

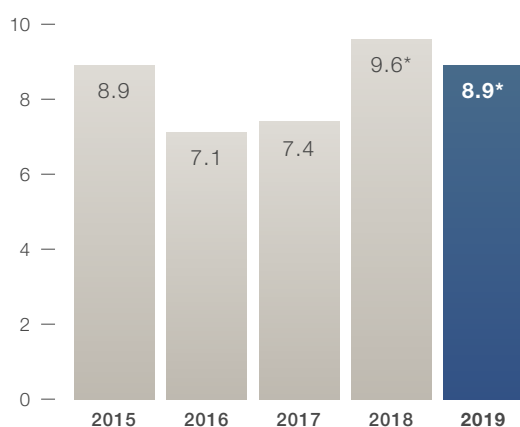
2019 ANNUAL REPORT



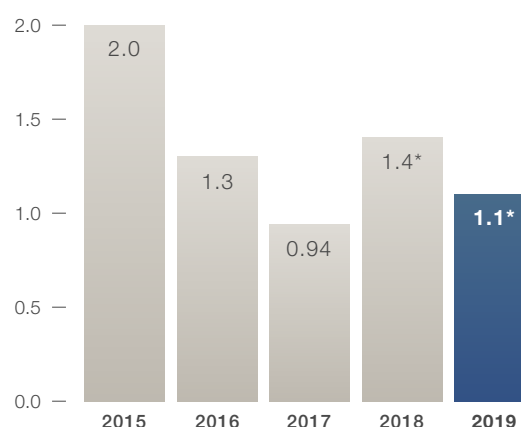
Financial Highlights

Weather conditions negatively impacted 2019 North American spring and fall fertilizer applications driving lower phosphate prices and potash sales volumes, which negatively impacted cash from operating activities. In response to these conditions, the company made decisions to curtail phosphate and potash production to improve its cost structure longer-term and balance production with customer demand in the near-term. The resulting lower operating rates in both Potash and Phosphates temporarily raised Mosaic's cash cost per tonne.

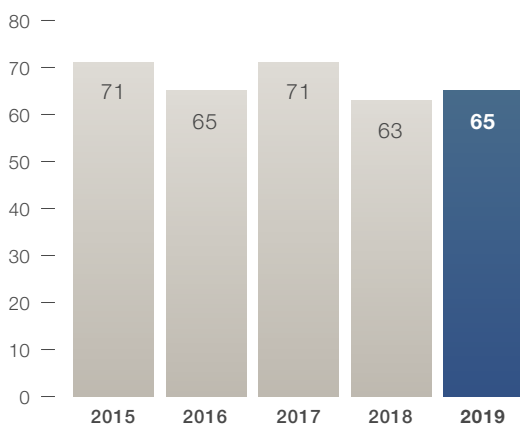
NET SALES
DOLLARS IN BILLIONS



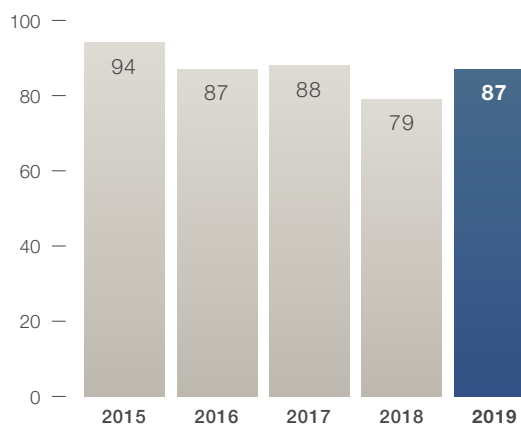
NET CASH PROVIDED BY OPERATING ACTIVITIES
DOLLARS IN BILLIONS



NORTH AMERICA PHOSPHATE CASH CONVERSION COSTS**
DOLLARS PER TONNE



NORTH AMERICA MURIATE OF POTASH CASH COSTS OF PRODUCTION***
DOLLARS PER TONNE



* Includes acquisition of Vale Fertilizantes on January 8, 2018.

** Phosphate cash conversion costs are reflective of actual costs, excluding realized mark-to-market gains and losses. These costs are captured in inventory and are not necessarily reflective of costs included in costs of goods sold for the period.

*** MOP cash costs including brine management costs and royalties, excluding taxes and realized derivative gains/(losses). These costs are captured in inventory and are not necessarily reflective of costs included in costs of goods sold for the period.

The Mosaic Company

Calendar Year 2019 Financial Review

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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.

On January 8, 2018, we completed our acquisition (the "***Acquisition***") of Vale Fertilizantes S.A. (now known as Mosaic Fertilizantes P&K S.A. or the "***Acquired Business***"). Upon completion of the Acquisition, we became the leading fertilizer producer and distributor in Brazil.

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. As part of the Acquisition, we acquired an additional 40% economic interest in the Miski Mayo Phosphate Mine in Peru, which increased our aggregate interest to 75%. 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 reporting lag in our Condensed 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 consists of the assets in Brazil that we acquired in the Acquisition, which include five phosphate rock mines, four phosphate chemical plants and a potash mine in Brazil. The segment also includes our legacy 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 crop nutrition port and throughput warehouse terminal facility in Brazil.

Intersegment eliminations, unrealized mark-to-market gains/losses on derivatives, debt expenses, Streamsong Resort[®] results of operations, and the results of the China and India distribution businesses are included within Corporate, Eliminations and Other. As of January 1, 2019, certain selling, general and administrative costs that are not controllable by the business segments are no longer allocated to segments and are included within Corporate, Eliminations and Other. Our operating results for the years ended 2018 and 2017 have been recast to reflect this change. See Note 26 of the Consolidated Financial Statements in this report 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 based on a formula. 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, and costs for ammonia are 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. We entered into the agreement in late 2013, and we began purchasing under it in the second half of 2017. If the price of natural gas rises or the market price for ammonia falls outside of the range anticipated at execution of the 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 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. However, we continue to expect the agreement will provide us a competitive advantage over its term, including by providing a reliable long-term ammonia supply. In Brazil, we purchase all of 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 phosphates, 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; natural gas costs for operating our potash solution mine at Belle Plaine, Saskatchewan; and the operating costs we incur to manage salt saturated brine inflows at our potash mine at Esterhazy, Saskatchewan, which are affected by changes in the amount and pattern of the inflows. We also incur capital costs to manage the brine inflows at Esterhazy.

We manage brine inflows at Esterhazy through a number of methods, primarily by reducing or preventing particular sources of brine inflow by locating the point of entry through the use of various technologies, including 3D seismic surveys, micro seismic monitoring, injecting calcium chloride into the targeted areas from surface, and grouting targeted areas from underground. We also pump brine out of the mine, which we impound in surface storage areas and dispose of by injecting it below the surface through the use of injection wells. Excess brine is also stored in mined-out areas of the mine, and the level of this stored brine fluctuates, from time to time, depending on the net inflow or net outflow rate. To date, our brine inflow and remediation efforts have not had a material impact on our production processes or volumes. In recent years, we have been investing in additional capacity and technology to manage the brine inflows. Production mining activities at the K3 shaft at our Esterhazy mine began in December 2018 with two four-rotor miners being commissioned and operational in 2019. K3 is expected to reach full capacity in 2022. As production continues to ramp up at the K3 shaft, this will provide us the opportunity to eliminate future brine inflow management costs.

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, 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 2019 and 2018 items and year-to-year comparisons between 2019 and 2018. Discussions of 2017 items and year-to-year comparisons between 2018 and 2017 that are not included in this Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of the Company's annual report on Form 10-K for the year ended December 31, 2018 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 MMBTU, which stands for one million British Thermal Units (BTU). One BTU is equivalent to 1.06 Joules.

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, 2019, 2018, and 2017:

<i>(in millions, except per share data)</i>	Years Ended December 31,			2019-2018		2018-2017	
	2019	2018	2017	Change	Percent	Change	Percent
Net sales	\$ 8,906.3	\$ 9,587.3	\$ 7,409.4	\$ (681.0)	(7)%	\$ 2,177.9	29 %
Cost of goods sold	8,009.0	8,088.9	6,566.6	(79.9)	(1)%	1,522.3	23 %
Gross margin	897.3	1,498.4	842.8	(601.1)	(40)%	655.6	78 %
Gross margin percentage	10.1%	15.6%	11.4%	(5.5)%		4.2%	
Selling, general and administrative expenses	354.1	341.1	301.3	13.0	4 %	39.8	13 %
Impairment, restructuring and other expenses	1,462.1	—	—	1,462.1	NM	—	NM
Other operating expenses	176.0	229.0	75.8	(53.0)	(23)%	153.2	NM
Operating (loss) earnings	(1,094.9)	928.3	465.7	(2,023.2)	NM	462.6	99 %
Interest expense, net	(182.9)	(166.1)	(138.1)	(16.8)	10 %	(28.0)	20 %
Foreign currency transaction gain (loss)	20.2	(191.9)	49.9	212.1	(111)%	(241.8)	NM
Other income (expense)	1.5	(18.8)	(3.5)	20.3	(108)%	(15.3)	NM
(Loss) earnings from consolidated companies before income taxes	(1,256.1)	551.5	374.0	(1,807.6)	NM	177.5	47 %
(Benefit from) provision for income taxes	(224.7)	77.1	494.9	(301.8)	NM	(417.8)	(84)%
(Loss) earnings from consolidated companies	(1,031.4)	474.4	(120.9)	(1,505.8)	NM	595.3	NM
Equity in net (loss) earnings of nonconsolidated companies	(59.4)	(4.5)	16.7	(54.9)	NM	(21.2)	(127)%
Net (loss) earnings including noncontrolling interests	(1,090.8)	469.9	(104.2)	(1,560.7)	NM	574.1	NM
Less: Net (loss) earnings attributable to noncontrolling interests	(23.4)	(0.1)	3.0	(23.3)	NM	(3.1)	(103)%
Net (loss) earnings attributable to Mosaic	\$ (1,067.4)	\$ 470.0	\$ (107.2)	\$ (1,537.4)	NM	\$ 577.2	NM
Diluted net (loss) earnings per share attributable to Mosaic	\$ (2.78)	\$ 1.22	\$ (0.31)	\$ (4.00)	NM	\$ 1.53	NM
Diluted weighted average number of shares outstanding	383.8	386.4	350.9				

Overview of the Years ended December 31, 2019 and 2018

Net earnings (loss) attributable to Mosaic for the year ended December 31, 2019 was \$(1,067.4) million, or \$(2.78) per diluted share, compared to \$470.0 million, or \$1.22 per diluted share for 2018, and \$(107.2) million, or \$(0.31) per diluted share for 2017.

In 2019, net earnings (loss) were negatively impacted by \$1.5 billion, or \$(2.97) per diluted share, related to notable items of which the significant items are following:

- Goodwill impairment write-off of \$589 million, or \$(1.34) per diluted share. There was a discrete income tax benefit of \$80 million associated with this
- Expenses of \$530 million, or \$(0.71) per diluted share related to the indefinite idling of our Colonsay, Saskatchewan mine. There was a discrete income tax benefit of \$263 million related to this action
- Plant City closing costs of \$341 million, or \$(0.67) per diluted share. There was a discrete income tax benefit of \$81 million associated with this action
- Discrete income tax expense of \$67 million, or \$(0.18) per diluted share
- Unrealized gains on derivatives of \$40 million, or \$0.06 per diluted share
- Depreciation expense of \$34 million, or \$(0.04) per diluted share, related to the acceleration of the closure of our K1 and K2 mine shafts at our Esterhazy, Saskatchewan mine as we ramp up K3
- Asset retirement obligation costs of \$32 million, or \$(0.06) per diluted share, related to revisions in the estimated costs of our asset retirement obligations
- Other operating expenses of \$31 million, or \$(0.03) per diluted share, related to an increase in reserves for legal contingencies of the Acquired Business
- Expenses of \$23 million, or \$(0.04) per diluted share, related to repairing the lateral movement at the Gypstack at our Uncle Sam facility in Louisiana
- Other operating expenses of \$21 million, or \$(0.04) per diluted share, related to the Acquisition and fixed asset write-offs, partially offset by income of \$12 million, or \$0.03 per diluted share, related to the reversal of our previously estimated and accrued earn-out obligation to Vale
- Foreign currency transaction gains of \$21 million, or \$0.02 per diluted share
- Expense of \$14 million, or \$(0.01) per share, related to the write-down of phosphate finished goods inventory to market value
- Non-operating income of \$13 million related to a realized gain on RCRA trust securities, or \$0.02 per diluted share
- Other operating income of \$8 million, or \$0.02 per diluted share, related to insurance proceeds for the 2017 flooding at the Miski Mayo mine

Net earnings (loss) for 2018 included:

- Foreign currency transaction losses of \$192 million, or \$(0.39) per diluted share
- Other operating expenses primarily related to the Acquisition of \$80 million, or \$(0.17) per diluted share
- The write-off of \$57 million, or \$(0.13) per diluted share, of engineering and other costs for discontinued projects in relation to changes in strategic plans
- Revisions in estimated costs of our asset retirement obligations of \$30 million, or \$(0.06) per diluted share
- Expenses of \$30 million related to a refinement of our weighted average inventory costing, or \$(0.06) per diluted share

- Unrealized losses on derivatives of \$33 million, or \$(0.07) per diluted share
- Non-operating expenses of \$12 million related to realized losses on RCRA trust securities, or \$(0.02) per diluted share

Additional significant factors that affected our results of operations and financial condition in 2019 and 2018 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, 2019

Phosphates operating results for the year ended December 31, 2019 were unfavorably impacted by a decrease in phosphates selling prices in the current year compared to the prior year. Phosphate prices began to decrease in the fourth quarter of 2018 due to the limited fall application season in North America and increased import activity that continued through the first half of 2019. Selling prices remained low throughout 2019 due to reduced demand as a result of the adverse weather conditions in North America throughout 2019, which significantly delayed planting and harvest as well as increased supply due to new capacity coming online. These factors have also unfavorably impacted finished product sales volumes in the current year. Operating results were also negatively impacted by higher costs related to the temporary idling of the South Pasture, Florida mine in August 2018 and the Louisiana facility in the second half of 2019, operational challenges as we transitioned to new mining areas, and costs related to the permanent closure of our Plant City, Florida phosphate facility, announced in the second quarter of 2019. In December 2019, prices began increasing as demand began strengthening against supply in reaction to lower China exports and production curtailments, which resulted in a more constructive supply and demand balance as we moved in 2020.

Potash operating results were favorably impacted by increases in the average selling price in 2019 compared to the prior year, though this benefit was primarily featured in the first half of the year. Potash prices in 2019 were at their highest at the outset of the year, and then declined through December and into the first several weeks of 2020. The decline in market prices was a function of weak demand in key markets, including North America, which was impacted by adverse weather conditions throughout 2019 and increased risks of a delay in the Chinese contract settlement. In response to this weaker demand and falling prices, many potash producers announced production curtailments in the second half of 2019. These actions have resulted in a better balance of supply and demand at the start of 2020. Operating results were unfavorably impacted by lower potash sales volumes in 2019 compared to 2018. In the current year, domestic sales volumes declined due to the adverse weather conditions discussed above, that resulted in delayed plantings and harvest, as well as missed fertilizer applications. Operating results were also negatively impacted by higher fixed cost absorption due to lower production, as we idled the Colonsay mine and reduced production at the Esterhazy mine to control inventory, and higher Canadian resource taxes as a result of tax law changes that became effective in 2019.

Mosaic Fertilizantes operating results in 2019 were unfavorably impacted by expenses related to the temporary idling of three of our Brazilian phosphate mines for a large portion of the year, as we worked to comply with new legislation regarding tailings dams in Brazil. This resulted in increased raw material costs, as we imported rock to meet our production needs, increased conversion costs and idle plants costs. Operating results were favorably impacted by an increase in sales volumes in 2019 compared to the prior year period, driven by an increase in business-to-consumer sales in Brazil. Sales volumes also benefited from an increase in Brazilian trade with China in 2019.

Other highlights in 2019:

- In 2019, we realized approximately \$330 million of targeted savings and synergies, net of costs to achieve, related to the Acquisition of Vale Fertilizantes S.A. (now known as Mosaic Fertilizantes P&K S.A., which we refer to as Mosaic Fertilizantes) exceeding our previously announced goal of \$275 million by the end of 2019. In addition, we announced that we intend to drive an additional \$200 million in annual operating earnings at Mosaic Fertilizantes through ongoing business transformation efforts by the end of 2022.
- In 2019, we repurchased 7.1 million shares of our Common Stock for approximately \$150 million under our existing share repurchase authorization.
- In October 2019, we announced that we plan to accelerate development of the Esterhazy K3 mine shaft by an additional year. It is expected to reach full capacity in 2022. As production from the K3 shaft ramps up, we plan to cease underground mining at the K1 and K2 mine shafts. Underground operations will be completely transitioned to

K3 in 2022, which is expected to eliminate our brine inflow management costs at the K1 and K2 mine shafts. A total of 1.4 million tonnes of ore was produced from the K3 shaft in 2019.

- Early in 2019, Brazil's National Mining Agency implemented new standards regarding tailings dam safety, construction, environmental licenses, and operations. As a result of these new standards, we temporarily idled operations at four tailings dams and the three related mines at Araxá, Tapira, and Catalão while we implemented changes to comply with the new standards. The Catalão mine returned to full production in June 2019 and the Tapira and Araxá mines returned to full production in September 2019. Until full operations resumed, we processed available rock inventory and imported rock from our mine in Peru to maintain production, albeit at lower rates. We supplemented with finished phosphates from our Florida operations to meet our Brazilian customers' needs.
- In April 2019, we purchased the Pine Bend distribution facility in Rosemount, Minnesota, near the northern end of the Mississippi River, for \$55 million. This large facility significantly improves our ability to serve customers in the U.S., allows us to capture time-place premiums, reduces our logistics risk and allows us to avoid capital investment in our older facilities in the same region.
- In response to slow market conditions throughout 2019, we took steps to reduce our fertilizer production until market conditions improve. In December, we announced that we plan to decrease phosphate production at our Central Florida facilities by 150,000 tonnes per month, in addition to the 500,000 tonne reduction we implemented in the second half of 2019, primarily at our Louisiana facility. We also plan to continue to operate at lower rates at our Canadian potash mines. On October 10, 2019, we announced that we would temporarily curtail production at our Esterhazy, Saskatchewan potash mine, bringing our total 2019 potash curtailment to approximately 600,000 tonnes, including the previously announced idling of our Colonsay, Saskatchewan potash mine earlier in 2019. The increased curtailment was based on increasing inventories as a result of a short-term slowdown in global potash markets and increased risks of a delay in the Chinese contract settlement.
- During the second quarter of 2019, we announced the permanent closure of the Plant City, Florida phosphate facility that was previously idled in late 2017, reaffirming our commitment to low-cost operations. For 2019, Plant City closure costs were approximately \$341 million.
- In the fourth quarter of 2019, we recorded a goodwill impairment charge of \$589 million. As part of our annual impairment testing, we concluded that the carrying value of the Phosphates reporting unit exceeded its estimated fair value due to a reduction in our long-term forecast.
- Following the end of our fiscal year, on January 28, 2020, we announced that we intend to keep our Colonsay, Saskatchewan potash mine idled for the foreseeable future. The mine will be placed in care and maintenance mode, employing minimal staff and allowing for resumption of operations when needed to meet customers' needs. At December 31, 2019, we have recorded expense of approximately \$530 million, pretax, primarily related to noncash fixed asset write-offs, and inclusive of severance expense of approximately \$27 million. The write-off is principally the carrying value of the 2013 expansion project, which increased Colonsay's operating capacity to 2.1 million tonnes. Colonsay has been operating with a modified 1.5 million tonnes capacity since 2016, and the company does not expect to use the expansion capacity for the foreseeable future.

Year ended December 31, 2018

Phosphates operating results for the year ended December 31, 2018 were favorably impacted by an increase in phosphates selling prices compared to the prior year. Phosphate finished product selling prices in 2018 were impacted by an increase in global demand. Global demand grew faster than supply due to a reduction in global product availability, resulting from the temporary idling of our Plant City, Florida phosphates manufacturing facility in the fourth quarter of 2017, and a delay in competitors' new capacity coming online. The benefit from the increase in selling prices was partially offset by lower sales volumes, as a result of idling our Plant City, Florida facility and higher raw material costs, primarily sulfur.

Potash operating results were also favorably impacted by increases in the average selling price of potash in 2018 compared to 2017. Prices trended upward in 2018 due to improved market sentiment, driven by stronger global demand, and a delay in competitors' new capacity ramping up. This benefit was partially offset by higher Canadian resource taxes and our increased plant spending from higher production volumes in 2018.

Mosaic Fertilizantes operating results were also favorably impacted by the operations of the Acquired Business, an increase in average selling prices in Brazil and the favorable impact of the strengthening of the US dollar relative to the Brazilian real in our Mosaic Fertilizantes segment.

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,			2019-2018		2018-2017	
	2019	2018	2017	Change	Percent	Change	Percent
Net sales:							
North America	\$ 1,816.6	\$ 2,283.0	\$ 2,061.7	\$ (466.4)	(20)%	\$ 221.3	11 %
International	1,424.7	1,603.3	1,527.5	(178.6)	(11)%	75.8	5 %
Total	3,241.3	3,886.3	3,589.2	(645.0)	(17)%	297.1	8 %
Cost of goods sold	3,323.6	3,304.8	3,257.0	18.8	1 %	47.8	1 %
Gross margin	\$ (82.3)	\$ 581.5	\$ 332.2	\$ (663.8)	NM	\$ 249.3	75 %
Gross margin as a percentage of net sales	(2.5)%	15.0%	9.3%				
Sales volumes ^(a) (in thousands of metric tonnes)							
DAP/MAP	5,003	4,947	6,339	56	1 %	(1,392)	(22)%
Specialty ^(b)	3,177	3,411	3,121	(234)	(7)%	290	9 %
Total finished product tonnes	8,180	8,358	9,460	(178)	(2)%	(1,102)	(12)%
Rock ^(c)	1,934	1,401	—	533	38 %	1,401	NM
Total Phosphates Segment Tonnes ^(a)	10,114	9,759	9,460	355	4 %	299	3 %
Realized prices (\$/tonne)							
Average finished product selling price (destination)	\$ 379	\$ 453	\$ 379	\$ (74)	(16)%	\$ 74	20 %
Average cost per unit consumed in cost of goods sold:							
Ammonia (metric tonne)	\$ 324	\$ 334	\$ 312	\$ (10)	(3)%	\$ 22	7 %
Sulfur (long ton)	\$ 128	\$ 138	\$ 91	\$ (10)	(7)%	\$ 47	52 %
Blended rock (metric tonne)	\$ 62	\$ 58	\$ 59	\$ 4	7 %	\$ (1)	(2)%
Production volume (in thousands of metric tonnes) - North America	8,077	8,357	9,425	(280)	(3)%	(1,068)	(11)%

(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.

Year Ended 2019 compared to Year Ended December 31, 2018

The Phosphates segment's net sales were \$3.2 billion for the year ended December 31, 2019, compared to \$3.9 billion for the same period a year ago. The decrease in net sales was primarily due to lower average selling prices which resulted in a decrease in net sales of approximately \$570 million. Lower sales volumes accounted for an approximate \$70 million decrease in net sales.

Our average finished product selling price decreased 16% to \$379 per tonne for the year ended December 31, 2019 compared to \$453 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 decreased to 8.2 million tonnes for the year ended December 31, 2019, compared to 8.4 million tonnes in 2018, due to the factors discussed in the Overview. The 38% increase in sales volumes of rock shown in the table above was due to Mosaic Fertilizantes purchasing rock from the Miski Mayo

mine in Peru (included in our Phosphates segment) to supplement their production requirements, as Mosaic Fertilizantes' mines were temporarily idled for a portion of the current year as discussed in the Overview.

Gross margin for the Phosphates segment decreased to \$(82.3) million in the current year compared with \$581.5 million for the prior year. The decrease was primarily driven by the impact of lower finished product prices of approximately \$570 million compared to the prior year period. Higher blended rock costs of approximately \$80 million were partially offset by lower sulfur and ammonia costs of approximately \$50 million. The decrease in gross margin was also driven by costs related to repairing the lateral movement at the Gypstack at our Uncle Sam facility in Louisiana of approximately \$23 million and approximately \$20 million related to higher conversion costs due to operational challenges, higher turnaround costs and higher idle costs due to temporary idling of our South Pasture, Florida mine and Louisiana phosphates operations. In addition, we recognized a charge of \$14 million related to the write-down of finished goods inventory to market value in the current year period.

Our average consumed price for ammonia in our North American operations decreased to \$324 per tonne in 2019 from \$334 a year ago. The average consumed price for sulfur for our North American operations decreased to \$128 per long ton for the year ended December 31, 2019 from \$138 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 \$62 per tonne in the current year from \$58 a year ago. Our rock costs have increased primarily due to the idling of our South Pasture, Florida mine in August 2018, and operational challenges.

The Phosphates segment's production of crop nutrient dry concentrates and animal feed ingredients decreased to 8.1 million tonnes for the year ended December 31, 2019, compared to 8.4 million in 2018. This volume decrease in the current year was primarily due to the temporary idling of our Louisiana phosphates operations. For the year ended December 31, 2019, our operating rate for processed phosphate production decreased to 83%, compared to 86% in the same period of the prior year.

Our North American phosphate rock production was 12.2 million tonnes in the current year compared with 14.2 million tonnes in the same period a year ago. The decrease from the prior year was due to the continued idling of our South Pasture, Florida mine, which began in August 2018.

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,			2019-2018		2018-2017	
	2019	2018	2017	Change	Percent	Change	Percent
Net sales:							
North America	\$ 1,096.4	\$ 1,298.6	\$ 1,097.3	\$ (202.2)	(16)%	\$ 201.3	18%
International	1,017.4	875.3	755.3	142.1	16 %	120.0	16%
Total	2,113.8	2,173.9	1,852.6	(60.1)	(3)%	321.3	17%
Cost of goods sold	1,497.0	1,576.7	1,461.0	(79.7)	(5)%	115.7	8%
Gross margin	\$ 616.8	\$ 597.2	\$ 391.6	\$ 19.6	3 %	\$ 205.6	53%
Gross margin as a percentage of net sales	29.2%	27.5%	21.1%				
Sales volume ^(a) (in thousands of metric tonnes)							
MOP	7,059	7,991	7,923	(932)	(12)%	68	1%
Specialty ^(b)	784	791	678	(7)	(1)%	113	17%
Total Potash Segment Tonnes	7,843	8,782	8,601	(939)	(11)%	181	2%
Realized prices (\$/tonne)							
Average finished product selling price (destination)	\$ 270	\$ 248	\$ 215	\$ 22	9 %	\$ 33	15%
Production volume (in thousands of metric tonnes)	7,868	9,239	8,650	(1,371)	(15)%	589	7%

(a) Includes intersegment sales volumes.

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

Year Ended 2019 compared to Year Ended December 31, 2018

The Potash segment's net sales decreased to \$2.1 billion for the year ended December 31, 2019, compared to \$2.2 billion in the same period a year ago. The decrease in net sales was driven by an unfavorable impact from lower sales volumes of approximately \$250 million, partially offset by favorable prices of approximately \$190 million.

Our average finished product selling price was \$270 per tonne for the year ended December 31, 2019, an increase of \$22 per tonne compared with the prior year period, due to the factors discussed in the Overview.

The Potash segment's sales volumes decreased to 7.8 million tonnes for the year ended December 31, 2019, compared to 8.8 million tonnes in the same period a year ago, due to the factors discussed in the Overview. In the prior year, our sales volumes were unfavorably impacted by a change in the Canpotex revenue recognition policy.

Gross margin for the Potash segment increased to \$616.8 million in the current year, from \$597.2 million in the prior year period. Gross margin was positively impacted by \$190 million related to the increase in selling prices, partially offset by approximately \$80 million due to lower sales volumes. Gross margin was also unfavorably impacted by higher fixed cost absorption and plant spending of approximately \$100 million, due to lower production and increased length of maintenance turnarounds, partially offset by a favorable foreign currency translation impact. Canadian resource taxes and other costs affecting gross margin are discussed in more detail below.

We had expense of \$174.6 million from Canadian resource taxes for the year ended December 31, 2019, compared to \$159.4 million in the prior year. The fluctuations in Canadian resource taxes are a result of increased average selling prices and margins, due to the factors discussed in the Overview, and the passing of Canadian resource tax law changes, which became effective on April 1, 2019. Royalty expense decreased to \$37.3 million for the year ended December 31, 2019, compared to \$39.4 in the prior year period due to lower production as discussed below.

We incurred \$136.7 million in brine management expenses, including depreciation on brine assets, at our Esterhazy mine in 2019, compared to \$154.7 million in 2018. We have been effectively managing the brine inflows at Esterhazy since 1985, and from time to time we experience changes to the amounts and patterns of brine inflows. Inflows continue to be within the range of our historical experience. Brine inflow expenditures continue to reflect the cost of addressing changing inflow patterns, including inflows from below our mine workings, which can be more complex and costly to manage. Our past investments in remote injection and increased pumping capacities facilitate our management of the brine inflows and the amount of brine stored in the mine. We are continuing the expansion of capacity in our Potash segment with the K3 shaft at our Esterhazy mine. Once completed, this will provide us the opportunity to eliminate future brine inflow management costs by closing our K1 and K2 shafts.

For the year ended December 31, 2019, potash production decreased to 7.9 million tonnes compared to 9.2 million tonnes in the prior year period, and an operating rate of 75% for 2019, compared to 88% for 2018. Our production and operating rate in 2019 reflects the impact of timing and length of maintenance turnarounds, the temporary idling of the Colonsay mine during 2019 and inventory control 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. The prior year activity reflects our former International Distribution segment, excluding our China and India distribution activity, which is now being reported in Corporate, Eliminations and Other.

(in millions, except price per tonne or unit)	Years Ended December 31,			2019-2018		2018-2017	
	2019	2018	2017	Change	Percent	Change	Percent
Net Sales	\$ 3,782.8	\$ 3,747.1	\$ 2,220.1	\$ 35.7	1 %	\$ 1,527.0	69 %
Cost of goods sold	3,492.7	3,364.2	2,091.5	128.5	4 %	1,272.7	61 %
Gross margin	\$ 290.1	\$ 382.9	\$ 128.6	\$ (92.8)	(24)%	\$ 254.3	198 %
Gross margin as a percent of net sales	7.7%	10.2%	5.8%				
Sales volume (in thousands of metric tonnes)							
Phosphate produced in Brazil	2,605	2,847	302	(242)	(9)%	2,545	NM
Potash produced in Brazil	327	323	—	4	1 %	323	NM
Purchased nutrients	6,312	5,964	5,714	348	6 %	250	4 %
Total Mosaic Fertilizantes Segment Tonnes	9,244	9,134	6,016	110	1 %	3,118	52 %
Realized prices (\$/tonne)							
Average finished product selling price (destination)	\$ 409	\$ 410	\$ 369	\$ (1)	— %	\$ 41	11 %
Purchases ('000 tonnes)							
DAP/MAP from Mosaic	839	539	659	300	56 %	(120)	(18)%
MicroEssentials® from Mosaic	935	1,058	912	(123)	(12)%	146	16 %
Potash from Mosaic/Canpotex	2,071	2,361	2,073	(290)	(12)%	288	14 %
Production volume (in thousands of metric tonnes)	3,327	3,749	472	(422)	(11)%	3,277	NM

Year Ended December 31, 2019 compared to Year Ended December 31, 2018

The Mosaic Fertilizantes segment's net sales were \$3.8 billion for the year ended December 31, 2019, compared to \$3.7 billion for 2018. Increased sales volumes favorably impacted net sales by approximately \$60 million in 2019, compared to the prior year. This was partially offset by a slight decrease in the average selling price, which unfavorably impacted net sales by approximately \$25 million.

The overall average finished product selling price decreased \$1 per tonne to \$409 per tonne for 2019.

The Mosaic Fertilizantes segment's sales volume increased to 9.2 million tonnes for the year ended December 31, 2019, compared to 9.1 million tonnes for the same period a year ago, primarily due to increased business-to-consumer sales.

Our total gross margin decreased to \$290.1 million for the year ended December 31, 2019, from \$382.9 million in the prior year. The decrease was driven by approximately \$105 million of higher costs, including higher conversion cost, driven by lower production volumes resulting from the temporary idling of our mines in Brazil during 2019, as we took steps to comply with new legislation regarding tailings dams as discussed in the Overview. We also had higher raw material costs of approximately \$10 million in the current year period, including the cost of imported rock to meet customer needs during the time our mines were idled. In addition, the prior year included a positive impact of approximately \$49 million related to the purchase price adjustment for the fair market value of inventory acquired in the Acquisition, primarily on rock.

The average consumed price for ammonia for our Brazilian operations was \$369 per tonne for the year ended December 31, 2019, compared to \$376 per ton in the prior year. The average consumed sulfur price for our Brazilian operations was \$181 per long ton for the year ended December 31, 2019, compared to \$197 in the prior year. The purchase price of these raw materials is driven by global supply and demand, and also include transportation, transformation, and storage costs.

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 26 to our Notes to Condensed Consolidated Financial Statements. In addition, 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 and Streamsong Resort® results of operations. As of January 1, 2019, certain selling, general and administrative costs that are not controllable by the business segments are no longer allocated to segments and are included within Corporate, Eliminations and Other. Our operating results for 2018 and 2017 have been recast to reflect this change.

Gross margin for Corporate, Eliminations and Other was a gain of \$72.7 million for the year ended December 31, 2019, compared to a loss of \$63.2 million in the same period a year ago. The change was driven by eliminations of losses on intersegment sales of \$38.2 million in the current year period, due to lower average selling prices, compared to elimination of profits on intersegment sales of \$43.7 million in the prior year period. Contributing to the change was a net unrealized gain of \$39.9 million in the current year period, primarily on foreign currency derivatives for Canada, compared to a net unrealized loss of \$32.4 million in the prior year period. Distribution operations in India and China had revenues and gross margin of \$575.6 million and \$27.3 million, respectively, for the year ended December 31, 2019, compared to revenues and gross margin of \$533.9 million and \$42.8 million, respectively, for the year ended December 31, 2018. Sales volumes of finished products were 1.5 million tonnes and 1.4 million tonnes for the years ended December 31, 2019 and 2018, respectively.

Other Income Statement Items

<i>(in millions)</i>	Years Ended December 31,			2019-2018		2018-2017	
	2019	2018	2017	Change	Percent	Change	Percent
Selling, general and administrative expenses	\$ 354.1	\$ 341.1	\$ 301.3	\$ 13.0	4 %	\$ 39.8	13 %
Impairment, restructuring and other expenses	1,462.1	—	—	1,462.1	NM	—	NM
Other operating expenses	176.0	229.0	75.8	(53.0)	(23)%	153.2	NM
Interest (expense)	(216.0)	(215.8)	(171.3)	(0.2)	— %	(44.5)	26 %
Interest income	33.1	49.7	33.2	(16.6)	(33)%	16.5	50 %
Interest expense, net	(182.9)	(166.1)	(138.1)	(16.8)	10 %	(28.0)	20 %
Foreign currency transaction gain (loss)	20.2	(191.9)	49.9	212.1	(111)%	(241.8)	NM
Other income (expense)	1.5	(18.8)	(3.5)	20.3	NM	(15.3)	NM
(Benefit from) provision for income taxes	(224.7)	77.1	494.9	(301.8)	NM	(417.8)	(84)%
Equity in net (loss) earnings of nonconsolidated companies	(59.4)	(4.5)	16.7	(54.9)	NM	(21.2)	NM

Selling, General and Administrative Expenses

Selling, general and administrative expenses were \$354.1 million for the year ended December 31, 2019, compared to \$341.1 million for the same period a year ago. Approximately \$14 million of the increase in the current year is due to increased consulting and professional service expenses in North America and approximately \$10 million related to increased payroll expense, professional services and bad debt expenses for Mosaic Fertilizantes. These increases were partially offset by lower incentive compensation expense in the current year of approximately \$12 million.

Impairment, Restructuring and Other Expenses

Restructuring and other expenses include costs associated with asset impairments, employee severance and pension expense, and other exit costs to close or indefinitely idle facilities. On June 18, 2019, we announced the closure of our previously idled Plant City phosphates manufacturing facility in Hillsborough County, Florida. In 2019, we recognized pre-tax costs of \$341.3 million related to the permanent closure of this facility. These costs consisted of approximately \$210 million related to the

write-off of fixed assets, \$110 million related to asset retirement obligations and \$21 million related to inventory and other reserves.

Following the end of our fiscal year, on January 28, 2020, we announced our intent to keep our Colonsay potash mine idled for the foreseeable future. In 2019, we recognized pre-tax costs of \$529.7 million related to the indefinite idling of this facility. These costs consisted of approximately \$493 million related to the write-off of fixed assets, \$27 million related to severance and other employee costs, and \$10 million related to the write-off of maintenance, repair, and operating inventories.

We also recognized a goodwill impairment charge of \$589 million in our Phosphates reporting unit in 2019. See further discussion in Note 11 of our Notes to Consolidated Financial Statements.

Other Operating Expenses

Other operating expenses were \$176.0 million for the year ended December 31, 2019, compared to \$229.0 million for the prior year period. Other operating expenses typically relate to four major categories: 1) Asset Retirement Obligations (“*AROs*”), 2) environmental and legal reserves, 3) insurance reimbursements and 4) gain/loss on sale or disposal of fixed assets. The current year includes \$56 million of ARO expenses and adjustments, \$57 million of legal reserves, primarily for Mosaic Fertilizantes, and \$20 million of fixed asset write-off expense. The current year also includes approximately \$10 million of fees and integration costs, and \$7 million of costs to capture synergies related to the Acquisition, compared to \$40 million and \$29 million, respectively in the prior year. Current year expenses were partially offset by income of \$12 million generated by the fair value adjustment for the reduction in estimated future earn-out obligations related to the Acquisition and \$8 million of insurance proceeds related to flooding that occurred at the Miski Mayo mine in 2017.

Interest Expense, Net

Net interest expense increased to \$182.9 million for the year ended December 31, 2019, compared to \$166.1 million in 2018. The year over year increase was primarily due to lower interest income compared to the prior period.

Foreign Currency Transaction (Loss) Gain

In 2019, we recorded a foreign currency transaction gain of \$20.2 million. The gain was the result of the effect of the weakening of the U.S. dollar relative to the Canadian dollar on significant U.S. dollar-denominated intercompany loans, partially offset by the strengthening of the U.S. dollar relative to the Brazilian real on significant U.S. dollar-denominated payables held by our Brazilian subsidiaries.

Other Income/Expense

For the year ended December 31, 2019, we had other income of \$1.5 million compared to expense of \$18.8 million in the prior year. The change from the prior year is primarily related to a realized gain of \$13 million on investments held in two financial assurance trust funds created in 2016 to provide additional financial assurance for the estimated costs of closure and long-term care of our Florida and Louisiana phosphogypsum management systems (the “*RCRA Trusts*”).

Equity in Net (Loss) Earnings of Nonconsolidated Companies

For the year ended December 31, 2019, we had a loss from equity of nonconsolidated companies of \$59.4 million, net of tax, compared to a loss of \$4.5 million, net of tax, for the prior year. The current year loss was primarily related to the operations of the Ma'aden Wa'ad Al Shamal Phosphate Company (“*MWSPC*”) which resulted in a net loss of \$62.1 million as they are not yet operating at full capacity and were also impacted by lower phosphate selling prices.

Provision for (Benefit from) Income Taxes

	Effective Tax Rate	Provision for Income Taxes
Year Ended December 31, 2019	17.9%	\$ (224.7)
Year Ended December 31, 2018	14.0%	77.1
Year Ended December 31, 2017	132.3%	494.9

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.

In the year ended December 31, 2019, tax expense specific to the period included a benefit of (\$355.6) million. This relates to various items, including benefits from the following pretax notable items: (\$263.4) million related to the indefinite idle of the Colonsay mine, (\$81.0) million related to the Plant City closure costs and (\$79.6) million related to the phosphates goodwill impairment. These tax benefits are partially offset by tax expense of: \$21.2 million for changes in certain provisions of the U.S. Tax Cuts and Jobs Act (“*The Act*”), \$15.9 million for valuation allowances in the U.S. and foreign jurisdictions, \$14.0 million related state tax rate changes; \$12.5 million related to changes in estimates related to prior years (including changes in certain provisions of the Act), and miscellaneous tax expense of \$4.8 million. The tax benefit of \$21.2 million related to certain provisions of The Act is the reversal of the benefit recorded in December 31, 2018 that pertained to the one-time “deemed” repatriation.

In the year ended December 31, 2018, other items specific to the period included a cost of \$0.7 million related to the following: a benefit of (\$30.6) million related to revised valuation allowances on foreign tax credits, a \$12.2 million cost as a result of revisions to the provisional estimates related to The Act, a \$15.0 million cost for withholding taxes related to undistributed earnings, a cost of \$11.7 million for valuation allowances in foreign jurisdictions, a benefit of (\$8.6) million related to release of the sequestration on future AMT refunds, and other miscellaneous benefits of \$1.0 million.

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 believed 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, 2019, the date of the annual impairment testing, the Company concluded that the carrying value of the Phosphates reporting unit exceeded its estimated fair value due to a reduction in our long-term forecast. Therefore, we recorded a goodwill impairment charge of \$589 million, representing the amount by which the carrying value exceeded the Phosphates fair value. Based on our quantitative evaluation, we determined that our Potash and Mosaic Fertilizantes reporting units had an estimated fair value that was not in significant excess of its carrying value. As a result, we concluded that the goodwill assigned to these reporting units was not impaired, but could be at risk of future impairment.

See Note 11 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, 2019, we had \$1.2 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 asset retirement obligations (“AROs”).

Contingent environmental liabilities are described in Note 24 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, 2019, and 2018, we had accrued \$39.3 million and \$58.6 million, respectively, for environmental matters.

As indicated in Note 15 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. As of December 31, 2019, and 2018, \$1.3 billion and \$1.2 billion, respectively, was accrued for AROs (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 asset retirement obligations. See Note 15 of our Notes to Consolidated Financial Statements for additional information regarding the EPA RCRA Initiative.

Income Taxes

We make estimates for income taxes in three major areas: uncertain tax positions, valuation allowances, and U.S. deferred income taxes on our non-U.S. subsidiaries' undistributed earnings.

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 \$39.5 million as of December 31, 2019.

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 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, 2019, and 2018, we had a valuation allowance of \$1.5 billion. 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.

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 dividends. Therefore, there are no 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 14 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 assess our liquidity in terms of our ability to fund working capital requirements, fund sustaining and opportunity capital projects, pursue strategic opportunities and make capital management decisions, which include making payments on and issuing indebtedness and making distributions to our shareholders, 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.

As of December 31, 2019, we had cash and cash equivalents of \$0.5 billion, marketable securities held in trusts to fund future obligations of \$0.7 billion, long-term debt including current maturities of \$4.6 billion, short-term debt of \$41.6 million and stockholders' equity of \$9.4 billion. In addition, we had \$740.6 million of financing for certain customer purchases in Brazil through structured payable arrangements, as discussed in Note 12 of our Notes to Consolidated Financial Statements. 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 ratings. Our capital allocation priorities include maintaining our investment grade ratings and financial strength, sustaining our assets, including ensuring the safety and reliability of our assets, investing to support our strategic initiatives and returning excess cash to shareholders, including paying our dividend. During 2019, we invested \$1.3 billion in capital expenditures and returned cash to shareholders through share repurchases of \$149.9 million and cash dividends of \$67.2 million. In January 2019, we increased our annual dividend target to \$0.20 per share.

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, 2019. These funds may create foreign currency transaction gains or losses, however, depending on the functional currency of the entity holding the cash.

There are no significant restrictions that would preclude us from bringing funds held by non-U.S. subsidiaries back to the U.S.; however, The Act significantly altered U.S. corporate income tax law. The Act imposed a one-time tax on the "deemed" repatriation of foreign subsidiaries' earnings and profits in 2017, resulting in a non-cash charge of \$107.7 million. The charge was offset by a \$202.6 million, non-cash reduction in the deferred tax liability related to certain undistributed earnings. The effects of The Act on deemed repatriation of foreign subsidiaries' earnings and profits are discussed further in Note 14 of our Notes to Consolidated Financial Statements.

Cash Requirements

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 24 years. Unconditional purchase obligations are our largest contractual cash obligations. These include obligations for capital expenditures related to our expansion projects, 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 equity contributions for or loans to nonconsolidated investments, including MWSPC. 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, purchase obligations, long-term debt and capital expenditures with a combination of operating cash flows, cash and cash equivalents and borrowings. See Off-Balance Sheet Arrangements and Obligations below for the amounts owed by Mosaic under Contractual Cash Obligations and for more information on other environmental obligations, and the discussion of MWSPC in Note 10 of our Notes to Consolidated Financial Statements for more information on this matter.

Sources and Uses of Cash

The following table represents a comparison of the net cash provided by operating activities, net cash used in investing activities and net cash provided by (used in) financing activities for calendar years 2019, 2018 and 2017:

<i>(in millions)</i>	Years Ended December 31,			2019-2018		2018-2017	
	2019	2018	2017	Change	Percent	Change	Percent
Cash Flow							
Net cash provided by operating activities	\$ 1,095.4	\$ 1,409.8	\$ 935.5	\$ (314.4)	(22)%	\$ 474.3	51 %
Net cash used in investing activities	(1,360.9)	(1,944.7)	(667.8)	583.8	30 %	(1,276.9)	(191)%
Net cash used in financing activities	(82.2)	(724.8)	1,200.8	642.6	89 %	(1,925.6)	(160)%

As of December 31, 2019, we had cash and cash equivalents of \$0.5 billion. 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 next 12 months. There can be no assurance, however, that we will continue to generate cash flows at or above current levels. At December 31, 2019, we had \$1.99 billion available under our \$2.0 billion revolving credit facility.

Operating Activities

Net cash flow from operating activities has provided us with a significant source of liquidity. For the year ended December 31, 2019, net cash provided by operating activities was \$1.1 billion, compared to \$1.4 billion in the same period of the prior year. Our results of operations, after non-cash adjustments to net earnings, contributed \$1.1 billion to cash flows from operating activities during 2019 compared to \$1.4 billion during 2018. During 2019, we had an unfavorable working capital change of \$19.4 million compared to an unfavorable change of \$21.7 million during 2018.

The change in working capital for the year ended December 31, 2019 was primarily driven by unfavorable impacts from the changes in accounts payable and accrued liabilities of \$125.4 million, and in other current and noncurrent assets of \$36.0 million, offset by the favorable impact of the change in inventories of \$128.1 million. The change in accounts payable and accrued liabilities was primarily driven by lower activity, as a result of the idling of some of our potash and phosphate locations toward the end of 2019. The change in other current and noncurrent assets was primarily related to taxes receivable, as our estimated payments during the year were based on expected earnings and actual results were lower. The decrease in inventories was primarily related to decreased raw material and finished goods cost in Brazil, and a reduction in inventory volumes due to lower production across our segments at the end of 2019.

The change in working capital for the year ended December 31, 2018, was primarily driven by unfavorable impacts from the changes in inventories of \$497.4 million, which was mostly offset by the favorable impact from the change in accounts payable and accrued liabilities of \$342.0 million and a favorable impact of the change in other current assets and noncurrent assets of \$86.7 million. The increase in inventories was primarily related to increased raw material costs and building inventory volumes in all our segments at year-end. The favorable change in accounts payable was primarily driven by the timing of payments and an increase in raw material costs. Accrued liabilities increased due to liabilities associated with customer prepayments in Brazil and prepayments from an affiliate. The favorable impact in other current and noncurrent assets is primarily due to receiving a tax refund and payment of subsidy amounts in India in 2018.

Investing Activities

Net cash used in investing activities for the year ended December 31, 2019 was \$1.4 billion, compared to \$1.9 billion in the same period a year ago, primarily driven by capital expenditures of \$1.3 billion in 2019, compared to \$954.5 million in 2018. The increase in capital expenditures was due to the acceleration of the K3 mine shaft at our Esterhazy Potash mine, and increased expenditures in Brazil as we have a larger asset base related to the Acquired Business. We also purchased the Pine Bend distribution facility for \$55.1 million during 2019.

Net cash used in investing activities for the year ended December 31, 2018 was \$1.9 billion, which included the completion of the Acquisition for approximately \$1.0 billion and capital expenditures of \$954.5 million.

Financing Activities

Net cash used in financing activities was \$82.2 million for the year ended December 31, 2019. In 2019, we made stock repurchases of \$149.9 million and paid dividends of \$67.2 million. We also received net proceeds from short-term borrowings of \$36.8 million and net proceeds from structured accounts payable of \$147.1 million. Payments on our long-term debt were \$48.3 million.

Net cash used in financing activities was \$724.8 million for the year ended December 31, 2018. In 2018, we made payments on our long-term debt of \$802.9 million. We also received net proceeds from short-term borrowings of \$10.7 million and net proceeds from structured accounts payable of \$72.0 million. During 2018, we paid dividends of \$38.5 million.

Debt Instruments, Guarantees and Related Covenants

See Note 12 of our Notes to Consolidated Financial Statements for additional information relating to our financing arrangements, 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 24 of our Notes to Consolidated Financial Statements for additional information about these requirements.

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 18 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.

Contractual Cash Obligations

The following is a summary of our contractual cash obligations as of December 31, 2019:

<i>(in millions)</i>	Total	Payments by Calendar Year			
		Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
Long-term debt ^(a)	\$ 4,572.7	\$ 47.2	\$ 1,099.9	\$ 1,151.3	\$ 2,274.3
Estimated interest payments on long-term debt ^(b)	2,016.4	178.6	339.9	250.8	1,247.1
Finance leases	408.0	51.5	97.7	244.4	14.4
Operating leases	227.9	77.5	85.5	37.8	27.1
Purchase commitments ^(c)	4,962.3	1,931.4	1,117.1	569.3	1,344.5
Pension and postretirement liabilities ^(d)	478.2	13.1	101.1	102.9	261.1
Total contractual cash obligations	\$ 12,665.5	\$ 2,299.3	\$ 2,841.2	\$ 2,356.5	\$ 5,168.5

(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, 2019.

(c) Based on prevailing market prices as of December 31, 2019. The majority of value of items more than 5 years is related to our CF Ammonia Supply Agreement. For additional information related to our purchase commitments, see Note 23 of our Notes to Consolidated Financial Statements.

(d) The 2020 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.

In addition to the above, we are contractually obligated to fund our investment in MWSPC by approximately \$70 million, if needed. In December 2019, we also entered into a limited partnership with Lewis & Clark Agrifood Fund II, LP ("**the Fund**") under which we have future capital commitments of \$20 million. The Fund was formed for the purpose of investing in later-stage middle market food and agribusiness companies.

Other Commercial Commitments

The following is a summary of our other commercial commitments as of December 31, 2019:

<i>(in millions)</i>	Total	Commitment Expiration by Calendar Year			
		Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
Letters of credit	\$ 67.6	\$ 67.6	\$ —	\$ —	\$ —
Surety bonds	544.8	526.1	18.4	—	0.3
Total	\$ 612.4	\$ 593.7	\$ 18.4	\$ —	\$ 0.3

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 bi-lateral agreements. As of December 31, 2019, we had \$13.1 million of outstanding letters of credit through our credit facility and \$54.5 million outstanding through bi-lateral agreements. We primarily incur liabilities for reclamation activities in our Florida operations and for phosphogypsum management system ("**Gypstack**") 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, 2019, we had \$260.3 million in surety bonds and a \$50 million letter of credit included in the amount above, outstanding for reclamation obligations, primarily related to mining in Florida, and a \$244.9 million surety bond delivered to EPA as a substitute for the financial assurance provided through 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 the Environmental Protection Agency (“*EPA*”) and the Florida Department of Environmental Protection (“*FDEP*”) relating to the Plant City, Florida facility we acquired as part of the CF Phosphate Assets Acquisition (the “*Plant City Facility*”) 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 15 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 which is approximately \$2.0 billion. The value of the AROs for closure and post-closure care of Mosaic’s 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 \$660.2 million as of December 31, 2019. 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. However, at various times 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 ARO related to 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 a trust (the “*Plant City Trust*”) established to meet the requirements under a consent decree with EPA and the FDEP with respect to 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 \$244.9 million, at December 31, 2019, 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, 2019:

<i>(in millions)</i>	Total	Payments by Calendar Year			
		Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
ARO ^(a)	\$ 3,179.9	\$ 163.1	\$ 328.3	\$ 177.4	\$ 2,511.1

(a) Represents the undiscounted estimated cash outflows required to settle the AROs. The corresponding present value of these future expenditures is \$1.3 billion as of December 31, 2019, and is reflected in our accrued liabilities and other noncurrent liabilities in our Consolidated Balance Sheets.

In addition to the above, in 2014, we entered into five-year fertilizer supply agreements providing for Mosaic to supply ADM's fertilizer needs in Brazil and Paraguay.

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, 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 23 of our Notes to Consolidated Financial Statements and are hereby incorporated by reference.

Income Tax Obligations

Gross uncertain tax positions as of December 31, 2019 of \$39.5 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 14 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 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 contractual outflows for our Potash expansion and other capital expenditures denominated in Canadian dollars. Mosaic hedges cash flows on a declining basis, up to 18 months for the Canadian dollar. Starting in 2018, we entered into hedges up to 36 months for expected Canadian dollar capital expenditures related to our Esterhazy K3 expansion program. 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 cash flows on a declining basis, up to 12 months for the Brazilian real. Due to the Acquisition, our exposure to the Brazilian real has increased and, as a result, the amount of foreign derivatives that we have entered into related to the Brazilian real has increased. 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 cash flows, and record an associated gain or loss in the 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, 2019, and 2018, the fair value of our major foreign currency exchange contracts were (\$7.2) million and (\$49.1) million, respectively. We recorded an unrealized gain of \$25.1 million in cost of goods sold and recorded an unrealized gain of \$18.5 million in foreign currency transaction gain (loss) in the Consolidated Statements of Earnings for 2019.

The table below provides information about Mosaic's significant foreign exchange derivatives.

(in millions)	As of December 31, 2019				As of December 31, 2018			
	Expected Maturity Date Years ending December 31,			Fair Value	Expected Maturity Date Years ending December 31,			Fair Value
	2020	2021	2022		2019	2020	2021	
Foreign Currency Exchange Forwards								
Canadian Dollar				\$ 7.6				\$ (40.7)
Notional (million US\$) - short Canadian dollars	\$ 72.3	\$ —	\$ —		\$ —	\$ —	\$ —	
Weighted Average Rate - Canadian dollar to U.S. dollar	1.3137	—	—		—	—	—	
Notional (million US\$) - long Canadian dollars	\$ 585.2	\$ 200.1	\$ 90.6		\$ 651.3	\$ 170.1	\$ 138.2	
Weighted Average Rate - Canadian dollar to U.S. dollar	1.3117	1.3093	1.3245		1.2989	1.2877	1.3025	
Foreign Currency Exchange Collars								
Canadian Dollar				\$ 0.2				\$ —
Notional (million US\$) - long Canadian dollars	\$ —	\$ —	\$ 22.8		\$ —	\$ —	\$ —	
Weighted Average Participation Rate - Canadian dollar to U.S. dollar	—	—	1.3483		—	—	—	
Weighted Average Protection Rate - Canadian dollar to U.S. dollar	—	—	1.2800		—	—	—	
Foreign Currency Exchange Non-Deliverable Forwards								
Brazilian Real				\$ (14.4)				\$ (2.5)
Notional (million US\$) - short Brazilian real	\$ 464.4	\$ —	\$ —		\$ 535.1	\$ —	\$ —	
Weighted Average Rate - Brazilian real to U.S. dollar	4.1616	—	—		3.8385	—	—	
Notional (million US\$) - long Brazilian real	\$ 366.5	\$ —	\$ —		\$ 459.1	\$ —	\$ —	
Weighted Average Rate - Brazilian real to U.S. dollar	4.0628	—	—		3.8333	—	—	
Indian Rupee				\$ (0.6)				\$ (5.9)
Notional (million US\$) - short Indian rupee	\$ 115.4	\$ —	\$ —		\$ 137.9	\$ —	\$ —	
Weighted Average Rate - Indian rupee to U.S. dollar	71.9895	—	—		73.0517	—	—	
Total Fair Value				<u>\$ (7.2)</u>				<u>\$ (49.1)</u>

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, 2019, and 2018, the fair value of our major commodities contracts were (\$4.0) million and (\$17.0) million, respectively. We recorded an unrealized gain of \$14.6 million in cost of goods sold on the Consolidated Statements of Earnings for 2019.

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.

<i>(in millions)</i>	As of December 31, 2019					As of December 31, 2018				
	Expected Maturity Date Years ending December 31,				Fair Value	Expected Maturity Date Years ending December 31,				Fair Value
	2020	2021	2022	2023		2019	2020	2021	2022	
Natural Gas Swaps					\$ (4.0)					\$ (17.0)
Notional (million MM Btu) - long	20.6	18.5	4.9	—		20.4	15.8	13.2	2.9	
Weighted Average Rate (US\$/MMBtu)	\$ 1.92	\$ 1.98	\$ 1.83	\$ —		\$ 2.22	\$ 1.92	\$ 1.73	\$ 1.47	
Total Fair Value					<u>\$ (4.0)</u>					<u>\$ (17.0)</u>

Interest Rates

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. As of December 31, 2019, and 2018, the fair value of our interest rate contracts was \$11.4 million and (\$9.5) million, respectively. We recorded an unrealized gain of \$2.7 million in interest expense on the Consolidated Statements of Earnings for 2019.

Summary

Overall, there have been no material changes in our primary market risk exposures since the prior year. In 2020, 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 13 of our Notes to Consolidated Financial Statements. For additional information related to derivatives, see Notes 16 and 17 of our Notes to Consolidated Financial Statements.

Environmental, Health, Safety and Security Matters

We are subject to an evolving complex of international, federal, state, provincial and local environmental, health, safety and security (“*EHS*”) laws that govern the production, distribution and use of crop nutrients and animal feed ingredients. These EHS laws regulate or propose to regulate: (i) conduct of mining, production and supply chain operations, including employee safety and facility security procedures; (ii) management and/or remediation of potential impacts to air, soil and water quality from our operations; (iii) disposal of waste materials; (iv) reclamation of lands after mining; (v) management and handling of raw materials; (vi) product content; and (vii) 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 an integrated staff of 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 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 requirements may require modifications to our facilities or to operating procedures and these modifications may involve significant capital costs or increases in operating costs.

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 2020, excluding capital expenditures arising out of the consent decrees referred to under “EPA RCRA Initiative” in Note 15 of our Notes to Consolidated Financial Statements, we expect environmental capital expenditures to total approximately \$340 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 \$130 million in 2020. In 2021, we estimate environmental capital expenditures will be approximately \$300 million and expenditures for land reclamation activities, Gypstack closure and water treatment activities are expected to be approximately \$170 million. We spent approximately \$350 million in each of the years ended December 31, 2019 and 2018 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 2020 or in the future.

Operating Requirements and Impacts

Permitting. We hold numerous environmental, mining and other permits and approvals authorizing operations at each of 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 anticipated Florida mining operations at certain of our properties. For years, we have successfully permitted mining 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 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 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 24 to our Consolidated Financial Statements and is incorporated herein by reference.

Waters of the United States (“WOTUS”) Regulation. *Waters of the United States.* In June 2015, EPA and the U.S. Army Corps of Engineers (the “Corps”) jointly issued a final rule that proposed to clarify, but may actually expand, the scope of waters regulated under the federal Clean Water Act. The final rule (the “**2015 Clean Water Rule**”) became effective in August 2015, but has been challenged through numerous lawsuits. In October 2015, the U.S. Court of Appeals for the Sixth Circuit issued an order staying the effectiveness of the final rule nationwide pending adjudication of substantive challenges to the rule. In early 2017, the U.S. President issued an Executive Order directing EPA and the Corps to publish a proposed rule rescinding or revising the new rule. In June 2017, EPA and the Corps issued a proposed rule that would rescind the 2015 Clean Water Rule and re-codify regulatory text that existed prior to enactment of the 2015 Clean Water Rule. In November 2017, EPA issued a rule notice proposing to extend the applicability date of the 2015 Clean Water Rule for two years from the date of final action on the proposed rule, to provide continuity and regulatory certainty while agencies proceed to consider potential changes to the 2015 Clean Water Rule.

In January 2018, the U.S. Supreme Court unanimously held all challenges to the 2015 Clean Water Rule must be heard in federal district courts rather than in the federal courts of appeal, overruling a decision by the Sixth Circuit's Court of Appeals.

With the Sixth Circuit Court of Appeals no longer having jurisdiction, that court lifted its 2015 nationwide stay in February 2018. After the nationwide stay was lifted, a number of U.S. District Courts revived dormant litigation that challenged the 2015 Clean Water Rule. In June 2018, the U.S. District Court for the Southern District of Georgia entered an injunction against implementation of the 2015 Clean Water Rule covering 11 states, including Florida. As of September 2018, federal district courts have put the 2015 Clean Water Rule on hold in 28 states, the District of Columbia and the U.S. territories.

On December 11, 2018, EPA and the Corps issued a proposed rule to replace the 2015 Clean Water Rule. The agencies' stated interpretation for the proposed rule is to provide clarity, predictability and consistency so that the regulated community can better understand where the Clean Water Act applies and where it does not.

On September 12, 2019, EPA and the Corps jointly issued a final regulation that repeals the 2015 Clean Water Rule and restores the previous regulatory regime. This regulation reestablishes national consistency by returning all jurisdictions to the longstanding regulatory framework that existed prior to the 2015 Clean Water Rule. The final rule takes effect sixty (60) days after publication in the Federal Register. A challenge to this legislation is possible.

Repeal of the 2015 Clean Water Rule was the first step in a two-step rulemaking process to define the scope of "waters of the United States" that are regulated under the Clean Water Act. The second step is finalizing the regulation proposed in December 2018 that would define where federal jurisdiction begins and ends in accordance with the Clean Water Act and Supreme Court precedent.

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 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 settling ponds. Processing of phosphate rock with sulfuric acid generates phosphogypsum that is stored in Gypstacks.

During the life of the tailings management areas, clay settling ponds 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 asset retirement obligations are further discussed in Note 15 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 active 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 EPA and 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 under which Mosaic Fertilizer agreed to, among other things, implement an approved remediation plan to close the sinkhole; perform additional water monitoring and if necessary, assessment and rehabilitation activities in the event of identified off-site impacts; provide financial assurance; and evaluate the risk of potential future sinkhole formation at our active Florida Gypstack operations. The incident and the Order are further discussed in Note 24 of our Notes to Consolidated Financial Statements.

Financial Assurance. Separate from our accounting treatment for reclamation and closure liabilities, some jurisdictions in which we operate have required 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 the U.S. Resource Conservation and Recovery Act 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 15 of our Notes to Consolidated Financial Statements for additional information about these matters.

We have accepted a proposal by the Province of Saskatchewan under which we would establish a trust valued at \$25 million (Canadian dollars) in satisfaction of financial assurance requirements for closure of our Saskatchewan potash facilities. The trust is to be fully funded by us by 2021 in equal annual installments which began in July 2014.

We are working with the U.S. Department of the Interior, Bureau of Land Management and the New Mexico Environment Department to establish financial assurance for closure of our Carlsbad, New Mexico potash facility.

In January 2017, proposed rules were issued under the U.S. Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as CERCLA or the Superfund law, that would require owners and operators of certain classes of hardrock mines and mineral processing facilities to demonstrate financial ability to cover potential costs of future cleanup efforts for their operations and costs of health assessments and natural resource damage. As proposed, the rules would apply to phosphate mining, phosphate fertilizer manufacturing and potash mining operations. In February 2018, EPA issued the final rule for hardrock mining, concluding that no financial assurance under CERCLA was required for the sector. Supporters of financial responsibility for hardrock mines and mineral processing facilities challenged that rule, and in July 2019 the DC Circuit Court of Appeals unanimously ruled in favor of EPA's decision. EPA is undertaking similar rule making in phases for three additional sectors, including chemical manufacturing to which certain of our operations may be subject. We cannot predict at this time when EPA will issue proposed rules or what, if any, financial assurance requirements may ultimately be developed or required for our operations. Accordingly, we cannot predict the prospective impact of any such financial responsibility requirements on our results of operations, liquidity or capital resources, or whether any such effects could be material to us.

Examination of Working Places in Metal and Nonmetal Mines. The U.S. Mine Safety and Health Administration (“*MSHA*”) has reinstated the regulatory provisions for examinations of working places in metal and nonmetal mines that were originally published on January 23, 2017. The U.S. Court of Appeals for the District of Columbia Circuit issued an order on June 11, 2019, and a mandate on August 23, 2019, requiring this action. The reinstated final rule is effective on September 30, 2019, with implementation and compliance required by January 2020. In order to comply with these changes, 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.

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 phosphates plant.
- Process reactions from naturally occurring carbonates in phosphate rock.

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 United States 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 May 2017, the U.S. President announced that the United States would withdraw from the Paris Agreement. Under Article 28 of that agreement, the earliest such a withdrawal could be effective is November 2020. In 2015, prior to this announcement, the United States 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 it is unclear whether the U.S. executive administration will proceed to withdraw from the Paris Agreement, various legislative or regulatory initiatives relating to greenhouse gases have been adopted or considered by the U.S. Congress, EPA or various states and those initiatives already adopted may be used to implement the U.S. NDC. Additionally, more stringent laws and regulations may be enacted to accomplish the goals set out in the NDC.

Canada’s intended NDC aims to achieve, by 2030, an economy-wide target of reducing greenhouse gas emissions by 30% below 2005 levels. In late 2016, the 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, 2019, a carbon tax of \$20 per tonne increased to \$30 per tonne on January 1, 2020 now applies in Canada for any emitter not covered under the federal backstop program or approved provincial program. In addition, the Province of Saskatchewan, in which our Canadian potash mines are located, has stated that a carbon pricing system will not be implemented in the province and is now pursuing legal action against the federal government. In December 2017, Saskatchewan announced a comprehensive plan to address climate change that does not include an economy-wide price on carbon but does include a system of tariffs and credits for large emitters. The plan was reviewed and approved, in part, by the federal government in October 2018. Our Saskatchewan Potash facilities will be 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, such as the Clean Fuel Standard, which is now under development in Ottawa. 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 United States 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 \$39.3 million as of December 31, 2019, 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 a number of years. 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 off-site 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 off-site 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 Off-Site Disposal Locations. Currently, we are involved or concluding involvement for off-site 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.

Additional Information

For additional information about phosphate mine permitting in Florida, our environmental liabilities, the environmental proceedings in which we are involved, our asset retirement obligations related to environmental matters, and our related accounting policies, see Environmental Liabilities and AROs under Critical Accounting Estimates above and Notes 2, 15, and 24 of our Notes to Consolidated Financial Statements.

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 annual report on 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; and other EHS matters including climate change, water management, energy and other operational efficiency initiatives, reclamation and asset retirement obligations. Other matters relating to sustainability are included in our sustainability reports that are available on our website at www.mosaicco.com/sustainability. Our sustainability reports are not incorporated by reference in this annual report on Form 10-K.

Contingencies

Information regarding contingencies in Note 24 of our Notes to Consolidated Financial Statements is incorporated herein by reference.

Related Parties

Information regarding related party transactions is set forth in Note 25 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.

Forward-Looking Statements

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 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 in Brazil or changes in government policy in Brazil, 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;
- changes in farmers' application rates for crop nutrients;
- changes in the operation of world phosphate or potash markets, including continuing 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 timely development and commencement of operations of production facilities in the Kingdom of Saudi Arabia, political and economic instability in the region, and in general the future success of current plans for the MWSPC joint venture and any future changes in those plans;
- build-up of inventories in the distribution channels for our products that can adversely affect our sales volumes and selling prices;
- 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, and 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;
- 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 effects on our customers of holding high cost inventories of crop nutrients in periods of rapidly declining market prices for crop nutrients;
- 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;
- customer expectations about future trends in the selling prices and availability of our products and in farmer economics;
- disruptions to existing transportation or terminaling facilities, including those of Canpotex or any joint venture in which we participate;
- shortages or other unavailability of 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;
- other risks associated with our international operations, including any potential adverse effects related to the Miski Mayo mine;
- adverse weather 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, particularly when we are exiting our business operations or locations that produced or sold the products to that customer;
- 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 the expansion of our Potash business and 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 and Canadian resource taxes and royalties, or the costs of MWSPC, its existing or future funding and our commitments in support of such 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, 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 Esterhazy, Saskatchewan potash mine as well as potential inflows at our other shaft 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 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;
- other disruptions of operations at any of our key production and distribution facilities, particularly when they are operating at high operating rates;
- changes in antitrust and competition laws or their enforcement;
- actions by the holders of controlling equity interests in businesses in which we hold a noncontrolling interest;
- changes in our relationships with other members 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;

- the adequacy of our property, business interruption and casualty insurance policies to cover potential hazards and risks incident to our business, and our willingness and ability to maintain current levels of insurance coverage as a result of market conditions, our loss experience and other factors;
- difficulties in realizing benefits under our long-term natural gas based pricing ammonia supply agreement with CF Industries, Inc., 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 Securities and Exchange Commission reports.

Material uncertainties and other factors known to us are discussed in Item 1A, "Risk Factors," of our annual report on Form 10-K for the year ended December 31, 2019 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 Shareholders 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, 2019 and 2018, the related consolidated statements of earnings (loss), comprehensive income (loss), cash flows, and equity for each of the years in the three-year period ended December 31, 2019, and the related notes and Schedule II-Valuation and Qualifying Accounts (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, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 20, 2020 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 5 to the consolidated financial statements, the Company has changed its method of accounting for revenue recognition as of January 1, 2018 due to the adoption of Accounting Standards Codification 606, *Revenue from Contracts with Customers*.

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

Assessment of the recoverability of the carrying value of goodwill for the Potash, Phosphate and Mosaic Fertilizantes reporting units

As discussed in Note 11 of the consolidated financial statements, the goodwill balance as of December 31, 2019 was \$1,156.9 million. Of this amount, \$1,039.8 million and \$105.0 million was allocated to the Potash and Mosaic Fertilizantes reporting units, respectively, with the remaining \$12.1 million allocated to the Corporate, Eliminations and Other reporting unit. The Company performs goodwill impairment testing on an annual basis and whenever events or changes in circumstances may indicate that the carrying value of a reporting unit might exceed its fair

value. The Company recognized a goodwill impairment charge of \$588.6 million in 2019, resulting in no remaining goodwill in the Phosphate reporting unit.

We identified the assessment of the recoverability of the carrying value of goodwill for the Potash, Phosphate, and Mosaic Fertilizantes reporting units as a critical audit matter. The measurement of the Phosphate impairment charge was dependent on the estimate of the fair value of the Phosphate reporting unit, and therefore resulted in the application of greater auditor judgement. In addition, the estimated fair value of the Potash and Mosaic Fertilizantes reporting units exceeded the carrying value for each reporting unit, however fluctuations in the Company's stock price throughout the year indicated a higher risk that the goodwill may be impaired and, therefore, also resulted in the application of greater auditor judgement. For all reporting units, certain forecasted product selling and raw material purchase prices, volume of product sold, capital expenditures, the terminal value growth rate and discount rate assumptions used in the fair value measurement of the reporting units have been identified as key assumptions. These key assumptions were challenging to evaluate as changes to those assumptions may impact the Company's assessment of the recoverability of the carrying value of the goodwill and the estimated amount of the goodwill impairment charge.

The primary procedures we performed that address this critical audit matter included the following. We tested certain internal controls over the Company's goodwill impairment assessment process including the development of key assumptions noted above. We performed sensitivity analyses over the key assumptions for each reporting unit to assess the impact on the Company's determination of the fair value of each reporting unit. We evaluated certain forecasted product selling and raw material purchase prices of the Company by comparing the forecasted prices of the products and raw materials to external forecasts from industry publications and to actual results of the Company. We compared prior forecasted prices of the products and raw materials to the Company's subsequent results to assess the Company's ability to accurately forecast. We evaluated the terminal value growth rate used for each reporting unit by comparing it to forecasted long-term growth rates from industry publications. We compared the Company's assumptions of volume of product sold and capital expenditures to trends of the historical financial results. In addition, we involved valuation professionals with specialized skills and knowledge who assisted in:

- evaluating the Company's discount rate, by comparing it against a discount rate range that was independently developed using publicly available market data for comparable entities,
- evaluating the Company's terminal growth rate, by comparing it against inflation projections that were independently developed using publicly available information,
- developing estimates of the Potash, Phosphate and Mosaic Fertilizantes reporting unit fair values using the reporting units' cash flow assumptions and an independently developed discount rate, and comparing the result to the Company's fair value.

Evaluation of asset retirement obligation for water treatment costs

As discussed in Note 15 to the consolidated financial statements, the Company has recorded an asset retirement obligation (ARO) of \$1,315.2 million as of December 31, 2019. 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 obligation 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 ARO to minor changes to key assumptions, such as the volume of contaminated water and the forecasted level of contamination used to estimate the water treatment unit costs.

The primary procedures performed to address this critical audit matter including the following. We tested certain internal controls over the Company's ARO process, including controls related to the qualifications of third-party specialists, determination of necessary activities required to treat contaminated water, and the key assumptions utilized in the process. We compared 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 estimate to the actual costs incurred. Due to the specialized skills and knowledge used by the Company to select water treatment activities, we involved a geotechnical engineering professional with specialized skills and

knowledge. This professional assisted in assessing the Company's specialist's objectivity and chemical and physical engineering expertise. In addition, the geotechnical engineering professional evaluated the Company's planned asset retirement activities by analyzing the Company's specialist reports. This professional evaluated significant engineering assumptions utilized and compared the planned activities per the specialist 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 from those used in the prior year, as well as operational changes that could impact estimated water volumes, contamination levels, or necessary treatment activities.

Evaluation of the ability to utilize the unreserved foreign tax credit carryforward prior to expiration

As discussed in Note 14 of the consolidated financial statements, as of December 31, 2019, the Company had \$522.5 million of foreign tax credit carryforwards, which are recorded as a deferred tax asset. The Company recorded valuation allowances against its branch basket foreign tax credits of \$238.3 million at December 31, 2019. For the remaining unreserved foreign tax credits of \$284.2 million, the Company determined that there is a greater than 50% likelihood that these foreign tax credits will be used before they expire.

We identified the evaluation of the ability to utilize the unreserved foreign tax credit carryforward prior to expiration as a critical audit matter due to the magnitude and the near-term expiration of the foreign tax credits. There is complexity in the application of the relevant tax regulations to the Company's forecasted foreign source taxable income. In addition, certain forecasted revenue and cost assumptions used to estimate forecasted foreign source taxable income were challenging to evaluate. Changes to these assumptions could have an effect on the Company's evaluation of the ability to utilize the unreserved foreign tax credit carryforwards prior to expiration.

The primary procedures we performed to address this critical audit matter included the following. We tested certain internal controls over the Company's deferred tax asset valuation allowance process for foreign tax credits, including controls related to the development of assumptions and application of the relevant tax regulations in estimating the forecasted taxable foreign sourced income. We analyzed certain forecasted revenue and cost assumptions by comparing to external forecasts from industry publications and performed sensitivity analyses. To assess the Company's ability to forecast, we compared the Company's previous revenue and cost forecasts to actual results. We involved federal and international tax professionals with specialized skills and knowledge, who assisted in assessing the Company's application of the relevant tax regulations and evaluating the recoverability of foreign tax credit carryforwards.

/s/ KPMG LLP

We have served as the Company's auditor since 2004.

Tampa, Florida
February 20, 2020

Report of Independent Registered Public Accounting Firm

To the Shareholders 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, 2019, 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, 2019, 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, 2019 and 2018, the related consolidated statements of earnings (loss), comprehensive income (loss), cash flows, and equity for each of the years in the three-year period ended December 31, 2019, and the related notes and Schedule II-Valuation and Qualifying Accounts (collectively, the consolidated financial statements), and our report dated February 20, 2020 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 20, 2020

Consolidated Statements of Earnings (Loss)
In millions, except per share amounts

	Years Ended December 31,		
	2019	2018	2017
Net sales	\$ 8,906.3	\$ 9,587.3	\$ 7,409.4
Cost of goods sold	8,009.0	8,088.9	6,566.6
Gross margin	897.3	1,498.4	842.8
Selling, general and administrative expenses	354.1	341.1	301.3
Impairment, restructuring and other expenses	1,462.1	—	—
Other operating expenses	176.0	229.0	75.8
Operating (loss) earnings	(1,094.9)	928.3	465.7
Interest expense, net	(182.9)	(166.1)	(138.1)
Foreign currency transaction gain (loss)	20.2	(191.9)	49.9
Other income (expense)	1.5	(18.8)	(3.5)
(Loss) earnings from consolidated companies before income taxes	(1,256.1)	551.5	374.0
(Benefit from) provision for income taxes	(224.7)	77.1	494.9
(Loss) earnings from consolidated companies	(1,031.4)	474.4	(120.9)
Equity in net (loss) earnings of nonconsolidated companies	(59.4)	(4.5)	16.7
Net (loss) earnings including noncontrolling interests	(1,090.8)	469.9	(104.2)
Less: Net (loss) earnings attributable to noncontrolling interests	(23.4)	(0.1)	3.0
Net (loss) earnings attributable to Mosaic	\$ (1,067.4)	\$ 470.0	\$ (107.2)
Basic net (loss) earnings per share attributable to Mosaic	\$ (2.78)	\$ 1.22	\$ (0.31)
Basic weighted average number of shares outstanding	383.8	384.8	350.9
Diluted net (loss) earnings per share attributable to Mosaic	\$ (2.78)	\$ 1.22	\$ (0.31)
Diluted weighted average number of shares outstanding	383.8	386.4	350.9

See Accompanying Notes to Consolidated Financial Statements

Consolidated Statements of Comprehensive Income (Loss)
In millions

	Years Ended December 31,		
	2019	2018	2017
Net (loss) earnings including noncontrolling interest	\$ (1,090.8)	\$ 469.9	\$ (104.2)
Other comprehensive (loss) income, net of tax			
Foreign currency translation gain (loss)	69.4	(596.9)	240.5
Net actuarial (loss) gain and prior service cost	(24.3)	(10.6)	6.3
Realized gain on interest rate swap	1.7	2.2	1.7
Net gain (loss) on marketable securities held in trust fund	10.9	4.6	1.7
Other comprehensive income (loss)	57.7	(600.7)	250.2
Comprehensive (loss) income	(1,033.1)	(130.8)	146.0
Less: Comprehensive (loss) income attributable to noncontrolling interest	(24.6)	(5.3)	2.6
Comprehensive (loss) income attributable to Mosaic	\$ (1,008.5)	\$ (125.5)	\$ 143.4

See Accompanying Notes to Consolidated Financial Statements

Consolidated Balance Sheets
In millions, except per share amounts

	December 31,	
	2019	2018
Assets		
Current assets:		
Cash and cash equivalents	\$ 519.1	\$ 847.7
Receivables, net	803.9	838.5
Inventories	2,076.4	2,270.2
Other current assets	318.8	280.6
Total current assets	3,718.2	4,237.0
Property, plant and equipment, net	11,690.0	11,746.5
Investments in nonconsolidated companies	763.6	826.6
Goodwill	1,156.9	1,707.5
Deferred income taxes	515.4	343.8
Other assets	1,454.4	1,257.8
Total assets	<u>\$ 19,298.5</u>	<u>\$ 20,119.2</u>
Liabilities and Equity		
Current liabilities:		
Short-term debt	\$ 41.6	\$ 11.5
Current maturities of long-term debt	47.2	26.0
Structured accounts payable arrangements	740.6	572.8
Accounts payable	680.4	780.9
Accrued liabilities	1,081.9	1,092.5
Total current liabilities	2,591.7	2,483.7
Long-term debt, less current maturities	4,525.5	4,491.5
Deferred income taxes	1,040.7	1,080.6
Other noncurrent liabilities	1,773.0	1,458.7
Equity:		
Preferred stock, \$0.01 par value, 15,000,000 shares authorized, none issued and outstanding as of December 31, 2019 and 2018	—	—
Common stock, \$0.01 par value, 1,000,000,000 shares authorized, 389,646,939 shares issued and 378,764,442 shares outstanding as of December 31, 2019, 389,242,360 shares issued and 385,470,085 shares outstanding as of December 31, 2018	3.8	3.8
Capital in excess of par value	858.4	985.9
Retained earnings	9,921.5	11,064.7
Accumulated other comprehensive loss	(1,598.2)	(1,657.1)
Total Mosaic stockholders' equity	9,185.5	10,397.3
Non-controlling interests	182.1	207.4
Total equity	9,367.6	10,604.7
Total liabilities and equity	<u>\$ 19,298.5</u>	<u>\$ 20,119.2</u>

See Accompanying Notes to Consolidated Financial Statements

Consolidated Statements of Cash Flows
In millions, except per share amounts

	Years Ended December 31,		
	2019	2018	2017
Cash Flows from Operating Activities			
Net (loss) earnings including noncontrolling interests	\$ (1,090.8)	\$ 469.9	\$ (104.2)
Adjustments to reconcile net earnings including noncontrolling interests to net cash provided by operating activities:			
Depreciation, depletion and amortization	882.7	883.9	665.5
Amortization of acquired inventory	(5.5)	(49.2)	—
Deferred and other income taxes	(261.3)	(101.8)	612.4
Equity in net loss of nonconsolidated companies, net of dividends	64.6	12.9	34.4
Accretion expense for asset retirement obligations	62.4	48.0	25.7
Accretion expense for leases	18.6	—	—
Share-based compensation expense	27.9	27.5	28.0
Impairment of goodwill	588.6	—	—
Unrealized (gain) loss on derivatives	(59.2)	58.9	8.3
Colonsay and Plant City closure costs	871.0	—	—
Loss (gain) on disposal of fixed assets	18.7	63.1	(25.5)
Other	(2.9)	18.3	7.8
Changes in assets and liabilities, net of acquisitions:			
Receivables, net	34.6	5.9	(91.2)
Inventories, net	128.1	(497.4)	(155.7)
Other current assets and noncurrent assets	(36.0)	86.7	(23.7)
Accounts payable and accrued liabilities	(125.4)	342.0	(65.7)
Other noncurrent liabilities	(20.7)	41.1	19.4
Net cash provided by operating activities	1,095.4	1,409.8	935.5
Cash Flows from Investing Activities			
Capital expenditures	(1,272.2)	(954.5)	(820.1)
Purchases of available-for-sale securities - restricted	(557.6)	(534.5)	(1,676.3)
Proceeds from sale of available-for-sale securities - restricted	533.2	518.8	1,658.1
Proceeds from sale of assets	4.0	12.6	300.7
Acquisition, net of cash acquired	(55.1)	(985.3)	—
Investments in nonconsolidated companies	(0.1)	—	(62.5)
Investments in consolidated affiliate	—	(1.5)	(49.5)
Purchases of held-to-maturity securities	(15.4)	—	—
Proceeds from sale of held-to-maturity securities	2.3	—	—
Other	—	(0.3)	(18.2)
Net cash used in investing activities	(1,360.9)	(1,944.7)	(667.8)
Cash Flows from Financing Activities			
Payments of short-term debt	(554.2)	(144.4)	(601.4)
Proceeds from issuance of short-term debt	591.0	155.1	631.4
Payments of structured accounts payable arrangements	(977.1)	(762.1)	(418.5)
Proceeds from structured accounts payable arrangements	1,124.2	834.1	666.8
Payments of long-term debt	(48.3)	(802.9)	(102.2)
Proceeds from issuance of long-term debt	—	39.3	1,251.4
Payment of financing costs	—	—	(15.4)
Repurchases of stock	(149.9)	—	—
Cash dividends paid	(67.2)	(38.5)	(210.6)
Other	(0.7)	(5.4)	(0.7)
Net cash (used in) provided by financing activities	(82.2)	(724.8)	1,200.8
Effect of exchange rate changes on cash	9.0	(63.7)	14.5
Net change in cash, cash equivalents and restricted cash	(338.7)	(1,323.4)	1,483.0
Cash, cash equivalents and restricted cash—beginning of year	871.0	2,194.4	711.4
Cash, cash equivalents and restricted cash—end of year	\$ 532.3	\$ 871.0	\$ 2,194.4

See Accompanying Notes to Consolidated Financial Statements

THE MOSAIC COMPANY
CONSOLIDATED STATEMENTS OF CASH FLOWS (Continued)
(In millions)

	Years Ended December 31,		
	2019	2018	2017
Reconciliation of cash, cash equivalents and restricted cash reported within the consolidated balance sheets to the consolidated statements of cash flows:			
Cash and cash equivalents	\$ 519.1	\$ 847.7	\$ 2,153.5
Restricted cash in other current assets	7.8	7.5	8.3
Restricted cash in other assets	5.4	15.8	32.6
Total cash, cash equivalents and restricted cash shown in the statement of cash flows	<u>\$ 532.3</u>	<u>\$ 871.0</u>	<u>\$ 2,194.4</u>

See Accompanying Notes to Consolidated Financial Statements

Consolidated Statements of Equity
In millions, except per share data

	Dollars							
	Shares	Mosaic Shareholders					Non-Controlling Interests	Total Equity
	Common Stock	Common Stock	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Loss			
Balance as of December 31, 2016	350.2	\$ 3.5	\$ 29.9	\$ 10,863.4	\$ (1,312.2)	\$ 37.9	\$ 9,622.5	
Total comprehensive income (loss)	—	—	—	(107.2)	250.6	2.6	146.0	
Vesting of restricted stock units	0.8	—	(12.8)	—	—	—	(12.8)	
Stock based compensation	—	—	27.4	—	—	—	27.4	
Dividends (\$0.35 per share)	—	—	—	(125.1)	—	—	(125.1)	
Dividends for noncontrolling interests	—	—	—	—	—	(0.7)	(0.7)	
Distribution to noncontrolling interests	—	—	—	—	—	(18.2)	(18.2)	
Balance as of December 31, 2017	351.0	3.5	44.5	10,631.1	(1,061.6)	21.6	9,639.1	
Adoption of ASC Topic 606	—	—	—	2.7	—	—	2.7	
Total comprehensive income (loss)	—	—	—	470.0	(595.5)	(5.3)	(130.8)	
Vesting of restricted stock units	0.3	—	(3.4)	—	—	—	(3.4)	
Stock based compensation	—	—	25.1	—	—	—	25.1	
Acquisition of Vale Fertilizantes	34.2	0.3	919.7	—	—	—	920.0	
Dividends (\$0.10 per share)	—	—	—	(39.1)	—	—	(39.1)	
Dividends for noncontrolling interests	—	—	—	—	—	(0.6)	(0.6)	
Equity from noncontrolling interests	—	—	—	—	—	191.7	191.7	
Balance as of December 31, 2018	385.5	3.8	985.9	11,064.7	(1,657.1)	207.4	10,604.7	
Adoption of ASC Topic 842	—	—	—	0.6	—	—	0.6	
Total comprehensive (loss) income	—	—	—	(1,067.4)	58.9	(24.6)	(1,033.1)	
Vesting of restricted stock units	0.4	—	(5.6)	—	—	—	(5.6)	
Stock based compensation	—	—	27.9	—	—	—	27.9	
Repurchases of stock	(7.1)	—	(149.8)	—	—	—	(149.8)	
Dividends (\$0.20 per share)	—	—	—	(76.4)	—	—	(76.4)	
Dividends for noncontrolling interests	—	—	—	—	—	(0.7)	(0.7)	
Balance as of December 31, 2019	378.8	\$ 3.8	\$ 858.4	\$ 9,921.5	\$ (1,598.2)	\$ 182.1	\$ 9,367.6	

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.

On January 8, 2018, we completed our acquisition (the “*Acquisition*”) of Vale Fertilizantes S.A. (now known as Mosaic Fertilizantes P&K S.A. or the “*Acquired Business*”). Upon completion of the Acquisition, we became the leading fertilizer producer and distributor in Brazil.

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. As part of the Acquisition, we acquired an additional 40% economic interest in the Miski Mayo Phosphate Mine in Peru, which increased our aggregate interest to 75%. 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 the assets in Brazil that we acquired in the Acquisition, which include five Brazilian phosphate rock mines, four phosphate chemical plants and a potash mine in Brazil. The segment also includes our legacy 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 crop nutrition port and throughput warehouse terminal facility in Brazil.

Intersegment eliminations, unrealized mark-to-market gains/losses on derivatives, debt expenses, Streamsong Resort[®] results of operations, and the results of the China and India distribution businesses are included within Corporate, Eliminations and Other. As of January 1, 2019, certain selling, general and administrative costs that are not controllable by the business segments are no longer allocated to segments and are included within Corporate, Eliminations and Other. Our operating results for the years ended 2018 and 2017 have been recast to reflect this change.

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 estimates of fair value of acquired assets and liabilities, 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. 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 based on a formula. Sales incentives are recorded as a reduction of revenue at the time of initial sale. We estimate the variable consideration related to our sales incentive programs based on the sales terms with customers and historical experience. 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 \$211.9 million, \$198.8 million and \$142.0 million during 2019, 2018 and 2017, respectively.

We have approximately \$126.6 million of assets recorded as of December 31, 2019 related to PIS and Cofins, which is a Brazilian federal value-added tax, and income tax credits mostly earned in 2008 through 2019 that we believe will be realized through paying income taxes, paying other federal taxes or receiving cash refunds. 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 24 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, 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, 2019 and 2018, there was an immaterial amount of accounts receivable due from Canpotex. During 2019, 2018 and 2017, sales to Canpotex were \$952.5 million, \$820.1 million and \$700.6 million, 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.

Depletion expenses for mining operations, including mineral reserves, are generally determined using the units-of-production method based on estimates of recoverable 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.

We have worked extensively to ensure the mechanical integrity of our fixed assets in order to help prolong their useful lives, while helping to improve asset utilization and potential cash preservation. As a result, we completed an in-depth review of our fixed assets and concluded that for certain assets, we would make a change to the units-of-production depreciation method from the straight-line method to better reflect the pattern of consumption of those assets. We also determined the expected lives of certain mining and production equipment and reserves were longer than the previously estimated useful lives used to determine depreciation in our financial statements. As a result, effective January 1, 2017, we changed our estimates of the useful lives and method of determining the depreciation of certain equipment to better reflect the estimated periods during which these assets will remain in service. The effect of this change in estimates reduced depreciation expense, thus increasing operating earnings,

by approximately \$65 million in 2017. Amounts may vary throughout the year due to changes in production levels. As a result of this change and actions taken to prolong asset lives, we expect our maintenance expense to increase in the future.

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 an 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:

Note	Topic	Page
8	Earnings per Share	F-56
10	Investments in Non-Consolidated Companies	F-57
11	Goodwill	F-59
12	Structured Accounts Payable Arrangements	F-60
13	Marketable Securities Held in Trusts	F-62
14	Income Taxes	F-64
15	Accounting for Asset Retirement Obligations	F-69
16	Accounting for Derivative and Hedging Activities	F-71
17	Fair Value Measurements	F-72

3. RECENTLY ISSUED ACCOUNTING GUIDANCE

In June 2016, the Financial Accounting Standards Board ("**FASB**") issued guidance which revises the accounting for credit losses on financial instruments within its scope. The standard introduces an approach, based on expected losses, to estimate credit losses on certain types of financial instruments, including trade and other receivables, and modifies the impairment model for available-for-sale ("**AFS**") debt securities. The guidance amends the current other-than-temporary impairment model for AFS debt securities and provides that any impairment related to credit losses be recognized as an allowance (which could be reversed) rather than as a permanent reduction in the amortized cost basis of that security. Since the issuance of the standard is effective for us beginning January 1, 2020, we are revising our accounting policies and procedures to reflect the requirements of this standard related to our trade receivables and AFS debt securities. Based on the composition of our trade receivables, current market conditions, and historical credit loss activity, we do not expect the adoption of this standard to significantly impact our consolidated results of operations or financial condition.

4. LEASES

Adoption of ASC Topic 842, "Leases"

In February 2016, the FASB issued a new standard ("**ASC 842**") intended to improve financial reporting about leasing transactions. The FASB issued additional guidance subsequently to clarify aspects of the standard and provide certain relief for implementation. ASC 842 requires lessees to recognize on the balance sheet the rights and obligations created by leases with terms greater than twelve months. The primary change created by the new standard is the recognition of ROU assets and lease liabilities by lessees for those leases previously classified as operating leases. ASC 842 requires disclosures to enable users of financial statements to assess the amount, timing and uncertainty of cash flows arising from leases.

We adopted ASC 842 effective January 1, 2019, with an immaterial, cumulative-effect adjustment to the opening balance of retained earnings as of that date. As allowed under the standard, we have not changed our accounting and reporting for lease arrangements for periods presented prior to January 1, 2019. The impacts upon adoption on previously reported amounts are shown below. Our accounting for capital leases (now referred to as finance leases) remained substantially unchanged.

Adoption of the standard is not expected to significantly impact lease activity reported in our statements of earnings and cash flows.

We elected the package of practical expedients permitted under the transition guidance within the new standard, which among other things, allowed us to carry forward the historical lease classification.

Adoption of the standard related to leases impacted our previously reported results as follows:

<i>(in millions)</i>	<u>Balance as of December 31, 2018</u>	<u>Adoption Adjustments</u>	<u>Balance as of January 1, 2019</u>
Operating lease right-of-use assets	\$ —	\$ 241.1	\$ 241.1
Finance lease right-of-use assets	340.9	—	340.9
Accrued and other noncurrent liabilities	—	241.1	241.1
Long-term debt, including current maturities	302.2	—	302.2

Adoption of ASC 842 had no impact to cash from or used in operating, financing or investing on our consolidated cash flows statements.

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 1 year to 29 years, some of which include options to extend the leases for up to 10 years and some of which include options to terminate the leases within 1 year.

Finance and operating lease assets and liabilities as of December 31, 2019 were as follows:

<u>Type of Lease Asset or Liability</u>	<u>Amount</u>	<u>Balance Sheet Classification</u>
<i>(in millions)</i>		
<i>Operating Leases</i>		
Right-of-use assets	<u>\$ 192.1</u>	Other assets
Lease liabilities:		
Short-term	67.1	Accrued liabilities
Long-term	127.0	Other noncurrent liabilities
Total	<u>\$ 194.1</u>	
<i>Finance Leases</i>		
Right-of-use assets:		
Gross assets	\$ 423.2	
Less: accumulated depreciation	57.5	
Net assets	<u>\$ 365.7</u>	Property, plant and equipment, net
Lease liabilities:		
Short-term	\$ 41.7	Current maturities of long-term debt
Long-term	303.4	Long-term debt, less current maturities
Total	<u>\$ 345.1</u>	

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:

	<u>2019</u>
<i>(in millions)</i>	
Operating lease cost	\$ 98.4
Finance lease cost:	
Amortization of right-of-use assets	28.3
Interest on lease liabilities	15.2
	<u>43.5</u>
Short-term lease cost	10.5
Variable lease cost	21.5
Total lease cost	<u>\$ 173.9</u>

Rental expense for 2019, 2018 and 2017 was \$249.1 million, \$270.3 million and \$114.0 million, respectively.

Supplemental cash flow information related to leases was as follows:

	<u>2019</u>
<i>(In millions)</i>	
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows from operating leases	\$ 107.9
Operating cash flows from finance leases	\$ 10.7
Financing cash flows from finance leases	\$ 41.3
Right-of-use assets obtained in exchange for lease obligations:	
Operating leases	\$ 56.0
Finance leases	\$ 88.2

Other information related to leases was as follows:

	<u>December 31, 2019</u>
Weighted Average Remaining Lease Term	
Operating leases	4.7 years
Finance leases	4.8 years
Weighted Average Discount Rate	
Operating leases	6.1%
Finance leases	3.9%

Future lease payments under non-cancellable leases recorded as of December 31, 2019, were as follows:

<i>(in millions)</i>	<u>Operating Leases</u>	<u>Finance Leases</u>
2020	\$ 77.5	\$ 51.5
2021	51.6	53.2
2022	33.9	44.5
2023	22.2	76.1
2024	15.6	168.3
Thereafter	27.1	14.4
Total future lease payments	<u>\$ 227.9</u>	<u>\$ 408.0</u>
Less imputed interest	(33.8)	(62.9)
Total	<u>\$ 194.1</u>	<u>\$ 345.1</u>

5. REVENUE

Adoption of ASC Topic 606, “Revenue with Customers”

On January 1, 2018, we adopted ASC Topic 606, “Revenue from Contracts with Customers” and related amendments (“new revenue standard”) using the modified retrospective method applied to those revenue contracts which were not completed as of January 1, 2018. We recognized the cumulative effect of initially applying the new revenue standard as a net increase to opening retained earnings of \$2.7 million, net of tax, as of January 1, 2018, with the impact primarily related to deferred North America revenue at December 31, 2017.

The comparative information for the year ended December 31, 2017 has not been restated and continues to be reported under the accounting standards in effect for that period. The adoption of the new standard has not had a significant impact on our results of operations on an ongoing basis. The cumulative effects of the changes made to our consolidated January 1, 2018 balance sheet for the adoption of the new revenue standard were as follows (in millions):

	<u>Balance at December 31, 2017</u>	<u>Adjustments Upon Adoption</u>	<u>Balance at January 1, 2018</u>
Balance Sheet			
Receivables, net	\$ 642.6	\$ 18.2	\$ 660.8
Inventories	1,547.2	(13.3)	1,533.9
Deferred income tax asset	254.6	(1.3)	253.3
Accrued Liabilities	754.4	0.9	755.3
Retained earnings	10,631.1	2.7	10,633.8

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 based on a formula. Sales incentives are estimated as earned by the customer and recorded as a reduction of revenue. Shipping and handling costs are included as a component of cost of goods sold.

For information regarding sales by product type and by geographic area, see Note 26 of our Notes to Consolidated Financial Statements.

Under the new revenue standard, the timing of revenue recognition is accelerated for certain sales arrangements due to the emphasis on transfer of control rather than risks and rewards. Certain sales where revenue was previously deferred until risk was fully

assumed by the customer will now be recognized when the product is shipped. Additionally, the timing of when we record revenue on sales by Canpotex has been impacted by their adoption of new revenue standards. The total impact of adoption on our condensed consolidated statement of earnings and balance sheet was as follows (in millions):

For the year ended December 31, 2018						
	As Reported	Elimination of Revenue Deferral	Canpotex Impact (a)	Balances Without New Revenue Standards	Impact	
Income Statement						
Net sales	\$ 9,587.3	\$ (87.9)	\$ 96.4	\$ 9,595.8	(8.5)	
Cost of goods sold	8,088.9	(64.3)	54.1	8,078.7	10.2	
Provision for (benefit from) income taxes	77.1	(2.1)	5.8	80.8	(3.7)	
Net earnings (loss) attributable to Mosaic	470.0	(21.5)	36.5	485.0	(15.0)	
Balance Sheet						
Receivables, net	\$ 838.5	\$ (107.3)	\$ 96.4	\$ 827.6	\$ 10.9	
Inventories	2,270.2	48.1	(42.8)	2,275.5	(5.3)	
Other current assets	280.6	23.5	—	304.1	(23.5)	
Deferred income tax asset	343.8	3.4	(5.8)	341.4	2.4	
Accrued liabilities	1,092.5	(8.1)	11.4	1,095.8	(3.3)	
Retained earnings	11,064.7	(24.2)	36.4	11,076.9	(12.2)	

(a) Includes impact from Canpotex's adoption of new revenue standards, resulting in a deferral of approximately 450,000 tonnes as of December 31, 2018.

6. OTHER FINANCIAL STATEMENT DATA

The following provides additional information concerning selected balance sheet accounts:

<i>(in millions)</i>	December 31,	
	2019	2018
Receivables		
Trade	\$ 649.3	\$ 703.7
Non-trade	158.1	136.1
	807.4	839.8
Less allowance for doubtful accounts	3.5	1.3
	<u>\$ 803.9</u>	<u>\$ 838.5</u>
Inventories		
Raw materials	\$ 68.3	\$ 147.5
Work in process	618.4	625.5
Finished goods	1,219.3	1,343.8
Final price deferred ^(a)	47.9	39.3
Operating materials and supplies	122.5	114.1
	<u>\$ 2,076.4</u>	<u>\$ 2,270.2</u>
Other current assets		
Income and other taxes receivable	\$ 179.5	\$ 149.2
Prepaid expenses	110.7	86.8
Other	28.6	44.6
	<u>\$ 318.8</u>	<u>\$ 280.6</u>
Other assets		
Restricted cash	\$ 5.4	\$ 15.8
MRO inventory	126.8	134.6
Marketable securities held in trust - restricted	691.7	632.3
Operating lease right-of-use assets ^(b)	192.1	—
Indemnification asset	40.6	30.7
Long-term receivable	81.6	91.7
Other	316.2	352.7
	<u>\$ 1,454.4</u>	<u>\$ 1,257.8</u>

	December 31,	
	2019	2018
<i>(in millions)</i>		
Accrued liabilities		
Accrued dividends	\$ 20.0	\$ 11.8
Payroll and employee benefits	173.8	217.5
Asset retirement obligations	154.4	136.3
Customer prepayments ^(c)	266.9	199.8
Accrued income tax	33.9	65.5
Operating lease obligation ^(b)	67.1	—
Other	365.8	461.6
	<u>\$ 1,081.9</u>	<u>\$ 1,092.5</u>
Other noncurrent liabilities		
Asset retirement obligations	\$ 1,160.8	\$ 1,023.8
Operating lease obligation ^(b)	127.0	—
Accrued pension and postretirement benefits	173.6	146.3
Unrecognized tax benefits	42.1	33.0
Other	269.5	255.6
	<u>\$ 1,773.0</u>	<u>\$ 1,458.7</u>

- (a) Final price deferred is product that has shipped to customers, but the price has not yet been agreed upon.
- (b) We adopted ASC 842 effective January 1, 2019, with an immaterial, cumulative-effect adjustment to the opening balance of retained earnings as of that date. As allowed under the standard, we have not changed our accounting and reporting for lease arrangements for periods presented prior to January 1, 2019. See Note 4 to the Consolidated Financial Statements for additional information on the impact to our Consolidated Balance Sheets.
- (c) 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.

Interest expense, net was comprised of the following in 2019, 2018 and 2017:

	Years Ended December 31,		
	2019	2018	2017
<i>(in millions)</i>			
Interest income	\$ 33.1	\$ 49.7	\$ 33.2
Less interest expense	216.0	215.8	171.3
Interest expense, net	<u>\$ (182.9)</u>	<u>\$ (166.1)</u>	<u>\$ (138.1)</u>

7. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consist of the following:

	<i>(in millions)</i>	December 31,	
		2019	2018
Land		\$ 340.3	\$ 321.5
Mineral properties and rights		4,979.2	4,478.2
Buildings and leasehold improvements		3,108.7	2,760.9
Machinery and equipment		9,294.1	8,955.7
Construction in-progress		1,259.7	2,164.7
		18,982.0	18,681.0
Less: accumulated depreciation and depletion		7,292.0	6,934.5
		<u>\$ 11,690.0</u>	<u>\$ 11,746.5</u>

Depreciation and depletion expense was \$877.6 million, \$878.2 million and \$659.4 million for 2019, 2018 and 2017, respectively. Capitalized interest on major construction projects was \$28.5 million, \$22.1 million and \$23.9 million for 2019, 2018 and 2017.

8. 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:

	<i>(in millions)</i>	Years Ended December 31,		
		2019	2018	2017
Net (loss) earnings attributable to Mosaic		\$ (1,067.4)	\$ 470.0	\$ (107.2)
Basic weighted average number of shares outstanding attributable to common stockholders		383.8	384.8	350.9
Dilutive impact of share-based awards		—	1.6	—
Diluted weighted average number of shares outstanding		<u>383.8</u>	<u>386.4</u>	<u>350.9</u>
Basic net (loss) earnings per share		\$ (2.78)	\$ 1.22	\$ (0.31)
Diluted net (loss) earnings per share		\$ (2.78)	\$ 1.22	\$ (0.31)

A total of 2.5 million shares for 2019, 2.0 million shares for 2018 and 3.5 million shares for 2017 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.

9. CASH FLOW INFORMATION

Supplemental disclosures of cash paid for interest and income taxes and non-cash investing and financing information is as follows:

<i>(in millions)</i>	Years Ended December 31,		
	2019	2018	2017
Cash paid (received) during the period for:			
Interest	\$ 231.3	\$ 196.0	\$ 178.9
Less amount capitalized	28.5	22.1	23.9
Cash interest, net	\$ 202.8	\$ 173.9	\$ 155.0
Income taxes	\$ 46.5	\$ (34.2)	\$ (70.1)

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 \$63.2 million, \$(96.8) million and \$11.1 million for 2019, 2018 and 2017 respectively.

We accrued \$20.0 million related to the dividends declared in 2019 that will be paid in 2020. At December 31, 2018 and 2017, we had accrued dividends of \$11.8 million and \$12.1 million which were paid in 2019 and 2018, respectively.

On October 24, 2017, a lease financing transaction was completed with respect to an articulated tug and barge unit that is being used to transport ammonia for our operations. As described in more detail in Note 25, we had provided bridge loans to a consolidated affiliate for construction of the unit, and that entity also received construction loans from a joint venture in which we hold a 50% interest. Following the application of proceeds from the transaction, all outstanding construction loans to the joint venture entity, together with accrued interest, were repaid.

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 2019 of \$88.2 million. Non-cash investing and financing transactions related to assets acquired under capital leases were immaterial in 2018 and were \$267.9 million in 2017.

Depreciation, depletion and amortization includes \$877.6 million, \$878.2 million and \$659.4 million related to depreciation and depletion of property, plant and equipment, and \$5.1 million, \$5.7 million and \$6.1 million related to amortization of intangible assets for 2019, 2018 and 2017 respectively.

10. 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, 2019, is as follows:

Entity	Economic Interest
Gulf Sulphur Services LTD., LLLP	50.0%
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,		
	2019	2018	2017
Net sales	\$ 4,058.5	\$ 3,555.6	\$ 2,871.2
Net earnings (loss)	(215.0)	(5.4)	95.3
Mosaic's share of equity in net earnings (loss)	(59.4)	(4.5)	16.7
Total assets	9,682.5	9,042.9	8,623.6
Total liabilities	7,512.7	6,658.2	5,971.9
Mosaic's share of equity in net assets	554.7	609.1	712.8

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 Ma'aden. As of December 31, 2019, MWSPC represented 81% of the total assets and 76% of the total liabilities in the table above. MWSPC commenced ammonia operations in late 2016 and, on December 1, 2018, commenced commercial operations of its DAP plant, thereby bringing the entire project to the commercial production phase. In 2019, 2018 and 2017 our share of (loss)/equity in net earnings was \$(62.1) million, \$(9.5) million, and \$32.0 million, respectively.

MWSPC owns and operates a mine and two chemical complexes that produce phosphate fertilizers and other downstream phosphates products in the Kingdom of Saudi Arabia. The cost to develop and construct the integrated phosphate production facilities (the "**Project**") was approximately \$8.0 billion, which has been funded primarily through investments by us, Ma'aden and SABIC (together, the "**Project Investors**"), and through borrowing arrangements and other external project financing facilities ("**Funding Facilities**"). The production facilities are expected to have a capacity of approximately 3.0 million tonnes of finished product per year when fully operational. We market approximately 25% of the production of the joint venture.

On June 30, 2014, MWSPC entered into Funding Facilities with a consortium of 20 financial institutions for a total amount of approximately \$5.0 billion.

Also on June 30, 2014, in support of the Funding Facilities, we, together with Ma'aden and SABIC, agreed to provide our respective proportionate shares of the funding necessary for MWSPC by:

- (a) Contributing equity or making shareholder subordinated loans of up to \$2.4 billion to fund project costs to complete and commission the Project (the "**Equity Commitments**").
- (b) Through the earlier of Project completion or June 30, 2020, contributing equity, making shareholder subordinated loans or providing bank subordinated loans, to fund cost overruns on the Project (the "**Additional Cost Overrun Commitment**").
- (c) Through the earlier of Project completion or June 30, 2020, contributing equity, making shareholder loans or providing bank subordinated loans to fund scheduled debt service (excluding accelerated amounts) payable under the Funding Facilities and certain other amounts (such commitment, the "**DSU Commitment**" and such scheduled debt service and other amounts, "**Scheduled Debt Service**"). Our proportionate share of amounts covered by the DSU Commitment is not anticipated to exceed approximately \$200 million. The fair value of the DSU Commitment at December 31, 2019 is not material.

- (d) From the earlier of the Project completion date or June 30, 2020, to the extent there is a shortfall in the amounts available to pay Scheduled Debt Service, depositing for the payment of Scheduled Debt Service an amount up to the respective amount of certain shareholder tax amounts, and severance fees under MWSPC’s mining license, paid within the prior 36 months by MWSPC on behalf of the Project Investors, if any.

In January 2016, MWSPC received approval from the Saudi Industrial Development Fund (“*SIDF*”) for loans in the total amount of approximately \$1.1 billion for the Project, subject to the finalization of definitive agreements. In 2017, MWSPC entered into definitive agreements with SIDF to draw up to \$560 million from the total SIDF-approved amount (the “*SIDF Loans*”). In September of 2018, we received communication that SIDF agreed to waive Mosaic's Parent Guarantee. MWSPC received approval to access the remaining SIDF facility of \$506 million which was subsequently drawn in December 2018. Mosaic continues to have Equity Commitments, the Additional Cost Overrun Commitment and the DSU Commitment in relation to MWSPC project financing.

As of December 31, 2019, our cash investment was \$770 million. We did not make any contributions in 2019 and do not expect future contributions will be needed even though we are contractually obligated to make future cash contributions up to approximately \$70 million.

11. 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.

The changes in the carrying amount of goodwill, by reporting unit, as of December 31, 2019 and 2018, are as follows:

<i>(in millions)</i>	Phosphates	Potash	Mosaic Fertilizantes	Corporate, Eliminations and Other	Total
Balance as of December 31, 2017	492.4	1,076.9	124.3	—	1,693.6
Foreign currency translation	—	(76.5)	(5.8)	—	(82.3)
Allocation of goodwill due to segment realignment	—	—	(12.1)	12.1	—
Goodwill acquired in the Vale acquisition	96.2	—	—	—	96.2
Balance as of December 31, 2018	\$ 588.6	\$ 1,000.4	\$ 106.4	\$ 12.1	\$ 1,707.5
Foreign currency translation	—	39.4	(1.4)	—	38.0
Impairment	(588.6)	—	—	—	(588.6)
Balance as of December 31, 2019	\$ —	\$ 1,039.8	\$ 105.0	\$ 12.1	\$ 1,156.9

We elected early adoption of ASU 2017-04 effective January 1, 2017, “Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment.” As a result, we removed Step 2 of the goodwill impairment test, which requires a hypothetical purchase price allocation. Goodwill impairment will now be the amount by which a reporting unit’s carrying value exceeds its fair value, not to exceed the carrying amount of goodwill.

As of October 31, 2019, 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, an independent third party data source. Selling prices and raw material prices for years six and beyond were based on anticipated market growth. 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 the final year of 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, 2019 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. As a result of our test, we concluded that the carrying value of our Phosphates reporting unit was in excess of its fair value due to a reduction in our long-term forecast, primarily related to changes in projected selling prices and raw material prices. Therefore, we recognized a goodwill impairment charge of \$588.6 million which is included in impairment, restructuring and other expenses in our Consolidated Statement of Earnings (Loss) at December 31, 2019.

Based on our quantitative evaluation as of October 31, 2019, we determined that our Potash and Mosaic Fertilizantes reporting units had an estimated fair value that was not in significant excess of its carrying value. As a result, we concluded that the goodwill assigned to these reporting units was not impaired, but could be at risk of future impairment. We continue to believe that our long-term financial goals will be achieved. As a result of our analysis, we did not take a goodwill impairment charge related to either of these reporting units.

The Corporate, Eliminations and Other reporting unit was evaluated and not considered at risk of goodwill impairment at October 31, 2019.

Assessing the potential impairment of goodwill involves certain assumptions and estimates in our model that are highly sensitive and include inherent uncertainties that are often interdependent and do not change in isolation such as product prices, raw material costs, WACC, and terminal value growth rate. If any of these are different from our assumptions, future tests may indicate an impairment of goodwill, which would result in non-cash charges, adversely affecting our results of operations.

Of the factors discussed above, WACC is more sensitive than others. Assuming that all other components of our fair value estimate remain unchanged, a change in the WACC would have the following effect on estimated fair values in excess of carrying values:

	Sensitivity Analysis - Percent of Fair Values in Excess of Carrying Values				
	Excess at Current WACC	WACC Decreased by 50 Basis Points	WACC Decreased by 25 Basis Points	WACC Increased by 25 Basis Points	WACC Increased by 50 Basis Points
Potash Reporting Unit	4.3%	12.0%	8.2%	0.4%	(3.7)%
Mosaic Fertilizantes Reporting Unit	4.6%	10.7%	7.7%	1.4%	(1.9)%

As of December 31, 2019, \$5.1 million of goodwill was tax deductible.

12. FINANCING ARRANGEMENTS

Mosaic Credit Facility

On November 18, 2016, we entered into a new unsecured five-year credit facility of up to \$2.72 billion (the “**Mosaic Credit Facility**”), which includes a \$2.0 billion revolving credit facility and a \$720 million term loan facility (the “**Term Loan Facility**”). The Mosaic Credit Facility is intended to serve as our primary senior unsecured bank credit facility. It increased, extended and replaced our prior unsecured credit facility, which consisted of a revolving facility of up to \$1.5 billion (the “**Prior Credit Facility**”). Letters of credit outstanding under the Prior Credit Facility in the amount of approximately \$18.3 million became letters of credit under the Mosaic Credit Facility. The maturity date of the Mosaic Credit Facility, including final maturity of the term loan thereunder, is November 18, 2021. The Term Loan Facility is described below under “Long-Term Debt, including Current Maturities.”

The Mosaic Credit Facility has cross-default provisions that, in general, provide that a failure to pay principal or interest under any one item of other indebtedness in excess of \$50 million or \$75 million for multiple items of other indebtedness, 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 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, 2019.

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, 2019, we had outstanding letters of credit that utilized a portion of the amount available for revolving loans under the Mosaic Credit Facility of \$13.1 million. At December 31, 2018, we had outstanding letters of credit of \$14.3 million. The net available borrowings for revolving loans under the Mosaic Credit Facility were approximately \$1.99 billion as of December 31, 2019. Unused commitment fees under the Mosaic Credit Facility and Prior Credit Facility accrued at an average annual rate of 0.20% for 2019 and 2018 and 0.16% for 2017, generating expenses of \$4.0 million for 2019 and 2018 and \$3.3 million for 2017.

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, 2019, and various other short-term borrowings related to our related to our international operations in India, China and Brazil. These other short-term borrowings outstanding were \$41.6 million and \$11.5 million as of December 31, 2019 and 2018, respectively.

We had additional outstanding bilateral letters of credit of \$54.5 million as of December 31, 2019, which includes \$50.0 million as required by the 2015 Consent Decrees as described further in Note 15 of our Consolidated Financial Statements.

Long-Term Debt, including Current Maturities

On November 13, 2017, we issued new 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 (collectively, the “**Senior Notes of 2017**”). Proceeds from the Senior Notes of 2017 were used to fund the cash portion of the purchase price of the Acquisition paid at closing, transactions costs and expenses, and to fund a portion of the prepayment of the Term Loan Facility.

The Mosaic Credit Facility included the Term Loan Facility, under which we borrowed \$720 million. The proceeds were used to prepay a prior term loan facility. In 2018, we prepaid the outstanding balance of \$684 million under the Term Loan Facility without premium or penalty.

We have additional senior notes outstanding, consisting of (i) \$900 million aggregate principal amount of 4.25% senior notes due 2023, \$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 (ii) \$450 million aggregate principal amount of 3.750% senior notes due 2021 and \$300 million aggregate principal amount of 4.875% senior notes due 2041 (collectively, the “**Senior Notes of 2011**”).

The Senior Notes of 2011, the Senior Notes of 2013 and the Senior Notes of 2017 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.

Two debentures issued by Mosaic Global Holdings, Inc., one of our consolidated subsidiaries, the first due in 2018 (the “**2018 Debentures**”), was paid off on the maturity date of August 1, 2018, and the second due in 2028 (the “**2028 Debentures**”), remains outstanding with a balance of \$147.1 million as of December 31, 2019. The indentures governing the 2028 Debentures also contain 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 Debentures are guaranteed by the Company and several of its subsidiaries.

Long-term debt primarily consists of unsecured notes, term loans, finance leases, unsecured debentures and secured notes. Long-term debt as of December 31, 2019 and 2018, respectively, consisted of the following:

<i>(in millions)</i>	December 31, 2019 Stated Interest Rate	December 31, 2019 Effective Interest Rate	Maturity Date	December 31, 2019 Stated Value	Combination Fair Market Value Adjustment	Discount on Notes Issuance	December 31, 2019 Carrying Value	December 31, 2018 Stated Value	Combination Fair Market Value Adjustment	Discount on Notes Issuance	December 31, 2018 Carrying Value
Unsecured notes	3.25% - 5.63%	5.01%	2021-2043	\$ 4,000.0	\$ —	\$ (6.3)	\$ 3,993.7	\$ 4,000.0	\$ —	\$ (7.3)	\$ 3,992.7
Unsecured debentures	7.30%	7.19%	2028	147.1	1.0	—	148.1	147.1	1.1	—	148.2
Term loan ^(a)	Libor plus 1.25%	Variable	2021	—	—	—	—	—	—	—	—
Finance leases	2.32% - 19.72%	3.87%	2020-2030	345.1	—	—	345.1	302.2	—	—	302.2
Other ^(b)	2.50% - 9.98%	5.39%	2021-2026	71.6	14.2	—	85.8	58.0	16.4	—	74.4
Total long-term debt				4,563.8	15.2	(6.3)	4,572.7	4,507.3	17.5	(7.3)	4,517.5
Less current portion				45.9	2.3	(1.0)	47.2	24.7	2.3	(1.0)	26.0
Total long-term debt, less current maturities				<u>\$ 4,517.9</u>	<u>\$ 12.9</u>	<u>\$ (5.3)</u>	<u>\$ 4,525.5</u>	<u>\$ 4,482.6</u>	<u>\$ 15.2</u>	<u>\$ (6.3)</u>	<u>\$ 4,491.5</u>

(a) Term loan facility is pre-payable.

(b) 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:

<i>(in millions)</i>	
2020	\$ 47.2
2021	503.6
2022	596.3
2023	80.5
2024	1,070.8
Thereafter	2,274.3
Total	<u>\$ 4,572.7</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 financing 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 a later date, stipulated in accordance with the commercial terms negotiated. At December 31, 2019 and 2018, these structured accounts payable arrangements were \$740.6 million and \$572.8 million, respectively.

Inventory Financing Arrangement

In January 2020, we entered into an inventory financing arrangement to sell up to \$400 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. As of February 20, 2020, we had sold \$50.3 million of inventory under this financing arrangement.

13. 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 15 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 Phosphate 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 Condensed 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 carrying value of an investment is impaired on an other-than-temporary basis. There were no other-than-temporary impairment write-downs on available-for-sale securities during the year ended December 31, 2019.

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, 2019 and December 31, 2018 are as follows:

		December 31, 2019			
<i>(in millions)</i>		Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Level 1					
Cash and cash equivalents		\$ 3.4	\$ —	\$ —	\$ 3.4
Level 2					
Corporate debt securities		194.2	5.8	(0.1)	199.9
Municipal bonds		188.3	4.4	(0.4)	192.3
U.S. government bonds		280.6	3.2	(2.5)	281.3
Total		<u>\$ 666.5</u>	<u>\$ 13.4</u>	<u>\$ (3.0)</u>	<u>\$ 676.9</u>
		December 31, 2018			
<i>(in millions)</i>		Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Level 1					
Cash and cash equivalents		\$ 4.0	\$ —	\$ —	\$ 4.0
Level 2					
Corporate debt securities		180.8	0.3	(4.3)	176.8
Municipal bonds		186.1	0.5	(3.4)	183.2
U.S. government bonds		262.1	3.3	—	265.4
Total		<u>\$ 633.0</u>	<u>\$ 4.1</u>	<u>\$ (7.7)</u>	<u>\$ 629.4</u>

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 deemed to be temporary as of December 31, 2019 and December 31, 2018.

	December 31, 2019		December 31, 2018	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
Securities that have been in a continuous loss position for less than 12 months (in millions):				
Corporate debt securities	\$ 17.9	\$ —	\$ 43.9	\$ (0.6)
Municipal bonds	11.7	(0.1)	12.3	—
U.S. government bonds	195.4	(2.5)	—	—
Total	\$ 225.0	\$ (2.6)	\$ 56.2	\$ (0.6)

	December 31, 2019		December 31, 2018	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
Securities that have been in a continuous loss position for more than 12 months (in millions):				
Corporate debt securities	\$ 20.7	\$ (0.1)	\$ 103.4	\$ (3.7)
Municipal bonds	14.7	(0.3)	117.5	(3.4)
Total	\$ 35.4	\$ (0.4)	\$ 220.9	\$ (7.1)

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, 2019. 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.

	December 31, 2019
<i>(in millions)</i>	
Due in one year or less	\$ 28.8
Due after one year through five years	423.6
Due after five years through ten years	184.4
Due after ten years	36.7
Total debt securities	\$ 673.5

For the year ended December 31, 2019, realized gains and (losses) were \$17.0 million and \$(1.8) million, respectively. For the year ended December 31, 2018, realized gains and (losses) were \$0.3 million and \$(13.5) million, respectively.

14. 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 2019, 2018 and 2017, consisted of the following:

<i>(in millions)</i>	Years Ended December 31,		
	2019	2018	2017
<i>Current:</i>			
Federal	\$ (75.5)	\$ 24.5	\$ (167.6)
State	(5.2)	1.8	14.9
Non-U.S.	119.1	147.2	31.0
Total current	38.4	173.5	(121.7)
<i>Deferred:</i>			
Federal	(194.8)	(105.1)	602.3
State	(6.7)	9.9	(39.9)
Non-U.S.	(61.6)	(1.2)	54.2
Total deferred	(263.1)	(96.4)	616.6
(Benefit from) provision for income taxes	<u>\$ (224.7)</u>	<u>\$ 77.1</u>	<u>\$ 494.9</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:

<i>(in millions)</i>	Years Ended December 31,		
	2019	2018	2017
United States earnings (loss)	\$ (1,096.2)	\$ 322.7	\$ (82.5)
Non-U.S. earnings	(159.9)	228.8	456.5
(Loss) earnings from consolidated companies before income taxes	<u>\$ (1,256.1)</u>	<u>\$ 551.5</u>	<u>\$ 374.0</u>
Computed tax at the U.S. federal statutory rate	21.0 %	21.0 %	35.0 %
State and local income taxes, net of federal income tax benefit	2.6 %	2.0 %	(0.1)%
Percentage depletion in excess of basis	2.5 %	(6.7)%	(13.2)%
Impact of non-U.S. earnings	5.3 %	11.8 %	(46.9)%
Change in valuation allowance	(3.1)%	(15.2)%	148.8 %
Phosphates goodwill impairment	(5.0)%	— %	— %
Share-based excess cost/(benefits)	— %	0.7 %	2.0 %
Other items (none in excess of 5% of computed tax)	(5.4)%	0.4 %	6.7 %
Effective tax rate	<u>17.9 %</u>	<u>14.0 %</u>	<u>132.3 %</u>

2019 Effective Tax Rate

In the year ended December 31, 2019, 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 impacts recorded due to the U.S. Tax Cuts and Jobs Act (the “*Act*”).

The tax impact of our ordinary business operations is impacted by the mix of earnings across jurisdictions in which we operate, by a benefit associated with depletion, 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 benefit of (\$355.6) million. The benefit relates to various notable items, which resulted in the following tax benefits: (\$263.4) million related to the indefinite idling of the Colonsay mine, (\$81.0) million related to the Plant City closure costs, and (\$79.6) million related to the phosphates goodwill impairment. These tax benefits are partially offset by tax expense of: \$21.2 million for changes in certain provisions of the Act, \$15.9 million for valuation allowances in the U.S. and foreign jurisdictions, \$14.0 million related to state tax rate changes, \$12.5 million related to changes in estimates related to prior years (including changes in certain provisions of the Act), and miscellaneous tax expense of \$4.8 million. The tax expense of \$21.2 million related to certain provisions of the Act and is the reversal of the benefit recorded in December 31, 2018 that pertained to the one-time “deemed” repatriation.

2018 Effective Tax Rate

In the year ended December 31, 2018, there were three types of items impacting the effective tax rate; 1) items attributable to ordinary business operations during the year, 2) other items specific to the period, and 3) impacts recorded due to the Act.

The tax impact of our ordinary business operations is impacted by the mix of earnings across jurisdictions in which we operate, by a benefit associated with depletion, 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 cost of \$0.7 million. This relates to various items including: a benefit of (\$30.6) million related to revised valuation allowances on foreign tax credits, a \$12.2 million cost as a result of revisions to the provisional estimates related to the Act, a \$15.0 million cost for withholding taxes related to undistributed earnings, a cost of \$11.7 million for valuation allowances in foreign jurisdictions, a benefit of (\$8.6) million related to release of the sequestration on future AMT refunds, and other miscellaneous costs of \$1.0 million.

Impacts of the Tax Cuts and Jobs Act

On December 22, 2017, The Act was enacted, significantly altering U.S. corporate income tax law. The SEC issued Staff Accounting Bulletin 118, which allows companies to record reasonable estimates of enactment impacts where the underlying analysis and calculations are not yet complete (“*Provisional Estimates*”). The Provisional Estimates were required to be finalized within a one-year measurement period. In the period ending December 31, 2017, we recorded Provisional Estimates of the impact of the Act of \$457.5 million related to several key changes in the law. As of December 31, 2019, the impacts of the Act have been finalized. All future impacts of future issued guidance will be appropriately accounted for in the period in which the law is enacted.

The Act imposed a one-time tax on “deemed” repatriation of foreign subsidiaries’ earnings and profits. The repatriation resulted in an estimated non-cash charge of \$107.7 million. The charge was offset by a \$202.6 million, non-cash reduction in the deferred tax liability related to certain undistributed earnings. Both of these items were recorded in the period ending December 31, 2017. The December 31, 2017 provisional estimates have been revised and finalized in the period ending December 31, 2018, resulting in an additional benefit of \$9.0 million of which a cost of \$12.2 million is included in the tax expense specific to the period and a benefit of \$21.2 million is included in the annual effective tax rate. However, the benefit of \$21.2 million resulted from certain provisions of the Act that pertain to the repatriation that, based on proposed guidance from the U.S. Internal Revenue Service, we anticipated could reverse when the regulations were finalized. As discussed above, the regulations were finalized in 2019 and the benefit was reversed.

As of December 31, 2017, we recognized a \$2.3 million non-cash, deferred tax benefit related to the reduction of the U.S. federal rate from 35 percent to 21 percent.

The Act significantly modified the U.S. taxation of foreign earnings and the treatment of the related foreign tax credits. In December 2017, as a result of these changes, we recorded valuation allowances against our foreign tax credits and our anticipatory foreign tax credits of \$105.8 million and \$440.3 million, respectively. As of December 2018, we concluded that the foreign tax credits would more likely than not be utilized and the related valuation allowance of \$105.8 million was reversed as a benefit. This benefit arose due to both revisions in the estimated impact of the Act and estimates with respect to future forecasted income. Of the \$105.8 million benefit, \$30.6 million was recorded as tax benefit specific to the period.

As of December 31, 2018, we recorded a valuation allowance against U.S. branch basket foreign tax credits of \$156.8 million and anticipatory foreign tax credits of \$361.6 million.

The Act repeals the corporate alternative minimum tax, or AMT, system and allows for the cash refund of excess AMT credits. As of December 31, 2017, the refundable AMT amounts were subject to a set of federal budgeting rules where a certain portion of the refundable amount would permanently be disallowed (the “*Sequestration Rules*”). We estimated that we would receive a cash refund of \$121.5 million net of an \$8.6 million charge related to the Sequestration Rules. In 2018, guidance was released that concluded that the Sequestration Rules do not apply to AMT credits related to the Act. As of December 31, 2018, we estimated that we will receive a cash refund of \$100.4 million and the sequestration charge of \$8.6 million recorded at December 31, 2017 was reversed. The estimated refundable alternative minimum tax credit was included in other non-current assets at both December 31, 2018 and December 31, 2017.

The Act introduced a new category of taxable income called global intangible low-taxed income (“*GILTI*”). No provisional estimates were recorded as of December 31, 2017 for the impacts of GILTI since we had not completed our full analysis of that provision of the Act. We have included GILTI in our December 31, 2018 provision for income taxes, which did not have a material impact to the Company for the current year. We have elected an accounting policy to record any GILTI liabilities as period costs.

2017 Effective Tax Rate

In the year ended December 31, 2017, there were three types of items impacting the effective tax rate; 1) items attributable to ordinary business operations during the year, 2) other items specific to the period, and 3) impacts recorded due to the enactment of the U.S. Tax Cuts and Jobs Act.

The tax impact of our ordinary business operations 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.

Tax expense specific to the period included a cost of \$15.1 million related to a \$10.4 million pre-tax charge resulting from the resolution of a royalty matter with the government of Saskatchewan and related royalty impacts, a \$7.5 million cost related to share-based compensation, and an expense of \$6.7 million related to the effect on deferred income tax liabilities of an increase in the statutory tax rate for one of our equity method investments, offset by a \$(14.9) million U.S. state deferred benefit and other miscellaneous benefits of \$(6.1) million.

Significant components of our deferred tax liabilities and assets as of December 31 were as follows:

	December 31,	
	2019	2018
<i>(in millions)</i>		
<i>Deferred tax liabilities:</i>		
Depreciation and amortization	\$ 70.7	\$ 317.3
Depletion	530.7	390.8
Partnership tax basis differences	69.8	64.6
Undistributed earnings of non-U.S. subsidiaries	3.8	15.0
Other liabilities	19.0	10.3
Total deferred tax liabilities	<u>\$ 694.0</u>	<u>\$ 798.0</u>
<i>Deferred tax assets:</i>		
Alternative minimum tax credit carryforwards	\$ —	\$ 76.5
Capital loss carryforwards	—	3.0
Foreign tax credit carryforwards	522.5	493.5
Net operating loss carryforwards	420.0	408.9
Pension plans and other benefits	43.8	33.4
Asset retirement obligations	232.1	187.6
Disallowed interest expense under §163(j)	58.1	—
Other assets	349.3	388.8
Subtotal	<u>1,625.8</u>	<u>1,591.7</u>
Valuation allowance	1,457.1	1,530.5
Net deferred tax assets	<u>168.7</u>	<u>61.2</u>
Net deferred tax liabilities	<u>\$ (525.3)</u>	<u>\$ (736.8)</u>

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, 2019 and 2018, these non-U.S. deferred taxes are offset by approximately \$224.6 million and \$361.6 million, respectively, of anticipated foreign tax credits included within our depreciation and depletion components of deferred tax liabilities above. Due to the Act, we have recorded a valuation allowance against the anticipated foreign tax credits of \$224.6 million and \$361.6 million for December 31, 2019 and 2018, respectively.

As of December 31, 2019, we had estimated carryforwards for tax purposes as follows: alternative minimum tax credits of \$85.5 million that we estimate will be refundable due to the Act, net operating losses of \$1.93 billion, foreign tax credits of \$522.5 million and \$1.6 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 \$832 million 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 for 20 years. Of the \$522.5 million of foreign tax credits, approximately \$36.5 million have an expiration date of 2023, approximately \$235.4 million have an expiration date of 2026, approximately \$150.3 million have an expiration date of 2028, and approximately \$100.2 million have an expiration date of 2029. 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. As a result of changes in U.S. tax law due to the Act, the Company valuation allowances recorded against its branch basket foreign tax credits was \$238.3 million at December 31, 2019.

As of December 31, 2019, we have not recognized a deferred tax liability for un-remitted earnings of approximately \$886.7 million 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 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, 2019, the valuation allowance decreased by \$73.4 million, of which a \$48.0 million decrease related to changes in valuation allowances and currency translation in Brazil, and a \$49.8 million decrease related to U.S. branch foreign tax credits. These decreases to the valuation allowance were offset by the following increases: \$6.8 million related to net operating losses for certain U.S. states, \$8.3 million related to net operating losses in Peru, and \$9.2 million related to our conclusion that we are not more likely than not to use attributes at other foreign jurisdictions.

For the year ended December 31, 2018, the valuation allowance increased by \$945.8 million, of which \$956.2 million related to valuation allowances on the Vale acquisition and \$30.7 million related to changes in the U.S. tax law imposed by the Act. The remaining amount relates to our conclusion that we are not more likely than not to use attributes at other foreign jurisdictions.

For the year ended year ended December 31, 2017, the valuation allowance increased by \$553.5 million, of which \$546.1 million related to changes in the U.S. tax law imposed by the Act and the remaining amount is due to our conclusion that we are not more likely than not to use attributes at a Netherlands subsidiary.

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, 2019, we had \$39.5 million of gross uncertain tax positions. If recognized, the benefit to our effective tax rate in future periods would be approximately \$23.3 million of that amount. During 2019, we recorded gross increases in our uncertain tax positions of \$1.4 million related to certain U.S. and non-U.S. tax matters, of which \$2.8 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, 2019, 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:

<i>(in millions)</i>	Years Ended December 31,		
	2019	2018	2017
Gross unrecognized tax benefits, beginning of period	\$ 38.1	\$ 39.3	\$ 27.1
Gross increases:			
Prior period tax positions	—	0.3	1.9
Current period tax positions	5.1	3.8	8.5
Gross decreases:			
Prior period tax positions	(4.9)	(2.9)	—
Currency translation	1.2	(2.4)	1.8
Gross unrecognized tax benefits, end of period	<u>\$ 39.5</u>	<u>\$ 38.1</u>	<u>\$ 39.3</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, 2019 and 2018 were \$7.4 million and \$4.9 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 United States and outside the United States, 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 2012.

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 Canada Revenue Agency for the tax years ended May 31, 2012 through December 31, 2017. 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.

15. ASSET RETIREMENT OBLIGATIONS

We recognize our estimated asset retirement obligations (“**AROs**”) 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)

de-commission mines in Brazil and Peru acquired as part of the Acquisition and (viii) de-commission plant sites and close Gypstacks in Brazil, also as part of the Acquisition. 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:

	Years Ended December 31,	
	2019	2018
<i>(in millions)</i>		
AROs, beginning of period	\$ 1,160.1	\$ 859.3
Liabilities acquired in the Acquisition	—	258.9
Liabilities incurred	15.8	27.8
Liabilities settled	(112.8)	(69.6)
Accretion expense	62.4	48.0
Revisions in estimated cash flows	191.0	78.2
Foreign currency translation	(1.3)	(42.5)
AROs, end of period	1,315.2	1,160.1
Less current portion	154.4	136.3
	<u>\$ 1,160.8</u>	<u>\$ 1,023.8</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, 2019 and 2018, the present value of our Gypstack Closure Costs ARO reflected in our Consolidated Balance Sheet was approximately \$660.2 million and \$578.4 million, 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 (“*LDEQ*”) 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, Mulberry, 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 EPA and the FDEP with respect to RCRA compliance at the Plant City, Florida phosphate concentrates facility (the “*Plant City Facility*”) that we acquired as part of our acquisition (the “*CF Phosphate Assets 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:

- Modification of certain operating practices and undertaking certain capital improvement projects over a period of several years that are expected to result in capital expenditures likely to exceed \$200 million in the aggregate.
- Provision of additional financial assurance for the estimated Gypstack Closure Costs for Gypstacks at the covered facilities. The RCRA Trusts are discussed in Note 13 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, 2019, 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 \$1.6 billion, and the present value of our Gypstack Closure Costs ARO reflected in our Consolidated Balance Sheet for those facilities was approximately \$429.3 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 provide sources of funds for the estimated Gypstack Closure Costs for these facilities, pursuant to federal or state law: the government entities can draw against such amounts in the event we cannot perform such closure activities. One 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 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 (the “*Plant City Bond*”). The amount of the Plant City Bond is \$244.9 million, at December 31, 2019, 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 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, 2019 and 2018, the aggregate amounts of AROs associated with the Plant City Facility and Bonnie Facility Gypstack Closure Costs included in our consolidated balance sheet were \$211.2 million and \$109.2 million, respectively. The aggregate amount represented by the Plant City Bond exceeds 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.

16. 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, 2019 and 2018, the gross asset position of our derivative instruments was \$29.9 million and \$13.4 million, respectively, and the gross liability position of our liability instruments was \$29.1 million and \$89.4 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.

We apply fair value hedge accounting treatment to our fixed-to-floating interest rate 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. These fair value hedges are considered to be highly effective and, thus, as of December 31, 2019, the impact on earnings due to hedge ineffectiveness was immaterial. Consistent with Mosaic’s intent to have floating rate debt as a portion of its outstanding debt, we had nine fixed-to-floating interest rate swap agreements with a total notional amount of \$585.0 million as of the years ended December 31, 2019 and 2018, related to our Senior Notes due 2023.

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 31, 2019	December 31, 2018
Foreign currency derivatives	Foreign Currency	US Dollars	1,923.3	2,091.7
Interest rate derivatives	Interest Rate	US Dollars	585.0	585.0
Natural gas derivatives	Commodity	MMbtu	44.1	52.2

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, 2019 and 2018 was \$11.6 million and \$37.9 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, 2019, we would have been required to post an additional \$7.0 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.

17. 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 eighteen 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, 2019 and 2018, the gross asset position of our foreign currency derivative instruments was \$15.6 million and \$13.1 million, respectively, and the gross liability position of our foreign currency derivative instruments was \$22.9 million and \$62.2 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, 2019 and 2018, the gross asset position of our commodity derivative instruments was \$2.9 million and \$0.3 million, respectively, and the gross liability position of our commodity derivative instruments was \$6.2 million and \$17.7 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. 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. As of December 31, 2019 and 2018, the gross asset position of our interest rate swap instruments was \$11.4 million and zero, respectively, and the gross liability position of our interest rate swap instruments was zero and \$9.5 million, respectively.

Financial Instruments

The carrying amounts and estimated fair values of our financial instruments are as follows:

<i>(in millions)</i>	December 31,			
	2019		2018	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Cash and cash equivalents	\$ 519.1	\$ 519.1	\$ 847.7	\$ 847.7
Accounts receivable	803.9	803.9	838.5	838.5
Accounts payable	680.4	680.4	780.9	780.9
Structured accounts payable arrangements	740.6	740.6	572.8	572.8
Short-term debt	41.6	41.6	11.5	11.5
Long-term debt, including current portion	4,572.7	4,920.9	4,517.5	4,554.6

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. The fair value of 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 13 of our Notes to Consolidated Financial Statements.

18. 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 more significant guarantees and indemnities are as follows:

Guarantees to Brazilian Financial Parties. From time to time, we issue guarantees to financial parties in Brazil for certain amounts owed the institutions by certain customers of Mosaic. The guarantees are for all or part of the customers' obligations. In the event that the customers default on their payments to the institutions and we would be required to perform under the guarantees, we have in most instances obtained collateral from the customers. We monitor the nonperformance risk of the counterparties and have noted no material concerns regarding their ability to perform on their obligations. The guarantees generally have a one-year term, but may extend up to two years or longer depending on the crop cycle, and we expect to renew many of these guarantees on a rolling twelve-month basis. As of December 31, 2019, we have estimated the maximum potential future payment under the guarantees to be \$71.4 million. The fair value of our guarantees is immaterial to the Consolidated Financial Statements as of December 31, 2019 and 2018.

Other Indemnities. Our maximum potential exposure under other indemnification arrangements can range from a specified dollar amount to an unlimited amount, depending on the nature of the transaction. Total maximum potential exposure under these indemnification arrangements is not estimable due to uncertainty as to whether claims will be made or how they will be resolved. We do not believe that we will be required to make any material payments under these indemnity provisions.

Because 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, there exists a risk that we may have obligations in excess of the amounts described above. For those guarantees and indemnities that do not limit our liability exposure, 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.

19. 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

We sponsor various defined benefit pension plans in the U.S. and in Canada. Benefits are based on different combinations of years of service and compensation levels, depending on the plan. Generally, contributions to the U.S. plans are made to meet minimum funding requirements of ERISA, while contributions to Canadian plans are made in accordance with Pension Benefits Acts instituted by the provinces of Saskatchewan and Ontario. Certain employees in the U.S. and Canada, whose pension benefits exceed Internal Revenue Code and Canada Revenue Agency limitations, respectively, are covered by supplementary non-qualified, unfunded pension plans.

We sponsor various defined benefit pension plans in Brazil, and we acquired through the Acquisition 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 (“*PREVIC*”). 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 the Acquisition. We made contributions to these plans, net of indemnification, of \$0.7 million and \$1.0 million during the years ended December 31, 2019 and 2018, respectively.

Accounting for Pension Plans

The year-end status of the North American pension plans was as follows:

<i>(in millions)</i>	Pension Plans	
	Years Ended December 31,	
	2019	2018
Change in projected benefit obligation:		
Benefit obligation at beginning of period	\$ 673.6	\$ 766.1
Service cost	4.8	6.2
Interest cost	25.0	24.0
Actuarial (gain) loss	67.4	(48.3)
Currency fluctuations	15.7	(28.0)
Benefits paid	(40.6)	(46.4)
Plan amendments	9.6	—
Projected benefit obligation at end of period	<u>\$ 755.5</u>	<u>\$ 673.6</u>
Change in plan assets:		
Fair value at beginning of period	\$ 701.2	\$ 793.2
Currency fluctuations	16.8	(30.7)
Actual return	107.7	(22.0)
Company contribution	5.5	7.1
Benefits paid	(40.6)	(46.4)
Fair value at end of period	<u>\$ 790.6</u>	<u>\$ 701.2</u>
Funded status of the plans as of the end of period	<u>\$ 35.1</u>	<u>\$ 27.6</u>
Amounts recognized in the consolidated balance sheets:		
Noncurrent assets	\$ 45.8	\$ 40.5
Current liabilities	(0.8)	(0.7)
Noncurrent liabilities	(9.9)	(12.2)
Amounts recognized in accumulated other comprehensive (income) loss		
Prior service costs	\$ 25.2	\$ 16.9
Actuarial loss	94.8	107.7

At December 31, 2019, approximately \$7.4 million was included in accrued liabilities in our Consolidated Balance Sheet for curtailment costs related to the indefinite idling of the Colonsay mine.

The accumulated benefit obligation for the defined benefit pension plans was \$754.7 million and \$673.0 million as of December 31, 2019 and 2018, respectively.

The components of net annual periodic benefit costs and other amounts recognized in other comprehensive income include the following components:

<i>(in millions)</i>	Pension Plans		
	Years Ended December 31,		
	2019	2018	2017
<i>Net Periodic Benefit Cost</i>			
Service cost	\$ 4.8	\$ 6.2	\$ 5.9
Interest cost	25.0	24.0	24.3
Expected return on plan assets	(33.8)	(39.7)	(41.3)
Amortization of:			
Prior service cost	2.3	2.4	2.3
Actuarial loss	9.2	9.1	2.8
Preliminary net periodic benefit cost (income)	\$ 7.5	\$ 2.0	\$ (6.0)
Curtailment/settlement expense	—	1.2	2.4
Total net periodic benefit cost (income)	<u>\$ 7.5</u>	<u>\$ 3.2</u>	<u>\$ (3.6)</u>
<i>Other Changes in Plan Assets and Benefit Obligations Recognized in Other Comprehensive Income</i>			
Prior service (credit) cost recognized in other comprehensive income	\$ 5.5	\$ (4.3)	\$ (3.8)
Net actuarial loss (gain) recognized in other comprehensive income	(13.9)	5.0	(4.0)
Total recognized in other comprehensive income (loss)	\$ (8.4)	\$ 0.7	\$ (7.8)
Total recognized in net periodic benefit (income) cost and other comprehensive income	<u>\$ (0.9)</u>	<u>\$ 3.9</u>	<u>\$ (11.4)</u>

The estimated net actuarial (gain) loss and prior service cost (credit) for the pension plans and postretirement plans that will be amortized from accumulated other comprehensive income into net periodic benefit cost in 2020 is \$11.5 million.

The following estimated benefit payments, which reflect estimated future service are expected to be paid by the related plans in the years ending December 31:

<i>(in millions)</i>	Pension Plans Benefit Payments	Other Postretirement Plans Benefit Payments	Medicare Part D Adjustments
2020	\$ 42.5	\$ 3.5	\$ 0.2
2021	43.3	3.3	0.2
2022	44.1	3.1	0.2
2023	44.2	2.8	0.2
2024	44.1	2.6	0.1
2024-2028	218.0	9.6	0.4

In 2020, we expect to contribute cash of at least \$7.2 million to the pension plans to meet minimum funding requirements. Also in 2020, we anticipate contributing cash of \$3.5 million to the postretirement medical benefit plans to fund anticipated benefit payments.

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. Investments are made in public securities to ensure adequate liquidity to support benefit payments. Domestic and international stocks and bonds provide diversification to the portfolio.

For the U.S. plans, we utilize an asset allocation policy that seeks to reduce funded status volatility over time. As such, the primary investment objective beyond accumulating sufficient assets to meet future benefit obligations is to monitor and manage the assets of the plan to better insulate the asset portfolio from changes in interest rates that impact the liabilities.

This requires an interest rate management strategy to reduce the sensitivity in the plan's funded status and having a portion of the plan's assets invested in return-seeking strategies. Currently, our policy includes an 80% allocation to fixed income and 20% to return-seeking strategies. The plans also have de-risking glide paths that will increase this protection as funded status improves. Actual allocations may experience temporary fluctuations based on market movements and investment strategies.

For the Canadian 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. The plans are expected to achieve an annual overall return, over a five year rolling period, consistent with or in excess of total fund benchmarks that reflect each plan's strategic allocations and respective market benchmarks at the individual asset class level. Management of the asset/liability gap of the plans and performance results are reviewed quarterly. Until September 2018, Mosaic had the four Canadian pension plans, two salaried and two hourly plans, managed in one master trust. In order to better match the assets with the liabilities of each plan, Mosaic decided to split the master trust into one trust for each plan. Currently, our policy includes an 80% allocation to fixed income and 20% to return-seeking strategies for the salaried plans and 60% allocation to fixed income and 40% to return-seeking strategies for the hourly plans. Actual allocations may experience temporary fluctuations based on market movements and investment strategies.

A significant amount of the assets are invested in funds that are managed by a group of professional investment managers through Mosaic's investment advisor. These funds are mainly commingled funds. Performance is reviewed by Mosaic management monthly by comparing each fund's return to a benchmark with an in-depth quarterly review presented by Mosaic's investment advisor to the Global Pension Investment Committee. We do not have significant concentrations of credit risk or industry sectors within the plan assets. Assets may be indirectly invested in Mosaic stock, but any risk related to this investment would be immaterial due to the insignificant percentage of the total pension assets that would be invested in Mosaic stock.

Fair Value Measurements of Plan Assets

The following tables provide fair value measurement, by asset class, of the Company's defined benefit plan assets for both the U.S. and Canadian plans:

Pension Plan Asset Category	December 31, 2019			
	Total	Level 1	Level 2	Level 3
Cash	\$ 3.4	\$ 3.4	\$ —	\$ —
Equity securities ^(a)	216.4	—	216.4	—
Fixed income ^(b)	569.3	—	569.3	—
Private equity funds	1.5	—	—	1.5
Total assets at fair value	\$ 790.6	\$ 3.4	\$ 785.7	\$ 1.5

Pension Plan Asset Category	December 31, 2018			
	Total	Level 1	Level 2	Level 3
Cash	\$ 12.0	\$ 12.0	\$ —	\$ —
Equity securities ^(a)	172.9	—	172.9	—
Fixed income ^(b)	514.3	—	514.3	—
Private equity funds	2.0	—	—	2.0
Total assets at fair value	\$ 701.2	\$ 12.0	\$ 687.2	\$ 2.0

- (a) This class, which includes several funds, was invested approximately 35% in U.S. equity securities, 18% in Canadian equity securities and 47% in international equity securities as of December 31, 2019, and 39% in U.S. equity securities, 18% in Canadian equity securities and 43% in international equity securities as of December 31, 2018.
- (b) This class, which includes several funds, was invested approximately 46% in corporate debt securities, 49% in governmental securities in the U.S. and Canada and 5% in foreign entity debt securities as of December 31, 2019, and 50% in corporate debt securities, 44% in governmental securities in the U.S. and Canada and 6% in foreign entity debt securities as of December 31, 2018.

Rates and Assumptions

The approach used to develop the discount rate for the pension and postretirement plans is commonly referred to as the yield curve approach. Under this approach, we use a hypothetical curve formed by the average yields of available corporate bonds rated AA and above and match it against the projected benefit payment stream. Each category of cash flow of the projected benefit payment stream is discounted back using the respective interest rate on the yield curve. Using the present value of projected benefit payments, a weighted-average discount rate is derived.

The approach used to develop the expected long-term rate of return on plan assets combines an analysis of historical performance, the drivers of investment performance by asset class and current economic fundamentals. For returns, we utilized a building block approach starting with inflation expectations and added an expected real return to arrive at a long-term nominal expected return for each asset class. Long-term expected real returns are derived from future expectations of the U.S. Treasury real yield curve.

Weighted average assumptions used to determine benefit obligations were as follows:

	Pension Plans		
	Years Ended December 31,		
	2019	2018	2017
Discount rate	3.12%	4.09%	3.51%
Expected return on plan assets	5.13%	5.14%	5.54%
Rate of compensation increase	3.00%	3.50%	3.50%

Weighted-average assumptions used to determine net benefit cost were as follows:

	Pension Plans		
	Years Ended December 31,		
	2019	2018	2017
Discount rate	4.09%	3.51%	3.97%
Service cost discount rate	4.00%	3.50%	4.02%
Interest cost discount rate	3.77%	3.21%	3.44%
Expected return on plan assets	5.14%	5.54%	5.54%
Rate of compensation increase	3.50%	3.50%	3.50%

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 \$56.4 million, \$51.2 million and \$54.3 million for 2019, 2018 and 2017, 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 \$35.5 million and \$35.3 million as of December 31, 2019 and 2018, 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.

The year-end status of the Brazil postretirement medical benefit plans with a discount rate of 9.15% on each of December 31, 2019 and December 31, 2018, was as follows:

	Postretirement Medical Benefits	
	Years Ended December 31,	
	2019	2018
<i>(in millions)</i>		
Change in accumulated postretirement benefit obligation (“APBO”):		
APBO at beginning of year	\$ 75.8	\$ 69.1
Service cost	0.8	1.5
Interest cost	6.9	6.8
Actuarial loss	30.7	13.0
Currency fluctuations	(4.3)	(13.1)
Benefits paid	(0.5)	(1.5)
APBO at end of year	<u>\$ 109.4</u>	<u>\$ 75.8</u>
Change in plan assets:		
Company contribution	\$ 0.5	\$ 1.5
Benefits paid	(0.5)	(1.5)
Fair value at end of year	\$ —	\$ —
Unfunded status of the plans as of the end of the year	<u>\$ (109.4)</u>	<u>\$ (75.8)</u>
Amounts recognized in the consolidated balance sheets:		
Current liabilities	\$ (1.7)	\$ (0.5)
Noncurrent liabilities	(107.7)	(75.3)
Amounts recognized in accumulated other comprehensive (income) loss		
Actuarial loss	\$ 50.9	\$ 23.9

20. ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

The following table sets forth the changes in AOCI by component during the years ended December 31, 2019, 2018 and 2017:

<i>(in millions)</i>	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, 2016	\$ (1,196.6)	\$ (101.0)	\$ (3.5)	\$ (11.1)	(1,312.2)
Other comprehensive income	251.9	8.4	2.4	2.7	265.4
Tax (expense) or benefit	(11.4)	(2.1)	(0.7)	(1.0)	(15.2)
Other comprehensive income, net of tax	240.5	6.3	1.7	1.7	250.2
Less: amount attributable to noncontrolling interest	0.4	—	—	—	0.4
Balance at December 31, 2017	\$ (955.7)	\$ (94.7)	\$ (1.8)	\$ (9.4)	\$ (1,061.6)
Other comprehensive income (loss)	(621.4)	(8.2)	2.3	4.8	(622.5)
Tax (expense) or benefit	24.5	(2.4)	(0.1)	(0.2)	21.8
Other comprehensive income (loss), net of tax	(596.9)	(10.6)	2.2	4.6	(600.7)
Less: amount attributable to noncontrolling interest	5.2	—	—	—	5.2
Balance at December 31, 2018	\$ (1,547.4)	\$ (105.3)	\$ 0.4	\$ (4.8)	\$ (1,657.1)
Other comprehensive income (loss)	74.1	(26.2)	2.2	14.0	64.1
Tax (expense) or benefit	(4.7)	1.9	(0.5)	(3.1)	(6.4)
Other comprehensive income (loss), net of tax	69.4	(24.3)	1.7	10.9	57.7
Less: amount attributable to noncontrolling interest	1.2	—	—	—	1.2
Balance at December 31, 2019	<u>\$ (1,476.8)</u>	<u>\$ (129.6)</u>	<u>\$ 2.1</u>	<u>\$ 6.1</u>	<u>\$ (1,598.2)</u>

21. SHARE REPURCHASES

In May 2015, our Board of Directors authorized a \$1.5 billion share repurchase program (the “**2015 Repurchase Program**”), allowing Mosaic to repurchase shares of our Common Stock through open market purchases, accelerated share repurchase arrangements, privately negotiated transactions or otherwise. The 2015 Repurchase Program has no set expiration date.

During the year ended December 31, 2019, we repurchased 7.1 million shares of Common Stock under the 2015 Repurchase Program for approximately \$150 million. We previously repurchased 15.8 shares under the 2015 Repurchase Program for an aggregate total of approximately \$650 million. The remaining amount that could be repurchased under this program was \$700 million as of December 31, 2019.

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, and corporate, regulatory and other considerations.

22. SHARE-BASED PAYMENTS

The Mosaic Company 2014 Stock and Incentive Plan (the “**2014 Stock and Incentive Plan**”) was approved by our shareholders 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 the 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 shareholders 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 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 2019 or 2018. 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.

	<u>Year Ended December 31, 2017</u>
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, 2019, and activity during 2019, is as follows:

	<u>Shares (in millions)</u>	<u>Weighted Average Exercise Price</u>	<u>Weighted Average Remaining Contractual Term (Years)</u>	<u>Aggregate Intrinsic Value</u>
Outstanding as of December 31, 2018	2.4	\$ 45.50		
Granted	—	—		
Cancelled	(0.2)	\$ 52.92		
Outstanding as of December 31, 2019	<u>2.2</u>	<u>\$ 44.69</u>	3.4	\$ —
Exercisable as of December 31, 2019	<u>2.0</u>	<u>\$ 45.56</u>	3.1	\$ —

The weighted-average grant date fair value of options granted during 2017 were \$9.91. There were no options exercised during 2019, 2018 or 2017.

Restricted Stock Units

Restricted stock units are issued to various employees, officers and directors at a price 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, 2019, and activity during 2019, is as follows:

	Shares (in millions)	Weighted Average Grant Date Fair Value Per Share
Restricted stock units as of December 31, 2018	1.6	\$ 27.27
Granted	0.8	26.87
Issued and cancelled	(0.6)	\$ 26.85
Restricted stock units as of December 31, 2019	<u>1.8</u>	<u>\$ 27.27</u>

Performance Units

During the years ended December 31, 2019, 2018 and 2017, 603,856, 401,098 and 455,740 total shareholder 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 shareholder 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. 203,782 of the *TSR* performance awards issued in 2019 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 2019, and all of the 2018 and 2017 *TSR* performance units, 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,		
	2019	2018	2017
Performance units granted	603,856	401,098	455,740
Average fair value of performance units on grant date	\$ 25.87	\$ 28.09	\$ 28.02
Weighted average assumptions used in performance unit valuations:			
Expected volatility	33.70%	34.30%	34.26%
Expected dividend yield	0.72%	0.37%	1.97%
Expected term (in years)	3	3	3
Risk-free interest rate	2.43%	2.42%	1.60%

A summary of our performance unit activity during 2019 is as follows:

	Shares (in millions)	Weighted Average Grant Date Fair Value Per Share
Outstanding as of December 31, 2018	1.3	\$ 33.26
Granted	0.6	25.87
Issued and cancelled	(0.5)	\$ 27.83
Outstanding as of December 31, 2019	<u>1.4</u>	<u>\$ 27.13</u>

Share-Based Compensation Expense

We recorded share-based compensation expense of \$31.6 million, \$27.5 million and \$28.0 million for 2019, 2018 and 2017, respectively. The tax benefit related to share exercises and lapses in the year was \$6.7 million, \$5.8 million and \$9.7 million for 2019, 2018 and 2017, respectively.

As of December 31, 2019, there was \$16.6 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 2019 or 2018. The total fair value of options vested in 2017 was \$4.2 million.

There was no cash received from exercises of share-based payment arrangements for 2019, 2018 or 2017. We received a tax benefit for tax deductions from options of \$2.6 million, \$2.3 million and \$14.0 million in 2019, 2018 and 2017, respectively.

23. 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 29 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 (the “*CF Ammonia Supply Agreement*”) that commenced in 2017, under which Mosaic agreed to purchase approximately 545,000 to 725,000 tonnes of ammonia per year during a term that may extend until December 31, 2032 at a price tied to the prevailing price of U.S. natural gas.

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. Also, we have agreements for capital expenditures primarily in our Potash segments related to our expansion projects.

A schedule of future minimum long-term purchase commitments, based on expected market prices as of December 31, 2019 is as follows:

	Purchase Commitments
<i>(in millions)</i>	
2020	\$ 1,931.4
2021	682.6
2022	434.5
2023	319.7
2024	249.6
Subsequent years	1,344.5
	<u>\$ 4,962.3</u>

Purchases made under long-term commitments in 2019, 2018 and 2017 were \$1.9 billion, \$2.0 billion and \$1.9 billion, respectively.

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, 2019, we had \$544.8 million in surety bonds outstanding, of which \$260.3 million is for reclamation obligations, primarily related to mining in Florida. In addition, included in this amount is \$244.9 million, reflecting our updated closure cost estimates, delivered to EPA as a substitute for the financial assurance provided through the Plant City Trust. The remaining balance in surety bonds outstanding of \$39.6 million is for other matters.

24. 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 \$39.3 million and \$58.6 million, as of December 31, 2019 and 2018, 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 the more significant environmental matters.

New Wales Water Loss Incident. In August 2016, a sinkhole developed under one of the two cells of the active 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 EPA. In October 2016, our subsidiary, Mosaic Fertilizer, entered into a consent order (the “*Order*”) with the FDEP relating to the incident. Under the order, Mosaic Fertilizer agreed to, among other things: implement a remediation plan to close the sinkhole; perform additional monitoring of the groundwater quality and act to assess and remediate in the event monitored off-site water does not comply with applicable standards as a result of the incident; evaluate the risk of potential future sinkhole formation at the New Wales facility and at Mosaic Fertilizer’s active Gypstack operations at the Bartow, Riverview and Plant City facilities with recommendations to address any identified issues; and provide financial assurance of no less than \$40.0 million, which we have done without the need for any expenditure of corporate funds through satisfaction of a financial strength test and Mosaic parent guarantee. The Order did not require payment of civil penalties relating to the incident.

As of December 31, 2019, the sinkhole repairs were substantially complete, with \$80.2 million spent in remediation and sinkhole-related costs through this date. We estimate remaining costs will have no significant impact to our Consolidated Financial Statements. Additional expenditures could be required in the future for additional remediation or other measures in connection with the sinkhole including if, for example, FDEP or EPA were to request additional measures to address risks presented by the Gypstack. These expenditures could be material. In addition, we are unable to predict at this time what, if any, impact the New Wales water loss incident will have on future Florida permitting efforts.

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 15 of our Notes to Consolidated Financial Statements.

EPA EPCRA Initiative. In July 2008, DOJ sent a letter to major U.S. phosphoric acid manufacturers, including us, stating that EPA’s ongoing investigation indicates apparent violations of Section 313 of the Emergency Planning and Community Right-to-Know Act (“*EPCRA*”) at their phosphoric acid manufacturing facilities. Section 313 of EPCRA requires annual reports to be submitted with respect to the use or presence of certain toxic chemicals. DOJ and EPA also stated that they believe that a number of these facilities have violated Section 304 of EPCRA and Section 103 of the Comprehensive Environmental

Response, Compensation and Liability Act (“*CERCLA*”) by failing to provide required notifications relating to the release of hydrogen fluoride from the facilities. The letter did not identify any specific violations by us or assert a demand for penalties against us. We cannot predict at this time whether EPA and DOJ will initiate an enforcement action over this matter, what its scope would be, or what the range of outcomes of such a potential enforcement action might be.

Florida Sulfuric Acid Plants. On April 8, 2010, EPA Region 4 submitted an administrative subpoena to us under Section 114 of the Federal Clean Air Act (the “*CAA*”) regarding compliance of our Florida sulfuric acid plants with the “New Source Review” requirements of the CAA. The request received by Mosaic appears to be part of a broader EPA national enforcement initiative focusing on sulfuric acid plants. On June 6, 2010, EPA issued a notice of violation to CF (the “*CF NOV*”) with respect to “New Source Review” compliance at the Plant City Facility’s sulfuric acid plants and the allegations in the CF NOV were not resolved before our 2014 acquisition of the Plant City Facility. CF has agreed to indemnify us with respect to any penalty EPA may assess as a result of the allegations in the CF NOV.

We have been engaged in settlement discussions with U.S. EPA and the Department of Justice, originating with the allegations of violations of Clean Air Act Prevention of Significant Deterioration (PSD) permitting requirements at the Plant City sulfuric acid plants and encompassing injunctive relief regarding sulfur dioxide emissions across Mosaic’s Florida sulfuric acid plant fleet. With the closure of Plant City fertilizer operations, there is no longer a need to reach resolution with the government on injunctive relief (i.e., reduction of sulfur dioxide emissions) at that facility. Furthermore, the Department of Justice has determined that there is no basis for proceeding with a settlement, as EPA and the Department have not currently alleged any violations of the Clean Air Act PSD permitting requirements at any other of Mosaic’s Florida sulfuric acid plants.

We cannot predict at this time whether EPA and DOJ will initiate an enforcement action in the future with respect to “New Source Review” compliance at our Florida sulfuric acid plants or what its scope would be, or what the range of outcomes might be with respect to such a potential enforcement action.

Uncle Sam Gypstack. In January 2019, we observed lateral movement of the north slope of our active phosphogypsum stack at the Uncle Sam facility in Louisiana. The observation was reported to the Louisiana Department of Environmental Quality and the U.S. EPA. We continue to provide updates to the agencies on the movement, which has slowed following actions we have taken, which include reducing process water volume stored atop the stack to reduce the active load causing the movement; constructing a stability berm at the base of the slope to increase resistance; and removing gypsum from the north side to the south side. These steps have improved slope stability, reduced slope movement and reduced our capacity to store process water. There has been no loss of containment resulting from the movement observed, and none is expected. Although continued lateral movement on the north slope and a sustained reduction in process water storage could have a material effect on our future operations at that facility, we cannot predict the prospective impact on our results of operations at this time.

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.

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.

In September 2019, counsel for several of the parishes announced that an agreement had been reached to settle the claims against Mosaic and its corporate predecessors, subject to approval by the participating parishes and the State of Louisiana. In connection with that settlement agreement, the proposed settlement payment obligations would be paid by third party indemnitors.

Phosphate Mine Permitting in Florida

Denial of the permits sought at any of our mines, issuance of the permits with cost-prohibitive conditions, substantial delays in issuing the permits, legal actions that prevent us from relying on permits or revocation of permits may create challenges for us to mine the phosphate rock required to operate our Florida and Louisiana phosphate plants at desired levels or increase our costs in the future.

The South Pasture Extension Mine Litigation. In November 2016, the Army Corps of Engineers (the "**Corps**") issued a federal wetlands permit under the Clean Water Act for mining an extension of our South Pasture phosphate rock mine in central Florida. On December 20, 2016, the Center for Biological Diversity, ManaSota-88, People for Protecting Peace River and Suncoast Waterkeeper (collectively, "**NGO Plaintiffs**") issued a 60-day notice of intent to sue the Corps and the U.S. Fish and Wildlife Service (the "**Service**") under the federal Endangered Species Act regarding actions taken by the Corps and the Service in connection with the issuance of the permit. On March 15, 2017, the NGO Plaintiffs filed a complaint against the Corps, the Service and the U.S. Department of the Interior (collectively "**Government Defendants**") in the U.S. District Court for the Middle District of Florida, Tampa Division. The complaint alleges that various actions taken by the Corps and the Service in connection with the issuance of the permit, including in connection with the Service's biological opinion and the Corps' reliance on that biological opinion, violated substantive and procedural requirements of the federal Clean Water Act ("**CWA**"), the National Environmental Policy Act ("**NEPA**") and the Endangered Species Act (the "**ESA**"), and were arbitrary, capricious, an abuse of discretion, and otherwise not in accordance with law, in violation of the Administrative Procedure Act (the "**APA**"). In their Complaint, the NGO Plaintiffs sought specific relief including (i) declarations that the Corps' decision to issue the permit violated the CWA, NEPA, the ESA and the APA and that its NEPA review violated the law; (ii) declarations that the Service's biological opinion violated applicable law and that the Corps' reliance on the biological opinion violated the ESA; (iii) orders that the Corps rescind the permit, that the Service withdraw its biological opinion and related analyses and prepare a biological opinion that complies with the ESA; and (iv) that the Corps be preliminarily and permanently enjoined from authorizing any further action under the permit until it complies fully with the requirements of the CWA, NEPA, the ESA and the APA. On March 31, 2017, Mosaic's motion for intervention was granted with no restrictions. Plaintiffs filed an amended complaint on June 2, 2017, without any new substantive allegations, and on June 28, 2017, Mosaic (as intervenor) and separately, the Government Defendants, filed answers to the amended complaint.

In June through July, 2017, the parties filed competing Motions for Summary Judgment based on the administrative record developed for the challenged federal permits and approvals, consistent with the Administrative Procedures Act. On December 14, 2017, the U.S. District Court granted Mosaic's motion for summary judgment in favor of Mosaic and the Government Defendants, denied all claims raised by the NGO Plaintiffs, and denied the NGO Plaintiffs' motion to supplement the administrative record.

On February 12, 2018, the NGO Plaintiffs filed an appeal with the U.S. Court of Appeals for the Eleventh Circuit seeking to overturn the U.S. District Court's decision. Notably, the NGO Plaintiffs did not seek reversal of the Court's decision as to the Clean Water Act claims, but focused on the Endangered Species Act and National Environmental Policy Act claims for relief. The appellate case was fully briefed with close coordination between counsel for Mosaic and the Justice Department in

developing the Appellants' Briefs and Reply Briefs. A mandatory mediation occurred on March 19, 2018, but no settlement was reached. Oral argument was held before the Eleventh Circuit Court of Appeals on May 22, 2019.

On November 4, 2019, the 11th Circuit U.S. Court of Appeals upheld the federal permits issued for Mosaic's South Pasture Extension Mine and the adequacy of the Area wide Environmental Impact Statement (AEIS) that served as the NEPA support for three of Mosaic's new Florida phosphate mines. The Court of Appeals held that the Corps of Engineers' decision to issue the Clean Water Act 404 Permit and its reliance on the AEIS to satisfy the federal NEPA requirements was a proper exercise of its authority.

On December 18, 2019, the NGO Plaintiffs filed a Petition for Rehearing *En Banc* seeking a rehearing before the entire 15-judge panel of the Court of Appeals. No responses to the Petition for Rehearing are allowed by Mosaic or the Government Defendants, unless requested by the Court.

We believe the NGO Plaintiffs' claims in this case are without merit and we will continue to vigorously defend the Corps' issuance of the SPE Mine CWA 404 Permit and the Service's biological opinion. However, if the NGO Plaintiffs were to prevail in this case, we would be prohibited from continuing to mine the SPE Mine, and obtaining new or modified permits could significantly delay our resumption of mining and could result in more onerous mining conditions. This could have a material adverse effect on our future results of operations, reduce future cash flows from operations, and in the longer term, conceivably adversely affect our liquidity and capital resources.

MicroEssentials® Patent Lawsuit

On January 9, 2009, John Sanders and Specialty Fertilizer Products, LLC filed a complaint against Mosaic, Mosaic Fertilizer, LLC, Cargill, Incorporated and Cargill Fertilizer, Inc. in the United States District Court for the Western District of Missouri (the "***Missouri District Court***"). The plaintiffs alleged that our production of MicroEssentials® value-added ammoniated phosphate crop nutrient products that we produce, infringed on a patent owned by the plaintiffs. Plaintiffs sought to enjoin the alleged infringement and to recover an unspecified amount of damages and attorneys' fees for past infringement. Through an order entered by the court on September 25, 2014, Cargill was dismissed as a defendant, and the two original plaintiffs were replaced by a single plaintiff, JLSMN LLC, an entity to whom the patent was transferred.

The Missouri District Court stayed the lawsuit pending reexamination of plaintiff's patent claims by the U.S. Patent and Trademark Office (the "***PTO***"). On September 12, 2012, Shell Oil Company ("***Shell***") filed an additional reexamination request which in part asserted that the claims as amended and added in connection with the reexamination are unpatentable. On October 4, 2012, the PTO issued a Reexamination Certificate in which certain claims of the plaintiff's patent were cancelled, disclaimed and amended, and new claims were added. On December 11, 2012, the PTO issued an initial rejection of all of plaintiff's remaining patent claims but later reversed its decision. Shell appealed the PTO's decision. On June 7, 2016, the Patent Trial and Appeal Board issued a decision holding that all patent claims initially allowed to the plaintiff should have been found invalid. On November 8, 2017, the Federal Circuit Court of Appeals affirmed the Patent Trial and Appeal Board's decision. On June 25, 2018, the United States Supreme Court denied plaintiffs petition for writ of certiorari. The case in the Missouri District Court has been dismissed with prejudice, and the matter is now concluded.

Brazil Legal Contingencies

Our Brazilian subsidiaries are engaged in a number of judicial and administrative proceedings regarding labor, environmental and civil claims that allege aggregate damages and/or fines of approximately \$1.1 billion. We estimate that our probable aggregate loss with respect to these claims is approximately \$90.5 million, which is included in our accrued liabilities in our Consolidated Balance Sheets at December 31, 2019.

Approximately \$775.5 million of the maximum potential loss relates to labor claims, such as in-house and third-party employees' judicial proceedings alleging the right to receive overtime pay, additional payment due to work in hazardous conditions, risk premium, profit sharing, additional payment due to night work, salary parity and wage differences. We estimate that our probable aggregate loss regarding these claims is approximately \$63.2 million, which is included in accrued liabilities in our Consolidated Balance Sheets at December 31, 2019. 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.

From the \$63.2 million reserves mentioned above, approximately \$7.4 million relates to a collective lawsuit filed by the labor union in Tapira claiming workers are entitled to overtime pay because the work shift should include transportation time to travel to a facility in which no public transportation was available. Approximately \$4.9 million relates to a collective lawsuit filed by the labor union in Rosário do Catete, Sergipe, claiming payment of overtime due to an irregular work shift in force until 2016. Both matters are currently before the Brazilian Labor Superior Court. Approximately \$2.7 million relates to a class action filed by one of the unions claiming additional payment for occupational hazard due to the alleged exposure of workers to explosive gases at the Company's potash mine at Rosário do Catete, Sergipe.

The environmental judicial and administrative proceedings claims allege aggregate damages and/or fines in excess of \$145.9 million; however, we estimate that our probable aggregate loss regarding these claims is approximately \$5.6 million, which has been accrued at December 31, 2019. The majority of the reserves involves a claim filed in 2012 by the State Public Prosecutor Office, alleging that the Company delayed construction of an effluent treatment plant, thereby subjecting it to a fine under the commitment agreement.

The mining judicial and administrative proceedings claims allege aggregate damages and/or fines of approximately \$16.7 million. We estimate that our probable aggregate loss regarding these claims is approximately \$10.2 million, which has been accrued at December 31, 2019. The majority of the reserves involves an arbitration proceeding initiated by EMS/GEOFOCUS ("*EMS*") in which Mosaic was ordered to indemnify EMS for the costs of exploring certain mining rights on behalf of Mosaic.

Our Brazilian subsidiaries also have certain other civil contingent liabilities with respect to judicial, administrative and arbitration proceedings and claims related to contract disputes, pension plan matters, real state disputes and other civil matters arising in the ordinary course of business. These claims allege aggregate damages in excess of \$180.8 million. We estimate that the probable aggregate loss with respect to these matters is approximately \$11.5 million.

Uberaba Judicial Settlement

In 2013, the Federal Public Prosecutor filed a public civil action requesting the Company adopt several measures to mitigate soil and water contamination related to the Gypstack at our Uberaba facility, including compensation for the alleged social and environmental damages. In 2014, our predecessor subsidiary in Brazil entered into a judicial settlement with the federal public prosecutor, the State of Minas Gerais public prosecutor and the federal environmental agency. Under this agreement, we agreed to implement remediation measures such as: constructing a liner under the Gypstack water ponds and lagoons, and monitoring the groundwater and soil quality. We also agreed to create a private reserve of natural heritage and to pay compensation in the amount of approximately \$0.3 million, which was paid in July 2018. We are currently acting in compliance with our obligations under the judicial settlement and expect them to be completed by December 31, 2023.

Uberaba EHS Class Action

In 2013, the State of Minas Gerais public prosecutor filed a class action claiming that our predecessor company in Brazil did not comply with labor safety rules and working hour laws. This claim was based on an inspection conducted by the Labor and Employment Ministry in 2010, following which we were fined for not complying with several labor regulations. We filed our defense, claiming that we complied with these labor regulations and that the assessment carried out by the inspectors in 2010 was abusive. Following the initial hearing, the court ordered an examination to determine whether there has been any non-compliance with labor regulations. The examination is currently pending. The amount involved in the proceeding is \$31.8 million.

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 \$408.2 million, of which \$212.0 million is subject to an indemnification agreement entered into with Vale S.A. in connection with the Acquisition.

Approximately \$271.0 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 such as value-added taxes. 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.

25. 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, 2019, the net amount due from our non-consolidated companies totaled \$23.2 million. As of December 31, 2018, there was a net amount due to our non-consolidated companies of \$95.2 million. These amounts include a long-term indemnification asset of \$32.5 million from Vale S.A. for reimbursement of pension plan obligations.

The Consolidated Statements of Earnings included the following transactions with our non-consolidated companies:

(in millions)	Years Ended December 31,		
	2019	2018	2017
Transactions with non-consolidated companies included in net sales	\$ 969.5	\$ 842.4	\$ 715.3
Transactions with non-consolidated companies included in cost of goods sold	\$ 1,057.7	\$ 1,046.4	\$ 750.2

As part of the MWSPC joint venture, we market approximately 25% of the MWSPC production, for which approximately \$8.3 million, \$6.6 million and \$1.0 million is included in revenue for the years ended December 31, 2019, 2018 and 2017, respectively.

In November 2015, we agreed to provide funds to finance the purchase and construction of two articulated tug and barge units, intended to transport anhydrous ammonia for our operations, through a bridge loan agreement with Gulf Marine Solutions, LLC (“GMS”). GMS is a wholly owned subsidiary of Gulf Sulphur Services Ltd., LLLP (“Gulf Sulphur Services”), an entity in which we and a joint venture partner, Savage Companies (“Savage”), each indirectly own a 50% equity interest and for which a subsidiary of Savage provides operating and management services. GMS provided these funds through draws on the Mosaic bridge loan, and through additional loans from Gulf Sulphur Services. We determined, beginning in 2015 that we are the primary beneficiary of GMS, a variable interest entity and, at that time, we consolidated GMS’s operations in our Phosphates segment.

On October 24, 2017, a lease financing transaction was completed with respect to the completed tug and barge unit, and; following the application of proceeds from the transaction, all outstanding loans made by Gulf Sulphur Services to GMS, together with accrued interest, were repaid, and the bridge loans related to the first unit’s construction were repaid. At December 31, 2019 and December 31, 2018, \$74.7 million and \$75.3 million in bridge loans relating to the cancelled second barge and the remaining tug, which are eliminated in consolidation, were outstanding, respectively. Reserves against the bridge loan of approximately \$54.2 million were recorded through December 31, 2018, and no additional charges were recorded in 2019. The construction of the remaining tug, funded by the bridge loan advances in excess of the reserves, is recorded within construction in-progress within our consolidated balance sheet. Several subsidiaries of Savage operate vessels utilized by Mosaic under time charter arrangements, including the ammonia tug and barge unit.

26. 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, Streamsong Resort® results of operations and the results of

the China and India distribution business are included within Corporate, Eliminations and Other. As of January 1, 2019, certain selling, general and administrative costs that are not controllable by the business segments are no longer allocated to segments and are included within Corporate, Eliminations and Other. Our operating results for the years ended December 31, 2018 and 2017 have been recast to reflect this change.

Segment information for the years 2019, 2018 and 2017 is as follows:

<i>(in millions)</i>	Phosphates	Potash	Mosaic Fertilizantes	Corporate, Eliminations and Other (a)	Total
Year Ended December 31, 2019					
Net sales to external customers	\$ 2,416.6	\$ 2,081.7	\$ 3,782.8	\$ 625.2	\$ 8,906.3
Intersegment net sales	824.7	32.1	—	(856.8)	—
Net sales	3,241.3	2,113.8	3,782.8	(231.6)	8,906.3
Gross margin	(82.3)	616.8	290.1	72.7	897.3
Canadian resource taxes	—	174.6	—	—	174.6
Gross margin (excluding Canadian resource taxes)	(82.3)	791.4	290.1	72.7	1,071.9
Impairment, restructuring and other expenses	931.6	530.5	—	—	1,462.1
Operating earnings	(1,131.1)	45.8	132.5	(142.1)	(1,094.9)
Capital expenditures	545.2	540.1	182.3	4.6	1,272.2
Depreciation, depletion and amortization expense	430.1	296.3	135.8	20.5	882.7
Equity in net earnings (loss) of nonconsolidated companies	(60.1)	—	—	0.7	(59.4)
Year Ended December 31, 2018					
Net sales to external customers	\$ 3,106.3	\$ 2,154.8	\$ 3,747.1	\$ 579.1	\$ 9,587.3
Intersegment net sales	780.0	19.1	—	(799.1)	—
Net sales	3,886.3	2,173.9	3,747.1	(220.0)	9,587.3
Gross margin	581.5	597.2	382.9	(63.2)	1,498.4
Canadian resource taxes	—	159.4	—	—	159.4
Gross margin (excluding Canadian resource taxes)	581.5	756.6	382.9	(63.2)	1,657.8
Operating earnings	471.4	510.8	240.6	(294.5)	928.3
Capital expenditures	393.9	410.5	148.2	1.9	954.5
Depreciation, depletion and amortization expense	403.7	301.5	158.5	20.2	883.9
Equity in net earnings (loss) of nonconsolidated companies	(4.6)	—	—	0.1	(4.5)
Year Ended December 31, 2017					
Net sales to external customers	\$ 2,826.6	\$ 1,836.5	\$ 2,220.1	\$ 526.2	\$ 7,409.4
Intersegment net sales	762.6	16.1	—	(778.7)	—
Net sales	3,589.2	1,852.6	2,220.1	(252.5)	7,409.4
Gross margin	332.2	391.6	128.6	(9.6)	842.8
Canadian resource taxes	—	70.1	—	—	70.1
Gross margin (excluding Canadian resource taxes)	332.2	461.7	128.6	(9.6)	912.9
Operating earnings	254.5	344.2	63.1	(196.1)	465.7
Capital expenditures	401.0	371.6	32.7	14.8	820.1
Depreciation, depletion and amortization expense	338.0	287.2	16.9	23.4	665.5
Equity in net earnings (loss) of nonconsolidated companies	16.0	—	—	0.7	16.7
Total assets as of December 31, 2019 (b)	\$ 7,183.5	\$ 7,219.2	\$ 3,974.9	\$ 920.9	\$ 19,298.5
Total assets as of December 31, 2018	7,877.3	7,763.1	3,952.4	526.4	20,119.2
Total assets as of December 31, 2017	7,700.6	8,301.7	1,376.7	1,254.4	18,633.4

- (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, 2019, 2018 and 2017, distribution operations in India and China had revenues of \$575.6 million, \$533.9 million, and \$493.2 million, respectively and gross margins of \$27.3 million, \$42.8 million, and \$46.9 million, respectively.
- (b) In 2019 we recorded an impairment of goodwill in Phosphates of \$588.6 million which reduced the total asset balance.

Financial information relating to our operations by geographic area is as follows:

<i>(in millions)</i>	Years Ended December 31,		
	2019	2018	2017
<i>Net sales^(a):</i>			
Brazil	\$ 3,675.1	\$ 3,727.7	\$ 2,199.0
Canpotex ^(b)	952.5	820.2	700.6
Canada	602.0	639.0	508.9
India	347.1	304.4	305.2
China	225.3	231.7	206.4
Mexico	117.8	133.9	131.8
Argentina	116.3	70.5	53.1
Paraguay	102.9	100.7	113.8
Australia	91.3	136.0	147.0
Peru	89.3	82.6	56.9
Colombia	82.8	101.5	86.9
Japan	33.0	92.2	71.7
Thailand	24.8	28.1	20.9
Honduras	11.7	28.7	20.6
Other	101.6	118.4	105.6
Total international countries	6,573.5	6,615.6	4,728.4
United States	2,332.8	2,971.7	2,681.0
Consolidated	\$ 8,906.3	\$ 9,587.3	\$ 7,409.4

- (a) Revenues are attributed to countries based on location of customer.
- (b) Canpotex is the export association of the Saskatchewan potash producers. Canpotex sells approximately 25% of its sales volumes to Brazil, 22% to China, 10% to India, 8% to Indonesia and 35% to the rest of the world.

<i>(in millions)</i>	December 31,	
	2019	2018
<i>Long-lived assets:</i>		
Canada	\$ 4,553.7	\$ 4,764.8
Brazil	1,934.6	1,886.0
Other	1,476.1	1,778.6
Total international countries	7,964.4	8,429.4
United States	5,943.6	5,401.5
Consolidated	\$ 13,908.0	\$ 13,830.9

Excluded from the table above as of December 31, 2019 and 2018, are goodwill of \$1,156.9 million and \$1,707.5 million and deferred income taxes of \$515.4 million and \$343.8 million, respectively.

Net sales by product type for the years 2019, 2018 and 2017 are as follows:

	<i>(in millions)</i>	Years Ended December 31,		
		2019	2018	2017
<i>Sales by product type:</i>				
Phosphate Crop Nutrients		\$ 2,541.3	\$ 2,956.8	\$ 2,266.7
Potash Crop Nutrients		2,716.8	2,755.9	2,180.6
Crop Nutrient Blends		1,415.7	1,418.9	1,384.2
Specialty Products ^(a)		1,623.5	1,844.8	1,319.8
Phosphate Rock		53.6	53.0	—
Other ^(b)		555.4	557.9	258.1
		<u>\$ 8,906.3</u>	<u>\$ 9,587.3</u>	<u>\$ 7,409.4</u>

(a) Includes sales of MicroEssentials[®], K-Mag[®], Aspire and animal feed ingredients.

(b) Includes sales of industrial potash.

27. PLANT CITY AND COLONSAY CLOSURE COSTS

On June 18, 2019, we announced the permanent closure of the Plant City Facility. We temporarily idled the Plant City Facility in the fourth quarter of 2017, as it was one of our higher cost phosphate facilities. For the year ended December 31, 2019, we recognized pre-tax costs of \$341.3 million in impairment, restructuring and other expenses in our Consolidated Statement of Earnings (Loss), related to the permanent closure of this facility. These costs consisted of approximately \$210 million related to the write-off of fixed assets, \$110 million related to asset retirement obligations and \$21 million related to inventory and other reserves.

Following the end of our fiscal year, on January 28, 2020, we announced that we intend to keep our Colonsay, Saskatchewan potash mine idled for the foreseeable future. The mine will be placed in care and maintenance mode, employing minimal staff and allowing for resumption of operations when needed to meet customers' needs. At December 31, 2019, we have recorded pre-tax costs of approximately \$529.7 million, in impairment, restructuring and other expenses in our Consolidated Statement of Earnings (Loss), related to this idling. These costs consisted of approximately \$493 million related to the write-off of fixed assets, \$27 million related to severance and other employee costs, and \$10 million related to the write-off of maintenance, repair, and operating inventories. The write-off is principally the carrying value of the 2013 expansion project, which increased Colonsay's operating capacity to 2.1 million tonnes. Colonsay has been operating with a modified 1.5 million tonnes capacity since 2016. The Company does not expect to use the expansion capacity for the foreseeable future.

Quarterly Results (Unaudited)

In millions, except per share amounts and common stock prices

	Quarter				
	First	Second	Third	Fourth	Year
Year Ended December 31, 2019					
Net sales	\$ 1,899.7	\$ 2,176.9	\$ 2,753.4	\$ 2,076.3	\$ 8,906.3
Gross margin	309.5	227.2	279.9	80.7	897.3
Operating earnings (loss)	202.1	(241.9)	139.5	(1,194.6)	(1,094.9)
Net earnings (loss) attributable to Mosaic	130.8	(233.1)	(44.1)	(921.0)	(1,067.4)
Basic net earnings per share attributable to Mosaic	\$ 0.34	\$ (0.60)	\$ (0.11)	\$ (2.43)	\$ (2.78)
Diluted net earnings per share attributable to Mosaic	0.34	(0.60)	(0.11)	(2.43)	(2.78)
Common stock prices:					
High	\$ 33.91	\$ 28.01	\$ 25.71	\$ 22.50	
Low	25.95	20.81	17.36	17.66	
Year Ended December 31, 2018					
Net sales	\$ 1,933.7	\$ 2,205.0	\$ 2,928.1	\$ 2,520.5	\$ 9,587.3
Gross margin	242.1	294.6	495.5	466.2	1,498.4
Operating earnings	80.7	196.3	393.3	258.0	928.3
Net earnings attributable to Mosaic	42.3	67.9	247.5	112.3	470.0
Basic net earnings per share attributable to Mosaic	\$ 0.11	\$ 0.18	\$ 0.64	\$ 0.29	\$ 1.22
Diluted net earnings per share attributable to Mosaic	0.11	0.18	0.64	0.29	1.22
Common stock prices:					
High	\$ 29.20	\$ 29.95	\$ 32.98	\$ 37.37	
Low	23.43	22.90	27.50	27.52	

The number of holders of record of our Common Stock as of February 1, 2020 was 1,549.

In the fourth quarter of 2019, we recorded pre-tax charges of \$529.7 million related to the indefinite idling of our Colonsay, Saskatchewan potash mine and \$588.6 million related to the impairment of goodwill for our Phosphates reporting unit.

Dividends have been declared on a quarterly basis during all periods presented. The annual dividend in 2018 was \$0.10 per share. In the first quarter of 2019, we increased our annual dividend to \$0.20 per share.

The following table presents our selected financial data. This information has been derived from our audited consolidated financial statements. This historical data should be read in conjunction with the Consolidated Financial Statements and the related notes and “Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

Five Year Comparison

In millions, except per share amounts

	Years Ended December 31,				
	2019	2018	2017	2016	2015
Statements of Operations Data:					
Net sales	\$ 8,906.3	\$ 9,587.3	\$ 7,409.4	\$ 7,162.8	\$ 8,895.3
Cost of goods sold	8,009.0	8,088.9	6,566.6	6,352.8	7,177.4
Gross margin	897.3	1,498.4	842.8	810.0	1,717.9
Selling, general and administrative expenses	354.1	341.1	301.3	304.2	361.2
Impairment, restructuring and other expense ^(b)	1,462.1	—	—	—	—
Other operating expenses	176.0	229.0	75.8	186.8	77.9
Operating (loss) earnings	(1,094.9)	928.3	465.7	319.0	1,278.8
Interest (expense) income, net	(182.9)	(166.1)	(138.1)	(112.4)	(97.8)
Foreign currency transaction gain (loss)	20.2	(191.9)	49.9	40.1	(60.5)
Other expense	1.5	(18.8)	(3.5)	(4.3)	(17.2)
(Loss) earnings from consolidated companies before income taxes	(1,256.1)	551.5	374.0	242.4	1,103.3
Provision for (benefit from) income taxes ^(a)	(224.7)	77.1	494.9	(74.2)	99.1
(Loss) earnings from consolidated companies	(1,031.4)	474.4	(120.9)	316.6	1,004.2
Equity in net (loss) earnings of nonconsolidated companies	(59.4)	(4.5)	16.7	(15.4)	(2.4)
Net (loss) earnings including noncontrolling interests	(1,090.8)	469.9	(104.2)	301.2	1,001.8
Less: Net (loss) earnings attributable to noncontrolling interests	(23.4)	(0.1)	3.0	3.4	1.4
Net (loss) earnings attributable to Mosaic	<u>\$ (1,067.4)</u>	<u>\$ 470.0</u>	<u>\$ (107.2)</u>	<u>\$ 297.8</u>	<u>\$ 1,000.4</u>
Years Ended December 31,					
	2019	2018	2017	2016	2015
Earnings per common share attributable to Mosaic:					
Basic net (loss) earnings per share attributable to Mosaic	<u>\$ (2.78)</u>	<u>\$ 1.22</u>	<u>\$ (0.31)</u>	<u>\$ 0.85</u>	<u>\$ 2.79</u>
Basic weighted average number of shares outstanding	383.8	384.8	350.9	350.4	358.5
Diluted net (loss) earnings per share attributable to Mosaic	<u>\$ (2.78)</u>	<u>\$ 1.22</u>	<u>\$ (0.31)</u>	<u>\$ 0.85</u>	<u>\$ 2.78</u>
Diluted weighted average number of shares outstanding	383.8	386.4	350.9	351.7	360.3
Balance Sheet Data (at period end):					
Cash and cash equivalents	\$ 519.1	\$ 847.7	\$ 2,153.5	\$ 673.1	\$ 1,276.3
Total assets	19,298.5	20,119.2	18,633.4	16,840.7	17,389.5
Total long-term debt (including current maturities)	4,572.7	4,517.5	5,221.6	3,818.1	3,811.2
Total liabilities	9,930.9	9,514.5	8,994.3	7,218.2	7,824.5
Total equity	9,367.6	10,604.7	9,639.1	9,622.5	9,565.0
Other Financial Data:					
Depreciation, depletion and amortization	\$ 882.7	\$ 883.9	\$ 665.5	\$ 711.2	\$ 739.8
Net cash provided by operating activities	1,095.4	1,409.8	935.5	1,260.2	2,038.3
Capital expenditures	1,272.2	954.5	820.1	843.1	1,000.3
Dividends per share ^(c)	0.20	0.10	0.35	1.10	1.075

(a) The years ended December 31, 2019, 2016 and 2015 include a discrete income tax benefit of approximately \$356 million, \$54 million, and \$47 million, respectively. The years ended December 31, 2018, and 2017 include a discrete

income tax expense of approximately \$1 million and \$451 million, respectively. See further discussion in Note 14 to the Consolidated Financial Statements.

- (b) In 2019, we recorded pre-tax charges of \$341.3 related to the permanent closure of our Plant City, Florida facility, \$529.7 million related to the indefinite idling of our Colonsay, Saskatchewan potash mine and \$588.6 million related to the impairment of goodwill for our Phosphates reporting unit.
- (c) Dividends have been declared on a quarterly basis during all periods presented. In the second quarter of 2015, we increased our annual dividend to \$1.10 per share. In the second quarter of 2017, we decreased our annual dividend to \$0.60 per share and in the fourth quarter of 2017, we decreased it to \$0.10 per share. In the first quarter of 2019, we increased our annual dividend to \$0.20 per share.

SCHEDULE II. VALUATION AND QUALIFYING ACCOUNTS

For the years ended 2019, 2018 and 2017

In millions

Column A	Column B	Column C		Column D	Column E
Description	Balance Beginning of Period	Additions		Deductions	Balance at End of Period (a)
		Charges or (Reductions) to Costs and Expenses	Charges or (Reductions) to Other Accounts		
Allowance for doubtful accounts, deducted from accounts receivable in the balance sheet:					
Year Ended December 31, 2017	10.3	5.6	(0.2)	(0.2)	15.5
Year Ended December 31, 2018	15.5	—	12.0 (b)	(4.1)	23.4
Year Ended December 31, 2019	23.4	4.6	(6.8)	(1.0)	20.2
Income tax valuation allowance, related to deferred income taxes					
Year Ended December 31, 2017	30.6	553.5	—	—	584.1
Year Ended December 31, 2018	584.1	946.4	—	—	1,530.5
Year Ended December 31, 2019	1,530.5	(73.4)	—	—	1,457.1

(a) Allowance for doubtful accounts balance includes \$16.7 million, \$22.1 million, \$13.2 million of allowance on long-term receivables recorded in other long term assets for the years ended December 31, 2019, 2018 and 2017, respectively.

(b) Amount relates to allowance of \$12.0 million acquired in the Acquisition.

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, 2019. In assessing the effectiveness of our internal control over financial reporting as of December 31, 2019 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, 2019. KPMG LLP, the independent registered public accounting firm that audited the financial statements included in this annual report, has issued an auditors' report on the Company's internal control over financial reporting as of December 31, 2019.

Shareholder Information

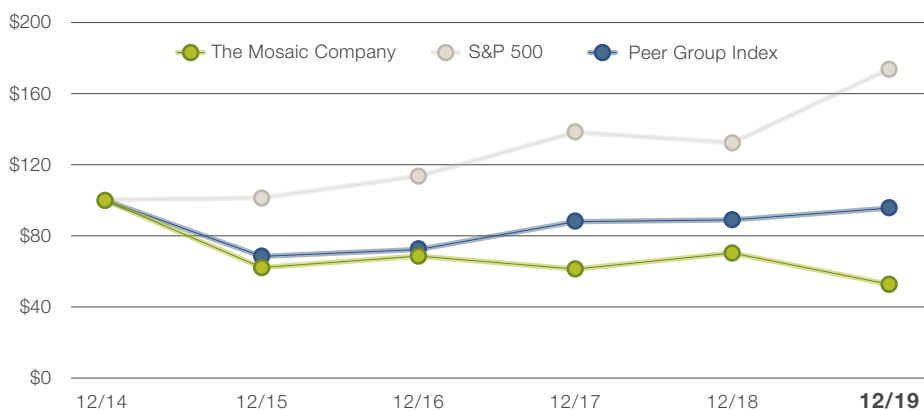
Safe Harbor

Certain statements in this review that are neither reported financials nor other historical information are forward-looking statements. Such forward-looking statements are not guarantees of future performance and are subject to risks and uncertainties that could cause actual results and Mosaic's plans and objectives to differ materially from those expressed in the forward-looking statements. Additional information about such risks and uncertainties is set forth in our reports filed with the Securities and Exchange Commission.

Shareholder Return Information

The following performance graph compares the cumulative total return on our common stock for a period beginning December 31, 2014, with the cumulative total return of the Standard & Poor's 500 Stock Index, and a peer group of companies selected by us. Our 2019 peer group for the period beginning on December 31, 2014 and ending on December 31, 2017 is comprised of Agrium Inc., CF Industries Holdings, Inc. and Potash Corporation of Saskatchewan Inc.; and, for the period beginning on January 1, 2018 and ending on December 31, 2019, it is comprised of Nutrien Ltd. (the successor to Agrium Inc. and Potash Corporation of Saskatchewan Inc.) and CF Industries Holdings Inc. Our stock price performance differs from that of our peer group during some periods due to differences in the market segments in which we compete or in the level of our participation in such segments compared to other members of the peer group. In accordance with Standard & Poor's policies, companies with less than a majority of their stock publicly traded are not included in the S&P 500 Index. The comparisons set forth below assume an initial investment of \$100 and reinvestment of dividends or distributions.

COMPARISON OF 5-YEAR CUMULATIVE TOTAL RETURN*
AMONG THE MOSAIC COMPANY, S&P 500 AND PEER GROUP INDEX



* \$100 invested on 12/31/13 in stock or index, including reinvestment of dividends.
Fiscal year ending December 31.
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Mosaic's 10-K Report, filed in February 2020 with the Securities and Exchange Commission, is available to shareholders and interested parties without charge by contacting Laura Gagnon.

WEBSITE

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VIEW ONLINE.

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