POTASH CORPORATION OF SASKATCHEWAN INC.

ANNUAL INFORMATION FORM
Year Ended December 31, 2017

February 20, 2018

TABLE OF CONTENTS

Following is a table of contents of this Annual Information Form ("AIF") referencing the applicable requirements of Form 51-102F2 of the Canadian Securities Administrators. Certain portions of this AIF are disclosed in Potash Corporation of Saskatchewan Inc.'s Management's Discussion & Analysis ("2017 MD&A") and Consolidated Financial Statements for the year ended December 31, 2017 ("2017 Financial Statements") and are incorporated herein by reference as noted below and are available on the Canadian Securities Administrators' SEDAR website at www.sedar.com and on the EDGAR section of the United States Securities and Exchange Commission's website at www.sec.gov.

ITEM 2 – ADVISORIES

2.1 FORWARD-LOOKING INFORMATION

This AIF, including the documents incorporated by reference, contains and incorporates by reference "forward-looking statements" (within the meaning of the U.S. *Private Securities Litigation Reform Act of 1995* and other U.S. federal securities laws) or "forward-looking information" (within the meaning of applicable Canadian securities legislation) that relate to future events or our future financial performance. These statements can be identified by expressions of belief, expectation or intention, as well as those statements that are not historical fact. These statements often contain words such as "should", "could", "expect", "may", "anticipate", "forecast", "believe", "intend", "estimates", "plans" and similar expressions. These statements are based on certain factors and assumptions as set forth in this document and the documents incorporated by reference herein, including with respect to: foreign exchange rates, expected growth, results of operations, performance, business prospects and opportunities and effective tax rates. While PotashCorp considers these factors and assumptions to be reasonable based on information currently available, they may prove to be incorrect.

Forward-looking statements are subject to risks and uncertainties that are difficult to predict. The results or events set forth in forward-looking statements may differ materially from actual results or events. Several factors could cause our actual results or events to differ materially from those expressed in forward-looking statements including, but not limited to:

- the effect of the completion of the Merger on our ability to retain customers, suppliers and personnel and on our operating future business and operations generally;
- failure to realize the anticipated benefits of the Merger and to successfully integrate with Agrium;
- certain costs that we may incur as a result of the Merger;
- risks related to the diversion of management time from ongoing business operations due to the Merger;
- any significant impairment of the carrying amount of certain of our assets;
- variations from our assumptions with respect to foreign exchange rates, expected growth, results of operations, performance, business prospects and opportunities, and effective tax rates;
- fluctuations in supply and demand in the fertilizer, sulfur and petrochemical markets;
- changes in competitive pressures, including pricing pressures;
- risks and uncertainties related to any operating and workforce changes made in response to our industry and the markets we serve, including mine and inventory shutdowns;
- adverse or uncertain economic conditions and changes in credit and financial markets;
- economic and political uncertainty around the world;
- changes in capital markets;
- the results of sales contract negotiations within major markets;
- unexpected or adverse weather conditions;
- changes in currency and exchange rates;
- risks related to reputational loss;
- the occurrence of a major safety incident;

- inadequate insurance coverage for a significant liability;
- inability to obtain relevant permits for our operations;
- catastrophic events or malicious acts, including terrorism;
- certain complications that may arise in our mining process, including water inflows;
- risks and uncertainties related to our international operations and assets;
- our ownership of non-controlling equity interests in other companies;
- our prospects to reinvest capital in strategic opportunities and acquisitions;
- risks associated with natural gas and other hedging activities;
- security risks related to our information technology systems;
- imprecision in reserve estimates;
- costs and availability of transportation and distribution for our raw materials and products, including railcars and ocean freight;
- changes in, and the effects of, government policies and regulations;
- earnings and the decisions of taxing authorities which could affect our effective tax rates;
- increases in the price or reduced availability of the raw materials that we use;
- our ability to attract, develop, engage and retain skilled employees;
- strikes or other forms of work stoppage or slowdowns;
- rates of return on, and the risks associated with, our investments and capital expenditures;
- timing and impact of capital expenditures;
- the impact of further innovation;
- adverse developments in pending or future legal proceedings or government investigations; and
- violations of our governance and compliance policies.

In addition to the factors mentioned above, see "Risk Factors" discussed in this AIF for a description of other factors affecting forward-looking statements. As a result of these and other factors, there is no assurance that any of the events, circumstances or results anticipated by forward-looking statements included or incorporated by reference into this AIF will occur or, if they do, of what impact they will have on our business, our performance, the results of our operations and our financial condition.

These forward-looking statements are based on certain assumptions and analyses made by us in light of our experience and perception of historical trends, current conditions and expected future developments as well as other factors PotashCorp believes are appropriate in the circumstances. Readers are cautioned not to place undue reliance on the forward-looking statements which involve known and unknown risks and uncertainties that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements.

Forward-looking statements are given only as of the date hereof and PotashCorp disclaims any obligation to update or revise any forward-looking statements included or incorporated by reference into this report, whether as a result of new information, future events or otherwise, except as required by law.

2.2 BASIS OF PRESENTATION

2017, 2016 and 2015 financial information presented and discussed in this AIF is prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board. This AIF is dated February 20, 2018, and the information contained herein is current as of such date, unless otherwise specified.

ITEM 3 – CORPORATE STRUCTURE

In this AIF, unless otherwise specified, the term "PotashCorp" refers to Potash Corporation of Saskatchewan Inc. and, unless the context requires otherwise, the terms "we", "us", "our", "PCS" and the "Company" refer to PotashCorp and its direct and indirect subsidiaries, individually or in any combination, as applicable. References to "dollars", "$", and "U.S. $" are to United States dollars and references to "CDN $" are to Canadian dollars.

3.1 NAME, ADDRESS AND INCORPORATION

PotashCorp is a corporation continued under the *Canada Business Corporations Act* ("CBCA") and is the successor to a corporation without share capital established by the Province of Saskatchewan in 1975. In 1989, the Province of Saskatchewan privatized PotashCorp. While the Province initially retained an ownership interest in PotashCorp, this interest was reduced to zero by the end of 1993.

PotashCorp's head office, principal place of business, and registered office are located at Suite 500, 122 — 1st Avenue South, Saskatoon, Saskatchewan, Canada S7K 7G3.

3.2 INTERCORPORATE RELATIONSHIPS

Principal Subsidiaries[(a)]	Jurisdiction of Incorporation or Organization	Ownership
PCS Nitrogen Fertilizer, LP	Delaware	100%
PCS Nitrogen, Inc.	Delaware	100%
PCS Nitrogen Trinidad Limited	Trinidad	100%
PCS Phosphate Company, Inc.	Delaware	100%
PCS Sales (USA), Inc.	Delaware	100%
Phosphate Holding Company, Inc.	Delaware	100%
Potash Holding Company, Inc.	Delaware	100%
White Springs Agricultural Chemicals, Inc.	Delaware	100%

(a) In aggregate, our remaining subsidiaries accounted for less than 20 percent of PotashCorp's consolidated total assets and/or sales.

ITEM 4 – GENERAL DEVELOPMENT OF THE BUSINESS

4.1 THREE YEAR HISTORY

The Merger

Effective January 1, 2018, PotashCorp and Agrium Inc. ("Agrium") completed a court-approved plan of Merger (the "Merger") under section 192 of the CBCA, involving, among others, PotashCorp, Agrium and Nutrien Ltd. ("Nutrien"), the new parent company of PotashCorp and Agrium.

Pursuant to the Merger, the holders of common shares of PotashCorp ("PotashCorp Shares") received common shares of Nutrien ("Nutrien Shares") at a ratio of 0.40 of a Nutrien Share for each PotashCorp

Share (the “PotashCorp Exchange Ratio”) and the holders of common shares of Agrium (“Agrium Shares”) received Nutrien Shares at a ratio of 2.23 Nutrien Shares for each Agrium Share.

As a result of completing the Merger, PotashCorp and Agrium are wholly-owned subsidiaries of Nutrien.

In addition, upon completion of the Merger, each equity incentive award of PotashCorp was assumed or replaced by Nutrien based on the PotashCorp Exchange Ratio and all other material terms and conditions of each such equity incentive award remained substantially similar with their pre-Merger terms and conditions. Nutrien also assumed the obligations in respect of awards under PotashCorp’s non-equity based incentive compensation plans.

Effective on closing of the Merger, the board of directors of PotashCorp (the “PotashCorp Board”) was reconstituted to mirror the board of directors of Nutrien (the “Nutrien Board”), and the PotashCorp Board is now comprised of the following directors: Jochen E. Tilk, Charles (Chuck) V. Magro, Christopher M. Burley, Maura J. Clark, John W. Estey, David C. Everitt, Russell K. Girling, Gerald W. Grandey, Miranda C. Hubbs, Alice D. Laberge, Consuelo E. Madere, Keith G. Martell, A. Anne McLellan, Derek G. Pannell, Aaron W. Regent and Mayo M. Schmidt.

In connection with antitrust approvals necessary for the completion of the Merger, PotashCorp: (i) divested its minority equity interest in Israel Chemicals Ltd. (“ICL”) effective January 24, 2018, and (ii) has committed to divest its minority equity interests in Arab Potash Company (“APC”) and Sociedad Química y Minera de Chile S.A. (“SQM”) within 18 months of November 2, 2017.

Bond Offerings

On March 26, 2015, PotashCorp completed an offering of up to $500,000,000 aggregate principal amount of 3.000% debt securities due April 1, 2025 (the “April 2025 Notes”). The April 2025 Notes were issued pursuant to an indenture dated February 27, 2003 (the “Indenture”) between PotashCorp and U.S. Bank National Association (as successor to The Bank of Nova Scotia Trust Company of New York) as trustee. The April 2025 Notes were registered under a shelf registration statement of the PotashCorp on Form S-3 (No. 333- 212301) filed June 28, 2013 with the U.S. Securities and Exchange Commission (the “SEC”).

On December 6, 2016, PotashCorp completed an offering of up to $500,000,000 aggregate principal amount of 4.000% debt securities due December 15, 2026 (the “December 2026 Notes”). The December 2026 Notes were issued pursuant to the Indenture. The December 2026 Notes were registered under a shelf registration statement of the PotashCorp on Form S-3 (No. 333- 212301) filed June 29, 2016 with the SEC.

New Brunswick Potash Operations

In November 2015, in response to a weaker fertilizer environment, we accelerated and completed the permanent closure of our Penobsquis facility in New Brunswick. In January 2016, in light of challenging market conditions, we indefinitely suspended potash operations at our Picadilly facility in New Brunswick.

ITEM 5 – DESCRIPTION OF THE BUSINESS

5.1 BUSINESS OF POTASHCORP

PotashCorp is the world’s largest fertilizer producer by capacity producing the three primary crop nutrients: potash, nitrogen and phosphate. PotashCorp is the largest producer of potash worldwide by capacity. In 2017, PotashCorp estimates its potash operations represented 21% of global potash capacity, its nitrogen operations represented 2% of global nitrogen capacity and its phosphate operations represented 3% of global phosphate capacity.

a) SUMMARY

i) Potash Operations

Our potash operations include the mining and processing of potash, which is predominantly used as fertilizer.

All potash produced by the Company in Saskatchewan is in the southern half of the Province, where extensive potash deposits, or "Members", are found. The potash ore is contained in a predominantly rock salt formation known as the Prairie Evaporite, which lies about 1,000 metres below the surface. The evaporate deposits, which are bounded by limestone formations, contain potash beds of approximately 2.4 to 5.1 metres of thickness. Three potash deposits of economic importance occur in the Province: the Esterhazy, Belle Plaine and Patience Lake Members. The Patience Lake Member is mined at the Lanigan, Allan, Patience Lake and Cory mines, and the Esterhazy Member is mined at the Rocanville mine.

We have the right to mine 856,741 acres of land in Saskatchewan. Included in these holdings are mineral rights to 751,415 acres contained within our producing potash leases, of which approximately 23% are owned by us, approximately 61% are under lease from the Province of Saskatchewan and approximately 16% are leased from other parties. Our remaining 105,326 acres are located elsewhere in Saskatchewan.

Our leases with the Province of Saskatchewan are for 21-year terms, renewable at our option. Our significant leases with other parties are also for 21-year terms. Such other leases are renewable at our option, providing generally that production is continuing and that there is continuation of the applicable lease with the Province of Saskatchewan.

In November 2015, in response to a weaker fertilizer environment, we accelerated and completed the permanent closure of our Penobsquis facility in New Brunswick. In January 2016, in light of challenging market conditions, we indefinitely suspended potash operations at our Picadilly facility in New Brunswick. We are keeping idled capacity at Picadilly in a care-and-maintenance mode, which retains the optionality to resume operations as market conditions warrant. We believe that any resumption of operations at our Picadilly facility would take at least one year.

In New Brunswick, we mined pursuant to a mining lease with the Province of New Brunswick. The lease is for a term of 21 years from 1978 with renewal provisions for three additional 21-year periods. This lease was renewed effective June 13, 1999 and amended in 2005 to add additional land. We have the right to mine 58,263 acres of land in New Brunswick. This right is not materially affected by the indefinite suspension of our New Brunswick potash operations. We also hold an interest in certain oil and gas rights in the vicinity of the Picadilly facility.

ii) Nitrogen Operations

Our nitrogen operations include the production of nitrogen fertilizers and nitrogen feed and industrial products, including ammonia, urea, diesel emission fluid, nitrogen solutions, ammonium nitrate and nitric acid. We have nitrogen facilities in Georgia, Louisiana, Ohio and Trinidad.

We have four nitrogen production facilities, of which three are located in the United States and one is located in Trinidad. The following table sets forth the facility locations and products produced.

Plant Locations	Nitrogen Products Produced
Augusta, Georgia	Ammonia, urea, nitric acid, ammonium nitrate and nitrogen solutions
Geismar, Louisiana	Ammonia, nitric acid and nitrogen solutions
Lima, Ohio	Ammonia, urea, nitric acid and nitrogen solutions
Point Lisas, Trinidad	Ammonia and urea

iii) Phosphate Operations

Our phosphate operations include the manufacture and sale of solid and liquid phosphate fertilizers, phosphate feed and industrial acid, which is used in food products and industrial processes. We have phosphate mines and mineral processing plant complexes in Florida and North Carolina. We also have four phosphate feed plants in the United States and produce phosphoric acid at our Geismar, Louisiana facility.

At our Geismar, Louisiana facility we manufacture phosphoric acid. The Geismar facility has a phosphoric acid plant and a liquid fertilizer plant. A significant portion of the phosphoric acid produced at the Geismar facility is sold as feedstock to Innophos Holdings, Inc. for use in its neighboring purified acid plant. Our other phosphate properties include:

- animal feed plants in Marseilles, Illinois; Joplin, Missouri; and Weeping Water, Nebraska;
- a technical and food grade phosphate plant in Cincinnati, Ohio; and
- a terminal facility at Morehead City, North Carolina.

Plant Locations	Primary Products Produced[(a)]
Aurora, North Carolina	DAP, MAP, SPA, animal feed, liquid fertilizer, purified acid, merchant grade phosphoric acid ("MGA"), hydrofluosilicic acid, deflourinated merchant grade acid, low magnesium SPA ("LOMAG")
White Springs, Florida	SPA, MGA[(b)], LOMAG, MAP
Cincinnati, Ohio	Blended purified acid products
Geismar, Louisiana	MGA
Marseilles, Illinois	Animal feed
Weeping Water, Nebraska	Animal feed
Joplin, Missouri	Animal feed

(a) The following scientific terms have the following meanings:

DAP diammonium phosphate, 46% P_2O_5 (solid)
MAP monoammonium phosphate, 52% P_2O_5 (solid)
SPA superphosphoric acid, 70% $P_2 O_5$ (liquid)

(b) All of the MGA from White Springs is consumed internally in the production of additional products.

iv) Transportation, Storage and Distribution

We have an extensive infrastructure and distribution system to store and transport our products. In addition to storage located at our production facilities, in North America in 2017 we leased or owned 294 terminal and warehouse facilities, some of which have multi-product capability, for a total of 411 strategically located distribution points in Canada and the United States to serve our customers. To complement our distribution system in Canada and the United States, we also leased or owned approximately 10,500 railcars. In the offshore market, the Company leased one warehouse in Malaysia and had ownership in a joint venture which leases one dry bulk fertilizer port terminal in Brazil. We also leased three vessels used for ammonia transportation and owned one multi-purpose vessel used for molten sulfur and phosphoric acid transportation.

Potash

Transportation costs can be a significant component of the total cost of potash. Producers may have an advantage in serving markets close to their sources of supply depending on prevailing transportation costs. International shipping cost variances permit offshore producers (including those in the former Soviet Union, Germany and the Middle East) to compete with us effectively in many geographies.

Most of our potash for North American customers is shipped by rail. We believe we have a strategic advantage in this market with more than 204 owned or leased potash distribution points and a fleet of approximately 4,470 owned and leased railcars. We believe this is the most extensive domestic distribution network in the potash business. Shipments are also made by rail from each of our Saskatchewan mines to Thunder Bay, Ontario, for shipment by lake vessel to our warehouses and storage facilities in Canada and the United States.

In the case of our sales to Canpotex Limited ("Canpotex"), potash is transported by rail principally to Vancouver, British Columbia, where port facilities store potash pending shipment by ocean-going vessels overseas. We have an equity interest in Canpotex Bulk Terminals Limited, which is a part owner of these port facilities. Through Canpotex, we also transport potash to, and have an interest in, a port facility located in Portland, Oregon. Following the suspension of our Picadilly, New Brunswick potash operations in early 2016, storage and loading facilities at the Port of Saint John – including our capacity of up to 2.5 million tonnes per year – have been made available to Canpotex for offshore shipping.

Nitrogen

We distribute our nitrogen products by vessel, barge, railcar, truck and direct pipeline to our customers and, in high consumption areas, through our strategically located storage terminals. We lease or own 95 nitrogen terminal facilities. The terminals provide off-season storage and also serve local dealers during the peak seasonal demand period.

We distribute products from Trinidad primarily to markets in the United States and also to Latin America. Our distribution operations in Trinidad employ three long-term chartered ocean-going vessels and utilize short-term and spot charters as necessary for the transportation of ammonia. All bulk urea production from Trinidad is shipped through third-party carriers.

Phosphate

With respect to phosphates, we have long-term leases on shipping terminals in Morehead City and Beaufort, North Carolina, through which we receive and store Aurora facility raw materials and finished product. Most of our offshore phosphate sales are shipped through the terminal at Morehead City. We use barges and tugboats to transport solid products, phosphoric acid and sulfur between the Aurora facility and shipping terminals. Raw materials and products, including sulfur, are also transported to and from the Aurora facility by rail.

Sulfur is delivered to the White Springs facility by rail and truck from Canada and the United States. Most of the phosphoric acid and chemical fertilizers produced at the White Springs facility are shipped to North American destinations by rail. Ammonia for Aurora is supplied by rail and truck from our production facilities in Lima, Ohio; Geismar, Louisiana; and Augusta, Georgia. Much of the Geismar facility's phosphoric acid is delivered via pipeline to a nearby customer. The balance of the facility's phosphate products is shipped by rail or tank truck. Phosphate rock feedstock is delivered to Geismar from Morocco in large ocean-going vessels. Sulfuric acid is delivered to the Geismar facility by barge and truck.

v) Selected Financial Information

Sales classified by business unit, operating segment and applicable category of products and services for the Company's three most recently completed fiscal years are provided in Note 3 to the 2017 Financial Statements, which are incorporated herein by reference.

b) PRODUCTION METHODS

Production methods for PotashCorp's manufactured products are set out below.

Potash

We produce potash using both conventional and solution mining methods. In conventional operations, shafts are sunk to the ore body and mining machines cut out the ore, which is hoisted to surface for processing. In solution mining, the potash is dissolved in warm brine and pumped to the surface for processing. Eleven grades of potash are produced to suit different preferences of the various markets we serve.

In 2017, our conventional potash operations mined 30.04 million tonnes of ore at an average mineral grade of 23.45% potassium oxide ("K_2O"). In 2017, our potash production from all our operations consisted of 9.80 million tonnes of potash ("KCl" or "finished product") with an average grade of 61.44% K_2O, representing an estimated 47% of North American production.

In 2017, our nameplate capacity represented an estimated 51% of the North American total capacity (based on our nameplate capacity, see table below for further information). We allocate production among our mines on the basis of various factors, including cost efficiency and the grades of product that can be produced. The Patience Lake mine, which was originally a conventional underground mine, began employing a solution mining method in 1989. The other Saskatchewan mines we own employ conventional underground mining methods.

Our New Brunswick operations also produced approximately 143,043 tonnes of sodium chloride (salt) in 2017. Despite the suspension of our New Brunswick potash operations, we expect to continue to mine salt for the local market at this time, albeit at a reduced rate.

The following table sets forth, for each of the past three years, the production of ore, grade and finished product for each of our potash mines:

	Annual Nameplate Capacity[1]	Annual Operational Capability 2017[2]	2017 Production			2016 Production			2015 Production		
	Finished Product (Millions of tonnes)	Finished Product (Millions of tonnes)	Ore (Millions of tonnes)	Grade % K_2O	Finished Product (Millions of tonnes)	Ore (Millions of tonnes)	Grade % K_2O	Finished Product (Millions of tonnes)	Ore (Millions of tonnes)	Grade % K_2O	Finished Product (Millions of tonnes)
Lanigan [3]	3.8	2.0	6.31	21.0	1.82	7.09	20.6	2.03	6.09	21.2	1.83
Rocanville	6.5	5.0	15.10	23.7	4.86	8.63	23.1	2.72	7.85	23.0	2.48
Allan	4.0	2.0	5.22	25.1	1.83	6.82	24.9	2.38	6.75	25.2	2.38
Cory[3]	3.0	0.8	3.41	24.0	0.99	4.41	23.5	1.24	5.15	24.5	1.51
Patience Lake[4]	0.3	0.3	-	-	0.30	-	-	0.23	-	-	0.26
New Brunswick[5]	2.0	-	-	-	-	-	-	-	2.38	20.3	0.65
Totals	19.6	10.1	30.04		9.80	26.95		8.60	28.22		9.11

(1) Represents estimates of capacity as of December 31, 2017. Estimates are based on capacity as per design specifications or Canpotex entitlements once determined. In the case of New Brunswick, nameplate capacity represents design specifications for the Picadilly mine, which is currently in care-and-maintenance mode. In the case of Patience Lake, estimate reflects current operational capability. Estimates for all other facilities do not necessarily represent operational capability.

(2) Estimated annual achievable production level at current staffing and operational readiness (estimated at beginning of year). Estimate does not include inventory-related shutdowns and unplanned downtime.

(3) In November 2016, the Company announced operational changes at Cory to produce only white potash with an expected operational capability of approximately 0.8 million tonnes per year, and these operational changes were fully completed in the third quarter of 2017. Potential exists to reach previous operational capability with increased staffing and operational ramp-up, although timing is uncertain.

(4) Solution mine.

(5) In November 2015, the Penobsquis, New Brunswick mine was permanently closed. In January 2016, the Company indefinitely suspended its Picadilly, New Brunswick operations, which are currently in care-and-maintenance mode.

The mining of potash is a capital-intensive business subject to the normal risks and capital expenditure requirements associated with mining operations. The production and processing of ore may be subject to delays and costs resulting from mechanical failures and hazards, such as unusual or unexpected geological conditions, subsidence, water inflows, and other conditions involved in mining potash ore.

Nitrogen

Unlike potash and phosphate, nitrogen is not mined. It is synthesized from air using steam and natural gas or coal to produce ammonia. The ammonia is used to produce a full line of upgraded nitrogen products, including urea, nitrogen solutions, ammonium nitrate and nitric acid. Ammonia, urea and nitrogen solutions are sold as fertilizers to agricultural customers and to industrial customers for various applications. Nitric acid and ammonium nitrate are sold to industrial customers for various applications. Urea is also sold for feed applications.

Phosphate

We extract phosphate ore using surface mining techniques. At each mine site, the ore is mixed with recycled water to form a slurry, which is pumped from the mine site to our processing facilities. The ore is then screened to remove coarse materials, washed to remove clay and floated to remove sand to produce phosphate "rock". The annual production capacity of our mines is currently 7.4 million tonnes of phosphate rock. During 2017, the Aurora facility's total production of phosphate rock was 5.4 million tonnes and the White Springs facility's total production of phosphate rock was 2.0 million tonnes. The sequence for mining portions of the Aurora property has been identified in the permit issued by the US Army Corps of Engineers in June 2009. The permit authorizes mining in excess of 22 years. Phosphate rock is the major input in our phosphorus processing operations. Substantially all of the phosphate rock produced is used internally for the production of phosphoric acid, SPA, chemical fertilizers, purified phosphoric acid and animal feed products. To meet certain customers' product requirements, the Geismar facility does not mine phosphate rock. The Geismar facility purchases phosphate rock from the Moroccan company OCP S.A.

In addition to phosphate ore, the other principal raw materials we require are sulfur and ammonia. The production of phosphoric acid requires substantial quantities of sulfur, which we purchase from third parties. Any significant disruption in our sulfur supply to the phosphate facilities could adversely impact our financial results. We produce sulfuric acid at the Aurora and White Springs facilities and our Geismar facility purchases sulfuric acid from third parties.

Our phosphate operations purchase all of their ammonia at market rates from or through our nitrogen and sales subsidiaries. Phosphoric acid is reacted with ammonia to produce purified phosphoric acid, DAP and MAP as well as liquid fertilizers. In addition, ammonia operations include the purchase, sale and terminalling of anhydrous ammonia and much of this ammonia is purchased from third parties. Ammonia for Aurora is supplied by rail and truck from our production facilities in Lima, Ohio; Geismar, Louisiana; and Augusta, Georgia.

We can produce MGA at our Aurora, White Springs and Geismar facilities. Some MGA from Aurora and Geismar is sold to foreign and domestic fertilizer producers and industrial customers. We further process the balance of the MGA to make solid fertilizer (DAP and MAP), liquid fertilizers, animal feed supplements for the poultry and livestock markets, and purified phosphoric acid for use in a wide variety of food, technical and industrial applications.

c) SPECIALIZED SKILL AND KNOWLEDGE

PotashCorp believes its success is dependent on the performance of its management and key operational employees, many of whom have specialized skills and knowledge relating to the potash, nitrogen and phosphate industry and to the conduct of potash, nitrogen and phosphate operations. PotashCorp believes that it has adequate personnel with the specialized skills and knowledge to successfully carry out the Company's business and operations.

d) COMPETITIVE POSITION

Potash

Potash is a commodity, characterized by minimal product differentiation, and, consequently, producers compete based on price, quality and service. We price competitively and sell high quality products and provide high quality service to our customers. Our service includes maintaining warehouses, leasing railcars and chartering ocean-going vessels to enhance our delivery capabilities. The high cost of transporting potash affects competition in various geographic areas. During 2017 our principal competitors in North America included PA Belaruskali, ICL, Intrepid Potash Inc., K+S Group, The Mosaic Company ("Mosaic"), SQM and JSC Uralkali. In 2017, in offshore markets, Canpotex competed with producers such as APC, PA Belaruskali, ICL, K+S Group, SQM and JSC Uralkali.

Nitrogen

Nitrogen, the most widely produced nutrient globally, is primarily a regional business. However, ammonia, the feedstock for all downstream nitrogen products, may be manufactured in countries with adequate natural gas supplies and can enable developing nations to monetize their natural gas resources. Several countries with large reserves and low production costs use little of their gas domestically, and can produce ammonia cheaply for the export market. Natural gas typically makes up 70-85% of the cash cost of producing a tonne of ammonia. Nitrogen solutions and ammonium sulfate are also exported.

Nitrogen is an input into industrial production of a wide range of products. Many manufacturers want consistent quality and just-in-time delivery to keep their plants running. A number of industrial consumers are connected to their suppliers by pipeline.

Our nitrogen production serves fertilizer, industrial and feed customers. Our US plants primarily supply industrial and feed customers, and Trinidad supplies both our fertilizer and industrial customers. Our US production has benefited recently from the low cost of natural gas. In Trinidad, our natural gas contracts are primarily indexed to Tampa, Florida ammonia prices. Within North America, sales are regionalized due to transportation costs. In the United States, we compete with other domestic producers, including CF Industries Holdings, Inc., CVR Partners, L.P., Koch Industries, Inc., LSB Industries, Inc., and OCI N.V. and with imported product from suppliers in the Middle East, North Africa, Trinidad, the former Soviet

Union and China. In the offshore market, we compete with a wide range of offshore and domestic producers.

Phosphate

Markets for phosphate fertilizer products are highly competitive. Our principal advantages at Aurora and White Springs are that we produce higher value, diversified products and that we operate integrated phosphate mine and phosphate processing complexes, while some of our North American competitors are required to ship phosphate rock by rail or truck greater distances from their mines to their mineral processing plants, thus incurring higher rock processing costs.

Our competitors for North American phosphate fertilizer sales are Mosaic, J.R. Simplot Company and offshore imports primarily from China, Morocco and Russia.

In offshore markets, we compete primarily with Morocco's OCP S.A., as well as producers from Africa and the Middle East.

Within the animal feed supplement business in the phosphate segment, opportunities exist to differentiate products based on nutritional content. We have a significant presence in the domestic feed supplement market segments. We compete with Mosaic, J.R. Simplot Company and Chinese and Russian producers for feed sales.

Industrial products are the least commodity-like of the phosphate products as product quality is a more significant consideration for customer buying decisions. We market industrial phosphate products principally in the United States and we compete with ICL, Innophos Holdings, Inc. and Chinese producers for North American industrial sales.

e) SOURCES OF RAW MATERIALS

Potash

The production of potash requires a sustained fresh water supply for the milling process which is sourced from subsurface reservoirs located on the mining projects. These reservoirs provide a sustainable source of process water for the milling operations.

Nitrogen

Natural gas is the primary raw material used for the production of nearly all of our nitrogen products. In the United States, we may enter into natural gas hedging transactions with the goal of minimizing risk from volatile gas prices. In Trinidad, natural gas is purchased pursuant to a number of long-term contracts using pricing formulas related to the market price of ammonia. These contracts, which include minimum take or pay requirements, can provide the entire Trinidad ammonia complex with 95% of its expected requirements for 2018. The Company is in ongoing negotiations for the renewal of these natural gas contacts. With the exception of the Trinidad facility, we purchase most of our natural gas from producers or marketers at the point of delivery of the natural gas into the pipeline system, then pay the pipeline company and, where applicable, the local distribution company to transport the natural gas to our nitrogen facilities. Approximately 80% of our US consumption of natural gas by our nitrogen operations is delivered pursuant to firm transportation contracts, which do not permit the pipeline or local distribution company to interrupt service to, or divert natural gas from, the plant.

Phosphate

Phosphate rock is the major input in our phosphorus processing operations, which is purchased from the Moroccan company OCP S.A. In addition to phosphate ore, the other principal raw materials we require are sulfur and ammonia. The production of phosphoric acid requires substantial quantities of sulfur, which we purchase from third parties. Any significant disruption in our sulfur supply to the phosphate facilities could adversely impact our financial results. We produce sulfuric acid at the Aurora and White Springs facilities and our Geismar facility purchases sulfuric acid from third parties. Our phosphate operations purchase all of their ammonia at market rates from or through our nitrogen and sales subsidiaries.

f) SEASONALITY

The agricultural products business is seasonal in nature. In particular, PotashCorp's sales of fertilizer can be seasonal. Typically, fertilizer sales are highest in the second quarter of the year, due to the Northern Hemisphere's spring planting season. However, planting conditions and the timing of customer purchases will vary each year, and fertilizer sales can be expected to shift from one quarter to another. Feed and industrial sales are more evenly distributed throughout the year. See "Risk Factors" below for a description of any risks related to seasonality.

g) ENVIRONMENTAL MATTERS

Our operations are subject to numerous environmental requirements under federal, provincial, state and local laws and regulations of Canada, the United States and Trinidad and Tobago. These laws and regulations govern matters such as air emissions, wastewater discharges, land use and reclamation, groundwater quality, and solid and hazardous waste management. Many of these laws, regulations and permit requirements are becoming increasingly stringent, and the cost of compliance with these requirements can be expected to increase over time.

Our operating expenses, other than costs associated with asset retirement obligations, relating to compliance with environmental laws and regulations governing ongoing operations for 2017 were $99 million (2016 — $95 million, 2015 — $111 million).

The Company routinely undertakes environmental capital projects. In 2017, capital expenditures of $81 million (2016 — $82 million, 2015 — $164 million) were incurred to meet pollution prevention and control emissions as well as other environmental objectives. Future capital expenditures are subject to a number of uncertainties, including changes to environmental regulations and interpretations, and enforcement initiatives. While we currently anticipate that our operating and capital expenditures related to environmental regulatory matters in 2018 will not differ materially from amounts expended in the past two years, at this time we are unable to estimate the capital expenditures we may make in subsequent years to meet pollution prevention and control objectives as well as other environmental requirements.

i) Environmental Requirements, Permits and Regulatory Approvals

Many of our operations and facilities are required to operate in compliance with a range of regulatory requirements, permits and approvals. We believe that we are currently in material compliance with existing regulatory programs, permits and approvals. Permits and approvals typically have to be renewed or reissued periodically. We may also become subject to new laws or regulations that impose new requirements or require us to obtain new or additional permits or approvals. However, there can be no assurance that such permits or approvals will be issued in the ordinary course. Further, the terms and conditions of future regulations, permits and approvals may be more stringent and may require increased expenditures on our part.

Air Quality

With respect to air emissions, we anticipate that additional actions and expenditures may be required to meet increasingly stringent US federal and state regulatory and permit requirements, including existing and anticipated regulations under the federal *Clean Air Act*. The US Environmental Protection Agency ("USEPA") has issued a number of regulations establishing requirements to reduce air pollutant emissions. We continue to monitor developments in these various programs and to assess their potential impact on our operations.

Water Quality

There are international, federal and state regulatory initiatives underway that may result in new regulatory restrictions on discharges of nutrients, including nitrogen and phosphorus, to waters in the United States ("Nutrient Criteria"). There are also ongoing litigation efforts in several jurisdictions of the United States that seek to require US environmental agencies to develop new Nutrient Criteria. These litigation and regulatory proceedings may result in new Nutrient Criteria that apply to water discharges from several of the Company's facilities. Some of the proposed restrictions imposed through Nutrient Criteria also have the potential to require our customers to reduce or eliminate their uses of the Company's products. These Nutrient Criteria could have a material effect on either the Company or its customers, but the impact is not currently predictable or quantifiable with reasonable certainty because many of these initiatives are in relatively early stages and compliance alternatives may be available that do not create material impacts. The Company is closely monitoring and evaluating the impact of these initiatives on its operations.

Climate Change

We have determined that we will pursue a greenhouse gas mitigation strategy. A source of greenhouse gases from our operations is process emissions from some of our nitric acid plants. In addition, the use of natural gas at our mines and as a feedstock in our ammonia production results in greenhouse gas emissions. The use of electricity and the transportation of materials associated with our operations are indirect sources of greenhouse gases.

We continue to monitor international and national efforts to address climate change. Increasing regulation of greenhouse gases could impact our operations by requiring changes to our production processes or increasing raw material, energy, production or transportation costs. The countries where we operate are parties to the Paris Agreement adopted in December 2015 pursuant to the United Nations Framework Convention on Climate Change. The impacts of these regulatory efforts on the Company's operations cannot be determined with any certainty at this time.

In addition to the foregoing, the information under "Legal and Other Matters — General" in Note 30, "Contingencies and Other Matters" on page 118 of the Company's 2017 Financial Statements is incorporated herein by reference.

ii) Asset Retirement Obligations

Provisions are recognized when: (1) the Company has a present legal or constructive obligation as a result of past events; (2) it is probable that an outflow of resources will be required to settle the obligation; and (3) the amount has been reliably estimated. We have recorded in the Company's 2017 Financial Statements provisions for decommissioning obligations (also known as asset retirement obligations) primarily related to mining and mineral activities. The major categories of asset retirement obligations include reclamation and restoration costs at our potash and phosphate mining operations (most particularly phosphate mining), including the management of materials generated by mining and mineral processing, such as various mine tailings and gypsum; land reclamation and revegetation programs; decommissioning of underground and surface operating facilities; general clean-up activities aimed at returning the areas to an environmentally acceptable condition; and post-closure care and maintenance. See Note 18 of the Company's 2017 Financial Statements for further discussion of the treatment of asset retirement obligations.

The estimation of asset retirement obligation costs depends on the development of environmentally acceptable closure and post-closure plans. In some cases, this may require significant research and development to identify preferred methods for such plans that are economically sound and that, in most cases, may not be implemented for several decades. We have continued to use appropriate technical resources, including outside consultants, to develop specific site closure and post-closure plans in accordance with the requirements of the various jurisdictions in which we operate. The asset retirement obligations are generally incurred over an extended period of time. At December 31, 2017, we had accrued a total of $702 million for asset retirement obligations. The current portion totaled $67 million.

In addition, the information contained in paragraphs five through seven of "Supporting Information" of Note 25, "Guarantees" to the Company's 2017 Financial Statements is incorporated herein by reference.

iii) Site Assessment and Remediation

We are also subject to environmental statutes that address investigation and, where necessary, remediation of contaminated properties. The US *Comprehensive Environmental Response, Compensation and Liability Act of 1980* ("CERCLA"), and other US federal and state laws impose liability on, among others, past and present owners and operators of properties or facilities at which hazardous substances have been released into the environment and persons who arrange for disposal of hazardous substances that are released into the environment. Liability under these laws may be imposed jointly and severally and without regard to fault or the legality of the original actions, although such liability may be divided or allocated according to various equitable and other factors. We have incurred and expect to continue to incur costs and liabilities because of our current and former operations, including those of divested and acquired businesses. We have generated and, with respect to our current operations, continue to generate substances that could result in liability for us under these laws.

We have accrued $21 million for costs associated with site assessment and remediation, including consulting fees, related to the clean-up of contaminated sites currently or formerly associated with the Company or its predecessors' businesses. The current portion of these costs totaled $5 million. The accrued amounts include the Company's or its subsidiaries' expected final share of the costs for the site assessment and remediation matters to the extent the incurrence of the costs are likely and can be reasonably estimated.

In addition to the foregoing, the information in the first and second paragraphs under "Nitrogen and Phosphate", including the bullets contained therein, and in "Legal and Other Matters" of Note 30, "Contingencies and Other Matters" to the Company's 2017 Financial Statements is incorporated herein by reference.

It is often difficult to estimate and predict the potential costs and liabilities associated with these programs, and there is no guarantee that we will not in the future be identified as potentially responsible for additional costs under these programs, either as a result of changes in existing laws and regulations or as a result of the identification of additional matters or properties covered by these programs.

iv) Facility and Product Security

Through our Safety, Health and Environment department, we regularly evaluate and address actual and potential security issues and requirements associated with our operations in the United States and elsewhere using approved security vulnerability methodologies. Additional actions and expenditures may be required in the future. In the United States, chemical facilities are regulated under the *Maritime Transportation Security Act*, the *Chemical Facility Anti-Terrorism Standards*, and the *Food Safety Modernization Act* (Mitigation Strategies to Protect Food Against Adulteration). It is anticipated that Congress will continue to consider federal legislation designed to reduce the risk of any future terrorist acts at industrial facilities. We believe that we are in material compliance with applicable security requirements, and we also have developed and adopted security measures and enhancements beyond those presently required at both our regulated and non-regulated facilities. To date, neither the security regulations nor our expenditures on security matters have had a material adverse effect on our financial position or results of operations. We are unable to predict the potential future costs to us of any new governmental programs or voluntary initiatives.

h) EMPLOYEES

At December 31, 2017, we employed 5,104 people, of whom 2,002 were salaried and 3,102 were hourly paid. Of these 5,104 employees, our potash operations employed 2,241 people, our nitrogen operations 856 and our phosphate operations 1,559. Our sales and transportation and distribution functions were handled by 100 employees in Northbrook, Illinois and various other locations in the United States and by 15 employees in Saskatoon, Saskatchewan. Excluding sales personnel, the Saskatoon and Northbrook offices together had a corporate staff of 333.

We have entered into eight collective bargaining agreements with labor organizations representing employees. The following table sets forth the plant locations where we have entered into collective bargaining agreements and their respective expiry dates.

Plant Location	**Collective Bargaining Agreement Expiry Date**
Allan, Saskatchewan	April 30, 2019
Cory, Saskatchewan	April 30, 2019
Patience Lake, Saskatchewan	April 30, 2019
Lanigan, Saskatchewan	January 31, 2018
Rocanville, Saskatchewan	May 31, 2018
Cincinnati, Ohio	November 1, 2019
Lima, Ohio	October 31, 2022
White Springs, Florida	December 10, 2018

We believe we have an effective working relationship with our employees and the unions representing them.

i) FOREIGN OPERATIONS AND CONTRACTS

Potash we produce in Canada for sale outside Canada and the United States is sold exclusively to Canpotex. Effective January 1, 2018 (i.e., following the completion of the Merger), Canpotex is owned in equal shares by us and another Canadian potash producer. Canpotex, which was incorporated in 1970 and commenced operations in 1972, acts as an export company providing integrated sales, marketing and distribution for all Canadian potash produced by its shareholders/producers that is exported to destinations outside the United States and Canada. Each shareholder of Canpotex has an equal voting interest as a shareholder and a right to equal representation on the Canpotex board of directors. The shareholders/producers of Canpotex have committed to use Canpotex as their exclusive offshore export outlet for potash produced in Canada that is exported to destinations outside the United States and Canada; however, prior to January 2016, production from our New Brunswick mine was not subject to this requirement and was instead marketed internationally by us outside of Canpotex. In January 2016, we elected for New Brunswick production to also be subject to this exclusivity requirement and announced the suspension of our Picadilly New Brunswick potash operations. Since that time, we have not sold any potash we produce in Canada outside of Canada and the United States independently of Canpotex.

In general, Canpotex sales are allocated among Canpotex producers based on production capacity. In 2017, PotashCorp supplied approximately 53.26% of Canpotex's requirements. Canpotex generally sells potash to private and public firms and government agencies pursuant to contracts at negotiated prices or by spot sales.

Ammonia and urea predominate our offshore sales of nitrogen and originate primarily from Trinidad, with other sales coming from purchased product locations. For 2017, our offshore sales of nitrogen products represented 23% of our total nitrogen sales.

The Company executes offshore marketing and sales for its solid phosphate fertilizer through PCS Sales (USA), Inc. For 2017, the offshore sales of phosphate products represented 19% of our total phosphate sales.

Offshore sales are subject to those risks customarily encountered in foreign operations, including (i) laws, policies and actions affecting foreign trade; (ii) other economic, political and regulatory policies of foreign governments; (iii) changes in foreign currency and exchange controls; and (iv) fluctuations in foreign currency exchange rates.

j) SOCIAL OR ENVIRONMENTAL POLICIES

In 2016, PotashCorp adopted a formal board diversity policy relating to, among other things, the identification and nomination of women directors (the "PotashCorp Board Diversity Policy"). The aim of the PotashCorp Board Diversity Policy was to foster PotashCorp's growth and development with respect to diversity among its members. This included, but is not limited to, diversity of personal characteristics such as gender, geographic origin and ethnicity in addition to relevant and diverse professional experiences, skills and knowledge. Under the PotashCorp Board Diversity Policy, the PotashCorp Board committed to strive to ensure a minimum of 30% of the PotashCorp Board was comprised of women. Under the PotashCorp Board Diversity Policy, the PotashCorp Board ensured that qualified candidates considered for open PotashCorp Board positions included a minimum of 50% female candidates. In connection with the completion of the Merger, the PotashCorp Board was reconstituted to mirror the Nutrien Board. Nutrien, in connection with the completion of the Merger, adopted a formal board diversity policy with similar aims to the PotashCorp Board Diversity, which Nutrien policy has superseded the PotashCorp Board Diversity Policy.

We also recognize that having a diverse workforce enhances our organizational strength and better reflects our stakeholders. Historically, the Company has adopted a company-wide diversity and inclusion policy, an important component of which is to increase the representation of women and Aboriginals in the Company. While we did not historically adopt specific targets for the representation of women in our executive officer positions, we recognize that the management group offers a strong cohort for aspiring leaders and acts as a catalyst for advancing leaders at all levels. Increasing the representation of women in this group is a key focus around which the Company aligns its people development initiatives. Nutrien, in connection with the completion of the Merger, has adopted company-wide policies addressing diversity and inclusion matters, which policies have superseded the historical policies of PotashCorp.

The Company's diversity and inclusion policy was historically supported with strategic community investments. These investments helped us to identify increased opportunities to support programs, services, education, training, research, and advocacy measures which enhance the representation of women in leadership and in non-traditional roles in our industry, including STEM opportunities for girls and women. Along with these investments, the alignment of the Company's procurement processes to identify and include women-owned businesses also increases overall opportunities for the inclusion of women in our industry.

5.2 RISK FACTORS

Our performance and our future operations are and may be affected by a wide range of risks. Any or all of these risks, or other risks not presently known to us or that we do not deem material, could have a material adverse effect on our business, financial condition, results of operations and cash flows and on the market price of our common shares. We use our integrated risk management framework to identify risks across all segments of the Company, evaluate those risks, and implement strategies designed to mitigate those risks.

In addition, see "Risks Related to the Operations of New Parent Following the Arrangement" in the joint information circular of PotashCorp and Agrium concerning the Merger filed on SEDAR.

Our estimates of future demand for our products, and in particular potash, our primary nutrient, may prove to be overstated.

We estimate the future level of demand for our products and attempt to meet this anticipated demand by adjusting our operational capability at certain facilities. Our customers' decisions regarding the purchase of our products are affected by variable market, governmental, seasonal, foreign currency, other economic, weather and other conditions, most of which are outside of our control and can be difficult to accurately predict. For example, farmers' decisions about the number of acres planted, the mix of crops planted and application rates for crop nutrients vary from year to year depending on a number of factors including, among others, crop prices, the level of grain inventory, governmental actions (including farm and biofuel policies), input costs, weather-related shifts in planting schedules and the level of the crop nutrients remaining in the soil following the previous harvest. Therefore, the timing of customer purchases will vary each year, and fertilizer sales can shift between periods.

If demand does not meet our estimates, our facilities may be underutilized. To the extent that we underutilize capacity, operating efficiencies may decline, which may require operations or workforce changes. This may result in the return on our investment being lower than expected and may negatively impact our financial performance.

Competitors' increase in fertilizer supply may outpace growth in world demand.

Some fertilizer products are characterized by minimal product differentiation within product categories and customers make their purchasing decisions principally on the basis of delivered price and to a lesser extent on customer service and product quality.

Consequently, the market for fertilizer products is subject to competitive pricing pressures and is volatile. This volatility varies by product within the fertilizer industry. Our competitors have undertaken, and may undertake in the future, expansion or greenfield projects to increase fertilizer production capability and may increase supply in response to market conditions or otherwise.

If increases in supply outpace growth in world demand this may lead to saturation in the market, a reduction in prices and declining capacity utilization rates, negatively affecting our financial performance.

Canpotex may be dissolved or its ability to operate impaired.

We rely on Canpotex, an offshore marketing, transportation and distribution company, to deliver our potash to customers outside North America. Unexpected changes in laws or regulations, market or economic conditions, our (or our venture partner's) business, or otherwise could threaten the existence or effectiveness of Canpotex. A trusted potash brand could be lost and our access to key offshore markets negatively impacted resulting in a less efficient logistics system, decreased sales, higher costs or lower net earnings from offshore sales.

We may be subject to catastrophic events or malicious acts (including terrorism) involving our products, facilities or transportation, storage and distribution network.

Like other companies with major mining and industrial facilities, in addition to cyber security risks, our operations may be impacted by catastrophic events (such as uncontrolled mine inflow, severe weather or extreme product transportation/storage mishaps) or be targets of terrorist activities (or other intentional acts of destruction). As a result, our facilities, or those of third parties on which we rely, could be damaged or destroyed, or employees, contractors and the public could suffer serious physical injury. Such events could also affect our sales or production and disrupt our supply chain, which may adversely impact our financial results or reputation.

Certain complications may arise in our mining process, including water inflows in our potash mines.

The mining process is a complex process subject to certain geological conditions and hazards, including industrial and environmental hazards. For example, the presence of water-bearing strata above and below many underground mines poses the risk of water inflows. It is not uncommon for water inflows of varying degrees to occur in potash mines; however, it is difficult to predict if, when, or to what degree, such inflows could occur. At our Saskatchewan potash mines we have minor water inflows that we actively monitor and manage, as appropriate. Significant inflows at our potash mines could result in increased operational costs, increased risk of personal injury, production delays or stoppages, or the abandonment and closure of a mine. The risk of underground water inflows, as with most other underground risks, is currently not insured. Any of these risks and hazards relating to our mining process could negatively affect our safety, our reputation or our financial performance.

We may fail to maintain high levels of safety and health or prevent / appropriately respond to a major security incident.

Safety is a core value for us. The mining and industrial activities we engage in are inherently hazardous and we have personnel working or travelling in countries facing escalating tensions. Failure to prevent or appropriately respond to a safety, health or security incident could result in one or more incidents leading to injuries or fatalities among our employees, contractors and communities near our operations. Such incidents may lead to liabilities arising out of personal injuries or death, operational interruptions and shutdown or abandonment of affected facilities. Accidents could cause us to expend significant managerial time and efforts, and financial resources to remediate safety issues or to repair damaged facilities and may also adversely impact our reputation.

We may fail to protect the environment.

Environmental incidents, including uncontrolled tailings, gypsum stack or other containment breaches, significant subsidence from mining activities and significant release of hazardous and other regulated materials, may occur. Failure to prevent a significant environmental incident can be harmful to our employees, contractors, and communities in which we operate and impact the biodiversity, water resources and related ecosystems near our operations. Such incidents could also adversely impact our operations, financial performance or reputation.

We may incur costs related to new or revised environmental laws and regulations.

Our operations are subject to environmental laws and regulations. We incur significant costs and associated liabilities in connection with these laws and regulations. These laws and regulations govern matters such as air emissions, wastewater discharges, land use and reclamation and solid and hazardous waste management. Many of the laws and regulations are becoming increasingly stringent, and the cost of compliance with these requirements can be expected to increase over time. New or revised laws or regulations may result from pressure on law makers and regulators to address climate change, transition to a low-carbon economy or impose more restrictive conditions on inbound and outbound hazardous material shipments of raw material inputs and end products. Increased regulation could impact our ability to produce certain products, increase our raw material, energy, transportation, and compliance costs and have a negative effect on our customer satisfaction, reputation and financial performance.

We may not be granted, or may fail to maintain, the relevant permits for our operations.

Many of our existing operations are dependent upon having numerous required permits and approvals, or a determination that we have not violated a law or permit as a result of government inspection of our facilities, from relevant governmental authorities. In addition, expansion or modification of our operations may be predicated upon securing necessary environmental or other permits or approvals. Denial or delay by a government agency in issuing any of our permits and approvals or imposition of restrictive conditions on us with respect to these permits and approvals could have an adverse effect on our ability to continue or expand operations thereby affecting our financial performance or our reputation.

For additional information regarding environmental laws and regulations that impact our operations, see the information contained under the heading "Environmental Matters" above.

Our international operations and investments may be affected by political and regulatory regimes.

We have significant operations and investments in countries outside of Canada and the United States. We have a nitrogen production facility in Trinidad. In addition, we have significant investments in entities located in Chile, Jordan and China. In connection with the Merger, we have committed to divest our minority shareholdings in SQM (Chile) and APC (Jordan) within 18 months of November 2, 2017.

Various factors may impact these operations including difficulties and costs associated with political and economic conditions, cultures and laws, regulations, foreign trade and fiscal policies; currency exchange rate fluctuations; armed conflict; terrorist activity; and unexpected changes in regulatory requirements, social, and labor conditions. Such factors may lead to restrictions on monetary distributions, selective discrimination, forced divestures or changes to or nullification of existing agreements, mining permits or leases.

Instability in political or regulatory regimes could cause volatility and impact our earnings growth or our reputation.

Non-operated investments may be affected by decisions of third parties.

We hold a minority ownership interest in certain companies, and participate in various joint ventures. The operations and results of these investments are significant to us, and their operations can affect our earnings. Because we do not control these companies and our joint venture partners share a measure of control we cannot ensure that these entities will operate efficiently, pay dividends or manage their businesses in our best interests. As a result, these companies may contribute less than anticipated to our earnings and cash flow negatively impacting our operations or they could take actions that harm our reputation.

Our opportunities to strategically reinvest available capital may be limited.

We regularly evaluate all strategic opportunities. We may seek to grow through acquisitions of assets or entities, or interests in other entities. We may also consider other growth opportunities such as strategic alliances, evaluation of new products and technologies, or expansion into new markets that complement and extend our portfolio of businesses and capabilities and generate returns that exceed our cost of capital on a risk-adjusted basis.

Various factors may limit our investment opportunities including geopolitical, market or other reasons. Such restrictions could negatively affect our growth.

We may be unable to achieve expected benefits of our growth initiatives.

When we undertake any strategic initiatives, including the Merger recently completed, our ability to achieve the expected returns and other benefits will be affected by our degree of preparedness and ability to execute. With respect to acquisitions, we are dependent upon our ability to successfully consolidate functions and integrate operations, technology, procedures and personnel in a timely and efficient manner. The integration of acquired assets and operations requires the dedication of management effort, time and resources, which may divert management's focus and resources from other strategic opportunities or operational matters during the process. The integration process may result in the disruption of our existing business and customer relationships that may adversely affect our ability to achieve the anticipated benefits, and may negatively affect our financial performance.

We also continue to evaluate the potential disposition of assets and operations that may no longer help us meet our objectives. When we decide to sell assets or operations, we may encounter difficulty in finding buyers or executing alternative exit strategies on acceptable terms in a timely manner, which could delay the accomplishment of our strategic objectives.

We may fail to gain the support of our stakeholders for our business plans.

Underperformance due to weak market fundamentals or business issues, inadequate communication, engagement and/or collaboration with our stakeholders or dissatisfaction with our practices or strategic direction may lead to a lack of support for our business plans. Loss of stakeholder confidence may impair our ability to execute on our business plans and attract capital, and may also lead to reputational and financial losses, or shareholder action.

In Trinidad, supply of natural gas, a key raw material for the manufacture of our nitrogen products, may continue to be curtailed.

Due to decreased investment by the energy industry in exploration, development and major maintenance activities we continue to experience curtailments in our natural gas supply. While changes in government policy in Trinidad are intended to support natural gas exploration and development, we continue to expect curtailments of natural gas supply for the coming years. Furthermore, all our gas supply contracts expire at the end of 2018 such that future supply will be based on new agreements regarding volume and price. Prolonged interruption of our supply could result in loss of nitrogen production, adversely affecting our financial performance or reputation. Failure to secure a long-term gas supply on a cost-effective basis could adversely affect our Trinidad operations.

Our information and operations technology systems are subject to cyber security risks.

Targeted attacks on our systems (or on systems of third parties that we rely on), failure or non-availability of a key information or operations technology system or a breach in security measures designed to protect our technology systems could result in property damage, theft, misuse, modification and destruction of information, including trade secrets and confidential business information, and cause business disruptions, reputational damage, extensive personal injury and third-party claims, which could negatively impact our operations and our financial performance.

We may not be able to recover all or a portion of our investment in assets.

Our long-lived and intangible assets are assessed at the end of each reporting period for impairment indicators and when such indicators exist, impairment testing is performed to determine the recoverable value of assets. Changes in market conditions or industry structures, commodity prices, tax rates, technical operating difficulties, inability to recover our mineral reserves or increased operating cost levels relative to lower cost facilities could represent impairment indicators that trigger impairment testing. Significant assumptions in the determination of recoverable value include, but are not limited to: commodity prices, sales volumes, operating and capital expenditures, discount rates, inflation and growth rates, and reserves. We cannot predict if an event that triggers impairment will occur, when it will occur or how it will affect reported asset amounts. Impairment charges could be significant and could materially adversely affect our financial performance in the periods in which they are recorded.

In 2017, we recorded an impairment of $305 million in the phosphate segment.

Antitrust laws or trade agreements and regulations to which we are subject may change.

We are subject to antitrust laws in various countries throughout the world. A significant portion of our business activities are conducted in countries under existing trade agreements and regulations. Changes in these laws, agreements or regulations, or their interpretation, administration or enforcement may occur over time. Additionally, increases in crop nutrient prices can increase the scrutiny to which we are subject under antitrust laws. Changes in antitrust laws or trade agreements and regulations globally, or the interpretation, administration or enforcement thereof, may limit our future acquisitions or operations, including the operations of Canpotex, as well as affect our financial performance.

Inability to successfully innovate or innovation by others may adversely affect our business.

Our inability to identify and/or appropriately act on opportunities for innovation, flaws in our model of innovation or innovation by others such as development of full or partial substitutes for our products, seeds that require less crop nutrients, or modifications to the application of crop nutrients could result in a loss in our competitive position, a loss in potential revenue streams, financial losses from unsuccessful innovation and inability to meet growth expectations.

We may allocate our capital in an inefficient manner or be unable to access capital on a cost-effective or timely basis.

Challenges arise in the capital allocation process due to changing market conditions and our ability to anticipate and incorporate such changes in our decision support. Inefficiencies in the capital allocation process or decisions that are not consistent with strategic priorities or that do not properly assess risk may also lead to inefficient deployment of capital. Access to and cost of capital may be affected by general and industry-specific market and economic conditions impacting our ability to generate cash flows, adverse conditions in the credit markets or restrictions on our ability to repatriate cash offshore. Failure to allocate capital in an efficient manner may lead to reduced returns on capital invested, operational inefficiencies, damage to our reputation and access to capital becoming more limited. Inability to access capital on a cost-effective basis may result in a loss of liquidity, increase in the cost of capital or inability to execute on value-added transactions requiring significant capital.

We may be unable to provide sufficient, cost-effective and timely transportation of our products.

Transportation is a significant element of the sale of our products to customers. Accessing sufficient, cost effective, timely and dependable transportation and port storage and other distribution facilities is important in allowing us and any export, sales and marketing companies, to supply customers near our operating facilities and around the world. Our (or the third parties upon which we rely) ability to provide sufficient, cost-effective and timely transportation and storage of product may be challenged due to labor disputes, system failures, accidents or delays, adverse weather or other environmental events, adverse operating conditions (including aging transportation infrastructure, railroad capacity constraints, changes to rail or ocean freight systems), swings in demand for our products, increased shipping demand for other products, adverse economic conditions, a change in our export, sales or marketing company relationships, or otherwise. This could result in delays and increased costs, lost revenue and reputation damage with our customers.

Our advantaged cost position may be impaired.

As we take steps to further improve our cost position, various factors such as labor costs, lack of technological improvements, operational inefficiencies, currency fluctuations, tax and regulatory costs, and water inflow control and other environmental costs may impact our ability to maintain our low-cost position and adversely affect our financial performance.

We may experience increases in the price of or be unable to source required raw materials (such as natural gas and sulfur).

Natural gas and sulfur are key raw materials for the manufacture of our products and represent a substantial part of our production and energy costs. Natural gas is utilized as both a chemical feedstock and a fuel to produce anhydrous ammonia, a key input in the production of our upgraded nitrogen products and in the production of our concentrated phosphate products. Natural gas is also a significant energy source used in the potash mining and milling process.

The cost of our raw materials may not correlate with changes in the prices we receive for our products, either in the direction of the price change or in absolute magnitude. The price of our raw materials can fluctuate widely for a variety of reasons, including changes in availability because of additional capacity or limited availability due to curtailments or other operating problems. Other external factors beyond our control can also cause volatility in raw materials prices, including, without limitation, general economic conditions, the level of business activity in the industries that use our products, competitors' actions, international events and circumstances and governmental regulation in the United States and abroad.

Relying on sole-sourced or non-diversified supply for specialized material may impact availability of such raw materials.

There can be no assurance that we will be able to pass through increased costs of raw materials to our customers through the end products. A significant increase in the price of natural gas or sulfur that is not recovered through an increase in the price of our products could negatively impact our financial performance. Unavailability of raw materials could result in a loss of production or changes to our nutrient footprint.

We may be unable to attract, develop, engage and retain skilled employees.

Sustaining and growing our business depends on the recruitment, development, engagement and retention of qualified and motivated employees. Although we strive to be an employer of choice in our industry, competition for skilled employees in certain geographical areas in which we operate can be significant and we may not be successful in attracting, developing or retaining such skilled employees. In addition, we invest significant time and expense in training our employees, which increases their value to competitors who may seek to recruit them. In response to market conditions, we have made operating and workforce changes in recent periods. These changes may impact existing employees' engagement and retention and our ability to attract qualified and motivated employees in the future.

The inability to attract, develop, engage or retain quality employees could result in decreased productivity, reliability, efficiency and safety performance, higher costs and reputational harm. It could also negatively impact our ability to take on new projects and sustain operations, which might negatively affect our operations or our ability to grow.

Strikes or other forms of work interruption could disrupt our business.

A significant portion of our workforce is unionized or otherwise governed by collective bargaining or similar agreements. We are therefore subject to the possibility of organized labor disruptions. Adverse labor relations or contract negotiations that do not result in an agreement could result in strikes, slowdowns or impose additional costs to resolve these disputes. These disruptions may negatively impact our ability to produce or sell our products. These disruptions may also impact our ability to recruit and retain personnel and could negatively affect our performance.

We may be unable to successfully execute our internal projects.

We have undertaken and continue to undertake various projects including capital and business process improvement/transformation projects. These projects involve risks, including (but not limited to) difficult environmental conditions, poor project prioritization and capital allocation, factors negatively impacting costs (such as escalating costs of labor and materials, unavailability and underperformance of skilled personnel, suppliers of materials or technology and other third parties we retain, design flaws or operational issues, poor project management oversight) or poor transition through project stages. Any of the foregoing risks could impair our ability to realize the benefits we had anticipated from the projects and negatively impact our financial performance.

We are subject to legal proceedings, the outcome of which may affect our business.

We are, and may in the future be, involved in legal and regulatory proceedings. These proceedings include matters arising from our activities or activities of predecessor companies. The outcome of these proceedings may have a negative impact on our financial performance or reputation.

Violations of our governance and compliance policies may occur.

We operate in a global environment that encompasses multiple jurisdictions and complex regulatory frameworks. Our governance and compliance processes, which include the review of internal controls over financial reporting and specific internal controls in relation to offers of things of value to government officials and representatives of state-owned enterprises, may not prevent potential violations of law, accounting or governance practice. The core values applicable to us, together with mandatory policies applicable to us, such as anti-corruption and anti-fraud policies, may not prevent instances of fraudulent behavior and dishonesty nor guarantee compliance with legal or regulatory requirements. This may lead to regulatory fines, disgorgement of profits, litigation, loss of operating licenses or reputational damage.

We may not be able to respond in a timely manner to unexpected surges in potash demand.

While we strive to maintain optionality with our operating capabilities, it may take time to restart or expand our operating capability in order to respond when demand surges in an unanticipated manner. Our inability to respond could adversely affect our financial performance or reputation.

Insurance may not adequately cover all losses.

We maintain property, business interruption, casualty and liability insurance policies, but we are not fully insured against all potential hazards and risks incident to our business. If we were to incur significant liability for which we are not fully insured, it could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Future climate change could adversely affect us.

The prospective impact of potential climate change on our operations and those of our customers and farmers remains uncertain. Some scientists have suggested 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. At the present time, we cannot predict the prospective impact of potential climate change on our results of operations, liquidity or capital resources, or whether any such effects could have a negative impact on our financial performance.

5.3 MINERAL PROJECTS

a) Allan Potash Operations

Certain scientific and technical information regarding our Allan potash operations is based on the technical report titled "National Instrument 43-101 Technical Report on Allan Potash Deposit (KL 112R A), Saskatchewan, Canada" dated effective December 31, 2017 (the "Allan Technical Report") prepared by Craig Funk, P. Eng., P.Geo., who is a "qualified person" as defined in National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* ("NI 43-101"). The Allan Technical Report has been filed with the securities regulatory authorities in each of the provinces of Canada and furnished to the SEC. Portions of the following information are based on assumptions, qualifications and procedures that are not fully described herein. References should be made to the full text of the Allan Technical Report.

i) Project Description, Location and Access

General

The Allan mine is located in central Saskatchewan, approximately 45 kilometers east of the city of Saskatoon, Saskatchewan. More precisely, the Allan Shaft #2 collar is located at:

- Latitude: 51 degrees 55 minutes 55.56 seconds North
- Longitude: 106 degrees 04 minutes 18.84 seconds West
- Elevation: 524.26 metres above mean sea level (SL)
- Northing: 5,754,028.978 m
- Easting: 426,303.225 m
- Projection: UTM
- Datum: NAD83
- Zone: 13

The Legal Description (Saskatchewan Township / Range) of the Allan surface plant is Section 22 Township 34 Range 01 West of 3rd Meridian.

The Company owns approximately 3,212 hectares (7,938 acres) of surface rights required for current Allan mine operations, including all areas covered by the existing surface plant and Tailings Management Area ("TMA"), and all surface lands required for anticipated future Allan mine and expanded milling operations.

The Allan mine surface facilities are accessed by an existing paved road that is part of the Saskatchewan Provincial Highway System. All potash product is shipped by rail over existing track.

The Allan mine is served by a number of villages within 50 kilometres of the mine site. The nearest city is Saskatoon (45 km distant).

Mineral Rights

Mineral rights at Allan are mined pursuant to mining leases with the Province of Saskatchewan, Canada (the "Crown"), and with non-Crown ("Freehold") mineral rights owners. Crown mineral rights are governed by *The Subsurface Mineral Tenure Regulations, 2015* (Saskatchewan), and Crown leases are approved and issued by Saskatchewan's Ministry of the Economy. The original Allan Crown Subsurface Mineral Lease, numbered KL 112, was signed and executed in September 1962. In the following years, minor amendments were made to the lease, resulting in Crown Subsurface Mineral Lease KL 112R. In October 2017, a large area of land totaling 20,784 hectares (51,359 acres) was added to the lease resulting in Crown Subsurface Mineral Lease KL 112R A (the "Allan Crown Lease").

The Allan Crown Lease covers an area of approximately 75,112 hectares (185,605 acres). At Allan, the Company has leased potash mineral rights for 45,484 hectares (112,393 acres) of Crown land and owns or has leased approximately 17,932 hectares (44,311 acres) of Freehold land within the lease boundary. The Allan Crown Lease term is for a period of 21 years from September 2004, with renewals (at the Company's option) for 21 year periods. Freehold lands also remain under lease providing, generally, that production is continuing and that there is a continuation of the Allan Crown Lease.

Within the Allan Crown Lease area, 19,183 hectares (47,403 acres) are mined pursuant to unitization agreements with mineral rights holders (Crown and Freehold) within two unitized areas. Allan Unit Area #1 includes 9,888 hectares (24,343 acres), while Allan Unit Area #2 includes 9,295 hectares (22,969 acres).

When underground workings of a potash mine are designed, there are inevitably regions that are mined with higher mining extraction (e.g., production panels) and other regions where mining extraction is lower (e.g., conveyor-belt development rooms). To treat mineral rights holders in both low extraction and high extraction areas fairly, and to promote good mining practices, a unitization agreement is the preferred method for determining royalty payouts. Under a unitization agreement, each mineral rights holder is paid a royalty based on their proportional share of the entire unit area regardless of whether or not their lands are actually mined. For example, if one mineral rights holder owns rights to 4,000 hectares within a 40,000 hectare unit area, they would be paid 10% of the total monthly royalty payout from that unit area.

ii) History

Ten potash mines were brought into production in Saskatchewan in the period 1962 through 1970. With nearly 50 years of production history, most potash mines have contracted or expanded production in response to the demand for potash. No new mines had been commissioned until 2017, when a solution mine and production facility near Moose Jaw, Saskatchewan began production. At present, eight of the eleven operating mines are conventional underground mines, and three operate using solution mining methods.

Exploration drilling for potash in the Allan area was carried out in the 1950s and 1960s. The Allan mine was built by a consortium of companies (U. S. Borax, Homestake Potash Company, and Swift Canadian Company) in the 1960s. Potash production began at Allan in April 1968 and the mine has run on a continuous basis since then (other than short-term shutdowns taken for inventory management purposes or occasional plant maintenance and construction work).

PotashCorp acquired a 60% ownership of the Allan mine in 1978 (through purchase of the U. S. Borax and Swift Canadian interests), and became the operator of the mine in 1981. In 1990, PotashCorp purchased the remaining 40% interest.

Both flotation and crystallization methods are used at Allan to produce granular, standard and suspension-grade potash products. Debottlenecking and compaction expansion projects were completed at Allan during two phases of construction in 2005 and 2007. A major refurbishment and expansion of the Allan mine was completed in 2013, increasing nameplate capacity to 4.0 million tonnes of finished potash products per year.

iii) Geological Setting, Mineralization and Deposit Types

Geological Setting and Mineralization

Much of southern Saskatchewan is underlain by the Prairie Evaporite Formation, a layered sequence of salts and anhydrite which contains one of the world's largest deposits of potash. The potash extracted from the predominantly sylvinite ore has its main use as a fertilizer.

The 100 m – 200 m thick Prairie Evaporite Formation is overlain by approximately 500 m of Devonian carbonates, followed by 100 m of Cretaceous sandstone, and 400 m of Cretaceous shales and Pleistocene glacial tills to surface; it is underlain by Devonian carbonates. The Phanerozoic stratigraphy of Saskatchewan is remarkable in that units are flat-lying and relatively undisturbed over very large areas.

Potash mineralization in this region of Saskatchewan is predominantly sylvinite, which is comprised mainly of the minerals sylvite (KCl) and halite or rock salt (NaCl), with trace carnallite ($KMgCl_3 \cdot 6H_2O$) and minor water insolubles. Potash fertilizer is concentrated, nearly pure KCl (i.e., greater than 95% pure KCl), but ore grade is traditionally reported on a % K_2O equivalent basis. The "% K_2O equivalent" gives a standard measurement of the nutrient value of different potassium-bearing rocks and minerals. To convert from % K_2O equivalent tonnes to actual KCl tonnes, multiply by 1.58.

Over the past three years (2015, 2016, 2017), the average, measured potash ore grade of the mill feed at Allan was 25.1% K_2O equivalent. The average ore grade reported from 18 historic surface drillhole intersections, all within the Allan Crown Lease, is 26.65% K_2O equivalent. The average ore grade observed from 6,738 in-mine samples taken over 49 years of mining (to the end of December 2017) is 24.8% K_2O equivalent.

Deposit Type

There are three mineable potash members within the Prairie Evaporite Formation of Saskatchewan. Stratigraphically highest to lowest, these members are: Patience Lake, Belle Plaine, and Esterhazy.

The Allan potash deposit lies within the Patience Lake Member of Prairie Evaporite Formation. There are two potash seams named A Zone and B Zone within this Member; at present, only the A Zone is being mined at Allan. Some test mining has been carried out in the B Zone, but no mining is done in this layer at present. Neither the Esterhazy nor the White Bear Potash Members are present in the Allan area. The Belle Plaine Potash Member is not well-developed, and therefore is not mined.

Allan potash mineralization occurs at about 1000 metres depth below surface. The A Zone is approximately 3.35 metres thick and occurs near the top of the Prairie Evaporite Formation salts. Salt cover from the ore zone to overlying units is approximately 14 m. The Allan mine operates as a conventional, underground potash mine.

iv) Exploration

Before the Allan mine was established in 1968, all exploration consisted of drilling from surface and analysis of core from these drillholes. Since mining began in 1968, there has been just one exploration drillhole; this drillhole was completed in 1969.

In most of southern Saskatchewan, potash mineralization is in place wherever Prairie Evaporite Formation salts exist, are flat-lying, and are undisturbed. Since the surface seismic exploration method is an excellent tool for mapping the top and bottom of Prairie Evaporite salts, this has become the main potash exploration tool in any existing Saskatchewan subsurface (potash) mineral lease. Historically, 2D seismic, and now the more accurate 3D seismic methods are used to map continuity and extent of potash beds in flat-lying potash deposits. Seismic data are relied upon to identify collapse structures that must be avoided in the process of mine development since these structures can act as conduits for water. As a result, isolation pillars or mining buffer zones are left around these anomalous features. This practice reduces the overall mining extraction ratio, but the risk of inflow to mine workings is effectively mitigated. A total of 248 linear kilometres of 2D seismic lines have been acquired at Allan. Between 1988 and 2015, 3D seismic has been acquired over an area covering 363 square kilometres. The most recent seismic survey was conducted in 2015 and accounted for 49.5 square kilometres of the total square kilometres stated above.

Surface seismic data are generally collected three to five years in advance of mining. Any area recognized as seismically unusual is identified early, and mine plans are adjusted to avoid these regions.

v) Drilling

For the original Allan potash test holes drilled in the 1950s and 1960s, the primary objective of this drilling was to sample the potash horizons to establish basic mining parameters. Seismic surveys (2D) were done sparingly in those days, so the drillhole information was relied upon heavily to evaluate potash deposits. Test holes would penetrate the evaporite section with a hydrocarbon based drilling mud (oil-based or diesel fuel) to protect the potash mineralization from dissolution. Basic geophysical well-logs were acquired, and in many cases, drill stem tests were run on the Dawson Bay Formation to help assess mine inflow potential. Core samples from the targeted potash intersections were split or quartered (cut with a masonry saw) crushed and analysed to establish potash grades.

Relatively thin interbeds or seams, referred to as clay seams in the potash industry, are an ever-present component of the A Zone and B Zone at Allan. These seams, along with the clay or clay-like material disseminated throughout the rock, make up the water insoluble portion of the mineralized horizons. The same sequences of clay seams can be correlated for many kilometres across the central Saskatchewan potash mining district.

At Allan, a particular sequence of three clay seams marks the top of the A Zone. These seams are used to guide the vertical positioning of the mining machine. The uppermost portion of the sequence of three seams is maintained at the top of the mining cut to keep the cutting "on grade". Cutting too high above this upper seam or top marker results in dilution, as halite (rather than sylvinite) immediately overlies the production zone. In practice though, the top marker seam is slightly overcut (between 10 cm to 20 cm) to prevent an unstable condition from being created. Clay seams are often planes of weakness, and if they are undercut, material immediately below the clay seam becomes a hazard as it may separate and fall. Since the hazard must be remediated prior to proceeding, thus slowing production, the moderately diluted mineral grade that results from the overcutting is preferable from a safety point of view.

It is difficult to determine at which mining height certain mineral resources and reserves will be cut in the future, so the more conservative mining height of 3.35 m (11 feet) was applied to mineral resource and reserve calculations.

The original exploration area was explored with a number of test holes spaced at intervals of 1.6 km to 6.4 km (1 - 4 miles). Assays from most of these original test holes were studied by independent consultant David S. Robertson and Associates (1978) and are found in Table A below. An additional six historical test holes were studied by Nutrien staff in 2018; these drillhole assays are also listed in Table A below. In each case, the best 3.35 m (11 feet) mining interval intersected in each drillhole was determined from the assay values, using clay marker seams as a guide.

Note that one of the above-mentioned test holes was omitted from the assay calculation due to a section of missing core in the ore zone; one was omitted due to erroneous assay data which could not be resolved; and, another two were omitted due to an ore grade of less than 15% K_2O. With nearly 50 years of mining experience at Allan, it is the opinion of the authors that areas of low grade (i.e. <15% K2O) are localized with a relatively small lateral extent.

Drillhole assay data for the A Zone at Allan gives an estimated mean grade of 26.65% K_2O with 4.96% water insolubles.

B Zone mineralization is indicated by gamma ray geophysical log response in each of the exploration drillholes listed in Table A indicating a potash Mineral Resource. Some test mining of the B Zone has been done. However, sustained production from that zone has not been established. Assay results for the B Zone are not presented here.

Table A: Assay results for all potash test holes within Allan Crown Lease

Average in 3.35 m (11 feet) mining interval (undiluted)			
Drillhole	**Year Drilled**	**% K_2O**	**% Water Insolubles**
04-10-033-01 W3	1954	*	*
12-32-034-02 W3	1956	28.74	5.76
16-11-033-01W3	1956	*	*
04-29-034-01 W3	1957	25.79	4.74
01-25-034-01 W3	1957	28.05	4.74
16-11-034-02 W3	1957	29.05	3.40
13-11-034-01 W3	1957	28.75	4.54
13-11-034-03 W3	1957	21.97	1.74
16-09-035-01 W3	1957	25.04	5.11
05-26-035-01 W3	1957	16.78	*
09-29-033-02 W3	1957	*	*
09-28-034-01 W3	1961	29.53	5.26
09-27-034-01 W3	1961	30.63	4.52
09-26-034-01 W3	1961	27.71	6.33
09-33-034-01 W3	1961	23.95	5.89
08-34-034-01 W3	1961	26.31	5.76
09-35-034-01 W3	1961	25.89	8.64
05-22A-034-01 W3	1961	26.47	3.19
16-14-034-01 W3	1962	26.78	5.25
01-17-034-01 W3	1962	28.63	5.29
01-12-034-01 W3	1962	*	*
14-23-034-03 W3	1969	29.56	4.18
Average (from 18 usable values):		**26.65**	**4.96**

Due to the remarkably consistent mineralogy and continuity of the resource, as experienced through 49 years of mine production, no potash exploration drilling has been done at Allan since 1969. Instead of exploration drillholes, seismic surveying has been relied upon to explore ahead of mine development. Where normal Prairie Evaporite sequences are mapped in the seismic data, potash beds have unfailingly been present. Localized, relatively small mine anomalies, not mapped in seismic data do occur. When they do, they are dealt with in the normal course of mining and extraction through these anomalous areas is typically minimized. Anomalies associated with possible water inflow problems, which are mapped in the seismic data, are avoided.

vi) Sampling, Analysis and Data Verification

Basic Approach

Exploration in the Allan area was conducted in the 1950s and 1960s. Sampling and assaying of potash core samples was done using methods considered consistent with standard procedures for potash exploration at these times.

Drillhole sampling methods have remained essentially the same over the years. Potash core samples are acquired as described in earlier sections of this report. Short segments of core usually about 1 foot (0.3 m) in length are labeled based on visible changes in mineralization, and sometimes based on more or less fixed intervals. Each segment of core is then split using some type of rock or masonry saw. The split portion of core is then bagged and labeled and sent to a laboratory for chemical analysis. Historical potash samples remain stored at the Subsurface Geological Laboratory (Regina, Saskatchewan) of the Saskatchewan Ministry of the Economy. Most of these have deteriorated substantially.

Some historical potash samples remain stored at the Subsurface Geological Laboratory (Regina, Saskatchewan) of the Saskatchewan Ministry of Energy and Resources. However, many if not all of these have deteriorated substantially. The remaining half core samples for all of the 2008 wells are presently stored at the PotashCorp Rocanville plant site.

A total of 6,738 in-mine ore grade samples were collected at Allan to the end of December 2017. All in-mine samples were analysed in the Allan mill laboratory using analysis techniques that were up-to-date for the era in which the sample was collected.

Regarding quality assurance for analytical results of in-mine samples, the Company participates in the Saskatchewan Potash Producers Association ("SPPA") Sample Exchange Program to monitor the accuracy of analytical procedures used in its labs. In the early 1970s, the SPPA initiated a round-robin Sample Exchange Program, the purpose of which was to assist the potash laboratories in developing a high level of confidence in analytical results. This program has continued up to the present, and participants include all major Canadian potash mine site labs, the Nutrien Pilot Plant Lab, and an independent surveyor lab. The Sample Exchange Program provides the participants with three unknown potash samples for analysis four times per year. Results for the unknown sample analysis are correlated by an independent agency that distributes statistical analysis and a summary report to all participants. Completed SPPA samples can be used for control standards as required in QA/QC sections of standard analytical procedures.

The Nutrien Pilot Plant is secured in the same way as modern office buildings are secured. Authorized personnel have access and visitors are accompanied by staff. No special security measures are taken beyond that. Currently, no external laboratory certification is held by the Nutrien Pilot Plant. On occasion, product quality check samples are sent to the Saskatchewan Research Council, a fully certified analytical facility.

In the opinion of the authors of the Allan Technical Report, the sampling methods are acceptable, are consistent with industry-standard practices, and are adequate for mineral resource and reserve estimation purposes.

Mean Potash Mineral-Grade In-Mine Samples

At Allan, in-mine grade samples are taken from the floor approximately once per week per active mining face. This is roughly equivalent to a sample taken every 68 m to 74 m in production panels, and a sample taken every 85 m to 128 m in development panels. Since start-up in 1968 through to the end of December 2017, a total of 6,738 in-mine potash mineral grade samples have been collected from the Allan A Zone, the main potash horizon at Allan. All samples were analysed in the Allan mill laboratory using analysis techniques that were up-to-date for the era in which the sample was collected.

The median ore grade for this family of in-mine samples is 25.5% K_2O equivalent and the mean ore grade is 24.8%.

For the B Zone at Allan, mineral grade is reported to be 20.3% K_2O equivalent, the grade observed from 20,230 in-mine samples at the Lanigan mine where the B Zone has been extensively mined. Even though Allan mine is some distance from Lanigan, this is considered the best estimate of expected mineral grade for this potash layer because the deposit is known to be regionally continuous from west of Cory to east of Lanigan. Although it is possible that once mining proceeds into the B Zone the reported grade could change from what is reported, it is expected that any such change would be minimal.

Potash Ore-Density From In-Mine Mineral-Grade Measurements

An estimate of in-situ rock density is used to calculate potash mineralization volumes in mineral resource and reserve assessments. A common approach is to determine in-place mineral resource and reserve volumes (m^3) to a certain degree of confidence, then multiply this number by in-situ bulk-rock density (kg/m^3) to give in-place mineral resource and reserve tonnes. However, establishing an accurate bulk-rock density value is not an easy or trivial task. Well-log data from drillholes can be used for this if accurate and calibrated well-logs are acquired during exploration drilling. In practical terms, modern well-logs tend to meet these criteria, but historic well-logs (collected before the 1990s) do not. In Saskatchewan, almost all potash exploration drilling took place in the 1950s and 1960s, well before density logs were accurate and reliable.

Another approach is to look up density values for the minerals which constitute potash rock – values determined in a laboratory to a high degree of accuracy and published in reliable scientific journals/ textbooks – then apply these densities to the bulk-rock in some way. Given that the density of each pure mineral is quantified and known, the only difficult aspect of this approach is determining what proportion of each mineral makes up the bulk-rock at a particular sample location. This is the methodology that was used to determine an estimate of bulk-rock density for the Allan ore zone. An obvious benefit of this approach is that a mean value computed on the distribution (6,738 sample points) has a much greater confidence interval than a mean value computed from 18 drillhole assays.

The main mineralogical components of the ore zones of Saskatchewan's Prairie Evaporite Formation are:

- Halite – NaCl
- Sylvite – KCl
- Carnallite – $KMgCl_3 \cdot 6(H_2O)$
- Insolubles – dolomite, muscovite, clinochlore, potassium feldspar, illite, quartz, anhydrite, and other minor mineral components

All PotashCorp divisions measure and record the in-mine % K_2O grade and insoluble content of the mined rock. The magnesium content is not measured at Allan, since carnallite is not a significant component of the ore here. From this set of measurements, the density of the ore can be calculated. The required composition and mineral density information for each mineral component is given below (Webmineral Mineralogy Database):

Halite – NaCl

- Na 39.34%
- Cl 60.66%
- Oxide form Na_2O 53.03%
- Mineral density 2170 kg /m^3

Sylvite – KCl

- K 52.45%

- Cl 47.55%
- Oxide form K_2O 63.18%
- Mineral density 1990 kg/m^3

Insolubles (Allan A Zone)

- Component minerals: dolomite, muscovite, clinochlore, potassium feldspar, illite, quartz, anhydrite, and other minor mineral components
- Average density - 2510 kg / m^3 (Nutrien Pilot Plant, 2018)

The value for insoluble density is based on known densities of the constituent parts of the insoluble components of the mineralization and the average occurrence of these insoluble components, which is known from the nearly 50 years of mining experience at Allan. Assuming the lowest plausible density of insolubles known for Saskatchewan potash deposits of this nature, the effect upon overall bulk-rock ore density and Mineral Resource and Reserve calculations would be negligible.

The mineral composition of potash ore is halite, sylvite, and insolubles. From 6,738 Allan A Zone in-mine grade samples, raw ore composition is:

% Sylvite = 39.3 (converted from % K_2O)
% Insolubles = 2.7
% Carnallite = 0.0

The percent of halite is assumed to be:

% Halite = (100 - % Sylvite - % Insol. - % Carnallite)
= (100 - 39.3 - 2.7 - 0.0)
= 58.1

Applying this methodology and using these mean grade data gives a mean bulk-rock density for Allan A Zone potash of:

RHO$_{\text{bulk-rock}}$ = (Halite density * % Halite) +
(Sylvite density * % Sylvite) +
(Insol. density * % Insol.)
= (2170 * % Halite) +
(1990 * % Sylvite) +
(2510 * % Insol.)
= 2110

RHO$_{\text{bulk-rock}}$ (Allan Zone) = 2110 kg/m^3

This method is as accurate as the ore grade measurements and mineral density estimates.

To date, not enough B Zone mining has been carried out at Allan to permit a bulk density calculation based on Allan in-mine grade samples. The mining of 3.537 million tonnes of the B Zone represents a relatively small amount of material for a potash mine. The historic mining that was conducted in the B Zone at Allan was localized in only one geographic area, so data from this mining is not considered representative of what will be seen once mining proceeds in this layer. Although it is possible that once enough mining has occurred in the B Zone to give enough samples with all constituent minerals measured, the reported proportions of the various mineral constituents could change from what is reported. It is expected that any such change would have only a minimal effect on bulk-rock density used in tonnage calculations.

Instead, the potash bulk-rock density is calculated using 20,230 in-mine grade samples from Lanigan B Zone:

$RHO_{bulk\text{-}rock}$ (Allan B Zone) = $RHO_{bulk\text{-}rock}$ (Lanigan B Zone) = 2120 kg/m^3

This estimate is considered acceptable since both Allan B Zone and Lanigan B Zone are the same potash seam.

Assay Data Verification

Most of the original drillhole assays were studied by independent consultant David S. Robertson and Associates (1978). In 2018, six historical drillhole assay results were studied by Nutrien technical staff, Jodi Derkach (GIS Cert., P. Geo.) and Tanner Soroka (P. Geo.).

The original assay results for core samples from historical drillholes were taken as accurate in these studies, as there is no way to reliably reanalyse these samples. Most of the remaining samples in storage have long since deteriorated to the point where they are not usable.

Ore grades of in-mine samples are measured in-house at the Allan mine laboratory by Company staff using modern, standard chemical analysis tools and procedures; an independent agency does not verify these results. However, check sampling through the SPPA program does occur.

It should be noted that assay results from historical drillholes match mine sample results closely – within approximately 0.9% – even though sample spacing is obviously much greater in the case of wells. This fact is a validation of the methodology. Based on 49 years of in-mine experience at Allan, historical assay results are considered acceptable and provide a good basis for estimating ore grade in areas of future mining at Allan. However, the mean mineral grade of 24.8% K_2O equivalent determined from 6,738 in-mine grade samples is thought to provide the most accurate measurement of potash grade for the Allan mine.

Exploration Data Verification

The purpose of any mineral exploration program is to determine extent, continuity, and grade of mineralization to a certain level of confidence and accuracy. For potash exploration, it is important to minimize the amount of cross-formational drilling, since each drillhole is a potential conduit for subsurface groundwater from overlying (or underlying) water-bearing formations into future mine workings. Every potash test drillhole from surface sterilizes potash mineralization; a safety pillar is required around every surface drillhole once underground mining commences. This is the main reason that exploration drilling has not been carried out at Allan in recent years.

Initial sampling and assaying of cores was done during potash exploration at Allan in the 1950s and 1960s. Methods were consistent with standard procedures for that era. The mine began production in 1968 and, with the exception of a single potash test hole in 1969, no further core drilling has been carried out since then. This approach to potash sampling is in accordance with widely accepted industry practice for areas adjacent and contiguous to an existing operating potash mine.

Assay of physical samples (drillhole cores and/or in-mine samples) is the only way to gain information about mineral grade, but extent and continuity of mineralization are correctly determined using data collected from geophysical surveys correlated with historic drilling information. To date, surface seismic data at Allan have been collected, analysed, and verified by Company staff, at times, in cooperation with an independent consultant. Ultimate responsibility for final analyses including depth conversion (seismic depth migration), as well as the accuracy of these data, rests with Nutrien qualified persons.

Data for the mineral resource and reserve estimates for Allan mine were verified by Company staff as follows:

- Annual review of potash assay sample information (drillholes and in-mine grade samples);
- Annual review of surface geophysical exploration results (3D and 2D seismic data);
- Annual crosscheck of mined tonnages reported by mine site technical staff with tonnages estimated from mine survey information; and
- Annual crosscheck of mineral resource and reserve calculations carried out by corporate technical staff.

This approach to data verification of potash mineral grade and surface seismic information is in accordance with generally accepted industry practice for areas adjacent and contiguous to an existing operating potash mine.

vii) Mineral Processing and Metallurgical Testing

At Allan, potash ore has been mined and concentrated using flotation and crystallization methods to produce saleable quantities of high-grade finished potash products since 1968.

Over the 49-year mine life, 143.692 million tonnes of potash ore have been mined and hoisted to produce 50.539 million tonnes of finished potash product (from startup in 1968 to December 31, 2017). Given this level of sustained production over 49 years, basic mineralogical processing and prospective metallurgical testing of Allan potash is not relevant.

viii) Mineral Resource and Mineral Reserve Estimates

Definitions of Mineral Resource

The Canadian Institute of Mining and Metallurgy and Petroleum ("CIM") has defined mineral resource in *The CIM Definition Standards for Mineral Resources and Reserves* (2014) as:

> **Inferred Mineral Resource:** That part of a mineral resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.
>
> **Indicated Mineral Resource**: That part of a mineral resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade quality continuity between points of observation.
>
> **Measured Mineral Resource**: That part of a mineral resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of modifying factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.

CIM defines modifying factors as "considerations used to convert mineral resources into mineral reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors."

In south-central Saskatchewan, where geological correlations are straightforward, and within a (potash) subsurface mineral lease with an operating potash mine, mineral resource categories are generally characterized by PotashCorp as follows:

> **Inferred Mineral Resource**: Areas of limited exploration, such as areas that have been investigated through regional geological studies, or areas with 2D regional surface seismic coverage, little or no drilling, at some distance from underground workings, and within the applicable Crown lease.
>
> **Indicated Mineral Resource:** Areas of adequate exploration, such as areas with 3D surface seismic coverage, little or no drilling, at some distance from underground workings, and within the applicable Crown lease.
>
> **Measured Mineral Resource:** Areas of detailed, physical exploration through actual drilling or mine sampling, near existing underground workings, and within the applicable Crown lease.

The Allan mine began production in 1968 and, with the exception of a single test hole in 1969, no further core drilling has been carried out since then. Instead, exploration involved collecting surface seismic data, which became better in quality over the years. Exploration drilling has demonstrated the presence of the potash horizon, and seismic coverage shows the continuity of the Prairie Evaporite Formation within which the potash horizon occurs.

Along with this approach, analysis of in-mine samples for potash grade has provided an observation-based understanding of the potash mineralized zone at Allan that is far superior to the level of understanding provided by any surface drilling based exploration program. The authors believe that this approach provides a body of information that guides and constrains exploration inferences in a much better way than could be achieved from any conventional exploration investigation in areas immediately surrounding, and contiguous to, the Allan potash mine.

Potash Resource Estimate

Exploration information used to calculate reported Mineral Resource tonnages at Allan consist of both physical sampling (drillhole and in-mine) and surface seismic (2D and 3D). Based on the definitions and guidelines above, all mineral rights leased or owned by the Company, and within Allan Crown Lease, are assigned to one of the three mineral resource categories.

Mineral resources are reported as mineralization in-place and are exclusive of Mineral reserves. In-place tonnes were calculated for each of the mineral resource categories using the following parameters:

Mining Height: 3.35 metres (11 feet)
Ore Density: 2.110 tonnes / cubic metre (A Zone)
Ore Density: 2.120 tonnes / cubic metre (B Zone)

The mineral resources for Allan, as of December 31, 2017 are as follows:

Allan A Zone:		
Inferred Resource	2,682	millions of tonnes
Indicated Resource	422	millions of tonnes
Measured Resource	966	millions of tonnes
Total A Zone Resource	4,070	millions of tonnes
Allan B Zone:		
Inferred Resource	2,695	millions of tonnes
Indicated Resource	425	millions of tonnes
Measured Resource	1,444	millions of tonnes
Total B Zone Resource	4,564	millions of tonnes
Total for Allan (A Zone + B Zone):		
Inferred Resource	5,377	millions of tonnes
Indicated Resource	847	millions of tonnes
Measured Resource	2,410	millions of tonnes
Total A Zone + B Zone Resource	8,634	millions of tonnes

The average mineral grade of the Allan A Zone Mineral Resource is 24.8% K_2O equivalent, and was determined from 6,738 in-mine samples at Allan. The average mineral grade of the Allan B Zone Mineral Resource is 20.3% K_2O equivalent, and was determined from 20,230 in-mine samples at Lanigan mine where the B Zone has been extensively mined.

The tonnage reported in the Allan A Zone Measured Resource is comprised of the potash that is within 1.6 km (1 mile) of physically sampled location (i.e. drillholes or mine workings). Also included as Measured Resource is the potash that is left behind as pillars in mined-out areas of the Allan mine. In a potash mine, it is common practice to consider mining remnant pillar mineralization using solution methods after conventional mining is complete, or after a mine is lost to flooding. The Patience Lake mine was successfully converted from a conventional mine to a solution mine after being lost to flooding in 1989. Since conversion to a solution mine is not anticipated in the near future at Allan, in-place pillar mineralization remains as a mineral resource rather than a mineral reserve at this time.

Definitions of Mineral Reserve

CIM defined mineral reserve in *The CIM Definition Standards for Mineral Resources and Reserves* (2014) as:

> **Probable Mineral Reserve:** The economically mineable part of an indicated, and in some circumstance, a measured, mineral resource. The confidence in the modifying factors applying to a probable mineral reserve is lower than that applying to a proven mineral reserve.
>
> **Proven Mineral Reserve**: The economically mineable part of a measured mineral resource. A proven mineral reserve implies a high degree of confidence in the modifying factors.

For Saskatchewan, in regions adjacent and contiguous to an operating potash mine, mineral reserve categories are characterized by PotashCorp as follows:

> **Probable Mineral Reserve:** Identified recoverable potash mineralization classified as a measured resource, within a 1.6 km (1 mile) radius of a sampled mine entry or contiguous exploration drillhole, and within the applicable Crown lease.

Proven Mineral Reserve: identified recoverable potash mineralization classified as a measured resource, delineated on at least three sides by sampled mined entries or exploration drillholes to a maximum of 3.2 km (2 miles) apart, and within the applicable Crown lease.

Along with this approach, analysis of in-mine samples for potash grade has provided an observation-based understanding of the potash mineralized zone at Allan that is far superior to the level of understanding provided by any surface drilling based exploration program. An understanding of the amount of ore that can be conventionally mined from the measured resource category using current mining practices comes from nearly 50 years of potash mining experience at Allan.

Mineral Reserve Estimates

Using the definitions outlined above, part of the Allan A Zone measured resource has been converted to mineral reserve. The assigned mineral reserve category is dependent on proximity to sampled mined entries also described above.

The overall extraction rate at the Allan mine is 33%. It was derived by dividing the total tonnes mined to date by the tonnage equivalent of the total area of the mine workings (i.e. the perimeter around the mine workings) less future mining blocks. Since an extraction rate has been applied, mineral reserves are considered recoverable ore, and are reported as such.

Note that only drillholes whose 1.6 km radii are contiguous to mine workings or the 1.6 km radius placed around mine workings are used to compute probable mineral reserve. The remaining non-contiguous drillholes remain in the measured resource category.

The mineral reserves for Allan as of December 31, 2017 are as follows:

Allan A Zone:		
Probable Reserve	257	millions of tonnes
Proven Reserve	78	millions of tonnes
Total A Zone Reserve =	335	millions of tonnes
Allan B Zone:		
Probable Reserve	nil	
Proven Reserve	nil	
Total B Zone Reserve =	nil	
Total for Allan (A Zone + B Zone):		
Probable Reserve	257	millions of tonnes
Proven Reserve	78	millions of tonnes
Total A Zone and B Zone Reserve =	335	millions of tonnes

The average mineral grade of the Allan A Zone mineral reserve is 24.8% K_2O equivalent, and was determined from 6,738 in-mine samples at Allan.

ix) Mining Operations

All conventional potash mines in Saskatchewan operate at 900 m to 1200 m below surface within 9 m to 30 m of the top of the Prairie Evaporite Formation. Over the scale of any typical Saskatchewan potash mine, potash beds are tabular and regionally flat-lying, with only moderate local variations in dip. At Allan, potash ore is mined using conventional mining methods, whereby:

- Shafts are sunk to the potash ore body;
- Continuous mining machines cut out the ore, which is hoisted to surface through the Production shaft;
- Raw-potash is processed and concentrated in a mill on surface; and
- Concentrated finished potash products (near-pure KCl) are sold and shipped to markets in North America and offshore.

Sinking of the two original shafts (Shaft #1 and Shaft #2) from surface to the potash zone was completed in early 1968, and the first potash ore was hoisted by in April of that year. The Allan mine has run on a continuous basis since the first ore was hoisted in 1968, other than short term shutdowns taken for inventory management purposes or occasional plant maintenance and construction work.

In recent years, the Allan mine underwent a major expansion which brought the nameplate capacity up to 4.0 million tonnes of finished potash products per year. The current operational capability of the Allan facility is 2.0 million tonnes per year.

Virtually all Allan underground mining rooms are in one potash mineralized zone, the upper layer (or A Zone) of the Patience Lake Member of the Prairie Evaporite Formation (the host evaporite salt). In contrast, some potash mines further east in Saskatchewan mine in a different potash layer, the Esterhazy Member of the Prairie Evaporite Formation. At Allan, mine elevations range from approximately 980 m to 1120 m, averaging approximately 1010 m. These depths to A Zone potash mineralization are anticipated over most of the Allan lease area. Mine workings are protected from aquifers in overlying formations by approximately 14 m of overlying salt and potash beds, along with salt plugged porosity in the Dawson Bay Formation, a carbonate layer lying immediately above potash hosting salt beds.

The Allan mine is a conventional underground mining operation whereby continuous mining machines are used to excavate the potash ore by the stress-relief mining method. Continuous conveyor belts transport ore from the mining face to the bottom of the production shaft. The highest mineral grade section of the Allan potash seam is approximately 3.35 m (11 feet) thick, with gradations to lower grade salts immediately above and below the mining horizon. The actual mining thickness at Allan is dictated by the height of continuous boring machines used to cut the ore. Seven older borers are designed to cut at a thickness of 3.35 m (11 feet) and four new borers are designed to cut 3.65 m (12 feet).

Allan cuts to a marker (clay) seam that is slightly above the high- grade mineralized zone to establish a safe and stable mine roof. The top marker seam is slightly overcut by 10 to 20 cm. Clay seams are often planes of weakness, and if they are undercut, material immediately below the clay seam becomes a hazard as it may separate and fall. Since the hazard must be remediated prior to proceeding, thus slowing production, the moderately diluted mineral grade that results from the overcutting is preferable from a safety point of view.

Conservative local extraction rates (never exceeding 45% in any mining block) are employed at all Saskatchewan mines, including Allan, in order to minimize potential detrimental effects of mining on overlying strata; this is common practice in flat-lying, tabular ore bodies overlain by water-bearing layers.

From the shaft-bottom, potash ore is hoisted approximately 1000 m from the potash level through the vertical shafts to a surface mill. In addition to hoisting potash ore to surface, the production shaft also provides fresh air ventilation to the mine and serves as a secondary egress. The Service Shaft is used for service access, and exhaust ventilation from the mine.

Over the 49-year mine life, 143.692 million tonnes of potash ore have been mined and hoisted at Allan to produce 50.539 million tonnes of finished potash products (from startup in 1968 to December 31, 2017).

The life-of-mine average concentration ratio (raw-ore/finished potash products) is 2.84 and the overall extraction rate over this time period is 33%.

x) Processing and Recovery Operations

At Allan, potash ore has been mined and concentrated to produce saleable quantities of high grade finished potash products since 1968. Products include granular, standard, and industrial grade potash used for agricultural applications and industrial purposes.

Both flotation methods and crystallization methods are used to concentrate potash ore into finished potash products at the Allan mill. Raw potash ore is processed on surface, and concentrated finished potash products (near-pure KCl) are sold and shipped to markets in North America and offshore.

Over the past three years, production of finished potash products at Allan was:

- 2015: 2.378 million tonnes finished potash products at 61.28% K_2O (average grade)
- 2016: 2.380 million tonnes finished potash products at 61.16% K_2O (average grade)
- 2017: 1.832 million tonnes finished potash products at 61.39% K_2O (average grade)

Over the past decade actual mill recovery rates have been between 81.5% and 86.8%, averaging 84.3%. Given the long-term experience with potash geology and actual mill recovery at Allan, no fundamental potash milling problems are anticipated in the foreseeable future.

Quality control testing and monitoring geared towards fine-tuning and optimizing potash milling and concentrating processes are conducted on a continual basis at all Nutrien mine sites and at Nutrien research facilities. At Allan, this is no exception; test work to optimize circuit performance and ensure product quality is carried out on an ongoing basis.

xi) Infrastructure, Permitting and Compliance Activities

Project Infrastructure

Infrastructure is in place to meet current and projected requirements for transportation, energy (electricity and natural gas), water and process materials at Allan.

The Allan mine is served by a number of villages within 50 kilometres of the mine site. The nearest city is Saskatoon (approximately 45 km distant).

The Allan surface facilities are accessed by existing paved roads and highways that are part of the Saskatchewan Provincial Highway System. All potash product is shipped by rail over existing track.

At present, high voltage power capacity at the Allan is 32 MVA. The ten-year projection of power utilization indicates that the utility can meet all foreseeable future demand.

The Allan operation requires a sustained fresh water supply for the milling process which is provided from a local reservoir called the Bradwell Reservoir operated by SaskWater (approximately 6 km distant). This water supply provides a sustainable source of process water for Allan milling operations without having any impact on other users of water in the area.

Environmental Studies, Permitting and Compliance Activities

The tailings management strategy at all Nutrien potash mines in Saskatchewan, including Allan, is one of sequestering solid mine tailings in an engineered and provincially licensed TMA near the surface plant site. The Allan TMA currently covers an area of approximately 600 hectares (1,483 acres) of land owned by the Company. Solid potash mine tailings typically consist of 85% to 95% rock salt (NaCl) and 5% to 15% insoluble (carbonate mud = $CaCO_3$, anhydrite mud = $CaSO_4$, and clays like chlorite, illite, and so on). An engineered slurry-wall (in some portions, a compacted earth trench barrier) has been constructed where required around approximately half of the Allan TMA. In future years this wall can be expanded if required for operational needs. The slurry-wall provides secondary containment for any saline mine waters, minimizing brine impacts from the TMA to surrounding surface water bodies and near-surface aquifers. Areas surrounding the TMA are closely monitored: this includes everything from daily visual perimeter inspections to annual investigations and inspections of surrounding groundwater and aquifers.

Allan currently operates two brine disposal wells near the surface plant of the Allan mine where clear salt brine (i.e. no silt, clay slimes, or other waste) is borehole injected into the Winnipeg/Deadwood Formations, deep subsurface aquifers approximately 1500 m to 1700 m below the surface. The groundwater in these extensive deep aquifers is naturally saline.

Emissions to air (mostly salt dust and potash dust) are kept below regulatory limits through various modern air pollution abatement systems (e.g. dust collection systems built into mill processes) that are provincially licensed. This same procedure is followed at all Nutrien mines in Saskatchewan.

The Allan operation requires a sustained fresh water supply for the milling process which is provided by a waterline from the Bradwell Reservoir (approximately 6 km distant). This water supply is provincially licensed and provides a sustainable source of process water for Allan milling operations without having any impact on other users of water in the area.

In Saskatchewan, all potash tailings management activities are carried out under an "Approval to Operate" granted by the Saskatchewan Ministry of Environment (MOE), the provincial regulator. The Allan mine is in compliance with all regulations stipulated by the Environmental Protection Branch of MOE. The current Allan Approval to Operate has been granted to June 30, 2018, the renewal date.

In terms of long-term decommissioning, environmental regulations of the Province of Saskatchewan require that all operating potash mines in Saskatchewan create a long-term decommissioning and reclamation plan that will ensure all surface facilities are removed, and the site is left in a chemically and physically stable condition once mine operations are complete. PotashCorp has conducted numerous studies of this topic, and the most recent decommissioning and reclamation plan for Allan was approved by MOE technical staff in October 2016. Because the current expected mine life for Allan is many decades into the future, it is not meaningful to come up with detailed engineering designs for decommissioning at present. Instead, decommissioning plans are reviewed every five years, and updated to accommodate new ideas, technological change, incorporation of new data, and adjustments of production forecasts and cost estimates. Any updated decommissioning and reclamation reports generated by this process are submitted to provincial regulatory agencies. For Allan, a revised decommissioning and reclamation plan is required in July 2021.

In addition to the long-term decommissioning plan, provincial regulations require that every potash producing company in Saskatchewan set up an Environmental Financial Assurance Fund, which is to be held in trust for the decommissioning, restoration and rehabilitation of the plant site after mining is complete. This fund is for all mines operated by Nutrien in the province of Saskatchewan (i.e. Vanscoy, Cory, Patience Lake, Allan, Lanigan and Rocanville).

xii) Capital and Operating Costs

The Allan mine has been in operation since 1968; in the years immediately preceding this, major capital investment was made to bring this mine into production. Since then, capital expenditures were made on a regular and ongoing basis to sustain production, and to expand production from time to time.

A major refurbishment and expansion of the Allan mine was completed in 2013, increasing nameplate capacity to 4.0 million tonnes of finished potash products per year. This work involved enhancement of hoists and shaft conveyances, major expansions of both mine and mill, improvements to loadout facilities, and some infrastructure improvements. All construction was carried out without significant disruption to existing potash production from the site.

xiii) Exploration, Development and Production

Potash production in any given year at the Allan potash mine is a function of many variables, so actual production in any given year can vary dramatically from tonnages produced in previous years. The mineral reserve tonnage and historic average production are used to estimate remaining mine life. If the average mining rate seen over the past three years (6.267 million tonnes of potash ore mined and hoisted per year) is sustained, and if mineral reserves remain unchanged, then the Allan mine life is 54 years from December 31, 2017.

b) Cory Potash Operations

Certain scientific and technical information regarding our Cory potash operations is based on the technical report titled "National Instrument 43-101 Technical Report on Cory Potash Deposit (KL 103B), Saskatchewan, Canada" dated effective December 31, 2017 (the "Cory Technical Report") prepared by Craig Funk, P. Eng., P.Geo., who is a "qualified person" as defined in NI 43-101. The Cory Technical Report has been filed with the securities regulatory authorities in each of the provinces of Canada and furnished to the SEC. Portions of the following information are based on assumptions, qualifications and procedures that are not fully described herein. References should be made to the full text of the Cory Technical Report.

i) Project Description, Location and Access

General

The Cory mine is located in central Saskatchewan, approximately 7 kilometers west of the city of Saskatoon, Saskatchewan. The Legal Description (Saskatchewan Township/Range) of the Cory surface operation is Section 18 Township 36 Range 06 West of 3rd Meridian. More precisely, the Cory Shaft #2 collar is located at:

- Latitude: 52 degrees 05 minutes 30.15 seconds North
- Longitude: 106 degrees 51 minutes 16.32 seconds West
- Elevation: 502.92 metres above mean Sea Level (SL)
- Northing: 5772861 m
- Easting: 372951 m
- Projection: UTM
- Datum: NAD83
- Zone: 13

The Company owns approximately 2,109 hectares (5,212 acres) of surface rights required for current Cory mine operations, including all areas covered by the existing surface plant and tailings management area, and all surface lands required for anticipated future Cory mine and expanded milling operations.

The Cory mine surface facilities are accessed by an existing paved road that is part of the Saskatchewan Provincial Highway System. All potash product is shipped by rail over existing track.

The Cory mine is served by a number of villages within 50 kilometres of the mine site. The nearest city is Saskatoon (7 km distant). Cory is situated near the northern extent of the Great Plains of North America. Topography is relatively flat, with gently rolling hills and occasional valleys. The Cory surface plant lies approximately 10 km north-west of the South Saskatchewan River, a major continental drainage channel.

Mineral Rights

Mineral rights at Cory are mined pursuant to mining leases with the Crown, and with Freehold mineral rights owners. Crown mineral rights are governed by *The Subsurface Mineral Tenure Regulations, 2015* (Saskatchewan), and Crown Leases are approved and issued by the Ministry of the Economy. The original Cory Crown Subsurface Mineral Lease, numbered KL 103, was entered into in September 1962. In the following years, various minor amendments were made to this Crown lease, resulting in Crown Subsurface Mineral Lease KL 103B (the “Cory Crown Lease”).

The Cory Crown Lease covers an area of approximately 46,902 hectares (115,897 acres). At Cory, the Company has leased potash mineral rights for 25,918 hectares (64,045 acres) of Crown land and owns or has leased approximately 18,368 hectares (45,389 acres) of Freehold land within the lease boundary. The Cory Crown Lease term is for a period of 21 years from September 2004, with renewals (at the Company’s option) for 21-year periods. Freehold lands also remain under lease providing, generally, that production is continuing and that there is a continuation of the Cory Crown Lease.

Within the Cory Crown Lease area, 29,772 hectares (73,569 acres) are mined pursuant to a Unitization Agreement, with mineral rights holders (Freehold and Crown) within one Unitized Area.

ii) History

See “5.3 – Mineral Projects – a) Allan Potash Operations – ii) History” above for a general overview of the history of potash mines in Saskatchewan.

Exploration drilling for potash in the Cory area was carried out in the 1950s and 1960s. The Cory mine was built by a company called Duval Sulphur and Potash Company in the 1960s. Potash production began at Cory in 1968 and the mine has run on a continuous basis since then (other than short-term shutdowns taken for inventory management purposes or occasional plant maintenance and construction work). PotashCorp acquired the Cory mine in 1976.

In 1988, production was curtailed at the Cory mine. This downsizing included shutdown of the flotation plant. Since 1989, only crystallization methods have been used at Cory to produce a variety of specialized white potash products. In 2008 through 2011 the Cory mine underwent a major expansion which involved the re-commissioning of refurbished flotation circuits. Products include soluble, granular and standard grade potash used for agricultural applications, and high grade white soluble potash and chicklets used for industrial applications.

In recent years, the Cory mine underwent a major expansion which brought the nameplate capacity up to 3.0 million tonnes of finished potash products per year. In December 2013, operational changes were announced that reduced the operational capability of the Cory facility to 1.4 million tonnes per year. This was in response to market conditions and to optimize the Company's lowest cost operations.

In October 2017, Cory reverted to a pure crystallization plant producing only white potash products, and further curtailing production to 0.8 million tonnes per year.

iii) Geological Setting, Mineralization and Deposit Types

Geological Setting and Mineralization

See "5.3 – Mineral Projects – a) Allan Potash Operations – iii) Geological Setting, Mineralization and Deposit Types – Geological Setting and Mineralization" above for a general overview of geological setting and mineralization for potash mines in Saskatchewan.

Over the past three years (2015, 2016, 2017), the average, measured potash ore grade of the mill feed at Cory was 24.0% K_2O equivalent. The average ore grade reported from 10 historic surface drillhole intersections, all within Cory Subsurface Mineral Lease KL 103B, is 25.6% K_2O equivalent. The average ore grade observed from 4,590 in- mine samples taken over 49 years of mining (to the end of December 2017) is 22.5% K_2O equivalent.

Deposit Type

There are three mineable potash members within the Prairie Evaporite Formation of Saskatchewan. Stratigraphically highest to lowest these members are: Patience Lake, Belle Plaine, and Esterhazy.

The Cory potash deposit lies within the Patience Lake Member of Prairie Evaporite Formation. There are two potash seams named A Zone and B Zone within this Member; at present, only the A Zone is being mined at Cory. Some test mining has been carried out in the B Zone, but no mining is done in this layer at present. Neither the Esterhazy nor the White Bear Potash Members are present in the Cory area. The Belle Plaine potash member is present at Cory but it is too thin to be mined. Cory A Zone potash mineralization occurs at an average of about 1010 m depth below surface. The A Zone is approximately 3.35 metres thick and occurs near the top of the Prairie Evaporite Formation salts. Salt cover from the ore zone to overlying units is approximately 14 metres. The Cory mine operates as a conventional, underground potash mine.

iv) Exploration

Before the Cory mine was established in 1968, all exploration consisted of drilling from surface and analysis of core from these drillholes. Since mining began in 1968, there have been just two exploration drillholes; these two drillholes did not intersect the ore zone of the Prairie Evaporite Formation, but rather targeted overlying formations.

In most of southern Saskatchewan, potash mineralization is in place wherever Prairie Evaporite Formation salts exist, are flat-lying, and are undisturbed. Since the surface seismic exploration method is an excellent tool for mapping the top and bottom of Prairie Evaporite salts, this has become the main potash exploration tool in any existing Saskatchewan subsurface (potash) mineral lease. Historically, 2D seismic, and now the more accurate 3D seismic methods are used to map continuity and extent of potash beds in flat-lying potash deposits. Seismic data are relied upon to identify collapse structures that must be avoided in the process of mine development since these structures can act as conduits for water. As a result, isolation pillars or mining buffer zones are left around these anomalous features. This practice reduces the overall mining extraction ratio, but the risk of inflow to mine workings are effectively mitigated.

A total of 99 linear kilometres of 2D seismic lines have been acquired at Cory. A total of 222 square kilometres of 3D seismic have been acquired at Cory between 1988 and 2013. The most recent seismic surveys were conducted in 2013 and accounted for 49 square kilometres of the total square kilometres stated above.

v) Drilling

For the original Cory potash test holes drilled in the 1950s and 1960s, the primary objective of this drilling was to sample the potash horizons to establish basic mining parameters. Seismic surveys (2D) were done sparingly in those days, so the drillhole information was relied upon heavily to evaluate potash deposits. Test holes would penetrate the evaporite section with a hydrocarbon based drilling mud (oil-based or diesel fuel) to protect the potash mineralization from dissolution. Basic geophysical well logs were acquired and in many cases, drill stem tests were run on the Dawson Bay Formation to help assess mine inflow potential. Core samples from the targeted potash intersections were split or quartered (cut with a masonry saw) crushed and analysed to establish potash grades.

Relatively thin interbeds or seams, referred to as clay seams in the potash industry, are an ever-present component of the A Zone and B Zone at Cory. These seams, along with the clay or clay-like material disseminated throughout the rock make up the water insoluble portion of the mineralized horizons. The same sequences of clay seams can be correlated for many kilometers across the central Saskatchewan potash mining district.

At Cory, a particular sequence of three clay seams marks the top of the A Zone. These seams are used to guide the vertical positioning of the mining machine. The uppermost portion of the sequence of three seams is maintained at the top of the mining cut to keep the cutting "on grade". Cutting too high above this upper seam or top marker results in dilution, as halite (rather than sylvinite) immediately overlies the production zone. In practice though, the top marker seam is slightly overcut (between 10 cm to 20 cm) to prevent an unstable condition from being created. Clay seams are often planes of weakness, and if they are undercut, material immediately below the clay seam becomes a hazard as it may separate and fall. Since the hazard must be remediated prior to proceeding, thus slowing production, the moderately diluted mineral grade that results from the overcutting is preferable from a safety point of view.

It is difficult to determine at which mining height certain mineral resources and reserves will be cut in the future, so the more conservative mining height of 3.35 m (11 feet) was applied to mineral resource and reserve calculations.

Original drill core assays were studied by independent consultant David S. Robertson and Associates (1976), and are found in Table B below. The best 3.35 m (11 feet) mining interval intersected in each hole was determined from the assay values, using clay marker seams as a guide.

B Zone mineralization is indicated by gamma ray geophysical log response in each of the exploration holes listed in Table B below indicating a potash mineral resource. Some test mining of the B Zone has been done. However, sustained production from that zone has not been established. Assay results for the B Zone are not presented here.

Table B: Assay results for all potash test holes within Cory Lease KL 103B.

Average in 3.35 m (11′) mining interval (undiluted)			
Drillhole	**Year Drilled**	**%**	**% Water Insolubles**
14-28-036-06 W3	1954	*	*
04-28-037-07 W3	1955	24.93	4.59
01-11-037-07 W3	1955	25.96	4.78
08-22-036-07 W3	1956	29.1	4.55
04-16-036-07 W3	1965	27.04	6.18
16-34-035-07 W3	1965	27.98	4.87
01-25-035-07 W3	1965	17.27	6.78
01-32-036-07 W3	1965	26.41	5.17
06-18-036-06 W3	1965	23.75	3.92
05-07-036-06 W3	1965	26.45	4.71
04-04-036-06 W3	1965	29.44 (anomalous)	4.59 (anomalous)
05-30-036-06 W3	1965	27.34	4.91
01-16-036-06 W3	1965	25.61 (anomalous)	5.71 (anomalous)
13-01-038-08 W3	1968	*	*
Average of 10 usable values:		**25.62**	**5.05**

Due to the remarkably consistent mineralogy and continuity of the resource, as experienced through 49 years of mine production, no potash exploration drilling has been done at Cory since 1965. Instead of exploration drillholes, seismic surveying has been relied upon to explore ahead of mine development. Where normal Prairie Evaporite sequences are mapped in the seismic data, potash beds have unfailingly been present. Localized, relatively small mine anomalies, not mapped in seismic data do occur. When they do, they are dealt with in the normal course of mining and extraction through these anomalous areas is typically minimized. Anomalies associated with possible water inflow problems, which are mapped in the seismic data, are avoided.

vi) Sampling, Analysis and Data Verification

Basic Approach

Exploration in the Cory area was conducted in the 1950s and 1960s. Sampling and assaying of potash core samples was done using methods considered consistent with standard procedures for potash exploration at these times.

Drillhole sampling methods have remained essentially the same over the years. Potash core samples are acquired. Short segments of core usually about 0.3 m (1 foot) in length are labeled based on visible changes in mineralization, and sometimes based on more or less fixed intervals. Each segment of core is then split using some type of rock or masonry saw. The split portion of core is then bagged and labeled and sent to a laboratory for chemical analysis. Historical potash samples remain stored at the Subsurface Geological Laboratory (Regina, Saskatchewan) of the Saskatchewan Ministry of the Economy. Most of these have deteriorated substantially.

Regarding quality assurance for analytical results of in-mine samples, the Company participates in the SPPA Sample Exchange Program to monitor the accuracy of analytical procedures used in its labs. In the early 1970s, the SPPA initiated a round-robin Sample Exchange Program, the purpose of which was to assist the potash laboratories in developing a high level of confidence in analytical results. This program has continued up to the present, and participants include all major Canadian potash mine site labs, the

Nutrien Pilot Plant Lab, and an independent surveyor lab. The Sample Exchange Program provides the participants with three unknown potash samples for analysis four times per year. Results for the unknown sample analysis are correlated by an independent agency that distributes statistical analysis and a summary report to all participants. Completed SPPA samples can be used for control standards as required in QA/QC sections of standard analytical procedures.

The Nutrien Pilot Plant is secured in the same way as modern office buildings are secured. Authorized personnel have access and visitors are accompanied by staff. No special security measures are taken beyond that. Currently, no external laboratory certification is held by the Nutrien Pilot Plant. On occasion, product quality check samples are sent to the Saskatchewan Research Council, a fully certified analytical facility.

In the opinion of the authors of the Cory Technical Report, the sampling methods are acceptable, are consistent with industry-standard practices, and are adequate for Mineral Resource and Reserve estimation purposes.

Mean Potash Mineral Grade From In-Mine Samples

It has been the practice at Cory for the past several years to collect two in-mine grade samples (one in the left break-through and one in the right break-through) from the floor at the start of every cutting sequence. This is equivalent to two samples taken every approximately 25 m in production panels, and two samples taken every approximately 50 m in development panels. In-mine grade sampling practices at Cory have varied over the years resulting in a less than ideal distribution graph. However, it is the belief of the authors that the average grade reported from these in-mine samples is representative of A Zone potash mineralization in the Cory area. In-mine sample data can be roughly confirmed by mill feed grade data collected over the years.

Since start-up in 1968 through to the end of December 2017, a total of 4,590 in-mine potash mineral grade samples have been collected from the Cory A Zone, the main potash horizon at Cory. All samples were analysed in the Cory mill laboratory using analysis techniques that were up-to-date for the era in which the sample was collected. The median ore grade for this family of in-mine samples if 22.5% K_2O equivalent and the mean ore grade is 23.5%.

For the B Zone at Cory, mineral grade is reported to be 20.3% K_2O equivalent, the grade observed from 20,230 in-mine samples at the Lanigan mine where the B Zone has been extensively mined. Even though Cory mine is some distance from Lanigan, this is considered to be the best estimate of expected mineral grade for this potash layer because the deposit is known to be regionally continuous from west of Cory to east of Lanigan. Although it is possible that once mining proceeds into the B Zone the reported grade could change from what is reported, it is expected that any such change would be minimal.

Potash Ore Density From In-Mine Mineral-Grade Measurements

An estimate of in-situ rock density is used to calculate potash mineralization volumes in mineral resource and reserve assessments. A common approach is to determine in-place mineral resource and reserve volumes (m^3) to a certain degree of confidence, then multiply this number by in-situ bulk-rock density (kg/m^3) to give in-place mineral resource and reserve tonnes. However, establishing an accurate bulk-rock density value is not an easy or trivial task. Well-log data from drillholes can be used for this if accurate and calibrated well-logs are acquired during exploration drilling. In practical terms, modern well-logs tend to meet these criteria, but historic well-logs (collected before the 1990s) do not. In Saskatchewan, almost all potash exploration drilling took place in the 1950s and 1960s, well before density logs were accurate and reliable.

Another approach is to look up density values for the minerals which constitute potash rock – values determined in a laboratory to a high degree of accuracy and published in reliable scientific journals/textbooks – then apply these densities to the bulk-rock in some way. Given that the density of each pure mineral is quantified and known, the only difficult aspect of this approach is determining what proportion of each mineral makes up the bulk-rock at a particular sample location. Because historical Cory in-mine mineral grade analyses did not include measurements of the insoluble content, this approach cannot be used at Cory. Instead, potash bulk-rock density is calculated using 6,738 in-mine samples from Allan A Zone:

$RHO_{bulk\text{-}rock}$ (Cory) = $RHO_{bulk\text{-}rock}$ (Allan) = 2110 kg/m^3

This estimate is considered acceptable since Cory and Allan are mining the same potash seam, both mines use boring machines that are the same height, and both mines use the same basic mineral grade sampling methodology.

Not enough B Zone mining has been carried out at Cory to permit a bulk density calculation based on in-mine grade samples. Instead, potash bulk rock density is calculated using 20,230 in-mine samples from Lanigan B Zone:

$RHO_{bulk\text{-}rock}$ (Cory B) = $RHO_{bulk\text{-}rock}$ (Lanigan) = 2120 kg/m^3

This estimate is considered acceptable since the Cory B Zone and Lanigan B Zone are the same potash seam

Assay Data Verification

The majority of original drill core assays were studied by independent consultant David S. Robertson and Associates (1976). The original assay results for core samples from historical wells were taken as accurate in these studies, as there is no way to reliably reanalyse these samples. Most of the remaining samples in storage have long since deteriorated to the point where they are not usable.

Ore grades of in-mine samples are measured in-house at the Cory mine laboratory by Company staff using modern, standard chemical analysis tools and procedures; an independent agency does not verify these results. However, check sampling through the SPPA program does occur.

It should be noted that assay results from historical wells match mine sample results closely - within approximately 0.9% – even though sample spacing is obviously much greater in the case of drillholes. This fact is a validation of the methodology. Based on 49 years of in-mine experience at Cory, these historical assay results are considered acceptable and provide a good basis for estimating ore grade in areas of future mining at Cory. However, the mean mineral grade of 22.5% K_2O equivalent determined from 4,590 in-mine grade samples is thought to provide the most accurate measurement of potash grade for the Cory mine.

Exploration Data Verification

The purpose of any mineral exploration program is to determine extent, continuity and grade of mineralization to a certain level of confidence and accuracy. For potash exploration it is important to minimize the amount of cross-formational drilling, since each drillhole is a potential conduit for subsurface groundwater overlying (or underlying) water-bearing formations into future mine workings. Every potash test hole from surface sterilizes potash mineralization; a safety pillar is required around every surface drillhole once underground mining commences. This is the main reason that exploration drilling has not been carried out at Cory in recent years. Initial sampling and assaying of cores was done during potash exploration at Cory in the 1950s and 1960s. Methods were consistent with standard procedures for that era. The mine began production in 1968 and no further core drilling has been carried out since then. Due to small number of drillholes, mineral grade information from in-mine grab samples provided better sampling of potash grade at Cory. This approach to potash sampling is in accordance with generally accepted industry practice for areas adjacent and contiguous to an existing operating potash mine.

Assay of physical samples (drillhole cores and / or in-mine samples) is the only way to gain information about mineral grade, but extent and continuity of mineralization are correctly determined using data collected from geophysical surveys correlated with historic drilling information. To date, surface seismic data at Cory have been collected, analysed, and verified by Company staff, at times, in cooperation with an independent consultant. Ultimate responsibility for final analyses including depth conversion (seismic depth migration), as well as the accuracy of these data, rests with Nutrien qualified persons.

Data for the mineral resource and reserve estimates for Cory mine were verified by Company staff as follows:

- Annual review of potash assay sample information (drillholes and in-mine grade samples);
- Annual review of surface geophysical exploration results (3D and 2D seismic data);
- Annual crosscheck of mined tonnages reported by mine site technical staff with tonnages estimated from mine survey information; and
- Annual crosscheck of mineral resource and reserve calculations carried out by corporate technical staff.

This approach to data verification of potash mineral grade and surface seismic information is in accordance with generally accepted industry practice for areas adjacent and contiguous to an existing operating potash mine.

vii) Mineral Processing and Metallurgical Testing

At Cory, potash ore has been mined and concentrated to produce saleable quantities of high- grade finished potash products since 1968. In 1988, production was curtailed at the Cory mine. This downsizing included shutdown of the flotation plant, leaving only the crystallization plant which produced a variety of specialized white potash products. From 2008 through 2011, the Cory mine underwent a major expansion which again allowed for the production of red product through floatation circuits. This expansion brought the nameplate capacity up to 3.0 million tonnes of finished potash products per year.

In recent years, the Cory mine underwent a major expansion which brought the nameplate capacity up to 3.0 million tonnes of finished potash products per year. In December 2013, operational changes were announced that reduced the operational capability of the Cory facility to 1.4 million tonnes per year. This was in response to market conditions and to optimize the Company's lowest cost operations. In October 2017, Cory reverted to a pure crystallization plant producing only white potash products, and further curtailing production to 0.8 million tonnes per year. At present, only concentrated white potash products (near-pure KCl) are produced at Cory; these include high- grade specialized white soluble potash, white granular, chicklets, and prills. These products have industrial, agricultural, and feed applications.

Over the 49-year mine life, 112.632 million tonnes of potash ore have been mined and hoisted to produce 35.486 million tonnes of finished potash product (from startup in 1968 to December 31, 2017). Given this level of sustained production over 49 years, basic mineralogical processing and prospective metallurgical testing of Cory potash is not relevant.

viii) Mineral Resource and Mineral Reserve Estimates

Definitions of Mineral Resource

See "5.3 – Mineral Projects – a) Allan Potash Operations – viii) Mineral Resource and Mineral Reserve Estimates – Definitions of Mineral Resource" for an overview of CIM's mineral resource categories and the Company's general characterization of mineral resources categories for its potash mines.

The Cory mine began production in 1968 and no further core drilling has been carried out since then. Instead, exploration involved collecting surface seismic data, which became better in quality over the years. Exploration drilling has demonstrated the presence of the potash horizon, and seismic coverage shows the continuity of the Prairie Evaporite Formation within which the potash horizon occurs.

Along with this approach, analysis of in-mine samples for potash grade has provided an observation-based understanding of the potash mineralized zone at Cory that is far superior to the level of understanding provided by any surface drilling based exploration program. The authors believe that this approach provides a body of information that guides and constrains exploration inferences in a much better way than could be achieved from any conventional exploration investigation in areas immediately surrounding, and contiguous to, the Cory potash mine.

Mineral Resource Estimates

Based on the definitions and guidelines described above, all mineral rights leased or owned by the Company, and within the Cory Crown lease, are assigned to one of the three mineral resource categories.

The mineral resources for Cory, as of December 31, 2017 are as follows:

Cory A Zone:		
Inferred Resource	1,309	millions of tonnes
Indicated Resource	445	millions of tonnes
Measured Resource	978	millions of tonnes
Total A Zone Resource	2,732	millions of tonnes
Cory B Zone:		
Inferred Resource	1,316	millions of tonnes
Indicated Resource	447	millions of tonnes
Measured Resource	1,345	millions of tonnes
Total B Zone Resource	3,108	millions of tonnes
Total for Cory (A Zone + B Zone):		
Inferred Resource	2,625	millions of tonnes
Indicated Resource	892	millions of tonnes
Measured Resource	2,323	millions of tonnes
Total A Zone + B Zone Resource	5,840	millions of tonnes

The average mineral grade of the Cory A Zone mineral resource is 22.5% K_2O equivalent, and was determined from 4,590 in-mine samples at Cory. The average mineral grade of the Cory B Zone mineral resource is 20.3% K_2O equivalent, and was determined from 20,230 in-mine samples at Lanigan mine where the B Zone has been extensively mined.

The tonnage reported in the Cory A Zone measured resource is comprised of the potash that is within 1.6 km (1 mile) of a physically sampled location (i.e. drillholes or mine workings). Also included as measured resource is the potash that is left behind as pillars in mined-out areas of the Cory mine. In a potash mine, it is common practice to consider mining remnant pillar mineralization using solution methods after conventional mining is complete, or after a mine is lost to flooding. The Patience Lake mine was successfully converted from a conventional mine to a solution mine after being lost to flooding in 1989. Since conversion to a solution mine is not anticipated in the near future at Cory, in-place pillar mineralization remains as a mineral resource rather than a mineral reserve at this time.

Definitions of Mineral Reserve

See "5.3 – Mineral Projects – a) Allan Potash Operations – viii) Mineral Resource and Mineral Reserve Estimates – Definitions of Mineral Reserve" for an overview of CIM's mineral reserve categories and the Company's general characterization of mineral reserve categories for its potash mines.

Along with this approach, analysis of in-mine samples for potash grade has provided us with an observation-based understanding of the potash mineralized zone at Cory that is far superior to the level of understanding provided by any surface drilling based exploration program. An understanding of the amount of ore that can be conventionally mined from the Measured Resource category using current mining practices comes from nearly 50 years of potash mining experience at Cory.

Mineral Reserve Estimates

Using the definitions outlined above, part of the Cory A Zone measured resource has been converted to mineral reserve. The assigned mineral reserve category is dependent on proximity to sampled mined entries also described above. An overall extraction rate for the Cory mine has been applied to the area outlined as measured resource.

The overall extraction rate at the Cory mine is 27%. It was derived by dividing the total tonnes mined to date by the tonnage equivalent of the total area of the mine workings (i.e. the perimeter around the mine workings) less future mining blocks. Since an extraction rate has been applied, mineral reserves are considered recoverable ore, and are reported as such.

Note that only drillholes whose 1.6 km radii are contiguous to mine workings or the 1.6 km radius placed around mine workings are used to compute probable mineral reserve. The remaining non-contiguous drillholes remain in the measured resource category.

The mineral reserves for Cory as of December 31, 2017 are as follows:

Cory A Zone:		
Probable Reserve	170	millions of tonnes
Proven Reserve	79	millions of tonnes
Total A Zone Reserve =	249	millions of tonnes
Cory B Zone:		
Probable Reserve	nil	
Proven Reserve	nil	
Total B Zone Reserve =	nil	
Total for Cory (A Zone + B Zone):		
Probable Reserve	170	millions of tonnes
Proven Reserve	79	millions of tonnes
Total A Zone and B Zone Reserve =	249	millions of tonnes

The average mineral grade of the Cory A Zone Mineral Reserve is 22.5% K_2O equivalent, and was determined from 4,590 in-mine samples at Cory.

ix) Mining Operations

All conventional potash mines in Saskatchewan operate at 900m to 1200m below surface within 9m to 30m of the top of the Prairie Evaporite Formation. Over the scale of any typical Saskatchewan potash mine, potash beds are tabular and regionally flat-lying, with only moderate local variations in dip. At Cory, potash ore is mined using conventional mining methods, whereby:

- Shafts are sunk to the potash ore body;
- Continuous mining machines cut out the ore, which is hoisted to surface through the production shaft;
- Raw potash is processed and concentrated in a mill on surface; and
- Concentrated finished potash products.

Sinking of the two original shafts (Shaft #1 and Shaft #2) from surface to the potash zone was completed in 1968, and the first potash ore was hoisted in the fall of that year. The Cory mine has run on a continuous basis since the first ore was hoisted in 1968, other than short-term shutdowns taken for inventory management purposes or occasional plant maintenance and construction work.

In recent years, the Cory mine underwent a major expansion which brought the nameplate capacity up to 3.0 million tonnes of finished potash products per year. However, in 2014 the operational capability of the Cory facility was reduced to 1.4 million tonnes per year due to market conditions. In October 2017, Cory reverted to a pure crystallization plant producing only white potash products, and further curtailing production to 0.8 million tonnes per year.

Virtually all Cory underground mining rooms are in one potash mineralized zone, the upper layer (or A Zone) of the Patience Lake Member of the Prairie Evaporite Formation (the host evaporite salt). In contrast, some potash mines further east in Saskatchewan mine in a different potash layer, the Esterhazy Member of the Prairie Evaporite Formation. At Cory, mine elevations range from approximately 980 m to 1045 m, averaging approximately 1010m. These depths to A Zone potash mineralization are anticipated over most of the Cory lease area. Mine workings are protected from aquifers in overlying formations by approximately 14 m of overlying salt and potash beds, along with salt plugged porosity in the Dawson Bay Formation, a carbonate layer lying immediately above potash hosting salt beds.

The Cory mine is a conventional underground mining operation whereby continuous mining machines are used to excavate the potash ore by the stress-relief mining method. Continuous conveyor belts transport ore from the mining face to the bottom of the production shaft. The highest mineral grade section of the Cory potash seam is approximately 3.35 m (11 feet) thick, with gradations to lower grade salts immediately above and below the mining horizon. The actual mining thickness at Cory is dictated by the height of continuous boring machines used to cut the ore. Five older borers are designed to cut at a thickness of 3.35 m (11 feet) and five new borers are designed to cut 3.65 m (12 feet).

Cory cuts to a marker (clay) seam that is slightly above the high- grade mineralized zone to establish a safe and stable mine roof. The top marker seam is slightly overcut by 10 to 20 cm. Clay seams are often planes of weakness, and if they are undercut, material immediately below the clay seam becomes a hazard as it may separate and fall. Since the hazard must be remediated prior to proceeding, thus slowing production, the moderately diluted mineral grade that results from the overcutting is preferable from a safety point of view.

Conservative local extraction rates (never exceeding 45% in any mining block) are employed at all Saskatchewan mines, including Cory, in order to minimize potential detrimental effects of mining on overlying strata; this is common practice in flat-lying, tabular ore bodies overlain by water-bearing layers.

From the shaft bottom, potash ore is hoisted approximately 1000 m from the potash level through the vertical shafts to a surface mill. In addition to hoisting potash ore to surface, the production shaft provides fresh air ventilation to the mine and serves as a secondary egress. The Service Shaft is used for service access, and exhausting ventilation from the mine.

Over the 49-year mine life, 112.632 million tonnes of potash ore have been mined and hoisted at Cory to produce 35.486 million tonnes of finished potash products (from startup in 1968 to December 31, 2017). The life-of-mine average concentration ratio (raw-ore/MOP-product) is 3.17 and the overall extraction rate over this time period is 27%.

x) Processing and Recovery Operations

At Cory, potash ore has been mined and concentrated to produce saleable quantities of high- grade finished potash products since 1968. At present, only concentrated white potash products (near-pure KCl) are produced at Cory; these include high-grade specialized white soluble potash, white granular, chicklets, and prills. These products have industrial, agricultural, and feed applications.

The crystallization method is used to concentrate potash ore into finished potash products at the Cory mill. A simplified process flow diagram. Raw potash ore is processed on surface, and concentrated white potash products are sold and shipped to markets in North America and offshore.

Over the past three years, production of finished potash products at Cory was:

- 2015: 1.508 million tonnes finished potash products at 61.45% K_2O (average grade)
- 2016: 1.241 million tonnes finished potash products at 61.56% K_2O (average grade)
- 2017: 0.988 million tonnes finished potash products at 61.96% K_2O (average grade)

Over the past decade, actual mill recovery rates have been between 66.4% and 75.6%, averaging 72.0%. Mill recoveries at Cory are lower than at other Nutrien plants because a larger portion (now all) of Cory's total production is made through the crystallization process.

Given the long-term experience with potash geology and actual mill recovery at Cory, no fundamental potash milling problems are anticipated in the foreseeable future.

Quality control testing and monitoring geared towards fine-tuning and optimizing potash milling and concentrating processes are conducted on a continual basis at all Nutrien mine sites and at Nutrien research facilities. At Cory, this is no exception; test work to optimize circuit performance and ensure product quality is carried out on an ongoing basis.

xi) Infrastructure, Permitting and Compliance Activities

Project Infrastructure

Infrastructure is in place to meet current and projected requirements for transportation, energy (electricity and natural gas), water and process materials at Cory.

The Cory mine is served by a number of villages within 50 kilometres of the mine site. The nearest city is Saskatoon (approximately 7 km distant).

The Cory surface facilities are accessed by existing paved roads and highways that are part of the Saskatchewan Provincial Highway System. All potash product is shipped by rail over existing track.

At present, high-voltage power capacity at Cory is 52 MVA. The ten-year projection of power utilization indicates that the utility can meet all foreseeable future demand.

The Cory operation requires a sustained fresh water supply for the milling process which is provided by a waterline from the South Saskatchewan River (approximately 10 km distant). This water supply provides a sustainable source of process water for Cory milling operations without having any impact on other users of water in the area.

Environmental Studies, Permitting and Compliance Activities

The tailings management strategy at all Nutrien potash mines in Saskatchewan, including Cory, is one of sequestering solid mine tailings in an engineered and provincially licensed TMA near the surface plant site. The Cory TMA currently covers an area of approximately 416 hectares (1027 acres) of land owned by the Company. Solid potash mine tailings typically consist of 85 % to 95 % rock-salt (NaCl) and 5 % to 15 % insolubles (carbonate mud = $CaCO_3$, anhydrite mud = $CaSO_4$, and clays like chlorite, illite, and so on). An engineered slurry-wall has been constructed on the north, west, and south sides of the Cory TMA in the areas where near-surface aquifers could be impacted by mine waters. Near-surface geology to the east of the TMA limits the possibility of brine migration into these areas. The slurry-wall provides secondary containment of any saline mine waters, stopping these brines from reaching surrounding near-surface aquifers. Areas surrounding the Cory TMA are closely monitored; this includes everything from daily visual perimeter inspections to annual investigations and inspections of surrounding groundwater and aquifers.

Cory currently operates four brine disposal wells near the surface plant of the Cory mine where clear salt brine (i.e. no silt, clay-slimes, or other waste) is borehole- injected into the Winnipeg / Deadwood Formations, deep subsurface aquifers approximately 1500 m to 1700 m below surface. The groundwater in these extensive deep aquifers is naturally saline**.**

Emissions to air (mostly salt dust and potash dust) are kept below regulatory limits through various modern air-pollution abatement systems (e.g., dust collection systems built into mill processes) that are provincially licensed. This same procedure is followed at all Nutrien mines in Saskatchewan.

The Cory operation requires a sustained fresh water supply for the milling process which is provided by a waterline from the South Saskatchewan River (approximately 10 km distant). This water supply is provincially licensed and provides a sustainable source of process water for Cory milling operations without having any impact on other users of water in the area. In Saskatchewan, all potash tailings management activities are carried out under an "Approval to Operate" granted by the Saskatchewan MOE, the provincial regulator. The Cory mine is in compliance with all regulations stipulated by the Environmental Protection Branch of MOE. The current Cory Approval to Operate has been granted to June 30, 2018, the renewal date**.**

In terms of long-term decommissioning, environmental regulations in the Province of Saskatchewan require that all operating potash mines in Saskatchewan create a long-term decommissioning and reclamation plan that will ensure all surface facilities are removed, and the site is left in a chemically and physically stable condition once mine operations are complete. PotashCorp has conducted numerous studies of this topic, and the most recent decommissioning and reclamation plan for Cory was approved by MOE technical staff in October 2016. Because the current expected mine life for Cory is many decades into the future, it is not meaningful to come up with detailed engineering designs for decommissioning at present. Instead, decommissioning plans are reviewed every five years, and updated to accommodate new ideas, technological change, incorporation of new data, and adjustments of production forecasts and cost estimates. Any updated decommissioning and reclamation reports generated by this process are submitted to provincial regulatory agencies. For Cory, a revised decommissioning and reclamation plan is required in July 2021.

In addition to the long-term decommissioning plan, provincial regulations require that every potash producing company in Saskatchewan set up an Environmental Financial Assurance Fund, which is to be held in trust for the decommissioning, restoration and rehabilitation of the plant site after mining is complete. This fund is for all mines operated by Nutrien in the province of Saskatchewan (i.e. Vanscoy, Cory, Patience Lake, Allan, Lanigan and Rocanville).

xii) Capital and Operating Costs

The Cory mine has been in operation since 1968; in the years immediately preceding this, major capital investment was made to bring this mine into production. Since then, capital expenditures were made on a regular and ongoing basis to sustain production, and to expand production from time to time.

A major refurbishment and expansion of the Cory mine was completed in 2012, increasing nameplate capacity to 3.0 million tonnes of finished potash products per year. This work involved enhancement of hoists and shaft conveyances, major expansions of both mine and mill, improvements to loadout facilities, and some infrastructure improvements. Total capital expenditure for this expansion work was CDN $ 1.65 billion. All construction was carried out without significant disruption to existing potash production from the site.

In December 2013, operational changes were announced that reduced the operational capability of the Cory facility to 1.4 million tonnes per year. This was in response to market conditions and to optimize the Company’s lowest cost operations. In October 2017, Cory reverted to a pure crystallization plant producing only white potash products, and further curtailing production to 0.8 million tonnes per year.

xiii) Exploration, Development and Production

In recent years the Cory mine underwent a major expansion which brought the nameplate capacity up to 3.0 million tonnes of finished potash products per year. In December 2013, operational changes were announced that reduced the operational capability of the Cory facility to 1.4 million tonnes per year. This was in response to market conditions and to optimize the Company’s lowest cost operations. In October 2017, Cory reverted to a pure crystallization plant producing only white potash products, and further curtailing production to 0.8 million tonnes per year.

Potash production in any given year at the Cory mine is a function of many variables, so actual production in any given year can vary dramatically from tonnages produced in previous years. The Mineral Reserve tonnage and historic average production are used to estimate remaining mine life. If the average mining rate seen over the past three years (4.325 million tonnes of potash ore mined and hoisted per year) is sustained, and if Mineral Reserves remain unchanged, then the Cory mine life is 58 years from December 31, 2017.

c) Lanigan Potash Operations

Certain scientific and technical information regarding our Lanigan potash operations is based on the technical report titled “National Instrument 43-101 Technical Report on Lanigan Potash Deposit (KLSA

001B), Saskatchewan, Canada" dated effective December 31, 2017 (the "Lanigan Technical Report") prepared by Craig Funk, P. Eng., P.Geo., who is a "qualified person" as defined in NI 43-101. The Lanigan Technical Report has been filed with the securities regulatory authorities in each of the provinces of Canada and furnished to the SEC. Portions of the following information are based on assumptions, qualifications and procedures that are not fully described herein. References should be made to the full text of the Lanigan Technical Report.

i) Project Description, Location and Access

The Lanigan mine is located in central Saskatchewan, approximately 100 kilometers east of the city of Saskatoon, Saskatchewan. The Legal Description (Saskatchewan Township/Range) of the Lanigan surface operation is Section 28 Township 33 Range 23 West of 2nd Meridian. More precisely, the Lanigan Shaft #2 collar is located at:

- Latitude: 51 degrees 51 minutes 20.48 seconds North
- Longitude: 105 degrees 12 minutes 34.79 seconds West
- Elevation: 535.34 metres above mean Sea Level (SL)
- Easting: 485560.306m
- Northing: 5745008.726m
- Projection: UTM
- Datum: NAD83
- Zone: 13

The Company owns approximately 3,763 hectares (9,299 acres) of surface rights required for current Lanigan mine operations, including all areas covered by the existing surface plant and tailings management area, and all surface lands required for anticipated future Lanigan mine and expanded milling operations.

Mineral rights at Lanigan are mined pursuant to mining leases with the Crown, and with Freehold mineral rights owners. Crown mineral rights are governed by *The Subsurface Mineral Tenure Regulations, 2015,* and Crown leases are approved and issued by the Saskatchewan Ministry of the Economy.

The original Lanigan Crown subsurface mineral lease, numbered KL 100, was entered into in March 1964. A minor amendment to this lease in September 1989 resulted in KL 100R. In November 2009, a large area of land was added to the lease resulting in KLSA 001. Shortly after that, in June 2011, a minor amendment to the lease resulted in KLSA 001A. KLSA 001B was issued in September 2014 when portions of the adjacent exploration permits, granted in September 2011, were added to the lease. Finally, in November 2015, a minor change to the lease resulted in KLSA 001C.

KLSA 001C covers an area of approximately 56,328 hectares (139,190 acres), At Lanigan, the Company has leased potash mineral rights for 38,188 hectares (94,365 acres) of Crown land and owns or has leased approximately 17,913 hectares (44,265 acres) of Freehold land within the lease boundary. The Lanigan Crown lease term is for a period of 21 years from March 2006, with renewals (at the Company's option) for 21-year periods. Freehold lands also remain under lease providing, generally, that production is continuing and that there is a continuation of the Crown lease.

Within the Lanigan Crown lease area, 55,950 hectares (138,256 acres) are mined pursuant to unitization agreements with mineral rights holders (Crown and Freehold) within two unitized areas. Lanigan Unit Area #1 includes 19,990 hectares (49,395 acres), while Lanigan Unit Area #2 includes 35,961 hectares (88,861 acres).

The Lanigan mine surface facilities are accessed by an existing paved road that is part of the Saskatchewan Provincial Highway System. All potash product is shipped by rail over existing track.

The Lanigan mine is served by a number of villages within 50 kilometres of the mine site. The nearest cities are Humboldt (approximately 45 km north of Lanigan) and Saskatoon (approximately 100 km west of Lanigan). The topography is relatively flat, with gently rolling hills and occasional valleys. There are no rivers or other major watercourse channels near the Lanigan mine site.

ii) History

See "5.3 – Mineral Projects – a) Allan Potash Operations – iii) Geological Setting, Mineralization and Deposit Types – Geological Setting and Mineralization" above for a general overview of geological setting and mineralization for potash mines in Saskatchewan.

Exploration drilling for potash in the Lanigan area was carried out in the 1950s and 1960s. The Lanigan mine was built by a company named Alwinsal Potash of Canada Ltd., a consortium of German and French mining and fertilizer companies. Potash production began at Lanigan in 1968 and the mine has run on a continuous basis since then (other than short-term shutdowns taken for inventory management purposes or occasional plant maintenance and construction work). PotashCorp acquired the Lanigan mine in 1976.

Mill rehabilitation, mine expansion and hoist improvement projects were completed at Lanigan between 2005 and 2010. The expansion construction was carried out without significant disruption to existing potash production from the site.

Both flotation and crystallization methods are used at Lanigan to produce granular, standard and suspension grade potash for agricultural use. The current annual nameplate capacity at Lanigan is 3.8 million tonnes and the current annual operational capability is 2.0 million tonnes of concentrated finished potash products.

iii) Geological Setting, Mineralization and Deposit Types

Geological Setting and Mineralization

See "5.3 – Mineral Projects – a) Allan Potash Operations – iii) Geological Setting, Mineralization and Deposit Types – Geological Setting and Mineralization" above for a general overview of geological setting and mineralization for potash mines in Saskatchewan.

Deposit Type

There are three mineable potash members within the Prairie Evaporite Formation of Saskatchewan. Stratigraphically highest to lowest, these members are: Patience Lake, Belle Plaine, and Esterhazy.

The Lanigan potash deposit lies within the Patience Lake Member of Prairie Evaporite Formation. There are two potash seams named A Zone and B Zone within this Member; both the A Zone and B Zone are being mined at Lanigan. The Belle Plaine potash member is present at Lanigan but is not economically mineable, while the Esterhazy Member is poorly developed and not economically mineable.

Lanigan potash mineralization occurs at an average of about 990 m depth below surface. Salt cover from the top of the A Zone mining horizon to overlying units is approximately 7 metres thick, and salt cover from the top of the B Zone mining horizon to overlying units is approximately 14 metres thick. The Lanigan mine operates as a conventional, underground potash mine.

iv) Exploration

Before the Lanigan mine was established in 1968, all exploration consisted of drilling from surface and analysis of core from these drillholes. Since mining began in 1968, there have been just seven potash test holes; two of which targeted seismic (geological) anomalies as part of a seismic data verification process. A map showing potash exploration coverage at Lanigan Potash (drillholes, 2D and 3D seismic coverage).

In most of southern Saskatchewan, potash mineralization is in place wherever Prairie Evaporite Formation salts exist, are flat-lying, and are undisturbed. Since the surface seismic exploration method is an excellent tool for mapping the top and bottom of Prairie Evaporite salts, this has become the main potash exploration tool in any existing Saskatchewan subsurface (potash) mineral lease. Historically, 2D seismic, and now the more accurate 3D seismic methods are used to map continuity and extent of potash beds in flat-lying potash deposits. Seismic data are relied upon to identify collapse structures that must be avoided in the process of mine development since these structures can act as conduits for water. As a result, isolation pillars or mining buffer zones are left around these anomalous features. This practice reduces the overall mining extraction ratio, but the risk of inflow to mine workings are effectively mitigated.

A total of 621 linear kilometres of 2D seismic lines have been acquired at Lanigan. A total of 520 square kilometres of 3D seismic have been acquired at Lanigan between 1988 and 2017. The most recent seismic survey was conducted in 2017 and accounted for 10 square kilometres of the total square kilometres stated above.

Experience has shown that the potash mining zone is continuous when seismic data are undisturbed and flat-lying. Surface seismic data are generally collected three to five years in advance of mining. Any area recognized as seismically unusual is identified early, and mine plans are adjusted to avoid these regions.

v) Drilling

For the original Lanigan potash test holes drilled in the 1950s and 1960s, the primary objective of this drilling was to sample the potash horizons to establish basic mining parameters. Seismic surveys (2D) were done sparingly in those days, so the drillhole information was relied upon heavily to evaluate potash deposits. Test holes would penetrate the evaporite section with a hydrocarbon based drilling mud (oil-based or diesel fuel) to protect the potash mineralization from dissolution. Basic geophysical well-logs were acquired, and in many cases, drill stem tests were run on the Dawson Bay Formation to help assess mine inflow potential. Core samples from the targeted potash intersections were split or quartered (cut with a masonry saw) crushed and analysed to establish potash grades.

Drilling activity was limited at Lanigan during the 1970s. In 1973, a single exploration drillhole was completed, although assay results proved to be unusable. Subsequently, in 1975, a second salt water disposal well, from which assay data were taken, was constructed.

In 1981, further exploration drilling was carried out at Lanigan as part of a mine expansion project. Five additional drillholes were completed, following similar drilling and sampling methodologies as the original 1950s and 1960s drillholes. Geophysical well-logging technology had improved and therefore the log suites collected in the 1981 drill program were of better quality than those collected previously. A 2D seismic survey had been carried out prior to the 1981 drilling program. Two of the five drillholes completed in 1981 targeted seismic (geological) anomalies as part of a seismic data verification process. The anomalies were confirmed and areas around these drillholes were excluded from mine development.

Relatively thin interbeds or seams, referred to as clay seams in the potash industry, are an ever- present component of the A Zone and B Zone at Lanigan. These seams, along with the clay or clay-like material disseminated throughout the rock, make up the water insoluble portion of the mineralized horizons. The same sequences of clay seams can be correlated for many kilometres across the central Saskatchewan potash mining district.

At Lanigan, a particular sequence of two clay seams marks the top of the A Zone. A distinct clay seam marks the top of the B Zone; this clay seam is immediately overlain by a much less consistent clay seam referred to as Shadowband at Lanigan. In 2013, Lanigan modified its cutting practices in the B Zone to improve mine roof stability. This modification involved cutting a slightly higher horizon, just above Shadowband, thus removing the hazard associated with the seam. The goal of improved mine roof stability was achieved; however, less potash and more salt is now being mined resulting in a slightly lower reported ore grade for B Zone.

The clay seams are used to guide the vertical positioning of the mining machine. The uppermost portion of the sequence of three seams is maintained at the top of the mining cut to keep the cutting "on grade". Cutting too high above this upper seam or top marker results in dilution, as lower grade material immediately overlies the production zone. In practice though, the top marker seam is slightly overcut (between 10 cm to 20 cm) to prevent an unstable condition from being created. Clay seams are often planes of weakness, and if they are undercut, material immediately below the clay seam becomes a hazard as it may separate and fall. Since the hazard must be remediated prior to proceeding, thus slowing production, the moderately diluted mineral grade that results from the overcutting is preferable from a safety point of view.

The A Zone mining interval is fixed at 3.66 m (12 feet). B Zone mining machines have a fixed mining height of 2.74 m (9 feet). In a normal B Zone production room, ore is extracted in two lifts resulting in a mining height of approximately 4.88 m (16 feet). These mining heights allow for comfortable working headroom and efficient extraction of potash ore.

Drill core assay results were studied by independent consultant David S. Robertson and Associates (1976) and by Nutrien technical staff. Results are found in Table C below. The best 3.66 m (12 feet) mining interval in A Zone, and the best approximately 4.88 m (16 feet) mining interval in B Zone was determined from the assay values in each potash test well, using clay marker seams as a guide. Note that while B Zone drillhole assays were derived using intervals of between 4.07 m to 7.30 m averaging 5.08 m, a more conservative mining height of 4.88 m is used for mineral resource and reserve estimates.

The original Lanigan exploration area was explored with 12 test holes spaced at intervals of 1.6 km to 3.4 km (1 – 3 miles). In total, 27 potash test holes have been drilled within Lanigan lease KLSA 001C, but only 19 are used in the average ore grade calculation for A Zone in Table C, and only 19 are used in the average ore grade calculation for B Zone in Table C. Certain drillholes within KLSA 001C were not assayed, while others intersected abnormal geology whereby a normal potash zone could not be picked given the limited data available and, therefore, the resulting % K_2O and % water insoluble content could not be evaluated with confidence.

Drillhole assay data for the A Zone at Lanigan gives an estimated mean grade of 25.29% K_2O with 5.78% water insolubles. Drillhole assay data for B Zone at Lanigan gives an estimated mean grade of 23.21% K_2O with 5.59% water insolubles.

Due to the remarkably consistent mineralogy and continuity of the resource, as experienced through 49 years of mine production, very little potash exploration drilling has been done at Lanigan since 1961. Instead of exploration drillholes, seismic surveying has been relied upon more and more to explore ahead of mine development. Where normal Prairie Evaporite sequences are mapped in the seismic data, potash beds have unfailingly been present. Localized, relatively small mine anomalies, not mapped in seismic data do occur. When they do, they are dealt with in the normal course of mining and extraction through these anomalous areas is typically minimized. Anomalies associated with possible water inflow problems, which are mapped in the seismic data, are avoided.

(Remainder of page intentionally left blank. Table C starts on next page)

Table C: Assay results for all potash test holes within Lanigan Lease KLSA 001C.

Location	Year Drilled	A Zone			B Zone		
		Interval (m)	% K_2O Equiv.	% Water Insol.	Interval (m)	% K_2O Equiv.	% Water Insol.
01-29-033-22 W2	1955	3.66	27.68	6	*5.49*	*	*
13-34-033-23 W2	1956	-	*	*	-	*	*
16-12-034-24 W2	1956	-	*	*	*4.51*	*25.77*	*
12-24-034-23 W2	1957	3.66	25.61	2.78	5.12	18.51	2.37
04-28-033-23 W2	1958	3.66	25.87	2.13	*4.85*	*25.75*	*6.3*
04-29-032-22 W2	1959	-	*	*	-	*	*
13-11-033-23 W2	1959	3.66	21.17	9.65	*4.16*	*26.85*	*5.5*
09-26-033-23 W2	1959	3.66	27.33	2.24	*4.51*	*25.18*	*6.6*
03-10-034-23 W2	1959	3.66	22.06	*	*4.07*	*23.97*	*5.7*
01-10-033-24 W2	1959	3.66	27.32	*	*4.92*	*24.58*	*4.2*
04-24-033-24 W2	1959	3.66	25.68	1.91	*5.19*	*24.02*	*5*
13-18-033-22 W2	1960	3.66	26.29	7.1	4.72	22.84	8.15
08-02-033-23 W2	1960	3.66	26.93	7.1	7.59	15.73	5.25
12-04-033-23 W2	1960	3.66	26.53	6.54	*4.76*	*24.61*	*5.8*
12-16-033-23 W2	1960	3.66	23.87	8.4	*4.31*	*25.89*	*4.2*
09-22-033-23 W2	1960	3.66	29.45	5.69	*5.04*	*25.15*	*6.8*
02-30-033-23 W2	1960	-	*	*	-	*	*
13A-30-033-23 W2	1960	3.66	25.36	8.88	7.3	14.79	3.51
01-12-033-24 W2	1960	3.66	24.72	7.33	*5.02*	*26.62*	*4.8*
12-04-033-23 W2	1961	-	*	*	-	*	*
08-03-033-23 W2	1973	-	*	*	-	*	*
01-20-033-23 W2	1975	-	*	*	*5.96*	*22.4*	*5.6*
04-07-033-22 W2	1981	3.66	22.8	4.15	-	*	*
03-26-032-23 W2	1981	3.66	20.59	6.21	4.57	18.8	7.17
04-28-032-23 W2	1981	3.66	25.67	*	4.94	25.59	6.88
16-25-033-23 W2	1981	-	*	*	-	*	*
13-25-032-24 W2	1981	3.66	25.57	6.4	4.88	24.01	6.8
Average (of usable values):		**3.66**	**25.29**	**5.78**	**5.10**	**23.21**	**5.59**

Italicized numbers from Robertson Associates 1976

* Assay sampling incomplete. In drillholes that intersected abnormal potash geology, a normal potash zone could not be picked given the limited data available and, therefore, the resulting % K_2O and % water insoluble content could not be evaluated with confidence.

vi) Sampling, Analysis and Data Verification

Analysis of Exploration Data

Exploration in the Lanigan area was conducted in the 1950s and 1960s. A second phase of drilling associated with a mine expansion project occurred in 1981. Sampling and assaying of potash core samples was done using methods considered consistent with standard procedures for potash exploration at these times.

Drillhole sampling methods have remained essentially the same over the years. Potash core samples are acquired as described in earlier sections of this report. Short segments of core usually about 0.3 m (1 foot) in length are labeled based on visible changes in mineralization, and sometimes based on more or less fixed intervals. Each segment of core is then split using some type of rock or masonry saw. The split portion of core is then bagged and labeled and sent to a laboratory for chemical analysis. Historical potash samples remain stored at the Subsurface Geological Laboratory (Regina, Saskatchewan) of the Saskatchewan Ministry of the Economy. Most of these have deteriorated substantially.

Regarding quality assurance for analytical results of in-mine samples, the Company participates in the SPPA Sample Exchange Program to monitor the accuracy of analytical procedures used in its labs. In the early 1970s, the SPPA initiated a round-robin Sample Exchange Program, the purpose of which was to assist the potash laboratories in developing a high level of confidence in analytical results. This program has continued up to the present, and participants include all major Canadian potash mine site labs, the Nutrien Pilot Plant Lab, and an independent surveyor lab. The Sample Exchange Program provides the participants with three unknown potash samples for analysis four times per year. Results for the unknown sample analysis are correlated by an independent agency that distributes statistical analysis and a summary report to all participants. Completed SPPA samples can be used for control standards as required in QA/QC sections of standard analytical procedures.

The Nutrien Pilot Plant is secured in the same way as modern office buildings are secured. Authorized personnel have access and visitors are accompanied by staff. No special security measures are taken beyond that. Currently, no external laboratory certification is held by the Nutrien Pilot Plant. On occasion, product quality check samples are sent to the Saskatchewan Research Council, a fully certified analytical facility.

Mean Potash Mineral-Grade from In-Mine Samples

In the Lanigan A Zone, in-mine grade samples are taken from the floor at the start of every cutting sequence. This is equivalent to a sample taken approximately every 23 m (76 feet) in production panels, and a sample taken approximately every 47 m (155 feet) in development panels. Since mining began in the A Zone in 2007 through to the end of December 2017, a total of 1,485 in-mine potash mineral grade samples have been collected from the Lanigan A Zone. All samples were analysed in the Lanigan mill laboratory using up-to-date analysis techniques. The median ore grade for this family of in-mine samples is 24.5% K_2O equivalent and the mean ore grade is 23.5%.

In the Lanigan B Zone, in-mine grade samples are taken from the floor every 60 m (200 feet) in newly mined rooms. In-mine grade data is available from 1999 through to the end of December 2017. A total of 20,230 in-mine potash mineral grade samples have been collected from the Lanigan B Zone. All samples were analysed in the Lanigan mill laboratory using analysis techniques that were up-to-date for the era in which the sample was collected. The median ore grade for this family of in-mine samples is 20.8% K_2O equivalent and the mean ore grade is 20.3%.

In 2013, Lanigan modified its cutting practices in the B Zone to improve mine roof stability. This modification involved cutting in a slightly higher, but more stable horizon. The goal of improved mine roof stability was achieved, however, less potash and more salt is now being mined resulting in a slightly lower reported ore grade for B Zone.

Potash Ore-Density from In-Mine Mineral-Grade Measurements

An estimate of in-situ rock density is used to calculate potash mineralization volumes in mineral resource and reserve assessments. A common approach is to determine in-place mineral resource and Reserve volumes (m^3) to a certain degree of confidence, then multiply this number by in-situ bulk-rock density (kg/m^3) to give in-place mineral resource and reserve tonnes. However, establishing an accurate bulk-rock density value is not an easy or trivial task. Well-log data from drillholes can be used for this if accurate and calibrated well-logs are acquired during exploration drilling. In practical terms, modern well-logs tend to meet these criteria, but historic well-logs (collected before the 1990s) do not. In Saskatchewan, almost all potash exploration drilling took place in the 1950s and 1960s, well before density logs were accurate and reliable.

Another approach is to look up density values for the minerals which constitute potash rock – values determined in a laboratory to a high degree of accuracy and published in reliable scientific journals/ textbooks – then apply these densities to the bulk-rock in some way. Given that the density of each pure mineral is quantified and known, the only difficult aspect of this approach is determining what proportion of each mineral makes up the bulk-rock at a particular sample location. This is the methodology that was used to determine an estimate of bulk-rock density for the Lanigan B Zone. An obvious benefit of this approach is that a mean value computed on the distribution (20,230 sample points) has a much greater confidence interval than a mean value computed from 19 drillhole assays.

The main mineralogical components of the ore zones of Saskatchewan's Prairie Evaporite Formation are:

- Halite – NaCl
- Sylvite – KCl
- Carnallite – $KMgCl_3 \cdot 6(H_2O)$
- Insolubles – dolomite, muscovite, clinochlore, potassium feldspar, illite, quartz, anhydrite, and other minor mineral components

All Nutrien potash facilities measure and record the in-mine % K_2O grade and insoluble content of the mined rock. In addition, carnallite content is also measured at Lanigan since it can be a component of the lower portion of the B Zone. Selective mining is generally employed when carnallite is encountered in B Zone production mining. This is performed by taking only a single lift with the mining machine through the upper portion of the B Zone mining horizon, leaving much of the carnallite mineralization in the floor unmined. The B Zone carnallite that does remain in the ore stream is accounted for during analysis. From this set of measurements, the density of the ore can be estimated. The required composition and mineral density information for each mineral component is given below (Webmineral Mineralogy Database):

Halite – NaCl

- Na 39.34%
- CL 60.66%
- Oxide form Na_2O 53.03%
- Mineral density 2170 kg/m^3

Sylvite – KCl

- Na 52.45%
- CL 47.55%
- Oxide form Na_2O 63.18%
- Mineral density 1990 kg/m^3

Carnallite – KMgCl3 6H2O

- K 14.07%
- Mg 8.75%
- H 4.35%
- Cl 38.28%
- O 34.55%
- Oxide form K_2O 16.95%
- Oxide form MgO 14.51%
- Oxide form H_2O 38.90%
- Mineral density 1600 kg/m^3

Insolubles (Lanigan B Zone)

- Component minerals: dolomite, muscovite, clinochlore, potassium feldspar, illite, quartz, anhydrite, and other minor mineral components
- Average density 2870 kg/m^3 (Nutrien Pilot Plant, 2018)

Note that the estimate of the value for insoluble density is based on known densities of the constituent parts of the insoluble components of B Zone mineralization and the average occurrence of these insoluble components, which is known from the nearly 50 years of mining experience at Lanigan. Assuming the lowest plausible density of insolubles known for Saskatchewan potash deposits of this nature, the effect upon overall bulk-rock ore density and reserve calculations would be negligible.

The mineral composition of B Zone potash ore is halite, sylvite, carnallite and insolubles. The effect of % K_2O as carnallite is removed from the total % K_2O measurements leaving % K_2O values that are only due to sylvite. From 20,230 Lanigan B Zone in-mine grade samples, raw ore composition is:

% Sylvite	=	30.8 (converted from % K_2O)
% Insolubles	=	4.8
% Carnallite	=	4.9

The percent of halite is assumed to be:

% Halite	=	(100 - % Sylvite - % Insol. - % Carnallite)
	=	(100 – 30.8 - 4.8 – 4.9)
	=	59.5

Applying this methodology, and using these mean grade data gives a mean bulk-rock density for Lanigan B Zone potash of:

$$\begin{aligned} \mathbf{RHO_{bulk\text{-}rock}} &= \text{(Halite density * \% Halite) +} \\ &\quad \text{(Sylvite density * \% Sylvite) +} \\ &\quad \text{(Carnallite density * \% Carnallite) +} \\ &\quad \text{(Insol. density * \% Insol.)} \\ &= \text{(2170 * \% Halite) +} \\ &\quad \text{(1990 * \% Sylvite) +} \\ &\quad \text{(1600 * \% Carnallite) +} \\ &\quad \text{(2870 * \% Insol.)} \\ &= 2120 \end{aligned}$$

$RHO_{bulk\text{-}rock}$ (Lanigan B Zone) = 2120 kg/m^3

This method is as accurate as the B Zone ore grade measurements and mineral density estimates.

To date, not enough A Zone mining has been carried out at Lanigan to permit the calculation of a proper in-situ bulk-rock potash density based solely on in-mine grade samples. Zone mining has proven successful at Lanigan and takes place in several different geographic locations within the Mineral Lease. Therefore, it is likely that, in the future, enough in-mine samples will be available to support the calculation of an accurate in-situ bulk-rock density for A Zone potash ore. However, in the interim, Allan potash's in-situ bulk-rock density for A Zone potash is used; this has been calculated using 6,738 in-mine samples from the Allan A Zone:

$RHO_{bulk\text{-}rock}$ (Lanigan A Zone) = $RHO_{bulk\text{-}rock}$ (Allan A Zone) = 2110 kg /m^3

This estimate is considered acceptable since both Allan A Zone and Lanigan A Zone are the same potash seam.

Assay Data Verification

Original drill core assays were studied by independent consultant David S. Robertson and Associates (1976). The original assay results for core samples from historical drillholes were taken as accurate in these studies, as there is no way to reliably reanalyse these samples. Most of the remaining samples in storage have long since deteriorated to the point where they are not usable. Nutrien technical staff Jennifer Scott (P. Geo) and Tanner Soroka (P. Geo) reevaluated the historical assay results from the A Zone using a 3.66 m (12 feet) mining interval, the mining height currently used in the Lanigan A Zone. Former Company staff evaluated assay results from potash test holes drilled in 1981.

Ore grades of in-mine samples are measured in-house at the Lanigan mine laboratory by Company staff using modern, standard chemical analysis tools and procedures; an independent agency does not verify these results. However, check sampling through the SPPA program does occur.

It should be noted that assay results from historical drillholes match mine sample results closely – within approximately 0.9% for A Zone and 1.4% for B Zone – even though sample spacing is obviously much greater in the case of drillholes. This fact is a validation of the methodology. Based on 49 years of in-mine experience at Lanigan, historical assay results are considered acceptable and provide a good basis for estimating ore grade in areas of future mining at Lanigan. However, the A Zone mean mineral grade of 23.5% K_2O equivalent determined from 1,485 in-mine grade samples, and the B Zone mean mineral grade of 20.3% K_2O equivalent determined from 20,230 in-mine grade samples is thought to provide the most accurate measurement of potash grade for the Lanigan mine.

Exploration Data Verification

The purpose of any mineral exploration program is to determine extent, continuity, and grade of mineralization to a certain level of confidence and accuracy. For potash exploration, it is important to minimize the amount of cross-formational drilling, since each drillhole is a potential conduit for subsurface groundwater from overlying (or underlying) water-bearing formations into future mine workings. Every potash test hole from surface sterilizes potash mineralization; a safety pillar is required around every surface drillhole once underground mining commences. This is the main reason that minimal exploration drilling has been carried out at Lanigan in recent years.

Initial sampling and assaying of cores was done during potash exploration at Lanigan in the 1950s and 1960s. Methods were consistent with standard procedures for that era. The mine began production in 1968 and, with the exception of a potash test hole in 1975 and six potash test holes in 1981, no further core drilling has been carried out since then. This approach to potash sampling is in accordance with widely accepted industry practice for areas adjacent and contiguous to an existing operating potash mine**.**

Assay of physical samples (drillhole cores and/or in-mine samples) is the only way to gain information about mineral grade, but extent and continuity of mineralization are correctly determined using data collected from geophysical surveys correlated with historic drilling information. To date, surface seismic data at Lanigan have been collected, analysed, and verified by Company staff, at times, in cooperation with an independent consultant. Ultimate responsibility for final analyses including depth conversion (seismic depth migration), as well as the accuracy of these data, rests with Nutrien qualified persons.

Data for the mineral reserve and mineral resource estimates for Lanigan mine were verified by Company staff as follows:

- Annual review of potash assay sample information (drillholes and in-mine grade samples);
- Annual review of surface geophysical exploration results (3D and 2D seismic data);
- Annual crosscheck of mined tonnages reported by mine site technical staff with tonnages estimated from mine survey information; and
- Annual crosscheck of mineral resource and reserve calculations carried out by corporate technical staff.

This approach to data verification of potash mineral grade and surface seismic information is in accordance with generally accepted industry practice for areas adjacent and contiguous to an existing operating potash mine.

vii) Mineral Processing and Metallurgical Testing

At Lanigan, potash ore has been mined and concentrated to produce saleable quantities of high-grade finished potash products since 1968. Products include granular, standard and suspension grade potash for agricultural use.

Over the 49-year mine life, 200.784 million tonnes of potash ore have been mined and hoisted to produce 58.314 million tonnes of finished potash product (from startup in 1968 to December 31, 2017). Given this level of sustained production over 49 years, basic mineralogical processing and prospective metallurgical testing of Lanigan potash is not relevant.

viii) Mineral Resource and Mineral Reserve Estimates

Definitions of Mineral Resources

See "5.3 – Mineral Projects – a) Allan Potash Operations – viii) Mineral Resource and Mineral Reserve Estimates – Definitions of Mineral Resource" for an overview of CIM's mineral resource categories and the Company's general characterization of mineral resources categories for its potash mines.

The Lanigan mine began production in 1968, and since then just seven potash exploration drillholes have been drilled in the Lanigan lease area; two of which are unusable for assay analysis. Instead, exploration involved collecting surface seismic data, which became better in quality over the years. Exploration drilling has demonstrated the presence of the potash horizon, and seismic coverage shows the continuity of the Prairie Evaporite Formation within which the potash horizon occurs.

Along with this approach, analysis of in-mine samples for potash grade has provided an observation-based understanding of the potash mineralized zones at Lanigan that is far superior to the level of understanding provided by any surface drilling based exploration program. The authors believe that this approach provides a body of information that guides and constrains exploration inferences in a much better way than could be achieved from any conventional exploration investigation in areas immediately surrounding, and contiguous to, the Lanigan potash mine.

Mineral Resource Estimates

Exploration information used to calculate reported mineral resource tonnages at Lanigan consist of both physical sampling (drillhole and in-mine) and surface seismic (2D and 3D) as discussed in earlier sections. Based on the definitions and guidelines described above, all mineral rights leased or owned by the Company, and within Crown Subsurface Mineral Lease KLSA 001C, are assigned to one of the three mineral resource categories.

Mineral resources are reported as mineralization in-place and are exclusive of mineral reserves. In-place tonnes were calculated for each of the mineral resource categories using the following parameters:

Mining Height (A Zone):	3.66 metres (12 feet)
Mining Height (B Zone):	4.88 metres (16 feet)
Ore Density (A Zone):	2.110 tonnes/m^3
Ore Density (B Zone):	2.120 tonnes/m^3

The mineral resources for Lanigan, as of December 31, 2017 are as follows:

Lanigan A Zone Resource:		
Inferred Resource	671	million tonnes
Indicated Resource	1,345	million tonnes
Measured Resource	2,068	million tonnes
Total A Zone Resource	4,084	million tonnes

Lanigan B Zone Resource:		
Inferred Resource	899	million tonnes
Indicated Resource	1,801	million tonnes
Measured Resource	2,629	million tonnes
Total B Zone Resource	5,329	million tonnes

Total Resource for Lanigan (A Zone + B Zone):

Inferred Resource	1,570	million tonnes
Indicated Resource	3,146	million tonnes
Measured Resource	4,697	million tonnes
Total A Zone + B Zone Resource	9,413	million tonnes

The average mineral grade of the Lanigan A Zone mineral resource is 23.5% K_2O equivalent, and was determined from 1,485 in-mine samples at Lanigan. The average mineral grade of the Lanigan B Zone mineral resource is 20.3% K_2O equivalent, and was determined from 20,230 in- mine samples at Lanigan.

The tonnage reported as Lanigan A Zone measured resource is comprised of both potash ore that is within 1.6 km (1 mile) of A Zone mine workings, and potash ore that is left behind as pillars in mined-out areas of the A Zone at Lanigan. Also included as Lanigan A Zone measured resource is the potash ore within 1.6 km (1 mile) of drillholes for which A Zone assay results are available.

Similarly, the tonnage reported as Lanigan B Zone measured resource is comprised of both potash ore that is within 1.6 km (1 mile) of B Zone mine workings, and potash ore that is left behind as pillars in mined-out areas of the B Zone at Lanigan. Also included as Lanigan B Zone. Measured resource is the potash ore within 1.6 km (1 mile) of drillholes for which B Zone assay results are available.

In a potash mine, it is common practice to consider mining remnant pillar mineralization using solution methods after conventional mining is complete, or after a mine is lost to flooding. The Patience Lake mine was successfully converted from a conventional mine to a solution mine after being lost to flooding in 1989. Since conversion to a solution mine is not anticipated in the near future at Lanigan, in-place pillar mineralization remains as a mineral resource rather than a mineral reserve at this time.

Definitions of Mineral Reserve

See "5.3 – Mineral Projects – a) Allan Potash Operations – viii) Mineral Resource and Mineral Reserve Estimates – Definitions of Mineral Reserve" for an overview of CIM's mineral reserve categories and the Company's general characterization of mineral reserve categories for its potash mines.

Along with this approach, analysis of in-mine samples for potash grade has provided an observation-based understanding of the potash mineralized zone at Lanigan that is far superior to the level of understanding provided by any surface drilling based exploration program. An understanding of the amount of ore that can be conventionally mined from the measured resource category using current mining practices comes from nearly 50 years of potash mining experience at Lanigan.

Mineral Reserve Estimates

Using the definitions outlined above, part of the Lanigan A Zone and B Zone measured resource has been converted to mineral reserve. The assigned mineral reserve category is dependent on proximity to sampled mined entries also described above. An overall extraction rate for the Lanigan mine has been applied to the qualifying area outlined as measured resource.

The overall extraction rate at the Lanigan mine is 26%. It was derived by dividing the total tonnes mined to date by the tonnage equivalent of the total area of the mine workings (i.e. the perimeter around the mine workings). Since an extraction rate has been applied, mineral reserves are considered recoverable ore, and are reported as such.

Currently, in any specific mining block at Lanigan, only one zone is mined (i.e. bi-level mining is not in practice). As such, mineral reserve has been split by ore zone that will be mined in the future; A Zone mineral reserve and B Zone mineral reserve do not overlap. Unmined B Zone potash mineralization directly underlying the defined A Zone mineral reserve is classified as B Zone measured resource. In the same way, unmined A Zone potash mineralization directly overlying the defined B Zone mineral reserve is classified as A Zone measured resource.

Note that only drillholes whose 1.6 km radii are contiguous to mine workings or the 1.6 km radius placed around mine workings are used to compute probable mineral reserve. The remaining non-contiguous drillholes remain in the measured resource category.

The mineral reserves for Lanigan as of December 31, 2017 are as follows:

Lanigan A Zone:		
Probable Reserve	197	million tonnes
Proven Reserve	22	million tonnes
Total A Zone Reserve =	219	million tonnes
Lanigan B Zone:		
Probable Reserve	212	million tonnes
Proven Reserve	91	million tonnes
Total B Zone Reserve =	303	million tonnes
Total for Lanigan (A Zone + B Zone):		
Probable Reserve	409	million tonnes
Proven Reserve	113	million tonnes
Total A Zone and B Zone Reserve =	522	million tonnes

The average mineral grade of the Lanigan A Zone Mineral Resource is 23.5% K_2O equivalent, and was determined from 1,485 in-mine samples at Lanigan. The average mineral grade of the Lanigan B Zone Mineral Resource is 20.3% K_2O equivalent, and was determined from 20,230 in- mine samples at Lanigan.

ix) Mining Operations

All conventional potash mines in Saskatchewan operate at 900 m to 1200 m below surface within 9 m to 30 m of the top of the Prairie Evaporite Formation. Over the scale of any typical Saskatchewan potash mine, potash beds are tabular and regionally flat-lying, with only moderate local variations in dip. At Lanigan, potash ore is mined using conventional mining methods, whereby:

- Shafts are sunk to the potash ore body;
- Continuous mining machines cut out the ore, which is hoisted to surface through the production shaft;
- Raw potash is processed and concentrated in a mill on surface; and
- Concentrated finished potash products (near-pure KCl) are sold and shipped to markets in North America and offshore.

Potash ore was first hoisted at Lanigan in the fall of 1968. The Lanigan mine has run on a continuous basis since then, other than short-term shutdowns taken for inventory management purposes or occasional plant maintenance and construction work.

Most recently, mill rehabilitation, mine expansion and hoist improvement projects were completed at Lanigan between 2005 and 2010. The expansion construction was carried out without significant disruption to existing potash production from the site. As of December 31,

2017, annual nameplate capacity for Lanigan was 3.8 million tonnes and current annual operational capability is 2.0 million tonnes of finished potash products (concentrated KCl)

Virtually all Lanigan underground mining rooms are in one of two potash mineralized zones within the Patience Lake Member of the Prairie Evaporite Formation (the host evaporite salt). In this Member, there are two potash seams named A Zone (the upper seam) and B Zone (the lower seam); at present, both the A Zone and B Zone are being mined at Lanigan. The A Zone and B Zone are separated by approximately 4m to 6m of tabular salt. In contrast, some potash mines further east in Saskatchewan mine in a different potash layer, the Esterhazy Member of the Prairie Evaporite Formation. At Lanigan, mine elevations range from approximately 940 m to 1030 m, averaging approximately 990 m. These depths to potash mineralization are anticipated over most of the Lanigan lease area. Mine workings are protected from aquifers in overlying formations by approximately 7 m (A Zone) to 14 m (B Zone) of overlying salt and potash beds, along with salt plugged porosity in the Dawson Bay Formation, a carbonate layer lying immediately above potash hosting salt beds.

The Lanigan mine is a conventional underground mining operation whereby continuous mining machines are used to excavate potash ore by the stress-relief mining method in the A Zone and the long-room and pillar mining method in the B Zone. Currently, in any specific mining block, only one zone is mined (i.e. bi-level mining is not in practice). Continuous conveyor belts transport ore from the mining face to the bottom of the production shaft.

The actual mining thickness at Lanigan is dictated by the height of continuous boring machines used to cut the ore. The A Zone mining interval is fixed at 3.66 m (12 feet). The 3.66 m (12 feet) mining height also allows for comfortable working headroom and efficient extraction of potash ore. The thickness of the B Zone mining horizon varies somewhat and there is some flexibility in the thickness of the potash ore that is extracted there. Production mining machines have a fixed mining height of 2.74 m (9 feet). In a normal production room, ore is extracted in two lifts resulting in a mining height of approximately 4.88 m (16 feet).

Carnallite sometimes occurs in minor amounts in the basal part of the B Zone. Carnallite is an undesirable mill feed material. If more than minor amounts of carnallite are detected in the floor after the first lift of a production room in the B Zone, it is left in the floor (i.e. a second lift is not cut). In these instances, the B Zone mining height is just 2.74 m (9 feet). Carnallite is found in trace amounts in the A Zone; however, due to its low occurrence, mining practices remain unchanged when it is encountered.

Mining systems used in both A Zone and B Zone cut to a marker (clay) seam that is slightly above the high-grade mineralized zone to establish a safe and stable mine roof. In both zones, the top marker seam is slightly overcut by 10 to 20 cm. Clay seams are often planes of weakness, and if they are undercut, material immediately below the clay seam becomes a hazard as it may separate and fall. Since the hazard must be remediated prior to proceeding, thus slowing production, the moderately diluted mineral grade that results from the overcutting is preferable from a safety point of view.

In 2013, Lanigan modified its cutting practices in the B Zone to improve mine roof stability. This modification involved cutting in a slightly higher, but more stable horizon. The goal of improved mine roof stability was achieved; however, less potash and more salt is now being mined resulting in a slightly lower reported ore grade for B Zone.

Conservative local extraction rates (never exceeding 45% in any mining block) are employed at all Saskatchewan mines, including Lanigan, in order to minimize potential detrimental effects of mining on overlying strata; this is common practice in flat-lying, tabular ore bodies overlain by water-bearing layers.

From the shaft-bottom, potash ore is hoisted approximately 1000 m from the potash level through the vertical shafts to a surface mill. In addition to hoisting potash ore to surface, the production shaft provides fresh air ventilation to the mine and serves as secondary egress. The Service Shaft is used for service access, and exhausting ventilation from the mine.

Over the 49-year mine life, 200.784 million tonnes of potash ore have been mined and hoisted at Lanigan to produce 58.314 million tonnes of finished potash products (from startup in 1968 to December 31, 2017). The life-of-mine average concentration ratio (raw ore/finished potash products) is 3.44 and the overall extraction rate over this time period is 26%.

x) Processing and Recovery Operations

At Lanigan, potash ore has been mined and concentrated to produce saleable quantities of high-grade finished potash products since 1968. Products include granular, standard and suspension grade potash for agricultural use.

Both floatation methods and crystallization methods are used to concentrate potash ore into finished potash products at the Lanigan mill. Raw potash ore is processed on surface, and concentrated red potash products are sold and shipped to markets in North America and offshore.

Over the past three years, production of finished potash products at Lanigan was:

- 2015: 1.824 million tonnes finished potash products at 60.96% K_2O (average grade)
- 2016: 2.030 million tonnes finished potash products at 60.72% K_2O (average grade)
- 2017: 1.817 million tonnes finished potash products at 60.92% K_2O (average grade)

Over the past decade, actual mill recovery rates have been between 75.6% and 85.9%, averaging 82.9%.

Given the long-term experience with potash geology and actual mill recovery at Lanigan, no fundamental potash milling problems are anticipated in the foreseeable future.

Quality control testing and monitoring geared towards fine-tuning and optimizing potash milling and concentrating processes are conducted on a continual basis at all Nutrien mine sites and at Nutrien research facilities. At Lanigan, this is no exception; test work to optimize circuit performance and ensure product quality is carried out on an ongoing basis.

Infrastructure is in place to meet current and projected requirements for transportation, energy (electricity and natural gas), water and process materials at Lanigan.

At present, high voltage power capacity at Lanigan is 52 MVA. The ten-year projection of power utilization indicates that the utility can meet all foreseeable future demand. The Lanigan operation requires a sustained fresh water supply for the milling process which is provided by a waterline from the Dellwood Reservoir (approximately 10 km distant) and from a regional aquifer called the Hatfield Valley Aquifer. This water supply provides a sustainable source of process water for Lanigan milling operations without having any impact on other users of water in the area.

xi) Infrastructure, Permitting and Compliance Activities

The tailings management strategy at all Nutrien potash mines in Saskatchewan, including Lanigan, is one of sequestering solid mine tailings in an engineered and provincially licensed TMA near the surface plant site. The Lanigan TMA currently covers an area of approximately 708 hectares (1,750 acres) of land owned by the Company. Solid potash mine tailings typically consist of 85% to 95% rock-salt (NaCl) and 5% to 15% insolubles (carbonate mud = $CaCO_3$, anhydrite mud = $CaSO_4$, and clays like chlorite, illite, and so on). An engineered slurry-wall has been constructed on the south and south-west sides of the Lanigan TMA in the areas where near-surface aquifers could be impacted by mine waters. Near-surface geology on all other sides of the TMA limits the possibility of brine migration into these areas. The slurry-wall provides secondary containment of any saline mine waters, stopping these brines from reaching surrounding near-surface aquifers. Areas surrounding the TMA are closely monitored; this includes everything from daily visual perimeter inspections to annual investigations and inspections of surrounding groundwater and aquifers.

In Saskatchewan, all potash tailings management activities are carried out under an "Approval to Operate" granted by the Saskatchewan MOE, the provincial regulator. The Lanigan mine is in compliance with all regulations stipulated by the Environmental Protection Branch of Saskatchewan MOE. The current Lanigan Approval to Operate has been granted to June 30, 2018, the renewal date.

In terms of long-term decommissioning, environmental regulations in the Province of Saskatchewan require that all operating potash mines in Saskatchewan create a long-term decommissioning and reclamation plan that will ensure all surface facilities are removed, and the site is left in a chemically and physically stable condition once mine operations are complete. PotashCorp has conducted numerous studies of this topic, and the most recent decommissioning and reclamation plan for Lanigan was approved by MOE technical staff in October 2016. Because the current expected mine life for Lanigan is many decades into the future, it is not meaningful to come up with detailed engineering designs for decommissioning at present. Instead, decommissioning plans are reviewed every five years, and updated to accommodate new ideas, technological change, incorporation of new data, and adjustments of production forecasts and cost estimates. Any updated decommissioning and reclamation reports generated by this process are submitted to provincial regulatory agencies. For Lanigan, a revised decommissioning and reclamation plan is required in July 2021.

In addition to the long-term decommissioning plan, provincial regulations require that every potash producing company in Saskatchewan set up an Environmental Financial Assurance Fund, which is to be held in trust for the decommissioning, restoration and rehabilitation of the plant site after mining is complete. This fund is for all mines operated by Nutrien in the province of Saskatchewan (i.e., Vanscoy, Cory, Patience Lake, Allan, Lanigan and Rocanville).

xii) Capital and Operating Costs

The Lanigan mine has been in operation since 1968; in the years immediately preceding this, major capital investment was made to bring this mine into production. Since then, capital expenditures were made on a regular and ongoing basis to sustain production, and to expand production from time to time.

Most recently, mill rehabilitation, mine expansion and hoist improvement projects were completed at Lanigan between 2005 and 2010. The expansion construction was carried out without significant disruption to existing potash production from the site.

xiii) Exploration, Development and Production

Potash production in any given year at the Lanigan mine is a function of many variables, so actual production in any given year can vary dramatically from tonnages produced in previous years. The mineral reserve tonnage and historic average production are used to estimate remaining mine life. If the average mining rate seen over the past three years (6.500 million tonnes of potash ore mined and hoisted per year) is sustained, and if mineral reserves remain unchanged, then Lanigan A Zone mine life is 34 years from December 31, 2017, and Lanigan B Zone mine life is 47 years from December 31, 2017. Total years of remaining mine life at Lanigan is 81 years from December 31, 2017.

d) Rocanville Potash Operations

Certain scientific and technical information regarding our Rocanville potash operations is based on the technical report titled "National Instrument 43-101 Technical Report on Rocanville Potash Deposit (KLSA 002B & KL 249), Saskatchewan, Canada" dated effective December 31, 2017 (the "Rocanville Technical Report") prepared by Craig Funk, P. Eng., P.Geo., who is a "qualified person" as defined in NI 43-101. The Rocanville Technical Report has been filed with the securities regulatory authorities in each of the provinces of Canada and furnished to the SEC. Portions of the following information are based on assumptions, qualifications and procedures that are not fully described herein. References should be made to the full text of the Rocanville Technical Report.

i) Project Description, Location and Access

General

The Rocanville mine is located in south eastern Saskatchewan near the Saskatchewan-Manitoba Provincial Boundary, approximately 15 kilometers north-east of the town of Rocanville, Saskatchewan.

The legal description (Saskatchewan Township/Range) of the Rocanville surface plant is Section 22 Township 17 Range 30 West of the 1st Meridian. More precisely, the Rocanville #2 Shaft collar is located at:

- Latitude: 50 degrees 28 minutes 19.54 seconds North
- Longitude: 101 degrees 32 minutes 42.58 seconds West
- Elevation: 480.36 metres above mean Sea Level (SL)
- Northing: 5,596,826.122 m
- Easting: 745,137.307 m
- Projection: UTM
- Datum: NAD83
- Zone: 13

The Company owns approximately 3,061 hectares (7,564 acres) of surface rights required for current Rocanville mine operations, including all areas covered by the existing surface plant and TMA, and all surface lands required for anticipated future Rocanville mine and expanded milling operations.

The Rocanville mine surface facilities are accessed by an existing paved road that is part of the Saskatchewan Provincial Highway System. Most finished potash products are shipped by rail over existing track, with some product shipped by truck over the North American highway system.

The Rocanville mine is served by a number of towns and villages within 50 kilometres of the mine site. The nearest towns are Rocanville (15 km distant), Moosomin and Esterhazy (both 50 km distant). The nearest city is Yorkton (100 km distant). Rocanville is situated near the north extent of the Great Plains of North America. Topography is relatively flat, with gently rolling hills and occasional valleys.

Mineral Rights

Mineral rights at Rocanville are mined pursuant to subsurface mineral leases with the Crown, and with Freehold mineral rights owners.

The original Rocanville Crown subsurface mineral lease KL 111 was entered into in June 1966. In the following years, various minor amendments were made to this Crown lease, resulting in Crown subsurface mineral lease KL 111R. KL 111R covered approximately 24,146 hectares (59,668 acres) of Crown mineral rights.

In May 2007, application was made for a Permit to Prospect for Subsurface Minerals (Potash Exploration Permit) covering approximately 26,184 hectares (64,702 acres) of Crown mineral rights in the area just west of and adjoining the existing Rocanville Crown Lease KL 111R. In late 2007, a major expansion of the Rocanville mine was announced. Shortly after this, in May 2008, Potash Exploration Permit KP 338A was issued. A potash exploration program was initiated in 2007 and completed in 2008 to determine the extent of potash mineralization to the west of the mine workings.

A new Crown Subsurface Mineral Lease numbered KLSA 002 was issued in February 2010 incorporating all Crown mineral rights within the existing Crown Lease KL 111R and approximately two-thirds of Crown mineral rights covered in KP 338A. The portion of the lands that were not part of the Lease amalgamation remained as Crown Exploration Permit KP 338B until December 2016 when they were converted to a Crown Subsurface Mineral Lease numbered KL 249.

In October 2017, KL 305 was formed by the amalgamation of Crown Subsurface Leases KLSA 002 (KLSA 002B, following minor amendments) and KL 249. KL 305 covers an area of approximately hectares 113,975 (281,639 acres). At Rocanville, the Company has leased potash mineral rights for 54,184 hectares (133,892 acres) of Crown land and owns or has leased approximately hectares 45,612 (112,710 acres) of Freehold land within the lease boundary. The Rocanville Crown lease term is for a period of 21 years from October 2017, with renewals at the Company's option for 21 year periods. Freehold lands also remain under lease providing, generally, that production is continuing and that there is a continuation of the Crown lease.

Within the current Rocanville Crown lease area, 80,181 hectares (198,132 acres) are mined pursuant to Unitization Agreements with mineral rights holders (Crown and Freehold) within two Unitized Areas. Rocanville Unit Area #1 has been in place since 1970 when mining began, was amended in 2006 and includes 35,234 hectares (87,065 acres) of mineral rights. Rocanville Unit Area #2 has been in place since 2011, and includes 44,947 hectares (111,067 acres) of mineral rights.

ii) History

See "5.3 – Mineral Projects – a) Allan Potash Operations – ii) History" above for a general overview of the history of potash mines in Saskatchewan.

Exploration drilling for potash in the Rocanville, Saskatchewan area was carried out in the 1960s. Thirty-four potash test holes were drilled during this early exploration phase: 25 in Saskatchewan and nine in Manitoba. The Rocanville mine was built by a company called Sylvite of Canada Ltd. (a division of Hudson's Bay Mining and Smelting Ltd.) in the late 1960s, and potash production began at Rocanville in 1970. The mine has run on a continuous basis since then (other than during short-term shutdowns taken for inventory management purposes). Potash Corporation of Saskatchewan Inc.

acquired the Rocanville mine in 1977.

A major expansion to increase the nameplate capacity of Rocanville from 3.0 million tonnes to approximately 6.0 million tonnes of finished potash products per year was announced in 2007. Expansion work was substantially completed by the end of 2016, and production was ramped up through 2017 when a nameplate capacity of 6.5 million tonnes of finished potash product was announced. At present, the operational capability at Rocanville is 5.4 million tonnes of finished potash product.

iii) Geological Setting, Mineralization and Deposit Types

See "5.3 – Mineral Projects – a) Allan Potash Operations – iii) Geological Setting, Mineralization and Deposit Types – Geological Setting and Mineralization" above for a general overview of geological setting and mineralization for potash mines in Saskatchewan.

Over the past three years (2015, 2016, 2017), the average, measured potash ore grade of the mill feed at Rocanville was 23.3% K_2O equivalent. The average ore grade reported from 31 surface drillhole intersections, all within Rocanville Lease KL 305, is 22.4% K_2O equivalent. The average ore grade observed from 39,245 in-mine chip samples taken over 47 years of mining (to December 31, 2017) is 23.4% K_2O equivalent.

There are three mineable potash members within the Prairie Evaporite Formation of Saskatchewan. Stratigraphically highest to lowest these members are: Patience Lake, Belle Plaine, and Esterhazy.

The Rocanville potash deposit lies within the Esterhazy Member of the Prairie Evaporite Formation. The Patience Lake Member potash beds are not present in the Rocanville Area. The Belle Plaine and White Bear Members are present, but not conventionally mineable in the Rocanville area. The potash zone at Rocanville is approximately 2.4 metres thick and occurs near the top of the Prairie Evaporite Formation. Potash mineralization in this area is flat-lying and continuous. Mine elevations range from approximately 895 m to 1040 m, averaging approximately 955 m. Within the Rocanville Lease, depths to the top of the ore zone can reach up 1250 m (the deepest potash exploration drillhole), but are expected to be shallower than 1200 m over most of the lease area. Salt cover from the ore zone to overlying units is approximately 30 m. The Rocanville mine operates as a conventional, underground potash mine.

iv) Exploration

Before the Rocanville mine was established in 1970, all exploration consisted of drilling test holes from surface and analysis of core from these drillholes. PotashCorp did not conduct any exploration drilling after start-up until 2008, when a potash exploration program was initiated under the direction of PotashCorp staff to determine the extent of potash mineralization in the western portion of the current Lease. Between 2007 and 2008, exploration work consisted of**:**

- Analysis of data from five existing exploration drillholes (well-logs from surface casing to total depth within or below the Prairie Evaporite Formation)
- Analysis of 377 km of existing 2D surface seismic data
- Acquisition and analysis 124 km^2 (48 $miles^2$) of 3D surface seismic data,
- Drilling of four potash exploration drillholes from surface to the base of the Prairie Evaporite Formation (all with a complete suite of modern well-logs plus coring of the potash mineralized zone)

- Drilling of one shaft pilot drillhole (with a complete suite of modern well-logs plus coring of the entire rock column from surface to below the potash mineralized zone)

In most of southern Saskatchewan, potash mineralization is in place wherever Prairie Evaporite Formation salts exist, are flat-lying, and are undisturbed. Since the surface seismic exploration method is an excellent tool for mapping the top and bottom of Prairie Evaporite salts, this has become the main potash exploration tool in any existing Saskatchewan Subsurface (potash) Mineral Lease. Historically, 2D seismic, and now the more accurate 3D seismic methods are used to map continuity and extent of potash beds in flat-lying potash deposits. Seismic data are relied upon to identify collapse structures that must be avoided in the process of mine development since these structures can act as conduits for water. As a result, isolation pillars or mining buffer zones are left around these anomalous features. This practice reduces the overall mining extraction ratio, but the risk of inflow to mine workings are effectively mitigated.

A total of 1,111 linear kilometres of 2D seismic lines have now been acquired at Rocanville. Between 1988 and 2017, 3D seismic has been acquired over an area covering 627 square kilometres. The most recent seismic survey was conducted in 2017 and accounted for 96 square kilometres of the total square kilometres stated above.

Experience has shown that the potash mining zone is continuous when seismic data are undisturbed and flat-lying. Surface seismic data are generally collected three to five years in advance of mining. Any area recognized as seismically unusual is identified early, and mine plans are adjusted to avoid these regions.

v) Drilling

For the original Rocanville potash test holes drilled in 1960s, the primary objective of this drilling was to sample the potash horizon to establish basic mining parameters. Seismic surveys (2D) were done sparingly in those days, so the drillhole information was relied upon heavily to evaluate potash deposits. Test holes would penetrate the evaporite section with a hydrocarbon based drilling mud (oil-based or diesel fuel) to protect the potash mineralization from dissolution. Basic geophysical well-logs were acquired, and in many cases, drill stem tests were run on the Dawson Bay Formation, a carbonate immediately overlying the Prairie Evaporite Formation, to help assess mine inflow potential. Core samples from the targeted potash intersections were split or quartered (cut with a masonry saw) crushed and analysed to establish potash grades.

Original Rocanville drillhole assay data are taken from Robertson et al. (1977), where the best 2.44 m (8 feet) mining interval – the original mining height at Rocanville – is reported. The Rocanville prospect was originally explored by 34 drillholes in Saskatchewan and Manitoba. Of these original drillholes, 26 are located within the current Rocanville Lease KL 305 and are shown in Table D below.

Potash intersections for one drillhole in Table D revealed anomalously low grades. With nearly 50 years of mining experience at Rocanville, it is the opinion of the authors that areas of low grade (i.e. <15% K_2O) are localized with a relatively small lateral extent. Therefore, the average grade calculation does not include these drillholes.

No further exploration drilling was done by the Company at Rocanville until 2008, when four potash exploration drillholes and one shaft pilot hole were completed. The basic drilling program was specified by PotashCorp technical staff. The drill rig shown in the photo is the same one used to drill the four exploration holes in the 2008 exploration program.

Each of the 2008 exploration drillholes and the shaft pilot hole were drilled in such a way as to protect the potash minerals from dissolution while core sampling through the targeted mining zone (the

Esterhazy Member of the Prairie Evaporite Formation). To accomplish this, the aquifers above the top of salt (top of the Prairie Evaporite) were isolated behind a casing before the drilling mud was changed over to an oil based system. Each drillhole penetrated approximately 10 m into the Winnipegosis Formation, which lies immediately below Prairie Evaporite salts, before drilling was terminated (i.e. through the Prairie Evaporite Formation and far enough into the underlying formation to permit proper geophysical logging of the base of salt).

Hydrogeology in the formations immediately overlying the Prairie Evaporite Formation was evaluated in part by core sampling through the Dawson Bay Formation (for examination of porosity and permeability). As well, drill stem tests were run in the Dawson Bay and Lower Souris River Formations. In the shaft pilot hole, core sampling and drill stem testing were done more extensively as part of a comprehensive investigation for a shaft liner design. In every drillhole, coring and testing of formations above the Prairie Evaporite was completed prior to setting the casing and changing the drilling mud to an oil based system.

A standard suite of geophysical logs was run in each drillhole. These logs included: Gamma Ray, Neutron, Density, Electrical Resistivity (or Induction), Sonic (full-waveform P & S), and Caliper. In certain drillholes, additional specialized logs were run for fracture mapping and/or porosity investigation over certain geological intervals. A deviation survey was run in each drillhole; the results of which were found to be minimal (i.e. all holes are vertical). Stages of open-hole logging had to be completed before casing was put in place. The stages depended on formational permeability (such as the Mannville Formation, which is a major regional aquifer and needs to be isolated) and formational composition (it is necessary to change drilling mud when drilling through salts to not dissolve the rock).

Potash core samples from the four 2008 exploration drillholes and the Scissors Creek shaft pilot hole were assayed. The assay results for these drillholes are listed in Table D. Note that 2008 assay results are for the best 2.59 m (8.5 feet) mining interval, since an operational decision was made to develop parts of the western portion of Rocanville Lease KL 305 at a height of 2.59 m (8.5 feet). This mining height allows for more headroom with minimal negative impact on ore grade. Mining machines at Rocanville use potassium sensing technology to ensure that rooms are always cut in the best available potash ore. It is difficult to determine at which mining height certain Mineral Resources and Reserves will be cut in the future, so the more conservative mining height of 2.51 m (8.25 feet) was applied to mineral resource and reserve calculations.

Drillhole assay data for the Rocanville mining interval gives an estimated mean grade of 22.4% K_2O, with 1.2% water insolubles, and 3.6% carnallite (Table D).

Due to the remarkably consistent mineralogy and continuity of the potash, as experienced through 47 years of mine production, very little potash exploration drilling has been done at Rocanville since start-up. Instead of exploration drillholes, seismic surveying has been relied upon to explore ahead of mine development. Where normal Prairie Evaporite sequences are mapped in the seismic data, potash beds have unfailingly been present. Localized, relatively small mine anomalies, not mapped in seismic data do occur. When they do, they are dealt with in the normal course of mining and extraction through these anomalous areas is typically minimized. Anomalies associated with possible water inflow problems, which are mapped in the seismic data, are avoided.

Table D: Assay results for all potash test holes within Rocanville Lease KL 305.

Weighted Average for 2.44 m (8′) Mining Interval				
Drillhol	**Year Drilled**	%	% Water	**% Carnallite**
01-04-17-30 W1	1957	23.84	1.15	4.34
16-14-017-01W2	1957	Excluded	N/	N/
04-20-17-32 W1	1958	22.74	0.95	1.77
08-32-17-30 W1	1959	20.74	1.06	5.18
10-12-17-30 W1	1959	16.35	1.06	7.62
13-16-18-30 W1	1959	20.32	0.75	0.74
05-07-18-30 W1	1961	19.95	1.07	4.92
16-04-18-30 W1	1961	21.89	1.26	5.71
02-11-18-30 W1	1961	24.87	0.97	0.2
01-16-17-30 W1	1964	27.05	1.31	4.29
04-20-17-30 W1	1964	23.86	1.22	0.19
16-22-17-30 W1	1964	29.06	1.38	0.11
14-36-17-30 W1	1964	17.06	0.93	6.8
14-36-17-30 W1*	1964	26.26	1.42	4.76
03-28-17-30 W1	1966	26.32	1.26	6.48
13-14-17-30 W1	1966	23.73	1.4	7.02
04-24-17-30 W1	1966	17.88	0.81	0.19
10-34-17-30 W1	1966	24.85	1.48	0.18
11-25-17-30 W1	1966	19.6	1.15	2.13
11-14-18-30 W1	1966	26.53	1.09	0.22
13-22-17-30 W1	1967	35.1	1.3	5.4
01-14-17-33 W1	1967	25.62	2.72	2.52
13-22-17-33 W1	1967	21.75	2.61	7.24
16-26-17-33 W1	1967	24.01	0.92	0.16
14-05-17-30 W1	1969	15.56	0.96	10.27
01-14-17-30 W1	1971	15.67	1.15	N/
04-01-019-31W1	1989	22.48	0.64	0.00
06-13-17-32 W1**	2008	23.6	0.41	0.25
08-02-18-32 W1**	2008	20.7	1.06	0.76
13-09-16-33 W1**	2008	23.44	1.42	8.32
04-34-16-33 W1**	2008	15.7	0.67	8.84
09-11-18-33 W1**	2008	18.03	0.36	0.25
Average of 31 useable values:		**22.41**	**1.16**	**3.56**

*Refers to a deflection, or whipstock, off original drillhole

**Refers to drillhole from the 2008 exploration program, where the best 2.59 m (8.5′) mining interval is reported

vi) Sampling, Analysis and Data Verification

Analysis of Exploration Data

Exploration in the Rocanville area was conducted in two very different time periods: the 1960s, then in 2008. Sampling and assaying of potash cores samples was done using methods considered consistent with standard procedures for potash exploration at these times.

Drillhole sampling methods have remained essentially the same over the years. Short segments of core usually about 0.3 m (1 foot) in length are labeled based on visible changes in mineralization, and sometimes based on more or less fixed intervals. Each segment of core is then split in half using some type of rock or masonry saw. The split portion of core is then bagged and labeled and sent to a laboratory for chemical analysis. Samples from historical drillholes were sometimes quartered; most historical samples have deteriorated substantially. Exploration drillhole samples from 2008 were halved. Potash samples remain stored at the Subsurface Geological Laboratory of the Saskatchewan Ministry of the Economy (Regina, Saskatchewan).

For the exploration holes drilled in 2008, samples were chemically analysed at the Nutrien Pilot Plant (under the supervision of PotashCorp's Chief Chemist at the time, D. Matthews, MCIC) using the most accurate methods available for the required elements:

- Potassium (K) content was analysed by titration using the STPB (sodium tetraphenylboron) method.
- Sodium (Na) was analysed by Atomic Absorption.
- Calcium (Ca) and Magnesium (Mg) were analysed by EDTA (ethylenediaminetetracetate) titration.
- Water Insoluble (WI) was analysed gravimetrically.

All wet chemical methods are based upon either American Society of Testing Materials (ASTM) or Association of Official Analytical Chemists (AOAC) methods of analysis. The same samples were also analysed for process (milling) related properties, namely flotation performance, liberation characteristics, and mineralogical content.

Mineralogical (x-ray diffraction) testing was conducted by the Saskatchewan Research Council Mining and Minerals Division, in Saskatoon, Saskatchewan. The Saskatchewan Research Council geoanalytical laboratories are Standards Council of Canada Accredited, with the laboratory management system operated in accordance with ISO/IEC 17025:2005 (Can-P-4E), General Requirements of the Competence of Mineral Testing and Calibration Laboratories.

Detailed sample preparation was as follows:

1. Place core samples in large flat metal pan. Break with hammer into approximately 2.54 cm (1 inch) pieces.

2. Clean out jaw crusher, and place a clean 18.93 L (5 gallon) pail under crusher. Start up crusher, check 0 setting, and then set gap to 10 mm. (Note: jaw crusher should be running when adjusting gap).

3. Put approximately half of the broken core through the jaw crusher. Shake pan under the jaw crusher occasionally to spread out material. Remove crushed material and place on a full height 5 mesh screen with a full height pan underneath. Shake and tap screen by hand. Place +5 mesh in pan to be re-crushed. Place -5 mesh in a separate pan for crushed material.

4. Repeat step #3 with the other half of the original broken sample.

5. Re-crush the +5 mesh from step #3 & #4 with 10 mm opening on jaw crusher. Screen out +5 and -5.

6. Adjust jaw crusher to 5 mm opening and crush +5. Screen out +5 and -5. Repeat crushing +5 mesh at 5 mm opening.

7. Adjust crusher to 2.5 mm opening and crush +5 mesh. Screen out +5 and -5. Repeat crushing +5 mesh at 2.5 mm opening.

8. Combine all crushed fractions and mix well. Place in a well-labeled bag. Seal tightly.

9. Split out ¼ from each crushed sample and pulverize for chemical analysis. The remaining ¾ of the sample is bagged and sealed for future test work.

After chemical analysis was completed, PotashCorp's technical staff identified the ore zone (2.59 m) section of the cores. A composite sample of the ore zone was prepared for each core location. Flotation, liberation and metallurgical analysis were conducted on the composite samples to confirm milling assumptions for the ore in the western portion of Rocanville Lease KL 305.

Regarding quality assurance for analytical results of in-mine samples, the Company participates in the SPPA Sample Exchange Program to monitor the accuracy of analytical procedures used in its labs. In the early 1970s, the SPPA initiated a round-robin Sample Exchange Program, the purpose of which was to assist the potash laboratories in developing a high level of confidence in analytical results. This program has continued up to the present, and participants include all major Canadian potash mine site labs, the Nutrien Pilot Plant Lab, and an independent surveyor lab. The Sample Exchange Program provides the participants with three unknown potash samples for analysis four times per year. Results for the unknown sample analysis are correlated by an independent agency that distributes statistical analysis and a summary report to all participants. Completed SPPA samples can be used for control standards as required in QA/QC sections of standard analytical procedures.

The Nutrien Pilot Plant is secured in the same way as modern office buildings are secured. Authorized personnel have access and visitors are accompanied by staff. No special security measures are taken beyond that. Currently, no external laboratory certification is held by the Nutrien Pilot Plant. On occasion, product quality check samples are sent to the Saskatchewan Research Council, a fully certified analytical facility.

In the opinion of the authors of the Rocanville Technical Report, the sampling methods are acceptable, are consistent with industry standard practices, and are adequate for mineral resource and reserve estimation purposes.

Mean Potash Mineral-Grade In-Mine Samples

In-mine grade samples are taken at 60 m intervals in every underground mine room at Rocanville. Traditionally, Rocanville in-mine grade samples were collected as chips along a sidewall from back (roof) to floor; this methodology is referred to as channel sampling. In 2015, in-mine grade samples were taken from the floor (i.e. grab sampling) at the same 60 m sampling interval. Nutrien technical staff believe that collecting samples from the floor is as representative of ore grade in the mining interval as channel sampling, and far less labour-intensive. Grab sample results are currently being compared to channel sample results to thoroughly assess the best practice moving forward.

To the end of 2017, 39,245 in-mine ore grade samples were collected. All samples were analysed in the Rocanville mill laboratory using analysis techniques that were up-to-date for the era in which the sample was collected. The mean ore grade for this family of in-mine samples is 23.4% K_2O equivalent, while the median ore grade for this family of in-mine samples is 23.6% K_2O.

Potash Ore-Density From In-Mine Mineral-Grade Measurements

An estimate of in-situ rock density is used to calculate potash mineralization volumes in mineral resource and reserve assessments. A common approach is to determine in-place Mineral resource and reserve volumes (m^3) to a certain degree of confidence, then multiply this number by in-situ bulk-rock density (kg/m^3) to give in-place mineral resource and reserve tonnes. However, establishing an accurate bulk-rock density value is not an easy or trivial task. Well-log data from drillholes can be used for this if accurate and calibrated well-logs are acquired during exploration drilling. In practical terms, modern well-logs tend to meet these criteria, but historic well-logs (collected before the 1990s) do not. In Saskatchewan, almost all potash exploration drilling took place in the 1950s and 1960s, well before density logs were accurate and reliable.

Another approach is to look up density values for the minerals which constitute potash rock – values determined in a laboratory to a high degree of accuracy and published in reliable scientific journals / textbooks – then apply these densities to the bulk-rock in some way. Given that the density of each pure mineral is quantified and known, the only difficult aspect of this approach is determining what proportion of each mineral makes up the bulk-rock at a particular sample location. This is the methodology that was used to determine an estimate of bulk-rock density for the Rocanville ore zone.

The main mineralogical components of the ore zones of Saskatchewan's Prairie Evaporite Formation are:

- Halite – NaCl
- Sylvite – KCl
- Carnallite – $KMgCl_3 \cdot 6(H_2O)$
- Insolubles – dolomite, muscovite, clinochlore, potassium feldspar, illite, quartz, anhydrite, and other minor mineral components

All Nutrien potash facilities measure and record the in-mine % K_2O grade and insoluble content of the mined rock. In addition, the Mg content is also measured at Rocanville, since this is proportional to the carnallite content of the ore. From this set of measurements, the density of the ore can be estimated. The required composition and mineral density information for each mineral component is given below (Webmineral Mineralogy Database):

Halite – NaCl

- Na 9.34%
- CL 60.66%
- Oxide form Na_2O 53.03%
- Mineral density 2160 kg/m^3

Sylvite – KCl

- Na 52.45%
- CL 47.55%
- Oxide form Na_2O 63.18%
- Mineral density 1990 kg/m^3

Carnallite – $KMgCl_3 \cdot 6H_2O$

- K 14.07%
- Mg 8.75%
- H 4.35%
- Cl 38.28%
- O 34.55%
- Oxide form K_2O 16.95%
- Oxide form MgO 14.51%
- Oxide form H_2O 38.90%
- Mineral density 1600 kg/m^3

Insolubles (Lanigan B Zone)

- Component minerals: dolomite, muscovite, clinochlore, potassium feldspar, illite, quartz, anhydrite, and other minor mineral components
- Average density 2790 kg/m^3 (Nutrien Pilot Plant, 2018)

The value for insoluble density is based on known densities of the constituent parts of the insoluble components of the mineralization and the average occurrence of these insoluble components, which is known from the nearly 50 years of mining experience at Rocanville. Assuming the lowest plausible density of insolubles known for Saskatchewan potash deposits of this nature, the effect upon overall bulk-rock ore density and mineral resource and reserve calculations would be negligible.

The mineral composition of potash ore at Rocanville is halite, sylvite, carnallite, and insolubles. To compute bulk-rock density, the carnallite content must be estimated from the Mg measurements. This is followed by removing the effect of the carnallite from the % K_2O measurements, leaving % K_2O values that are only due to sylvite; the sylvite percentage is estimated from this adjusted % K_2O. From 39,245 Rocanville in-mine grade samples, raw ore composition is:

% Sylvite = 35.4 (converted from % K_2O)
% Insolubles = 1.0
% Carnallite = 6.1

The percent of halite is assumed to be:

% Halite = (100 - % Sylvite - % Insol. - % Carnallite)
= (100 - 35.4 - 1.0 – 6.1)
= 57.5

Applying this methodology, and using these mean grade data gives a mean bulk-rock density for Lanigan B Zone potash of:

RHO$_{\textbf{bulk-rock}}$ = (Halite density * % Halite) +
(Sylvite density * % Sylvite) +
(Carnallite density * % Carnallite) +
(Insol. density * % Insol.)
= (2170 * % Halite) +
(1990 * % Sylvite) +
(1600 * % Carnallite) +
(2790 * % Insol.)

$= \quad 2080$

$RHO_{bulk\text{-}rock}$ (Rocanville) = 2080 kg / m^3

This method is as accurate as the ore grade measurements and mineral density estimates are.

Assay Data Verification

Original drillhole ore grade assays were studied by independent consultant David S. Robertson and Associates (1977). The original assay results for core samples from historical drillholes were taken as accurate in these studies, as there is no way to reliably reanalyse these samples. Most of the remaining core samples in storage have long since deteriorated to the point where they are no longer usable.

Assay data for the 2008 core samples were supervised and verified by the Company's former Chief Geologist, T. Danyluk (P. Geo.).

Ore grades of in-mine samples are measured in-house at the Rocanville mine laboratory by Company staff using modern, standard chemical analysis tools and procedures. These results are not verified by an independent agency; however, check sampling through the SPPA program does occur.

It should be noted that assay results from historical drillholes match mine sample results closely – within approximately 1.0% – even though sample spacing is obviously much greater in the case of drillholes. This fact is a validation of the methodology. Based on 47 years of in-mine experience at Rocanville, historical assay results are considered accurate and provide an excellent basis for estimating potash grade in areas of future mining at Rocanville. The mean mineral grade of 23.4% K_2O equivalent determined from 39,245 in-mine grade samples is thought to provide the most accurate measurement of potash grade for the Rocanville mine.

Exploration Data Verification

The purpose of any mineral exploration program is to determine extent, continuity, and grade of mineralization to a certain level of confidence and accuracy. For potash exploration, it is important to minimize the amount of cross-formational drilling, since each drillhole is a potential conduit for subsurface groundwater from overlying (or underlying) water-bearing formations into future mine workings. Every potash test drillhole from surface sterilizes potash mineralization; a safety pillar is required around every surface drillhole once underground mining commences. This is the main reason that minimal exploration drilling has been carried out at Rocanville in recent years.

Initial sampling and assaying of cores was done during potash exploration at Rocanville in the 1960s. Methods were consistent with standard procedures for that era. The mine began production in 1970 and no further core drilling was carried out by PotashCorp at Rocanville until 2008 when the decision was made to expand the mine westward.

Assay of physical samples (drillhole cores and/or in-mine samples) is the only way to gain information about mineral grade, but extent and continuity of mineralization are correctly determined using data collected from geophysical surveys correlated with historic drilling information. To date, surface seismic data at Rocanville have been collected, analysed, and verified by PotashCorp staff, at times, in cooperation with an independent consultant. Ultimate responsibility for final analyses including depth conversion (seismic depth migration), as well as the accuracy of these data, rests with Nutrien qualified persons.

Data for the mineral reserve and mineral resource estimates for Rocanville mine were verified by PotashCorp staff as follows:

- Annual review of potash assay sample information (drillholes and in-mine grade samples);
- Annual review of surface geophysical exploration results (3D and 2D seismic data);
- Annual crosscheck of mined tonnages reported by mine site technical staff with tonnages estimated from mine survey information; and
- Annual crosscheck of mineral resource and reserve calculations carried out by corporate technical staff.

This approach to data verification of potash mineral grade and surface seismic information is in accordance with generally accepted industry practice for areas adjacent and contiguous to an existing operating potash mine.

vii) Mineral Processing and Metallurgical Testing

At Rocanville, potash ore has been mined and concentrated using flotation and crystallization methods to produce saleable quantities of high-grade finished potash products since 1970. Products include granular and standard grade potash used for agriculture applications.

Over the 47-year mine life, 231.458 million tonnes of potash ore have been mined and hoisted to produce 75.744 million tonnes of finished potash product (from startup in 1970 to December 31, 2017). Given this level of sustained production over 47 years, basic mineralogical processing and prospective metallurgical testing of Rocanville potash is not relevant.

viii) Mineral Resource and Mineral Reserve Estimates

Definitions of Mineral Resource

See "5.3 – Mineral Projects – a) Allan Potash Operations – viii) Mineral Resource and Mineral Reserve Estimates – Definitions of Mineral Resource" for an overview of CIM's mineral resource categories and the Company's general characterization of mineral resources categories for its potash mines.

The Rocanville mine began production in 1970 and, with the exception of five holes drilled during the 2008 exploration program, no further core drilling has been carried out by the Company since then. Instead, exploration involved collecting surface seismic data, which became better in quality over the years. Exploration drilling has demonstrated the presence of the potash horizon, and seismic coverage shows the continuity of the Prairie Evaporite Formation within which the potash horizon occurs.

Along with this approach, analysis of in-mine samples for potash grade has provided an observation-based understanding of the potash mineralized zone at Rocanville that is far superior to the level of understanding provided by any surface drilling based exploration program. The authors believe that this approach provides a body of information that guides and constrains exploration inferences in a much better way than could be achieved from any conventional exploration investigation in areas immediately surrounding, and contiguous to, the Rocanville potash mine.

Mineral Resource Estimate

Exploration information used to calculate reported mineral resource tonnages at Rocanville consist of both physical sampling (drillhole and in-mine) and surface seismic (2D and 3D) as discussed in earlier sections. All mineral rights leased or owned by the Company, and within Crown Subsurface Mineral Lease KL 305, are assigned to one of the three mineral resource categories.

Mineral resources are reported as mineralization in-place and are exclusive of mineral reserves. In-place tonnes were calculated for each of the mineral resource categories using the following parameters.

Mining Height:	2.51	metres (8.25 feet)
Ore Density:	2.080	tonnes/m^3

The mineral resources for Rocanville, as of December 31, 2017 are as follows:

Inferred Resource	1,376	million tonnes
Indicated Resource	1,373	million tonnes
Measured Resource	1,740	million tonnes
Total Resource =	4,489	million tonnes

The average mineral grade of the Rocanville Mineral Resource is 23.4% K_2O equivalent, and was determined from 39,245 in-mine samples at Rocanville.

The tonnage reported in the Rocanville measured resource is comprised of the potash that is within 1.6 km (1 mile) of physically sampled location (i.e. drillhole or mine working). Also included as measured resource is the potash that is left behind as pillars in mined-out areas of the Rocanville mine. In a potash mine, it is common practice to consider mining remnant pillar mineralization using solution methods after conventional mining is complete, or after a mine is lost to flooding. The Patience Lake mine was successfully converted from a conventional mine to a solution mine after being lost to flooding in 1989. Since conversion to a solution mine is not anticipated in the near future at Rocanville, in-place pillar mineralization remains as a mineral resource rather than a mineral reserve at this time.

Definitions of Mineral Reserve

See "5.3 – Mineral Projects – a) Allan Potash Operations – viii) Mineral Resource and Mineral Reserve Estimates – Definitions of Mineral Reserve" for an overview of CIM's mineral reserve categories and the Company's general characterization of mineral reserve categories for its potash mines.

Along with this approach, analysis of in-mine samples for potash grade has provided an observation-based understanding of the potash mineralized zone at Rocanville that is far superior to the level of understanding provided by any surface drilling based exploration program. An understanding of the amount of ore that can be conventionally mined from the measured resource category using current mining practices comes from nearly 50 years of potash mining experience at Rocanville.

Mineral Reserve Estimate

Using the definitions outlined above, part of the Rocanville measured resource has been converted to mineral reserve. The assigned mineral reserve category is dependent on proximity to sampled mined entries also described above.

The overall extraction rate at the Rocanville mine is 31%. It was derived by dividing the total tonnes mined to date by the tonnage equivalent of the total area of the mine workings (i.e. the perimeter around the mine workings) less future mining blocks. Since an extraction rate has been applied, mineral reserves are considered recoverable ore, and are reported as such.

Note that only drillholes whose 1.6 km radii are contiguous to mine workings or the 1.6 km radius placed around mine workings are used to compute probable mineral reserve. The remaining non-contiguous drillholes remain in the measured resource category.

The mineral reserves for Rocanville as of December 31, 2017 are as follows:

Probable Reserve	346	million tonnes
Proven Reserve	204	million tonnes
Total Reserve (Proven + Probable) =	550	million tonnes

The average mineral grade of the Rocanville mineral reserve is 23.4% K_2O equivalent, and was determined from 39,245 in-mine samples at Rocanville.

ix) Mining Operations

All conventional potash mines in Saskatchewan operate at 900 m to 1200 m below surface within 9 m to 30 m of the top of the Prairie Evaporite Formation. Over the scale of any typical Saskatchewan potash mine, potash beds are tabular and regionally flat-lying, with only moderate local variations in dip. At Rocanville, potash ore is mined using conventional mining methods, whereby:

- Shafts are sunk to the potash ore body;
- Continuous mining machines cut out the ore, which is hoisted to surface through the shafts;
- Raw-potash is processed and concentrated in a mill on surface; and
- Concentrated finished potash products.

Sinking of the two original shafts (Shaft #1 and Shaft #2) from surface to the potash zone was completed in early 1970, and the first potash ore was hoisted by the fall of that year. The Rocanville mine has run on a continuous basis since the first ore was hoisted in 1970, other than short-term shutdowns taken for inventory management purposes or occasional plant maintenance and construction work.

In recent years the Rocanville mine has undergone a major expansion which brought the nameplate capacity of the Rocanville facility to 6.5 million tonnes of finished potash products per year. This work involved sinking a third shaft, enhancement of hoists, major expansions of both mine and mill, major improvements to loadout facilities, and other infrastructure improvements. The recent Rocanville expansion, which was announced in 2007, was substantially complete in 2016, and production was ramped up through 2017. The current operational capability of the Rocanville facility is 5.4 million tonnes per year.

Virtually all Rocanville underground mining rooms are in one potash mineralized zone, within the Esterhazy Member the Prairie Evaporite Formation (the host evaporite salt). In contrast, Nutrien potash mines further west in Saskatchewan mine in a different potash layer, the Patience Lake Member of the Prairie Evaporite. Rocanville mine elevations range from approximately 895 m to 1040 m, averaging approximately 955 m. Within the Rocanville Lease, depths to the top of the ore zone can reach up 1250 m (the deepest potash exploration drillhole), but are expected to be shallower than 1200 m over most of the lease area. Mine workings are protected from aquifers in overlying formations by approximately 30 m of overlying salt and potash beds, along with salt plugged porosity in the Lower

Dawson Bay Formation, a carbonate layer lying immediately above potash hosting salt beds.

The Rocanville mine is a conventional underground mining operation whereby continuous mining machines are used to excavate the potash ore by the long-room and pillar mining method. Continuous conveyor belts transport ore from the mining face to the bottom of the production shaft.

The highest mineral grade section of the Rocanville potash seam is approximately 2.3 m (7.5 feet) thick, with gradations to lower grade sylvinite salts immediately above and below the mining horizon. The actual mining thickness at Rocanville is dictated by the height of continuous boring machines used to cut the ore, which are designed to cut slightly thicker than the high-grade mineralized zone. Historically, Rocanville borers cut at a thickness of 2.44 m (8 feet). These five older machines were recently adjusted to cut a thicker 2.51 m (8.25 feet) mining height. Six newly-acquired boring machines cut a slightly thicker 2.59 m (8.5 feet) mining height. This mining height allows for more headroom with minimal negative impact on ore grade. Mining machines at Rocanville use potassium sensing technology to ensure that rooms are always cut in the best available potash ore. It is difficult to determine at which mining height certain mineral resources and reserves will be cut in the future, so the more conservative mining height of 2.51 m (8.25 feet) was applied to mineral resource and reserve calculations.

Conservative local extraction rates (never exceeding 45% in any mining block) are employed at all Saskatchewan mines, including Rocanville, in order to minimize potential detrimental effects of mining on overlying strata; this is common practice in flat-lying, tabular ore bodies overlain by water-bearing layers.

From the shaft-bottom, potash ore is hoisted approximately 960 m from the potash level through the vertical shafts to a surface mill. Both production shafts also provide exhaust ventilation from underground workings; the third shaft from surface at Scissors Creek is used for service access, fresh air ventilation and second egress.

Over the 47-year mine life, 231.458 million tonnes of potash ore have been mined and hoisted at Rocanville to produce 75.744 million tonnes of finished potash products (from startup in 1970 to December 31, 2017). The life-of-mine average concentration ratio (raw ore/finished potash products) is 3.06 and the overall extraction rate over this time period is 31%.

x) Processing and Recovery Operations

At Rocanville, potash ore has been mined and concentrated to produce saleable quantities of high-grade finished potash products since 1970. Products include granular and standard grade potash used for agriculture applications.

Both flotation methods and crystallization methods are used to concentrate potash ore into finished potash products at the Rocanville mill. Raw potash ore is processed on surface, and concentrated finished potash products (near-pure KCl) are sold and shipped to markets in North America and offshore.

Over the past three years, production of finished potash products at Rocanville was:

- 2015: 2.483 million tonnes finished potash products at 60.54% K_2O (average grade)
- 2016: 2.720 million tonnes finished potash products at 60.60% K_2O (average grade)
- 2017: 4.587 million tonnes finished potash products at 60.62% K_2O (average grade)

Over the past decade actual mill recovery rates have been between 81.5% and 86.0%, averaging 83.8%. Given the long-term experience with potash geology and actual mill recovery at Rocanville, no fundamental potash milling problems are anticipated in the foreseeable future.

Quality control testing and monitoring geared towards fine-tuning and optimizing potash milling and concentrating processes are conducted on a continual basis at all Nutrien mine sites and at Nutrien research facilities. At Rocanville, this is no exception; test work to optimize circuit performance and ensure product quality is carried out on an ongoing basis.

xi) Infrastructure, Permitting and Compliance Activities

Project Infrastructure

Infrastructure is in place to meet current and projected requirements for transportation, energy (electricity and natural gas), water and process materials at Rocanville.

The Rocanville mine is served by a number of towns and villages within 50 kilometres of the mine site. The nearest towns are Rocanville (15 km distant), Moosomin and Esterhazy (both 50 km distant). The nearest city is Yorkton (100 km distant).

The Rocanville mine surface facilities are accessed by an existing paved road that is part of the Saskatchewan Provincial Highway System. Most finished potash products are shipped by rail over existing track, with some product shipped by truck over the North American highway system.

At present, high voltage power utilization at the Rocanville Potash is 84 MVA (i.e., 72 MVA to the Rocanville Plant site plus 12 MVA to the Scissors Creek site). The ten year projection of power utilization indicates that the utility can meet foreseeable future demand.

The Rocanville operation requires a sustained fresh water supply for the milling process which is sourced from two subsurface reservoirs called the Welby Plains Surficial Aquifer and the Welby Plains Middle Aquifer. These aquifers provide a sustainable source of process water for Rocanville milling operations, without having any perceptible impact on other users of water drawn from these aquifers.

Environmental Studies, Permitting and Compliance Activities

The tailings management strategy at all Nutrien potash mines in Saskatchewan, including Rocanville, is one of sequestering solid mine tailings in an engineered and provincially licensed TMA near the surface plant site. The Rocanville TMA currently covers an area of approximately 567 hectares (1400 acres) of land owned by the Company. Solid potash mine tailings typically consist of 85% to 95% rock salt (NaCl) and 5% to 15% insolubles (carbonate mud = $CaCO_3$, anhydrite mud = $CaSO_4$, and clays like chlorite, illite, and so on). An engineered slurry-wall has been constructed around the entire Rocanville TMA. The slurry-wall provides secondary containment for any saline mine waters, minimizing brine impacts from the TMA to surrounding surface water bodies and near-surface aquifers. Areas surrounding the TMA are closely monitored: this includes everything from daily visual perimeter inspections to annual investigations and inspections of surrounding subsurface aquifers.

Rocanville currently operates five brine disposal wells near the surface plant of the Rocanville mine where clear salt brine (i.e. no silt, clay slimes, or other waste) is borehole-injected into the Interlake Carbonates, at a depth of approximately 1200 m to 1400 m below surface. The groundwater in these extensive deep aquifers is naturally saline.

Emissions to air (mostly salt dust and potash dust) are kept below regulatory limits through various modern air pollution abatement systems (e.g. dust collection systems built into mill processes) that are provincially licensed. This same procedure is followed at all Nutrien mines in Saskatchewan.

The Rocanville operation requires a sustained fresh water supply for the milling process which is sourced from two subsurface reservoirs called the Welby Plains Surficial Aquifer and the Welby Plains Middle Aquifer. This water supply is provincially licensed and provides a sustainable source of process water for Rocanville milling operations, without having any perceptible impact on other users of water drawn from these aquifers.

In Saskatchewan, all potash tailings management activities are carried out under an "Approval to Operate" granted by the Saskatchewan Ministry of Environment (MOE), the provincial regulator. The Rocanville mine is in compliance with all regulations stipulated by the Environmental Protection Branch of Saskatchewan MOE. The current Rocanville Approval to Operate has been granted to June 30, 2018, the renewal date.

In terms of long-term decommissioning, environmental regulations in the Province of Saskatchewan require that all operating potash mines in Saskatchewan create a long-term decommissioning and reclamation plan that will ensure all surface facilities are removed, and the site is left in a chemically and physically stable condition once mine operations are complete. PotashCorp has conducted numerous studies of this topic, and the most recent decommissioning and reclamation plan for Rocanville was approved by MOE technical staff in October 2016. Because the current expected mine life for Rocanville is many decades into the future, it is not meaningful to come up with detailed engineering designs for decommissioning at present. Instead, decommissioning plans are reviewed every five years, and updated to accommodate new ideas, technological change, incorporation of new data, and adjustments of production forecasts and cost estimates. Any updated decommissioning and reclamation reports generated by this process are submitted to provincial regulatory agencies. For Rocanville, a revised decommissioning and reclamation plan is required in July 2021.

In addition to the long-term decommissioning plan, provincial regulations require that every potash producing company in Saskatchewan set up an Environmental Financial Assurance Fund, which is to be held in trust for the decommissioning, restoration, and rehabilitation of the plant site after mining is complete. This fund is for all mines operated by Nutrien in the province of Saskatchewan (i.e. Vanscoy, Cory, Patience Lake, Allan, Lanigan and Rocanville).

xii) Capital and Operating Costs

The Rocanville mine has been in operation since 1970; in the years immediately preceding this, major capital investment was made to bring this mine into production. Since then, capital expenditures were made on a regular and ongoing basis to sustain production, and to expand production from time to time.

A major refurbishment and expansion of the Rocanville mine was completed in 2013, increasing nameplate capacity to 6.5 million tonnes of finished potash products per year. This work involved construction of a third shaft, enhancement of hoists and shaft conveyances, major expansions of both mine and mill, improvements to loadout facilities, and some infrastructure improvements. All construction was carried out without significant disruption to existing potash production from the site.

xiii) Exploration, Development and Production

A major expansion to increase the nameplate capacity of Rocanville from 3.0 million tonnes to approximately 6.0 million tonnes of finished potash products per year was announced in 2007. Expansion work was substantially completed by the end of 2016, and production was ramped up through 2017 when a nameplate capacity of 6.5 million tonnes of finished potash product was announced. At present, the operational capability at Rocanville is 5.4 million tonnes of finished potash product.

Potash production in any given year at the Rocanville mine is a function of many variables, so actual production in any given year can vary dramatically from tonnages produced in previous years. The mineral reserve tonnage and historic average production are used to estimate remaining mine life. If the average mining rate seen over the past three years (10.526 million tonnes of potash ore mined and hoisted per year) is sustained, and if mineral reserves remain unchanged, then the Rocanville mine life is 52 years from December 31, 2017.

ITEM 6 – DIVIDENDS

As a wholly-owned subsidiary of Nutrien, PotashCorp does not currently have any dividend or distribution policy.

In 2017, the Company declared a cash dividend of $0.10 per common share in the first, second, third and fourth quarters, for a total of $0.40 for the year.

In 2016, the Company declared a cash dividend of $0.25 per common share in the first and second quarters, and $0.10 per common share in the third and fourth quarters, for a total of $0.70 for the year.

In 2015, the Company declared a cash dividend of $0.38 per common share, in each of the first, second, third and fourth quarters, for a total of $1.52 for the year.

ITEM 7 – DESCRIPTION OF CAPITAL STRUCTURE

7.1 GENERAL DESCRIPTION OF CAPITAL STRUCTURE

Authorized Capital

The authorized share capital of PotashCorp consists of: (a) an unlimited number of common shares, and (b) an unlimited number of first preferred shares.

Common Shares

As at the date hereof, 840,223,041 common shares of PotashCorp were issued and outstanding, all of which are owned by Nutrien.

PotashCorp common shares have the following rights, restrictions and privileges: (a) the right to vote at all meetings of PotashCorp shareholders (except meetings at which only holders of another specified class of shares are entitled to vote pursuant to the provisions of PotashCorp's articles or pursuant to the provisions of the CBCA); (b) after payment of dividends to the holders of preferred shares (if any), the right receive dividends, as and when declared by the PotashCorp Board; and (c) upon the liquidation, dissolution or winding up of PotashCorp, whether voluntary or involuntary, the right to share pro rata in any distribution of the property or assets of PotashCorp and subject to the rights of holders of any outstanding first preferred shares of PotashCorp (if any).

First Preferred Shares

The PotashCorp Board has the authority to issue the first preferred shares of PotashCorp, issuable in series; with designations, rights, privileges, restrictions and conditions, as the PotashCorp Board may determine. As at the date hereof, no first preferred shares of PotashCorp were issued and outstanding.

7.2 CONSTRAINTS

There are no constraints imposed on the ownership of PotashCorp's securities to ensure that the Company has a required level of Canadian ownership.

7.3 DEBT RATINGS

Our ability to access reasonably priced debt in the capital markets is dependent, in part, on the quality of our credit ratings. We continue to maintain investment-grade credit ratings for our long-term debt. A downgrade of the credit rating of our long-term debt would increase the interest rates applicable to borrowings under our credit facility and our line of credit.

Commercial paper markets are normally a source of same-day cash for the company. Our access to the US commercial paper market primarily depends on maintaining our current short-term credit ratings as well as general conditions in the money markets.

A security rating is not a recommendation to buy, sell or hold securities. Such ratings may be subject to revision or withdrawal at any time by the respective credit rating agency and each rating should be evaluated independently of any other rating.

The following table sets out ratings the Company has received in respect of its outstanding debt securities from the ratings agencies as at the date of this AIF.

	Standard & Poor's Ratings Services	**Moody's Investors Service**
Senior Unsecured Notes and Debentures	BBB+	Baa2
US$ Commercial Paper	A-2	P-2
Ratings Outlook	Credit Watch Negative	Stable

Standard & Poor's Ratings Services (S&P)

The BBB+ rating assigned by S&P is the fourth highest rating of S&P's ten rating categories for long-term debt which range from AAA to D. Issues of debt securities rated BBB are judged by S&P to exhibit adequate protection parameters. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitment on the obligation. The ratings from AA to CCC may be modified by the addition of a plus (+) or minus (-) sign to show relative standing within the major rating categories. The A-2 rating assigned by S&P is the second highest rating of S&P's rating categories for short-term debt which range from A-1 to D. Short-term debt rated A-2 is judged by S&P to exhibit adequate protection parameters. A rating of A-2 by S&P means the obligor has satisfactory capacity to meet its financial commitments. However, it is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligors in the highest rating category.

On January 3, 2018, S&P placed its BBB+ long-term corporate credit rating on PotashCorp on CreditWatch with negative implications. S&P also placed its BBB+ senior unsecured debt and A-1 (Low) Canada scale commercial paper ("CP") ratings on CreditWatch with negative implications. At the same time, S&P Global Ratings affirmed its A-2 global scale short-term and A-2 global scale CP ratings on PotashCorp.

Moody's Investors Service (Moody's)

The Baa2 rating assigned by Moody's is the fifth highest rating of Moody's nine rating categories for long-term debt, which range from Aaa to C. Moody's appends numerical modifiers from one to three on its long-term debt ratings from Aa to Caa to indicate where the obligation ranks within a particular ranking category, with the 2 modifier indicating a mid-range ranking. Obligations rated Baa are defined by Moody's as being subject to moderate credit risk. They are considered medium-grade and as such may possess certain speculative characteristics. The P-2 rating assigned by Moody's is the second highest rating of Moody's four rating categories for short-term debt, which range from P-1 to NP. Issuers rated P-2 are defined by Moody's as having a strong ability to honor short-term debt obligations.

ITEM 8 – MARKET FOR SECURITIES

8.1 TRADING PRICE AND VOLUME

During calendar year 2017 the Company's common shares traded on the TSX and the NYSE under the symbol "POT". Following the completion of the Merger on January 1, 2018, the Company's common shares were suspended from trading and delisted from the TSX and NYSE.

The following table sets out the high, low and closing prices and trading volume of the common shares on the TSX for 2017 on a monthly basis:

Month (2017)	High Price (CDN $)	Low Price (CDN $)	Closing Price (CDN $)	Volume
January	$26.62	$23.86	$24.21	42,261,320
February	$25.42	$22.95	$23.04	45,171,560
March	$24.39	$22.53	$22.72	52,624,300
April	$23.40	$21.75	$23.02	32,594,530
May	$23.23	$21.43	$22.31	34,404,030
June	$23.37	$20.91	$21.15	36,800,710
July	$22.73	$20.68	$22.30	29,824,040
August	$22.94	$21.28	$21.73	25,610,420
September	$24.69	$21.20	$24.02	40,157,740
October	$25.19	$23.60	$25.11	22,841,900
November	$25.43	$23.63	$25.32	24,360,230
December	$26.41	$23.83	$25.78	52,059,810

The following table sets out the high, low and closing prices and trading volume of the common shares on the NYSE for 2017 on a monthly basis:

Month (2017)	High Price (US$)	Low Price (US$)	Closing Price (US$)	Volume
January	$20.27	$18.05	$18.60	132,592,930
February	$19.42	$17.40	$17.43	102,539,960
March	$18.07	$16.85	$17.08	119,359,980
April	$17.22	$16.10	$16.88	90,887,980
May	$17.00	$15.74	$16.52	130,738,950
June	$17.39	$16.13	$16.30	108,475,620
July	$18.15	$16.04	$17.90	110,422,900
August	$18.13	$17.02	$17.39	87,265,820
September	$19.79	$17.17	$19.24	95,319,000
October	$19.78	$18.84	$19.47	70,651,100
November	$19.75	$18.48	$19.65	70,381,610
December	$21.04	$18.54	$20.65	95,760,270

8.2 PRIOR SALES

During the twelve months ending December 31, 2017, PotashCorp issued PotashCorp Shares pursuant to the exercise of outstanding PotashCorp Options and pursuant to PotashCorp's dividend reinvestment plan. In addition, during the twelve months ending December 31, 2017, PotashCorp issued stock options and share-settled performance share units awarded under the PotashCorp 2016 Long Term Incentive Plan. See Notes 22 and 23 to PotashCorp's audited consolidated annual financial statements for the year ended December 31, 2017 incorporated by reference herein.

The following table sets forth information in respect of issuances of PotashCorp Shares and securities that are convertible or exchangeable into PotashCorp Shares subsequent to December 31, 2016 and prior to January 1, 2018, including the price at which such securities have been issued, the number of securities issued, and the date on which such securities were issued.

Date	Type of Security	Number	Price
Jan 24, 2017	Stock Options	9,900	CDN$23.16
Jan 27, 2017	Stock Options	9,900	CDN$23.16
Feb 2, 2017	Dividend reinvestment plan	101,623	CDN$24.51
Feb 2, 2017	Dividend reinvestment plan	453	US$18.73
Feb 20, 2017	Performance Share Units	60,696	Not applicable
Feb 20, 2017	Performance Share Units	24,532	Not applicable
Feb 22, 2017	Stock Options	2,300	CDN$23.16
Feb 23, 2017	Performance Share Units	7,572	Not applicable
Feb 24, 2017	Performance Share Units	8,145	Not applicable
Feb 27, 2017	Performance Share Units	10,605	Not applicable
Mar 1, 2017	Performance Share Units	2,595	Not applicable
Mar 1, 2017	Performance Share Units	2,601	Not applicable
Mar 2, 2017	Performance Share Units	2,792	Not applicable
May 2, 2017	Dividend reinvestment plan	447	US$16.80
May 2, 2017	Dividend reinvestment plan	78,772	CDN$22.86
August 1, 2017	Dividend reinvestment plan	77,013	CDN$22.25
August 1, 2017	Dividend reinvestment plan	411	US$17.81
November 1, 2017	Dividend reinvestment plan	423	US$19.38
November 1, 2017	Dividend reinvestment plan	58,938	CDN$24.88

ITEM 9 – ESCROWED SECURITIES AND SECURITIES SUBJECT TO CONTRACTUAL RESTRICTION ON TRANSFER

To the knowledge of the Company, none of the securities of the Company are subject to escrow or contractual restriction on transfer.

ITEM 10 – DIRECTORS AND OFFICERS

10.1 NAME, OCCUPATION AND SECURITY HOLDING

Information is given below with respect to each of the current directors and officers, including all current positions held with the Company, present principal occupation and principal occupations during the last five years. Effective on closing of the Merger, the PotashCorp Board was reconstituted to mirror the board of directors of Nutrien. The Company's Corporate Governance & Nominating Committee, Human Resources and Compensation Committee and the Safety, Health & Environment Committee were also disbanded and dispensed in connection with the completion of the Merger.

The current directors will hold such office until their successors have been duly elected or appointed or until such directors otherwise retire, resign or are replaced, subject to the provisions of PotashCorp's articles, PotashCorp's by-laws and the CBCA.

Directors (Name and Municipality of Residence)	**Director Since**	**Present principal occupation or employment**	**Prior principal occupation or employment within the preceding five years**
Jochen E. Tilk Saskatoon, Saskatchewan, Canada	2014	Executive Chair of Nutrien	President and Chief Executive Officer of PotashCorp, President and Chief Executive Officer of Inmet Mining Corporation, a Canadian-based global mining company
Charles (Chuck) V. Magro[2] DeWinton, Alberta, Canada	2018	President & Chief Executive Officer of Agrium and Nutrien Ltd.	Executive Vice President & Chief Operating Officer, Executive Vice President, Corporate Development & Chief Risk Officer, Vice President & Chief Risk Officer and, prior thereto, Vice President, Manufacturing, Agrium
Christopher M. Burley[1] Calgary, Alberta, Canada	2009	Corporate Director and former Managing Director and Vice Chairman of Energy for Merrill Lynch Canada Inc., an international wealth management, advisory and investment banking firm	Same as present

Directors (Name and Municipality of Residence)	Director Since	Present principal occupation or employment	Prior principal occupation or employment within the preceding five years
Maura J. Clark (2) New York, New York, United States	2018	Corporate Director	President, Direct Energy Business, the commercial and industry energy business unit of Direct Energy L.P., a North American energy and energy-related services provider
John W. Estey Glenview, Illinois, USA	2003	Chairman of PotashCorp and Chairman of S&C Electric Company, a global provider of equipment and services for electric power systems	President & CEO of S&C Electric Company, a global provider of equipment and services for electric power systems
David C. Everitt (2) Marco Island, Florida, United States	2018	Corporate Director. Board Chair of Harsco Corporation (part-time basis), a worldwide industrial company	Former interim CEO of Harsco Corporation; President, Agriculture and Turf Division – North America, Asia, Australia, Sub-Saharan and South Africa, and Global Tractor and Turf Products, Deere & Company, a farm equipment manufacturer
Russell K. Girling (2) Calgary, Alberta, Canada	2018	President and Chief Executive Officer and Director of TransCanada Corporation, a diversified energy and pipeline company.	Same as present
Gerald W. Grandey Saskatoon, Saskatchewan, Canada	2011	Corporate Director	Same as present
Miranda C. Hubbs(2) Toronto, Ontario, Canada	2018	Corporate Director	Executive Vice President & Managing Director, McLean Budden Limited (merged with Sun Life Financial in 2011, then rebranded in 2013 into MFS Investment Management), one of Canada's largest institutional asset managers
Alice D. Laberge(1) Vancouver, British Columbia	2003	Corporate Director	Same as present

Directors (Name and Municipality of Residence)	Director Since	Present principal occupation or employment	Prior principal occupation or employment within the preceding five years
Consuelo E. Madere[(1)] Destin, Florida, USA	2014	President and Founder of Proven Leader Advisory, LLC, a management consulting and executive coaching firm	Vice President, Global Vegetables and Asia Commercial of Monsanto Company, an agrochemical and agricultural biotechnology company
Keith G. Martell Toronto, Ontario, Canada	2007	Chief Executive Officer and a Director of First Nations Bank of Canada, a Canadian charted bank independently controlled by Aboriginal shareholders	Same as present
A. Anne McLellan[(2)] Edmonton, Alberta, Canada	2018	Corporate Director	Same as present
Derek G. Pannell [(2)] Saint John, New Brunswick, Canada	2018	Corporate Director. Independent Lead Director of Nutrien Ltd. (part-time basis)	Board Chair of Agrium (part-time basis)
Aaron W. Regent [(1)] Toronto, Ontario, Canada	2015	Founding Partner and Managing Partner of Magris Resources Inc., a private equity investment firm specializing in the mining sector, and Chairman and Chief Executive Officer of Niobec Inc., a company that owns and operates the Niobec mine which comprises niobium deposit	Same as present
Mayo M. Schmidt[(2)] Toronto, Ontario, Canada	2018	President and Chief Executive Officer and Director of Hydro One Inc., an electricity transmission and distribution company	President and Chief Executive Officer, Viterra Inc., a global agri-business company

(1) Member of the Audit Committee.

(2) Appointed to the PotashCorp board on January 1, 2018 in connection with the closing of the Merger.

Officers (Name and Municipality of Residence; Office with Company)	**Present principal occupation**	**Present position with the Company**	**Prior principal occupation or employment within the preceding five years**
Jochen E. Tilk Saskatoon, Saskatchewan, Canada	Executive Chair of Nutrien	President and Chief Executive Officer	President and Chief Executive Officer of Inmet Mining Corporation, a Canadian-based global mining company
Wayne Brownlee Saskatoon, Saskatchewan, Canada	Executive Vice President & Chief Financial Officer Nutrien	Executive Vice President and Chief Financial Officer	Same as present
Raef Sully Glenview, Illinois, USA	Executive Vice President and President, Potash of Nutrien	President, PCS Nitrogen and PCS Phosphate	President, PCS Nitrogen; Vice President, Project Management and Capital, PotashCorp
Joseph Podwika Arlington Heights, Illinois, USA	Executive Vice President & Chief Legal Officer of Nutrien	Senior Vice President, General Counsel and Secretary	Same as present
Kevin Graham Saskatoon, Saskatchewan, Canada	Executive Vice President and President, Sales of Nutrien	Senior Vice President, Strategy and Corporate Development	Same as present
Lee Knafelc Saskatoon, Saskatchewan, Canada	Executive Vice President & Chief Sustainability Officer of Nutrien	Senior Vice President, Human Resources and Administration	Vice President, Human Resources and Administration, PotashCorp
Brent Poohkay Canmore, Alberta, Canada	Executive Vice President & Chief Information Officer of Nutrien	Senior Vice President, Information Technology	Same as present

As at the date hereof, directors and officers as a group did not beneficially own, or control or direct, directly or indirectly, any common shares of the Company.

10.2 CEASE TRADE ORDERS, BANKRUPTCIES, PENALTIES OR SANCTIONS

Except as set out below, no director or executive officer of the Company was, as at the date hereof, or has been within the ten years prior to the date hereof, a director, chief executive officer or chief financial officer of any company (including the Company), that:

- was subject to an order that was issued while the director or executive officer was acting in the capacity as director, chief executive officer or chief financial officer; or

- was subject to an order that was issued after the director or executive officer ceased to be a director, chief executive officer or chief financial officer and which resulted from an event that occurred while that person was acting in the capacity as director, chief executive officer or chief financial officer.

For the purposes of the above, "order" means any of the following that was in effect for a period of more than 30 consecutive days:

- a cease trade order;
- an order similar to a cease trade order; or
- an order that denied the relevant company access to an exemption under securities legislation.

Except as set out below, no director or executive officer of the Company, or a shareholder holding a sufficient number of securities of the Company to affect materially the control of the Company:

- was, as at the date hereof, or has been within the ten years prior to the date hereof, a director or executive officer of any company (including the Company) that, while that person was acting in that capacity, or within a year of that person ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver manager or trustee appointed to hold its assets; or
- has, within the ten years before the date hereof, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of the director, executive officer or shareholder.

Mr. Burley was a director of Parallel Energy Inc., administrator of Parallel Energy Trust ("Parallel Energy"). On or about November 9, 2015, Parallel Energy and its affiliates filed applications for protection under the *Companies' Creditors Arrangement Act* (Canada) (the "CCAA") and voluntary petitions for relief under Chapter 11 of Title 11 of the United States Code. Mr. Burley resigned from the board of directors of Parallel Energy Inc. on March 1, 2016.The Canadian entities of Parallel Energy each filed an assignment in bankruptcy under the Bankruptcy and Insolvency Act on March 3, 2016. In 2015, securities regulators for the Provinces of Alberta, British Columbia, Manitoba, Ontario, Quebec, Saskatchewan and New Brunswick issued cease trading orders in relation to the securities of Parallel Energy for the failure by Parallel Energy to timely file financial statements as well as related continuous disclosure documents. Such cease trade orders continue to be in effect. The TSX delisted the trust units and debentures of Parallel Energy at the close of business on December 11, 2015.

In May 2004, Saskatchewan Wheat Pool Inc. ("SWP"), the predecessor of Viterra, disposed of its hog operations, which had been carried on through certain of its subsidiaries, through a court-supervised process under the CCAA. On April 12, 2005, the Saskatchewan Financial Services Commission issued a cease trade order against four of these subsidiaries of SWP for failing to file the required annual continuous disclosure documents. The cease trade order was revoked on October 18, 2010 pursuant to Viterra's application to effect a reorganization of the entities in question. Mr. Schmidt served as an officer and/or director of these entities.

10.3 CONFLICTS OF INTEREST

To the knowledge of the Company, no director or officer of the Company has an existing or potential material conflict of interest with the Company or any of its subsidiaries, joint ventures or partnerships.

ITEM 11 – PROMOTERS

During the two most recently completed financial years, no person or company has been a promoter of the Company.

ITEM 12 – LEGAL PROCEEDINGS AND REGULATORY ACTIONS

The information under "Legal and Other Matters" of Note 30 to the Company's audited consolidated financial statements are incorporated herein by reference. For further discussion of certain environmental proceedings in which we are involved, see "Environmental Matters" above.

In the normal course of business, we are also, and expect to continue to be, subject to various other legal proceedings being brought against us. While it is not possible to determine the ultimate outcome of such actions at this time, and inherent uncertainties exist in predicting such outcomes, it is the company's belief that the ultimate resolution any of such known actions is not reasonably likely to have a material adverse effect on its consolidated financial statements.

ITEM 13 – INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS

To the knowledge of the Company, the Company confirms that, as of the date hereof, there were no directors or executive officers of the Company or any associate or affiliate of a director or executive officer of the Company with any material interest, direct or indirect, in any transaction within the three most recently completed financial years or during the current financial year that has materially affected or is reasonably expected to materially affect the Company.

ITEM 14 – TRANSFER AGENT, REGISTRAR, AND TRUSTEES

During the year ended December 31, 2017, the Company's registrar and transfer agent was AST Trust Company (Canada), at its principal offices in Calgary, Alberta; and Toronto, Ontario. Following the completion of the Merger, the Company no longer has a registrar and transfer agent as it is a wholly-owned subsidiary of Nutrien.

The trustee for the Company's senior notes is U.S. Bank National Association at its offices in New York, New York.

ITEM 15 – MATERIAL CONTRACTS

To the knowledge of the Company, no material contracts require disclosure under this Item.

ITEM 16 – INTERESTS OF EXPERTS

16.1 NAMES OF EXPERTS

The financial statements of the Company as at and for the two years ended December 31, 2017 and 2016 have been audited by Deloitte LLP.

Craig Funk, B. Sc., M.Sc., P. Eng., P.Geo., an employee of the Company, prepared the Allan Technical Report, the Cory Technical Report, the Lanigan Technical Report and the Rocanville Technical Report. Mr. Funk is a qualified person under NI 43-101 and has reviewed and approved the scientific and technical information in this AIF relating to the Company's Allan, Cory, Lanigan and Rocanville potash operations.

16.2 INTERESTS OF EXPERTS

Deloitte LLP, the auditor of the Company, is independent within the meaning of the Rules of Professional Conduct of the Chartered Professional Accountants of Saskatchewan and the rules and standards of the Public Company Accounting Oversight Board and the securities laws and regulations administered by the SEC.

Craig Funk is an employee of PotashCorp and holds beneficially, directly or indirectly, less than one percent of any class of the securities of the Company or of any of the Company's associates or affiliates.

ITEM 17 – AUDIT COMMITTEE

17.1 AUDIT COMMITTEE CHARTER

Attached, as Exhibit 17.1, is the charter for the Company's Audit Committee.

17.2 COMPOSITION OF THE AUDIT COMMITTEE

Members of the Audit Committee are Christopher Burley, Alice D. Laberge, Consuelo E. Madere and Aaron W. Regent. Each member of the Audit Committee is independent and financially literate.

17.3 RELEVANT EDUCATION AND EXPERIENCE OF MEMBERS OF THE AUDIT COMMITTEE

Name (Director Since)	Principal Occupation and Full Biography
Mr. Christopher Burley (2009) B.Sc., M.B.A. Calgary, Alberta, Canada **<u>Other Public Directorships</u>** • Nutrien Ltd., (TSX, NYSE) • Westjet Airlines Ltd., a Canadian airline, (TSX) • Agrium Inc.	Mr. Burley is a Corporate Director and former Managing Director and Vice Chairman of Energy for Merrill Lynch Canada Inc., an investment banking firm. He has over two decades of experience in the investment banking industry. He is the Vice Chairman and a director of WestJet Airlines Ltd. and a former non-executive Chairman of the board of directors of Parallel Energy Inc. Mr. Burley is a graduate of the Institute of Corporate Directors' Education Program and holds the ICD.D designation.
Ms. Alice D. Laberge (2003) B.Sc., M.B.A. Vancouver, British Columbia **<u>Other Public Directorships</u>** • Nutrien Ltd. (TSX, NYSE) • Royal Bank of Canada, Canadian multinational financial services company, (TSX, NYSE) • Russell Metals Inc., metal supplier company, (TSX) • Agrium Inc.	Ms. Laberge is a Corporate Director and the former President and Chief Executive Officer of Fincentric Corporation, a global provider of software solutions to financial institutions. She was previously Senior Vice President and Chief Financial Officer of MacMillan Bloedel Ltd. She is a director of the Royal Bank of Canada, Russel Metals Inc. and the B.C. Cancer Foundation and has served as a director of Silverbirch Holdings, Delta Hotels Ltd. and Catalyst Paper Corporation. Ms. Laberge is the past Chair of the Board of Governors of the University of British Columbia. She is a Fellow of the Institute of Corporate Directors.

Name (Director Since)	Principal Occupation and Full Biography
Ms. Consuelo E. Madere (2014) B.Sc., M.B.A. Destin, Florida, USA **<u>Other Public Directorships</u>** • Nutrien Ltd., (TSX, NYSE) • Agrium Inc.	Ms. Madere is the President and Founder of Proven Leader Advisory, LLC, a management consulting and executive coaching firm. She is a former executive officer of Monsanto Company, a leading global provider of agricultural products and retired as Monsanto's Vice President, Global Vegetables and Asia Commercial. Ms. Madere is a member of the Latin Corporate Directors Association as well as the Hispanic Association on Corporate Responsibility and serves on the Dean's Advisory Council of the Louisiana State University Honors College.
Mr. Aaron W. Regent (2015) B.A, FCA, FCPA Toronto, Ontario, Canada **<u>Other Public Directorships</u>** • Nutrien Ltd., (TSX, NYSE) • The Bank of Nova Scotia, a Canadian multinational financial services company, (TSX, NYSE) • Agrium Inc.	Mr. Regent serves on the board of and is a former member of the audit committee of The Bank of Nova Scotia, and is also the Founding Partner of Magris Resources Inc. and Chairman and Chief Executive Officer of Niobec Inc. Mr. Regent has acquired significant financial experience during his time as President and Chief Executive Officer of Barrick Gold Corporation, Senior Managing Partner of Brookfield Asset Management and Co-Chief Executive Officer of the Brookfield Infrastructure Group, and as President and Chief Executive Officer of Falconbridge Limited. Mr. Regent is a member of the Chartered Professional Accountants of Ontario.

17.4 PRE-APPROVAL POLICIES AND PROCEDURES

Subject to applicable law, the Audit Committee is directly responsible for the compensation and oversight of the work of the independent auditors. The Audit Committee has adopted procedures for the pre-approval of engagements for services of its external auditors. The Audit Committee's policy requires pre-approval of all audit and non-audit services provided by the external auditor. The policy identifies three categories of external auditor services and the pre-approval procedures applicable to each category, as follows:

- Audit and audit-related services — these are identified in the annual Audit Service Plan presented by the external auditor and require annual approval. The Audit Committee monitors the audit services engagement at least quarterly.

- Pre-approved list of non-audit services — non-audit services which are reasonably likely to occur have been identified and receive general pre-approval of the Audit Committee, and as such do not require specific pre-approvals. The term of any general pre-approval is 12 months from approval unless otherwise specified. The Audit Committee annually reviews and pre-approves the services on this list.

- Other proposed services — all proposed services not categorized above are brought forward on a case-by-case basis and specifically pre-approved by the Chair of the Audit Committee, to whom pre-approval authority has been delegated.

17.5 EXTERNAL AUDITOR SERVICE FEES (BY CATEGORY)

The following table sets out the fees billed to us by Deloitte LLP and its affiliates for professional services in each of the years ended December 31, 2017 and 2016. During these years, Deloitte LLP was the Company's only external auditor.

Category	**Year Ended December 31,**	
	2017	**2016**
	US $	**US $**
Audit Fees(1)	2,013,962	2,108,117
Audit-Related Fees(2)	305,734	292,505
Tax Fees(3)	362,078	298,904
All Other Fees(4)	39,877	333,458
Total	**2,721,651**	**3,032,984**

(1) For professional services rendered by Deloitte LLP for the audit of the Company's annual consolidated financial statements, review of interim financial statements, the provision of consent letters and the provision of comfort letters.
(2) For professional services rendered by Deloitte LLP for employee benefit plan audits, audits of individual statutory financial statements, verification letters issued for certain of the Company's environmental liabilities, and specified procedure engagements.
(3) For professional services rendered by Deloitte LLP for general tax compliance and advice.
(4) For professional services rendered by Deloitte LLP for operational consulting, subscription based services for human resource related literature, and subscription based service for accounting literature.

ITEM 18 – ADDITIONAL INFORMATION

Additional financial information is provided in the 2017 Financial Statements and 2017 MD&A. Further, additional information, including historical information concerning directors' and officers' remuneration and indebtedness, principal holders of the Company's securities and securities authorized for issuance under equity compensation plans is contained in the Company's management proxy circular dated February 20, 2017 for the annual meeting of PotashCorp shareholders that took place on May 9, 2017. Additional information relating to PotashCorp may be found on the Nutrien's website at www.nutrien.com, on the Canadian Securities Administrators' website at www.sedar.com and on the EDGAR section of the SEC's website at www.sec.gov.

As a result of the completion of the Merger, and the Company being a wholly-owned subsidiary of Nutrien, the Company is not required to send an information circular in accordance with National Instrument 51-102 *Continuous Disclosure Obligations* and Form 51-102F5 thereunder to any of its securityholders. An issuer that is not required to send an information circular to any of its securityholders is ordinarily required to include certain additional disclosure in its annual information form, including with respect to director and officer compensation ("CD&A Disclosure") for the year ended December 31, 2017. The Company has obtained an order from applicable Canadian securities regulatory authorities exempting the Company from the requirement to include CD&A Disclosure in its annual information form, which exemption is conditional upon (i) Nutrien holding an annual meeting of shareholders prior to September 30, 2018; (ii) CD&A Disclosure with respect to Nutrien being included in the management information circular prepared by Nutrien (the "Nutrien Circular") in connection with the Nutrien Meeting (the "Nutrien CD&A Disclosure"); (iii) the Company, so long as it is a reporting issuer, filing the Nutrien CD&A Disclosure promptly following the filing of the Nutrien Circular; and (iv) the Company including this notice in this AIF.

EXHIBIT 17.1
POTASH CORPORATION OF SASKATCHEWAN INC.
AUDIT COMMITTEE
CHARTER

1. PURPOSE

1.1 The Audit Committee (the "Committee") is a standing committee of the Board of Directors of Potash Corporation of Saskatchewan Inc. (the "Corporation"). Its purpose is to assist the Board of Directors in fulfilling its oversight responsibilities for (i) the integrity of the Corporation's financial statements, (ii) the Corporation's compliance with legal and regulatory requirements, (iii) the qualifications and independence of the auditors of the Corporation (the "external auditors"), and (iv) the performance of the Corporation's internal audit function and external auditors. The Committee will also prepare the report that is, under applicable legislation and regulation, required to be included in the Corporation's annual proxy statement and circular.

2. AUTHORITY

2.1 The Committee has authority to conduct or authorize investigations into any matter within its scope of responsibility. It is empowered to:

(a) Determine the public accounting firm to be recommended to the Corporation's shareholders for appointment as external auditors, and, subject to applicable law, be directly responsible for the compensation and oversight of the work of the external auditors. The external auditors will report directly to the Committee.

(b) Resolve any disagreements between management and the external auditors regarding financial reporting.

(c) Pre-approve all auditing and permitted non-audit services performed by the Corporation's external auditors.

(d) Retain independent counsel, accountants, or others to advise the Committee or assist in its duties.

(e) Seek any information it requires from employees — all of whom are directed to cooperate with the Committee's requests — or external parties.

(f) Meet with the Corporation's officers, external auditors or outside counsel, as necessary.

(g) Delegate authority, to the extent permitted by applicable legislation and regulation, to one or more designated members of the Committee, including the authority to pre-approve all auditing and permitted non-audit services, providing that such decisions are presented to the full Committee at its next scheduled meeting.

3. COMPOSITION

3.1 The Committee shall consist of at least three and no more than six members of the Board of Directors.

3.2. The Corporate Governance and Nominating Committee will recommend to the Board of Directors members for appointment to the Committee and the Chair of the Committee. Only independent Directors shall be entitled to vote on any Board resolution approving such recommendations.

3.3. If and whenever a vacancy shall exist on the Committee, the remaining members may exercise all its powers so long as a quorum remains in office.

3.4. Each Committee member shall be independent according to the independence standards established by the Board of Directors, and all applicable corporate and securities laws and stock exchange listing standards.

3.5. Each Committee member will also be financially literate. At least one member shall be designated as the "financial expert", as defined by applicable legislation and regulation. No Committee member shall simultaneously serve on the audit committees of more than two other public companies.

4. MEETINGS

4.1 A majority of the members of the Committee shall constitute a quorum. All determinations of the Committee shall be made by a majority of its members present at a meeting duly called and held. All Committee members are expected to attend each meeting, in person or via tele- or video-conference. Any decision or determination of the Committee reduced to writing and signed by all of the members of the Committee shall be fully as effective as if it had been made at a meeting duly called and held.

4.2. The Committee will meet at least once each fiscal quarter, with authority to convene additional meetings, as circumstances require. The Committee will invite other members of the Board of Directors, members of management, internal auditors or others to attend meetings and provide pertinent information, as necessary. External auditors shall be entitled to receive notice of every meeting of the Committee and to attend and be heard thereat. The Committee will meet separately, periodically, with management, with internal audit and with external auditors. The Committee will also meet periodically in camera. Meeting agendas will be prepared and provided in advance to members, along with appropriate briefing materials.

4.3. The time at which and place where the meetings of the Committee shall be held and the calling of meetings and the procedure in all things at such meetings shall be determined by the Committee; provided that meetings of the Committee shall be convened whenever requested by the external auditors or any member of the Committee in accordance with the Canada Business Corporations Act (the "CBCA"). Following a Committee meeting, the Committee Chair shall report on the Committee's activities to the Board of Directors at the next Board of Directors meeting. The Committee shall keep and approve minutes of its meetings in which shall be recorded all action taken by it, which minutes shall be available as soon as practicable to the Board of Directors.

5. CHAIR

5.1 The Chair of the Committee shall have the duties and responsibilities set forth in Appendix "A".

6. RESPONSIBILITIES

There is hereby delegated to the Committee the duties and powers specified in section 171 of the CBCA and, without limiting these duties and powers, the Committee will carry out the following responsibilities.

6.1 Financial Statements

(a) Review significant accounting and reporting issues and understand their impact on the financial statements. These issues include:

(i) complex or unusual transactions and highly judgmental areas;

(ii) major issues regarding accounting principles and financial statement presentations, including any significant changes in the Corporation's selection or application of accounting principles; and

(iii) the effect of regulatory and accounting initiatives, as well as off-balance sheet structures, on the financial statements of the Corporation.

(b) Review analyses prepared by management and/or the external auditors, setting forth significant financial reporting issues and judgments made in connection with the preparation of the financial statements, including analyses of the effects of new or revised IFRS methods on the financial statements.

(c) Review both U.S. GAAP (where applicable) and IFRS issues and any reconciliation issues from IFRS to U.S. GAAP.

(d) Review with management and the external auditors the results of the audit, including any difficulties encountered. This review will include any restrictions on the scope of the external auditors' activities or on access to requested information, and the resolution of any significant disagreements with management.

(e) Review and discuss the annual audited financial statements and quarterly financial statements with management and the external auditors, including the Corporation's disclosures under "Management's Discussion and Analysis of Financial Condition and Results of Operations" ("MD&A"), including the discussion of critical accounting estimates included therein.

(f) Review and discuss the unaudited annual financial statements prior to the Corporation's year-end earnings release.

(g) Review the annual financial statements and MD&A and make a determination whether to recommend their approval by the Board of Directors.

(h) Approve the quarterly financial statements and MD&A prior to their release.

(i) Review disclosures made by the Chief Executive Officer and the Chief Financial Officer during the Forms 10-K and 10-Q certification process about significant deficiencies or material weaknesses in the design or operation of internal controls or any fraud that involves management or other employees who have a significant role in the Corporation's internal controls.

(j) Review and discuss earnings press releases prior to their release (particularly use of "pro forma" information or other non-IFRS financial measures), as well as financial information and earnings guidance provided externally, including to analysts and rating agencies.

(k) Review management's internal control report and the related attestation by the external auditors of the Corporation's internal controls over financial reporting.

6.2. Internal Control

(a) Consider the effectiveness of the Corporation's internal control system, including information technology security and control.

(b) Understand the scope of internal audit and external auditors' review of internal control over financial reporting, and obtain reports on significant findings and recommendations, together with management's responses.

(c) As requested by the Board of Directors, discuss with management, internal audit and the external auditors the Corporation's major risk exposures (whether financial, operational or otherwise), the adequacy and effectiveness of the accounting and financial controls, and the steps management has taken to monitor and control such exposures.

(d) Annually review the Corporation's disclosure controls and procedures, including any significant deficiencies in, or material non-compliance with, such controls and procedures.

(e) Discuss with the Chief Financial Officer and, as is in the Committee's opinion appropriate, the Chief Executive Officer, all elements of the certification required pursuant to Sections 302 and 906 of the Sarbanes-Oxley Act.

6.3. Internal Audit

(a) Review with management, the external auditors and internal audit the charter, plans, activities, staffing and organizational structure of the internal audit function.

(b) Ensure there are no unjustified restrictions or limitations on the functioning of the internal audit department, and review and concur in the appointment, replacement, or dismissal of the Vice President, Internal Audit.

(c) Review the effectiveness of the internal audit function, including conformance with The Institute of Internal Auditors' International Standards for the Professional Practice of Internal Auditing, the Definition of Internal Auditing and the Code of Ethics.

(d) On a regular basis, meet separately with the Vice President, Internal Audit to discuss any matters that the Committee or the Vice President, Internal Audit believes should be discussed privately.

6.4. External Audit

(a) Review the external auditors' proposed audit scope and approach, (including coordination of audit effort with internal audit) and budget.

(b) Oversee the work and review the performance of the external auditors, and make recommendations to the Board regarding the appointment or discharge of the external auditors. In performing this oversight and review, the Committee will:

(i) At least annually, obtain and review a report by the external auditors describing (A) the external auditors' internal quality control procedures; (B) any material issues raised by the most recent internal quality control review, or peer review, of the external auditors, or by any inquiry or investigation by governmental or professional authorities, within the preceding five years, respecting one or more independent audits carried out by the external auditors, and any steps taken to deal with any such issues; and (C) (to assess the auditor's independence) all relationships between the external auditors and the Corporation.

(ii) Take into account the opinions of management and internal audit.

(iii) Review and evaluate the lead partner of the external auditors.

(c) On an annual basis receive and review from the external auditors a report on items required to be communicated to the Committee by applicable rules and regulations.

(d) Ensure the rotation of the lead audit partner every five years and other audit partners every seven years, and consider whether there should be regular rotation of the audit firm itself.

(e) Present its conclusions with respect to the external auditors to the full Board of Directors.

(f) Set clear hiring policies for employees or former employees of the present or former external auditors.

(g) On a regular basis, meet separately with the external auditors to discuss any matters that the Committee or external auditors believe should be discussed privately.

6.5. Compliance

(a) Review the effectiveness of the system for monitoring compliance with laws and regulations and the results of management's investigation and follow-up (including disciplinary action) of any instances of non-compliance.

(b) Establish procedures for: (i) the receipt, retention and treatment of complaints received by the Corporation regarding accounting, internal accounting controls or auditing matters; and (ii) the confidential, anonymous submission by employees of the Corporation of concerns regarding questionable accounting or auditing matters.

(c) Review the findings of any examinations by regulatory agencies, and any external auditors observations made regarding those findings.

(d) Review the process for communicating the Core Values and Code of Conduct to Corporation personnel, and for monitoring compliance therewith.

(e) Obtain regular updates from management and the Corporation's legal counsel regarding compliance matters.

6.6. Reporting Responsibilities

(a) Regularly report to the Board of Directors about Committee activities and issues that arise with respect to the quality or integrity of the Corporation's financial statements, the Corporation's compliance with legal or regulatory requirements, the performance and independence of the Corporation's external auditors, and the performance of the internal audit function.

(b) Provide an open avenue of communication between internal audit, the external auditors, and the Board of Directors.

(c) Report annually to shareholders, describing the Committee's composition, responsibilities and how they were discharged, and any other information required by applicable legislation or regulation, including approval of non-audit services.

(d) Review any other reports the Corporation issues that relate to Committee responsibilities.

6.7. Other Responsibilities

(a) Discuss with management the Corporation's major policies with respect to risk assessment and risk management.

(b) Perform other activities related to this Committee Charter as requested by the Board of Directors.

(c) Institute and oversee special investigations as needed.

(d) Ensure appropriate disclosure of this Committee Charter as may be required by applicable legislation or regulation.

(e) Confirm annually that all responsibilities outlined in this Committee Charter have been carried out.

(f) Receive and review, at least quarterly, a report prepared by the Corporation's Natural Gas Hedging Committee and, if the Corporation's hedged position is outside approved guidelines, determine the reasons for the deviation and any action which will be taken as a result.

(g) Annually review the Corporation's natural gas hedging policy statement, currency conversion policy and external borrowing policy with respect to the use of derivatives and swaps.

(h) Receive and review, at least annually and in conjunction with the HR&C Committee, a report on pension plan governance including a fund review and retirement plan accruals.

7. FUNDING

7.1 The Corporation shall provide for appropriate funding, as determined by the Committee, for (i) compensation to the external auditors for the purpose of preparing or issuing an audit report or performing other audit review or attest services as pre-approved by the Committee; (ii) compensation to any outside experts employed by the Committee; and (iii) ordinary administrative expenses of the Committee that are necessary or appropriate in carrying out its duties.

8. OTHER

8.1 The Committee shall conduct an evaluation of the Committee's performance and this Audit Committee Charter, including Appendix "A" attached hereto, at least annually, and recommend to the Board of Directors such Committee Charter changes as the Committee deems appropriate.

8.2. Authority to make minor technical amendments to this Committee Charter is hereby delegated to the Secretary of the Corporation who will report any amendments to the Board of Directors at its next meeting.

APPENDIX A

AUDIT COMMITTEE CHAIR POSITION DESCRIPTION

In addition to the duties and responsibilities set out in the Board of Directors Charter and any other applicable charter, mandate or position description, the chair (the "Chair") of the Audit Committee (the "Committee") of Potash Corporation of Saskatchewan Inc. (the "Corporation") has the duties and responsibilities described below.

1. Provide overall leadership to facilitate the effective functioning of the Committee, including:

   (a) overseeing the structure, composition, membership and activities delegated to the Committee;

   (b) chairing every meeting of the Committee and encouraging free and open discussion at meetings of the Committee;

   (c) scheduling and setting the agenda for Committee meetings with input from other Committee members, the Chair of the Board of Directors and management as appropriate;

   (d) facilitating the timely, accurate and proper flow of information to and from the Committee;

   (e) arranging for management, internal and external auditors and others to attend and present at Committee meetings as appropriate;

   (f) arranging sufficient time during Committee meetings to fully discuss agenda items;

   (g) encouraging Committee members to ask questions and express viewpoints during meetings; and

   (h) taking all other reasonable steps to ensure that the responsibilities and duties of the Committee, as outlined in its Charter, are well understood by the Committee members and executed as effectively as possible.

2. Foster ethical and responsible decision making by the Committee and its individual members.

3. Encourage the Committee to meet in separate, regularly scheduled, non- management, closed sessions with the internal auditor and the independent auditors.

4. Following each meeting of the Committee, report to the Board of Directors on the activities, findings and any recommendations of the Committee.

5. Carry out such other duties as may reasonably be requested by the Board of Directors.