas (geological anomalies, town sites and other surface infrastructure) that make the mineral resource inaccessible and the planned cluster sites.

Additional details regarding the estimation methodology is listed in Section 11 of the 2021 Belle Plaine Facility TRS.

The mineral resource estimates for the Belle Plaine Facility are listed in Table 2.20.

**Table 2.20: Mineral Resources as of December 31, 2023 Based on LOM Plan KCI Price of \$325 per tonne<sup>(a)(b)(c)(d)(e)(g)(h)</sup>**

(tonnes in millions)

Category	Tonnes	Grade %K <sub>2</sub> O	Grade %KCl	Cut-off Grade <sup>(f)</sup>	Metallurgical Recovery
Inferred	4,647	19	31	n/a	79 to 90%

- (a) The mineral resources are reported as in-situ mineralization.
- (b) Mineral resources are reported exclusive of those mineral resources that have been converted to mineral reserves.
- (c) Mineral resources are not mineral reserves and do not meet the threshold for mineral reserve modifying factors, such as estimated economic viability, that would allow for conversion to mineral reserves. There is no certainty that any part of the mineral resources estimated will be converted into mineral reserves.
- (d) Mineral resources assume solution mining.
- (e) Mineral resources amenable to a solution mining method are contained within a conceptual cluster and cavern design using the same technical parameters as used for mineral reserves.
- (f) No cut-off grade is used to estimate mineral resources. This is because the solution mining method used at the Belle Plaine Facility is not selective. At no point in the cavern development and mining process can a decision be made to mine or not mine the potash mineralization that is in contact with the mining solution. There is no control on what potash grade the mining solution dissolves to make a concentrate that is pumped to surface from the mining caverns for processing.
- (g) Tonnages are in US Customary and metric units and are rounded to the nearest million tonnes.
- (h) Rounding as required by reporting guidelines may result in apparent summation differences.

There were no changes in the mineral resource estimates from 2022 to 2023.

### Mineral Reserve Estimates

The Belle Plaine Facility mineral reserves are reported as in-situ mineralization accounting for all applicable modifying factors. Mineral reserves meet all the mining criteria required at the Belle Plaine Facility including, but not limited to mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social, and governmental factors.

The methodology for estimating mineral reserves consists of solution mining design work and scheduling and the application of mining recovery and unplanned dilution. Additional details regarding the estimation methodology are listed in Section 12 of the 2021 Belle Plaine Facility TRS.

The mineral reserve estimates for the Belle Plaine Facility are listed in Table 2.21.

**Table 2.21: Mineral Reserves at the End of the Fiscal Year Ended December 31, 2023 Based on a LOM Plan KCl Price of \$325 per tonne<sup>(a)(b)(c)(d)(e)(f)</sup>**

(tonnes in millions)

Category	KCl Tonnes	Grade %KCl	Grade %K <sub>2</sub> O	Metallurgical Recovery %
Proven	264	30.6	19.3	79 to 90%
Probable	388	30.6	19.3	79 to 90%
<b>Proven + Probable</b>	<b>652</b>	<b>30.6</b>	<b>19.3</b>	<b>79 to 90%</b>

(a) Mineral reserves are based on measured and indicated mineral resources only.

(b) All mineral reserves are mined by a solution mining method.

(c) No cut-off grade is used to estimate mineral reserves. This is because the solution mining method used at the Belle Plaine Facility is not selective. At no point in the cavern development and mining process can a decision be made to mine or not mine the potash mineralization that is in contact with the mining solution. There is no control on what potash grade the mining solution dissolves to make a concentrate that is pumped to surface from the mining cavities for processing.

(d) Only after a positive economic test and inclusion in the LOM plan is the mineral reserve estimate included as a mineral reserve.

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- (e) Tonnages are in US Customary and metric units and are rounded to the nearest million tonnes. The grades are rounded to one decimal place.
- (f) A commodity price of US\$325/tonne of KCl and a U.S.\$/CAD\$ exchange rate of 1.32 were used to assess the economic viability of the mineral reserves in the LOM.

### **Mineral Resources and Mineral Reserves Comparison**

As of December 31, 2023, our estimated mineral reserves were 652 million tonnes compared to 663 million as of the prior year-end, resulting in a change of <2% related to our proven reserves. The year-over-year change is due to mining depletion.

### **ESTERHAZY**

The Esterhazy Facility is approximately 10 miles (16 km) to the east of the town of Esterhazy in Saskatchewan, Canada, 56 miles (90 km) southeast of the city of Yorkton and 137 miles (220 km) east of the city of Regina (Figure 2.5). The K1 mill site is located nine miles (14 km) northeast of Esterhazy. The K2 mill site is located 12 miles (19 km) east of Esterhazy. The K3 mine site is located four miles east (six km) of Esterhazy and the K4 mineral resources are located 18 miles northeast of Esterhazy. The geographic coordinates for K1 are latitude 50.726463 N and longitude -101.933506 W. The K2 coordinates are latitude 50.6574 N and longitude -101.8422 W and the K3 coordinates are latitude 50.64623 N and longitude -101.99346 W.

Mosaic, through Mosaic Potash Esterhazy Limited Partnership, a wholly-owned indirect subsidiary of Mosaic, leases 197,920 acres of mineral rights from the Crown under Subsurface Mineral Leases KL 105, KL 126, and KLSA 003. Table 2.22 lists additional information regarding the three Crown leases. Table 2.23 outlines the total acreage of the Crown leases designated by township and range. The lease terms are 21 years, with renewals at our option for successive 21-year periods.

We also own or lease 206,228 acres of freehold mineral rights within the Esterhazy area as shown in Table 2.24 below. All mineral titles owned or leased by Mosaic include the “subsurface mineral” which under The Subsurface Mineral Tenure Regulations (Saskatchewan) means all natural mineral salts of boron, calcium, lithium, magnesium, potassium, sodium, bromine, chlorine, fluorine, iodine, nitrogen, phosphorus and sulfur, and their compounds, occurring more than 60m below the surface of the land. Other commodities (e.g., petroleum and natural gas, coal, etc.) that are not specifically sought after when acquired may be on mineral titles that Mosaic leases or owns.

Within the total acreage leased from the Crown or owned/leased by us are parcels of land where we own or lease less than a 100% share of the mineral rights. To mine these properties, we would need to acquire 100% control either by lease or ownership. Acres currently not mineable for this reason are listed in Table 2.25 below.

There are no significant environmental permitting encumbrances (existing or anticipated in the future) associated with the Esterhazy Facility. Except for royalties, we do not anticipate any future encumbrances based on current known regulations and existing permitting processes. There are no outstanding fines or material violations.

The net book value for Esterhazy is \$3.5 billion as of December 31, 2023.

**Figure 2.5: Location Plan**

Esterhazy Map.jpg

**Table 2.22: Mineral Lease**

Crown Lease Number	Type	Area (Hectares)	Expiration Date
KL 105	Subsurface Mineral Lease	26,125	November 2, 2044
KL 126	Subsurface Mineral Lease	28,473	October 25, 2026
KLSA 003	Subsurface Mineral Lease	25,498	November 18, 2030

**Table 2.23: Sections and Acreages Owned by the Crown**

<b>Township/Range</b>	<b>Sections of Mineral Rights Owned by Crown*</b>	<b>Area of Mineral Rights Owned by Crown (acres)</b>
19/30	19-2/16	12,221
20/30	18-1/16	11,542
21/30	18-6/16	11,753
22/30	2-1/16	1,331
19/31	18-1/16	11,561
20/31	19-3/16	12,265
21/31	13-7/16	8,613
22/31	15-15/16	10,238
18/32	5-7/16	3,471
19/32	18-15/16	12,116
20/32	14-11/16	9,388
21/32	17-2/16	10,970
22/32	4-6/16	2,799
18/33	5-12/16	3,662
19/33	10-11/16	6,850
20/33	11-7/16	7,326
21/33	8-5/16	5,313
22/33	1-6/16	878
18/1	15-9/16	9,969
19/1	15-14/16	10,158
20/1	16-7/16	10,533
21/1	14-6/16	9,207
22/1	4-3/16	2,668
19A/1	2-12/16	1,762
18/2	6-1/16	3,865
19/2	4-13/16	3,083
19A/2	1-12/16	1,130
<b>Total</b>	<b>309-4/16</b>	<b>194,672</b>

\*Full sections range from 640 acres to 644 acres; total acreage shown above is based on 640 acres per section where actual survey acreage is not available.



**Table 2.24: Sections and Acreages of Mosaic-Owned Mineral Rights**

<b>Township/Range</b>	<b>Sections of Mineral Rights Owned/ Leased by Mosaic*</b>	<b>Area of Mineral Rights Owned/Leased by Mosaic (acres)</b>
19/30	17-14/16	11,420
20/30	19-7/16	12,430
21/30	18-8/16	11,822
19/31	16-13/16	10,760
20/31	17-13/16	11,389
21/31	23-6/16	14,954
22/31	4-7/16	2,846
18/32	4-15/16	3,168
19/32	18-8/16	11,843
20/32	22-12/16	14,553
21/32	19-12/16	12,624
22/32	4-8/16	2,868
18/33	5-14/16	3,764
19/33	10-6/16	6,631
20/33	9-8/16	6,087
21/33	12-10/16	8,075
22/33	2-3/16	1,390
18/1	2-8/16	1,583
19/1	18-14/16	12,084
19A/1	4-15/16	3,177
20/1	20-8/16	13,134
21/1	21-7/16	13,707
22/1	9-15/16	6,343
18/2	2-9/16	1,631
19/2	10-4/16	6,579
19A/2	2-2/16	1,365
<b>Total</b>	<b>30-2/16</b>	<b>206,227</b>

\*Full sections range from 640 acres to 644 acres; total acreage shown above is based on 640 acres per section where actual survey acreage is not available.



**Table 2.25: Partial Mineral Rights Area**

<b>Township/Range</b>	<b>Crown Mineral Rights Leased by Mosaic, Currently Not Mineable (acres)*</b>	<b>Mineral Rights Owned/ Leased by Mosaic, Currently Not Mineable (acres)*</b>
21/30	321	—
20/31	80	—
21/31	80	—
22/31	80	514
21/32	321	—
21/33	—	74
18/1	150	—
19/1	1209	138
19A/1	322	—
20/1	221	—
21/1	80	159
18/2	160	—
19/2	161	—
19A/2	61	—
<b>Total</b>	<b>3246</b>	<b>885</b>

\*Less than 100% share of a mineral rights parcel.

### Existing Infrastructure

The Esterhazy Facility consists of an underground mine and two processing plants that started production in 1962. The mine has an additional expected life, based on mineral reserves of 33 years, to 2054. The Esterhazy Facility has the infrastructure in place to meet the current production goals and LOM plan. The current infrastructure includes: major road and highway access; railway support from CNR and CPR; SaskPower supplied electricity; TransGas and SaskEnergy supplied natural gas; and potable and non-potable water supplied from local fresh water sources. The long-term TMA development plan is being revised to support production at the levels indicated in the LOM plan.

Process and potable water for the K1 mill is provided by three 200 ft (61 m) deep wells drilled into the upper Dundurn aquifer. The K2 mill water supply comes from the Cutarm Creek dam reservoir that is owned and operated by Mosaic. Located 1.5 miles (2.4 km) northeast of the K2 site, the dam forms a reservoir approximately 5.25 miles (8.5 km) long and 650 feet (200 m) wide. K3 mine water is supplied from K2 via a 7.4 mile (11.8 km) long pipeline.

The power to operate the Esterhazy Facility is supplied by the provincial utility, SaskPower. The K1 mill is serviced by a 72 kV line with approximately 36 MVA capacity. The K2 mill has two services at 72 kV and 138 kV respectively, with a combined capacity of 125 MVA. The K3 mine is serviced by a 230 kV line from SaskPower with 140 MVA capacity. Two transformers step down the voltage, each rated at 70 MVA.

TransGas provides an uninterrupted supply of natural gas to the Esterhazy Facility. SaskEnergy also supplies natural gas to a few outlying areas at K2. Esterhazy has regulator stations for the natural gas at each of the sites, with a low-pressure distribution piping network.

The K1 and K2 sites are serviced by the CNR main line, and by spur lines to the CPR. The surrounding area is developed for agriculture with a road network, villages and towns.

Regina International Airport is 140 miles (225 km) by highway west of the Esterhazy mine sites, while Yorkton municipal airport is 55 miles (90 km) to the northwest. The Town of Esterhazy maintains a paved 3,000 feet (914 m) long airstrip, located 8 miles (13 km) southwest of the K1 mill.

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The Esterhazy Facility's workforce lives throughout the area, generally within 62 miles (100 km) of the mine sites. This includes the Russell and Binscarth areas of western Manitoba. Education and healthcare facilities are in Esterhazy, Russell, Melville, and Yorkton.

The province of Saskatchewan offers a large variety of suppliers for the potash mine operators. The potash industry in Saskatchewan is very mature, making it easier to attract vendors to support the needs of the various mine sites throughout the province.

Saskatoon and Regina have large industrial sectors with a variety of machine shops and industrial support services. Some specialty services are provided from the Alberta oil and gas industry.

Supplies are sourced locally, regionally and internationally based on availability or commercial considerations. Lead times and on-hand inventory are balanced to meet the needs of the site.

### **Mining Method**

At Esterhazy, potash is extracted by underground mining using the room-and-pillar method. The average planned extraction quality of the potash ore is 28.4%. Pillars are left in place between mining rooms to support the overlying rock to prevent a failure of the upper rock formations preventing an inflow of brine from any overlying water bearing zones.

The 2023 LOM plan for the Esterhazy Facility includes the K3 mineral reserves and the K4 mineral resources. It is based on an average production rate of 17.5 million tonnes per year based on 365 production days per year.

The K3 mineral reserves production is expected to be at full production in 2024 and is expected to ramp down starting in 2051, with mining anticipated to be completed in 2054.

The K4 mining resources are currently scheduled to start mining in 2051 and is expected to ramp up to full production in 2055 and ending in 2090.

### **Processing Recovery Method**

The Esterhazy Facility's processing plant consists of two separate mill facilities, designated as K1 and K2. Each mill processes the raw ore feed stock received from the underground mining operations through crushing, separation, screening and compaction unit operations to produce on-grade, saleable product. The plants utilize online grade analyzers to monitor the process as well as routine samples that are analyzed by the onsite lab. The milling can be broken down into two main functions: the wet end separates potash and salt, while the dry end sizes potash for sale.

The wet end of the mill begins with raw ore sizing and crushing to prepare it for the separation processes. In heavy media, the larger size fraction is separated into potash and salt through dense media separation that is driven by differences of buoyancy in salt and potash. Flotation receives the smaller size fraction and has specific reagents added that allow the potash crystals to float while the salt is rejected as tailings material. At K2 there is also a crystallizer circuit that produces potash using solubility, temperature, and pressure differences. Dewatering and drying is the final stage in the wet end, where potash is sent through centrifuges and industrial driers to remove all moisture.

Once the product is dried, it is sent to a screen to separate the right sized material from the over and undersize material for all the different product grades. Oversized material is sent through a crushing circuit to break it down to right sized material. The undersize material is upgraded through compaction to a larger product.

Esterhazy plans to ramp up milling rates once the K3 mine is up to full capacity and then stabilize at a total milling rate to the end of mine life. The differences in final product tonnes will be based on supplied raw ore grade as it varies throughout the mine workings. The site's ability to produce at the increasing rates being forecasted in the LOM plan are supported by a proving run in 2013, when the Esterhazy plants achieved an annual production nameplate of 5.7 million tonnes overall.

### **History and Exploration**

The Esterhazy Facility K1 started production in 1962 and K2 started production in 1967. Table 2.26 lists the important historical dates and events for Esterhazy.

#### **Table 2.26: History**

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Date	Event/Activity
1928	Discovery of evaporites in the sedimentary sequence in Saskatchewan.
1955	International Minerals and Chemicals (IMC, Canada) Ltd. acquired >500,000 acre lease in Esterhazy area and started drilling.
1957 to 1962	IMC Corporation begins shaft sinking at K1. The first official K1 mine production started September at a capacity of 0.9 million tonnes per year.
1965	K2 TMA Phase I expansion.
1966	The K1 mine capacity was expanded to 1.5 million tonnes per year.
1967	The K2 shaft sinking was completed to a capacity of 2.4 million tonnes per year. The first potash production from K2 was in April/May.
1968	The K2 TMA Phase II expansion was completed.
1974	K2 mill expansion, heavy media circuit.
1981	The K2 TMA Phase III expansion was completed.
1985	Inflow 10B was detected December 29, 1985 in the D400 entry at a point 3.5 miles (5.6 km) southwest of the K2 shaft. Initial inflow was estimated to be 1,000 gpm. Information obtained using seismic surveys allowed for targeted drilling and placement of calcium chloride and various grouts to reduce the inflow to manageable levels. The pumping capacity was increased through a series of stages to bring online a total of 22 pumps, to a maximum capacity of 4,000 gpm. As a result of these efforts, K1 and K2 sites continued normal mining operations.
1987	Mineral Resource Location Study – Vibroseis Study was completed.
1989	12 exploration drill holes to delineate the K1 and K2 mining area were completed.
1991 to 1998	Seismic surveys in the Gerald, Gerald West and Cutarm areas.
1997	IMC Kalium merged with IMC Global and Freeport-McMorRan.
1999	Company renamed to IMC Potash.
2000-03	Seismic surveys: 2D and 3D (K1 and K2).
2004	Renamed Mosaic because of Merger between IMC Global and Cargill Crop Nutrition. IMC Global and Cargill Crop Nutrition merged to form Mosaic Esterhazy ULC.
2005	3D seismic surveys completed at K1 (7.5 sq. miles, 19.5 sq. km) and K2 (4.0 sq. miles, 10.3 sq. km).
2006-09	Various seismic surveys completed. Hoist expansion at K2. Processing plant capacity increased to 4.8 million tonnes per year. K2 TMA expansion completed. Exploration drilling of 10 holes including two shaft pilot holes completed as part of the K3 expansion project.
2010	Completion of the crushing expansion at K1.
2011	3D seismic surveys at K1 North (19.7 sq. miles, 51.4 sq. km) and Perrin Lake (14.4 sq. miles, 37.3 sq. km).
2012	K3 South shaft pre-sink was completed. Esterhazy exits Tolling agreement with PCS. A number of 3D seismic surveys were completed including Saskman, K1 NW, K1 SWD Field. Seven brine injection wells were drilled at Farfield.
2013	K3 South Shaft sunk to the potash level. 3D seismic survey at Panel 11Q (9.2 sq. km) completed. Completion of mill expansion at K2 for an additional 0.7 million tonnes per year.
2014	3D seismic survey at Panel 11Q 3C (3.6 sq. miles, 9.3 sq. km) completed.
2015	3D seismic surveys at Gerald (4.7 sq. miles, 12.1 sq. km) and K3 (89.7 sq. miles, 232.4 sq. km) completed.





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The K3 to K2 overland conveyor construction was completed. The K3 North shaft steel and Keope hoist rope up were completed. The K3 North shaft first ore skipped in December 18 and trucked to the K2 mill.

2018	The first K2 ore was conveyed on the overland conveyor to the K2 mill in December.
2019	Commissioned the K3 Koepe production and Blair service hoists. Four drum miners cutting K3 shaft pillar development started. Two four rotor miner assembly completed. The K3 South shaft sinking was completed in November.
2020	Completion of the South shaft bottom steel, added a third four-rotor miner, installed the Mainline conveyor, added a fourth rotor miner cutting and completed the K3 South Headframe concrete slip. K3 shaft pillar development was completed in December. The K3 fifth four-rotor miner started cutting in October. The first ore from K3 conveyed to K1.
2021	The sixth K3 four-rotor miner started cutting in January and the seventh four rotor-miner started cutting in May. The K1 and K2 mines were closed 8 months ahead of schedule in response to brine inflow conditions.
2022	K1 and K2 shaft decommissioning completed.

## **Geology and Mineralization**

The intracratonic Elk Point Basin is a major sedimentary geological feature in western Canada and the northwest U.S. It contains one of the world's largest stratabound potash resources. The nature of this type of deposition is largely continuous with predictable depths and thickness. It is mined at several locations, including the Esterhazy Facility.

Potash at the Esterhazy Facility area occurs conformably within Middle Devonian-age sedimentary rocks and is found in total thicknesses ranging from approximately 100 to 131 feet (30 to 40 m) at a depth of approximately 5,345 to 5,740 feet (1,630 to 1,750 m).

The Prairie Evaporite Formation, host to the potash mineralization, is divided into a basal "lower salt" and an overlying unnamed unit containing three potash-bearing units and one unit containing thin marker beds. In ascending order, the potash horizons in the upper unit are the Esterhazy Member, White Bear Marker Beds, Belle Plaine Member, and Patience Lake Member. Mineralogically, these members consist of sylvite and halite, with minor amounts of carnallite (KCl, MgCl<sub>2</sub>, 6H<sub>2</sub>O).

In the Esterhazy area, the Esterhazy, White Bear and Belle Plaine members are present, and the Patience Lake member is absent. The following is a summary of the key stratigraphic units for the Esterhazy Facility area:

- **Belle Plaine Member:** The Belle Plaine Member underlies Second Red Bed and makes up part of the salt back that is critical to isolating the mining horizon from the formations above. The Belle Plaine Member is mined using solution mining techniques at the Belle Plaine Facility and is not mined at the Esterhazy Facility.

- White Bear Member: The White Bear Member consists of marker beds that are a distinctive unit of thin interbedded clay, halite, and sylvinite horizons that are not minable due to insufficient thickness of only 4.0 to 5.0 feet (1.2 to 1.5 m).
- Esterhazy Member: The Esterhazy Member is separated from the Belle Plaine Member by the White Bear Member marker beds, a sequence of clay seams, low-grade sylvinite, and halite. The Esterhazy Member is mined using conventional underground techniques at the Esterhazy Facility in southeastern Saskatchewan, and by solution mining techniques at the Belle Plaine Facility.

The sylvinite intervals within the Prairie Evaporite Formation consist of a mass of interlocked sylvite crystals that range from pink to translucent and may be rimmed by greenish-grey clay or bright red iron insoluble material, with minor halite randomly disseminated throughout the mineralized zones. Local large one inch (2.5 cm) cubic translucent to cloudy halite crystals may be present within the sylvite groundmass, and overall, the sylvinite ranges from a dusky brownish red color (lower grade, 23% to 27% K<sub>2</sub>O with an increase in the amount of insoluble material) to a bright, almost translucent pinkish orange color (high grade, 30%+ K<sub>2</sub>O). Carnallite is also present locally in the Prairie Evaporite Formation as a mineral fraction of the depositional sequence. The intervening barren salt beds consist of brownish red, vitreous to translucent halite with minor sylvite and carnallite and increased insoluble materials content.

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### **Mineral Resource and Mineral Reserve Assumptions and Modifying Factors**

The key mineral resource and mineral reserve assumptions and modifying factors are listed in Table 2.27.

#### **Table 2.27: Key Assumptions and Modifying Factors**

Parameter	Value	TRS Section
Supporting Information	Regional geologic studies, 59 exploration holes, seismic surveys, in-mine channel samples and 50 years of mining history at K1 and K2.	Section 7
Average total thickness of the potash mineralization	8.55 feet (2.6 m)., based on the ratio of 8.5 feet (2.6 m). production panel mining height and 9.0 feet (2.7 m) development mining heights.	Section 11
Density	129.878 lbs./cu ft. (2,080.446 kg/cu m)	Section 11
In-mine channel samples grade	25.9% K <sub>2</sub> O	Section 11
Operating Days per Year	365 days	Section 13
Mining Method	Underground room and pillar mining.	Section 13
Production Rate	17.527 million tonnes per year.	Section 13
Cut-off	No cut-off grade or value based on commodity price is used to estimate mineral resources. This is because the mining method used at Esterhazy is not grade selective. Potash mineralization is mined on one level by continuous miners following the well-defined and continuous beds of mineralization with relatively consistent grades.	Section 11
Mining Recovery	28.4%	Section 12, 13
External Dilution	0%	Section 12, 13
Processing Method	Two mill facilities that crush, float, screen and compact KCl.	Section 14
Processing Recovery	85 to 88% (86.1% average)	Section 14
Deleterious Elements and Impact	Increased amounts of NaCl can significantly impact production volumes.	Section 10
Environmental Requirements, Permits, etc.	No significant environmental permitting encumbrances.	Section 17
Geotechnical Factors (if any)	No concerns/issues.	Section 13
Hydrological or Hydrogeological Factors (if any)	Undersaturated brines from adjacent aquifers.	Section 13
Commodity Prices	\$219/tonne for the economic evaluation of the 2021 mineral resources and \$320/tonne for the mineral reserves.	Section 16
Exchange Rate (US\$/CAD\$)	1.31 for the 2021 mineral resources and 1.32 for the mineral reserves.	Section 16



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The Esterhazy Facility's mineral resources are reported as in-situ mineralization and are exclusive of mineral reserves. The mineral resources occur in the Esterhazy, White Bear and Belle Plaine members. The mineralization is assumed to be laterally continuous and consistent, based on publicly available regional geological information and Mosaic's knowledge of the local geology and area.

Mineral resources that are not mineral reserves have not demonstrated economic viability utilizing the criteria and assumptions required at Esterhazy.

The methodology for estimating mineral resources consists of interpreting the available geological data in plan view using AutoCAD 2020 software. The plan is updated to include the current mineral rights status, seismic survey interpretations, the limits of the current mining footprint, known areas (geological anomalies, town sites and other surface infrastructure) that make the mineral resource inaccessible, property boundary pillars, pillars around exploration holes and infrastructure, "no mining" areas in the uncontrolled mineral rights locations and a pillar between the K1 and K2 mining area and the adjacent K4 mineral resource areas.

Additional details regarding the estimation methodology are listed in Section 11 of the 2021 Esterhazy Facility TRS filed as an Exhibit to the 2021 Form 10-K.

The mineral resource estimates for the Esterhazy Facility are listed in Table 2.28.

**Table 2.28: Mineral Resources at the End of the Fiscal Year Ended December 31, 2023 Based on a LOM Plan KCI Price of \$219 per tonne<sup>(a)(b)(c)(d)(e)(g)(h)(i)(j)</sup>**

(tonnes in millions)

Category	Tonnes	Grade %K <sub>2</sub> O <sup>(f)</sup>	Metallurgical Recovery
Measured	255.0	23.3	86.1
Indicated	2,092.0	22.8	86.1
<b>Measured + Indicated</b>	<b>2,347.0</b>	<b>22.9</b>	<b>86.1</b>

- 
- (a) The mineral resources are reported as in-situ mineralization and are exclusive of mineral reserves.
- (b) Mineral resources have an effective date of December 31, 2023. Mineral resources are reported exclusive of those mineral resources that have been converted to mineral reserves. Unlike mineral reserves, mineral resources do not have demonstrated economic viability, but they do demonstrate reasonable prospects for economic extraction.
- (c) Mineral resources are not mineral reserves and do not meet the threshold for mineral reserve modifying factors, such as estimated economic viability, that would allow for conversion to mineral reserves. There is no certainty that any part of the mineral resources estimated will be converted into mineral reserves.
- (d) Mineral resources assume an underground room and pillar mining method.
- (e) Mineral resources amenable to underground mining method are accessed via shaft and scheduled for extraction based on a conceptual room and pillar design using the same technical parameters as for mineral reserves.

- (f) No cut-off grade or value based on commodity price is used to estimate mineral resources. This is because the mining method used at Esterhazy is not grade selective. The potash mineralization is mined on one level by continuous miners following the well-defined and continuous beds of mineralization with relatively consistent grades (Section 11.2).
- (g) Tonnages are in US Customary and metric units and are rounded to the nearest million tonnes.
- (h) Rounding as required by reporting guidelines may result in apparent summation differences.
- (i) %K<sub>2</sub>O refers to the total %K<sub>2</sub>O of the sample.
- (j) The percent carnallite refers to the mineral associated with potash ore at Esterhazy (KCl.MgCl3.6H<sub>2</sub>O). It is considered an impurity.

### **Mineral Reserve Estimates**

The Esterhazy Facility's mineral reserves are reported as in-situ mineralization, accounting for all applicable modifying factors. Mineral reserves meet all the mining criteria required at Esterhazy including, but not limited to mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.



## [Table of Content](#)

The methodology for estimating mineral reserves consists of post pillar mine design work and scheduling and the application of mining recovery and unplanned dilution. Additional details regarding the estimation methodology are listed in Section 12 of the 2021 Esterhazy Facility TRS filed as an Exhibit to the 2021 Form 10-K.

The mineral reserve estimates for the Esterhazy Facility are listed in Table 2.29.

**Table 2.29: Mineral Reserves at the End of the Fiscal Year Ended December 31, 2023 Based on a LOM Plan KCl Price of \$320 per tonne<sup>(a)(b)(d)(e)</sup>**

(tonnes in millions)

Category	Tonnes	Grade %K <sub>2</sub> O <sup>(c)</sup>	Metallurgical Recovery %
Proven	113.0	23.00	85.3
Probable	402.0	20.74	85.3
<b>Proven + Probable</b>	<b>515.0</b>	<b>21.24</b>	<b>85.3</b>

- 
- (a) Mineral reserves have an effective date of December 31, 2023.
- (b) Underground mining standards and design criteria are used to constrain measured and indicated mineral resources within mineable shapes. Only after a positive economic test and inclusion in the LOM plan is the mineral reserve estimate included as mineral reserves.
- (c) Tonnages are in US Customary and metric units and are rounded to the nearest million tonnes.
- (d) Rounding as required by reporting guidelines may result in apparent summation differences.
- (e) %K<sub>2</sub>O refers to the total %K<sub>2</sub>O of the samples.
- (f) The percent carnallite refers to the mineral associated with potash ore at Esterhazy (KCl.MgCl<sub>3</sub>.6H<sub>2</sub>O). It is considered an impurity.
- (g) A KCl commodity price of \$320 was used to assess economic viability for the mineral reserve for the 2023 LOM plan.
- (h) We used a US\$/CAD\$ exchange rate of 1.32 to assess economic viability for the mineral reserves but was not used for cut-off purposes.

## Mineral Resources and Mineral Reserves Comparison

Our mineral reserves decreased overall by 5.2% from 2022 to 2023. Proven reserves increase by 3% while probable reserves decreased 7%. The year over year changes are due to mining depletion, changes in mineral reserve category and increased sterilization of mineral reserves due to unmineable buffer areas.

## TAPIRA

Tapira is located in the western portion of the state of Minas Gerais, in the southeast of Brazil, to the north of the town of Tapira, and approximately 22 miles (35 km) south-southeast of the city of Araxá (Figure 2.6). The mine is 261 miles (420 km) by road to the Minas Gerais state capital of Belo Horizonte, via the BR-262 highway to Araxá and then the BR 146 highway to Tapira. The property extends from approximately UTM 7,805,000 N to

7,799,500 N, and from 304,000 E to 310,000 E (Corrego Alegre 1961, UTM Zone 23 South), and is centered approximately at 19°52'S/46°51'W. The Tapira complex consists of a mine and a phosphate beneficiation plant. The plant produces phosphate conventional and ultrafine concentrate, which is sent by pipeline (conventional) and truck (ultrafine) to local Mosaic chemical plants for finished product production.

## **Figure 2.6: Project Location Plan**

Tapira Map.jpg

### **Infrastructure**

Tapira is located in a highly developed region known as Alto Parnaíba. This region is known for its excellent, modern infrastructure with high standards of living compared with other regions in Brazil. The local infrastructure available to Tapira is excellent, as it is situated within a well-established mining area, 22 miles (35 km) from the well-developed city of Araxá and within 16 miles (25 km) of two other mining operations.

The supply of electricity occurs via a 13.8 kiloVolt (“**kV**”) transmission line that is operated by CEMIG and Vale Energia Concessionaires. Tapira has a total receipt of 40 megawatts (“**MW**”) and an annual power usage around 305 gigawatts (“**GW**”). The main substation receives 13.8 kV in three oil-type transformers which is transferred to secondary substations. From the secondary substations, power is distributed to the end-use areas at 110 volts (“**V**”), 220 V, 280 V, 440 V, or 4,160 V.

Water intake comes from the Ribeirão do Inferno and artesian wells, as well as recovered water from the tailings dams. Additionally, there are four artesian wells at Tapira. The industrial reuse system used to recover water from the dams includes 10 pumps (four operating and six on stand-by) and 36-inch (91 cm) pipes covering varying distances to the different dam areas. The distance from BR1 dam is approximately six miles (nine km) with a rated capacity of 4,400 cubic meters per hour (“**m<sup>3</sup>/hr**”). The distance from BL1 dam is approximately two miles (three km) with a rated capacity of 10,400 m<sup>3</sup>/hr. The distance from BR dam is approximately 2.5 miles (four km) with a rated capacity of 4,900 m<sup>3</sup>/hr.

There is currently no rail or airport access at Tapira. The closest rail and airport access is in the city of Araxá.

Infrastructure includes a phosphate beneficiation plant with associated support infrastructure, including tailings storage facilities, maintenance facilities, warehouses, and various administrative and other support facilities. The mine infrastructure

includes overburden storage and other material storage facilities, surface water management features and maintenance, warehouses, and other typical support infrastructure.

Tapira includes an impoundment stability monitoring system that covers all the operating impoundments at Tapira.

Network connectivity is in place at the mine buildings and a telephone system provides coverage throughout the mine unit. A radio system provides the ability to dispatch and control the mining equipment and transport trucks as well as communicate with the control room in the beneficiation plant.

### **Mineral and Surface Rights**

Mining rights in Brazil are governed by the Mining Code, Decree 227, dated February 27, 1967, and further regulation enacted by the ANM. This governmental agency, which controls the mining activities throughout Brazil, was recently created as a replacement of the former National Department of Mineral Production (“**DNPM**”). All sub-soil situated within Brazilian territory is deemed state property, with the mining activities subject to specific permits granted by the ANM.

We currently hold a total of nine mining permits within the Tapira area (3,853 hectares (“**ha**”). The Tapira mineral assets are part of a Consortium named Consórcio Vale Fosfertil Tapira created by Decree number 98.962 (February 16, 1990), process number 930.785/1988 (4,355.76 ha) granted to Vale S.A. (previously Vale do Rio Doce S.A.) and Vale Fertilizantes Fosfatados S.A. – Fosfertil.

The Tapira Mining Consortium and all mining permits have transferred from Vale S.A to Mosaic Fertilizantes P&K Ltda.

Tapira has an overall surface rights area of 8,008 ha distributed in 18 different property registrations. The surface area within the ultimate pit is currently mostly controlled by Mosaic. There is a small area near a local village that is not within the current property rights. The relocation of the village and State Highway MG-146 will be necessary to fully realize the LOM tonnages. The area surrounding the village and State Highway MG-146 is currently included in the currently controlled mining permits; and is therefore, not seen as a significant encumbrance to Tapira.

The capacity requirements are not currently in place for all tailings disposal for total LOM capacity requirements. However, Tapira has an ongoing permitting and development plan to support the mining operations that will continue through the LOM requirements.

### **Present Condition of the Property**

The Tapira mine has been in operation since 1978 and is a production stage property.

All required fixed and permanent infrastructure of power, pipelines and primary roadways, and project access are established. Drainage, water controls, and mine access roads and ramps are established for current operations and will be expanded and continued as the pit progresses through its planned life of operations.

The ore at Tapira is recovered using open-pit conventional truck and shovel mining methods, due to the proximity of the ore to the surface and the physical characteristics of the deposit. The ore is transported via truck to a homogenization pile where it is later fed to the beneficiation plant via conveyors. The beneficiation plant produces phosphate conventional and ultrafine concentrate which is sent by pipeline (conventional) and truck (ultrafine) to local Mosaic chemical plants for finished product production.

The mining equipment at Tapira is leased and therefore not owned by us. The beneficiation plant has been in operation since Tapira started 44 years ago. The tailings dams, water dams and sedimentation ponds have been active at Tapira since mining started 44 years ago as well. Currently the BR1 dam is being raised to its final design height to accommodate the LOM plan.

The total book value for Tapira is R\$1.7 billion (US\$351 million with exchange rate of 1 US dollar = 4.8413 Brazilian Real) as of December 31, 2023.

Exploration activities are ongoing for in-fill drilling for phosphate production to complete the current LOM. Additional areas of exploration and research include better understanding the non-weathered material and titanium ore for future mining prospects.

### **History of Previous Operations**

Tapira has been in operation since 1978 and has produced more than 70 million tonnes (“Mt”) of phosphate concentrate. Since 1978, Titanium Dioxide (TiO<sub>2</sub>) bearing material, mainly in the form of anatase, has been stockpiled, with more than 200,000 tonnes awaiting the implementation of an economical beneficiation method.

The geological structure of the alkaline complex of Tapira was first recognized in 1953, through magnetometric and radiometric investigations carried out by the Brazil-Germany Project. There was an agreement between the two countries to carry out regional geophysical aero-survey programs, performed by the Geological Survey of Brazil in the 1950s, 1960s, and 1970s.

In 1968, three major private groups – Pedro Maciel, Companhia Meridional de Mineração, and Companhia Brasileira de Metalurgia e Mineração – had exploration research requests granted by DNPM. In early 1971, Vale (previously known as Companhia Vale do Rio Doce) joined Pedro Maciel to create the company Titan International S.A., which changed its name to Rio Doce Titânio in later years. Vale acquired the rights of Pedro Maciel at the end of 1971, with the mining rights incorporated into the company Mineração Rio Paranaíba. At the time, a series of intensive and detailed systematic works were undertaken, and important occurrences of phosphate, titanium, niobium, rare earths, and vermiculite were identified.

Extensive exploration works were undertaken between 1971 and 1973, with particular focus on the occurrences of titanium. From 1973 to 1977, the exploration priorities changed to occurrences of phosphate, with the aim of replacing the massive imports of fertilizers in the agricultural sector that was then undergoing a period of expansion in Brazil. In 1977, the Fósferil (Fertilizantes Fosfatados S.A.) company was created under the administration of Petroféril (a subsidiary of Petrobras, the Brazilian state oil company). In 1992, Fósferil was privatized, and a pool of investors held the company shares.

In 2010, Vale S.A. acquired complete control of Fósferil and after created a new company, Vale Fertilizantes S.A., which included other fertilizer assets. At the start of 2018, Mosaic Fertilizantes P&K S.A. acquired the assets of Vale Fertilizantes including the Tapira mineral deposit.

### **Mineral Resources and Mineral Reserves**

The regional and local geology, mineral resources, and mineral reserves are detailed in the sub-sections below.

### **Regional and Local Geology**

The Tapira phosphate deposit is part of a series of Late-Cretaceous, carbonatite-bearing alkaline ultramafic plutonic complexes belong to the Alto Paranaíba Igneous Province. The Tapira igneous rocks intrude the phyllites, schists, and quartzites of the Late-Proterozoic Brasília mobile belt. The Tapira igneous complex is roughly elliptical, 35 square kilometers (“km<sup>2</sup>”) in area and consists predominantly of alkaline pyroxenite rocks with subordinate carbonatite, serpentinite (dunite), glimmerite, syenite, and ultramafic potassic dikes.

The tropical weathering regime prevailing in the region and the inward drainage patterns developed from the weathering-resistant quartzite margins of the dome structures resulted in the development of an extremely thick soil cover in most of the complexes. The extreme

weathering process was responsible for the residual concentration of apatite. The main geological types identified in the deposit are a combination of the igneous protoliths (bebedourites, phoscorites, and carbonatites) and the products of the weathering process.

### **Mineral Resources**

The mineral resources at Tapira were estimated based on the long-standing exploration drilling and sampling completed at Tapira since 1967. The drilling results were loaded into the geological database, verified, and vetted for errors, and then used in the geological model to create the lithology and weathering surfaces. The geological model was used in creating the block model, where geological domains based on the lithology and weathering surfaces were utilized to interpret grade, density, and mass recovery in a geologically appropriate manner. Exploratory Data Analysis and geostatistical analysis were completed on the raw and composite data sets to help define interpolation parameters and mineral resource classifications. The mineral resources were restricted based on an optimized pit limit that took into account cut-off grade, price, mining costs, infrastructure limitations, and mineral licenses. The mineral resources are exclusive of mineral reserves and include approximately 69.7 Mt of measured and indicated mineral resources with a  $P_2O_{5ap}$  grade of 8.7%. There are an additional 180.8 Mt of inferred mineral resources with a  $P_2O_{5ap}$  grade of 9.2% (Table 2.30).

**Table 2.30: Mineral Resources at the End of the Fiscal Year Ended 2023 Based on R\$ 1,939.57/tonne of Phosphate Concentrate<sup>(a)(b)(c)(d)</sup>**

(tonnes in millions)

Category	Tonnes	Grade (%P <sub>2</sub> O <sub>5</sub> ap)	Metallurgical Recovery (%P <sub>2</sub> O <sub>5</sub> ap)
Measured	16.5	8.6	42.4
Indicated	53.2	8.7	44.0
<b>Measured + Indicated</b>	<b>69.7</b>	<b>8.7</b>	<b>43.6</b>
Inferred	180.8	9.2	58.6

(a) Additional details are described in the TRS filed as an Exhibit to this Form 10-K.

(b) Mineral resources are reported exclusive of mineral reserves. Mineral resources are not mineral reserves and do not meet the threshold for mineral reserve modifying factors, such as estimated economic viability, that would allow for conversion to mineral reserves. There is no certainty that any part of the mineral resources estimated will be converted into mineral reserves.

(c) Grades are P<sub>2</sub>O<sub>5</sub>ap, which represents the P<sub>2</sub>O<sub>5</sub> associated with apatite and was calculated by the evaluation of the CaO / P<sub>2</sub>O<sub>5</sub> ratio. Where CaO / P<sub>2</sub>O<sub>5</sub> ratio was greater than or equal to 1.34, P<sub>2</sub>O<sub>5</sub>ap was equal to the total of P<sub>2</sub>O<sub>5</sub>; where the CaO / P<sub>2</sub>O<sub>5</sub> ratio was less than 1.35, P<sub>2</sub>O<sub>5</sub>ap was equal to the CaO / 1.35 ratio.

(d) Mineral resource tonnages and grade are stated in-situ and exclusive of mineral reserves. Cut-off grade of P<sub>2</sub>O<sub>5</sub>ap ≥ 5.0% and 0.9 ≤ Ratio of CaO to P<sub>2</sub>O<sub>5</sub> (RCP) ≤ 3.0 was applied to mineral resources. Measured, indicated and inferred blocks were included in mineral resource estimates if they were inside mining concessions and exploration permits with a final report approved by ANM, but exclusive of physical structures such as the crusher and waste piles. A revenue factor of 1.0 with sales price of R\$1,939.57 per tonne of phosphate concentrate (2023 price evaluation) was used to develop the mineral resource pit shell.

## Mineral Reserves

A mineral reserve estimate has been prepared for Tapira. Mineral reserves are limited by the Tapira property boundary, and the ultimate pit designed for the LOM plan, which was limited with an economic optimized pit analysis.

The mineral reserve estimate includes mining modifying adjustments for mining ore recovery, mining dilution, and ore concentration recovery factors. The mineral reserve estimate is limited to a cut-off grade of 5.0% P<sub>2</sub>O<sub>5</sub>ap, as well as certain geometallurgical beneficiation criteria, including:

- Diluted ratio of CaO to P<sub>2</sub>O<sub>5</sub> (RCP) between 0.9 and 3.0
- Within one of the four mineralized domains characterized by lithology and alteration

The beneficiation plant generates conventional (coarse) and ultrafine concentrates from the Tapira ore. The mass recovery of coarse concentrate is forecast based on the results of laboratory flotation tests performed on drill core samples. The mass recovery of coarse



concentrate is predicted based on a mass recovery regression equation as a function of the ROM  $\text{Fe}_2\text{O}_3$ , CaO and  $\text{P}_2\text{O}_5$  chemical compositions.

The metallurgical recovery is calculated from the mass recovery, the concentrate %  $\text{P}_2\text{O}_5$ , and the ROM %  $\text{P}_2\text{O}_5$  according to the following equation:

$$\text{Metallurgical recovery} = 100 \times \text{Mass recovery} \times \text{Concentrate \% } \text{P}_2\text{O}_5 / \text{ROM \% } \text{P}_2\text{O}_5$$

The annual production estimates were used to determine annual estimates of capital and operating costs. All cost estimates were in Brazilian real 2023 R\$ terms. Total capital costs included R\$4.5 billion of sustaining capital and opportunity costs. Annual operating costs were based predominantly on historical consumption factors and unit costs. They included costs for ongoing, final reclamation, and closure. Annual total cost of rock production varied from R\$320 per concentrate tonne to R\$480 per concentrate tonne, with an average total cost of production for a tonne of phosphate rock concentrate at R\$402.

For the purpose of reporting for our total financial statistics, the discounted cash flow was converted from Reals to U.S. dollars at an exchange rate of R\$4.86 = US\$1.00.

Because Tapira is a captive operation supplying rock to other Mosaic-owned chemical plants, there is no transparent mined phosphate rock commodities price market in Brazil. Mineral reserves for Tapira were estimated based on an internal transfer price. This internal transfer price was set as a constant number of US\$111.76 per tonne (R\$543.17 per tonne).

The Tapira mineral reserve, as of December 31, 2023, is estimated to be 443.6 Mt ROM (dry), with a dry grade of 9.0% P<sub>2</sub>O<sub>5</sub>ap delivered to the concentrator plant and 67.7 Mt (dry) concentrated phosphate tonnes at 34.7% P<sub>2</sub>O<sub>5</sub> post-concentration process plant. This includes (Table 2.31):

- a. 131.7 Mt of Proven Mineral Reserve at a 9.5% P<sub>2</sub>O<sub>5</sub>ap dry grade, resulting in 19.7 Mt of concentrate with a 34.6% P<sub>2</sub>O<sub>5</sub> post beneficiation plant; and
- b. 311.9 Mt of Probable Mineral Reserve with a 8.9% P<sub>2</sub>O<sub>5</sub>ap dry grade, resulting in 48.0 Mt of concentrate at 34.7% P<sub>2</sub>O<sub>5</sub>.

**Table 2.31 Mineral Reserves at the End of the Fiscal Year Ended 2023 Based on R\$1,939.57/tonne of Phosphate Concentrate**<sup>(a)(b)(c)(d)(e)</sup>

(tonnes in millions)

Category	Tonnes (Dry)	Grade (%P <sub>2</sub> O <sub>5</sub> ap Dry)	Metallurgical Recovery (%P <sub>2</sub> O <sub>5</sub> )
Proven	131.7	9.1	55.6
Probable	311.9	8.9	58.8
<b>Proven + Probable</b>	<b>443.6</b>	<b>9.0</b>	<b>57.8</b>

(a) Additional details are described in the TRS filed as an Exhibit to this Form 10-K.

(b) Mineral reserves are within measured and indicated mineral resource limits.

(c) Only after a positive economic test and inclusion in the LOM plan is the mineral reserve estimate included as a mineral reserve.

(d) Grades are P<sub>2</sub>O<sub>5</sub>ap, which represents the P<sub>2</sub>O<sub>5</sub> associated with apatite and was calculated by the evaluation of the CaO / P<sub>2</sub>O<sub>5</sub> ratio. Where CaO / P<sub>2</sub>O<sub>5</sub> ratio was greater than or equal to 1.34, P<sub>2</sub>O<sub>5</sub>ap was equal to the total of P<sub>2</sub>O<sub>5</sub>; where the CaO / P<sub>2</sub>O<sub>5</sub> ratio was less than 1.35, P<sub>2</sub>O<sub>5</sub>ap was equal to the CaO / 1.35 ratio.

(e) Mineral reserve tonnages and grade are stated as ROM tonnages. The mineral reserves are constrained by a pit design that honors site specific geotechnical designs by pit sector. The mine plan considers constraints required for surface and groundwater management, appropriate extraction methodology, labor and equipment requirements, beneficiation plant mass and metallurgical recoveries, and are dependent upon all permits and environmental licenses in place and continued approved status. The reference point for cut-off grade and pit optimization analysis is tonnes of concentrate at a price of R\$1,939.57/tonne concentrate (2023 price evaluation). Cut-off grade of P<sub>2</sub>O<sub>5</sub>ap ≥ 5.0% and 0.9 ≤ RCP ≤ 3.0 was applied to mineral reserves. Mineral reserves were proven to be economic based on internal transfer price that was derived in the discounted cash flow and compared to the gross margin available.

### **Mineral Resources and Mineral Reserves Comparison**

The comparison of the Mineral Resources as of December 31, 2022 and December 31, 2023 can be found in Table 2.32. The Measured and Indicated Mineral Resources have decreased by 46%, while the Inferred Resources have increased by 60% since December 31, 2022.

**Table 2.32: Mineral Resources Comparison**

(tonnes in millions)	<b>December 31, 2023</b>		<b>December 31, 2022</b>		<b>Percent Difference</b>
<b>Category</b>	<b>Tonnes</b>	<b>Grade (%P<sub>2</sub>O<sub>5</sub>ap)</b>	<b>Tonnes</b>	<b>Grade (%P<sub>2</sub>O<sub>5</sub>ap)</b>	
Measured	16.5	8.6	62.8	8.0	
Indicated	53.2	8.7	67.0	7.8	
<b>Measured + Indicated</b>	<b>69.7</b>	<b>8.7</b>	<b>129.8</b>	<b>7.9</b>	<b>-46 %</b>
Inferred	180.8	9.2	112.8	8.6	<b>60 %</b>

The comparison of the Mineral Reserves as of December 31, 2022 and December 31, 2023 can be found in Table 2.33. The Mineral Reserves have decreased in tonnage by 3% from the December 31, 2022 estimate due to mining depletion as well as an updated mine plan and economic analysis. This change is not considered a material change.

**Table 2.33: Mineral Reserves Comparison**

(tonnes in millions)	<b>December 31, 2023</b>		<b>December 31, 2022</b>		<b>Percent Difference</b>
<b>Category</b>	<b>Tonnes</b>	<b>Grade (%P<sub>2</sub>O<sub>5</sub>ap)</b>	<b>Tonnes</b>	<b>Grade (%P<sub>2</sub>O<sub>5</sub>ap)</b>	
Proven	131.7	9.1	182.7	9.4	
Probable	311.9	8.9	274.6	9.1	
<b>Proven+Probable</b>	<b>443.6</b>	<b>9.0</b>	<b>457.3</b>	<b>9.2</b>	<b>-3 %</b>

## REGULATION S-K 1300 INTERNAL CONTROLS DISCLOSURE

Qualified persons, including third parties and Mosaic employees, are responsible for estimating mineral resources and reserves. Mosaic has a Global Review Team, consisting of a broad spectrum of internal personnel outside the operating organization whose primary responsibilities include review of the mineral resources and reserves estimation reporting for compliance with SEC rules and regulations. The Global Review Team includes members from Mosaic's accounting, finance, business units and legal departments. Reports prepared by qualified persons and third parties are reviewed at various levels of the Global Review Team before they are ultimately reviewed and approved by our senior leadership team. In future years, Mosaic expects to modify and streamline our S-K 1300 processes and internal controls.

### Item 3. Legal Proceedings.

We have included information about legal and environmental proceedings in Note 23 of our Notes to Consolidated Financial Statements. That information is incorporated herein by reference.

We are also subject to the following legal and environmental proceedings in addition to those described in Note 23 of our Consolidated Financial Statements included in this Form 10-K:

Countervailing Duty Orders. In April 2021, the U.S. Department of Commerce ("**DOC**") issued countervailing duty ("**CVD**") orders on imports of phosphate fertilizers from Morocco and Russia, in response to petitions filed by Mosaic. The purpose of the petitions was to remedy the injury to the U.S. phosphate fertilizer industry caused by imports that benefit from unfair foreign subsidies, and thereby restore fair competition. CVD orders normally stay in place for at least five years, with possible extensions. Moroccan and Russian producers have initiated actions at the U.S. Court of International Trade ("**CIT**") seeking to overturn the orders. Mosaic has also made claims contesting certain aspects of DOC's final determinations that, we believe, failed to capture the full extent of Moroccan and Russian subsidies. These litigation challenges remain underway. Most recently, in July and September 2023, the CIT issued three remand rulings - one addressing DOC's determination in the CVD investigation of phosphate fertilizers from Russia, one addressing DOC's determination in the CVD investigation of phosphate fertilizers from Morocco, and one addressing the U.S. International Trade Commission's determination in

antidumping and countervailing duty investigations of phosphate fertilizers from Russia and Morocco – instructing the agencies to reconsider certain aspects of the rulings that were the basis for issuing the CVD orders.

When a CVD order is in place, DOC normally conducts annual administrative reviews, which establish a final CVD assessment rate for past imports during a defined period, and a CVD cash deposit rate for future imports. In November 2023, DOC announced the final results of the first administrative reviews for the CVD orders on phosphate fertilizers for Russia and Morocco, covering the period November 30, 2020 to December 31, 2021. DOC calculated new subsidy rates of 2.12% for Moroccan producer OCP and 28.50% for Russian producer PhosAgro. These determinations are subject to appeal to the CIT. DOC is also conducting administrative reviews covering the period January 1, 2022 to December 31, 2022. The applicable final CVD assessment rates and cash deposit rates for imports of phosphate fertilizer from Morocco and Russia could change as a result of these various proceedings and potential associated appeals, whether in federal courts or at the World Trade Organization.

The South Pasture Mine – Hardee County Enforcement Action. On January 8, 2020, Hardee County issued a Notice of Violation (“**NOV**”) for Mosaic’s delay in meeting the required reclamation schedule for two designated reclamation units within the South Pasture Mine. The delay resulted from idling the South Pasture beneficiation plant in 2018; because the plant was idled, no sand was available for reclamation activities.

Acting on Mosaic’s “Application for Waiver and Reclamation Schedule Extension,” in May 2020, the Hardee County Board of County Commissioners approved: (1) a waiver of the applicable reclamation deadlines of the South Pasture Development Order and Land Development Code; (2) an alternative reclamation schedule; and (3) a settlement agreement that resolved the NOV. Mosaic timely paid the civil penalty required by the settlement agreement and continues to implement the approved alternative reclamation schedule, as required. Monitoring programs are in place to ensure continued compliance with the Waiver and settlement agreement.

Cruz Litigation. On August 27, 2020, a putative class action complaint was filed in the Circuit Court of the Thirteenth Judicial Circuit in Hillsborough County, Florida against our wholly-owned subsidiary, Mosaic Global Operations Inc., and two unrelated co-defendants. The complaint alleges claims related to elevated levels of radiation at two manufactured housing communities located on reclaimed mining land in Mulberry, Polk County, Florida, allegedly due to phosphate mining and reclamation activities occurring decades ago. Plaintiffs seek monetary damages, including punitive damages, injunctive relief requiring remediation of their properties, and a medical monitoring program funded by the defendants. On October 14, 2021, the court substantially granted a motion to dismiss we filed late in 2020, with leave for the plaintiffs to amend their complaint.

On November 3, 2021, plaintiffs filed an amended complaint and in response, Mosaic filed a motion to dismiss that complaint with prejudice on November 15, 2021. On December 23, 2021, plaintiffs opposed that motion and Mosaic replied to that opposition on January 26, 2022. On April 6, 2022, the court heard argument on the motions to dismiss filed by Mosaic and each other co-defendant. In late March 2023, the court denied Mosaic's motions to dismiss, and discovery now is underway.

We intend to continue to vigorously defend this matter.

Faustina Plant Risk Management Plan. On September 14, 2022, EPA Region 6 issued a Notice of Potential Violation and Opportunity to Confer ("**NOPVOC**") regarding compliance of our Faustina Plant with Section 112(r) of the Federal Clean Air Act and 40 C.F.R. Part 68, commonly known as the Risk Management Plan Rule ("**RMP Rule**"). The NOPVOC relates to a compliance evaluation inspection conducted by the EPA at the Faustina Plant from February 22-25, 2022 and alleges violations of the RMP Rule. We conferred with the EPA regarding the allegations in the NOPVOC on November 30, 2022. We negotiated a Consent Agreement and Final Order ("**CAFO**") with the agency that was filed on January 30, 2024. The CAFO requires a penalty payment of \$217,085 and the completion of two supplemental environmental projects: (1) installation of ammonia monitors and monitoring at the plant for a period of two years and (2) donation of two generators to the St. James Parish Department of Emergency Preparedness.

#### **Item 4. Mine Safety Disclosures.**

Information concerning mine safety violations or other regulatory matters required by Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 104 of Regulation S-K is included in Exhibit 95 to this report.

## PART II.

### Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

We have included information about the market price of, dividends on and the number of holders of our common stock under "Quarterly Results (Unaudited)" in the financial information that is incorporated by reference in this Form 10-K in Part II, Item 8. "Financial Statements and Supplementary Data".

The principal stock exchange on which our common stock is traded is The New York Stock Exchange under the symbol "MOS".

The following provides information related to equity compensation plans:

Plan category	Number of shares to be issued upon exercise of outstanding options, warrants and rights <sup>(a)</sup>	Weighted-average exercise price of outstanding options, warrants and rights <sup>(b)</sup>	Number of shares remaining available for future issuance under equity compensation plans (excluding shares reflected in first column)
Equity compensation plans approved by stockholders	3,766,769	\$ 34.46	17,924,996
Equity compensation plans not approved by stockholders	—	—	—
<b>Total</b>	<b>3,766,769</b>	<b>\$ 34.46</b>	<b>17,924,996</b>

(a) Includes grants of 596,216 stock options, 1,485,573 time-based restricted stock units and 1,684,980 total stockholder return ("TSR") performance units settled in stock. The total does not include cash-settled TSR performance units. For purposes of the table above, the number of shares to be issued under a performance unit award reflects the maximum number of shares of our common stock that may be issued pursuant to such performance award. The actual number of shares to be issued under a TSR performance unit award will depend on the change in the market price of our common stock over a three-year vesting period, with no shares issued if the market price of a share of our common stock at the vesting date plus dividends thereon is less than 50% of its market price on the date of grant and the maximum number issued only if the market price of a share of our common stock at the vesting date plus dividends thereon is at least twice its market price on the date of grant.

(b) Includes weighted average exercise price of stock options only.

Pursuant to our equity compensation plans, we have granted and may in the future grant employee stock options to purchase shares of common stock of Mosaic for which the purchase price may be paid by means of delivery to us by the optionee of shares of common stock of Mosaic that are already owned by the optionee (at a value equal to market value on



the date of the option exercise). During the period covered by this report, no options to purchase shares of common stock of Mosaic were exercised for which the purchase price was so paid.

The following table sets forth information with respects to shares of our Common Stock that we purchased under the repurchase programs during the quarter ended December 31, 2023:

<b>Period</b>	<b>Total number of shares purchased</b>	<b>Average price paid per share</b>	<b>Total number of shares purchased as part of a publicly announced program</b>	<b>Maximum approximate dollar value of shares that may yet be purchased under the program<sup>(a)</sup></b>
<b>Common Stock</b>				
October 1, 2023- October 31, 2023	1,416,915	\$ 35.29	1,416,915	\$ 1,267,818,328
November 1, 2023- November 30, 2023	1,444,352	34.62	1,444,352	1,217,818,369
December 1, 2023- December 31, 2023	1,378,073	36.28	1,378,073	1,167,818,473
<b>Total</b>	<b>4,239,340</b>	<b>\$ 35.38</b>	<b>4,239,340</b>	<b>\$ 1,167,818,473</b>

(a) At the end of the month shown.

**Item 6. Reserved.****Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.**

The Management's Discussion and Analysis of Financial Condition and Results of Operations listed in the Financial Table of Contents included in this report is incorporated herein by reference.

**Item 7A. Quantitative and Qualitative Disclosures about Market Risk.**

We have included a discussion about market risks under "Market Risk" in the Management's Analysis that is included in this report in Part II, Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations". This information is incorporated herein by reference.

**Item 8. Financial Statements and Supplementary Data.**

Our Consolidated Financial Statements, the Notes to Consolidated Financial Statements, the report of our Independent Registered Public Accounting Firm, and the information under "Quarterly Results" listed in the Financial Table of Contents included in this report are incorporated herein by reference. All other schedules for which provision is made in the applicable accounting regulation of the SEC are not required under the related instructions or are inapplicable, and therefore, have been omitted.

**Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosures.**

None.

**Item 9A. Controls and Procedures.****(a) Disclosure Controls and Procedures**

We maintain disclosure controls and procedures designed to ensure that information required to be disclosed in our filings under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and (ii) accumulated and communicated to management, including our principal executive officer and our principal financial officer, to allow timely decisions regarding required disclosures. Our management, with the participation of our principal executive officer and our principal financial officer, has evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Form 10-K. Our principal executive officer and our principal financial officer have concluded, based on such evaluations, that our disclosure controls and procedures were effective for the purpose for which they were designed as of the end of such period.

**(b) Management's Report on Internal Control Over Financial Reporting**

We have included management's report on internal control over financial reporting under "Management's Report on Internal Control Over Financial Reporting" listed in the Financial Table of Contents included in this Form 10-K.

We have included our registered public accounting firm's attestation report on our internal controls over financial reporting under "Report of Independent Registered Public Accounting Firm" listed in the Financial Table of Contents included in this Form 10-K.

This information is incorporated herein by reference.

**(c) Changes in Internal Control Over Financial Reporting**

Our management, with the participation of our principal executive officer and our principal financial officer, has evaluated any change in internal control over financial reporting that occurred during the quarter ended December 31, 2023 in accordance with the requirements of Rule 13a-15(d) promulgated by the SEC under the Exchange Act. There were no changes in internal control over financial reporting identified in connection with management's evaluation that occurred during the quarter ended December 31, 2023 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

**Item 9B. Other Information.**

During the quarter ended December 31, 2023, none of our directors or officers informed us of the adoption or termination of a “Rule 10b5-1 trading arrangement” or “non-Rule 10b5-1 trading arrangement” as those terms are defined in Item 408(a) of Regulation S-K.

## **PART III.**

### **Item 10. Directors, Executive Officers and Corporate Governance.**

The information contained under the headings “Proposal No. 1–Election of Directors,” “Corporate Governance–Committees of the Board of Directors,” “Beneficial Ownership of Securities,” and “Delinquent Section 16 Reports” included in our definitive proxy statement for our 2024 annual meeting of stockholders and the information contained under “Information About our Executive Officers” in Part I, Item 1. “Business,” in this report is incorporated herein by reference.

We have a Code of Business Conduct and Ethics within the meaning of Item 406 of Regulation S-K adopted by the SEC under the Exchange Act that applies to our principal executive officer, principal financial officer and principal accounting officer. Our Code of Business Conduct and Ethics is available on Mosaic’s website ([www.mosaicco.com](http://www.mosaicco.com)) and we intend to satisfy the disclosure requirement under Item 5.05 of Form 8-K regarding any amendment to, or waiver from, a provision of our code of ethics by posting such information on our website. The information contained on Mosaic’s website is not being incorporated herein.

### **Item 11. Executive Compensation.**

The information under the headings “Director Compensation” and “Executive Compensation” included in our definitive proxy statement for our 2024 annual meeting of stockholders is incorporated herein by reference.

### **Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.**

The information under the headings “Beneficial Ownership of Securities” and “Certain Relationships and Related Transactions” included in our definitive proxy statement for our 2024 annual meeting of stockholders is incorporated herein by reference. The table containing information related to equity compensation plans set forth in Part II, “Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities” of this report is also incorporated herein by reference.

### **Item 13. Certain Relationships and Related Transactions, and Director Independence.**

The information under the headings “Corporate Governance–Board Independence,” “Corporate Governance–Committees of the Board of Directors,” “Corporate Governance–Other Policies Relating to the Board of Directors–Policy and Procedures Regarding Transactions with Related Persons,” and “Certain Relationships and Related Transactions” included in our definitive proxy statement for our 2024 annual meeting of stockholders is incorporated herein by reference.

### **Item 14. Principal Accounting Fees and Services.**

Our independent registered public accounting firm is KPMG LLP, Tampa, FL, Auditor Firm ID: 185.

The information included under “Audit Committee Report and Payment of Fees to Independent Registered Public Accounting Firm–Fees Paid to Independent Registered Public Accounting Firm” and “Audit Committee Report and Payment of Fees to Independent Registered Public Accounting Firm–Pre-approval of Independent Registered Public Accounting Firm Services” is included in our definitive proxy statement for our 2024 annual meeting of stockholders is incorporated herein by reference.

**PART IV.**

**Item 15. Exhibits and Financial Statement Schedules.**

- (a) (1) Consolidated Financial Statements filed as part of this report are listed in the Financial Table of Contents included in this report and incorporated by reference in this report in Part II, Item 8, “Financial Statements and Supplementary Data”.
- (2) All schedules for which provision is made in the applicable accounting regulations of the SEC are listed in this report in Part II, Item 8, “Financial Statements and Supplementary Data”.
- (3) Reference is made to the Exhibit Index in (b) below.
- (b) Exhibits

<b>Exhibit No.</b>	<b>Description</b>	<b>Incorporated Herein by Reference to</b>	<b>Filed with Electronic Submission</b>
2.i.	<a href="#"><u>Agreement and Plan of Merger and Contribution, dated as of January 26, 2004, by and among IMC Global Inc. (now known as Mosaic Global Holdings Inc.), Global Nutrition Solutions, Inc. (now known as The Mosaic Company (“Mosaic”), as successor by merger to MOS Holdings Inc. (“MOS Holdings”), GNS Acquisition Corp., Cargill, Incorporated (“Cargill”) and Cargill Fertilizer, Inc., as amended by Amendment No. 1 to Agreement and Plan of Merger and Contribution, dated as of June 15, 2004, and as further amended by Amendment No. 2 to Agreement and Plan of Merger and Contribution, dated as of October 18, 2004</u></a> <sup>(1)</sup>	Exhibit 2.1 to Mosaic’s Current Report on Form 8-K dated October 22, 2004, and filed on October 28, 2004 <sup>(2)</sup>	
3.i.	<a href="#"><u>Restated Certificate of Incorporation of Mosaic, effective May 19, 2016</u></a>	Exhibit 3.i to Mosaic’s Current Report on Form 8-K dated May 19, 2016 and filed on May 23, 2016 <sup>(2)</sup>	
3.ii.	<a href="#"><u>Amended and Restated Bylaws of Mosaic, effective December 15, 2023</u></a>	Exhibit 3.1 to Mosaic’s Current Report on Form 8-K dated December 15, 2023 and filed on December 20, 2023 <sup>(2)</sup>	
4.i	<a href="#"><u>Credit Agreement dated as of August 19, 2021, among Mosaic, Bank of America, N.A., as administrative agent, Swing Line Lender and an L/C Issuer, and the lenders and other L/D Issuers party thereto</u></a>	Exhibit 4.i to Mosaic’s Current Report on Form 8-K dated August 23, 2021 and filed on August 23, 2021 <sup>(2)</sup>	
4.ii	<a href="#"><u>First Amendment to Credit Agreement, dated as of May 10, 2023, among The Mosaic Company, as borrower, Bank of America, N.A., as Administrative Agent, Swing Line Lender and an L/C Issuer, and the lenders and other L/C Issuers</u></a>	Exhibit 10.1 to Mosaic’s Current Report on Form 8-K dated May 10, 2023, and filed on May 10, 2023	







10.ii.a	<a href="#">Time Charter dated as of October 24, 2017 between Tampa Port Services, LLC and Savage Harvest Operations, LLC</a>	Exhibit 10.1 to Mosaic's Current Report on Form 8-K dated October 24, 2017 and filed on October 30, 2017	
10.ii.b	<a href="#">Guaranty dated as of October 24, 2017 by The Mosaic Company</a>	Exhibit 10.2 to Mosaic's Current Report on Form 8-K dated October 24, 2017 and filed on October 30, 2017	
10.iii.a. <sup>(3)</sup>	<a href="#">The Mosaic Company 2004 Omnibus Stock and Incentive Plan (the "Omnibus Incentive Plan"), as amended October 8, 2009</a>	Appendix A to Mosaic's Proxy Statement dated August 25, 2009 <sup>(2)</sup>	
10.iii.a. 1 <sup>(3)</sup>	<a href="#">Form of Amendment dated May 11, 2011, to the Omnibus Incentive Plan</a>	Exhibit 10.iii.u. to Mosaic's Annual Report on Form 10-K for the Fiscal Year ended May 31, 2011 <sup>(2)</sup>	
10.iii.a. 2 <sup>(3)</sup>	<a href="#">Form of Employee Nonqualified Stock Option Award Agreement under the Omnibus Incentive Plan, approved July 20, 2011</a>	Exhibit 10.iii.b. to Mosaic's Quarterly Report on Form 10-Q for the Quarterly Period ended August 31, 2011 <sup>(2)</sup>	
10.iii.b. <sup>(3)</sup>	<a href="#">Description of Mosaic Management Incentive Program</a>		X
10.iii.c. 1 <sup>(3)</sup>	<a href="#">Mosaic Nonqualified Deferred Compensation Plan, as amended and restated effective December 15, 2023</a>		X
10.iii.c. 2 <sup>(3)</sup>	<a href="#">Mosaic LTI Deferral Plan, approved March 5, 2015</a>	Exhibit 10.1 to Mosaic's Current Report on Form 8-K dated March 5, 2015 and filed on March 11, 2015 <sup>(2)</sup>	
10.iii.c. 3 <sup>(3)</sup>	<a href="#">Amendment to Mosaic LTI Deferral Plan, approved March 1, 2017</a>	Exhibit 10.iii.c.4 to Mosaic's Quarterly Report on Form 10-Q for the Quarterly Period ended March 31, 2017 <sup>(2)</sup>	
10.iii.d. 1 <sup>(3)</sup>	<a href="#">Form of Senior Management Severance and Change in Control Agreement effective April 1, 2023</a>	Exhibit 10.iii.d to Mosaic's Quarterly Report on Form 10-Q for the Quarterly Period ended March 31, 2023	
10.iii.d.2	<a href="#">Form of Non-Competition, Non-Solicitation, Non-Defamation and Confidentiality Agreement effective April 1, 2023</a>	Exhibit 10.iii.d.2. to Mosaic's Quarterly Report on Form 10-Q of Mosaic for the Quarterly Period ended March 31, 2023 <sup>(2)</sup>	
10.iii.d. 2 <sup>(3)</sup>	<a href="#">Form of expatriate agreement dated November 1, 2015 between Mosaic and</a>	Exhibit 10.1 to Mosaic's	





10.iii.d. 4 <sup>(3)</sup>	<a href="#">Form of expatriate agreement dated January 8, 2016, between Mosaic and an executive officer</a>	Exhibit 10.iii.d to Mosaic's Quarterly Report on Form 10-Q for the Quarterly Period ended March 31, 2022
10.iii.e. 1 <sup>(3)</sup>	<a href="#">Agreement between Cargill and Mosaic relating to certain former Cargill employees' participation in the Cargill International Pension Plan</a>	Exhibit 10.iii.b. to Mosaic's Quarterly Report on Form 10-Q for the Quarterly Period ended August 31, 2012 <sup>(2)</sup>
10.iii.e. 2 <sup>(3)</sup>	<a href="#">Form of Supplemental Agreement between Mosaic and certain former participants in the Cargill International Pension Plan</a>	Exhibit 10.iii.x. to Mosaic's Annual Report on Form 10-K of Mosaic for the fiscal year ended May 31, 2013 <sup>(2)</sup>
10.iii.f. <sup>(3)</sup>	<a href="#">Form of Indemnification Agreement between Mosaic and its directors and executive officers</a>	Exhibit 10.iii. to Mosaic's Current Report on Form 8-K dated October 8, 2008, and filed on October 14, 2008 <sup>(2)</sup>
10.iii.g. <sup>(3)</sup>	Board of Directors compensatory plans, as described under the caption "Director Compensation" in The Mosaic Company definitive proxy statement to be filed with the Securities and Exchange Commission (in connection with the 2024 Annual Meeting of Stockholders).	
10.iii.h. <sup>(3)</sup>	<a href="#">Executive Perquisite Program</a>	The material under "Compensation Discussion and Analysis—Other Executive Compensation Arrangements, Policies and Practices—Perquisites" in Mosaic's Proxy Statement dated April 12, 2023
10.iii.i. <sup>(3)</sup>	<a href="#">The Mosaic Company 2014 Stock and Incentive Plan (the "2014 Incentive Plan")</a>	Appendix B to Mosaic's Proxy Statement dated April 2, 2014 <sup>(2)</sup>
10.iii.j. <sup>(3)</sup>	<a href="#">Form of Amendment dated August 14, 2019, to the 2014 Incentive Plan</a>	Exhibit 10.iii.j to Mosaic's Annual Report on Form 10-K for the fiscal year ended December 31, 2019
10.iii.k. 1 <sup>(3)</sup>	<a href="#">Form of Non-Qualified Stock Option Award Agreement under the 2014 Incentive Plan, approved March 5, 2015</a>	Exhibit 10.iii.a. to Mosaic's Quarterly Report on Form 10-Q for the Quarterly Period ended March 31, 2015 <sup>(2)</sup>
10.iii.k.	<a href="#">Form of Non-Qualified Stock Option</a>	Exhibit 10.iii.a. to







10.iii.k. 5 <sup>(3)</sup>	<a href="#">Form of Executive TSR Stock Settled Performance Unit Award Agreement under the 2014 Incentive Plan, approved March 4, 2020</a>	Exhibit 10.iii.b to Mosaic's Quarterly Report on Form 10-Q for the Quarterly Period ended March 31, 2020
10.iii.k. 6 <sup>(3)</sup>	<a href="#">Form of Executive TSR Cash Settled Performance Unit Award Agreement under the 2014 Incentive Plan, approved March 4, 2020</a>	Exhibit 10.iii.c to Mosaic's Quarterly Report on Form 10-Q for the Quarterly Period ended March 31, 2020
10.iii.k. 7 <sup>(3)</sup>	<a href="#">Form of Global Restricted Stock Unit Award Agreement (March 2023)</a>	Exhibit 10.iii.k.1 to Mosaic's Quarterly Report on Form 10-Q for the Quarterly Period Ended March 31, 2023
10.iii.k. 8 <sup>(3)</sup>	<a href="#">Form of Executive TSR Performance Unit Award Agreement (Stock-Settled - March 2023)</a>	Exhibit 10.iii.k.2 to Mosaic's Quarterly Report on Form 10-Q for the Quarterly Period Ended March 31, 2023
10.iii.k. 9 <sup>(3)</sup>	<a href="#">Form of Executive TSR Performance Unit Award Agreement (Cash-Settled - March 2023)</a>	Exhibit 10.iii.k.3 to Mosaic's Quarterly Report on Form 10-Q for the Quarterly Period Ended March 31, 2023
10.iii.k. 10 <sup>(3)</sup>	<a href="#">Form of Director Restricted Stock Unit Award Agreement under The Mosaic Company 2014 Stock and Incentive Plan, as amended, approved May 19, 2022</a>	Exhibit 10.iii.k to Mosaic's quarterly report on Form 10-Q for the Quarterly Period Ended June 30, 2022
10.iii.l.1 <sup>(3)</sup>	<a href="#">The Mosaic Company 2023 Stock and Incentive Plan</a>	Appendix B to Mosaic's Proxy Statement dated April 12, 2023
10.iii.l.2 <sup>(3)</sup>	<a href="#">Form of Global Restricted Stock Unit Award Agreement under The Mosaic Company 2023 Stock and Incentive Plan approved May 24, 2023</a>	Exhibit 10.iii.i to Mosaic's Quarterly Report on Form 10-Q for the Quarterly Period Ended September 30, 2023
10.iii.l.3 <sup>(3)</sup>	<a href="#">Form of Director Restricted Stock Unit Award Agreement under The Mosaic Company 2023 Stock and Incentive Plan approved December 15, 2023</a>	Exhibit 10.1 to Mosaic's Current Report on Form 8-K dated December 15, 2023 and filed on December 20, 2023
10.iv.a	<a href="#">Consent Decree dated September 30, 2015 among the United States of America, the Florida Department of Environmental Protection, Mosaic Fertilizer, LLC and The Mosaic Company</a> <sup>(4)</sup>	Exhibit 10.1. to Mosaic's Current Report on Form 8-K dated September 30, 2015 and filed on October 6, 2015(2)
10.iv.b	<a href="#">Description of Modifications to Consent Decree dated September 30, 2015</a>	Exhibit 10.v.i to Mosaic's Quarterly Report on





10.iv.d	<a href="#">Description of Modifications to Consent Decree dated September 30, 2015 among the United States of America, the Louisiana Department of Environmental Quality, Mosaic Fertilizer, LLC and The Mosaic Company, filed as Exhibit 10.2 to the Current Report on Form 8-K of Mosaic dated September 30, 2015 and filed on October 6, 2015</a>	Exhibit 10.v.ii to Mosaic's Quarterly Report on Form 10-Q for the Quarterly Period Ended June 30, 2016(2)	
21	<a href="#">Subsidiaries of the Registrant</a>		X
23.1	<a href="#">Consent of KPMG LLP, independent registered public accounting firm for Mosaic</a>		X
23.2	<a href="#">Florida Phosphate Mining Consent of Qualified Persons</a>	Exhibit 23.2 to Mosaic's Annual Report on Form 10-K for the fiscal year ended December 31, 2022	
23.3	<a href="#">Tapira Consent of Qualified Persons</a>		X
23.4	<a href="#">Belle Plaine Potash Facility Consent of Qualified Persons</a>	Exhibit 23.3 to Mosaic's Annual Report on Form 10-K for the fiscal year ended December 31, 2021	
23.5	<a href="#">Esterhazy Potash Facility Consent of Qualified Persons</a>	Exhibit 23.4 to Mosaic's Annual Report on Form 10-K for the fiscal year ended December 31, 2021	
24	<a href="#">Power of Attorney</a>		X
31.1	<a href="#">Certification of Chief Executive Officer Required by Rule 13a-14(a)</a>		X
31.2	<a href="#">Certification of Chief Financial Officer Required by Rule 13a-14(a)</a>		X
32.1	<a href="#">Certification of Chief Executive Officer Required by Rule 13a-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code</a>		X
32.2	<a href="#">Certification of Chief Financial Officer Required by Rule 13a-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code</a>		X
95	<a href="#">Mine Safety Disclosures</a>		X
96.1	<a href="#">Florida Phosphate Mining Technical Report Summary</a>	Exhibit 96.1 to Mosaic's Annual Report on Form 10-K for the fiscal year ended December 31, 2022	
		Exhibit 96.2 to Mosaic's	



101.INS	Inline XBRL Instance Document (the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document)	X
101.SCH	Inline XBRL Taxonomy Extension Schema Document	X
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document	X
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document	X
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document	X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document	X
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)	X
(c)	Summarized financial information of 50% or less owned persons is included in Note 9 of Notes to Consolidated Financial Statements. Financial statements and schedules are omitted as none of such persons are significant under the tests specified in Regulation S-X under Article 3.09 of general instructions to the financial statements.	

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- (1) Mosaic agrees to furnish supplementally to the SEC a copy of any omitted schedules and exhibits to the extent required by rules of the Commission upon request.
- (2) SEC File No. 001-32327.
- (3) Denotes management contract or compensatory plan.
- (4) Confidential information has been omitted from this Exhibit and filed separately with the SEC pursuant to a confidential treatment request under Rule 24b-2 of the Exchange Act.

**Item 16. Annual Report on Form 10-K Summary.**

None.

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## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

THE MOSAIC COMPANY  
(Registrant)

/s/ Bruce M. Bodine

Bruce M. Bodine  
Chief Executive Officer and  
President

Date: February 22, 2024



Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

Name	Title	Date
/s/ Bruce M. Bodine Bruce M. Bodine	Chief Executive Officer and President and Director (principal executive officer)	February 22, 2024
/s/ Clint C. Freeland Clint C. Freeland	Executive Vice President and Chief Financial Officer (principal financial officer)	February 22, 2024
/s/ Russell A. Flugel Russell A. Flugel	Vice President—Controller and Chief Accounting Officer (principal accounting officer)	February 22, 2024
* Gregory L. Ebel	Chairman of the Board of Directors	February 22, 2024
* Cheryl K. Beebe	Director	February 22, 2024
* Timothy S. Gitzel	Director	February 22, 2024
* Emery N. Koenig	Director	February 22, 2024
* Jody L. Kuzenko	Director	February 22, 2024
* David T. Seaton	Director	February 22, 2024
* Steven M. Seibert	Director	February 22, 2024
* João Roberto Gonçalves Teixeira	Director	February 22, 2024
* Gretchen H. Watkins	Director	February 22, 2024
* Kelvin R. Westbrook	Director	February 22, 2024

**\*By: /s/ Philip E. Bauer**

**Philip E. Bauer**  
**Attorney-in-Fact**

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## Management's Discussion and Analysis of Financial Condition and Results of Operations

### Introduction

The Mosaic Company (before or after the Cargill Transaction, as defined below, "**Mosaic**," and with its consolidated subsidiaries, "**we**," "**us**," "**our**" or the "**Company**") is the parent company of the business that was formed through the business combination ("**Combination**") of IMC Global Inc. and the Cargill Crop Nutrition fertilizer businesses of Cargill, Incorporated and its subsidiaries (collectively, "**Cargill**") on October 22, 2004. In May 2011, Cargill divested its approximately 64% equity interest in us in a split-off to its stockholders and a debt exchange with certain Cargill debt holders.

We produce and market concentrated phosphate and potash crop nutrients. We conduct our business through wholly- and majority-owned subsidiaries as well as businesses in which we own less than a majority or a non-controlling interest, including consolidated variable interest entities and investments accounted for by the equity method.

We are organized into the following business segments:

- Our **Phosphates** business segment owns and operates mines and production facilities in Florida, which produce concentrated phosphate crop nutrients and phosphate-based animal feed ingredients, and processing plants in Louisiana, which produce concentrated phosphate crop nutrients for sale domestically and internationally. We have a 75% economic interest in the Miski Mayo Phosphate Mine ("**Miski Mayo Mine**") in Peru. These results are consolidated in the Phosphates segment. The Phosphates segment also includes our 25% interest in the Ma'aden Wa'ad Al Shamal Phosphate Company ("**MWSPC**"), a joint venture to develop, own and operate integrated phosphate production facilities in the Kingdom of Saudi Arabia. We market approximately 25% of the MWSPC phosphate production. We recognize our equity in the net earnings or losses relating to MWSPC on a one-quarter reporting lag in our Consolidated Statements of Earnings.
- Our **Potash** business segment owns and operates potash mines and production facilities in Canada and the U.S. which produce potash-based crop nutrients, animal feed ingredients and industrial products. Potash sales include domestic and international sales. We are a member of Canpotex, Limited ("**Canpotex**"), an export association of Canadian potash producers through which we sell our Canadian potash outside the U.S. and Canada.
- Our **Mosaic Fertilizantes** business segment includes five phosphate rock mines, four phosphate chemical plants and a potash mine in Brazil. The segment also includes our distribution business in South America, which consists of sales offices, crop nutrient blending and bagging facilities, port terminals and warehouses in Brazil and Paraguay. We also have a majority interest in Fospar S.A., which owns and operates a single superphosphate granulation plant and a deep-water port and throughput warehouse terminal facility in Brazil.

Intersegment eliminations, unrealized mark-to-market gains/losses on derivatives, debt expenses, corporate functional costs and the results of the China and India distribution

businesses are included within Corporate, Eliminations and Other. See Note 25 of the Consolidated Financial Statements in this Form 10-K for segment results.

**Key Factors that can Affect Results of Operations and Financial Condition**

Our primary products, phosphate and potash crop nutrients, are, to a large extent, global commodities that are also available from a number of domestic and international competitors, and are sold by negotiated contracts or by reference to published market prices. The markets for our products are highly competitive, and the most important competitive factor for our products is delivered price. Business and economic conditions and governmental policies affecting the agricultural industry and customer sentiment are the most significant factors affecting worldwide demand for crop nutrients. The profitability of our businesses is heavily influenced by worldwide supply and demand for our products, which affects our sales prices and volumes. Our costs per tonne to produce our products are also heavily influenced by fixed costs associated with owning and operating our major facilities, significant raw material costs in our Phosphates and Mosaic Fertilizantes businesses, and fluctuations in currency exchange rates.

Our products are generally sold based on the market prices prevailing at the time the sales contract is signed or through contracts which are priced at the time of shipment. Additionally, in certain circumstances the final price of our products is determined after shipment based on the current market at the time the price is agreed to with the customer. Forward sales programs at fixed prices increase the lag between prevailing market prices and our average realized selling prices. The mix

and parameters of these sales programs vary over time based on our marketing strategy, which considers factors that include, among others, optimizing our production and operating efficiency within warehouse limitations, as well as customer requirements. The use of forward sales programs and the level of customer prepayments may vary from period to period due to changing supply and demand environments, seasonality, and market sentiments.

World prices for the key raw material inputs for concentrated phosphate products, including ammonia, sulfur and phosphate rock, have an effect on industry-wide phosphate prices and production costs. The primary feedstock for producing ammonia is natural gas. The product price for ammonia is generally highly dependent on the supply and demand balance for ammonia. In North America, we purchase approximately one-third of our ammonia from various suppliers in the spot market, with the remaining two-thirds either purchased through a long-term ammonia supply agreement (the “**CF Ammonia Supply Agreement**”) with an affiliate of CF Industries, Inc. (“**CF**”) or produced internally at our Faustina, Louisiana location. The CF Ammonia Supply Agreement provides for U.S. natural gas-based pricing that is intended to lessen pricing volatility. If the price of natural gas rises or the market price for ammonia falls outside of the range anticipated at execution of this agreement, we may not realize a cost benefit from the natural gas-based pricing over the term of the agreement, or the cost of our ammonia under the agreement could be at a competitive disadvantage. During 2023, the contract provided an advantage over pricing in the spot market. At times, we have paid more or less for ammonia under the agreement than in the spot market. On October 14, 2022, we received notice from CF to exercise the bilateral, contractual right to end the ammonia supply agreement in its current form, effective January 1, 2025. In Brazil, we purchase all our ammonia from a single supplier.

Sulfur is a global commodity that is primarily produced as a by-product of oil refining. The market price is based primarily on the supply and demand balance for sulfur. We believe our current and future investments in sulfur transformation and transportation assets will enhance our competitive advantage.

We produce and procure most of our phosphate rock requirements through either wholly or partly owned mines. In addition to producing phosphate rock, Mosaic Fertilizantes purchases phosphate, potash and nitrogen products which are either used to produce blended crop nutrients (“**Blends**”) or for resale.

Our per tonne selling prices for potash are affected by shifts in the product mix, geography and customer mix. Our Potash business is significantly affected by Canadian resource taxes and royalties that we pay to the Province of Saskatchewan in order for us to mine and sell our potash products. In addition, cost of goods sold is affected by a number of factors, including: fluctuations in the Canadian dollar; the level of periodic inflationary pressures on resources in western Canada, where we produce most of our potash; and natural gas costs for operating our potash solution mine at Belle Plaine, Saskatchewan. In the past, we have also incurred operating costs to manage salt saturated brine inflows at our Esterhazy, Saskatchewan K1 and K2 mine shafts, which we closed in June 2021, due to an acceleration of brine inflows. We have now transitioned mining to the K3 mine shaft, which has replaced production from the K1 and K2 shafts.



Our results of operations are also affected by changes in currency exchange rates due to our international footprint. The most significant currency impacts are generally from the Canadian dollar and the Brazilian real.

A discussion of these and other factors that affected our results of operations and financial condition for the periods covered by this Management's Discussion and Analysis of Financial Condition and Results of Operations is set forth in further detail below. This Management's Discussion and Analysis of Financial Condition and Results of Operations should also be read in conjunction with the narrative description of our business in Item 1, and the risk factors described in Item 1A, of Part I of this Annual Report on Form 10-K ("**Form 10-K**"), and our Consolidated Financial Statements, accompanying notes and other information listed in the accompanying Financial Table of Contents.

This section of this Form 10-K discusses 2023 and 2022 items and year-to-year comparisons between 2023 and 2022. Discussions of 2021 items and year-to-year comparisons between 2022 and 2021 that are not included in this Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of the Company's Form 10-K for the year ended December 31, 2022 and are incorporated by reference herein.

Throughout the discussion below, we measure units of production, sales and raw materials in metric tonnes which are the equivalent of 2,205 pounds, unless we specifically state that we mean short or long ton(s), which are the equivalent of 2,000 pounds and 2,240 pounds, respectively. In addition, we measure natural gas, a raw material used in the production of our products, in MM BTU, which stands for one million British Thermal Units ("**BTU**"). One BTU is equivalent to 1.06 Joules. Management uses the following metrics to monitor segment performance: production volume, sales volume, average finished product selling price and average cost per unit consumed.

In the following table, there are certain percentages that are not considered to be meaningful and are represented by “NM”.

**Results of Operations**

The following table shows the results of operations for the years ended December 31, 2023, 2022, and 2021:

(in millions, except per share data)	Years Ended December 31,			2023-2022		2022-2021	
	2023	2022	2021	Change	Percent	Change	Percent
Net sales	\$13,696.1	\$19,125.2	\$12,357.4	\$(5,429.1)	(28)%	\$6,767.8	55 %
Cost of goods sold	11,485.5	13,369.4	9,157.1	(1,883.9)	(14)%	4,212.3	46 %
Gross margin	2,210.6	5,755.8	3,200.3	(3,545.2)	(62)%	2,555.5	80 %
Gross margin percentage	16.1 %	30.1 %	25.9 %	(14.0)%		4.2 %	
Selling, general and administrative expenses	500.5	498.0	430.5	2.5	1 %	67.5	16 %
Impairment, restructuring and other expenses	—	—	158.1	—	NM	(158.1)	(100)%
Other operating expenses	372.0	472.5	143.2	(100.5)	(21)%	329.3	NM
Operating earnings	1,338.1	4,785.3	2,468.5	(3,447.2)	(72)%	2,316.8	94
Interest expense, net	(129.4)	(137.8)	(169.1)	8.4	(6)%	31.3	(19)%
Foreign currency transaction gain (loss)	194.0	97.5	(78.5)	96.5	99 %	176.0	NM
Other (expense) income	(76.8)	(102.5)	3.9	25.7	(25)%	(106.4)	NM
Earnings from consolidated companies before income taxes	1,325.9	4,642.5	2,224.8	(3,316.6)	(71)%	2,417.7	109
Provision for income taxes	177.0	1,224.3	597.7	(1,047.3)	(86)%	626.6	105
Earnings from consolidated companies	1,148.9	3,418.2	1,627.1	(2,269.3)	(66)%	1,791.1	110 %
Equity in net earnings of nonconsolidated companies	60.3	196.0	7.8	(135.7)	(69)%	188.2	NM
Net earnings including noncontrolling interests	1,209.2	3,614.2	1,634.9	(2,405.0)	(67)%	1,979.3	121 %
Less: Net earnings attributable to noncontrolling interests	44.3	31.4	4.3	12.9	41 %	27.1	NM
Net earnings attributable to Mosaic	<u>\$ 1,164.9</u>	<u>\$ 3,582.8</u>	<u>\$ 1,630.6</u>	<u>\$(2,417.9)</u>	<u>(67)%</u>	<u>\$1,952.2</u>	<u>120 %</u>
Diluted net earnings per share attributable to Mosaic	<u>\$ 3.50</u>	<u>\$ 10.06</u>	<u>\$ 4.27</u>	<u>\$ (6.56)</u>	<u>(65)%</u>	<u>\$ 5.79</u>	<u>136 %</u>
Diluted weighted average number of shares outstanding	333.2	356.0	381.6				

## **Overview of the Years ended December 31, 2023 and 2022**

Net earnings attributable to Mosaic for the year ended December 31, 2023 were \$1.2 billion, or \$3.50 per diluted share, compared to \$3.6 billion, or \$10.06 per diluted share for 2022.

Significant factors that affected our results of operations and financial condition in 2023 and 2022 are listed below. These factors are discussed in more detail in the following sections of this Management's Discussion and Analysis of Financial Condition and Results of Operations.

### Year ended December 31, 2023

For the year ended December 31, 2023, operating results in all of our segments were impacted by lower average sales prices compared to the prior year. Global markets softened compared to the prior year, with a rebound in supply combined with buyers delaying purchases in the first half of the year, in anticipation of lower prices. Buyer deferral reversed in the later part of the current year, and we saw seasonal price strength in many markets.

In the Phosphates segment, operating results for 2023 were driven by lower average selling prices, partially offset by lower raw material costs and higher sales volumes compared to the prior year. Selling prices decreased due to the factors described above and were partially offset by lower raw material costs, primarily sulfur and ammonia, due to global supply and demand. Finished product sales volumes were favorable versus the prior year, driven by buyers deferring purchases in the prior year period in anticipation of lower sales prices.

In the Potash segment, 2023 operating results were unfavorably impacted by lower average selling prices of potash compared to the prior year period, driven by the factors discussed above. This was partially offset by higher sales volumes, driven by the factor discussed above. Current year operating results were also unfavorably impacted by higher idle plant and maintenance turnaround costs, due to the temporary idling of our Colonsay, Saskatchewan mine in the first half of the year, due to market conditions, and the length of turnarounds, compared to the prior year.

In the Mosaic Fertilizantes segment, 2023 results were unfavorably impacted by a decrease in average selling prices compared to the prior year period, driven by the factors discussed above. Sales volumes of finished goods, including performance products, were higher in the current year period, compared to the same period in the prior year, due to an increased customer base as a result of our growth strategy to expand our presence in Brazil. Results were also favorably impacted by a decrease in product costs for our distribution business, and lower sulfur and ammonia costs in our production business.

Other highlights in 2023 include:

- In January 2023, we completed the sale of the Streamsong Resort® (the “**Resort**”) and the approximately 7,000 acres on which it sits for net proceeds of \$158 million. The Resort is a destination resort and conference center, which we developed in an area of previously mined land as part of our long-term business strategy to maximize the value and utility of our extensive land holdings in Florida. In addition to a hotel and conference center, the Resort includes multiple golf courses, a clubhouse and ancillary facilities. The sale resulted in a gain of \$57 million.
- In the first quarter of 2023, we purchased the other 50% interest of equity of Gulf Sulphur Services (“**GSS**”), which gives us full ownership and secures control of our sulfur supply chain in the Gulf of Mexico.
- In February 2023, pursuant to existing stock repurchase authorizations, we entered into an accelerated share repurchase agreement (the “**2023 ASR Agreement**”) with a third-party financial institution to repurchase \$300 million of our Common Stock. In 2023, we repurchased 16,879,059 shares of Common Stock in the open market for approximately \$748 million. This includes 5,624,574 shares that we purchased under the 2023 ASR Agreement.
- In the first quarter of 2023, our Board of Directors approved a special dividend of \$0.25 per share to be distributed in March to our stockholders of record as of March 15, 2023. In the fourth quarter of 2023, our Board of Directors approved a regular dividend increase to \$0.84 per share annually from \$0.80, beginning with the dividend declared in December 2023.
- In May 2023, we entered into a 10-year senior unsecured term loan facility pursuant to which we can draw up to \$700 million. The term loan matures on May 18, 2033. We may voluntarily prepay the outstanding principal without premium or penalty. As of December 31, 2023, \$500 million has been drawn under this facility.
- In 2023, we paid the outstanding balance of \$900 million on our 4.25% senior notes, due November 15, 2023, without premium or penalty. On December 4, 2023, we issued new 5.375% senior notes consisting of \$400 million aggregate principal, amount due 2028.
- In 2021, the U.S. Department of Commerce (“**DOC**”) issued countervailing duty (“**CVD**”) orders on imports of phosphate fertilizers from Morocco and Russia, in response to petitions filed by Mosaic. The orders were based on DOC's determination that the imports were unfairly subsidized and the U.S. International Trade Commission's (“**ITC**”) determination that the imports materially injure the U.S. fertilizer industry. The purpose of the CVD orders was to remedy the injury and thereby restore fair competition. CVD orders normally stay in place for at least five years, with possible extensions.

Moroccan and Russian producers have initiated actions at the U.S. Court of International Trade (“**CIT**”) seeking to overturn the orders. Mosaic has also made claims contesting certain aspects of DOC's final determinations that, we believe,

failed to capture the full extent of Moroccan and Russian subsidies. These litigation challenges remain underway. Most recently, in January 2024, DOC and the ITC issued revised determinations on remand from the CIT, upholding their original determinations that Moroccan phosphate fertilizer is unfairly subsidized, and that Moroccan and Russian imports materially injure the U.S. industry, respectively. The CIT is now reviewing these remand determinations. Also in January 2024, the CIT issued a ruling affirming DOC's original determinations that Russian phosphate fertilizer is unfairly subsidized.

When a CVD order is in place, DOC normally conducts annual administrative reviews, which establish a final CVD assessment rate for past imports during a defined period, and a CVD cash deposit rate for future imports. In November 2023, DOC announced the final results of the first administrative reviews for the CVD orders on phosphate fertilizers for Russia and Morocco, covering the period November 30, 2020 to December 31, 2021. DOC calculated new subsidy rates of 2.12% for Moroccan producer OCP and 28.50% for Russian producer PhosAgro. Mosaic, foreign producers, and a U.S. importer have appealed these decisions to the CIT. DOC is also conducting administrative reviews covering the period January 1, 2022 to December 31, 2022. The applicable final CVD assessment rates and cash deposit rates for imports of phosphate fertilizer from Morocco and Russia could change as a result of these various proceedings and potential associated appeals, whether in federal courts or at the World Trade Organization.

Year ended December 31, 2022:

Operating results for the year ended December 31, 2022 in all of our segments increased, mainly from higher average sales prices compared to the prior year period. Average selling prices rose throughout 2021 and into the first half of 2022, driven by tightness in global supply and demand. The Russian invasion of Ukraine in February 2022 created instability in global commodities markets. The invasion, together with the continuation of reduced potash exports by Belarus, significantly reduced the physical supply of fertilizer and agricultural commodities produced in those geographies. This contributed to rising fertilizer prices globally. In addition, Chinese export restrictions on phosphates also impacted the global supply of fertilizer and contributed to tightening in the worldwide fertilizer market.

In the Phosphates segment, operating results for 2022 were driven by higher average selling prices partially offset by higher raw material costs and lower sales volumes compared to the prior year. Selling prices increased due to the factors described above and were partially offset by higher raw material costs, primarily sulfur and ammonia, due to global supply and demand. Finished product sales volumes were unfavorable versus the prior year, due to adverse weather conditions in North America, which contributed to a condensed spring season, the deferral of customers purchases in North America, and delayed shipments caused by impacts from Hurricane Ian which occurred at the end of the third quarter in 2022.

In the Potash segment, 2022 operating results were favorably impacted by higher average selling prices compared to the prior year period, driven by the factors discussed above. This was partially offset by lower sales volumes, due to customers deferring purchases to future periods.

In the Mosaic Fertilizantes segment, 2022 results were favorably impacted by higher average selling prices compared to the prior year period, driven by the factors discussed above, partially offset by higher raw material and production costs and lower sales volumes compared to the prior year. Production costs increased due to inflation and higher raw materials costs, which increased due to higher global prices for sulfur and ammonia. Sales volumes were lower in 2022 compared to the prior year, mainly due to unfavorable farmer economics.

**Phosphates Net Sales and Gross Margin**



The following table summarizes the Phosphates segment's net sales, gross margin, sales volume, selling prices and raw material prices:

(in millions, except price per tonne or unit)	Years Ended December 31,			2023-2022		2022-2021	
	2023	2022	2021	Change	Percent	Change	Percent
Net sales:							
North America	\$3,749.8	\$4,211.2	\$3,251.4	\$ (461.4)	(11)%	\$ 959.8	30 %
International	974.5	1,973.0	1,671.5	(998.5)	(51)%	301.5	18 %
Total	4,724.3	6,184.2	4,922.9	(1,459.9)	(24)%	1,261.3	26 %
Cost of goods sold	4,022.2	4,425.2	3,617.5	(403.0)	(9)%	807.7	22 %
Gross margin	\$ 702.1	\$1,759.0	\$1,305.4	\$(1,056.9)	(60)%	\$ 453.6	35
Gross margin as a percentage of net sales	14.9 %	28.4 %	26.5 %				
Sales volumes <sup>(a)</sup> (in thousands of metric tonnes)							
DAP/MAP	3,625	3,399	3,904	226	7 %	(505)	(13)%
Performance and Other <sup>(b)</sup>	3,366	3,159	3,789	207	7 %	(630)	(17)%
Total finished product tonnes	6,991	6,558	7,693	433	7 %	(1,135)	(15)%
Rock <sup>(c)</sup>	1,622	1,719	1,772	(97)	(6)%	(53)	(3)%
Total Phosphates Segment Tonnes <sup>(a)</sup>	8,613	8,277	9,465	336	4 %	(1,188)	(13)%
Realized prices (\$/tonne)							
Average finished product selling price (destination) <sup>(d)</sup>	\$ 646	\$ 913	\$ 618	\$ (267)	(29)%	\$ 295	48 %
DAP selling price (fob mine)	\$ 573	\$ 804	\$ 564	\$ (231)	(29)%	\$ 240	43 %
Average cost per unit consumed in cost of goods sold:							
Ammonia (metric tonne)	\$ 426	\$ 603	\$ 396	\$ (177)	(29)%	\$ 207	52 %
Sulfur (long ton)	\$ 181	\$ 368	\$ 181	\$ (187)	(51)%	\$ 187	103 %
Blended rock (metric tonne)	\$ 75	\$ 70	\$ 60	\$ 5	7 %	\$ 10	17 %
Production volume (in thousands of metric tonnes) - North America	6,568	6,647	7,331	(79)	(1)%	(684)	(9)%

- 
- (a) Includes intersegment sales volumes.
  - (b) Includes sales volumes of MicroEssentials® and animal feed ingredients.
  - (c) Sales volumes of rock are presented on a wet tonne basis based on average moisture levels of 3.5% to 4.5% as it exits the drying process and is prepared for shipping.
  - (d) Excludes sales revenue and tonnes associated with rock sales.

#### Year Ended December 31, 2023 compared to Year Ended December 31, 2022

The Phosphates segment's net sales were \$4.7 billion for the year ended December 31, 2023, compared to \$6.2 billion for the same period a year ago. The decrease in net sales was primarily due to lower average finished goods selling prices, which resulted in a decrease in net sales of approximately \$1.7 billion. This was partially offset by higher sales volumes of finished product, which favorably impacted net sales by approximately \$350 million. Net sales were also unfavorably impacted by approximately \$110 million due to lower raw materials sales driven by lower sales prices and volumes of sulfur and ammonia.

Our average finished product selling price decreased 29%, to \$646 per tonne for the year ended December 31, 2023, compared to \$913 per tonne for the same period a year ago, due to the factors discussed in the Overview.

The Phosphates segment's sales volumes of finished products increased to 7.0 million tonnes for the year ended December 31, 2023, compared to 6.6 million tonnes in 2022, due to the factors discussed in the Overview.

Gross margin for the Phosphates segment decreased to \$702.1 million in the current year compared with \$1.8 billion for the prior year. The decrease was primarily driven by significantly lower finished product selling prices, which unfavorably impacted gross margin by approximately \$1.7 billion compared to the prior year. Gross margin was also negatively impacted

by approximately \$200 million, due to increased conversion costs, and \$100 million due to increased rock costs, as discussed below. These decreases were partially offset by lower raw material costs of sulfur and ammonia as discussed below, which impacted gross margin by approximately \$590 million and by increased sales volumes of approximately \$200 million. Gross margin was also favorably impacted by approximately \$110 million of lower costs related to the timing of idle plant and turnaround costs in the current year period.

Our average consumed price for ammonia in our North American operations decreased to \$426 per tonne in 2023 from \$603 a year ago. The average consumed price for sulfur for our North American operations decreased to \$181 per long ton for the year ended December 31, 2023, from \$368 in the prior-year period. The purchase price of these raw materials is driven by global supply and demand. The consumed ammonia and sulfur prices also include transportation, transformation, and storage costs.

The average consumed cost of purchased and produced rock increased to \$75 per tonne in the current year, from \$70 a year ago. For the year ended December 31, 2023, our North American phosphate rock production decreased to 9.1 million tonnes from 9.6 million tonnes in the prior year, due to geology of rock and operational challenges.

The Phosphates segment's production of crop nutrient dry concentrates and animal feed ingredients were similar to the prior year at approximately 6.6 million tonnes. For the year ended December 31, 2023, our operating rate for processed phosphate production decreased to 65%, compared to 67% in the same period of the prior year.

## Potash Net Sales and Gross Margin

The following table summarizes the Potash segment's net sales, gross margin, sales volume and selling price:

(in millions, except price per tonne or unit)	Years Ended December 31,			2023-2022		2022-2021	
	2023	2022	2021	Change	Percent	Change	Percent
Net sales:							
North America	\$1,899.9	\$2,122.3	\$1,456.8	\$ (222.4)	(10)%	\$ 665.5	46 %
International	1,333.7	3,086.2	1,170.0	(1,752.5)	(57)%	1,916.2	164 %
Total	3,233.6	5,208.5	2,626.8	(1,974.9)	(38)%	2,581.7	98 %
Cost of goods sold	2,018.6	2,365.5	1,569.3	(346.9)	(15)%	796.2	51 %
Gross margin	\$1,215.0	\$2,843.0	\$1,057.5	\$(1,628.0)	(57)%	\$1,785.5	169 %
Gross margin as a percentage of net sales	37.6 %	54.6 %	40.3 %				
Sales volume <sup>(a)</sup> (in thousands of metric tonnes)							
MOP	7,969	7,236	7,277	733	10 %	(41)	(1)%
Performance and Other <sup>(b)</sup>	901	865	909	36	4 %	(44)	(5)%
Total Potash Segment Tonnes	8,870	8,101	8,186	769	9 %	(85)	(1)%
Realized prices (\$/tonne)							
Average finished product selling price (destination)	\$ 365	\$ 643	\$ 321	\$ (278)	(43)%	\$ 322	100 %
MOP selling price (fob mine)	\$ 308	\$ 632	\$ 285	\$ (324)	(51)%	\$ 347	122 %
Production volume (in thousands of metric tonnes)	8,246	9,053	8,204	(807)	(9)%	849	10 %

(a) Includes intersegment sales volumes.

(b) Includes sales volumes of K-Mag®, Aspire® and animal feed ingredients.

Year Ended December 31, 2023 compared to Year Ended December 31, 2022

The Potash segment's net sales decreased to \$3.2 billion for the year ended December 31, 2023, compared to \$5.2 billion in the prior year. The decrease in net sales was driven by an unfavorable impact from lower selling prices of approximately \$2.5 billion, partially offset by favorable sales volumes of approximately \$550 million.

Our average finished product selling price was \$365 per tonne for the year ended December 31, 2023, a decrease of \$278 per tonne compared with the prior year period, due to the factors discussed in the Overview.

The Potash segment's sales volumes increased to 8.9 million tonnes for the year ended December 31, 2023, compared to 8.1 million tonnes in the same period a year ago, due to the factors discussed in the Overview.

Gross margin for the Potash segment decreased to \$1.2 billion in the current year, from \$2.8 billion in the prior year period. The decrease in gross margin in the current year period is primarily due to lower selling prices, which unfavorably impacted gross margin by approximately \$2.5 billion. This was partially offset by a reduction in Canadian resource taxes and royalties of \$580 million, as discussed below, and by an increase of approximately \$380 million, due to higher sales volumes compared to the prior year. Higher idle and turnaround costs of approximately \$40 million, largely due to the idling of our Colonsay, Saskatchewan mine during the first half of the current year, also negatively impacted gross margin in the current year.

We had expense of \$403.4 million from Canadian resource taxes for the year ended December 31, 2023, compared to \$927.9 million in the prior year. Royalty expense also decreased to \$53.6 million for the year ended December 31, 2023, from \$112.6 million in the prior year. The fluctuations in Canadian resource taxes and royalties are due to lower average selling prices and margins in the current year, compared to the prior year.

For the year ended December 31, 2023, potash production decreased to 8.2 million tonnes, compared to 9.1 million tonnes in the prior year period, resulting in an operating rate of 73% for 2023, compared to 81% for 2022. Lower production in the

current year was largely driven by increased idle time compared to the prior year period, due to the Colonsay mine being idle during the first half of the year as mentioned above and planned downtime at our Esterhazy mine.

#### **Mosaic Fertilizantes Net Sales and Gross Margin**

The following table summarizes the Mosaic Fertilizantes segment's net sales, gross margin, sales volume and selling price.

	Years Ended December 31,			2023-2022		2022-2021	
(in millions, except price per tonne or unit)	2023	2022	2021	Change	Percent	Change	Percent
Net Sales	\$5,684.7	\$8,287.2	\$5,088.5	\$(2,602.5)	(31)%	\$3,198.7	63 %
Cost of goods sold	5,473.1	7,241.6	4,245.8	(1,768.5)	(24)%	2,995.8	71 %
Gross margin	<u>\$ 211.6</u>	<u>\$1,045.6</u>	<u>\$ 842.7</u>	<u>\$ (834.0)</u>	<u>(80)%</u>	<u>\$ 202.9</u>	<u>24 %</u>
Gross margin as a percent of net sales	3.7 %	12.6 %	16.6 %				
Sales volume (in thousands of metric tonnes)							
Phosphate produced in Brazil	2,235	2,368	2,543	(133)	(6)%	(175)	(7)%
Potash produced in Brazil	195	165	240	30	18 %	(75)	(31)%
Purchased nutrients	7,253	6,905	7,319	348	5 %	(414)	(6)%
Total Mosaic Fertilizantes Segment Tonnes	<u>9,683</u>	<u>9,438</u>	<u>10,102</u>	<u>245</u>	<u>3 %</u>	<u>(664)</u>	<u>(7)%</u>
Realized prices (\$/tonne)							
Average finished product selling price (destination)	\$ 587	\$ 878	\$ 504	\$ (291)	(33)%	\$ 374	74 %
Brazil MAP price (delivered price to third party)	\$ 597	\$ 868	\$ 597	\$ (271)	(31)%	\$ 271	45 %
Purchases ('000 tonnes)							
DAP/MAP from Mosaic	341	272	311	69	25 %	(39)	(13)%
MicroEssentials® from Mosaic	1,019	1,271	1,226	(252)	(20)%	45	4 %
Potash from Mosaic/Canpotex	2,067	2,276	2,510	(209)	(9)%	(234)	(9)%
Average cost per unit consumed in cost of goods sold:							
Ammonia (metric tonne)	\$ 807	\$ 1,301	\$ 580	\$ (494)	(38)%	\$ 721	124 %
Sulfur (long ton)	\$ 232	\$ 391	\$ 194	\$ (159)	(41)%	\$ 197	102 %
Blended rock (metric tonne)	\$ 122	\$ 105	\$ 80	\$ 17	16 %	\$ 25	31 %
Production volume (in thousands of metric tonnes)	3,457	3,598	3,725	(141)	(4)%	(127)	(3)%

#### Year Ended December 31, 2023 compared to Year Ended December 31, 2022

The Mosaic Fertilizantes segment's net sales were \$5.7 billion for the year ended December 31, 2023, compared to \$8.3 billion for 2022. In the current period, net sales were unfavorably impacted by approximately \$2.5 billion due to lower finished product selling prices, partially offset by the impact of higher finished goods sales volumes of approximately \$200 million. Net sales were also unfavorably impacted by decreased revenues from other products, primarily acids, of approximately \$300 million, due to lower selling prices.

The overall average finished product selling price decreased \$291 per tonne, to \$587 per tonne for 2023, due to the decrease in global prices referenced in the Overview.

The Mosaic Fertilizantes segment's sales volume increased to 9.7 million tonnes for the year ended December 31, 2023, compared to 9.4 million tonnes for the prior year period, due to the factors discussed in the Overview.

Gross margin for the Mosaic Fertilizantes segment decreased to \$211.6 million for the year ended December 31, 2023, from \$1.0 billion in the prior year. In the current year, gross margin was unfavorably impacted by approximately \$2.5 billion due to lower average selling prices. This impact was partially offset by approximately \$1.7 billion related to lower product costs, primarily reductions in material purchases by our distribution business and lower raw materials costs in the current year compared to the prior year. Lower idle and turnaround costs also favorably impacted gross margin by approximately \$20



million. Foreign currency had an unfavorable impact of approximately \$50 million on gross margin in the current year compared to the prior year.

The average consumed price for ammonia for our Brazilian operations was \$807 per tonne for the year ended December 31, 2023, compared to \$1,301 per ton in the prior year. The average consumed sulfur price for our Brazilian operations was \$232 per long tonne for the year ended December 31, 2023, compared to \$391 in the prior year. The purchase prices of these raw materials are driven by global supply and demand, and include transportation, transformation, and storage costs.

The Mosaic Fertilizantes segment's production of crop nutrient dry concentrates and animal feed ingredients decreased 4% to 3.5 million tonnes for the year ended December 31, 2023, compared to 3.6 million tonnes in the prior year. For the year ended December 31, 2023, our phosphate operating rate was 77%, compared to 85% in the prior year.

Our Brazilian phosphate rock production decreased to 3.9 million tonnes for the year ended December 31, 2023 compared to 4.2 million for the prior year period due to unplanned maintenance downtime.

### **Corporate, Eliminations and Other**

In addition to our three operating segments, we assign certain costs to Corporate, Eliminations and Other, which is presented separately in Note 25 of our Notes to Consolidated Financial Statements. The Corporate, Eliminations and Other category includes intersegment eliminations, including profit on intersegment sales, unrealized mark-to-market gains and losses on derivatives, debt expenses, corporate functional costs and the results of the China and India distribution businesses.

Gross margin for Corporate, Eliminations and Other was a gain of \$81.9 million for the year ended December 31, 2023, compared to a gain of \$108.2 million in the same period a year ago. Gross margin was favorably impacted by higher elimination of profit on intersegment sales in the current year period of approximately \$116 million, compared to the prior year period of approximately \$19 million. Gross margin was also favorably impacted by a net unrealized gain on derivatives of approximately \$29 million in the current year period, compared to a net unrealized loss of approximately \$21 million in the prior year period. Distribution operations in India and China had revenues and gross margin of \$898.9 million and \$(16.8) million, respectively, for the year ended December 31, 2023, compared to revenues and gross margin of \$1.1 billion and \$130.9 million, respectively, for the year ended December 31, 2022. The decreases were primarily due to decreased selling prices in the current year compared to the prior year period. This was partially offset by lower product costs in the current year due to softer global market conditions in the current year. Sales volumes of finished products were 1.9 million tonnes and 1.6 million tonnes for the years ended December 31, 2023 and 2022, respectively.

## Other Income Statement Items

(in millions)	Years Ended December 31,			2023-2022		2022-2021	
	2023	2022	2021	Change	Percent	Change	Percent
Selling, general and administrative expenses	\$ 500.5	\$ 498.0	\$ 430.5	\$ 2.5	1 %	\$ 67.5	16 %
Impairment, restructuring and other expenses	—	—	158.1	—	NM	(158.1)	(100)%
Other operating expenses	372.0	472.5	143.2	(100.5)	(21)%	329.3	NM
Interest (expense)	(189.0)	(168.8)	(194.3)	(20.2)	12 %	25.5	(13)%
Interest income	59.6	31.0	25.2	28.6	92 %	5.8	23 %
Interest expense, net	(129.4)	(137.8)	(169.1)	8.4	(6)%	31.3	(19)%
Foreign currency transaction gain (loss)	194.0	97.5	(78.5)	96.5	99 %	176.0	NM
Other (expense) income	(76.8)	(102.5)	3.9	25.7	(25)%	(106.4)	NM
Provision for income taxes	177.0	1,224.3	597.7	(1,047.3)	(86)%	626.6	105
Equity in net earnings of nonconsolidated companies	60.3	196.0	7.8	(135.7)	(69)%	188.2	NM

## Selling, General and Administrative Expenses

Selling, general and administrative expenses were \$500.5 million for the year ended December 31, 2023, compared to \$498.0 million for the same period a year ago. The increase was primarily due to approximately \$18 million of higher consulting and

professional services costs related to executing on our strategic initiatives. This was largely offset by approximately \$16 million due to lower incentive compensation and other employee-related costs in the current year compared to the prior year.

### **Other Operating Expenses**

Other operating expenses were \$372.0 million for the year ended December 31, 2023, compared to \$472.5 million for the prior year period. Other operating expenses typically relate to five major categories: (1) AROs, (2) environmental and legal reserves, (3) idle facility costs, (4) insurance reimbursements, and (5) gain/loss on sale or disposal of fixed assets. The current year includes approximately \$185 million related to upward revisions in estimated closure costs for our AROs at our closed facilities, compared to approximately \$157 million in the prior year, and approximately \$110 million related to increases in environmental reserves, compared to approximately \$173 million in the prior year. The current year period included \$45 million related to costs of maintaining closed and indefinitely idled facilities compared to approximately \$41 million in the prior year. These costs were primarily related to our Phosphate segment. Current year expenses were partially offset by a gain on the sale of the Resort of approximately \$57 million.

### **Interest Expense, Net**

Net interest expense decreased to \$129.4 million for the year ended December 31, 2023, compared to \$137.8 million in 2022. The change from the prior year is driven by higher interest income, primarily due to interest received in the current year period of \$10 million on tax credit refunds from our Brazilian subsidiaries.

### **Foreign Currency Transaction Gain (Loss)**

In 2023, we recorded a foreign currency transaction gain of \$194.0 million, compared to a gain of \$97.5 million in 2022. The gain was the result of the effect of the weakening of the U.S. dollar relative to the Brazilian real on intercompany loans and U.S. dollar-denominated payables held by our Brazilian subsidiaries and the impact of the U.S. dollar relative to the Canadian dollar on intercompany loans.

### **Other (Expense) Income**

For the year ended December 31, 2023, we had other expense of \$76.8 million compared to income of \$102.5 million in the prior year. The change from the prior year is primarily due to lower realized losses on the marketable securities held in the RCRA Trusts of approximately \$19 million in the current year compared to \$46 million in the prior year. The current year expense also includes approximately \$42 million related to the settlement loss on the termination of a pension plan as further described in Note 18 of our Notes to Consolidated Financial Statements.

### **Equity in Net Earnings of Nonconsolidated Companies**

For the year ended December 31, 2023, we had a gain from equity of nonconsolidated companies of \$60.3 million, net of tax, compared to a gain of \$196.0 million, net of tax, for the prior year. These results were primarily related to the operations of MWSPC, which was

unfavorably impacted by lower selling prices for its products in the current year compared to the prior year.

### **Provision for Income Taxes**

	<b>Effective Tax Rate</b>	<b>Provision for Income Taxes</b>
Year Ended December 31, 2023	13.3 %	\$ 177.0
Year Ended December 31, 2022	26.4 %	1,224.3
Year Ended December 31, 2021	26.9 %	597.7

For all years, our income tax is impacted by the mix of earnings across jurisdictions in which we operate, by a benefit associated with depletion and by the impact of certain entities being taxed in both their foreign jurisdiction and the U.S., including foreign tax credits for various taxes incurred.

For the year ended December 31, 2023, tax expense specific to the period included a net benefit of \$43.4 million. The net benefit relates to the following: \$38.1 million related to true-up of estimates primarily related to our U.S. tax return, \$24.4 million related to changes to valuation allowances in Brazil, and \$11.6 million related to an increase in a U.S. deferred tax

asset. The tax benefits are partially offset by a net tax cost of \$29.3 million related to income tax expense on undistributed earnings, and \$1.4 million of other miscellaneous costs.

In 2021 the Organization for Economic Co-operation and Development (the “OECD”) issued the Inclusive Framework on Base Erosion Profit Shifting. The framework introduced a two-pillar tax system that would be effective on January 1, 2024. Many countries have adopted or intend to adopt these rules in alignment with the effective date. The framework introduced a 15 percent global minimum tax commonly referred to as Pillar Two for certain multinational companies. The Company is subject to Pillar Two and legislation has been enacted or substantively enacted in certain jurisdictions the Company operates in as of December 31, 2023. This legislation will be effective for the Company’s beginning on January 1, 2024. The Company is in the process of evaluating the impact on its consolidated financial statements.

### **Critical Accounting Estimates**

We prepare our Consolidated Financial Statements in conformity with accounting principles generally accepted in the United States of America which requires us to make various judgments, estimates and assumptions that could have a significant impact on our reported results and disclosures. We base these estimates on historical experience and other assumptions we believe to be reasonable at the time we prepare our financial statements. Changes in these estimates could have a material effect on our Consolidated Financial Statements.

Our significant accounting policies can be found in Note 2 of our Notes to Consolidated Financial Statements. We believe the following accounting policies include a higher degree of judgment and complexity in their application and are most critical to aid in fully understanding and evaluating our reported financial condition and results of operations.

### **Recoverability of Goodwill**

Goodwill is the excess of the purchase price consideration over the estimated fair value of net assets of acquired businesses. The carrying value of goodwill in our reporting units is tested annually as of October 31 for possible impairment. We typically use an income approach valuation model, representing present value of future cash flows, to determine the fair value of a reporting unit. Growth rates for sales and profits are determined using inputs from our annual strategic and long range planning process. The rates used to discount projected future cash flows reflect a weighted average cost of capital based on the Company’s industry, capital structure and risk premiums, including those reflected in the current market capitalization. When preparing these estimates, management considers each reporting unit’s historical results, current operating trends, and specific plans in place. These estimates are impacted by various factors, including inflation, the general health of the economy and market competition. In addition, events and circumstances that might be indicators of possible impairment are assessed during other interim periods. As of October 31, 2023, the date of our annual impairment testing, the Company concluded that the fair values of the reporting units which include goodwill, Potash, Mosaic Fertilizantes and Corporate, Eliminations and Other, were in substantial excess of their respective carrying values and the goodwill for those units was not impaired. Subsequent to our annual evaluation, on December 28, 2023, Brazil enacted a tax law change that eliminates the VAT preference starting in 2024. While we are currently assessing the full impact of this change,

our Mosaic Fertilizantes reporting unit would have an estimated fair value that is not in significant excess of its carrying value. We continue to believe that our long-term financial goals will be achieved and as a result, we concluded that the goodwill assigned to this reporting unit was not impaired, but could be at risk of future impairment. As of December 31, 2023, we had \$99.6 million of goodwill in our Mosaic Fertilizantes reporting unit.

See Note 10 of our Notes to Consolidated Financial Statements for additional information regarding the goodwill impairment analysis, including the methodologies and assumptions used in estimating the fair values of our reporting units. As of December 31, 2023, we had \$1.1 billion of goodwill.

### **Environmental Liabilities and Asset Retirement Obligations**

We record accrued liabilities for various environmental and reclamation matters including the demolition of former operating facilities, and AROs.

Contingent environmental liabilities are described in Note 23 of our Notes to Consolidated Financial Statements. Accruals for environmental matters are based primarily on third-party estimates for the cost of remediation at previously operated sites and estimates of legal costs for ongoing environmental litigation. We regularly assess the likelihood of material adverse judgments or outcomes, the effects of potential indemnification, as well as potential ranges or probability of losses. We determine the amount of accruals required, if any, for contingencies after carefully analyzing each individual matter.

Estimating the ultimate settlement of environmental matters requires us to develop complex and interrelated assumptions based on experience with similar matters, our history, precedents, evidence, and facts specific to each matter. Actual costs incurred in future periods may vary from the estimates, given the inherent uncertainties in evaluating environmental exposures. As of December 31, 2023 and 2022, we had accrued \$203.2 million and \$185.5 million, respectively, for environmental matters.

As indicated in Note 14 of our Notes to Consolidated Financial Statements, we recognize AROs in the period in which we have an existing legal obligation, and the amount of the liability can be reasonably estimated. We utilize internal engineering experts as well as third-party consultants to assist in determining the costs of retiring certain of our long-term operating assets. Assumptions and estimates reflect our historical experience and our best judgments regarding future expenditures. The assumed costs are inflated based on an estimated inflation factor and discounted based on a credit-adjusted risk-free rate. For active facilities, fluctuations in the estimated costs (including those resulting from a change in environmental regulations), inflation rates and discount rates can have a significant impact on the corresponding assets and liabilities recorded in the Consolidated Balance Sheets. However, changes in the assumptions for our active facilities would not have a significant impact on the Consolidated Statements of Earnings in the year they are identified. For closed facilities, fluctuations in the estimated costs, inflation, and discount rates have an impact on the Consolidated Statements of Earnings in the year they are identified as there is no asset related to these items. Phosphate land reclamation activities in North America generally occur concurrently with mining operations; as such, we accrue and expense reclamation costs as we mine. In addition, we regularly perform post-mining evaluations to ensure we have established a sufficient liability to meet permitting requirements. As of December 31, 2023 and 2022, \$2.2 billion and \$1.9 billion, respectively, was accrued for AROs (including both current and noncurrent amounts) in North and South America. In August 2016, Mosaic deposited \$630 million into two trust funds as financial assurance to support certain estimated future AROs. See Note 14 of our Notes to Consolidated Financial Statements for additional information regarding the Environmental Protection Agency (“EPA”) RCRA Initiative.

## **Income Taxes**

We make estimates for income taxes in three major areas: valuation allowances, uncertain tax positions, and U.S. deferred income taxes on our non-U.S. subsidiaries' undistributed earnings.

A valuation allowance is provided for deferred tax assets for which it is more likely than not that the related tax benefits will not be realized. Significant judgment is required in evaluating the need for and magnitude of appropriate valuation allowances. The realization of the Company's deferred tax assets, specifically, the evaluation of net operating loss carryforwards and foreign tax credit carryforwards, is dependent on generating certain types of future taxable income, using both historical and projected future operating results, the source of future income, the reversal of existing taxable temporary differences, taxable income in prior carry-back years (if permitted) and the availability of tax planning strategies. As of December 31, 2023 and 2022, we had a valuation allowance of \$1.4 billion and \$0.9 billion, respectively. Changes in tax laws, assumptions with respect to future taxable income,

tax planning strategies, resolution of matters under tax audit and foreign currency exchange rates could result in adjustment to these allowances.

Due to Mosaic's global operations, we assess uncertainties and judgments in the application of complex tax regulations in a multitude of jurisdictions. Future changes in judgment related to the expected ultimate resolution of uncertain tax positions will affect earnings in the quarter of such change. While it is often difficult to predict the final outcome or the timing of resolution of any particular uncertain tax position, our liabilities for income taxes reflect what we believe to be the more likely than not outcome. We adjust these liabilities, as well as the related interest, in light of changing facts and circumstances, including negotiations with taxing authorities in various jurisdictions, outcomes of tax litigation, and resolution of disputes arising from tax audits in the normal course of business. Settlement of any particular position may require the use of cash. Based upon an analysis of tax positions taken on prior year returns and expected positions to be taken on the current year return, management has identified gross uncertain income tax positions of \$25.8 million as of December 31, 2023.

Any dividends from controlled foreign corporations are tax-free from a U.S. income tax perspective. Additionally, there will not be any foreign tax credits associated with foreign, non-branch, dividends. Therefore, there are no material federal U.S. implications of future repatriations on non-U.S. subsidiaries' undistributed earnings. However, since there are no U.S. foreign tax credits associated with foreign dividends, any foreign withholding tax associated with a future repatriation will need to be accrued if the earnings are not permanently reinvested.

We have included a further discussion of income taxes in Note 13 of our Notes to Consolidated Financial Statements.



## **Liquidity and Capital Resources**

We define liquidity as the ability to generate or access adequate amounts of cash to meet current cash needs. We remain committed to a disciplined capital allocation strategy and assess our liquidity in terms of our ability to fund working capital requirements, fund sustaining and opportunistic capital projects, pursue strategic opportunities and make capital management decisions, which include making payments on and issuing indebtedness and making distributions to our stockholders, either in the form of share repurchases or dividends. Our liquidity is subject to general economic, financial, competitive and other factors that are beyond our control.

We have a target liquidity buffer of up to \$3.0 billion, including cash and available credit facilities. We expect our liquidity to fluctuate from time to time, especially in the first quarter of each year, to manage through the seasonality of our business. We also target debt leverage ratios that are consistent with investment grade credit metrics. Our capital allocation priorities include maintaining our target investment grade metrics and financial strength, sustaining our assets, including ensuring the safety and reliability of our assets, investing to grow our business, either through organic growth or taking advantage of strategic opportunities, and returning excess cash to stockholders, including paying our dividend. During 2023, we returned capital to our stockholders through share repurchases of \$756.0 million and by paying dividends of \$351.6 million. Our Board of Directors also approved an increase to our annual dividend to \$0.84 per share, beginning with the dividend declared on December 15, 2023.

As of December 31, 2023, we had cash and cash equivalents of \$348.8 million, marketable securities held in trusts to fund future obligations of \$683.6 million, long-term debt including current maturities of \$3.4 billion, short-term debt of \$399.7 million and stockholders' equity of \$12.4 billion. In addition, we had \$399.9 million of commercial arrangements for certain customer purchases in Brazil through structured payable arrangements, as discussed in Note 11 of our Notes to Consolidated Financial Statements.

All of our cash and cash equivalents are diversified in highly rated investment vehicles. Our cash and cash equivalents are held either in the U.S. or held by non-U.S. subsidiaries and are not subject to significant foreign currency exposures, as the majority are held in investments denominated in U.S. dollars as of December 31, 2023. These funds may create foreign currency transaction gains or losses, however, depending on the functional currency of the entity holding the cash. In addition, there are no significant restrictions that would preclude us from bringing funds held by non-U.S. subsidiaries back to the U.S., aside from withholding taxes.

## **Sources and Uses of Cash**

As of December 31, 2023, we had cash and cash equivalents and restricted cash of \$348.8 million. Funds generated by operating activities, available cash and cash equivalents and our revolving credit facility continue to be our most significant sources of liquidity. We believe funds generated from the expected results of operations and available cash, cash equivalents and borrowings, either under our revolving credit facility or through long-term borrowings, will be sufficient to finance our operations, including our expansion plans, existing strategic initiatives and expected dividend payments for the foreseeable future. We

expect our capital expenditures to be approximately \$1.2 billion in 2024. There can be no assurance, however, that we will continue to generate cash flows at or above current levels. At December 31, 2023, we had \$2.49 billion available under our \$2.5 billion revolving credit facility. See Note 11 of our Notes to Consolidated Financial Statements for additional information relating to our financing arrangements, which is hereby incorporated by reference.

We have certain contractual obligations that require us to make cash payments on a scheduled basis. These include, among other things, long-term debt payments, interest payments, operating leases, unconditional purchase obligations and funding requirements of pension and postretirement obligations. Our long-term debt has maturities ranging from one year to 19 years. Unconditional purchase obligations are our largest contractual cash obligations. These include obligations for contracts to purchase raw materials such as sulfur, ammonia, phosphate rock and natural gas, obligations to purchase raw materials for our international distribution activities, and maintenance and services. Other large cash obligations are our AROs and other environmental obligations, primarily related to our Phosphates and Mosaic Fertilizantes segments. We expect to fund our AROs and other environmental obligations, purchase obligations, long-term debt and capital expenditures with a combination of operating cash flows, cash and cash equivalents and borrowings.

The following is a summary of our material contractual cash obligations as of December 31, 2023:

(in millions)	Total	Payments by Calendar Year			
		Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
Long-term debt <sup>(a)</sup>	\$ 3,361.7	\$ 130.1	\$ 74.5	\$ 1,264.8	\$ 1,892.3
Estimated interest payments on long-term debt <sup>(b)</sup>	1,735.6	173.4	336.8	284.5	940.9
Operating leases	233.4	65.5	78.4	42.6	46.9
Purchase commitments <sup>(c)</sup>	4,091.8	3,002.9	908.4	125.8	54.7
Pension and postretirement liabilities <sup>(d)</sup>	109.5	4.4	17.3	21.3	66.5
Total contractual cash obligations	<u>\$ 9,532.0</u>	<u>\$ 3,376.3</u>	<u>\$ 1,415.4</u>	<u>\$ 1,739.0</u>	<u>\$ 3,001.3</u>

(a) Long-term debt primarily consists of unsecured notes, finance leases, unsecured debentures and secured notes.

(b) Based on interest rates and debt balances as of December 31, 2023.

(c) Based on prevailing market prices as of December 31, 2023. For additional information related to our purchase commitments, see Note 22 of our Notes to Consolidated Financial Statements.

(d) The 2024 pension plan payments are based on minimum funding requirements. For years thereafter, pension plan payments are based on expected benefits paid. The postretirement plan payments are based on projected benefit payments. The above amounts include our North America and Brazil plans.

See Off-Balance Sheet Arrangements and Obligations below for more information on other environmental obligations.

### Summary of Cash Flows

The following table represents a comparison of the net cash provided by operating activities, net cash used in investing activities and net cash used in financing activities for calendar

years 2023, 2022 and 2021:

(in millions)	Years Ended December 31,			2023-2022		2022-2021	
	2023	2022	2021	Change	Percent	Change	Percent
<b>Cash Flow</b>							
Net cash provided by operating activities	\$2,407.2	\$3,935.8	\$2,187.0	\$(1,528.6)	(39)%	\$1,748.8	80 %
Net cash used in investing activities	(1,317.2)	(1,259.6)	(1,322.3)	(57.6)	(5)%	62.7	5 %
Net cash used in financing activities	(1,480.5)	(2,678.7)	(682.1)	1,198.2	45 %	(1,996.6)	(293)%

## Operating Activities

In 2023, net cash flow from operating activities provided us with a significant source of liquidity. For the year ended December 31, 2023, net cash provided by operating activities was \$2.4 billion, compared to \$3.9 billion in the prior year. Our results of operations, after non-cash adjustments to net earnings, contributed \$2.0 billion to cash flows from operating activities during 2023, compared to \$4.9 billion during 2022. During 2023, we had a favorable change in assets and liabilities of \$401.7 million, compared to an unfavorable change of \$992.5 million during 2022.

The change in assets and liabilities for the year ended December 31, 2023, was primarily driven by favorable changes in accounts receivable of \$526.3 million and inventories of \$1.1 billion, partially offset by unfavorable impacts from changes in accounts payable and accrued liabilities of \$1.1 billion and other current and noncurrent assets of \$239.2 million. The change in accounts receivable was driven primarily by lower selling prices at the end of the current year compared to the prior year. The change in inventories was driven primarily by a decrease in raw material prices and a decrease in inventory volumes, across our segments. These changes were partially offset by a decrease in accounts payable and accrued liabilities which was primarily driven by a decrease in customer prepayments in Brazil and a decrease in raw material purchase prices. The increase in current and noncurrent assets was primarily due to an increase in taxes receivable and cloud computing costs in the current year.

## **Investing Activities**

Net cash used in investing activities for the year ended December 31, 2023, was comparable to the same period a year ago at \$1.3 billion, primarily driven by capital expenditures of \$1.4 billion in 2023. During 2023, we also completed the sale of the Resort for net proceeds of \$158.4 million and purchased the other 50% equity of GSS for \$41.0 million. GSS is now wholly-owned by Mosaic.

## **Financing Activities**

Net cash used in financing activities was \$1.5 billion for the year ended December 31, 2023, compared to \$2.7 billion in the prior year. In 2023, we made repurchases of our common stock of \$756.0 million and paid dividends of \$393.1 million. We also made net payments on our long-term debt of \$95.3 million and had net payments on structured accounts payable of \$384.7 million. In 2023, we also received net proceeds from short-term borrowings of \$175.1 million.

## **Debt Instruments, Guarantees and Related Covenants**

See Note 11 and Note 16 of our Notes to Consolidated Financial Statements for additional information relating to our financing arrangements and fair value measurements, which is hereby incorporated by reference.

## **Financial Assurance Requirements**

In addition to various operational and environmental regulations primarily related to our Phosphates segment, we incur liabilities for reclamation activities under which we are subject to financial assurance requirements. In various jurisdictions in which we operate, particularly Florida and Louisiana, we are required to pass a financial strength test or provide credit support, typically in the form of cash deposits, surety bonds or letters of credit. See Other Commercial Commitments under Off-Balance Sheet Arrangements and Obligations and Note 22 of our Notes to Consolidated Financial Statements for additional information about these requirements, which is hereby incorporated by reference.

## **Off-Balance Sheet Arrangements and Obligations**

### **Off-Balance Sheet Arrangements**

In accordance with the definition under rules of the Securities and Exchange Commission (“**SEC**”), the following qualify as off-balance sheet arrangements:

- certain obligations under guarantee contracts that have “any of the characteristics identified in Financial Accounting Standards Board (“**FASB**”) Accounting Standards Codification (“**ASC**”) paragraph ASC 460-10-15-4 (Guarantees Topic)”;
- a retained or contingent interest in assets transferred to an unconsolidated entity or similar arrangement that serves as credit, liquidity or market risk support to that entity for such assets;
- any obligation, including a contingent obligation, under a contract that would be accounted for as derivative instruments except that it is both indexed to the registrant’s own stock and classified as equity; and

- any obligation, arising out of a variable interest in an unconsolidated entity that is held by, and material to, the registrant, where such entity provides financing, liquidity, market risk or credit risk support to the registrant, or engages in leasing, hedging or research and development services with the registrant.

Information regarding guarantees that meet the above requirements is included in Note 17 of our Notes to Consolidated Financial Statements and is hereby incorporated by reference. We do not have any contingent interest in assets transferred, derivative instruments, or variable interest entities that qualify as off-balance sheet arrangements under SEC rules.

## Other Commercial Commitments

The following is a summary of our other commercial commitments as of December 31, 2023:

(in millions)	Total	Commitment Expiration by Calendar Year			
		Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
Letters of credit	\$ 63.1	\$ 63.1	\$ —	\$ —	\$ —
Surety bonds	765.9	765.6	—	0.3	—
Total	<u>\$ 829.0</u>	<u>\$ 828.7</u>	<u>\$ —</u>	<u>\$ 0.3</u>	<u>\$ —</u>

The surety bonds and letters of credit generally expire within one year or less but a substantial portion of these instruments provide financial assurance for continuing obligations and, therefore, in most cases, must be renewed on an annual basis. We issue letters of credit through our revolving credit facility and bilateral agreements. As of December 31, 2023, we had \$10.5 million of outstanding letters of credit through our credit facility and \$52.6 million outstanding through bilateral agreements. We primarily incur liabilities for reclamation activities in our Florida operations and for phosphogypsum management system (“**Gypstack**” or “**Gypstacks**”) closure in our Florida and Louisiana operations where, for permitting purposes, we must either pass a test of financial strength or provide credit support, typically in the form of cash deposits, surety bonds or letters of credit. As of December 31, 2023, we had \$409.3 million in surety bonds and a \$50 million letter of credit included in the total amount above. These bonds and letters of credit are outstanding for reclamation obligations, primarily related to mining in Florida. We also have a surety bond of \$303.1 million with the EPA which was delivered as a substitute for the financial assurance provided through a trust (the “**Plant City Trust**”). The surety bonds generally require us to obtain a discharge of the bonds or to post additional collateral (typically in the form of cash or letters of credit) at the request of the issuer of the bonds.

We are subject to financial assurance requirements related to the closure and post-closure care of our Gypstacks in Florida and Louisiana. These requirements include Florida and Louisiana state financial assurance regulations, and financial assurance requirements under the terms of consent decrees that we have entered into with respect to our facilities in Florida and Louisiana. These include a consent decree (the “**Plant City Consent Decree**”) with EPA and the Florida Department of Environmental Protection (“**FDEP**”) relating to the Plant City, Florida Phosphate Concentrates facility (the “**Plant City Facility**”) we acquired as part of an acquisition (the “**CF Phosphate Assets Acquisition**”) and two separate consent decrees (collectively, the “**2015 Consent Decrees**”) with federal and state regulators that include financial assurance requirements for the closure and post-closure care of substantially all of our Gypstacks in Florida and Louisiana, other than those acquired as part of the CF Phosphate Assets Acquisition, which are discussed separately below.

See Note 14 of our Notes to Consolidated Financial Statements for additional information relating to our financial assurance obligations, including the Plant City Consent Decree and the 2015 Consent Decrees, which information is incorporated by reference.

Currently, state financial assurance requirements in Florida and Louisiana for the closure and post-closure care of Gypstacks are, in general terms, based upon the same assumptions and associated estimated values as the AROs recognized for financial reporting purposes. For financial reporting purposes, we recognize the AROs based on the estimated future closure and post-closure costs of Gypstacks, the undiscounted value of our North America Gypstacks is approximately \$2.9 billion. The value of the AROs for closure and post-closure care of our North America Gypstacks, discounted to the present value, based on a credit-adjusted, risk-free rate, is reflected on our Consolidated Balance Sheets in the amount of approximately \$1.2 billion as of December 31, 2023. Compliance with the financial assurance requirements in Florida and Louisiana is generally based on the undiscounted Gypstack closure estimates.

We satisfy substantially all of our Florida, Louisiana and federal financial assurance requirements through compliance with the financial assurance requirements under the 2015 Consent Decrees, by providing third-party credit support in the form of surety bonds (including under the Plant City Consent Decree), and a financial test mechanism supported by a corporate guarantee (“**Bonnie Financial Test**”) related to a closed Florida phosphate concentrates facility in Bartow, Florida (the “**Bonnie Facility**”) as discussed below. We comply with our remaining state financial assurance requirements because our financial strength permits us to meet applicable financial strength tests. There have been times in the past that we have not met the applicable financial strength tests and there can be no assurance that we will be able to meet the applicable financial strength tests in the future. In the event we do not meet either financial strength test, we could be required to seek an alternate financial strength test acceptable to state regulatory authorities or provide credit support, which may include surety bonds, letters of credit and cash escrows or trust funds. Cash escrows or trust funds would be classified as restricted cash on our



Consolidated Balance Sheets. Assuming we maintain our current levels of liquidity and capital resources, we do not expect that these Florida and Louisiana requirements will have a material effect on our results of operations, liquidity or capital resources.

As part of the CF Phosphate Assets Acquisition, we assumed certain AROs related to the estimated costs (“**Gypstack Closure Costs**”) at both the Plant City Facility and the Bonnie Facility. Associated with these assets are two related financial assurance arrangements for which we became responsible and that provided sources of funds for the estimated Gypstack Closure Costs for these facilities, pursuant to federal or state law, which the government can draw against in the event we cannot perform such closure activities. One was initially the Plant City Trust established to meet the requirements under a consent decree with EPA and the FDEP with respect to U.S. Resource Conservation and Recovery Act (“**RCRA**”) compliance at Plant City that also satisfied Florida financial assurance requirements at that site. Beginning in September 2016, as a substitute for the financial assurance provided through the Plant City Trust, we have provided financial assurance for Plant City in the form of a surety bond delivered to EPA (the “**Plant City Bond**”). The amount of the Plant City Bond is \$303.1 million at December 31, 2022, which reflects our closure cost estimates at that date. The other was also a trust fund (the “**Bonnie Facility Trust**”) established to meet the requirements under Florida financial assurance regulations that apply to the Bonnie Facility. On July 27, 2018, we received \$21.0 million from the Bonnie Facility Trust by substituting the trust fund for the Bonnie Financial Test supported by a corporate guarantee as allowed by state regulations. Both financial assurance funding obligations require estimates of future expenditures that could be impacted by refinements in scope, technological developments, new information, cost inflation, changes in regulations, discount rates and the timing of activities. Under our current approach to satisfying applicable requirements, additional financial assurance would be required in the future if increases in cost estimates exceed the face amount of the Plant City Bond or the amount supported by the Bonnie Financial Test.

## Other Long-Term Obligations

The following is a summary of our other long-term obligations, including Gypstacks and land reclamation, as of December 31, 2023:

(in millions)	Total	Payments by Calendar Year			
		Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
ARO <sup>(a)</sup>	\$ 4,445.3	\$ 391.1	\$ 406.1	\$ 238.7	\$ 3,409.4

(a) Represents the undiscounted estimated cash outflows required to settle the AROs. For the Potash segment, this excludes the subsequent years of tailings area management for activities such as dissolution and reclamation of land, which are estimated to require an additional 160 to 375 years until completion. The corresponding present value of all future expenditures is \$2.2 billion as of December 31, 2023 and is reflected in our accrued liabilities and other noncurrent liabilities in our Consolidated Balance Sheets.

Most of our export sales of potash crop nutrients are marketed through a North American export association, Canpotex, which funds its operations in part through third-party financing facilities. As a member, Mosaic or our subsidiaries are subject to certain conditions and

exceptions and contractually obligated to reimburse Canpotex for their pro rata share of any operating expenses or other liabilities incurred. The reimbursements are made through reductions to members' cash receipts from Canpotex.

Commitments are set forth in Note 22 of our Notes to Consolidated Financial Statements and are hereby incorporated by reference.

### **Income Tax Obligations**

Gross uncertain tax positions as of December 31, 2023 of \$25.8 million are not included in the other long-term obligations table presented above because the timing of the settlement of unrecognized tax benefits cannot be reasonably determined. For further discussion, refer to Note 13 of our Notes to Consolidated Financial Statements.

### **Market Risk**

We are exposed to the impact of fluctuations in the relative value of currencies, fluctuations in interest rates, fluctuations in the purchase prices of natural gas, nitrogen, ammonia and sulfur consumed in operations, and changes in freight costs, as well as changes in the market value of our financial instruments. We periodically enter into derivatives in order to mitigate our

interest rate risks, foreign currency risks and the effects of changing commodity prices and freight prices, but not for speculative purposes. Unrealized mark-to-market gains and losses on derivatives are recorded in Corporate, Eliminations and Other. Once realized, they are recorded in the related business segment.

### **Foreign Currency Exchange Rates**

Due to the global nature of our operations, we are exposed to currency exchange rate changes, which may cause fluctuations in our earnings and cash flows. Our primary foreign currency exposures are the Canadian dollar and Brazilian real. To reduce economic risk and volatility on expected cash flows that are denominated in the Canadian dollar and Brazilian real, we use financial instruments that may include forward contracts, zero-cost collars and/or futures.

The functional currency of several of our Canadian entities is the Canadian dollar. For those entities, sales are primarily denominated in U.S. dollars, but the costs are paid principally in Canadian dollars. We generally enter into derivative instruments for a portion of the currency risk exposure on anticipated cash inflows and outflows, including outflows for capital expenditures denominated in Canadian dollars. Mosaic hedges cash flows on a declining basis, up to 18 months for the Canadian dollar. A stronger Canadian dollar generally reduces these entities' operating earnings. A weaker Canadian dollar has the opposite effect. Depending on the underlying exposure, such derivatives can create additional earnings volatility because we do not apply hedge accounting. Gains or losses on these derivative contracts, both for open contracts at quarter-end (unrealized) and settled contracts (realized), are recorded in either cost of goods sold or foreign currency transaction gain (loss).

The functional currency for our Brazilian subsidiaries is the Brazilian real. We finance our Brazilian inventory purchases with U.S. dollar-denominated liabilities. We hedge a portion of cash flows on a declining basis, up to 12 months for the Brazilian real. A stronger Brazilian real relative to the U.S. dollar has the impact of reducing these liabilities on a functional currency basis. When this occurs, an associated foreign currency transaction gain is recorded as non-operating income. A weaker Brazilian real generally has the opposite effect. We also enter into derivative instruments for a portion of our currency risk exposure on anticipated Brazilian real cash flows and record an associated gain or loss in either cost of goods sold or foreign currency transaction gain (loss) line in the Consolidated Statements of Earnings. A stronger Brazilian real generally reduces our Brazilian subsidiaries operating earnings. A weaker Brazilian real has the opposite effect.

As discussed above, we have Canadian dollar, Brazilian real, and other foreign currency exchange contracts. As of December 31, 2023 and 2022, the fair value of our major foreign currency exchange contracts was an asset of \$28.4 million and a liability of \$27.3 million, respectively. We recorded an unrealized gain of \$53.6 million in cost of goods sold and recorded an unrealized gain of \$2.6 million in foreign currency transaction gain (loss) in the Consolidated Statements of Earnings for 2023.





The table below provides information about Mosaic’s significant foreign exchange derivatives.

(in millions)	As of December 31, 2023				As of December 31, 2022			
	Expected Maturity Date Years ending December 31,			Fair Value	Expected Maturity Date Years ending December 31,			Fair Value
	2024	2025	2026		2023	2024	2025	
Foreign Currency Exchange Forwards								
Canadian Dollar				\$ 15.5	\$ (32.5)			
Notional (million US\$) - short								
Canadian dollars	\$ 297.3	\$ —	\$ —		\$ 177.7	\$ —	\$ —	
Weighted Average Rate - Canadian dollar to U.S. dollar								
	1.3387	—	—		1.3086	—	—	
Notional (million US\$) - long								
Canadian dollars	\$1,068.5	\$ 120.5	\$ —		\$1,405.1	\$ 121.1	\$ —	
Weighted Average Rate - Canadian dollar to U.S. dollar								
	1.3430	1.3445	—		1.3157	1.3382	—	
Foreign Currency Exchange Non-Deliverable Forwards								
Brazilian Real				\$ 14.6	\$ —			
Notional (million US\$) - long								
Brazilian real	\$ 741.7	\$ —	\$ —		\$ —	\$ —	\$ —	
Weighted Average Rate - Brazilian real to U.S. dollar								
	5.0023	—	—		—	—	—	
Indian Rupee				\$ (0.3)	\$ 2.9			
Notional (million US\$) - short								
Indian rupee	\$ 80.0	\$ —	\$ —		\$ 308.7	\$ —	\$ —	
Weighted Average Rate - Indian rupee to U.S. dollar								
	83.7458	—	—		82.3814	—	—	
Notional (million US\$) - long Indian rupee								
	—	—	—		\$ 40.2	\$ —	\$ —	
Weighted Average Rate - Indian rupee to U.S. dollar								
	—	—	—		81.9971	—	—	
China Renminbi				\$ (1.4)	\$ 2.3			
Notional (million								

## **Commodities**

We use forward purchase contracts, swaps and occasionally three-way collars to reduce the risk related to significant price changes in our inputs and product prices. In addition, the natural gas-based pricing under the CF Ammonia Supply Agreement is intended to lessen ammonia pricing volatility.

All gains and losses on commodities contracts are recorded in cost of goods sold in the Consolidated Statements of Earnings.

As of December 31, 2023 and 2022, the fair value of our major commodities contracts was (\$10.3) million and \$18.7 million, respectively. We recorded an unrealized loss of \$26.3 million in cost of goods sold on the Consolidated Statements of Earnings for 2023.

Our primary commodities exposure relates to price changes in natural gas.



The table below provides information about Mosaic's natural gas derivatives which are used to manage the risk related to significant price changes in natural gas.

	As of December 31, 2023				As of December 31, 2022			
	Expected Maturity Date Years ending December 31,				Expected Maturity Date Years ending December 31,			
(in millions)	2024	2025	2026	Fair Value	2023	2024	2025	Fair Value
Natural Gas Swaps				\$(10.3)				\$18.7
Notional (million MMBTU)								
- long	15.1	2.0	—		9.4	4.8	—	
Weighted Average Rate (US\$/MM BTU)	\$ 2.75	\$ 3.30	\$ —		\$ 2.48	\$ 2.70	\$ —	
Total Fair Value				\$(10.3)				\$18.7

## Interest Rates

From time to time, we enter into interest rate swap agreements to hedge our exposure to changes in future interest rates related to anticipated debt issuances. At December 31, 2023 and 2022, we had no interest rate swap agreements in effect.

## Summary

Overall, there have been no material changes in our primary market risk exposures since the prior year. In 2024, we do not expect any material changes in our primary risk exposures. Additional information about market risk associated with our investments held in the RCRA Trusts is provided in Note 12 of our Notes to Consolidated Financial Statements. For additional information related to derivatives, see Notes 15 and 16 of our Notes to Consolidated Financial Statements.

## Environmental, Health, Safety and Security Matters

We are subject to complex and evolving international, federal, state, provincial and local environmental, health, safety and security (“**EHS**”) policies that govern the production, distribution and use of crop nutrients and animal feed ingredients. These EHS standards regulate or propose to regulate: (i) conduct of mining, production and supply chain operations, including employee safety and facility security procedures; (ii) management or remediation of potential impacts to air, soil and water quality from our operations; (iii) disposal of waste materials; (iv) beneficial use of co-products and residuals; (v) reclamation of lands after mining; (vi) management and handling of raw materials; (vii) product content; and (viii) use of products by both us and our customers.

We have a comprehensive EHS management program that seeks to achieve sustainable, predictable and verifiable EHS performance. Key elements of our EHS program include: (i) identifying and managing EHS risk; (ii) complying with legal requirements; (iii) improving

our EHS procedures and protocols; (iv) educating employees regarding EHS obligations; (v) retaining and developing professional qualified EHS staff; (vi) evaluating facility conditions; (vii) evaluating and enhancing safe workplace behaviors; (viii) performing audits; (ix) formulating EHS action plans; and (x) assuring accountability of all managers and other employees for EHS performance. Our business units are responsible for implementing day-to-day elements of our EHS program, assisted by integrated EHS professionals. We conduct audits to verify that each facility has identified risks, achieved regulatory compliance, improved EHS performance, and incorporated EHS management systems into day-to-day business functions.

New or proposed regulatory programs or policies can present significant challenges in ascertaining future compliance obligations, implementing compliance plans, and estimating future costs until implementing regulations have been finalized and definitive regulatory interpretations have been adopted. New or proposed regulatory standards may require modifications to our facilities or to operating procedures and these modifications may involve significant capital costs or increases in operating costs. For example, in March 2022, the SEC issued proposed rules on climate change disclosure requirements that, if adopted as proposed, will require disclosure of extensive detailed climate-related information. The Company is monitoring the SEC's proposed rules and recently enacted standards in the European Union and California on climate change disclosure and is taking necessary steps to plan for the anticipated or adopted disclosure requirements.

We have expended, and anticipate that we will continue to expend, substantial financial and managerial resources to comply with EHS standards and to continue to improve our environmental stewardship. In 2024, excluding capital expenditures

arising out of the consent decrees referred to under “EPA RCRA Initiative” in Note 14 of our Notes to Consolidated Financial Statements, we expect environmental capital expenditures to total approximately \$360 million, primarily related to: (i) modification or construction of waste management infrastructure and water treatment systems; (ii) construction and modification projects associated with Gypstacks and clay settling ponds at our Phosphates facilities and tailings management areas for our Potash mining and processing facilities; (iii) upgrading or new construction of air pollution control equipment at some of the concentrates plants; and (iv) capital projects associated with remediation of contamination at current or former operations. Additional expenditures for land reclamation, Gypstack closure and water treatment activities are expected to total approximately \$340 million in 2024. In 2025, we estimate environmental capital expenditures will be approximately \$360 million and expenditures for land reclamation activities, Gypstack closure and water treatment activities are expected to be approximately \$240 million. We spent approximately \$470 million for the years ended December 31, 2023 and 2022, respectively, for environmental capital expenditures, land reclamation activities, Gypstack closure and water treatment activities. No assurance can be given that greater-than-anticipated EHS capital expenditures or land reclamation, Gypstack closure or water treatment expenditures will not be required in 2024 or in the future.

## **Operating Requirements and Impacts**

**Permitting.** We hold numerous environmental, mining and other permits and approvals authorizing operations at our facilities. Our ability to continue operations at a facility could be materially affected by a government agency decision to deny or delay issuing a new or renewed permit or approval, to revoke or substantially modify an existing permit or approval or to substantially change conditions applicable to a permit modification, or by legal actions that successfully challenge our permits.

Expanding our operations or extending operations into new areas is also predicated upon securing the necessary environmental or other permits or approvals. We have been engaged in, and over the next several years will be continuing, efforts to obtain permits in support of our planned Florida operations at certain of our properties. For years, we have successfully permitted properties and anticipate that we will be able to permit these properties as well.

A denial of our permits, the issuance of permits with cost-prohibitive conditions, substantial delays in issuing key permits, legal actions that prevent us from relying on permits or revocation of permits can prevent or delay our mining at the affected properties and thereby materially affect our business, results of operations, liquidity or financial condition.

In addition, in the U.S., local community involvement has become an increasingly important factor in the permitting process for companies like ours, and various counties and other parties, particularly in Florida, have in the past filed and continue to file lawsuits or administrative appeals challenging the issuance of some of the permits we require. These actions can significantly delay permit issuance. Additional information regarding certain potential or pending permit challenges is provided in Note 23 to our Consolidated Financial Statements and is incorporated herein by reference.

**Federal Initiatives to Define “Waters of the United States.”** The Clean Water Act (“**CWA**”) authorizes federal jurisdiction over “navigable waters,” defined in the Act as “waters of the

United States” and often abbreviated as “WOTUS.” As it relates to Mosaic’s operations and facilities, the scope of the term WOTUS dictates legal requirements for our national pollutant discharge elimination system wastewater discharge permits and for impacts to surface waters and wetlands associated with our phosphate mining operations. A broad definition of WOTUS, and thus the scope of federal jurisdiction, increases the time required to identify wetlands and waterways subject to federal regulatory and permitting requirements, and the amount and type of mitigation required to compensate for impacts to jurisdictional WOTUS caused by our mining operations.

On May 25, 2023, the U.S. Supreme Court issued its opinion in *Sackett v EPA*, which significantly limits water features that can be considered WOTUS and therefore subject to CWA Section 404 jurisdiction. The *Sackett* decision is binding nationwide as to the determination of which wetlands and waters are subject to the CWA.

The *Sackett* decision invalidated the January 18, 2023, definition of WOTUS promulgated by EPA which had expanded federal jurisdiction. In response to *Sackett*, on August 29, 2023, EPA issued a final rule intended to conform its definition of WOTUS to the *Sackett* decision; the conforming rule became effective on September 8, 2023.

As a result of ongoing litigation, the January 2023 WOTUS rule, as “conformed” by the September 2023 rule, is being implemented only in 23 states, the District of Columbia, and the U.S. Territories. In the other 27 states, WOTUS is being interpreted consistent with the pre-2015 regulatory regime and the Supreme Court's *Sackett* decision.

**Water Quality Regulations for Nutrient Discharges.** New nutrient regulatory initiatives could have a material effect on either us or our customers. For example, the Gulf Coast Ecosystem Restoration Task Force, established by executive order of the U.S. President and comprised of five gulf states and eleven federal agencies, has delivered a final strategy for long-term ecosystem restoration for the gulf coast. The strategy calls for, among other matters, reduction of the flow of excess nutrients into the Gulf of Mexico through state nutrient reduction frameworks, new nutrient reduction approaches and reduction of agricultural and urban sources of excess nutrients. Implementation of the strategy will require legislative or regulatory action at the state level. We cannot predict what the requirements of any such legislative or regulatory action could be or whether or how it would affect us or our customers.

**Reclamation Obligations.** During phosphate mining, we remove overburden in order to retrieve phosphate rock reserves. Once we have finished mining in an area, we use the overburden and sand tailings produced by the beneficiation process to reclaim the area in accordance with approved reclamation plans and applicable laws. We have incurred and will continue to incur significant costs to fulfill our reclamation obligations.

**Management of Residual Materials and Closure of Management Areas.** Mining and processing of potash and phosphate generate residual materials that must be managed both during the operation of the facility and upon and after facility closure. Potash tailings, consisting primarily of salt and clay, are stored in surface disposal sites. Phosphate clay residuals from mining are deposited in clay storage areas ("**CSAs**"). Processing of phosphate rock with sulfuric acid generates phosphogypsum that currently is stored in Gypstacks.

During the life of the tailings management areas, CSAs and Gypstacks, we have incurred and will continue to incur significant costs to manage our potash and phosphate residual materials in accordance with environmental laws and regulations and with permit requirements. Additional legal and permit requirements will take effect when these facilities are closed. Our AROs are further discussed in Note 14 of our Notes to Consolidated Financial Statements.

**New Wales Water Loss Incident.** In August 2016, a sinkhole developed under one of the two cells of the Phase II Gypstack at our New Wales facility in Polk County, Florida, resulting in process water from the stack draining into the sinkhole. The incident was reported to the FDEP and the EPA. In connection with the incident, our subsidiary, Mosaic Fertilizer, LLC ("**Mosaic Fertilizer**"), entered into a consent order (the "**Order**") with the FDEP in October 2016 pursuant to the Order, Mosaic Fertilizer agreed to, among other things, implement an approved repair plan to close the sinkhole; perform additional water monitoring and if necessary, assessment and rehabilitation activities in the event of identified offsite impacts; provide financial assurance; and evaluate the risk of potential future sinkhole formation at our active Florida Gypstack operations.

**Financial Assurance.** Separate from our accounting treatment for reclamation and closure liabilities, some jurisdictions in which we operate require us either to pass a test of financial strength or provide credit support, typically cash deposits, surety bonds, financial guarantees or letters of credit, to address phosphate mining reclamation liabilities and closure liabilities for clay settling areas and Gypstacks. See "Other Commercial Commitments" under "Off-

Balance Sheet Arrangements and Obligations” above for additional information about these requirements. We also have obligations under certain consent decrees and a separate financial assurance arrangement relating to our facilities in Florida and Louisiana. Two consent decrees that became effective in 2016 resolved claims under RCRA and state hazardous waste laws relating to our management of certain waste materials onsite at certain fertilizer manufacturing facilities in Florida and Louisiana. Under these consent decrees, in 2016, we deposited \$630 million in cash into two trust funds to provide additional financial assurance for the estimated costs of closure and post-closure care of our phosphogypsum management systems. In addition, in 2017, we issued a letter of credit in the amount of \$50 million to further support our financial assurance obligation under the Florida 2015 Consent Decree. While our actual Gypstack Closure Costs are generally expected to be paid by us in the normal course of our Phosphates business over a period that may not end until three decades or more after a Gypstack has been closed, the funds on deposit in the RCRA Trusts can be drawn by the applicable governmental authority in the event we cannot perform our closure and long-term care obligations. If and when our estimated Gypstack Closure Costs with respect to the facilities associated with a RCRA Trust are sufficiently lower than the amount on deposit in that RCRA Trust, we have the right to request that the excess funds be released to us. The same is true for the RCRA Trust balance remaining after the completion of our obligations, which will be performed over a period that may not end until three decades or more after a Gypstack has been closed. See the discussion under “EPA RCRA Initiative” in Note 14 of our Notes to Consolidated Financial Statements for additional information about these matters.

We established and, in 2021, fully funded a trust valued at \$25 million (Canadian dollars) in satisfaction of financial assurance requirements for closure of our Saskatchewan Potash facilities. Trust performance is subject to review by the Province of Saskatchewan every five years during its existence.

In 2020, we executed and thereafter have maintained a surety bond in the amount of approximately \$82 million to establish financial assurance for closure of our Carlsbad, New Mexico potash facility with the U.S. Department of the Interior, Bureau of Land Management and the New Mexico Environment Department.

Examination of Working Places in Metal and Nonmetal Mines. In order to comply with U.S. Mine Safety and Health Administration requirements to examine working places in metal and nonmetal mines, we have adjusted our daily mine workplace examination procedures and added additional requirements for the documentation of adverse conditions when they are identified during the daily examinations.

## Climate Change

We are committed to finding ways to meet the challenges of crop nutrient and animal feed ingredient production and distribution in the context of the need to reduce greenhouse gas emissions. While focused on helping the world grow the food it needs, we have proven our commitment to using our resources more efficiently and have implemented innovative energy recovery technologies that result in our generation of much of the energy we need, particularly in our U.S. Phosphates operations, from high efficiency heat recovery systems that result in lower greenhouse gas emissions. In 2021, we announced our goal to achieve net-zero greenhouse gas emissions in Florida by 2030 and companywide by 2040.

Climate Change Regulation. Various governmental initiatives to limit greenhouse gas emissions are under way or under consideration around the world. These initiatives could restrict our operating activities, require us to make changes in our operating activities that would increase our operating costs, reduce our efficiency or limit our output, require us to make capital improvements to our facilities, increase our energy, raw material and transportation costs or limit their availability, or otherwise adversely affect our results of operations, liquidity or capital resources, and these effects could be material to us.

The direct greenhouse gas emissions from our operations result primarily from:

- Combustion of natural gas to produce steam and dry potash products at our Belle Plaine, Saskatchewan potash solution mine. To a lesser extent, at our potash shaft mines, natural gas is used as a fuel to heat fresh air supplied to the shaft mines and for drying potash products.
- The use of natural gas as a feedstock in the production of ammonia at our Faustina, Louisiana facility.
- Process reactions from naturally occurring carbonates in phosphate rock.
- Operation of transport trucks, mining and construction equipment, and other machinery powered by internal combustion engines utilizing fossil fuels.

In addition, the production of energy and raw materials that we purchase from unrelated parties for use in our business and energy used in the transportation of our products and raw materials are sources of greenhouse gas emissions.

Governmental greenhouse gas emission initiatives include, among others, the December 2015 agreement (the “**Paris Agreement**”) which was the outcome of the 21st session of the

Conference of the Parties under the United Nations Framework Convention on Climate Change. The Paris Agreement, which was signed by nearly 200 nations, including the U.S. and Canada, entered into force in late 2016 and sets out a goal of limiting the average rise in temperatures for this century to below 2 degrees Celsius. Each signatory is expected to develop its own plan (referred to as a Nationally Determined Contribution, or “**NDC**”) for reaching that goal.

In 2015, the U.S. had submitted a NDC aiming to achieve, by 2025, an economy-wide target of reducing greenhouse gas emissions by 26-28% below its 2005 level. The NDC also aims to use best efforts to reduce emissions by 28%. The U.S. target covers all greenhouse gases that were a part of the 2014 Inventory of Greenhouse Gas Emissions and Sinks. While the future of the U.S.’s involvement in the Paris Agreement and the status of this NDC are unclear, various legislative or regulatory initiatives relating to greenhouse gases have been adopted or considered by the U.S. Congress, the EPA or various states and those initiatives already adopted may be used to implement a U.S. NDC. Additionally, more stringent laws and regulations may be enacted to accomplish the goals set out in the NDC.

Brazil ratified the Paris Agreement in September 2016, committing to a NDC that includes an economy-wide target of 1.3 GtCO<sub>2</sub>e by 2025 and 1.2 GtCO<sub>2</sub>e by 2030. In 2020, Brazil submitted a new NDC, which reaffirms the country’s commitment to reducing total net greenhouse gas emissions by 37% in 2025 and by 43% in 2030. The NDC further commits to achieving climate neutrality in 2060. Since 2009, Brazil has a National Policy on Climate Change. This policy is



implemented by two instruments: the National Plan on Climate Change and the National Climate Change Fund. Additionally, Brazil has sector-specific policies, such as the National Plan for Low Carbon Emission in Agriculture. As part of its commitments in the Paris Agreement, Brazil enforced a Biofuels National Policy (“**RenovaBio**”) program in 2020, which sets a carbon credit mechanism based on emission reductions from the use of biofuels. RenovaBio aims to increase biofuels rate in the country’s energy matrix and reached 97% of its target on the first year. Under RenovaBio, fossil fuel distributors are required to compensate for the carbon emissions through the acquisition of CBIOS (decarbonization certificates), issued by biofuel producers (e.g., ethanol plants). Since 2020, the Brazilian Congress became active in proposing other climate-related legislation and could approve new instruments to combat climate change in this current legislature. We will continue to monitor developments relating to the anticipated legislation, as well as the potential future effect on our operating activities, energy, raw material and transportation costs, results of operations, liquidity or capital resources.

Canada’s intended NDC aims to achieve, by 2030, an economy-wide target of reducing greenhouse gas emissions by 40-45% below 2005 levels. In late 2016, the Canadian federal government announced plans for a comprehensive tax on carbon emissions, under which provinces opting out of the tax would have the option of adopting a cap-and-trade system. In the plans, the federal government also committed to implementing a federal carbon pricing backstop system that will apply in any province or territory that does not have a carbon pricing system in place by 2018. As of January 1, 2023, a carbon tax of \$65 per tonne now applies in Canada for any emitter not covered under the federal backstop program or approved provincial program. A revised plan was submitted by Saskatchewan to the federal government in 2022, which was subsequently approved in its entirety in November 2022. Our Saskatchewan Potash facilities are subject to the Saskatchewan climate change plan regarding emissions at our facilities; however, indirect costs from the carbon tax associated with electricity, natural gas consumption, and transportation are currently passed through to Mosaic. As implementation of the Paris Agreement proceeds, more stringent laws and regulations may be enacted to accomplish the goals set out in Canada’s NDC. We will also continue to monitor developments relating to the anticipated legislation, as well as the potential future effect on our operating activities, energy, raw material and transportation costs, results of operations, liquidity or capital resources.

It is possible that future legislation or regulation addressing climate change, including in response to the Paris Agreement or any new international agreements, could adversely affect our operating activities, energy, raw material and transportation costs, results of operations, liquidity or capital resources, and these effects could be material or adversely impact our competitive advantage. In addition, to the extent climate change restrictions imposed in countries where our competitors operate, such as China, India, former Soviet Union countries or Morocco, are less stringent than in the U.S., Brazil or Canada, our competitors could gain cost or other competitive advantages over us.

**Operating Impacts Due to Climate Change.** The prospective impact of climate change on our operations and those of our customers and farmers remains uncertain. Scientists have hypothesized that the impacts of climate change could include changes in rainfall patterns, water shortages, changing sea levels, changing storm patterns and intensities, and changing temperature levels and that these changes could be severe. These impacts could vary by

geographic location. Severe climate change could impact our costs and operating activities, the location and cost of global grain and oilseed production, and the supply and demand for grains and oilseeds. At the present time, we cannot predict the prospective impact of climate change on our results of operations, liquidity or capital resources, or whether any such effects could be material to us.

### **Remedial Activities**

Comprehensive Environmental Response, Compensation and Liability Act (“**CERCLA**”) (aka Superfund) and state analogues impose liability, without regard to fault or to the legality of a party’s conduct, on certain categories of persons, including those who have disposed of “hazardous substances” at a location. Under Superfund, or its various state analogues, one party may be responsible for the entire site, regardless of fault or the locality of its disposal activity. We have contingent environmental remedial liabilities that arise principally from three sources which are further discussed below: (i) facilities currently or formerly owned by our subsidiaries or their predecessors; (ii) facilities adjacent to currently or formerly owned facilities; and (iii) third-party Superfund or state equivalent sites where we are alleged to have disposed of hazardous materials. Taking into consideration established accruals for environmental remedial matters of approximately \$203.2 million as of December 31, 2023, expenditures for these known conditions currently are not expected, individually or in the aggregate, to have a material effect on our business or financial condition. However, material expenditures could be required in the future to remediate the contamination at known sites or at other current or former sites.

Remediation at Our Facilities. Many of our formerly owned or current facilities have been in operation for decades. The historical use and handling of regulated chemical substances, crop and animal nutrients and additives as well as by-product or

process tailings at these facilities by us and predecessor operators have resulted in soil, surface water and groundwater impacts.

At many of these facilities, spills or other releases of regulated substances have occurred previously and potentially could occur in the future, possibly requiring us to undertake or fund cleanup efforts under Superfund or otherwise. In some instances, we have agreed, pursuant to consent orders or agreements with the appropriate governmental agencies, to undertake certain investigations, which currently are in progress, to determine whether remedial action may be required to address site impacts. At other locations, we have entered into consent orders or agreements with appropriate governmental agencies to perform required remedial activities that will address identified site conditions. Taking into account established accruals, future expenditures for these known conditions currently are not expected, individually or in the aggregate, to have a material adverse effect on our business or financial condition. However, material expenditures by us could be required in the future to remediate the environmental impacts at these or at other current or former sites.

**Remediation at Third-Party Facilities.** Various third parties have alleged that our historical operations have impacted neighboring offsite areas or nearby third-party facilities. In some instances, we have agreed, pursuant to orders from or agreements with appropriate governmental agencies or agreements with private parties, to undertake or fund investigations, some of which currently are in progress, to determine whether remedial action, under Superfund or otherwise, may be required to address offsite impacts. Our remedial liability at these sites, either alone or in the aggregate, taking into account established accruals, currently is not expected to have a material adverse effect on our business or financial condition. As more information is obtained regarding these sites, this expectation could change.

**Liability for Offsite Disposal Locations.** Currently, we are involved or concluding involvement for offsite disposal at several Superfund or equivalent state sites. Moreover, we previously have entered into settlements to resolve liability with regard to Superfund or equivalent state sites. In some cases, such settlements have included “reopeners,” which could result in additional liability at such sites in the event of newly discovered contamination or other circumstances. Our remedial liability at such disposal sites, either alone or in the aggregate, currently is not expected to have a material adverse effect on our business or financial condition. As more information is obtained regarding these sites and the potentially responsible parties involved, this expectation could change.

### **Product Requirements and Impacts**

International, federal, state and provincial standards require us to register many of our products before these products can be sold. The standards also impose labeling requirements on these products and require us to manufacture the products to formulations set forth on the labels. We believe that, when handled and used as intended, based on the available data, crop nutrient materials do not pose harm to human health or the environment and that any additional standards or regulatory requirements relating to product requirements and impacts will not have a material adverse effect on our business or financial condition.

### **Environmental Justice**

The U.S. federal and some state governments increasingly are adopting standards or policies requiring environmental justice reviews in some permitting actions. In general, they require governmental agencies to evaluate projects for disproportionate impacts to disadvantaged or already burdened communities. If such conditions are found, they might result in a permit denial, or restrictive or cost prohibitive conditions imposed on our operations and may impair our business and operations and could have a material adverse effect on our business, financial condition or results of operations.

## **Sustainability**

We are committed to making informed choices that improve our corporate governance, financial strength, operational efficiency, environmental stewardship, community engagement and resource management. Through these efforts, we intend to sustain our business and experience lasting success.

We have included, or incorporate by reference, throughout this Form 10-K discussions of various matters relating to our sustainability, in its broadest sense, that we believe may be material to our investors. These matters include, but are not limited to, discussions about: corporate governance, including the leadership and respective roles of our Board of Directors and its committees, and management; recent and prospective developments in our business; product development; risk, enterprise risk management and risk oversight; the regulatory and permitting environment for our business and ongoing regulatory and permitting initiatives; executive compensation practices; employee and contractor safety; human capital

matters and other EHS matters, including climate change, water management, energy and other operational efficiency initiatives, reclamation and AROs. Other matters relating to sustainability are included in our sustainability reports that are available on our website at [www.mosaicco.com/ourresponsibility](http://www.mosaicco.com/ourresponsibility). Our sustainability reports are not incorporated by reference in this Form 10-K.

### **Additional Information**

For additional information about phosphate mine permitting in Florida, our environmental liabilities, the environmental proceedings in which we are involved, our AROs related to environmental matters, and our related accounting policies, see Environmental Liabilities and AROs under Critical Accounting Estimates above and Notes 2, 14, and 23 of our Notes to Consolidated Financial Statements.

### **Contingencies**

Information regarding contingencies in Note 23 of our Notes to Consolidated Financial Statements is incorporated herein by reference.

### **Related Parties**

Information regarding related party transactions is set forth in Note 24 of our Notes to Consolidated Financial Statements and is incorporated herein by reference.

### **Recently Issued Accounting Guidance**

Recently issued accounting guidance is set forth in Note 3 of our Notes to Consolidated Financial Statements and is incorporated herein by reference.

### **Cautionary Statement Regarding Forward Looking Information**

All statements, other than statements of historical fact, appearing in this report constitute “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. These forward looking statements include, among other things, statements about our expectations, beliefs, intentions or strategies for the future, including statements about proposed or pending future transactions or strategic plans, statements concerning our future operations, financial condition and prospects, statements regarding our expectations for capital expenditures, statements concerning our level of indebtedness and other information, and any statements of assumptions regarding any of the foregoing. In particular, forward-looking statements may include words such as “anticipate,” “believe,” “could,” “estimate,” “expect,” “intend,” “may,” “potential,” “predict,” “project” or “should”. These statements involve certain risks and uncertainties that may cause actual results to differ materially from expectations as of the date of this filing.

Factors that could cause reported results to differ materially from those expressed or implied by the forward-looking statements include, but are not limited to, the following:

- business and economic conditions and governmental policies affecting the agricultural industry where we or our customers operate, including price and demand volatility resulting from periodic imbalances of supply and demand;

- because of political and economic instability, civil unrest or changes in government policies in Brazil, Saudi Arabia, Peru or other countries in which we do business, our operations could be disrupted as higher costs of doing business could result, including those associated with implementation of new freight tables and new mining legislation;
- a potential drop in oil demand, which could lead to a significant decline in production, and its impact on the availability and price of sulfur, a key raw material input for our Phosphates and Mosaic Fertilizantes segment operations;
- changes in farmers' application rates for crop nutrients;
- changes in the operation of world phosphate or potash markets, including consolidation in the crop nutrient industry, particularly if we do not participate in the consolidation;
- the expansion or contraction of production capacity or selling efforts by competitors or new entrants in the industries in which we operate, including the effects of actions by members of Canpotex to prove the production capacity of potash expansion projects, through proving runs or otherwise;

- the effect of future product innovations or development of new technologies on demand for our products;
- seasonality in our business that results in the need to carry significant amounts of inventory and seasonal peaks in working capital requirements, which may result in excess inventory or product shortages;
- changes in the costs, or constraints on supplies, of raw materials or energy used in manufacturing our products, or in the costs or availability of transportation for our products;
- economic and market conditions including supply chain challenges and increased costs and delays caused by transportation and labor shortages;
- declines in our selling prices or significant increases in costs that can require us to write down our inventories to the lower of cost or market, or require us to impair goodwill or other long-lived assets, or establish a valuation allowance against deferred tax assets;
- the lag in realizing the benefit of falling market prices for the raw materials we use to produce our products that can occur while we consume raw materials that we purchased or committed to purchase in the past at higher prices;
- disruptions of our operations at any of our key production, distribution, transportation or terminaling facilities, including those of Canpotex or any joint venture in which we participate;
- shortages or other unavailability of trucks, railcars, tugs, barges and ships for carrying our products and raw materials;
- the effects of and change in trade, monetary, environmental, tax and fiscal policies, laws and regulations;
- foreign exchange rates and fluctuations in those rates;
- tax regulations, currency exchange controls and other restrictions that may affect our ability to optimize the use of our liquidity;
- adverse weather and climate conditions affecting our operations, including the impact of potential hurricanes, excessive heat, cold, snow, rainfall or drought;
- difficulties or delays in receiving, challenges to, increased costs of obtaining or satisfying conditions of, or revocation or withdrawal of required governmental and regulatory approvals, including permitting activities;
- changes in the environmental and other governmental regulation that applies to our operations, including federal legislation or regulatory action expanding the types and extent of water resources regulated under federal law and the possibility of further federal or state legislation or regulatory action affecting or related to greenhouse gas emissions, including carbon taxes or other measures that may be implemented in Canada or other jurisdictions in which we operate, or of restrictions or liabilities related to elevated levels of naturally-occurring radiation that arise from disturbing the ground in the course of mining activities or possible efforts to reduce the flow of nutrients into the Gulf of Mexico, the Mississippi River basin or elsewhere;

- the potential costs and effects of implementation of federal or state water quality standards for the discharge of nitrogen and/or phosphorus into Florida waterways;
- the financial resources of our competitors, including state-owned and government-subsidized entities in other countries;
- the possibility of defaults by our customers on trade credit that we extend to them or on indebtedness that they incur to purchase our products and that we guarantee;
- any significant reduction in customers' liquidity or access to credit that they need to purchase our products;
- the effectiveness of the processes we put in place to manage our significant strategic priorities, including our investment in MWSPC, and to successfully integrate and grow acquired businesses;
- actual costs of various items differing from management's current estimates, including, among others, asset retirement, environmental remediation, reclamation or other environmental obligations, or the costs of MWSPC or its existing or future funding;
- the costs and effects of legal and administrative proceedings and regulatory matters affecting us, including environmental, tax or administrative proceedings, complaints that our operations are adversely impacting nearby



farms, businesses, other property uses or properties, settlements thereof and actions taken by courts with respect to approvals of settlements, costs related to defending and resolving global audit, appeal or court activity and other further developments in legal proceedings and regulatory matters;

- the success of our efforts to attract and retain highly qualified and motivated employees;
- strikes, labor stoppages or slowdowns by our work force or increased costs resulting from unsuccessful labor contract negotiations, and the potential costs and effects of compliance with new regulations affecting our workforce, which increasingly focus on wages and hours, healthcare, retirement and other employee benefits;
- brine inflows at our potash mines;
- accidents or other incidents involving our properties or operations, including potential fires, explosions, seismic events, sinkholes, unsuccessful tailings management, ineffective mine safety procedures, or releases of hazardous or volatile chemicals;
- terrorism, armed conflict or other malicious intentional acts, including cybersecurity risks such as attempts to gain unauthorized access to, or disable, our information technology systems, or our costs of addressing malicious intentional acts;
- actions by the holders of controlling equity interests in businesses in which we hold a noncontrolling interest;
- changes in our relationship with the other member of Canpotex or any joint venture in which we participate or their or our exit from participation in Canpotex or any such export association or joint venture, and other changes in our commercial arrangements with unrelated third parties;
- difficulties in realizing benefits under our long-term natural gas based pricing ammonia supply agreement with CF, including the risks that the cost savings initially anticipated from the agreement may not be fully realized over the term of the agreement or that the price of natural gas or the market price for ammonia during the agreement's term are at levels at which the agreement's natural gas based pricing is disadvantageous to us, compared with purchases in the spot market; and
- other risk factors reported from time to time in our SEC reports.

Material uncertainties and other factors known to us are discussed in Item 1A, "Risk Factors," of our Form 10-K for the year ended December 31, 2023 and incorporated by reference herein as if fully stated herein.

We base our forward-looking statements on information currently available to us, and we undertake no obligation to update or revise any of these statements, whether as a result of changes in underlying factors, new information, future events or other developments.

## **Report of Independent Registered Public Accounting Firm**

To the Stockholders and Board of Directors  
The Mosaic Company:

### **Opinion on the Consolidated Financial Statements**

We have audited the accompanying consolidated balance sheets of The Mosaic Company and subsidiaries (the Company) as of December 31, 2023 and 2022, the related consolidated statements of earnings, comprehensive income, equity, and cash flows for each of the years in the three-year period ended December 31, 2023, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2023 and 2022, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2023, 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, 2023, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 22, 2024 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

### **Basis for Opinion**

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated 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 consolidated 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 consolidated 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 consolidated 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 consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

### **Critical Audit Matters**

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was 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 a critical audit matter 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 matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

#### Evaluation of asset retirement obligations for water treatment costs

As discussed in Note 14 to the consolidated financial statements, the Company has recorded asset retirement obligations (AROs) of \$2,213.4 million as of December 31, 2023. The ARO includes the planned treatment of contaminated water (“water treatment costs”) and other asset retirement activities at the Company’s Florida and Louisiana facilities.

We identified the evaluation of asset retirement obligations for water treatment costs as a critical audit matter. Specialized skills and knowledge were required to evaluate the Company’s selection of planned water treatment activities to satisfy their legal obligation. In addition, there was a high degree of subjective auditor judgment due to the sensitivity of the AROs to minor changes to significant assumptions, such as the volume of contaminated water and the forecasted level of contamination used to estimate the water treatment costs per thousand gallons (“unit costs”).

The following are the primary procedures performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company’s ARO process. This included controls related

to the knowledge, skill, and ability of third-party specialists and their relationship to the Company, determination of necessary activities required to treat contaminated water, and the development of the significant assumptions utilized in the process. We compared water treatment unit cost estimates to actual spending and water quality measurements. We evaluated the Company's ability to accurately estimate water treatment costs by comparing the Company's prior year estimates to the actual water treatment costs incurred. We performed sensitivity analyses over the volume of contaminated water and the unit costs assumptions to assess their impact on the water treatment costs estimate. Due to the specialized skills and knowledge used by the Company to select water treatment activities, we involved an environmental engineering professional with specialized skills and knowledge. This professional assisted in assessing the professional qualifications of the Company's environmental engineers and engineering firm, including the knowledge, skill, and ability of the engineers, and the relationship of the engineers and engineering firm to the Company. In addition, the environmental engineering professional evaluated the Company's planned asset retirement activities by analyzing the Company's specialist's reports. This professional evaluated significant engineering assumptions listed above and compared the planned activities per the specialist's reports to other information obtained during the audit, such as:

- permits obtained which specify the Company's legal obligations
- reports to state regulators on the level of contamination in water balances.

We evaluated the Company's changes in assumptions for the volume of contaminated water and the forecasted level of contamination by comparing them to actual results from the prior year, as well as assessing operational changes that could impact estimated water volumes, contamination levels, or necessary treatment activities.

/s/ KPMG LLP

We have served as the Company's auditor since 2004.

Tampa, Florida  
February 22, 2024

## **Report of Independent Registered Public Accounting Firm**

To the Stockholders and Board of Directors  
The Mosaic Company:

### **Opinion on Internal Control Over Financial Reporting**

We have audited The Mosaic Company and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2023, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2023, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2023 and 2022, the related consolidated statements of earnings, comprehensive income, equity, and cash flows for each of the years in the three-year period ended December 31, 2023, and the related notes (collectively, the consolidated financial statements), and our report dated February 22, 2024 expressed an unqualified opinion on those consolidated financial statements.

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

### **Definition and Limitations of Internal Control Over Financial Reporting**

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and

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

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

/s/ KPMG LLP

Tampa, Florida  
February 22, 2024

**Consolidated Statements of Earnings**  
In millions, except per share amounts

	Years Ended December 31,		
	2023	2022	2021
Net sales	\$ 13,696.1	\$ 19,125.2	\$ 12,357.4
Cost of goods sold	11,485.5	13,369.4	9,157.1
Gross margin	2,210.6	5,755.8	3,200.3
Selling, general and administrative expenses	500.5	498.0	430.5
Impairment, restructuring and other expenses	—	—	158.1
Other operating expenses	372.0	472.5	143.2
Operating earnings	1,338.1	4,785.3	2,468.5
Interest expense, net	(129.4)	(137.8)	(169.1)
Foreign currency transaction gain (loss)	194.0	97.5	(78.5)
Other (expense) income	(76.8)	(102.5)	3.9
Earnings from consolidated companies before income taxes	1,325.9	4,642.5	2,224.8
Provision for income taxes	177.0	1,224.3	597.7
Earnings from consolidated companies	1,148.9	3,418.2	1,627.1
Equity in net earnings of nonconsolidated companies	60.3	196.0	7.8
Net earnings including noncontrolling interests	1,209.2	3,614.2	1,634.9
Less: Net earnings attributable to noncontrolling interests	44.3	31.4	4.3
Net earnings attributable to Mosaic	\$ 1,164.9	\$ 3,582.8	\$ 1,630.6
Basic net earnings per share attributable to Mosaic	\$ 3.52	\$ 10.17	\$ 4.31
Basic weighted average number of shares outstanding	331.3	352.4	378.1
Diluted net earnings per share attributable to Mosaic	\$ 3.50	\$ 10.06	\$ 4.27
Diluted weighted average number of shares outstanding	333.2	356.0	381.6

**See Accompanying Notes to Consolidated Financial Statements**

**Consolidated Statements of Comprehensive Income**  
**In millions**

	<b>Years Ended December 31,</b>		
	<b>2023</b>	<b>2022</b>	<b>2021</b>
Net earnings including noncontrolling interest	\$ 1,209.2	\$ 3,614.2	\$ 1,634.9
Other comprehensive income (loss), net of tax			
Foreign currency translation gain (loss)	154.1	(255.0)	(108.2)
Net actuarial gain and prior service cost	20.1	19.7	36.9
Realized gain on interest rate swap	1.4	1.5	1.5
Net gain (loss) on marketable securities held in trust fund	23.7	(24.8)	(17.6)
Other comprehensive income (loss)	199.3	(258.6)	(87.4)
Comprehensive income	1,408.5	3,355.6	1,547.5
Less: Comprehensive income attributable to noncontrolling interest	46.3	33.2	2.5
Comprehensive income attributable to Mosaic	\$ 1,362.2	\$ 3,322.4	\$ 1,545.0

**See Accompanying Notes to Consolidated Financial Statements**



**Consolidated Balance Sheets**  
**In millions, except per share amounts**

	December 31,	
	2023	2022
<b>Assets</b>		
Current assets:		
Cash and cash equivalents	\$ 348.8	\$ 735.4
Receivables, net	1,269.2	1,699.9
Inventories	2,523.2	3,543.1
Other current assets	603.8	578.2
Total current assets	4,745.0	6,556.6
Property, plant and equipment, net	13,585.4	12,678.7
Investments in nonconsolidated companies	909.0	885.9
Goodwill	1,138.6	1,116.3
Deferred income taxes	1,079.2	752.3
Other assets	1,575.6	1,396.2
Total assets	<u>\$ 23,032.8</u>	<u>\$ 23,386.0</u>
<b>Liabilities and Equity</b>		
Current liabilities:		
Short-term debt	\$ 399.7	\$ 224.9
Current maturities of long-term debt	130.1	985.3
Structured accounts payable arrangements	399.9	751.2
Accounts payable	1,166.9	1,292.5
Accrued liabilities	1,777.1	2,279.9
Total current liabilities	3,873.7	5,533.8
Long-term debt, less current maturities	3,231.6	2,411.9
Deferred income taxes	1,065.5	1,010.1
Other noncurrent liabilities	2,429.2	2,236.0
Equity:		
Preferred stock, \$0.01 par value, 15,000,000 shares authorized, none issued and outstanding as of December 31, 2023 and 2022	—	—
Common stock, \$0.01 par value, 1,000,000,000 shares authorized, 393,875,241 shares issued and 324,103,141 shares outstanding as of December 31, 2023, 391,964,464 shares issued and 339,071,423 shares outstanding as of December 31, 2022	3.2	3.4
Capital in excess of par value	—	—
Retained earnings	14,241.9	14,203.4
Accumulated other comprehensive loss	(1,954.9)	(2,152.2)
Total Mosaic stockholders' equity	12,290.2	12,054.6
Non-controlling interests	142.6	139.6
Total equity	<u>12,432.8</u>	<u>12,194.2</u>
Total liabilities and equity	<u>\$ 23,032.8</u>	<u>\$ 23,386.0</u>

**See Accompanying Notes to Consolidated Financial Statements**



## **Consolidated Statements of Cash Flows**

**In millions, except per share amounts**

	Years Ended December 31,		
	2023	2022	2021
<b>Cash Flows from Operating Activities</b>			
Net earnings including noncontrolling interests	\$ 1,209.2	\$ 3,614.2	\$ 1,634.9
Adjustments to reconcile net earnings including noncontrolling interests to net cash provided by operating activities:			
Depreciation, depletion and amortization	960.6	933.9	812.9
Deferred and other income taxes	(261.2)	344.4	98.8
Equity in net (earnings) of nonconsolidated companies, net of dividends	(31.8)	(191.5)	(2.1)
Accretion expense for asset retirement obligations	96.1	81.6	71.9
Accretion expense for leases	23.1	15.9	13.4
Share-based compensation expense	33.0	27.9	29.5
Unrealized (gain) loss on derivatives	(29.0)	4.3	7.2
Foreign currency adjustments	(94.0)	(67.9)	(2.6)
Mine closure costs	—	—	158.1
Loss on sale of securities	19.4	46.6	—
Write down of inventory to net realizable value	56.7	38.0	—
Pension settlement loss	42.4	41.9	—
Gain on sale of business	(56.5)	—	—
Other	37.5	39.0	(5.3)
Changes in assets and liabilities:			
Receivables, net	526.3	(215.2)	(683.6)
Inventories, net	1,061.4	(749.6)	(1,067.9)
Other current assets and noncurrent assets	(239.2)	(247.4)	(18.0)
Accounts payable and accrued liabilities	(1,055.1)	219.8	995.1
Other noncurrent liabilities	108.3	(0.1)	144.7
Net cash provided by operating activities	2,407.2	3,935.8	2,187.0
<b>Cash Flows from Investing Activities</b>			
Capital expenditures	(1,402.4)	(1,247.3)	(1,288.6)
Purchases of available-for-sale securities - restricted	(1,240.8)	(762.5)	(433.6)
Proceeds from sale of available-for-sale securities - restricted	1,209.1	743.0	410.1
Proceeds from sale of business	158.4	—	—
Acquisition of business	(41.0)	—	—
Other	(0.5)	7.2	(10.2)
Net cash used in investing activities	(1,317.2)	(1,259.6)	(1,322.3)
<b>Cash Flows from Financing Activities</b>			
Payments of short-term debt	(9,832.0)	(1,761.2)	(726.6)
Proceeds from issuance of short-term debt	10,007.1	1,980.5	726.6
Payments from inventory financing arrangement	(601.4)	(1,651.5)	—
Proceeds from inventory financing arrangement	601.4	1,348.8	302.7
Payments of structured accounts payable arrangements	(1,432.9)	(1,476.6)	(1,028.4)
Proceeds from structured accounts payable arrangements	1,048.2	1,460.5	1,122.7
Collections of transferred receivables	1,468.6	2,352.1	445.0
Payments of transferred receivables	(1,468.6)	(2,433.2)	(363.9)
Payments of long-term debt	(995.3)	(610.3)	(608.3)

**See Accompanying Notes to Consolidated Financial Statements**

**Consolidated Statements of Cash Flows (Continued)**  
**In millions, except per share amounts**

	Years Ended December 31,		
	2023	2022	2021
<b>Reconciliation of cash, cash equivalents and restricted cash reported within the consolidated balance sheets to the consolidated statements of cash flows:</b>			
Cash and cash equivalents	\$ 348.8	\$ 735.4	\$ 769.5
Restricted cash in other current assets	8.6	8.2	8.3
Restricted cash in other assets	3.4	10.5	8.5
Total cash, cash equivalents and restricted cash shown in the statement of cash flows	<u>\$ 360.8</u>	<u>\$ 754.1</u>	<u>\$ 786.3</u>

**See Accompanying Notes to Consolidated Financial Statements**



**Consolidated Statements of Equity**  
**In millions, except per share data**

	Shares	Dollars					
		Mosaic Stockholders					Total Equity
		Common Stock	Common Stock	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Loss	Non-Controlling Interests
<b>Balance as of December 31, 2020</b>	379.1	\$ 3.8	\$ 872.8	\$10,511.0	\$ (1,806.2)	\$ 173.8	\$ 9,755.2
Total comprehensive income (loss)	—	—	—	1,630.6	(85.6)	2.5	1,547.5
Vesting of restricted stock units	0.8	—	(11.3)	—	—	—	(11.3)
Stock based compensation	—	—	26.4	—	—	—	26.4
Stock option exercises	—	—	3.2	—	—	—	3.2
Repurchases of stock	(11.2)	(0.1)	(410.8)	—	—	—	(410.9)
Dividends (\$0.30 per share)	—	—	—	(127.4)	—	—	(127.4)
Dividends for noncontrolling interests	—	—	—	—	—	(31.3)	(31.3)
Purchase of noncontrolling interests	—	—	(2.3)	—	—	(0.6)	(2.9)
<b>Balance as of December 31, 2021</b>	368.7	3.7	478.0	12,014.2	(1,891.8)	144.4	10,748.5
Total comprehensive income (loss)	—	—	—	3,582.8	(260.4)	33.2	3,355.6
Vesting of restricted stock units	1.2	—	(19.2)	—	—	—	(19.2)
Stock based compensation	—	—	31.5	—	—	—	31.5
Stock option exercises	—	—	16.0	—	—	—	16.0
Repurchases of stock	(30.8)	(0.3)	(506.3)	(1,166.6)	—	—	(1,673.2)
Dividends (\$0.60 per share)	—	—	—	(227.0)	—	—	(227.0)
Dividends for noncontrolling interests	—	—	—	—	—	(38.0)	(38.0)
<b>Balance as of December 31, 2022</b>	339.1	3.4	—	14,203.4	(2,152.2)	139.6	12,194.2
Total comprehensive income	—	—	—	1,164.9	197.3	46.3	1,408.5
Vesting of restricted stock units	1.9	—	(0.8)	(53.4)	—	—	(54.2)
Stock based compensation	—	—	33.0	—	—	—	33.0
Share repurchases, including tax of \$6.4 million	(16.9)	(0.2)	(32.2)	(722.0)	—	—	(754.4)
Dividends (\$0.85 per share)	—	—	—	(351.0)	—	—	(351.0)
Equity to							

**See Accompanying Notes to Consolidated Financial Statements**

**Notes to Consolidated Financial Statements**  
**Tables in millions, except per share amounts**

**1. ORGANIZATION AND NATURE OF BUSINESS**

The Mosaic Company (“**Mosaic**,” and, with its consolidated subsidiaries, “**we**,” “**us**,” “**our**,” or the “**Company**”) produces and markets concentrated phosphate and potash crop nutrients. We conduct our business through wholly- and majority-owned subsidiaries and businesses in which we own less than a majority or a noncontrolling interest, including consolidated variable interest entities and investments accounted for by the equity method.

We are organized into the following business segments:

- Our **Phosphates** business segment owns and operates mines and production facilities in Florida which produce concentrated phosphate crop nutrients and phosphate-based animal feed ingredients, and processing plants in Louisiana which produce concentrated phosphate crop nutrients. We have a 75% economic interest in the Miski Mayo Phosphate Mine in Peru. These results are consolidated in the Phosphates segment. The Phosphates segment also includes our 25% interest in the Ma’aden Wa’ad Al Shamal Phosphate Company (the “**MWSPC**”), a joint venture to develop, own and operate integrated phosphate production facilities in the Kingdom of Saudi Arabia. We market approximately 25% of the MWSPC phosphate production. We recognize our equity in the net earnings or losses relating to MWSPC on a one-quarter lag in our Consolidated Statements of Earnings.
- Our **Potash** business segment owns and operates potash mines and production facilities in Canada and the U.S. which produce potash-based crop nutrients, animal feed ingredients and industrial products. Potash sales include domestic and international sales. We are a member of Canpotex, Limited (“**Canpotex**”), an export association of Canadian potash producers through which we sell our Canadian potash outside the U.S. and Canada.
- Our **Mosaic Fertilizantes** business segment includes five Brazilian phosphate rock mines, four phosphate chemical plants and a potash mine in Brazil. The segment also includes our distribution business in South America, which consists of sales offices, crop nutrient blending and bagging facilities, port terminals and warehouses in Brazil and Paraguay. We also have a majority interest in Fospar S.A., which owns and operates a single superphosphate granulation plant and a deep-water port and throughput warehouse terminal facility in Brazil.

Intersegment eliminations, unrealized mark-to-market gains/losses on derivatives, debt expenses, and the results of the China and India distribution businesses are included within Corporate, Eliminations and Other.

**2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**Statement Presentation and Basis of Consolidation**

The accompanying Consolidated Financial Statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“**U.S.**

**GAAP**"). Throughout the Notes to Consolidated Financial Statements, amounts in tables are in millions of dollars except for per share data and as otherwise designated.

The accompanying Consolidated Financial Statements include the accounts of Mosaic and its majority-owned subsidiaries. Certain investments in companies in which we do not have control but have the ability to exercise significant influence are accounted for by the equity method.

### **Accounting Estimates**

Preparation of the Consolidated Financial Statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of net sales and expenses during the reporting periods. The most significant estimates made by management relate to the recoverability of non-current assets including goodwill, the useful lives and net realizable values of long-lived assets, environmental and reclamation liabilities, including asset retirement obligations ("**ARO**"), and income tax-related accounts, including the valuation allowance against deferred income tax assets. Actual results could differ from these estimates.

## Revenue Recognition

We generate revenues primarily by producing and marketing phosphate and potash crop nutrients. Revenue is recognized when control of the product is transferred to the customer, which is generally upon transfer of title to the customer based on the contractual terms of each arrangement. Title is typically transferred to the customer upon shipment of the product. In certain circumstances, which are referred to as final price deferred arrangements, we ship product prior to the establishment of a valid sales contract. In such cases, we retain control of the product and do not recognize revenue until a sales contract has been agreed to with the customer.

Revenue is measured as the amount of consideration we expect to receive in exchange for the transfer of our goods. Our products are generally sold based on market prices prevailing at the time the sales contract is signed or through contracts which are priced at the time of shipment, except for the final priced deferred arrangements discussed above. Sales incentives are volumetric based annual programs and recorded as a reduction of revenue at the time of sale. We estimate the variable consideration related to our sales incentive programs based on the sales terms with customers and historical experience. Historically, sales incentives have represented 1% or less of total revenue and there have not been significant adjustments to such estimates in the financial statements.

We sell Canadian-sourced potash outside Canada and the U.S. exclusively through Canpotex distribution. Canpotex sells potash to buyers in export markets pursuant to term and spot contracts at agreed upon prices. For sales through this channel, our revenue is recognized at the amount received from Canpotex representing proceeds from their sale of potash, less net costs of Canpotex. Sales are recognized when control is transferred to Canpotex, typically upon shipment of the product to Canpotex, and adjusted at the end of each reporting period based upon the updated estimated pricing or final pricing from Canpotex. Prior to final pricing, revenue is recognized only to the extent that it is probable a significant reversal of revenue will not occur. The constraint is estimated each period based on historical experience, market trends and industry data. The estimated constraint is not material to the Company's financial statements.

Due to our membership in Canpotex, we eliminate the intra-entity profit with Canpotex at the end of each reporting period and present that profit elimination by reversing revenue and cost of goods sold for the inventory remaining at Canpotex. For more information regarding our relationship with Canpotex and accounting considerations, see Note 9 of our Notes to Consolidated Financial Statements. For information regarding sales by product type and by geographic area, see Note 25 of our Notes to Consolidated Financial Statements.

The timing of recognition of revenue related to our performance obligations may be different than the timing of collection of cash related to those performance obligations. Specifically, we collect prepayments from certain customers in Brazil. In addition, cash collection from Canpotex may occur prior to delivery of product to the end customer. We generally satisfy our contractual liabilities within one quarter of incurring the liability.

Other key revenue recognition accounting policies include:

- Shipping and handling costs are included as a component of cost of goods sold.

- We generally expense sales commissions when incurred because the amortization period would have been one year or less. These costs are recorded within sales and marketing expenses.
- We have elected to recognize the cost for freight and shipping as an expense in cost of sales, when control over the product has passed to the customer.

### **Non-Income Taxes**

We pay Canadian resource taxes consisting of the Potash Production Tax and resource surcharge. The Potash Production Tax is a Saskatchewan provincial tax on potash production and consists of a base payment and a profits tax. In addition to the Canadian resource taxes, royalties are payable to the mineral owners with respect to potash reserves or production of potash. These resource taxes and royalties are recorded in our cost of goods sold. Our Canadian resource tax and royalty expenses were \$457.0 million, \$1.0 billion and \$301.5 million during 2023, 2022 and 2021, respectively.

We have approximately \$136.5 million of assets recorded as of December 31, 2023 related to PIS and Cofins, which is a Brazilian federal value-added tax. This amount was mostly earned in 2008 through 2022; we believe that it will be realized through offsetting income tax payments or other federal taxes or receiving cash refunds. As of December 31, 2022 we had approximately \$105.0 million of assets recorded for these matters. Should the Brazilian government determine that these are not valid credits upon audit, this could impact our results in such period. We have recorded the PIS and Cofins credits at

amounts which we believe are probable of collection. Information regarding PIS and Cofins taxes already audited is included in Note 23 of our Notes to Consolidated Financial Statements.

### **Foreign Currency Translation**

The Company's reporting currency is the U.S. dollar; however, for operations located in Canada and Brazil, the functional currency is the local currency. Assets and liabilities of these foreign operations are translated to U.S. dollars at exchange rates in effect at the balance sheet date, while income statement accounts and cash flows are translated to U.S. dollars at the average exchange rates for the period. For these operations, translation gains and losses are recorded as a component of accumulated other comprehensive income in equity until the foreign entity is sold or liquidated. Transaction gains and losses result from transactions that are denominated in a currency other than the functional currency of the operation, primarily accounts receivable and intercompany loans in our Canadian entities denominated in U.S. dollars, intercompany loans receivable in our U.S. entities denominated in Brazilian real, and accounts payable in Brazil denominated in U.S. dollars. These foreign currency transaction gains and losses are presented separately in the Consolidated Statement of Earnings.

### **Cash and Cash Equivalents**

Cash and cash equivalents include short-term, highly liquid investments with original maturities of 90 days or less and other highly liquid investments that are payable on demand such as money market accounts, certain certificates of deposit and repurchase agreements. The carrying amount of such cash equivalents approximates their fair value due to the short-term and highly liquid nature of these instruments.

### **Concentration of Credit Risk**

In the U.S., we sell our products to manufacturers, distributors and retailers, primarily in the Midwest and Southeast. Internationally, our potash products are sold primarily through Canpotex, an export association. A concentration of credit risk arises from our sales and accounts receivable associated with the international sales of potash product through Canpotex. We consider our concentration risk related to the Canpotex receivable to be mitigated by their credit policy, which requires the underlying receivables to be substantially insured or secured by letters of credit. As of December 31, 2023 and 2022, there were \$193.1 million and \$244.4 million, respectively, of trade accounts receivable due from Canpotex. During 2023, 2022 and 2021, sales to Canpotex were \$1.3 billion, \$3.0 billion and \$1.1 billion, respectively.

### **Inventories**

Inventories of raw materials, work-in-process products, finished goods and operating materials and supplies are stated at the lower of cost or net realizable value. Costs for substantially all inventories are determined using the weighted average cost basis. To determine the cost of inventory, we allocate fixed expense to the costs of production based on the normal capacity, which refers to a range of production levels and is considered the production expected to be achieved over a number of periods or seasons under normal



circumstances, taking into account the loss of capacity resulting from planned maintenance. Fixed overhead costs allocated to each unit of production should not increase due to abnormally low production. Those excess costs are recognized as a current period expense. When a production facility is completely shut down temporarily, it is considered “idle”, and all related expenses are charged to cost of goods sold.

Net realizable value of our inventory is defined as forecasted selling prices less reasonably predictable selling costs. Significant management judgment is involved in estimating forecasted selling prices including various demand and supply variables. Examples of demand variables include grain and oilseed prices, stock-to-use ratios and changes in inventories in the crop nutrients distribution channels. Examples of supply variables include forecasted prices of raw materials, such as phosphate rock, sulfur, ammonia and natural gas, estimated operating rates and industry crop nutrient inventory levels. Results could differ materially if actual selling prices differ materially from forecasted selling prices. Charges for lower of cost or market are recognized in our Consolidated Statements of Earnings in the period when there is evidence of a decline of market value below cost.

### **Property, Plant and Equipment and Recoverability of Long-Lived Assets**

Property, plant and equipment are stated at cost. Costs of significant assets include capitalized interest incurred during the construction and development period. Repairs and maintenance, including planned major maintenance and plant turnaround costs, are expensed when incurred.

Currently, we do not have any material exploration or development stage mining projects. When we transition to new mining areas within our current properties, we incur minimal pre-mining costs related to the permitting process and land preparation activities, such as water management control and construction of roads and access points. These costs are capitalized as part of our mineral properties and rights. Mineral properties and rights at our operations include mineral reserves and mineral resources. Mineral resources have not yet been scheduled in formal mine plans and therefore are not subject to depletion. Depletion expenses for mining operations, including mineral reserves, are generally determined using the units-of-production method based on estimates of proven and probable reserves. Depreciation is computed principally using the straight-line method and units-of-production method over the following useful lives: machinery and equipment: three to 25 years; and buildings and leasehold improvements: three to 40 years.

We estimate initial useful lives based on experience and current technology. These estimates may be extended through sustaining capital programs. Factors affecting the fair value of our assets or periods of expected use may also affect the estimated useful lives of our assets and these factors can change. Therefore, we periodically review the estimated remaining lives of our facilities and other significant assets and adjust our depreciation rates prospectively where appropriate.

Long-lived assets, including fixed assets and right-of-use assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment assessment involves management judgment and estimates of factors such as industry and market conditions, the economic life of the asset, sales volume and prices, inflation, raw materials costs, cost of capital, tax rates and capital spending. The carrying amount of a long-lived asset group is not recoverable if it exceeds the sum of the undiscounted cash flows expected to result from the use and eventual disposition of the asset group. If it is determined that an impairment loss has occurred, the loss is measured as the amount by which the carrying amount of the long-lived asset group exceeds its fair value.

## **Leases**

Right of use (“**ROU**”) assets represent our right to use an underlying asset for the lease term. Lease liabilities represent our obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at the commencement date of the lease, based on the present value of lease payments over the lease term. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at the commencement date in determining the present value of lease payments. The Company’s incremental borrowing rate for a lease is the rate of interest it would have to pay on a collateralized basis to borrow an amount equal to the lease payments under similar terms. For both operating and finance leases, the initial ROU asset equals the lease liability, plus initial direct costs, less lease incentives received. Our lease agreements may include options to extend or terminate the lease, which are included in the lease term at the commencement date when it is reasonably certain that we will exercise that option. In general, we do not consider optional periods included in our lease agreements as reasonably certain of exercise at inception.

At inception, we determine whether an arrangement is a lease and the appropriate lease classification. Operating leases with terms greater than twelve months are included as operating lease ROU assets within other assets and the associated lease liabilities within accrued liabilities and other noncurrent liabilities on our consolidated balance sheets. Finance leases with terms greater than twelve months are included as finance ROU assets within property and equipment and the associated finance lease liabilities within current maturities of long-term debt and long-term debt on our consolidated balance sheets.

Leases with terms of less than twelve months, referred to as short-term leases, do not create a ROU asset or lease liability on the balance sheet.

We have lease agreements with lease and non-lease components, which are generally accounted for separately. For full-service railcar leases, we account for the lease and non-lease components as a single lease component. Additionally, for certain equipment leases, we apply assumptions using a portfolio approach, given the generally consistent terms of the agreements. Lease payments based on usage (for example, per-mile or per-hour charges), referred to as variable lease costs, are recorded separately from the determination of the ROU asset and lease liability.

### **Contingencies**

Accruals for environmental remediation efforts are recorded when costs are probable and can be reasonably estimated. In determining these accruals, we use the most current information available, including similar past experiences, available technology, consultant evaluations, regulations in effect, the timing of remediation and cost-sharing arrangements. Adjustments to accruals, recorded as needed in our Consolidated Statement of Earnings each quarter, are made to reflect changes in and current status of these factors.

We are involved from time to time in claims and legal actions incidental to our operations, both as plaintiff and defendant. We have established what we currently believe to be adequate accruals for pending legal matters. These accruals are established as part of an ongoing worldwide assessment of claims and legal actions that takes into consideration such items as advice of legal counsel, individual developments in court proceedings, changes in the law, changes in business focus, changes in the litigation environment, changes in opponent strategy and tactics, new developments as a result of ongoing discovery and our experience in defending and settling similar claims. The litigation accruals at any time reflect updated assessments of the then-existing claims and legal actions. The final outcome or potential settlement of litigation matters could differ materially from the accruals which we have established. Legal costs are expensed as incurred.

### **Pension and Other Postretirement Benefits**

Mosaic offers a number of benefit plans that provide pension and other benefits to qualified employees. These plans include defined benefit pension plans, supplemental pension plans, defined contribution plans and other postretirement benefit plans.

We accrue the funded status of our plans, which is representative of our obligations under employee benefit plans and the related costs, net of plan assets measured at fair value. The cost of pensions and other retirement benefits earned by employees is generally determined with the assistance of an actuary using the projected benefit method prorated on service and management's best estimate of expected plan investment performance, salary escalation, retirement ages of employees and expected healthcare costs.

### **Additional Accounting Policies**

To facilitate a better understanding of our consolidated financial statements we have disclosed the following significant accounting policies (with the exception of those identified above) throughout the following notes, with the related financial disclosures by major caption:

<b>Note</b>	<b>Topic</b>	<b>Page</b>
9	<a href="#">Investments in Non-Consolidated Companies</a>	<a href="#">F-51</a>
10	<a href="#">Goodwill</a>	<a href="#">F-51</a>
11	<a href="#">Structured Accounts Payable Arrangements</a>	<a href="#">F-52</a>
12	<a href="#">Marketable Securities Held in Trusts</a>	<a href="#">F-55</a>
13	<a href="#">Income Taxes</a>	<a href="#">F-57</a>
14	<a href="#">Accounting for Asset Retirement Obligations</a>	<a href="#">F-62</a>
15	<a href="#">Accounting for Derivative and Hedging Activities</a>	<a href="#">F-63</a>
16	<a href="#">Fair Value Measurements</a>	<a href="#">F-64</a>

### **3. RECENTLY ISSUED ACCOUNTING GUIDANCE**

In September 2022, the Financial Accounting Standards Board (“**FASB**”) issued guidance which requires that a buyer in a supplier financing program make annual disclosures about the program's key terms, the balance sheet presentation of related amounts, the confirmed amount outstanding at the end of the period and associated rollforward information. We

adopted this standard as of January 1, 2023, except for the amendment on rollforward information, which is effective for fiscal years beginning after December 15, 2023 (our fiscal 2024). We have historically presented supplier financing programs separately on the face of the balance sheet as structured accounts payable arrangements and disclosed key terms of such programs. As such, adoption of this standard did not impact our balance sheet presentation or footnote disclosures.

In November 2023, the FASB issued guidance to improve reportable segment disclosure requirements, primarily through additional disclosures about significant segment expenses. The standard is effective for fiscal years beginning after December 15, 2023 (our fiscal 2024), and interim periods within fiscal years beginning after December 15, 2024 (our fiscal 2025), with early adoption permitted. The amendments would be applied retrospectively to all prior periods presented in the financial statements. We are currently evaluating the disclosure requirements related to the new standard.

In December 2023, the FASB issued guidance to provide more disaggregation of income tax disclosures on the reconciliations of the income tax rate and income taxes paid. We are required to adopt the guidance in the first quarter of fiscal 2025, although early adoption is permitted. We are currently evaluating the disclosure requirements related to the new standard.

## 4. LEASES

### Leasing Activity

We have operating and finance leases for heavy mobile equipment, railcars, fleet vehicles, field and plant equipment, river and cross-gulf vessels, corporate offices, land, and computer equipment. Our leases have remaining lease terms of one year to 39 years, some of which include options to extend the lease for up to 20 years and some of which include options to terminate the lease within one year.

Supplemental balance sheet information related to leases as of December 31, 2023 and December 31, 2022 is as follows:

Type of Lease Asset or Liability	December 31,		Balance Sheet Classification
	2023	2022	
(in millions)			
Operating Leases			
Right-of-use assets	\$ 229.8	\$ 182.5	Other assets
Lease liabilities:			
Short-term	65.3	50.7	Accrued liabilities
Long-term	168.1	135.2	Other noncurrent liabilities
Total	\$ 233.4	\$ 185.9	
Finance Leases			
Right-of-use assets:			
Gross assets	\$ 459.7	\$ 484.2	
Less: accumulated depreciation	171.3	166.1	
Net assets	\$ 288.4	\$ 318.1	Property, plant and equipment, net
Lease liabilities:			
Short-term	\$ 112.7	\$ 71.4	Current maturities of long-term debt
Long-term	67.3	122.9	Long-term debt, less current maturities
Total	\$ 180.0	\$ 194.3	

Lease expense is generally included within cost of goods sold and selling, general and administrative expenses, except for interest on lease liabilities, which is recorded within net

interest. The components of lease expense were as follows:

(in millions)	December 31,		
	2023	2022	2021
Operating lease cost	\$ 86.9	\$ 86.6	\$ 78.8
Finance lease cost:			
Amortization of right-of-use assets	45.8	45.9	40.6
Interest on lease liabilities	7.1	5.3	6.3
Short-term lease cost	0.1	0.8	3.1
Variable lease cost	19.8	19.3	19.2
Total lease cost	<u>\$ 159.7</u>	<u>\$ 157.9</u>	<u>\$ 148.0</u>

Rental expense for 2023, 2022 and 2021 was \$252.1 million, \$237.2 million and \$211.8 million, respectively.

Supplemental cash flow information related to leases was as follows:

(In millions)	December 31,		
	2023	2022	2021
Cash paid for amounts included in the measurement of lease liabilities:			
Operating cash flows from operating leases	\$ 89.2	\$ 88.1	\$ 78.8
Operating cash flows from finance leases	7.1	5.3	6.3
Financing cash flows from finance leases	78.8	46.5	142.5

Right-of-use assets obtained in exchange for lease obligations:

Operating leases	\$ 54.5	\$ 56.7	\$ 18.4
Finance leases	35.8	27.2	8.9

Other information related to leases was as follows:

	December 31, 2023
<b>Weighted Average Remaining Lease Term</b>	
Operating leases	6.4 years
Finance leases	2.4 years
<b>Weighted Average Discount Rate</b>	
Operating leases	7.3 %
Finance leases	4.2 %

Future lease payments under non-cancellable leases recorded as of December 31, 2023, were as follows:

(in millions)	Operating Leases	Finance Leases
2024	\$ 79.8	\$ 119.2
2025	57.0	34.9
2026	38.6	16.9
2027	28.2	11.7
2028	23.2	6.0
Thereafter	63.5	5.8
Total future lease payments	\$ 290.3	\$ 194.5
Less imputed interest	(56.9)	(14.5)
Total	\$ 233.4	\$ 180.0





## 5. OTHER FINANCIAL STATEMENT DATA

The following provides additional information concerning selected balance sheet accounts:

(in millions)	December 31,	
	2023	2022
<b>Receivables</b>		
Trade - External	\$ 940.9	\$ 1,242.8
Trade - Affiliate	194.6	249.6
Non-trade	134.4	208.4
	1,269.9	1,700.8
Less allowance for doubtful accounts	0.7	0.9
	<u>\$ 1,269.2</u>	<u>\$ 1,699.9</u>
<b>Inventories</b>		
Raw materials	\$ 135.8	\$ 177.2
Work in process	964.8	844.8
Finished goods	1,178.0	2,158.3
Final price deferred <sup>(a)</sup>	61.5	184.2
Operating materials and supplies	183.1	178.6
	<u>\$ 2,523.2</u>	<u>\$ 3,543.1</u>
<b>Other current assets</b>		
Income and other taxes receivable	\$ 269.3	\$ 189.4
Prepaid expenses	284.3	237.4
Assets held for sale	—	101.9
Other	50.2	49.5
	<u>\$ 603.8</u>	<u>\$ 578.2</u>
<b>Other assets</b>		
Restricted cash	\$ 3.4	\$ 10.5
MRO inventory	166.3	141.9
Marketable securities held in trust - restricted	708.6	666.0
Operating lease right-of-use assets	229.8	182.5
Indemnification asset	20.9	23.7
Long-term receivable	21.8	26.9
Cloud computing cost <sup>(b)</sup>	138.9	32.9
Other	285.9	311.8
	<u>\$ 1,575.6</u>	<u>\$ 1,396.2</u>



(in millions)	December 31,	
	2023	2022
<b>Accrued liabilities</b>		
Accrued dividends	\$ 72.3	\$ 72.9
Payroll and employee benefits	182.6	237.0
Asset retirement obligations	377.4	212.3
Customer prepayments	261.8	743.9
Accrued income and other taxes	190.0	208.3
Operating lease obligation	65.3	50.7
Other	627.7	754.8
	<u>\$ 1,777.1</u>	<u>\$ 2,279.9</u>
<b>Other noncurrent liabilities</b>		
Asset retirement obligations	\$ 1,836.0	\$ 1,693.3
Operating lease obligation	168.1	135.2
Accrued pension and postretirement benefits	119.7	103.3
Unrecognized tax benefits	30.5	32.5
Other	274.9	271.7
	<u>\$ 2,429.2</u>	<u>\$ 2,236.0</u>

- (a) Final price deferred is product that has shipped to customers, but we retain control and do not recognize revenue until a sales contract has been agreed to with the customer.
- (b) Implementation costs eligible for capitalization related to cloud computing arrangements that are a service contract are recorded within Prepaid expenses and Other assets in the Consolidated Balance Sheets and amortized over the reasonably certain term of the associated hosting arrangement. Capitalized implementation costs expensed were not material in 2023.

Interest expense, net was comprised of the following in 2023, 2022 and 2021:

(in millions)	Years Ended December 31,		
	2023	2022	2021
Interest income	\$ 59.6	\$ 31.0	\$ 25.2
Less interest expense	189.0	168.8	194.3
Interest expense, net	<u>\$ (129.4)</u>	<u>\$ (137.8)</u>	<u>\$ (169.1)</u>

## 6. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consist of the following:

(in millions)	December 31,	
	2023	2022
Land	\$ 373.0	\$ 345.6
Mineral properties and rights	6,477.5	6,018.2
Buildings and leasehold improvements	3,881.6	3,522.6
Machinery and equipment	11,407.6	10,606.8
Construction in-progress	1,359.8	1,130.4
	23,499.5	21,623.6
Less: accumulated depreciation and depletion	9,914.1	8,944.9
	<u>\$ 13,585.4</u>	<u>\$ 12,678.7</u>

Depreciation and depletion expense was \$958.9 million, \$932.1 million, and \$811.8 million for 2023, 2022 and 2021, respectively. Interest capitalized on major construction projects was \$35.2 million, \$26.8 million, and \$30.1 million for 2023, 2022 and 2021, respectively.

## 7. EARNINGS PER SHARE

The numerator for basic and diluted earnings per share (“**EPS**”) is net earnings attributable to Mosaic. The denominator for basic EPS is the weighted average number of shares outstanding during the period. The denominator for diluted EPS also includes the weighted average number of additional common shares that would have been outstanding if the dilutive potential common shares had been issued, unless the shares are anti-dilutive.

The following is a reconciliation of the numerator and denominator for the basic and diluted EPS computations:

(in millions)	Years Ended December 31,		
	2023	2022	2021
Net earnings attributable to Mosaic	\$ 1,164.9	\$ 3,582.8	\$ 1,630.6
Basic weighted average number of shares outstanding attributable to common stockholders	331.3	352.4	378.1
Dilutive impact of share-based awards	1.9	3.6	3.5
Diluted weighted average number of shares outstanding	333.2	356.0	381.6
Basic net earnings per share	\$ 3.52	\$ 10.17	\$ 4.31
Diluted net earnings per share	\$ 3.50	\$ 10.06	\$ 4.27

A total of 0.5 million shares for 2023, 0.1 million shares for 2022 and 0.5 million shares for 2021 of common stock subject to issuance related to share-based awards have been excluded from the calculation of diluted EPS because the effect would have been anti-dilutive.

## 8. CASH FLOW INFORMATION

Supplemental disclosures of cash paid for interest and income taxes and non-cash investing and financing information is as follows:

(in millions)	Years Ended December 31,		
	2023	2022	2021
Cash paid during the period for:			
Interest	\$ 204.7	\$ 196.4	\$ 220.0
Less amount capitalized	35.2	26.8	30.1
Cash interest, net	\$ 169.5	\$ 169.6	\$ 189.9
Income taxes	\$ 385.6	\$ 1,114.5	\$ 208.6

Acquiring or constructing property, plant and equipment by incurring a liability does not result in a cash outflow for us until the liability is paid. In the period the liability is incurred, the change in operating accounts payable on the Consolidated Statements of Cash Flows is adjusted by such amount. In the period the liability is paid, the amount is reflected as a cash

outflow from investing activities. The applicable net change in operating accounts payable that was classified to investing activities on the Consolidated Statements of Cash Flows was \$(19.5) million, \$(65.2) million, and \$18.6 million for 2023, 2022 and 2021, respectively.

We accrued \$72.3 million related to the dividends declared in 2023 that will be paid in 2024. At December 31, 2022 and 2021, we had accrued dividends of \$72.9 million and \$43.6 million which were paid in 2023 and 2022, respectively.

Included in proceeds from issuance of short-term debt and payments of short-term debt were \$9.6 billion and (\$9.5) billion related to our commercial paper arrangement.

We had non-cash investing and financing transactions related to right-of-use assets obtained in exchange for lease obligations assets under finance leases in 2023 of \$35.8 million. Non-cash investing and financing transactions related to assets acquired under capital leases were \$27.2 million and \$8.9 million for 2022 and 2021, respectively. In addition, in 2023, we purchased equipment of \$43 million through the exchange of right of use assets.

Depreciation, depletion and amortization includes \$958.9 million, \$932.1 million and \$811.8 million related to depreciation and depletion of property, plant and equipment, and \$1.7 million, \$1.8 million and \$1.1 million related to the amortization of intangible assets for 2023, 2022 and 2021, respectively.

## 9. INVESTMENTS IN NON-CONSOLIDATED COMPANIES

We have investments in various international and domestic entities and ventures. The equity method of accounting is applied to such investments when the ownership structure prevents us from exercising a controlling influence over operating and financial policies of the businesses but still allow us to have significant influence. Under this method, our equity in the net earnings or losses of the investments is reflected as equity in net earnings of non-consolidated companies on our Consolidated Statements of Earnings. The effects of material intercompany transactions with these equity method investments are eliminated, including the gross profit on sales to and purchases from our equity-method investments which is deferred until the time of sale to the final third-party customer. The cash flow presentation of dividends received from equity method investees is determined by evaluation of the facts, circumstances and nature of the distribution.

A summary of our equity-method investments, which were in operation as of December 31, 2023, is as follows:

Entity	Economic Interest
River Bend Ag, LLC	50.0 %
IFC S.A.	45.0 %
MWSPC	25.0 %
Canpotex	36.2 %

The summarized financial information shown below includes all non-consolidated companies carried on the equity method.

(in millions)	Years Ended December 31,		
	2023	2022	2021
Net sales	\$ 7,055.1	\$ 11,852.8	\$ 4,758.2
Net earnings	317.9	956.9	70.1
Mosaic's share of equity in net earnings	60.3	196.0	7.8
Total assets	9,900.6	11,707.8	10,685.6
Total liabilities	7,014.1	8,973.7	8,864.7
Mosaic's share of equity in net assets	725.9	693.2	466.9

MWSPC owns and operates a mine and two chemical complexes that produce phosphate fertilizers and other downstream phosphate products in the Kingdom of Saudi Arabia. As of December 31, 2023, our cash investment was \$770.0 million. We have not made any capital contributions since 2017 and do not expect future contributions to be needed. We market approximately 25% of the phosphate production of this joint venture. As of December 31, 2023, MWSPC represented 77% of the total assets and 68% of the total liabilities in the table



above. In 2023, 2022 and 2021 our share of equity in net earnings was \$57.6 million, \$194.5 million, and \$5.0 million, respectively. The difference between our share of equity in net assets as shown in the above table and the investment in non-consolidated companies as shown on the Consolidated Balance Sheets is mainly due to the July 1, 2016, equity contribution of \$120 million we made to MWSPC, representing the remaining liability for our portion of mineral rights value transferred to MWSPC from Saudi Arabian Mining Company.

Canpotex is a Saskatchewan export association used by two Canadian potash producers to market, sell and distribute Canadian potash products outside of Canada and the U.S. to unrelated third -arty customers at market prices. It operates as a break-even entity and therefore has insignificant equity earnings or loss. We have concluded that the sales to Canpotex are not at arm's-length, due to the unique pricing and payment structure and financial obligations of the stockholders. Therefore, the full profit on sales to Canpotex is eliminated until Canpotex no longer has control of the related inventory and has sold it to an unrelated third-party customer. We eliminate the intra-entity profit with Canpotex at the end of each reporting period and present that profit elimination by reversing revenue and cost of goods sold for the inventory remaining at Canpotex.

## **10. GOODWILL**

Goodwill is carried at cost, not amortized, and represents the excess of the purchase price and related costs over the fair value assigned to the net identifiable assets of a business acquired. We test goodwill for impairment on a quantitative basis at the reporting unit level on an annual basis or upon the occurrence of events that may indicate possible impairment. Impairment is measured as the excess carrying value over the fair value of goodwill.

The changes in the carrying amount of goodwill, by reporting unit, as of December 31, 2023 and 2022, are as follows:

(in millions)	Potash	Mosaic Fertilizantes	Corporate, Eliminations and Other	Total
Balance as of December 31, 2021	\$ 1,064.2	\$ 95.9	\$ 12.1	\$ 1,172.2
Foreign currency translation	(57.6)	1.7	—	(55.9)
Balance as of December 31, 2022	\$ 1,006.6	\$ 97.6	\$ 12.1	\$ 1,116.3
Foreign currency translation	20.3	2.0	—	22.3
Balance as of December 31, 2023	\$ 1,026.9	\$ 99.6	\$ 12.1	\$ 1,138.6

As of October 31, 2023, we performed our annual quantitative assessment. In performing our assessment, we estimated the fair value of each of our reporting units using the income approach, also known as the discounted cash flow (“**DCF**”) method. The income approach utilized the present value of cash flows to estimate fair value. The future cash flows for our reporting units were projected based on our estimates, at that time, for revenue, operating income and other factors (such as working capital and capital expenditures for each reporting unit). To determine if the fair value of each of our reporting units with goodwill exceeded its carrying value, we assumed sales volume growth rates based on our long-term expectations, our internal selling prices and projected raw material prices for years one through five, which were anchored in projections from CRU International Limited (“**CRU**”), an independent third party data source. Selling prices and raw material prices for years six and beyond were based on anticipated market growth and long-term CRU outlooks. The discount rates used in our DCF method were based on a weighted-average cost of capital (“**WACC**”), determined from relevant market comparisons. A terminal value growth rate of 2% was applied to all years thereafter for the projected period and reflected our estimate of stable growth. We then calculated a present value of the respective cash flows for each reporting unit to arrive at an estimate of fair value under the income approach. Finally, we compared our estimates of fair values for our reporting units, to our October 31, 2023 total public market capitalization, based on our common stock price at that date.

In making this assessment, we considered, among other things, expectations of projected net sales and cash flows, assumptions impacting the WACC, changes in our stock price and changes in the carrying values of our reporting units with goodwill. We also considered overall business conditions.

The Potash, Mosaic Fertilizantes and Corporate, Eliminations and Other reporting units were evaluated and not considered at risk of goodwill impairment at October 31, 2023. Our Phosphate reporting unit has no carries no goodwill. Subsequent to our annual evaluation, on December 28, 2023, Brazil enacted a tax law change that eliminates the VAT preference

starting in 2024. While we are currently assessing the full impact of this change, our Mosaic Fertilizantes reporting unit would have an estimated fair value that is not in significant excess of its carrying value. We continue to believe that our long-term financial goals will be achieved and as a result, we concluded that the goodwill assigned to this reporting unit was not impaired, but could be at risk of future impairment.

As of December 31, 2023, \$46.2 million of goodwill was tax deductible.

## **11. FINANCING ARRANGEMENTS**

### **Mosaic Credit Facility**

On August 19, 2021, we entered into a committed, unsecured, five-year revolving credit facility of up to \$2.5 billion (the “**Mosaic Credit Facility**”), with a maturity date of August 19, 2026, which is intended to serve as our primary senior unsecured bank credit facility. The Mosaic Credit Facility has cross-default provisions that, in general, provide that a failure to pay principal or interest under, or any other amount payable under, any indebtedness with an outstanding principal amount of \$100 million or more, or breach or default under such indebtedness that permits the holders thereof to accelerate the maturity thereof, will result in a cross-default.

The Mosaic Credit Facility requires Mosaic to maintain certain financial ratios, including a ratio of Consolidated Indebtedness, which has been redefined to exclude unrestricted cash and cash equivalents, to Consolidated Capitalization Ratio (as defined) of no greater than 0.65 to 1.0, as well as a minimum Interest Coverage Ratio (as defined) of not less than 3.0 to 1.0. We were in compliance with these ratios as of December 31, 2023.

The Mosaic Credit Facility also contains other events of default and covenants that limit various matters. These provisions include limitations on indebtedness, liens, investments and acquisitions (other than capital expenditures), certain mergers, certain sales of assets and other matters customary for credit facilities of this nature.

As of December 31, 2023 and 2022, we had outstanding letters of credit that utilized a portion of the amount available for revolving loans under the Mosaic Credit Facility of \$10.5 million and \$10.9 million, respectively. The net available borrowings for revolving loans under the Mosaic Credit Facility were approximately \$2.49 billion as of December 31, 2023 and December 31, 2022, respectively. As of December 31, 2023 and 2022, unused commitment fees accrued at an average rate of 0.15%, generating expenses of \$3.8 million in each period. In 2021, unused commitment fees accrued at 0.40% under our prior credit facility, which was in place through August 19, 2021, and at 0.15% thereafter, generating expense of \$7.0 million.

### **Short-Term Debt**

Short-term debt consists of the revolving credit facility under the Mosaic Credit Facility, under which there were no borrowings as of December 31, 2023, working capital financing arrangements and various other short-term borrowings related to our international operations in India, China and Brazil. These other short-term borrowings outstanding were \$399.7 million and \$224.9 million as of December 31, 2023 and 2022, respectively.

We have an inventory financing arrangement whereby we can sell up to \$625 million of certain inventory for cash and subsequently repurchase the inventory at an agreed upon price and time in the future, not to exceed 180 days. Under the terms of the agreement, we may borrow up to 90% of the value of the inventory. It is later repurchased by Mosaic at the original sale price plus interest and any transaction costs. As of December 31, 2023 and 2022, there was no outstanding balance under this arrangement. Any outstanding amount would be classified as short-term debt on the Consolidated Balance Sheets.

We have Receivable Purchasing Agreements (“**RPAs**”), with banks whereby, from time-to-time, we sell certain receivables. The net face value of the purchased receivables may not exceed \$600 million at any point in time. The purchase price of the receivable sold under the RPA is the face value of the receivable less an agreed upon discount. The receivables sold under the RPAs are accounted for as true sales. Upon sale, these receivables are removed from the Consolidated Balance Sheets. Cash received is presented as cash provided by operating activities in the Consolidated Statements of Cash Flows.

The Company sold approximately \$1.3 billion and \$2.5 billion as of December 31, 2023 and 2022, respectively, of accounts receivable under these arrangements. Discounts on sold receivables were not material for any period presented. Following the sale to the banks, we continue to service the collection of the receivables on behalf of the banks without further

consideration. As of December 31, 2023 and 2022, there was no amount outstanding to be remitted to the bank. Any outstanding amount would be classified in accrued liabilities on the Condensed Consolidated Balance Sheets. Cash collected and remitted is presented as cash used in financing activities in the Condensed Consolidated Statements of Cash Flows.

We have a commercial paper program which allows us to issue unsecured commercial paper notes with maturities that vary, but do not exceed 397 days from the date of issue, up to a maximum aggregate face or principal amount outstanding at any time of \$2.5 billion. We plan to use the revolving credit facility as a liquidity backstop for borrowings under the commercial paper program. As of December 31, 2023, we had \$399.5 million outstanding under this program, with a weighted average interest rate of 5.62% and a remaining average term of nine days. As of December 31, 2022, we had \$224.8 million outstanding under this program, with a weighted average interest rate of 4.66% and a remaining average term of 10 days.

We had additional outstanding bilateral letters of credit of \$52.6 million as of December 31, 2023, which includes \$50.0 million as required by the 2015 Consent Decrees as described further in Note 14 of our Consolidated Financial Statements.

### **Long-Term Debt, including Current Maturities**

On November 13, 2017, we issued senior notes consisting of \$550 million aggregate principal amount of 3.250% senior notes due 2022 and \$700 million aggregate principal amount of 4.050% senior notes due 2027 ("**Senior Notes of 2017**"). In 2022,

we paid the outstanding balance of \$550 million on our 3.250% senior notes, due November 15, 2022, without premium or penalty.

In May 2023, we entered into a 10-year senior unsecured term loan facility pursuant to which we can draw up to \$700 million. The term loan matures on May 18, 2033. We may voluntarily prepay the outstanding principal without premium or penalty. As of December 31, 2023, \$500 million has been drawn under this facility. Interest rates for the term loan are variable and are based on the Secured Overnight Financing Rate (“**SOFR**”) plus credit spread adjustments.

On, December 4, 2023, we issued new senior notes consisting of \$400 million aggregate principal amount of 5.375% due 2028 (the “**Senior Notes of 2023**”). We have the following additional senior notes outstanding: \$500 million aggregate principal amount of 5.45% senior notes due 2033 and \$600 million aggregate principal amount of 5.625% senior notes due 2043 (collectively, the “**Senior Notes of 2013**”); and \$300 million aggregate principal amount of 4.875% senior notes due 2041 (collectively, the “**Senior Notes of 2011**”). In 2023, we paid the outstanding balance of \$900 million on our 4.25% senior notes, due November 15, 2023, without premium or penalty.

The Senior Notes of 2011, the Senior Notes of 2013, the Senior Notes of 2017, and the Senior Notes of 2023 are Mosaic’s senior unsecured obligations and rank equally in right of payment with Mosaic’s existing and future senior unsecured indebtedness. The indenture governing these notes contains restrictive covenants limiting debt secured by liens, sale and leaseback transactions and mergers, consolidations and sales of substantially all assets, as well as other events of default.

A debenture issued by Mosaic Global Holdings, Inc., one of our consolidated subsidiaries, due in 2028 (the “**2028 Debenture**”), is outstanding as of December 31, 2023, with a balance of \$147.1 million. The indenture governing the 2028 Debenture also contains restrictive covenants limiting debt secured by liens, sale and leaseback transactions and mergers, consolidations and sales of substantially all assets, as well as events of default. The obligations under the 2028 Debenture are guaranteed by the Company and several of its subsidiaries.

Long-term debt primarily consists of unsecured notes, finance leases, unsecured debentures and secured notes. Long-term debt as of December 31, 2023 and 2022, respectively, consisted of the following:

				2023				2022			
(in millions)	Stated Interest Rate	Effective Interest Rate	Maturity Date	Combination				Combination			
				Stated Value	Fair	Discount	Carrying Value	Stated Value	Fair	Discount	Carrying Value
					Market	on			Market	on	
					Value	Notes			Value	Notes	
					Adjustment	Issuance			Adjustment	Issuance	
Unsecured notes	4.05% - 5.63%		2027- 2043	\$2,500.0	\$ —	\$ (5.8)	\$2,494.2	\$3,000.0	\$ —	\$ (6.1)	\$2,993.9
Unsecured debentures	7.30%	7.19%	2028	147.1	0.4	—	147.5	147.1	0.6	—	147.7
Term Loan	30 Day SOFR	7.08%	2033	500.0	—	—	500.0	—	—	—	—
Finance leases	0.77% - 19.72%		2024- 2032	180.0	—	—	180.0	194.3	—	—	194.3
Other <sup>(a)</sup>	6.53% - 8.00%		2024- 2026	35.0	5.0	—	40.0	54.2	7.1	—	61.3
Total long-term debt				3,362.1	5.4	(5.8)	3,361.7	3,395.6	7.7	(6.1)	3,397.2
Less current portion				129.2	1.3	(0.4)	130.1	983.9	2.0	(0.6)	985.3
Total long-term debt, less current maturities				\$3,232.9	\$ 4.1	\$ (5.4)	\$3,231.6	\$2,411.7	\$ 5.7	\$ (5.5)	\$2,411.9

<sup>(a)</sup> Includes deferred financing fees related to our long-term debt.

Scheduled maturities of long-term debt are as follows for the periods ending December 31:

(in millions)	
2024	\$ 130.1
2025	45.7
2026	28.8
2027	710.5
2028	554.3
Thereafter	1,892.3
Total	<u>\$ 3,361.7</u>

### Structured Accounts Payable Arrangements

In Brazil, we finance some of our potash-based fertilizer, sulfur, ammonia and other raw material product purchases through third-party contractual arrangements. These arrangements provide that the third-party intermediary advance the amount of the scheduled payment to the vendor, less an appropriate discount, at a scheduled payment date and Mosaic makes payment to the third-party intermediary at dates ranging from 98 to 182 days from date of shipment. At December 31, 2023 and 2022, these structured accounts payable arrangements were \$399.9 million and \$751.2 million, respectively.

## 12. MARKETABLE SECURITIES HELD IN TRUSTS

In August 2016, Mosaic deposited \$630 million into two trust funds (together, the “**RCRA Trusts**”) created to provide additional financial assurance in the form of cash for the estimated costs (“**Gypstack Closure Costs**”) of closure and long-term care of our Florida and Louisiana phosphogypsum management systems (“**Gypstacks**”), as described further in Note 14 of our Notes to Consolidated Financial Statements. Our actual Gypstack Closure Costs are generally expected to be paid by us in the normal course of our Phosphates business; however, funds held in each of the RCRA Trusts can be drawn by the applicable governmental authority in the event we cannot perform our closure and long-term care obligations. When our estimated Gypstack Closure Costs with respect to the facilities associated with a RCRA Trust are sufficiently lower than the amount on deposit in that RCRA Trust, we have the right to request that the excess funds be released to us. The same is true for the RCRA Trust balance remaining after the completion of our obligations, which will be performed over a period that may not end until three decades or more after a Gypstack has been closed. The investments held by the RCRA Trusts are managed by independent investment managers with discretion to buy, sell, and invest pursuant to the objectives and standards set forth in the related trust agreements. Amounts reserved to be held or held in the RCRA Trusts (including losses or reinvested earnings) are included in other assets on our Consolidated Balance Sheets.

The RCRA Trusts hold investments, which are restricted from our general use, in marketable debt securities classified as available-for-sale and are carried at fair value. As a result, unrealized gains and losses are included in other comprehensive income until realized, unless it is determined that the entire unamortized cost basis of the investment is not



expected to be recovered. A credit loss would then be recognized in operations for the amount of the expected credit loss. As of December 31, 2023, we expect to recover our amortized cost on all available-for-sale securities and have not established an allowance for credit loss.

We review the fair value hierarchy classification on a quarterly basis. Changes in the ability to observe valuation inputs may result in a reclassification of levels for certain securities within the fair value hierarchy. We determine the fair market values of our available-for-sale securities and certain other assets based on the fair value hierarchy described below:

Level 1: Values based on unadjusted quoted prices in active markets that are accessible at the measurement date for identical assets or liabilities.

Level 2: Values based on quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, or model-based valuation techniques for which all significant assumptions are observable in the market.

Level 3: Values generated from model-based techniques that use significant assumptions not observable in the market. These unobservable assumptions reflect our own estimates of assumptions that market participants would use in pricing

the asset or liability. Valuation techniques include use of option pricing models, discounted cash flow models and similar techniques.

The estimated fair value of the investments in the RCRA Trusts as of December 31, 2023 and December 31, 2022 are as follows:

(in millions)	December 31, 2023			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
<b>Level 1</b>				
Cash and cash equivalents	\$ 1.0	\$ —	\$ —	\$ 1.0
<b>Level 2</b>				
Corporate debt securities	204.6	1.9	(8.4)	198.1
Municipal bonds	206.9	1.9	(4.1)	204.7
U.S. government bonds	268.6	11.5	(0.3)	279.8
<b>Total</b>	<b>\$ 681.1</b>	<b>\$ 15.3</b>	<b>\$ (12.8)</b>	<b>\$ 683.6</b>
<b>December 31, 2022</b>				
(in millions)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
<b>Level 1</b>				
Cash and cash equivalents	\$ 7.7	\$ —	\$ —	\$ 7.7
<b>Level 2</b>				
Corporate debt securities	203.8	0.1	(17.1)	186.8
Municipal bonds	197.0	0.4	(8.0)	189.4
U.S. government bonds	269.6	—	(3.6)	266.0
Other holdings	0.2	—	—	0.2
<b>Total</b>	<b>\$ 678.3</b>	<b>\$ 0.5</b>	<b>\$ (28.7)</b>	<b>\$ 650.1</b>

The following tables show gross unrealized losses and fair values of the RCRA Trusts' available-for-sale securities that have been in a continuous unrealized loss position for which an allowance for credit losses has not been recorded as of December 31, 2023 and

December 31, 2022.

	December 31, 2023		December 31, 2022	
<b>Securities that have been in a continuous loss position for less than 12 months (in millions):</b>	<b>Fair Value</b>	<b>Gross Unrealized Losses</b>	<b>Fair Value</b>	<b>Gross Unrealized Losses</b>
Corporate debt securities	\$ 5.4	\$ (0.1)	\$ 105.6	\$ (6.5)
Municipal bonds	42.3	(0.2)	104.7	(2.9)
U.S. government bonds	26.4	(0.3)	264.9	(3.5)
Total	<u>\$ 74.1</u>	<u>\$ (0.6)</u>	<u>\$ 475.2</u>	<u>\$ (12.9)</u>

	December 31, 2023		December 31, 2022	
<b>Securities that have been in a continuous loss position for more than 12 months (in millions):</b>	<b>Fair Value</b>	<b>Gross Unrealized Losses</b>	<b>Fair Value</b>	<b>Gross Unrealized Losses</b>
Corporate debt securities	\$ 121.5	\$ (8.3)	\$ 72.8	\$ (10.6)
Municipal bonds	84.1	(3.9)	61.9	(5.1)
U.S. government bonds	—	—	0.8	(0.1)
Total	<u>\$ 205.6</u>	<u>\$ (12.2)</u>	<u>\$ 135.5</u>	<u>\$ (15.8)</u>

The following table summarizes the balance by contractual maturity of the available-for-sale debt securities invested by the RCRA Trusts as of December 31, 2023. Actual maturities may differ from contractual maturities because the issuers of the securities may have the right to prepay obligations before the underlying contracts mature.

(in millions)		December 31, 2023
Due in one year or less	\$	18.6
Due after one year through five years		243.4
Due after five years through ten years		378.7
Due after ten years		41.9
Total debt securities	\$	682.6

For the year ended December 31, 2023, realized gains and (losses) were \$9.5 million and \$ (28.9) million, respectively. For the year ended December 31, 2022, realized gains and (losses) were \$0.3 million and \$(46.9) million, respectively and for the year ended December 31, 2021, realized gains and (losses) were \$5.8 million and \$(3.4) million, respectively.

### 13. INCOME TAXES

In preparing our Consolidated Financial Statements, we utilize the asset and liability approach in accounting for income taxes. We recognize income taxes in each of the jurisdictions in which we have a presence. For each jurisdiction, 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 tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

The provision for income taxes for 2023, 2022 and 2021 consisted of the following:

(in millions)	Years Ended December 31,		
	2023	2022	2021
<b>Current:</b>			
Federal	\$ 86.4	\$ 62.7	\$ (12.7)
State	1.5	51.9	5.6
Non-U.S.	357.4	770.4	386.9
Total current	445.3	885.0	379.8
<b>Noncurrent:</b>			
Federal	\$ 0.3	\$ 0.2	\$ —
State	—	—	—
Non-U.S.	(3.0)	(0.7)	110.0
Total noncurrent	(2.7)	(0.5)	110.0
<b>Deferred:</b>			
Federal	\$ (35.4)	\$ 215.4	\$ 141.9
State	(4.2)	31.0	21.4
Non-U.S.	(226.0)	93.4	(55.4)
Total deferred	(265.6)	339.8	107.9
Provision for income taxes	<u>\$ 177.0</u>	<u>\$ 1,224.3</u>	<u>\$ 597.7</u>

The components of earnings from consolidated companies before income taxes, and the effects of significant adjustments to tax computed at the federal statutory rate, were as follows:

(in millions)	Years Ended December 31,		
	2023	2022	2021
U.S. earnings (loss)	\$ 121.6	\$ 1,587.8	\$ 900.1
Non-U.S. earnings	1,204.3	3,054.7	1,324.7
Earnings (loss) from consolidated companies before income taxes	<u>\$ 1,325.9</u>	<u>\$ 4,642.5</u>	<u>\$ 2,224.8</u>
Computed tax at the U.S. federal statutory rate	21.0 %	21.0 %	21.0 %
State and local income taxes, net of federal income tax benefit	0.4 %	1.1 %	1.2 %
Percentage depletion in excess of basis	(4.9)%	(1.8)%	(1.1)%
Impact of non-U.S. earnings	8.7 %	5.8 %	6.3 %
Change in valuation allowance	(1.7)%	— %	(0.3)%
Non-U.S. incentives	(11.5)%	(2.6)%	(5.7)%
Withholding tax	6.3 %	1.6 %	3.3 %
U.S. general basket foreign tax credits	(4.0)%	— %	— %
Tax legislation change impacts	(1.6)%	— %	— %
Undistributed earnings	2.2 %	— %	— %
Other items (none in excess of 5% of computed tax)	(1.6)%	1.3 %	2.2 %
Effective tax rate	<u>13.3 %</u>	<u>26.4 %</u>	<u>26.9 %</u>

### 2023 Effective Tax Rate

In the year ended December 31, 2023, there were two items impacting the effective tax rate: 1) items attributable to ordinary business operations during the year, and 2) other items specific to the period.

The tax impact of our ordinary business operations is affected by the mix of earnings across jurisdictions in which we operate, by a benefit associated with depletion, by a benefit associated with non-U.S. incentives, changes in valuation allowances, and by the impact of certain entities being taxed in both their foreign jurisdiction and the U.S., including foreign tax credits for various taxes incurred.

Tax expense specific to the period included a net benefit of \$43.4 million. The net benefit relates to the following: \$38.1 million related to true-up of estimates primarily related to our U.S. tax return, \$24.4 million related to changes to valuation allowances in Brazil, and \$11.6 million related to an increase in a U.S. deferred tax asset. The tax benefits are partially

offset by a net tax cost of \$29.3 million related to income tax expense on undistributed earnings, and \$1.4 million of other miscellaneous costs.

#### 2022 Effective Tax Rate

In the year ended December 31, 2022, there were two items impacting the effective tax rate: 1) items attributable to ordinary business operations during the year, and 2) other items specific to the period.

The tax impact of our ordinary business operations is affected by the mix of earnings across jurisdictions in which we operate, by a benefit associated with depletion, by a benefit associated with non-U.S. incentives, changes in valuation allowances, and by the impact of certain entities being taxed in both their foreign jurisdiction and the U.S., including foreign tax credits for various taxes incurred.

Tax expense specific to the period included a net expense of \$26.2 million. The net expense relates to the following: \$29.0 million related to true-up of estimates primarily related to our U.S. tax return, \$4.8 million related to changes to valuation allowances in Brazil, \$4.0 million related to interest of effectively settled unrecognized tax benefits and \$1.2 million of other miscellaneous costs. The tax expenses are partially offset by a net tax benefit related to \$12.8 million of RSUs vested in CY22 above grant price.

### 2021 Effective Tax Rate

In the year ended December 31, 2021, there were two items impacting the effective tax rate: 1) items attributable to ordinary business operations during the year, and 2) other items specific to the period, including the Esterhazy mine closure costs.

The tax impact of our ordinary business operations is affected by the mix of earnings across jurisdictions in which we operate, by a benefit associated with depletion, by a benefit associated with non-U.S. incentives, changes in valuation allowances, and by the impact of certain entities being taxed in both their foreign jurisdiction and the U.S., including foreign tax credits for various taxes incurred.

Tax expense specific to the period included a net benefit of \$0.6 million. The net expense relates to the following: \$23.9 million related to true-up of estimates primarily related to our U.S. tax return and \$20.4 million related to an increase in non-U.S. reserves. The tax expenses are partially offset by net tax benefits related to \$43.7 million of Esterhazy mine closure costs and \$1.2 million related to a benefit for withholding taxes related to undistributed earnings and other miscellaneous tax expenses.

### **Deferred Tax Liabilities and Assets**



Significant components of our deferred tax liabilities and assets were as follows as of December 31:

(in millions)	December 31,	
	2023	2022
Deferred tax liabilities:		
Depreciation and amortization	\$ 490.2	\$ 430.5
Depletion	623.6	613.5
Partnership tax basis differences	69.7	59.3
Undistributed earnings of non-U.S. subsidiaries	29.3	—
Other liabilities	97.0	37.6
Total deferred tax liabilities	\$ 1,309.8	\$ 1,140.9
Deferred tax assets:		
Capital loss carryforwards	14.9	3.6
Foreign tax credit carryforwards	1,266.2	736.7
Net operating loss carryforwards	514.4	255.8
Pension plans and other benefits	17.8	14.3
Asset retirement obligations	452.1	369.4
Disallowed interest expense under §163(j)	11.5	—
Other assets	468.6	413.2
Subtotal	2,745.5	1,793.0
Valuation allowance	1,421.9	909.9
Net deferred tax assets	1,323.6	883.1
Net deferred tax assets/(liabilities)	\$ 13.8	\$ (257.8)

We have certain non-U.S. entities that are taxed in both their local jurisdiction and the U.S. As a result, we have deferred tax balances for both jurisdictions. As of December 31, 2023 and 2022, these non-U.S. deferred taxes are offset by approximately \$220.5 million and \$202.2 million, respectively, of anticipated foreign tax credits included within our depreciation and depletion components of deferred tax liabilities above. We have recorded a valuation allowance against the anticipated foreign tax credits of \$220.5 million and \$202.2 million for December 31, 2023 and 2022, respectively.

### Tax Carryforwards

As of December 31, 2023, we had estimated carryforwards for tax purposes as follows: net operating losses of \$1.8 billion, capital losses of \$63.6 million, foreign tax credits of \$1.3 billion and \$4.4 million of non-U.S. business credits. These carryforward benefits may be subject to limitations imposed by the Internal Revenue Code, and in certain cases, provisions of foreign law. Approximately \$1.3 billion of our net operating loss carryforwards relate to Brazil and can be carried forward

indefinitely but are limited to 30 percent of taxable income each year. The majority of the remaining net operating loss carryforwards relate to U.S. federal and certain U.S. states and can be carried forward indefinitely. Of the \$1.3 billion of foreign tax credits, approximately \$219.2 million have an expiration date of 2026, approximately \$19.6 million have an expiration date of 2029, approximately \$14.7 million have an expiration date of 2030 and approximately \$14.8 million have an expiration date of 2033. The realization of our foreign tax credit carryforwards is dependent on market conditions, tax law changes, and other business outcomes including our ability to generate certain types of taxable income in the future. Due to current business operations and future forecasts, the Company has determined that no valuation allowance is required on its general basket foreign tax credits. As a result of changes in U.S. tax law due to the Tax Cuts and Jobs Act, the Company recorded valuation allowances against its branch basket foreign tax credits of \$986.1 million as of December 31, 2023.

As of December 31, 2023, we have not recognized a deferred tax liability for un-remitted earnings of approximately \$4.3 billion from certain foreign operations because we believe our subsidiaries have invested the undistributed earnings indefinitely, or the earnings will be remitted in a tax-neutral transaction. It is not practicable for us to determine the amount of unrecognized deferred tax liability on these reinvested earnings. As part of the accounting for the Tax Cuts and Jobs Act, we recorded local country withholding taxes related to certain entities from which we began repatriating undistributed earnings and will continue to record local country withholding taxes, including foreign exchange impacts, on all future earnings.

### **Valuation Allowance**

In assessing the need for a valuation allowance, we consider whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. We evaluate our ability to realize the tax benefits associated with deferred tax assets by analyzing the relative impact of all the available positive and negative evidence regarding our forecasted taxable income using both historical and projected future operating results, the reversal of existing taxable temporary differences, taxable income in prior carry-back years (if permitted) and the availability of tax planning strategies. The ultimate realization of deferred tax assets is dependent upon the generation of certain types of future taxable income during the periods in which those temporary differences become deductible. In making this assessment, we consider the scheduled reversal of deferred tax liabilities, our ability to carry back the deferred tax asset, projected future taxable income, and tax planning strategies. A valuation allowance will be recorded in each jurisdiction in which a deferred income tax asset is recorded when it is more likely than not that the deferred income tax asset will not be realized. Changes in deferred tax asset valuation allowances typically impact income tax expense.

For the year ended December 31, 2023, the valuation allowance increased by \$512.0 million, of which a \$531.0 million increase related to changes in the valuation allowance to U.S. branch foreign tax credits, and a \$0.2 million increase related to changes in valuation allowances in other foreign jurisdictions. These increases to the valuation allowance were partially offset by a decrease of \$12.7 million related to changes in valuation allowances and currency translation in Brazil, and \$6.5 million changes in valuation allowances in other foreign jurisdictions.

For the year ended December 31, 2022, the valuation allowance increased by \$135.2 million, of which a \$83.6 million increase related to changes in the valuation allowance to U.S. branch foreign tax credits, a \$13.2 million increase related to changes in valuation allowances and currency translation in Brazil, and \$46.8 million changes in valuation allowances in other foreign jurisdictions. These increases to the valuation allowance were partially offset by a decrease of \$1.5 million to net operating losses for certain U.S. states, and \$7.0 million changes in valuation allowances in other foreign jurisdictions.

For the year ended December 31, 2021, the valuation allowance increased by \$91.7 million, of which a \$111.2 million increase related to changes in the valuation allowance to U.S. branch foreign tax credits. These increases to the valuation allowance were partially offset by a decrease of \$13.9 million related to changes in valuation allowances and currency translation in Brazil, \$2.4 million decrease to net operating losses for certain U.S. states, and \$3.4 million changes in valuation allowances in other foreign jurisdictions.

Changes to our income tax valuation allowance were as follows:

(in millions)	Years Ended December 31,		
	2023	2022	2021
Income tax valuation allowance, related to deferred income taxes			
Balance at beginning of period	\$ 909.9	\$ 774.7	\$ 683.0
Charges or (reductions) to costs and expenses	512.0	135.2	91.7
Balance at end of period	<u>\$ 1,421.9</u>	<u>\$ 909.9</u>	<u>\$ 774.7</u>

### Uncertain Tax Positions

Accounting for uncertain income tax positions is determined by prescribing a minimum probability threshold that a tax position must meet before a financial statement benefit is recognized. This minimum threshold is that a tax position is more likely than not to be sustained upon examination by the applicable taxing authority, including resolution of any related appeals or litigation processes, based on the technical merits of the position. The tax benefit to be recognized is measured as the largest amount of benefit that is greater than a fifty percent likelihood of being realized upon ultimate settlement.

As of December 31, 2023, we had \$25.8 million of gross uncertain tax positions. If recognized, the benefit to our effective tax rate in future periods would be approximately \$22.6 million of that amount. During 2023, we recorded net increases in our uncertain tax positions of \$0.5 million related to certain U.S. and non-U.S. tax matters, of which \$3.0 million impacted the effective tax rate. This increase was offset by items not included in gross uncertain tax positions.

Based upon the information available as of December 31, 2023, it is reasonably possible that the amount of unrecognized tax benefits will change in the next twelve months; however, the change cannot reasonably be estimated.

A summary of gross unrecognized tax benefit activity is as follows:

(in millions)	Years Ended December 31,		
	2023	2022	2021
Gross unrecognized tax benefits, beginning of period	\$ 25.2	\$ 124.6	\$ 36.9
Gross increases:			
Prior period tax positions	0.9	0.7	84.7
Current period tax positions	3.0	3.0	3.0
Gross decreases:			
Prior period tax positions	(3.8)	(99.7)	—
Currency translation	0.5	(3.4)	—
Gross unrecognized tax benefits, end of period	<u>\$ 25.8</u>	<u>\$ 25.2</u>	<u>\$ 124.6</u>

We recognize interest and penalties related to unrecognized tax benefits as a component of our income tax expense. Interest and penalties accrued in our Consolidated Balance Sheets

as of December 31, 2023 and 2022 were \$6.4 million and \$5.0 million, respectively, and are included in other noncurrent liabilities in the Consolidated Balance Sheets.

### **Open Tax Periods**

We operate in multiple tax jurisdictions, both within the U.S. and outside the U.S., and face audits from various tax authorities regarding transfer pricing, deductibility of certain expenses, and intercompany transactions, as well as other matters. With few exceptions, we are no longer subject to examination for tax years prior to 2017.

Mosaic is continually under audit by various tax authorities in the normal course of business. Such tax authorities may raise issues contrary to positions taken by the Company. If such positions are ultimately not sustained by the Company, this could result in material assessments to the Company. The costs related to defending, if needed, such positions on appeal or in court may be material. The Company believes that any issues considered are properly accounted for.

We are currently under audit by the Internal Revenue Service for the tax years ended December 31, 2018 and December 31, 2020. Based on the information available, we do not anticipate significant changes to our unrecognized tax benefits as a result of these examinations other than the amounts discussed above.

We are currently under audit by the Canada Revenue Agency for the tax year ended December 31, 2020. Based on the information available, we do not anticipate significant changes to our unrecognized tax benefits as a result of these examinations other than the amounts discussed above

#### **14. ASSET RETIREMENT OBLIGATIONS**

We recognize our estimated ARO's in the period in which we have an existing legal obligation associated with the retirement of a tangible long-lived asset and the amount of the liability can be reasonably estimated. The ARO is recognized at fair value when the liability is incurred with a corresponding increase in the carrying amount of the related long lived asset. We depreciate the tangible asset over its estimated useful life. The liability is adjusted in subsequent periods through accretion expense which represents the increase in the present value of the liability due to the passage of time. Such depreciation and accretion expenses are included in cost of goods sold for operating facilities and other operating expense for indefinitely closed facilities.

Our legal obligations related to asset retirement require us to: (i) reclaim lands disturbed by mining as a condition to receive permits to mine phosphate ore reserves; (ii) treat low pH process water in Gypstacks to neutralize acidity; (iii) close and monitor Gypstacks at our Florida and Louisiana facilities at the end of their useful lives; (iv) remediate certain other conditional obligations; (v) remove all surface structures and equipment, plug and abandon mine shafts, contour and revegetate, as necessary, and monitor for five years after closing our Carlsbad, New Mexico facility; (vi) decommission facilities, manage tailings and execute site reclamation at our Saskatchewan potash mines at the end of their useful lives; (vii) decommission mines in Brazil and Peru; and (viii) decommission plant sites and closed Gypstacks in Brazil. The estimated liability for these legal obligations is based on the estimated cost to satisfy the above obligations which is discounted using a credit-adjusted risk-free rate.

A reconciliation of our AROs is as follows:

(in millions)	Years Ended December 31,	
	2023	2022
AROs, beginning of period	\$ 1,905.6	\$ 1,749.3
Liabilities incurred	22.9	14.9
Liabilities settled	(198.5)	(205.6)
Accretion expense	96.1	81.6
Revisions in estimated cash flows	365.1	264.5
Foreign currency translation	22.2	0.9
AROs, end of period	2,213.4	1,905.6
Less current portion	377.4	212.3
Non-current portion of AROs	<u>\$ 1,836.0</u>	<u>\$ 1,693.3</u>

#### North America Gypstack Closure Costs

A majority of our ARO relates to Gypstack Closure Costs in Florida and Louisiana. For financial reporting purposes, we recognize our estimated Gypstack Closure Costs at their present value. This present value determined for financial reporting purposes is reflected on our Consolidated Balance Sheets in accrued liabilities and other noncurrent liabilities. As of December 31, 2023 and 2022, the present value of our North American Gypstack Closure Costs ARO reflected in our Consolidated Balance Sheet was approximately \$1.2 billion and \$1.0 billion, respectively.

As discussed below, we have arrangements to provide financial assurance for the estimated Gypstack Closure Costs associated with our facilities in Florida and Louisiana.

EPA RCRA Initiative. On September 30, 2015, we and our subsidiary, Mosaic Fertilizer, LLC (“**Mosaic Fertilizer**”), reached agreements with the U.S. Environmental Protection Agency (“**EPA**”), the U.S. Department of Justice (“**DOJ**”), the Florida Department of Environmental Protection (“**FDEP**”) and the Louisiana Department of Environmental Quality on the terms of

two consent decrees (collectively, the “**2015 Consent Decrees**”) to resolve claims relating to our management of certain waste materials onsite at our Riverview, New Wales, Green Bay, South Pierce and Bartow fertilizer manufacturing facilities in Florida and our Faustina and Uncle Sam facilities in Louisiana. This followed a 2003 announcement by the EPA Office of Enforcement and Compliance Assurance that it would be targeting facilities in mineral processing industries, including phosphoric acid producers, for a thorough review under the U.S. Resource Conservation and Recovery Act (“**RCRA**”) and related state laws. As discussed below, a separate consent decree was previously entered into with the EPA and the FDEP with respect to RCRA compliance at the Plant City Facility that we acquired as part of our acquisition of the Florida phosphate assets and assumption of certain related liabilities of CF Industries, Inc. (“**CF**”).

The remaining monetary obligations under the 2015 Consent Decrees include a provision of additional financial assurance for the estimated Gypstack Closure Costs for Gypstacks at the covered facilities. The RCRA Trusts are discussed in Note 12 to our Consolidated Financial Statements. In addition, we have agreed to guarantee the difference between the amounts held in each RCRA Trust (including any earnings) and the estimated closure and long-term care costs.

As of December 31, 2023, the undiscounted amount of our Gypstack Closure Costs ARO associated with the facilities covered by the 2015 Consent Decrees, determined using the assumptions used for financial reporting purposes, was approximately \$2.2 billion, and the present value of our Gypstack Closure Costs ARO reflected in our Consolidated Balance Sheet for those facilities was approximately \$819.9 million.

Plant City and Bonnie Facilities. As part of the CF Phosphate Assets Acquisition, we assumed certain AROs related to Gypstack Closure Costs at both the Plant City Facility and a closed Florida phosphate concentrates facility in Bartow, Florida (the “**Bonnie Facility**”) that we acquired. Associated with these assets are two related financial assurance arrangements for which we became responsible and that provided sources of funds for the estimated Gypstack Closure Costs for these facilities. Pursuant to federal or state laws, the applicable government entities are permitted to draw against such amounts in the event we cannot perform such closure activities. One of the financial assurance arrangements was initially a trust (the “**Plant City Trust**”) established to meet the requirements under a consent decree with the EPA and the FDEP with respect to RCRA compliance at the Plant City Facility. The Plant City Trust also satisfied Florida financial assurance requirements at that site. Beginning in September 2016, as a substitute for the financial assurance provided through the Plant City Trust, we have provided financial assurance for the Plant City Facility in the form of a surety bond (the “**Plant City Bond**”). The amount of the Plant City Bond is \$303.1 million, which reflects our closure cost estimates as of December 31, 2023. The other financial assurance arrangement was also a trust fund (the “**Bonnie Facility Trust**”) established to meet the requirements under Florida financial assurance regulations that apply to the Bonnie Facility. In July 2018, we received \$21.0 million from the Bonnie Facility Trust by substituting for the trust fund a financial test mechanism (“**Bonnie Financial Test**”) supported by a corporate guarantee as allowed by state regulations. Both financial assurance funding obligations require estimates of future expenditures that could be impacted by refinements in scope, technological developments, new information, cost inflation, changes in regulations, discount rates and the timing of activities. Under our current approach to



satisfying applicable requirements, additional financial assurance would be required in the future if increases in cost estimates exceed the face amount of the Plant City Bond or the amount supported by the Bonnie Financial Test.

As of December 31, 2023 and 2022, the aggregate amounts of AROs associated with the combined Plant City Facility and Bonnie Facility Gypstack Closure Costs included in our consolidated balance sheet were \$361.8 million and \$327.5 million, respectively. The aggregate amount represented by the Plant City Bond exceeds the present value of the aggregate amount of ARO associated with that facility. This is because the amount of financial assurance we are required to provide represents the aggregate undiscounted estimated amount to be paid by us in the normal course of our Phosphates business over a period that may not end until three decades or more after the Gypstack has been closed, whereas the ARO included in our Consolidated Balance Sheet reflects the discounted present value of those estimated amounts.

## **15. DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES**

We periodically enter into derivatives to mitigate our exposure to foreign currency risks, interest rate movements and the effects of changing commodity prices. We record all derivatives on the Consolidated Balance Sheets at fair value. The fair value of these instruments is determined by using quoted market prices, third-party comparables, or internal estimates. We net our derivative asset and liability positions when we have a master netting arrangement in place. Changes in the fair value of the foreign currency, commodity and freight derivatives are immediately recognized in earnings. As of December 31, 2023 and 2022, the gross asset position of our derivative instruments was \$36.4 million and \$38.8 million, respectively, and the gross liability position of our liability instruments was \$17.2 million and \$50.1 million, respectively.

We do not apply hedge accounting treatments to our foreign currency exchange contracts, commodities contracts, or freight contracts. Unrealized gains and (losses) on foreign currency exchange contracts used to hedge cash flows related to the production of our products are included in cost of goods sold in the Consolidated Statements of Earnings. Unrealized gains and (losses) on commodities contracts and certain forward freight agreements are also recorded in cost of goods sold in the Consolidated Statements of Earnings. Unrealized gains or (losses) on foreign currency exchange contracts used to hedge cash flows that are not related to the production of our products are included in the foreign currency transaction gain/(loss) caption in the Consolidated Statements of Earnings.

From time to time, we enter into fixed-to-floating interest rate contracts. We apply fair value hedge accounting treatment to these contracts. Under these arrangements, we agree to exchange, at specified intervals, the difference between fixed and floating interest amounts calculated by reference to an agreed-upon notional principal amount. The mark-to-market of these fair value hedges is recorded as gains or (losses) in interest expense. We had no fixed-to-floating interest rate swap agreements in effect as of December 31, 2023 and 2022.

The following is the total absolute notional volume associated with our outstanding derivative instruments:

(in millions of Units)

Instrument	Derivative Category	Unit of Measure	December	December
			31, 2023	31, 2022
Foreign currency derivatives	Foreign Currency	U.S. Dollars	2,418.7	2,361.1
Natural gas derivatives	Commodity	MM BTU	17.1	14.2

### Credit-Risk-Related Contingent Features

Certain of our derivative instruments contain provisions that are governed by International Swap and Derivatives Association agreements with the counterparties. These agreements contain provisions that allow us to settle for the net amount between payments and receipts, and also state that if our debt were to be rated below investment grade, certain counterparties to the derivative instruments could request full collateralization on derivative instruments in net liability positions. The aggregate fair value of all derivative instruments with credit-risk-related contingent features that were in a liability position as of December 31, 2023 and 2022 was \$15.6 million and \$34.8 million, respectively. We have no cash collateral posted in association with these contracts. If the credit-risk-related contingent features underlying these agreements were triggered on December 31, 2023, we would have been required to post an additional \$8.7 million of collateral assets, which are either cash or U.S. Treasury instruments, to the counterparties.

### Counterparty Credit Risk

We enter into foreign exchange, certain commodity and interest rate derivatives, primarily with a diversified group of highly rated counterparties. We continually monitor our positions and the credit ratings of the counterparties involved and limit the amount of credit exposure to any one party. While we may be exposed to potential losses due to the credit risk of non-

performance by these counterparties, material losses are not anticipated. We closely monitor the credit risk associated with our counterparties and customers and to date have not experienced material losses.

## **16. FAIR VALUE MEASUREMENTS**

Following is a summary of the valuation techniques for assets and liabilities recorded in our Consolidated Balance Sheets at fair value on a recurring basis:

**Foreign Currency Derivatives**—The foreign currency derivative instruments that we currently use are forward contracts and zero-cost collars, which typically expire within 18 months. Most of the valuations are adjusted by a forward yield curve or interest rates. In such cases, these derivative contracts are classified within Level 2. Some valuations are based on exchange-quoted prices, which are classified as Level 1. Changes in the fair market values of these contracts are recognized in the Consolidated Financial Statements as a component of cost of goods sold in our Corporate, Eliminations and Other segment or foreign currency transaction gain (loss). As of December 31, 2023 and 2022, the gross asset position of our foreign currency derivative instruments was \$36.4 million and \$20.7 million, respectively, and the gross liability position of our foreign currency derivative instruments was \$8.0 million and \$49.2 million, respectively.

**Commodity Derivatives**—The commodity contracts primarily relate to natural gas. The commodity derivative instruments that we currently use are forward purchase contracts, swaps and three-way collars. The natural gas contracts settle using NYMEX

futures or AECO price indexes, which represent fair value at any given time. The contracts' maturities and settlements are scheduled for future months and settlements are scheduled to coincide with anticipated gas purchases during those future periods. Quoted market prices from NYMEX and AECO are used to determine the fair value of these instruments. These market prices are adjusted by a forward yield curve and are classified within Level 2. Changes in the fair market values of these contracts are recognized in the Consolidated Financial Statements as a component of cost of goods sold in our Corporate, Eliminations and Other segment. As of December 31, 2023 and 2022, the gross asset position of our commodity derivative instruments was zero and \$18.1 million, respectively, and the gross liability position of our commodity derivative instruments was \$9.2 million and \$0.9 million, respectively.

**Interest Rate Derivatives**—We manage interest expense through interest rate contracts to convert a portion of our fixed-rate debt into floating-rate debt. From time to time, we also enter into interest rate swap agreements to hedge our exposure to changes in future interest rates related to anticipated debt issuances. Valuations are based on external pricing sources and are classified as Level 2. Changes in the fair market values of these contracts are recognized in the Consolidated Financial Statements as a component of interest expense. We did not hold any interest rate derivative positions as of December 31, 2023 or 2022.

## Financial Instruments

The carrying amounts and estimated fair values of our financial instruments are as follows:

(in millions)	December 31,			
	2023		2022	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Cash and cash equivalents	\$ 348.8	\$ 348.8	\$ 735.4	\$ 735.4
Accounts receivable	1,269.2	1,269.2	1,699.9	1,699.9
Accounts payable	1,166.9	1,166.9	1,292.5	1,292.5
Structured accounts payable arrangements	399.9	399.9	751.2	751.2
Short-term debt	399.7	399.7	224.9	224.9
Long-term debt, including current portion	3,361.7	3,364.1	3,397.2	3,276.5

For cash and cash equivalents, accounts receivable, net, accounts payable, structured accounts payable arrangements and short-term debt, the carrying amount approximates fair value because of the short-term maturity of those instruments. Included in long-term debt is floating rate debt of \$500 million. Our floating rate debt is non-public and bears a variable SOFR based rate and consists of our borrowings under our term loan facility. The fair value of our floating rate debt approximates the carrying value and is estimated based on market-based inputs including interest rates and credit spreads, which results in a Level 2 classification. The fair value of fixed rate long-term debt, including the current portion, is

estimated using quoted market prices for the publicly registered notes and debentures, classified as Level 1 and Level 2, respectively, within the fair value hierarchy, depending on the market liquidity of the debt. For information regarding the fair value of our marketable securities held in trusts, see Note 12 of our Notes to Consolidated Financial Statements.

## **17. GUARANTEES AND INDEMNITIES**

We enter into various contracts that include indemnification and guarantee provisions as a routine part of our business activities. Examples of these contracts include asset purchase and sale agreements, surety bonds, financial assurances to regulatory agencies in connection with reclamation and closure obligations, commodity sale and purchase agreements, and other types of contractual agreements with vendors and other third parties. These agreements indemnify counterparties for matters such as reclamation and closure obligations, tax liabilities, environmental liabilities, litigation and other matters, as well as breaches by Mosaic of representations, warranties and covenants set forth in these agreements. In many cases, we are essentially guaranteeing our own performance, in which case the guarantees do not fall within the scope of the accounting and disclosures requirements under U.S. GAAP. Our maximum potential exposure under our indemnification arrangements can range from a specified dollar amount to an unlimited amount, depending on the nature of the transaction. Many of the guarantees and indemnities we issue to third parties do not limit the amount or duration of our obligations to perform under them. For these guarantees and indemnities, we may not be able to estimate what our liability would be until a claim is made

for payment or performance due to the contingent nature of these arrangements. Based on our current understanding of the relevant facts, we do not believe that we will be required to make any material payments under these indemnity provisions.

## **18. PENSION PLANS AND OTHER BENEFITS**

We sponsor pension and postretirement benefits through a variety of plans, including defined benefit plans, defined contribution plans and postretirement benefit plans in North America and certain of our international locations. We reserve the right to amend, modify or terminate the Mosaic sponsored plans at any time, subject to provisions of the Employee Retirement Income Security Act of 1974 (“**ERISA**”), prior agreements and our collective bargaining agreements.

### **Defined Benefit**

During fiscal 2022, we terminated the defined benefit pension plan in the U.S, which was frozen at the time of termination. In connection with the plan termination, we settled all future obligations under the terminated plan through a combination of lump-sum payments to eligible participants who elected to receive them through a lump-sum window, and the transfer of any remaining benefit obligations under the terminated plans to a third-party insurance company under a group annuity contract. As a result of these actions, we recognized a non-cash pre-tax pension settlement charge of \$41.9 million in our 2022 Consolidated Statements of Earnings (Loss) in Other (expense) income. Upon completion of the remaining obligations related to the terminated plan, the remaining over-funded plan assets of \$18.6 million as of December 31, 2023 will be utilized to fund obligations associated with other qualified retirement plans.

We sponsor various defined benefit pension plans in Canada. Benefits are based on different combinations of years of service and compensation levels, depending on the plan. Generally, contributions to Canadian plans are made in accordance with the Pension Benefits Act instituted by the province of Saskatchewan. Certain employees in Canada, whose pension benefits exceed Canada Revenue Agency limitations, are covered by supplementary non-qualified, unfunded pension plans. During fiscal 2023, we terminated certain defined pension plans in Canada by transferring remaining benefit obligations for participants to a third-party insurance company under a group annuity contract. As a result of these actions, we recognized a non-cash pre-tax settlement charge of \$42.4 million in our 2023 Consolidated Statements of Earnings (Loss) in Other (expense) income.

We sponsor various defined benefit pension plans in Brazil, and we acquired multi-employer pension plans for certain of our Brazil associates. All our pension plans are governed by the Brazilian pension plans regulatory agency, National Superintendence of Supplementary Pensions. Our Brazil plans are not individually significant to the Company’s consolidated financial statements after factoring in the multi-employer pension plan indemnification that we acquired through an acquisition. We made contributions to these plans, net of indemnification, of \$0.1 million and \$0.2 million for the years ended December 31, 2023 and 2022, respectively.



## Accounting for Pension Plans

The year-end status of the North American pension plans was as follows (the 2023 presentation excludes the terminated U.S. defined benefit plans, which had an ending benefit obligation of \$0.0 million and \$5.2 million as of December 31, 2023 and 2022, respectively, and ending plan assets of \$18.6 million and \$16.6 million as of December 31, 2023 and 2022, respectively):

(in millions)	Pension Plans	
	Years Ended December 31,	
	2023	2022
Change in projected benefit obligation:		
Benefit obligation at beginning of period	\$ 294.3	\$ 739.6
Service cost	2.8	4.2
Interest cost	11.1	16.8
Actuarial (gain) loss	3.3	(158.8)
Currency fluctuations	2.0	(19.0)
Benefits paid and transfers	(190.4)	(322.2)
Plan amendments	5.8	—
Liability (gain)/loss due to curtailment/settlement	(9.3)	38.9
Projected benefit obligation at end of period	<u>\$ 119.6</u>	<u>\$ 299.5</u>
Change in plan assets:		
Fair value at beginning of period	\$ 329.0	\$ 807.0
Currency fluctuations	2.9	(21.3)
Actual return	11.4	(124.9)
Company contribution	4.2	7.0
Benefits paid and transfers	(190.4)	(322.2)
Fair value at end of period	<u>\$ 157.1</u>	<u>\$ 345.6</u>
Funded status of the plans as of the end of period	<u>\$ 37.5</u>	<u>\$ 46.1</u>
Amounts recognized in the consolidated balance sheets:		
Noncurrent assets	\$ 43.8	\$ 52.9
Current liabilities	(0.5)	(0.5)
Noncurrent liabilities	(5.8)	(6.3)
Amounts recognized in accumulated other comprehensive (income) loss		
Prior service cost	\$ 15.1	\$ 10.9
Actuarial loss	20.0	67.2

The accumulated benefit obligation for the defined benefit pension plans was \$119.6 million and \$299.1 million as of December 31, 2023 and 2022, respectively. In 2024, we expect the



related plans to pay benefit payments of approximately \$3.9 million and to contribute cash of at least \$0.8 million to the pension plans to meet minimum funding requirements.

#### Plan Assets and Investment Strategies

The Company's overall investment strategy is to obtain sufficient return and provide adequate liquidity to meet the benefit obligations of our pension plans. The primary investment objective is to secure the promised pension benefits through capital preservation and appreciation to better manage the asset/liability gap and interest rate risk. A secondary investment objective is to most effectively manage investment volatility to reduce the variability of the Company's required contributions. A significant amount of the assets are invested in funds that are managed by Mosaic's investment advisor and reviewed by Mosaic management. Plan assets are primarily valued based on external pricing sources and are classified as Level 2. We do not have significant concentrations of credit risk or industry sectors within the plan assets. Fair value measurements of plan

assets was \$157.1 million at December 31, 2023 and was invested approximately 75% in fixed income securities, 20% in equity securities, and 5% in cash.

### **Defined Contribution Plans**

Eligible salaried and non-union hourly employees in the U.S. participate in a defined contribution investment plan which permits employees to defer a portion of their compensation through payroll deductions and provides matching contributions. We match 100% of the first 3% of the participant's contributed pay plus 50% of the next 3% of the participant's contributed pay, subject to Internal Revenue Service limits. Participant contributions, matching contributions and the related earnings immediately vest. Mosaic also provides an annual non-elective employer contribution feature for eligible salaried and non-union hourly employees based on the employee's age and eligible pay. Participants are generally vested in the non-elective employer contributions after three years of service. In addition, a discretionary feature of the plan allows the Company to make additional contributions to employees. Certain union employees participate in a defined contribution retirement plan based on collective bargaining agreements.

Canadian salaried and non-union hourly employees participate in an employer funded plan with employer contributions similar to the U.S. plan. The plan provides a profit sharing component which is paid each year. We also sponsor one mandatory union plan in Canada. Benefits in these plans vest after two years of consecutive service.

The expense attributable to defined contribution plans in the U.S. and Canada was \$61.7 million, \$55.7 million and \$55.8 million for 2023, 2022 and 2021, respectively.

### **Postretirement Medical Benefit Plans**

We provide certain health care benefit plans for certain retired employees ("**Retiree Health Plans**") which may be either contributory or non-contributory and contain certain other cost-sharing features such as deductibles and coinsurance.

The North American Retiree Health Plans are unfunded and the projected benefit obligation was \$22.8 million and \$22.6 million as of December 31, 2023 and 2022, respectively. This liability should continue to decrease due to our limited exposure. The related income statement effects of the Retiree Health Plans are not material to the Company. We anticipate contributing cash of at least \$2.2 million in 2024 to the postretirement medical benefit plans to fund anticipated benefit payments.

The year-end status of the Brazil postretirement medical benefit plans with a discount rate of 10.40% and 10.30% on each of December 31, 2023 and 2022, respectively was as follows:

(in millions)	<b>Postretirement Medical Benefits</b>	
	<b>Years Ended December 31,</b>	
	<b>2023</b>	<b>2022</b>
Change in accumulated postretirement benefit obligation (“ <b>APBO</b> ”):		
APBO at beginning of year	\$ 59.1	\$ 58.0
Service cost	0.1	0.1
Interest cost	6.2	5.8
Actuarial (gain) loss	4.8	(7.6)
Currency fluctuations	5.4	3.8
Benefits paid	(1.2)	(1.0)
APBO at end of year	<u>\$ 74.4</u>	<u>\$ 59.1</u>
Change in plan assets:		
Company contribution	\$ 1.2	\$ 1.0
Benefits paid	(1.2)	(1.0)
Unfunded status of the plans as of the end of the year	<u>\$ (74.4)</u>	<u>\$ (59.1)</u>
Amounts recognized in the consolidated balance sheets:		
Current liabilities	\$ (1.1)	\$ (1.2)
Noncurrent liabilities	(73.3)	(57.9)
Amounts recognized in accumulated other comprehensive income		
Prior service credit	\$ (13.2)	\$ (14.1)
Actuarial loss	\$ 11.9	\$ 6.6

## 19. ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS) ("AOCI")

The following table sets forth the changes in AOCI by component during the years ended December 31, 2023, 2022 and 2021:

(in millions)	Foreign Currency Translation Gain (Loss)	Net Actuarial Gain and Prior Service Cost	Amortization of Gain on Interest Rate Swap	Net Gain (Loss) on Marketable Securities Held in Trust	Total
Balance at December 31, 2020	\$ (1,719.1)	\$ (109.7)	\$ 3.7	\$ 18.9	(1,806.2)
Other comprehensive income (loss)	(117.0)	56.5	2.0	(22.7)	(81.2)
Tax (expense) or benefit	8.8	(19.6)	(0.5)	5.1	(6.2)
Other comprehensive income (loss), net of tax	(108.2)	36.9	1.5	(17.6)	(87.4)
Addback: loss attributable to noncontrolling interest	1.8	—	—	—	1.8
Balance at December 31, 2021	\$ (1,825.5)	\$ (72.8)	\$ 5.2	\$ 1.3	\$(1,891.8)
Other comprehensive income (loss)	(261.1)	28.6	2.0	(32.4)	(262.9)
Tax (expense) or benefit	6.1	(8.9)	(0.5)	7.6	4.3
Other comprehensive income (loss), net of tax	(255.0)	19.7	1.5	(24.8)	(258.6)
Less: gain attributable to noncontrolling interest	(1.8)	—	—	—	(1.8)
Balance at December 31, 2022	\$ (2,082.3)	\$ (53.1)	\$ 6.7	\$ (23.5)	\$(2,152.2)
Other comprehensive income (loss)	152.0	31.1	1.8	30.6	215.5
Tax (expense) or benefit	2.1	(11.0)	(0.4)	(6.9)	(16.2)
Other comprehensive income (loss), net of tax	154.1	20.1	1.4	23.7	199.3
Less: gain attributable to noncontrolling interest	(2.0)	—	—	—	(2.0)
Balance at December 31, 2023	<u>\$ (1,930.2)</u>	<u>\$ (33.0)</u>	<u>\$ 8.1</u>	<u>\$ 0.2</u>	<u>\$(1,954.9)</u>

## 20. SHARE REPURCHASES

In 2022, our Board of Directors approved two share repurchase programs (the “**2022 Repurchase Programs**”) for a total of \$3.0 billion. Our repurchase programs allow the Company to repurchase shares of our Common Stock through open market purchases, accelerated share repurchase arrangements, privately negotiated transactions or otherwise and have no set expiration date.

On February 24, 2023, pursuant to existing stock repurchase authorizations, we entered into an accelerated share repurchase agreement (the “**2023 ASR Agreement**”) with a third-party financial institution to repurchase \$300 million of our Common Stock. At inception, we paid the financial institution \$300 million and took initial delivery of 4,659,290 shares of our Common Stock, representing an estimated 80% of the total shares expected to be delivered under the 2023 ASR Agreement. In March 2023, the transaction was completed and we received an additional 965,284 shares of Common Stock. In total, 5,624,574 shares were delivered under the 2023 ASR Agreement, at an average purchase price of \$53.34 per share.

During the year ended December 31, 2023, under the 2022 Repurchase Programs, we repurchased 16,879,059 shares of Common Stock in the open market for approximately \$748.0 million. This includes the 5,624,574 shares purchased under the 2023 ASR Agreement.

On February 24, 2022, pursuant to existing stock repurchase authorizations, we entered into an accelerated share repurchase (the “**2022 ASR Agreement**”) agreement with a third-party financial institution to repurchase \$400 million of our Common Stock. At inception, we paid the financial institution \$400 million and took initial delivery of 7,056,229 shares of our Common Stock. Under the terms of the 2022 ASR Agreement, upon settlement, we would either receive additional shares from the financial institution or be required to deliver additional shares or cash to the financial institution. In the second quarter of 2022, the 2022 ASR Agreement was completed and we paid the financial institution an additional \$54.2 million. When combining the initial \$400 million paid at the inception of the 2022 ASR Agreement and the cash settlement of \$54.2 million at the termination of the 2022 ASR Agreement, we repurchased 7,056,229 shares at an average repurchase price of \$64.37 per share.

During the year ended December 31, 2022, under the 2022 Repurchase Programs, we repurchased 30,810,173 shares of Common Stock in the open market for approximately \$1.7 billion. This includes the 7,056,229 shares purchased under the 2022 ASR Agreement.

The extent to which we repurchase our shares and the timing of any such repurchases depend on a number of factors, including market and business conditions, the price of our shares, our ability to access capital resources, our liquidity and corporate, regulatory and other considerations.

## 21. SHARE-BASED PAYMENTS

The Mosaic Company 2023 Stock and Incentive Plan (the “**2023 Stock and Incentive Plan**”) was approved by our stockholders and became effective on May 25, 2023. It permits up to 18 million shares of common stock to be issued under share-based awards granted under this plan. The 2023 Stock and Incentive Plan provides for grants of stock options,

restricted stock, restricted stock units, performance units and a variety of other share-based and non-share-based awards. Our employees, officers, directors, consultants, agents, advisors and independent contractors, as well as other designated individuals, are eligible to participate in the 2023 Stock and Incentive Plan.

The Mosaic Company 2014 Stock and Incentive Plan (the “**2014 Stock and Incentive Plan**”) was approved by our stockholders and became effective on May 15, 2014. It permits up to 25 million shares of common stock to be issued under share-based awards granted under this plan. The 2014 Stock and Incentive Plan provides for grants of stock options, restricted stock, restricted stock units, performance units and a variety of other share-based and non-share-based awards. Our employees, officers, directors, consultants, agents, advisors and independent contractors, as well as other designated individuals, are eligible to participate in the 2014 Stock and Incentive Plan.

The Mosaic Company 2004 Omnibus Stock and Incentive Plan (the “**Omnibus Plan**”), which was approved by our stockholders and became effective in 2004 and subsequently amended, provided for the grant of shares and share options to employees for up to 25 million shares of common stock. While awards may no longer be made under the Omnibus Plan, it will remain in effect with respect to the awards that had been granted thereunder prior to its termination.

Mosaic settles stock option exercises, restricted stock units and certain performance units and performance shares with newly issued common shares. The Compensation Committee of the Board of Directors administers the 2014 Stock and Incentive Plan and the Omnibus Plan subject to their respective provisions and applicable law.

### **Stock Options**

Stock options are granted with an exercise price equal to the market price of our stock at the date of grant and have a ten-year contractual term. The fair value of each option award is estimated on the date of the grant using the Black-Scholes option valuation model. Stock options generally vest in equal annual installments in the first three years following the date of grant (graded vesting). Stock options are expensed on a straight-line basis over the required service period, based on the estimated fair value of the award on the date of grant, net of estimated forfeitures.

#### Valuation Assumptions

Assumptions used to calculate the fair value of stock options awarded in 2017 are noted in the following table. There were no stock options granted or issued in 2023, 2022 or 2021. Expected volatility is based on the simple average of implied and historical volatility using the daily closing prices of the Company's stock for a period equal to the expected term of the option. The risk-free interest rate is based on the U.S. Treasury rate at the time of the grant for instruments of comparable life.

	<b>Year Ended December 31, 2017</b>
Weighted average assumptions used in option valuations:	
Expected volatility	35.35 %
Expected dividend yield	1.97 %
Expected term (in years)	7
Risk-free interest rate	2.34 %

A summary of the status of our stock options as of December 31, 2023, and activity during 2023, is as follows:

	<b>Shares (in millions)</b>	<b>Weighted Average Exercise Price</b>	<b>Weighted Average Remaining Contractual Term (Years)</b>	<b>Aggregate Intrinsic Value</b>
Outstanding as of December 31, 2022	0.6	\$ 36.12		
Granted	—	—		
Exercised	—	\$ —		
Cancelled or forfeited	—	\$ —		
Outstanding as of December 31, 2023	0.6	\$ 34.46	2.11	\$ 2.8
Exercisable as of December 31, 2023	0.6	\$ 34.46	2.11	\$ 2.8

The outstanding and exercisable options as of December 31, 2023 includes 534,126 options issued from the 2014 Stock and Incentive Plan and 62,090 options issued from the Omnibus Plan.

### **Restricted Stock Units**

Restricted stock units are issued to various employees, officers and directors at a value equal to the market price of our stock at the date of grant. The fair value of restricted stock units is equal to the market price of our stock at the date of grant. Restricted stock units generally cliff vest after three years of continuous service and are expensed on a straight-line basis over the required service period, based on the estimated grant date fair value, net of estimated forfeitures.



A summary of the status of our restricted stock units as of December 31, 2023, and activity during 2023, is as follows:

	Shares (in millions)	Weighted Average Grant Date Fair Value Per Share
Restricted stock units as of December 31, 2022	2.2	\$ 27.68
Granted	0.5	49.02
Issued and cancelled or forfeited	(1.2)	\$ 17.73
Restricted stock units as of December 31, 2023	1.5	\$ 42.70

### Performance Units

During the years ended December 31, 2023, 2022 and 2021, 1,206,263, 540,915 and 717,952 total stockholder return (“**TSR**”) performance units were granted, respectively. Final performance units are awarded based on the increase or decrease, subject to certain limitations, in Mosaic’s share price from the grant date to the third anniversary of the award, plus dividends (a measure of total stockholder return or TSR). The beginning and ending stock prices are based on a 30 trading-day average stock price. Holders of the awards must be employed at the end of the performance period in order for any units to vest, except in the event of death, disability or retirement at or after age 60, certain changes in control or the exercise of Committee or Board discretion as provided in the related award agreements.

The fair value of each TSR performance unit is determined using a Monte Carlo simulation. This valuation methodology utilizes assumptions consistent with those of our other share-based awards and a range of ending stock prices; however, the expected term of the awards is three years, which impacts the assumptions used to calculate the fair value of performance units as shown in the table below. 354,500, 195,755 and 262,308 of the TSR performance awards issued in 2023, 2022 and 2021, respectively, are to be settled in cash, and are therefore accounted for as a liability with changes in value recorded through earnings during the service period. The remaining TSR performance units issued in 2023, 2022 and 2021 are considered equity-classified fixed awards measured at grant-date fair value and not subsequently re-measured. All of the TSR performance units cliff vest after three years of continuous service and are expensed on a straight-line basis over the required service period, based on the estimated grant date fair value of the award net of estimated forfeitures.

A summary of the assumptions used to estimate the fair value of TSR performance units is as follows:

	Years Ended December 31,		
	2023	2022	2021
Performance units granted	1,206,283	540,915	717,952
Average fair value of performance units on grant date	\$ 50.56	\$ 55.08	\$ 27.91
Weighted average assumptions used in performance unit valuations:			
Expected volatility	48.33 %	54.77 %	58.26 %
Expected dividend yield	1.52 %	0.81 %	0.68 %
Expected term (in years)	3	3	3
Risk-free interest rate	4.52 %	1.68 %	0.32 %

A summary of our performance unit activity during 2023 is as follows:

	Shares (in millions)	Weighted Average Grant Date Fair Value Per Share
Outstanding as of December 31, 2022	2.6	\$ 21.89
Granted	1.2	50.56
Issued and cancelled or forfeited	(2.5)	\$ 13.30
Outstanding as of December 31, 2023	1.3	\$ 39.86

The outstanding performance units as of December 31, 2023 and 2022 include 500,393 and 791,624 cash-settled performance units, respectively.

### Share-Based Compensation Expense

We recorded share-based compensation expense of \$37.8 million, \$61.1 million and \$63.5 million for 2023, 2022 and 2021, respectively. The tax benefit related to share exercises and lapses in the year was \$9.0 million, \$7.5 million and \$6.5 million for 2023, 2022 and 2021, respectively.

As of December 31, 2023, there was \$17.0 million of total unrecognized compensation cost related to options, restricted stock units and performance units and shares granted under the 2014 Stock and Incentive Plan and the Omnibus Plan. The unrecognized compensation cost is expected to be recognized over a weighted-average period of one year. No options vested in 2023, 2022 and 2021.

We received \$16.0 million from exercises of share-based payment arrangements for 2022. There was no cash received from exercises of share-based payment arrangements for 2023 and 2021. We incurred a tax benefit for tax deductions from options of \$7.9 million, \$13.4 million and \$14.0 million in 2023, 2022 and 2021, respectively.

## **22. COMMITMENTS**

We lease certain plants, warehouses, terminals, office facilities, railcars and various types of equipment under operating leases, some of which include rent payment escalation clauses, with lease terms ranging from one to 43 years. In addition to minimum lease payments, some of our office facility leases require payment of our proportionate share of real estate taxes and building operating expenses. Our future obligations under these leases are included in Note 4 of our Notes to Consolidated Financial Statements.

We also have purchase obligations to purchase goods and services, primarily for raw materials used in products sold to customers. In 2013, we entered into an ammonia supply agreement with CF that commenced in 2017, under which Mosaic agreed to purchase approximately 545,000 to 725,000 tonnes of ammonia per year at a price tied to the prevailing price of U.S. natural gas. On October 14, 2022, we received notice from CF to exercise the bilateral, contractual right to end the ammonia supply agreement in its current form, effective January 1, 2025.

We have long-term agreements for the purchase of sulfur, which is used in the production of phosphoric acid, and natural gas, which is a significant raw material used primarily in the solution mining process in our Potash segment as well as in our phosphate concentrates plants.

A schedule of future minimum long-term purchase commitments, based on expected market prices as of December 31, 2023 is as follows:

	Purchase Commitments
(in millions)	
2024	\$ 3,002.9
2025	618.9
2026	289.5
2027	84.4
2028	41.4
Subsequent years	54.7
	<u>\$ 4,091.8</u>

Purchases made under long-term commitments were \$3.0 billion in 2023, \$4.6 billion in 2022, and \$3.1 billion in 2021.

Most of our export sales of potash crop nutrients are marketed through a North American export association, Canpotex, which may fund its operations in part through third-party financing facilities. As a member, Mosaic or our subsidiaries are contractually obligated to reimburse Canpotex for their pro rata share of any operating expenses or other liabilities incurred. The reimbursements are made through reductions to members' cash receipts from Canpotex.

We incur liabilities for reclamation activities and Gypstack closures in our Florida and Louisiana operations where, in order to obtain necessary permits, we must either pass a test of financial strength or provide credit support, typically in the form of cash deposits, surety bonds or letters of credit. The surety bonds generally expire within one year or less but a substantial portion of these instruments provide financial assurance for continuing obligations and, therefore, in most cases, must be renewed on an annual basis. As of December 31, 2023, we had \$765.9 million in surety bonds outstanding, of which \$409.3 million is for reclamation obligations, primarily related to mining in Florida. In addition, included in the total amount is \$303.1 million, reflecting our updated closure cost estimates, delivered to the EPA as a substitute for the financial assurance provided through the Plant City Trust. The remaining balance in surety bonds outstanding of \$53.5 million is for other matters.

## 23. CONTINGENCIES

We have described below the material judicial and administrative proceedings to which we are subject.

### Environmental Matters

We have contingent environmental liabilities that arise principally from three sources: (i) facilities currently or formerly owned by our subsidiaries or their predecessors; (ii) facilities adjacent to currently or formerly owned facilities; and (iii) third-party Superfund or state equivalent sites. At facilities currently or formerly owned by our subsidiaries or their predecessors, the historical use and handling of regulated chemical substances, crop and animal nutrients and additives and by-product or process tailings have resulted in soil, surface water and/or groundwater contamination. Spills or other releases of regulated substances, subsidence from mining operations and other incidents arising out of operations, including accidents, have occurred previously at these facilities, and potentially could occur in the future, possibly requiring us to undertake or fund cleanup or result in monetary damage awards, fines, penalties, other liabilities, injunctions or other court or administrative rulings. In some instances, pursuant to consent orders or agreements with governmental agencies, we are undertaking certain remedial actions or investigations to determine whether remedial action may be required to address contamination. At other locations, we have entered into consent orders or agreements with appropriate governmental agencies to perform required remedial activities that will address identified site conditions. Taking into consideration established accruals of approximately \$203.2 million and \$185.5 million, as of December 31, 2023 and 2022, respectively, expenditures for these known conditions currently are not expected, individually or in the aggregate, to have a material effect on our business or financial condition. However, material expenditures could be required in the future to remediate the contamination at known sites or at other current or former sites or as a result of other environmental, health and safety matters. Below is a discussion of certain environmental matters.

New Wales Phase II East Stack. In April 2022, we confirmed the presence of a cavity in and liner tear beneath the southern part of the active phosphogypsum stack at the Company's New Wales facility in Florida which resulted in process water draining beneath the stack. The circumstances were reported to the FDEP and the EPA. Phase I of the repairs, consisting of stabilizing the cavity by depositing low pressure grout into it began in July 2022 and now is complete. Phase II will then inject high pressure grout beneath the stack to restore the geological confining layer beneath it. That work began in early in 2023 and is expected to conclude in the first quarter of 2024.

As of December 31, 2023, we have a reserve of \$32.3 million for the estimated repairs. We are unable to estimate at this time potential future additional financial impacts or a range of loss, if any, due to the ongoing evaluation.

New Wales Phase II West Stack. In October 2023, we observed a series of seismic acoustic emissions and changes to piezometric water levels in a part of the Phase II West phosphogypsum stack at the New Wales, FL facility. These observations may be an indication of a breach in the stack liner system and were reported to the FDEP and EPA. We are developing and then will execute an investigation plan to evaluate conditions in the stack. The area of the stack is not in use for either process water storage or additional gypsum placement. It lies within a zone of capture of a recovery groundwater well, which is operating as intended. No offsite impacts are known or expected.

As of December 31, 2023, we have a reserve of \$59.4 million for estimated repairs. We are unable to estimate at this time potential future additional financial impacts or a range of loss, if any, due to the ongoing evaluation.

EPA RCRA Initiative. We have certain financial assurance and other obligations under consent decrees and a separate financial assurance arrangement relating to our facilities in Florida and Louisiana. These obligations are discussed in Note 14 of our Notes to Consolidated Financial Statements.

Other Environmental Matters. Superfund and equivalent state statutes impose liability without regard to fault or to the legality of a party's conduct on certain categories of persons who are considered to have contributed to the release of "hazardous substances" into the environment. Under Superfund, or its various state analogues, one party may, under certain circumstances, be required to bear more than its proportionate share of cleanup costs at a site where it has liability if payments cannot be obtained from other responsible parties. Currently, certain of our subsidiaries are involved or concluding involvement at several Superfund or equivalent state sites. Our remedial liability from these sites, alone or in the aggregate, currently is not expected to have a material effect on our business or financial condition. As more information is obtained regarding these sites and the potentially responsible parties involved, this expectation could change.

We believe that, pursuant to several indemnification agreements, our subsidiaries are entitled to at least partial, and in many instances complete, indemnification for the costs that may be expended by us or our subsidiaries to remedy environmental issues at certain facilities. These agreements address issues that resulted from activities occurring prior to our acquisition of facilities or businesses from parties including, but not limited to: ARCO (BP); Beatrice Fund for Environmental Liabilities; Conoco; Conserv; Estech, Inc.; Kaiser Aluminum &

Chemical Corporation; Kerr-McGee Inc.; PPG Industries, Inc.; The Williams Companies; CF; and certain other private parties. Our subsidiaries have already received and anticipate receiving amounts pursuant to the indemnification agreements for certain of their expenses incurred to date as well as future anticipated expenditures. We record potential indemnifications as an offset to the established accruals when they are realizable or realized. The failure of an indemnitor to fulfill its obligations could result in future costs that could be material.

### **Louisiana Parishes Coastal Zone Cases**

Several Louisiana parishes and the City of New Orleans have filed lawsuits against hundreds of oil and gas companies seeking regulatory, restoration and compensatory damages in connection with historical oil, gas and sulfur mining and transportation operations in the coastal zone of Louisiana. Mosaic is the corporate successor to certain companies which performed these types of operations in the coastal zone of Louisiana. Mosaic has been named in two of the lawsuits filed to date. In addition, in several other cases, historical oil, gas and sulfur operations which may have been related to Mosaic's corporate predecessors have been identified in the complaints. Based upon information known to date, Mosaic has contractual indemnification rights against third parties for any loss or liability arising out of these claims pursuant to indemnification agreements entered into by Mosaic's corporate predecessor(s) with third parties. There may also be insurance contracts which may respond to some or all of the claims. However, the financial ability of the third-party indemnitors, the extent of potential insurance coverage and the extent of potential liability from these claims is currently unknown.

As of October 2022, a memorandum of understanding has been executed by the State of Louisiana and the plaintiff parishes that filed claims against Mosaic and its corporate predecessors on one hand, and Mosaic Global Holdings, Inc. and its third-

party indemnitors on the other hand which, when fully implemented, will release and dismiss Mosaic and its corporate predecessors from the coastal zone cases. Funding obligations in the memorandum of understanding are expected to be undertaken by third-party indemnitors and/or insurers.

### **Brazil Legal Contingencies**

Our Brazilian subsidiaries are engaged in a number of judicial and administrative proceedings regarding labor, environmental, mining and civil claims that allege aggregate damages and/or fines of approximately \$738.2 million. We estimate that our probable aggregate loss with respect to these claims is approximately \$80.6 million, which is included in our accrued liabilities in our Consolidated Balance Sheets at December 31, 2023. Approximately \$529.3 million of the maximum potential loss above, relates to labor claims of which approximately \$67.0 million is included in accrued liabilities in our Consolidated Balance Sheets at December 31, 2023.

Based on Brazil legislation and the current status of similar labor cases involving unrelated companies, we believe we have recorded adequate loss contingency reserves sufficient to cover our estimate of probable losses. If the status of similar cases involving unrelated companies were to adversely change in the future, our maximum exposure could increase and additional accruals could be required.

### **Brazil Tax Contingencies**

Our Brazilian subsidiaries are engaged in a number of judicial and administrative proceedings relating to various non-income tax matters. We estimate that our maximum potential liability with respect to these matters is approximately \$608.9 million, of which \$168.7 million is subject to an indemnification agreement entered into with Vale S.A in connection with an acquisition.

Approximately \$383.0 million of the maximum potential liability relates to a Brazilian federal value added tax, PIS and COFINS, and tax credit cases, while the majority of the remaining amount relates to various other non-income tax cases. The maximum potential liability can increase with new audits. Based on Brazil legislation and the current status of similar tax cases involving unrelated taxpayers, we believe we have recorded adequate loss contingency reserves sufficient to cover our estimate of probable losses, which are immaterial. If the status of similar tax cases involving unrelated taxpayer changes in the future, additional accruals could be required.

### **Other Claims**

We also have certain other contingent liabilities with respect to judicial, administrative and arbitration proceedings and claims of third parties, including tax matters, arising in the ordinary course of business. We do not believe that any of these contingent liabilities will have a material adverse impact on our business or financial condition, results of operations, and cash flows.

## **24. RELATED PARTY TRANSACTIONS**

We enter into transactions and agreements with certain of our non-consolidated companies and other related parties from time to time. As of December 31, 2023 and 2022, the net



amount due to our non-consolidated companies totaled \$0.8 million and \$56.8 million, respectively.

The Consolidated Statements of Earnings included the following transactions with our non-consolidated companies:

(in millions)	Years Ended December 31,		
	2023	2022	2021
Transactions with non-consolidated companies included in net sales	\$ 1,321.0	\$ 3,015.3	\$ 1,120.9
Transactions with non-consolidated companies included in cost of goods sold	\$ 1,465.2	\$ 3,245.2	\$ 1,483.8

As part of the MWSPC joint venture, we market approximately 25% of the MWSPC production, for which approximately \$17.5 million, \$23.1 million and \$12.2 million is included in revenue for the years ended December 31, 2023, 2022 and 2021, respectively.

## **25. BUSINESS SEGMENTS**

The reportable segments are determined by management based upon factors such as products and services, production processes, technologies, market dynamics, and for which segment financial information is available for our chief operating decision maker.

For a description of our business segments see Note 1 of our Notes to Consolidated Financial Statements. We evaluate performance based on the operating earnings of the respective business segments, which includes certain allocations of corporate selling, general and administrative expenses. The segment results may not represent the actual results that would be expected if they were independent, stand-alone businesses. Intersegment eliminations, including profit on intersegment sales, mark-to-market gains/losses on derivatives, debt expenses, and the results of the China and India distribution business are included within Corporate, Eliminations and Other. Certain selling, general and administrative costs that are not controllable by the business segments are included within Corporate, Eliminations and Other.



Segment information for the years 2023, 2022 and 2021 is as follows:

(in millions)	Phosphates	Potash	Mosaic Fertilizantes	Corporate, Eliminations and Other <sup>(a)</sup>	Total
<b>Year Ended December 31, 2023</b>					
Net sales to external customers	\$ 3,894.5	\$ 3,203.1	\$ 5,684.7	\$ 913.8	\$13,696.1
Intersegment net sales	829.8	30.5	—	(860.3)	—
Net sales	4,724.3	3,233.6	5,684.7	53.5	13,696.1
Gross margin	702.1	1,215.0	211.6	81.9	2,210.6
Canadian resource taxes	—	403.4	—	—	403.4
Gross margin (excluding Canadian resource taxes)	702.1	1,618.4	211.6	81.9	2,614.0
Operating earnings	375.7	1,151.5	74.5	(263.6)	1,338.1
Capital expenditures	625.9	357.4	336.3	82.8	1,402.4
Depreciation, depletion and amortization expense	485.7	299.0	165.5	10.4	960.6
Equity in net earnings of nonconsolidated companies	56.4	—	—	3.9	60.3
<b>Year Ended December 31, 2022</b>					
Net sales to external customers	\$ 4,546.4	\$ 5,122.8	\$ 8,287.2	\$ 1,168.8	\$19,125.2
Intersegment net sales	1,637.8	85.7	—	(1,723.5)	—
Net sales	6,184.2	5,208.5	8,287.2	(554.7)	19,125.2
Gross margin	1,759.0	2,843.0	1,045.6	108.2	5,755.8
Canadian resource taxes	—	927.9	—	—	927.9
Gross margin (excluding Canadian resource taxes)	1,759.0	3,770.9	1,045.6	108.2	6,683.7
Operating earnings	1,347.2	2,767.7	910.4	(240.0)	4,785.3
Capital expenditures	631.8	281.6	306.4	27.5	1,247.3
Depreciation, depletion and amortization expense	485.1	307.3	125.5	16.0	933.9
Equity in net earnings of nonconsolidated companies	192.4	—	—	3.6	196.0
<b>Year Ended December 31, 2021</b>					
Net sales to external customers	\$ 3,889.7	\$ 2,587.9	\$ 5,088.5	\$ 791.3	\$12,357.4
Intersegment net sales	1,033.2	38.9	—	(1,072.1)	—
Net sales	4,922.9	2,626.8	5,088.5	(280.8)	12,357.4
Gross margin	1,305.4	1,057.5	842.7	(5.3)	3,200.3
Canadian resource taxes	—	259.5	—	—	259.5
Gross margin (excluding Canadian resource taxes)	1,305.4	1,317.0	842.7	(5.3)	3,459.8
Impairment, restructuring and other expenses	—	158.1	—	—	158.1
Operating earnings	1,179.8	836.6	745.9	(293.8)	2,468.5
Capital expenditures	649.9	410.1	216.1	12.5	1,288.6
Depreciation, depletion and amortization expense	428.7	267.8	101.2	15.2	812.9
Equity in net earnings of nonconsolidated companies	5.4	—	—	2.4	7.8
Total assets as of December 31, 2023	\$ 10,295.9	\$ 8,971.9	\$ 5,256.3	\$ (1,491.3)	\$23,032.8

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- (a) The “Corporate, Eliminations and Other” category includes the results of our ancillary distribution operations in India and China. For the years ended December 31, 2023, 2022 and 2021, distribution operations in India and China had revenues of \$898.9 million, \$1.1 billion, and \$730.1 million, respectively, and gross margins of \$(16.8) million, \$130.9 million, and \$141.6 million, respectively.

Financial information relating to our operations by geographic area is as follows:

(in millions)	Years Ended December 31,		
	2023	2022	2021
<b>Net sales<sup>(a)</sup>:</b>			
Brazil	\$ 5,480.9	\$ 8,045.5	\$ 5,002.2
Canpotex <sup>(b)</sup>	1,275.7	2,961.6	1,089.6
China	556.1	648.2	396.0
Canada	411.6	966.0	794.9
India	350.8	512.5	340.3
Paraguay	222.8	227.1	113.8
Japan	157.7	162.0	112.4
Mexico	125.5	165.5	93.6
Colombia	103.2	125.9	135.1
Peru	77.5	70.2	40.0
Argentina	75.2	224.6	101.3
Australia	69.0	101.6	64.8
Honduras	30.0	31.2	22.3
Dominican Republic	16.7	34.1	29.8
Thailand	8.4	6.3	18.1
Other	55.9	100.8	73.9
Total international countries	9,017.0	14,383.1	8,428.1
United States	4,679.1	4,742.1	3,929.3
Consolidated	<u>\$ 13,696.1</u>	<u>\$ 19,125.2</u>	<u>\$ 12,357.4</u>

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

(b) Canpotex sales to the ultimate third-party customers are approximately: 35% to customers based in Brazil, 12% to customers based in China, 9% to customers based in Bangladesh, 7% to customers based in India, and 37% to customers based in the rest of the world.

(in millions)	December 31,	
	2023	2022
<b>Long-lived assets:</b>		
Canada	\$ 4,876.1	\$ 4,716.2
Brazil	2,467.8	2,153.5
Other	1,521.3	1,432.5
Total international countries	8,865.2	8,302.2
United States	7,204.8	6,658.6
Consolidated	<u>\$ 16,070.0</u>	<u>\$ 14,960.8</u>

Excluded from the table above as of December 31, 2023 and 2022, are goodwill of \$1,138.6 million and \$1,116.3 million and deferred income tax assets of \$1,079.2 million and \$752.3 million, respectively.



Net sales by product type for the years 2023, 2022 and 2021 are as follows:

(in millions)	Years Ended December 31,		
	2023	2022	2021
Sales by product type:			
Phosphate Crop Nutrients	\$ 3,277.5	\$ 4,465.0	\$ 3,552.7
Potash Crop Nutrients	4,107.7	6,484.1	3,367.9
Crop Nutrient Blends	2,107.4	2,970.0	1,800.0
Performance Products <sup>(a)</sup>	2,453.3	3,025.8	1,973.6
Phosphate Rock	125.9	125.9	75.5
Other <sup>(b)</sup>	1,624.3	2,054.4	1,587.7
	<u>\$13,696.1</u>	<u>\$19,125.2</u>	<u>\$12,357.4</u>

(a) Includes sales of MicroEssentials®, K-Mag® and Aspire®.

(b) Includes sales of industrial potash, feed products, nitrogen and other products.

## **26. MINE CLOSURE COSTS**

Due to increased brine inflows, on June 4, 2021, the Company made the decision to accelerate the timing of the shutdown of our K1 and K2 mine shafts at our Esterhazy, Saskatchewan potash mine. Closing the K1 and K2 shafts are key pieces of the transition to the K3 shaft, but the timeline for the closure was accelerated by approximately nine months. In 2021, we had pre-tax costs of \$158.1 million related to the permanent closure of these facilities. These costs consisted of \$109.9 million related to the write-off of fixed assets, \$37.1 million related to AROs, and \$11.1 million related to inventory and other reserves.

## Management's Report on Internal Control Over Financial Reporting

The Company's management is responsible for establishing and maintaining effective internal control over financial reporting, as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934. The Company's internal control system is a process designed to provide reasonable assurance to our management, Board of Directors and stockholders regarding the reliability of financial reporting and the preparation and fair presentation of our consolidated financial statements for external reporting purposes in accordance with U.S. generally accepted accounting principles ("**U.S. GAAP**"), 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 our assets;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in conformity with U.S. GAAP, and that receipts and expenditures are being made only in accordance with authorizations from our management and Board of Directors; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our 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.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2023. In assessing the effectiveness of our internal control over financial reporting as of December 31, 2023 management used the control criteria framework of the Committee of Sponsoring Organizations (COSO) of the Treadway Commission published in its report entitled Internal Control—Integrated Framework (2013). Based on their evaluation, management concluded that the Company's internal control over financial reporting was effective as of December 31, 2023. KPMG LLP, the independent registered public accounting firm that audited the financial statements included in this Form 10-K, has issued an auditors' report on the Company's internal control over financial reporting as of December 31, 2023.