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

FORM 40-F

[Check one]

☐ **REGISTRATION STATEMENT PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934**

OR

☒ **ANNUAL REPORT PURSUANT TO SECTION 13(a) OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2019

Commission File Number 001-38336

NUTRIEN LTD.

(Exact name of Registrant as specified in its charter)

Canada
(Province or other jurisdiction of incorporation or organization)

2870
(Primary Standard Industrial Classification Code Number (if applicable))

98-1400416
(I.R.S. Employer Identification Number (if applicable))

Suite 500, 122 – 1st Avenue South
Saskatoon, Saskatchewan, Canada
S7K 7G3
(306) 933-8500
(Address and telephone number of Registrant's principal executive office)

CT Corporation System
28 Liberty St.
New York, NY 10005
(212) 894-8940
(Name, address (including zip code) and telephone number (including area code) of agent for service in the United States)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Shares	NTR	New York Stock Exchange

Securities registered or to be registered pursuant to Section 12(g) of the Act:

Not Applicable
(Title of Class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

Not Applicable
(Title of Class)

For annual reports, indicate by check mark the information filed with this Form:

☒ **Annual information form** ☒ **Audited annual financial statements**

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.

572,942,809 Common Shares outstanding as of December 31, 2019

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days.

Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes ☒ No ☐

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 12b-2 of the Exchange Act.

Emerging growth company ☐

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

† The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

This Annual Report on Form 40-F shall be incorporated by reference into the Registration Statements on Form S-8 (File Nos. 333-222384, 333-222385 and 333-226295) of the registrant. In addition, the registrant's Annual Information Form, Management's Discussion and Analysis and Audited Annual Consolidated Financial Statements for the fiscal year ended December 31, 2019, including Management's Annual Report on Internal Control over Financial Reporting, included as Exhibits 99.1, 99.2 and 99.3, respectively, to this Annual Report on Form 40-F, are incorporated by reference into and as an exhibit to the registrant's Registration Statement on Form F-10 (File No. 333-223273).

PRINCIPAL DOCUMENTS

The following documents have been filed as part of this Annual Report:

1. Annual Information Form for the fiscal year ended December 31, 2019 (the "2019 AIF") (filed as Exhibit 99.1 hereto);
2. Management's Discussion and Analysis for the fiscal year ended December 31, 2019 (the "2019 MD&A") (filed as Exhibit 99.2 hereto); and
3. Audited Annual Financial Statements, including the Reports of Independent Registered Public Accounting Firm, for the fiscal year ended December 31, 2019 (the "2019 Audited Annual Financial Statements") (filed as Exhibit 99.3 hereto).

CONTROLS AND PROCEDURES

A. Certifications

The required disclosure is included in Exhibits 99.5, 99.6 and 99.7 to this Annual Report, and is incorporated herein by reference.

B. Evaluation of Disclosure Controls and Procedures

The required disclosure is included in "*Controls and Procedures—Disclosure Controls and Procedures*" in the 2019 MD&A, filed as Exhibit 99.2 to this Annual Report, and is incorporated herein by reference.

C. Management's Annual Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining an adequate system of internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended. The required disclosure is included in "*Management's Responsibility—Management's Responsibility for Financial Reporting—Management's Annual Report on Internal Control over Financial Reporting*" that accompanies the 2019 Audited Annual Financial Statements, filed as Exhibit 99.3 to this Annual Report, and is incorporated herein by reference.

D. Attestation Report of the Independent Registered Public Accounting Firm

The required disclosure is included in the "*Report of Independent Registered Public Accounting Firm*" that accompanies the 2019 Audited Annual Financial Statements, filed as Exhibit 99.3 to this Annual Report, and is incorporated herein by reference.

E. Changes in Internal Control over Financial Reporting

During the period covered by this report, there was no change in Nutrien's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, its internal control over financial reporting. See "*Controls and Procedures—Internal Controls Over Financial Reporting*" in the 2019 MD&A, filed as Exhibit 99.2 to this Annual Report and incorporated herein by reference.

IDENTIFICATION OF THE AUDIT COMMITTEE

The Board has a separately-designated standing audit committee established in accordance with section 3(a)(58)(A) of the Exchange Act. The members of the Audit Committee are Maura J. Clark, Christopher M. Burley, Russell K. Girling, Alice D. Laberge, Keith G. Martell and Aaron W. Regent.

AUDIT COMMITTEE FINANCIAL EXPERT

The Nutrien Board of Directors (the "Board") has determined that it has at least one "audit committee financial expert" (as such term is defined in paragraph 8(b) of General Instruction B to Form 40-F) serving on its Audit Committee. Ms. Maura J. Clark has been determined to be such audit committee financial expert and was "independent" as such term is defined under the Canadian Securities Administrators' National Instrument 52-110 (Audit Committees) and the standards of the U.S. Securities and Exchange Commission (the "SEC") and the New York Stock Exchange (the "NYSE") relating to the independence of audit committee members.

The Board's designation of Ms. Maura J. Clark as an audit committee financial expert does not impose on her any duties, obligations or liability that are greater than the duties, obligations and liability imposed on her as a member of the Audit Committee and Board in the absence of such designation or identification. In addition, the designation of Ms. Maura J. Clark as an audit committee financial expert does not affect the duties, obligations or liability of any other member of the Audit Committee or Board. See also *"Item 17—Audit Committee"* of Nutrien's 2019 AIF, filed as Exhibit 99.1 to this Annual Report, and incorporated herein by reference.

COMPLIANCE WITH NYSE LISTING STANDARDS ON CORPORATE GOVERNANCE

Our common shares are listed on the NYSE, but as a listed foreign private issuer, the NYSE does not require us to comply with all of its listing standards regarding corporate governance. Notwithstanding this exemption, we are in compliance in all material respects with the NYSE listing standards and we intend to continue to comply with such standards so as to ensure that there are no significant differences between our corporate governance practices and those practices required by the NYSE of other publicly listed companies.

CODE OF CONDUCT AND ETHICS

Nutrien has adopted a "code of ethics" (as that term is defined in Form 40-F), entitled the Nutrien Code of Ethics that applies to all directors, officers, employees and representatives of Nutrien and its subsidiaries (the "Nutrien Code"). A copy of the Nutrien Code is posted on Nutrien's website at https://www.nutrien.com/what-we-do/governance. Copies may be obtained, free of charge, by contacting Nutrien in writing at Suite 500, 122 – 1st Avenue South, Saskatoon, Saskatchewan, Canada S7K 7G3, by telephone at (306) 933-8500 or on Nutrien's website at www.nutrien.com. Nutrien intends to post any amendments to and waivers from the Nutrien Code on its website as identified above.

NOTICES PURSUANT TO REGULATION BTR

Not applicable.

PRINCIPAL ACCOUNTANT FEES AND SERVICES

In July 2018, KPMG LLP was appointed by the Board of Directors as the sole external auditor of Nutrien. The following table sets out the fees billed to Nutrien by KPMG LLP and its affiliates for professional services rendered during the years ended December 31, 2019 and 2018.

Category	Year Ended December 31,	
	2019 US$	2018 US$
Audit Fees [1]	4,986,000	5,942,200
Audit-Related Fees [2]	112,500	325,900
Tax Fees [3]	367,200	362,400
All Other Fees [4]	336,000	0
Total	**5,801,700**	**6,630,500**

1 For professional services rendered by KPMG LLP for the audit and review of Nutrien's financial statements or services that are normally provided by KPMG LLP in connection with statutory and regulatory filings or engagements.
2 For professional services rendered by KPMG LLP for specified audit procedures regarding financial assurances issued to certain government agencies, and services which are reasonably related to the performance of the audit of Nutrien's financial statements and are not included in Audit Fees.
3 For professional services rendered by KPMG LLP for tax compliance, tax advice and tax planning with respect to the Canadian, US and key international jurisdictions; review of tax filings; assistance with the preparation of tax filings; tax advice relating to asset dispositions; and other tax planning, compliance, and transaction services. These amounts include fees paid to KPMG LLP specifically for tax compliance and preparation services rendered in 2019 and 2018 in the amount of $358,200 and $289,200, respectively.
4 For professional services rendered by KPMG LLP for a cybersecurity risk assessment, a greenhouse gas emission engagement and a real-time assessment of a system implementation. KPMG LLP did not provide any "other services" in 2018.

AUDIT COMMITTEE'S PRE-APPROVAL POLICIES AND PROCEDURES

The required disclosure is included in *"Item 17—Audit Committee—17.4—Pre-Approval Policies and Procedures"* of Nutrien's 2019 AIF, filed as Exhibit 99.1 to this Annual Report, and incorporated herein by reference.

OFF-BALANCE SHEET ARRANGEMENTS

The required disclosure is included in *"Off-Balance Sheet Arrangements"* of the 2019 MD&A, filed as Exhibit 99.2 to this Annual Report, and incorporated herein by reference.

TABULAR DISCLOSURE OF CONTRACTUAL OBLIGATIONS

The required disclosure is included in "*Liquidity & Capital Resources—Cash Requirements*" of the 2019 MD&A, filed as Exhibit 99.2 to this Annual Report, and incorporated herein by reference.

RESERVE AND RESOURCE ESTIMATES

Nutrien's mineral reserves have been estimated in accordance with National Instrument 43-101 - *Standards of Disclosure for Mineral Projects* ("NI 43-101"), as required by Canadian securities regulatory authorities. For United States reporting purposes, Industry Guide 7 under the Securities Act of 1933, as amended, as interpreted by the Staff of the SEC, applies different standards in order to classify mineralization as a reserve. In addition, while the terms "measured", "indicated" and "inferred" mineral resource are required pursuant to NI 43-101, Industry Guide 7 does not recognize such terms. While the SEC has recently adopted amendments to modernize its mineral property disclosure requirements and replace Industry Guide 7, Industry Guide 7 will remain effective until all registrants are required to comply with the new disclosure requirements following the first fiscal year beginning on or after January 1, 2021. Canadian standards differ significantly from the requirements of Industry Guide 7, and mineral resource information contained in the documents incorporated into this Annual Report by reference is not comparable to similar information regarding mineral reserves disclosed in accordance with the requirements of Industry Guide 7. Investors should understand that "inferred" mineral resources have a great amount of uncertainty as to their existence and great uncertainty as to their economic and legal feasibility. In addition, investors are cautioned not to assume that any part or all of our mineral resources constitute or will be converted into reserves.

MINE SAFETY DISCLOSURE

The information concerning mine safety violations or other regulatory matters required by Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 16 of General Instruction B to Form 40-F is included in Exhibit 99.13 to this Annual Report.

WEBSITE INFORMATION

Notwithstanding any reference to Nutrien's website or other websites on the World Wide Web in this Annual Report or in the documents attached as exhibits hereto, the information contained in Nutrien's website or any other website on the World Wide Web referred to in this Annual Report or in the documents attached as exhibits hereto, or referred to in Nutrien's website, is not a part of this Annual Report and, therefore, is not filed with the SEC.

UNDERTAKING AND CONSENT TO SERVICE OF PROCESS

The Registrant undertakes to make available, in person or by telephone, representatives to respond to inquiries made by the SEC staff, and to furnish promptly, when requested to do so by the SEC staff, information relating to: the securities registered pursuant to Form 40-F; the securities in relation to which the obligation to file an annual report on Form 40-F arises; or transactions in said securities.

The Registrant has previously filed an Appointment of Agent for Service of Process and Undertaking on Form F-X with respect to the class of securities in relation to which the obligation to file the Form 40-F arises. Any change to the name or address of the Registrant's agent for service of process shall be communicated promptly to the SEC by amendment to the Form F-X referencing the file number of the Registrant.

SIGNATURES

Pursuant to the requirements of the Exchange Act, the Registrant certifies that it meets all of the requirements for filing on Form 40-F and has duly caused this annual report to be signed on its behalf by the undersigned, thereto duly authorized.

NUTRIEN LTD.

By: /s/ Robert A. Kirkpatrick
Name: Robert A. Kirkpatrick
Title: SVP & Corporate Secretary

Date: February 28, 2020

EXHIBIT INDEX

Exhibit Number	Description
99.1	Annual Information Form for the fiscal year ended December 31, 2019
99.2	Management's Discussion and Analysis for the fiscal year ended December 31, 2019
99.3	Audited Annual Consolidated Financial Statements for the fiscal year ended December 31, 2019
99.4	Consent of KPMG LLP, Independent Registered Public Accounting Firm
99.5	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
99.6	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
99.7	Certifications pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
99.8	Consent of Craig Funk, B.Sc., M.Sc., P. Eng., P.Geo.
99.9	Consent of A. Dave Mackintosh, B. Sc., P. Geo.
99.10	Consent of ADM Consulting Limited
99.11	Consent of Michael Ryan Bartsch, P.Eng.
99.12	Consent of Dennis William Aldo Grimm, P.Eng.
99.13	Mine Safety Disclosure
101	Interactive Data File

Exhibit 99.1

Nutrien Ltd.

Annual Information Form
Year Ended December 31, 2019

February 19, 2020

Table of Contents

Following is a table of contents of this Annual Information Form ("AIF") referencing the applicable requirements of Form51-102F2 of the Canadian Securities Administrators. Certain portions of this AIF are disclosed in Nutrien Ltd.'s Management's Discussion & Analysis ("2019 MD&A") and Consolidated Financial Statements for the years ended December 31, 2019 and 2018 ("Consolidated Financial Statements") and are incorporated by reference herein to the extent noted below and throughout this AIF and are available on the Canadian Securities Administrators' SEDAR website at www.sedar.com and on the EDGAR section of the United States ("US") Securities and Exchange Commission's ("SEC") website at www.sec.com.

	Annual Information Form Page Reference	Incorporated by Reference from the 2019 Consolidated Financial Statements
Item 1 Table of Contents	**2-3**	
Item 2 Advisories	**4-5**	
2.1 Forward-Looking Information	4	
2.2 Basis of Presentation	5	
Item 3 Corporate Structure	**5-6**	
3.1 Name, Address and Incorporation	5	
3.2 Intercorporate Relationships	6	
Item 4 General Development of the Business	**6-8**	
4.1 Three-Year History	6	Notes 4, 10, 12, 15, 19, 20 and 25
Item 5 Description of the Business	**8-28**	Notes 3 and 29
5.1 Retail Operations	9	
5.2 Potash Operations	10	
5.3 Nitrogen Operations	12	
5.4 Phosphate Operations	14	
5.5 Specialized Skill and Knowledge	16	
5.6 Intangible Properties	16	Note 16
5.7 Seasonality	16	
5.8 Environmental Matters	16	Notes 24 and 30
5.9 Employees	20	
5.10 Social and Environmental Policies	21	
5.11 Risk Factors	23	
5.12 Mineral Projects	28	
Item 6 Dividends	**29**	
Item 7 Description of Capital Structure	**29-31**	
7.1 General Description of Capital Structure	29	
7.2 Constraints	30	
7.3 Debt Ratings	30	
Item 8 Market for Securities	**31-32**	
8.1 Trading Price and Volume	31	
8.2 Prior Sales	32	Notes 6, 20 and 25
Item 9 Escrowed Securities and Securities Subject to Contractual Restriction on Transfer	**32**	
Item 10 Directors and Officers	**32-35**	
10.1 Name, Occupation and Security Holding	32	
10.2 Cease Trade Orders, Bankruptcies, Penalties or Sanctions	34	
10.3 Conflicts of Interest	35	

	Annual Information Form Page Reference	Incorporated by Reference from the 2019 Consolidated Financial Statements
Item 11 Promoters	**35**	
Item 12 Legal Proceedings and Regulatory Actions	**35**	Note 30
Item 13 Interest of Management and Others in Material Transactions	**35**	
Item 14 Transfer Agent, Registrar and Trustees	**36**	
Item 15 Material Contracts	**36**	
Item 16 Interests of Experts	**36-37**	
16.1 Names of Experts	36	
16.2 Interests of Experts	36	
Item 17 Audit Committee	**37-39**	
17.1 Audit Committee Charter	37	
17.2 Composition of the Audit Committee	37	
17.3 Relevant Education and Experience of Members of the Audit Committee	37	
17.4 Pre-Approval Policies and Procedures	38	
17.5 External Auditor Service Fees (by Category)	39	
Item 18 Additional Information	**39**	
Schedule A Audit Committee Charter	**40-46**	
Schedule B Mineral Projects	**47-100**	
a. Allan Potash Operations	47	
b. Cory Potash Operations	59	
c. Lanigan Potash Operations	69	
d. Rocanville Potash Operations	81	
e. Vanscoy Potash Operations	93	
f. Taxes Relating to Potash Operations	100	

Item 2 – Advisories

2.1 Forward-looking Information

Certain statements and other information included in this AIF, including within the documents incorporated by reference, constitute "forward-looking information" or "forward-looking statements" (collectively, "forward-looking statements") under applicable securities laws (such statements are often accompanied by words such as "anticipate", "forecast", "expect", "believe", "may", "will", "should", "estimate", "intend" or other similar words). All statements in this document, other than those relating to historical information or current conditions, are forward-looking statements, including, but not limited to:

- Capital spending expectations for 2020;
- Expectations regarding performance of our operating segments;
- Our market outlook for 2020, including Agriculture and Retail and Crop Nutrient Markets and including anticipated supply and demand for our products and services, expected market and industry conditions with respect to crop nutrient application rates, planted acres, crop mix, prices and the impact of currency fluctuations and import and export volumes;
- Expectations regarding changes in the agriculture space, including greater farm consolidation in the US and other developed markets and the continued advancement and adoption of technology and digital innovations;
- Expectations regarding completion of previously announced expansion projects (including timing and volumes of production associated therewith);
- Acquisitions and divestitures (including expected timing of closing thereof), and the expected synergies associated with various acquisitions, including timing thereof;
- Expectations regarding environmental compliance requirements and costs, including estimates of asset retirement obligations and site assessment and remediation costs;
- Expectations regarding our sustainability strategy and program; and
- Expectations regarding our mineral reserve and resource estimates, and the annual nameplate capacity and operational capability of our mines and associated mine life estimates.

These forward-looking statements are subject to a number of assumptions, risks and uncertainties, many of which are beyond our control, which could cause actual results to differ materially from such forward-looking statements. As such, undue reliance should not be placed on these forward-looking statements.

All of the forward-looking statements are qualified by the assumptions that are stated or inherent in such forward-looking statements, including the assumptions referred to below and elsewhere in this document. Although we believe that these assumptions are reasonable, this list is not exhaustive of the factors that may affect any of the forward-looking statements and the reader should not place an undue reliance on these assumptions and such forward-looking statements. The additional key assumptions that have been made include, among other things:

- Assumptions with respect to our ability to successfully complete, integrate and realize the anticipated benefits of our already completed and future acquisitions, and that we will be able to implement our standards, controls, procedures and policies at any acquired businesses to realize the expected synergies;
- That future business, regulatory and industry conditions will be within the parameters expected by us, including with respect to prices, margins, demand, supply, product availability, supplier agreements, availability and cost of labor and interest, exchange and effective tax rates;
- The completion of our expansion projects on schedule, as planned and on budget;
- Assumptions with respect to global economic conditions and the accuracy of our market outlook expectations for 2020 and in the future;
- The adequacy of our cash generated from operations and our ability to access our credit facilities or capital markets for additional sources of financing;
- Our ability to identify suitable candidates for acquisitions and divestitures and negotiate acceptable terms;
- Our ability to maintain investment grade ratings and achieve our performance targets; and
- The receipt, on time, of all necessary permits, utilities and project approvals with respect to our expansion projects and that we will have the resources necessary to meet the projects' approach.

Events or circumstances that could cause actual results to differ materially from those in the forward-looking statements include, but are not limited to:

- General global economic, market and business conditions;
- Failure to complete announced and future acquisitions or divestitures at all or on the expected terms and within the expected timeline;

- Climate change and weather conditions, including impacts from regional flooding and/or drought conditions;
- Crop planted acreage, yield and prices;
- The supply and demand and price levels for our products;
- Governmental and regulatory requirements and actions by governmental authorities, including changes in government policy (including tariffs, trade restrictions and climate change initiatives), government ownership requirements, changes in environmental, tax and other laws or regulations and the interpretation thereof;
- Political risks, including civil unrest, actions by armed groups or conflict and malicious acts including terrorism;
- The occurrence of a major environmental or safety incident;
- Innovation and cybersecurity risks related to our systems, including our costs of addressing or mitigating such risks;
- Regional natural gas supply restrictions;
- Counterparty and sovereign risk;
- Delays in completion of turnarounds at our major facilities;
- Gas supply interruptions;
- Any significant impairment of the carrying value of certain assets;
- Risks related to reputational loss;
- Certain complications that may arise in our mining processes;
- The ability to attract, engage and retain skilled employees and strikes or other forms of work stoppages; and
- Other risk factors detailed from time to time in Nutrien reports filed with the Canadian securities regulators and the SEC in the US.

In addition to the factors mentioned above, see “Risk Factors” discussed in this AIF for a description of other factors affecting forward-looking statements.

We disclaim any intention or obligation to update or revise any forward-looking statements in this AIF as a result of new information or future events, except as may be required under applicable Canadian securities legislation or applicable US federal securities laws.

2.2 Basis of Presentation

2019 and 2018 Nutrien consolidated financial information and 2017 Potash Corporation of Saskatchewan Inc. (“PotashCorp”) and Agrium Inc. (“Agrium”) consolidated financial information presented and discussed in this AIF are prepared in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board (“IFRS”). This AIF is dated February 19, 2020, and the information contained herein is current as of such date, unless otherwise specified.

Unless expressly stated, the information contained on, or accessible from, our website or any other website or any other report or document we file with or furnish to applicable Canadian or US securities regulatory authorities is not incorporated by reference into this AIF.

Item 3 – Corporate Structure

In this AIF, unless otherwise specified, the term “Nutrien” refers to Nutrien Ltd. and, unless the context requires otherwise, the terms “we”, “us”, “our”, “Nutrien” and the “Company” refer to Nutrien and its direct and indirect subsidiaries, individually or in any combination, as applicable. References to “dollars”, “$”, and “US$” are to United States dollars and references to “CA$” are to Canadian dollars.

3.1 Name, Address and Incorporation

Nutrien is a corporation incorporated under the *Canada Business Corporations Act* (“CBCA”).

Nutrien’s registered head office is Suite 500, 122 – 1st Avenue South, Saskatoon, Saskatchewan, Canada S7K 7G3. We also have corporate offices at 13131 Lake Fraser Drive SE, Calgary, Alberta, Canada T2J 7E8 and 5296 Harvest Lake Drive, Loveland, Colorado, US 80538.

3.2 Intercorporate Relationships

Principal Subsidiaries[1]	Jurisdiction of Incorporation or Organization	Ownership
Potash Corporation of Saskatchewan Inc.	Canada	100%
Agrium Inc.	Canada	100%
Agrium Canada Partnership	Alberta, Canada	100%
Agrium Potash Ltd.	Canada	100%
Agrium U.S. Inc.	Colorado, US	100%
Cominco Fertilizer Partnership	Texas, US	100%
Landmark Operations Ltd.	Western Australia	100%
Nutrien Ag Solutions (Canada) Inc.	Canada	100%
Nutrien Ag Solutions, Inc.	Delaware, US	100%
PCS Nitrogen Fertilizer, LP	Delaware, US	100%
PCS Nitrogen Trinidad Limited	Trinidad	100%
PCS Phosphate Company, Inc.	Delaware, US	100%
Potash Holding Company, Inc.	Delaware, US	100%

1 In aggregate, our remaining subsidiaries not listed herein accounted for less than 20 percent of our total consolidated assets or 20 percent of our total consolidated sales as at and for the year ended December 31, 2019.

Item 4 – General Development of the Business

4.1 Three-Year History

The Merger

Effective January 1, 2018, pursuant to the merger of equals transaction (the "Merger") contemplated by the arrangement agreement dated September 11, 2016 between PotashCorp and Agrium, PotashCorp and Agrium became wholly-owned subsidiaries of Nutrien pursuant to a court-approved plan of arrangement under Section 192 of the CBCA.

Pursuant to the Merger, the holders of common shares of PotashCorp ("PotashCorp Shares") received common shares of Nutrien ("Common Shares") at a ratio of 0.40 of a Common Share for each PotashCorp Share and the holders of common shares of Agrium ("Agrium Shares") received Common Shares at a ratio of 2.23 Common Shares for each Agrium Share. See Note 4 of the 2019 Consolidated Financial Statements for additional information.

Acquisitions and Investments

On September 30, 2019, we completed the acquisition of Ruralco Holdings Limited ("Ruralco"), an agriservices business in Australia with approximately 250 Retail operating locations, for a purchase price of $330 million.

In 2019 and 2018, we also expanded our Retail operations by acquiring 68 and 53 Retail locations in North and South America and Australia (excluding Ruralco), which included companies operating within the proprietary products business, such as Actagro, LLC, a developer, manufacturer and marketer of environmentally sustainable soil and plant health products and technologies, for total consideration of $581 million and $433 million, respectively.

See Note 4 of the 2019 Consolidated Financial Statements for additional information.

In 2017, Agrium acquired 44 Retail facilities, located in North America for consideration of $145 million excluding working capital.

Dispositions

In 2018, in connection with antitrust approvals necessary for the completion of the Merger, we completed the disposition of the following minority equity interests: (i) sale of shares in Israel Chemicals Ltd. ("ICL") through a private secondary offering for proceeds of $685 million, net of commissions; (ii) sale of shares in Arab Potash Company ("APC") for proceeds of $501 million, net of commissions; and (iii) sale of shares in Sociedad Química y Minera de Chile S.A. ("SQM") for proceeds of $5.1 billion, net of commissions.

In addition to the above dispositions of minority equity interests, in 2018, we also completed the sale of our (i) Conda, Idaho phosphate production facility and adjacent phosphate mineral rights; and (ii) North Bend, Ohio nitric acid facility and related assets.

See Note 10 of the 2019 Consolidated Financial Statements for additional information.

Incremental Expansion

In 2017, Agrium completed the commissioning of the 610,000 tonnes per year urea facility in Borger, Texas, the construction of which was completed during 2016 as part of Agrium's brownfield expansion project at Borger. The project was undertaken to leverage Agrium's distribution network in the region and to enable the Borger, Texas facility to become a competitive and low-cost producer of nitrogen, enhancing its long-term viability.

New Brunswick Potash Operations

In 2018, after a strategic portfolio review was completed, we determined the New Brunswick Potash operations would no longer be part of our medium or long-term strategic plans. As a result, the New Brunswick Potash operations were permanently shut down. The decision to shut down these operations resulted in a non-cash impairment in 2018 of $1,809 million to the property, plant and equipment of the New Brunswick Potash operations. For additional information, see Note 15 of the 2019 Consolidated Financial Statements.

Normal Course Issuer Bid

In 2019, we repurchased 36,067,323 of our outstanding Common Shares for cancellation. Of this total, 30,134,188 Common Shares were repurchased under our 2019 normal course issuer bid ("2019 NCIB"), which our Board of Directors ("Board") had approved earlier in 2019 and 5,933,135 Common Shares were repurchased under the normal course issuer bid which our Board approved in 2018 ("2018 NCIB"). On November 27, 2019, we announced an amendment to our 2019 NCIB, increasing the maximum number of Common Shares for repurchase from 30,133,631 to 42,164,420, commencing on December 2, 2019 until expiry of the 2019 NCIB on February 26, 2020. As of the date hereof, an additional 2,214,780 Common Shares have been acquired under the 2019 NCIB in 2020. Purchases under the 2019 NCIB have been made through open market purchases at market prices.

In 2018, we completed the repurchase of 36,332,197 Common Shares for cancellation, representing approximately six percent of our outstanding Common Shares, under the 2018 NCIB.

See Note 25 of the 2019 Consolidated Financial Statements for additional information.

Notes Issuance

In April 2019, we issued $750 million aggregate principal amount of 4.200 percent notes due April 1, 2029 and $750 million aggregate principal amount of 5.000 percent notes due April 1, 2049. These notes are unsecured, rank equally with Nutrien's existing unsecured debt, and have no sinking fund requirements prior to maturity. Each series is redeemable and provides for redemption prior to maturity, at our option, at specified prices. See Note 20 of the 2019 Consolidated Financial Statements for additional information.

Repayment of Notes

In 2019, we repaid $500 million aggregate principal amount of 6.750 percent notes that matured on January 15, 2019 and $500 million aggregate principal amount of 6.500 percent notes that matured on May 15, 2019. See Note 20 of the 2019 Consolidated Financial Statements for additional information.

Debt Exchange

In 2018, an aggregate of $7,578 million of PotashCorp senior notes and Agrium debentures (other than Agrium's 7.800 percent debentures due 2027) were tendered and accepted in exchange for the same amount of new notes issued by Nutrien, which have interest rates and maturities identical to those of the applicable exchanged series of senior notes or debentures. In addition, we solicited consents from the holders of PotashCorp senior notes and Agrium debentures to amend the terms and remove certain financial reporting covenants and events of default under the indentures governing those senior notes and debentures. A small portion of senior notes and debentures (including Agrium's 7.800 percent debentures due 2027) were not exchanged and remain outstanding with the relevant issuing subsidiary.

Credit Facilities

In 2018, we replaced PotashCorp's $3.5 billion unsecured revolving credit facility and Agrium's $2.5 billion multijurisdictional unsecured revolving credit facility with a new Nutrien $4.5 billion unsecured revolving term credit facility ("Nutrien Credit Facility"). The Nutrien Credit Facility matures April 10, 2023, subject to extension at the request of Nutrien provided that the resulting maturity date shall not exceed five years from the date of the request.

In 2018, we also replaced PotashCorp's $75 million unsecured line of credit with a new $500 million uncommitted revolving demand facility.

For additional information, see Note 12 and Note 19 of the 2019 Consolidated Financial Statements.

Commercial Paper Program

In 2018, we launched a commercial paper program having an aggregate authorized amount of $4.5 billion. The amount drawn under the commercial paper program is backstopped by the Nutrien Credit Facility. Concurrent with the launch, we discontinued new issuances under the commercial paper programs of PotashCorp and Agrium that existed prior to the completion of the Merger. See Note 19 of the 2019 Consolidated Financial Statements and Note 22 of the 2018 Consolidated Financial Statements for additional information.

Accounts Receivable Securitization Program

In 2019, we terminated our existing trade accounts receivable securitization program. Under this program, we sold certain trade account receivables to a special purpose vehicle, a consolidated entity within Nutrien, and we controlled and retained substantially all the risks and rewards of the receivables sold to the special purpose vehicle. There were no loan drawdowns made under this program in 2019. For additional information, see Note 19 of the 2019 Consolidated Financial Statements and Note 22 of the 2018 Consolidated Financial Statements.

Item 5 – Description of the Business

We are a world-class integrated provider of crop inputs and services, playing a critical role in helping growers around the globe increase food production in a sustainable manner. We supply growers through our leading global Retail network – including crop nutrients, crop protection products, seed, as well as agronomic and application services. We operate more than 2,000 retail locations across the US, Canada, Australia and South America, servicing more than 500,000 grower accounts.

Nutrien is the world's largest crop nutrient company by capacity, producing the three crop nutrients: potash, nitrogen and phosphate. We produce and distribute approximately 25 million tonnes of crop nutrient products from our facilities in Canada, the US and Trinidad, and our Canadian potash operations represent more than one-fifth of global nameplate capacity.

As of December 31, 2019, we estimate our potash operations represented 21 percent of global potash capacity, our nitrogen operations represented three percent of global nitrogen capacity and our phosphate operations represented three percent of global phosphate capacity.

We report our results in four operating segments: Retail, Potash, Nitrogen and Phosphate. Our reporting structure reflects how we manage our business. In 2019, our Executive Leadership Team reassessed our product groupings and decided to evaluate the performance of ammonium sulfate as part of the Nitrogen segment, rather than the Phosphate and Sulfate segment as previously reported in 2018. Sales classified by operating segment and applicable category of products and services for the Company's 2019 and 2018 fiscal years are provided in Note 3 of the 2019 Consolidated Financial Statements. 2019 and 2018 sales or transfers to certain entities in which the Company has an investment that is accounted for under the equity method are provided in Note 29 of the 2019 Consolidated Financial Statements.

5.1 Retail Operations

Overview

Our Retail segment markets crop nutrients, crop protection products, seed, merchandise, as well as agronomic application services and solutions through more than 2,000 retail locations across the US, Canada, Australia and South America. Our North American retail locations include more than 800 branches, which are facilities supporting a specific market area and customer base, and approximately 500 satellites, which are used to position equipment and product to specific markets and customers in support of a branch. Retail's market is primarily retail sales made directly to growers, but also includes wholesale sales of crop protection products to third-party retailers. We offer to our customers flexible financial solutions in support of Nutrien's agricultural product and service sales. We manage our credit portfolio through Nutrien Financial.

Crop nutrients sales accounted for approximately 38 percent of Retail's total sales in 2019 (2018 – 37 percent). These sales consist primarily of dry and liquid macronutrient products which include potash, nitrogen and phosphate, proprietary liquid micronutrient products and nutrient application services. Crop nutrients are generally mixed in a custom blend to suit the specific nutrient requirements for each grower's field typically based on soil fertility tests or plant tissue sampling. We offer custom crop nutrient application services and employ a large fleet of application equipment to custom-apply these nutrients at the prescribed rates. Many of our crop nutrient application rigs are also capable of precision application using global positioning system ("GPS") technology, which allows nutrient application rates to be adjusted when required, based on GPS grid soil sample test results and other data.

Crop protection products sales were approximately 38 percent of Retail's total sales in 2019 (2018 – 39 percent). Crop protection products sales consist primarily of third-party supplier and proprietary products designed to maintain crop quality and manage plant diseases, weeds and other pests. Similar to our crop nutrient application services, we use our large fleet of crop protection application equipment to apply a significant portion of our crop protection products sales. By its nature, Retail's crop protection business operates within a framework of government regulation and oversight. We formulate and distribute private label and proprietary crop protection products through our Loveland Products, Inc. business across North America, South America and Australia.

Seed sales accounted for approximately 13 percent of Retail's total sales in 2019 (2018 – 13 percent). Seed sales consist primarily of third-party supplier seed brands and proprietary seed product lines. Seed treatment is also a growing service that we provide growers. This service involves applying chemicals to seeds prior to planting to protect them from pests and disease. Our seed sales have been further supported by growth in our private label seed product line under the brand names Dyna-Gro® and Proven™.

Merchandise sales accounted for approximately 4 percent of Retail's total sales in 2019 (2018 – 5 percent). In addition to offering crop nutrient, crop protection and seed, our Retail business in Australia also offers a wide variety of livestock-related merchandise including fencing, feed supplements, animal identification merchandise and various animal health products and services, as well as storage and irrigation equipment and other products.

Services and other revenues accounted for approximately 7 percent of Retail's total sales in 2019 (2018 – 6 percent). Retail has a large group of qualified crop advisors throughout the organization who help develop crop input recommendations and monitor customers' crops in order to optimize yields and maximize growers' bottom line. Our Retail segment offers a variety of agronomic services to our growers, including custom application services, crop scouting and precision agriculture services, soil and leaf testing, as well as financial services. We own and operate laboratories across the US and perform soil and leaf testing for growers. In the Western US, we use a system of weather tracking stations to monitor crop disease conditions and irrigation requirements in high-value crops. Retail also offers digital tools that provide customer account management, agronomic insights and hands-on customer support that drive economic value and can provide environmental benefits for our growers, including our Echelon® precision agriculture offering, which includes services such as yield data mapping, record keeping, soil fertility management, variable-rate fertility and variable-rate seeding recommendations. In Australia, Retail offers various other services, including wool sales and marketing, livestock marketing and auction services, water services, insurance products, financial services and real estate agency services.

Transportation, Storage and Distribution

We have an extensive infrastructure system to store and transport our Retail products, strategically located across distribution points in Canada and the US to serve our customers. Our North American Retail distribution assets include 84 terminals and 20 distribution centers to support distribution of crop nutrients, crop protection products and seed. Terminals are major crop nutrient storage facilities used to receive large quantities of crop nutrients for redistribution to retail centers and to growers directly. Distribution centers are used to more effectively distribute crop protection products and seed. These facilities are used to coordinate product supply to the retail centers and allow us to manage inventory levels across our distribution network. To complement our distribution system, we also leased or owned approximately 30,000 retail vehicles and application equipment as at December 31, 2019.

Due to the bulk nature of our crop nutrient and seed products, delivery to end users through the supply chain can often take a significant amount of time. Supply chain management, utilizing our extensive storage and distribution network and transportation capabilities, allows us to ensure that crop nutrients and seed products are available to customers at the necessary time as growers have a short application and planting window, the precise timing of which is unpredictable due to both the seasonal nature of crop planting and the impact of weather.

Competitive Position

The market for Nutrien's crop nutrients is highly competitive in the countries in which we operate. Retail operates more than 2,000 retail locations across the US, Canada, Australia and South America. We are a major distributor of crop nutrients, crop protection products and seed products in a highly competitive industry. The principal competitors in the distribution of crop production inputs include agricultural co-operatives, other major agriculture retailers and smaller independent retailers and distributors. Retail also produces a range of high-quality proprietary crop protection, seed and crop nutrient products that generate higher margins for our Retail segment. Retail offers a digital tool that provides customer account management, agronomic insights and hands-on customer support that we believe drives economic value for our growers.

5.2 Potash Operations

Overview

Our Potash operations include the mining and processing of potash, which is predominantly used as fertilizer. The Saskatchewan Ministry of Energy and Resources has granted Nutrien the exclusive right to mine potash on approximately 345,000 hectares (or approximately 853,000 acres) of Crown land pursuant to subsurface mineral leases. Of the approximately 345,000 hectares, roughly 244,000 hectares are comprised of our Potash operations at the Allan, Cory, Lanigan, Patience Lake, Rocanville, and Vanscoy mines. Leases also exist with freehold mineral rights owners within the Crown subsurface mineral lease areas and elsewhere in Saskatchewan.

Our subsurface mineral leases with the Province of Saskatchewan are for21-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, provided generally that production is continuing and that there is continuation of the applicable lease with the Province of Saskatchewan.

Potash we produce in Canada for sale to destinations outside Canada and the US is sold exclusively to Canpotex Limited ("Canpotex"). Since January 1, 2018, Canpotex has been owned in equal shares by us and another potash producer in Canada. Prior to the completion of the Merger, Canpotex was owned in equal shares by PotashCorp, Agrium and another potash producer in Canada. 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 US 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. For 2019, sales of potash to Canpotex represented 56 percent of our total potash sales (2018 – 55 percent).

In general, Canpotex sales are allocated among Canpotex producers based on production capacity. In 2019, Nutrien supplied approximately 64 percent of Canpotex's requirements. Canpotex generally sells potash to private and public firms and government agencies pursuant to term and spot contracts at agreed upon prices. Canpotex has a long history of being a reliable supplier of potash to international markets and of proven logistics and marketing capabilities. Other major potash exporting countries include Russia, Belarus and Germany.

Transportation, Storage and Distribution

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 to effectively compete with our potash production 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 approximately 300 owned or leased potash distribution points and a fleet of approximately 6,100 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 US.

In the case of our sales to Canpotex, Canpotex is responsible for managing and directing all aspects of its logistics infrastructure platform, including the transportation of its potash by way of rail to port facilities where it is handled, stored and loaded onto ocean-going vessels. We have an equity interest in Canpotex Bulk Terminals Limited, which is a part owner of the port facilities utilized by Canpotex in Vancouver, British Columbia. Canpotex also utilizes port facilities in Portland, Oregon, Saint John, New Brunswick and Thunder Bay, Ontario.

Production Methods

We produce potash primarily using conventional methods, but we also have a solution mine. In conventional operations, shafts are sunk to the ore body, which is approximately one kilometer below the surface. Mining machines cut out the ore, which is hoisted to the surface for processing. The ore is a mixture of potassium chloride, salt and insoluble particles. In solution mining, the potash is dissolved in warm brine and pumped to the surface for processing. Removing the clay and salt through a milling process produces saleable potash. Seven grades of potash are produced to suit different preferences of the various markets we serve.

In 2019, our conventional potash operations mined 35.46 million tonnes of ore at an average mineral grade of 23.90 percent potassium oxide ("K_2O"). In 2019, our potash production from all our operations consisted of 11.70 million tonnes of potash ("KCl" or "finished product") with an average grade of 60.89 percent K_2O, representing an estimated 56 percent of North American production.

In 2019, our nameplate capacity represented an estimated 57 percent 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.

The following table sets forth, for each of the past two years, the production of ore, mill feed grade and finished product for each of our potash mines in Saskatchewan:

	Annual Nameplate Capacity [1]	Annual Operational Capability [2]		2019 Production [3]			2018 Production		
		2020	2019						
	Finished Product (Millions of tonnes)	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)
Rocanville	6.5	5.4	5.4	15.96	23.2	5.14	16.74	22.7	5.22
Allan	4.0	2.8	2.8	6.15	25.1	2.18	6.55	25.9	2.41
Vanscoy	3.0	1.7	2.2	4.06	25.2	1.42	6.49	26.1	2.24
Lanigan	3.8	2.3	2.1	5.83	22.0	1.75	6.98	21.0	1.96
Cory	3.0	1.0	1.0	3.46	24.0	0.97	2.82	24.1	0.81
Patience Lake [4]	0.3	0.3	0.3	-	-	0.24	-	-	0.20
Totals	**20.6**	**13.5**	**13.8**	**35.46**		**11.70**	**39.58**		**12.84**

1 Represents estimates of capacity as of December 31, 2019. Estimates are based on capacity as per design specifications or Canpotex entitlements once determined. 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 Actual realized production.

4 Solution mine.

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.

Competitive Position

Potash is a commodity, characterized by minimal product differentiation, and, consequently, producers compete based on price, quality and service. We price competitively, sell high quality products and provide high quality service to our customers. Our service includes maintaining warehouses, leasing railcars and chartering vessels to enhance our delivery capabilities. The high cost of transporting potash affects competition in various geographic areas. During 2019, our principal competitors in North America included PA Belaruskali, ICL, Intrepid Potash Inc., K+S Group, The Mosaic Company ("Mosaic"), SQM and PJSC Uralkali. In 2019, outside of Canada and the US, Canpotex competed with producers such as APC, PA Belaruskali, Eurochem Group AG, ICL, K+S Group, SQM and PJSC Uralkali.

Sources of Raw Materials

The production of potash requires a sustained fresh water supply for the milling process which comes from nearby sources including subsurface aquifers, reservoirs, or the Saskatchewan River.

5.3 Nitrogen Operations

Overview

Our Nitrogen operations include the production of nitrogen fertilizers and nitrogen feed and industrial products, including ammonia, urea, urea ammonium nitrate ("UAN") solutions, diesel emission fluid ("DEF"), ammonium nitrate, ammonium sulfate, nitric acid and the controlled-release product Environmentally Smart Nitrogen® ("ESN®").

We own and operate eight nitrogen production facilities in North America, four located in Alberta, Canada and one in each of the following US states: Georgia, Louisiana, Ohio and Texas. We also own and operate a nitrogen production facility in Trinidad.

The following table sets forth the nitrogen facility locations and products produced.

Plant Locations	Nitrogen Products Produced
Augusta, Georgia	Ammonia, urea, UAN, DEF, nitric acid and ammonium nitrate
Borger, Texas	Ammonia, urea and DEF
Carseland, Alberta	Ammonia and urea
Fort Saskatchewan, Alberta	Ammonia and urea
Geismar, Louisiana	Ammonia, UAN, DEF and nitric acid
Joffre, Alberta	Ammonia
Lima, Ohio	Ammonia, urea, UAN, DEF, nitric acid and ammonium nitrate
Point Lisas, Trinidad	Ammonia and urea
Redwater, Alberta	Ammonia, urea, ammonium nitrate, UAN and ammonium sulfate

We also operate a number of facilities that upgrade ammonia and urea to other products such as UAN, ammonium nitrate, nitric acid and ESN®.

Plant Locations	Nitrogen Products Produced
Americus, Georgia	Rainbow plant food
Carseland, Alberta	ESN®
Florence, Alabama	Rainbow plant food (ceased production in July 2019)
Granum, Alberta	UAN
Kennewick, Washington	UAN, ammonium nitrate and nitric acid
New Madrid, Missouri	ESN®
Standard, Alberta	UAN

Our owned and operated facilities have a combined annual gross ammonia nameplate capacity of approximately 7.1 million tonnes. In 2019, we made the decision to close our Florence, Alabama facility, with production of Rainbow plant food at that facility ceasing in July 2019.

We also have a 50 percent joint venture ownership in Profertil S.A. ("Profertil"), a joint venture that owns a nitrogen facility in Bahia Blanca, Argentina. In addition, through our ownership of shares of Misr Fertilizers Production Company S.A.E., we hold a 26 percent interest in a nitrogen facility located in Egypt.

Transportation, Storage and Distribution

We distribute our nitrogen products by vessel, barge, railcar and truck to our customers and, in high consumption areas, through our strategically located storage terminals. In North America, we lease or own approximately 210 nitrogen distribution points, as well as a fleet of approximately 4,400 owned or leased railcars. We also lease dry and liquid storage capacity in Europe. These locations provide a network of field and production site storage capacity sufficient to serve local dealers during the peak seasonal demand period and are also used to provide off-season storage.

We distribute products from Trinidad primarily to markets in the US, South America, Europe and North Africa. We employ four long-term chartered ocean-going vessels and utilize short-term and spot charters as necessary for the transportation of ammonia for our marine distribution operations in Trinidad. All bulk urea production from Trinidad is shipped through third-party carriers. In addition, Profertil's terminal on the Parana River includes a dedicated berth and two 100,000-tonne dry storage buildings in a key agricultural region of Argentina.

Production Methods

Ammonia is produced by taking nitrogen from the air and reacting it with a hydrogen source, usually natural gas reformed with steam.

Ammonia is the feedstock used to produce a full line of upgraded products, including urea, ammonium nitrate, nitric acid and nitrogen solutions, including both UAN solutions and DEF products, and ESN®. Urea is produced by combining ammonia with carbon dioxide ("CO_2") and forming liquid urea, which can be further processed into a solid form. UAN solutions are liquid fertilizers that are produced by combining liquid urea, liquid ammonium nitrate and water. Urea solutions are produced by combining liquid urea with water. ESN® is a patented coated-fertilizer product that is made by coating the urea substrate with layers of polymers, allowing for more efficient delivery of nitrogen to the plant.

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. ESN® is sold to agricultural customers.

Ammonium sulfate is produced by reacting ammonia and sulfuric acid and then granulated to form a solid granular product. At our Redwater, Alberta facility, we produce sulfuric acid from purchased sulfur. In 2019, we repurposed this facility, ceasing monoammonium phosphate ("MAP") production in May 2019, in order to increase our ammonium sulfate capacity. A second ammonium sulfate train was commissioned in September 2019 at Redwater, increasing our production capacity from approximately 360,000 tonnes to approximately 710,000 tonnes.

Competitive Position

Nitrogen-based fertilizer is a global commodity, and customers, including end-users, dealers and other fertilizer producers and distributors, base their purchasing decisions principally on the delivered price and availability of the product. The relative cost of, and availability of transportation for, raw materials and finished products to manufacturing facilities are also important competitive factors.

Within North America, transportation costs play a factor in regional price differences and we compete with other domestic producers, including CF Industries Holdings, Inc., CVR Partners, L.P., Koch Industries, Inc., LSB Industries, Inc., OCI N.V., and Yara International ASA and with imported product from suppliers in the Middle East, North Africa, Trinidad, Central and Eastern Europe and China. In the offshore market, we compete with a wide range of offshore and domestic producers. Nitrogen is also 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.

Our North American plants are geographically well positioned to service agriculture, industrial and feed customers across Canada and the US. Our robust North American distribution network provides in-market support, during seasonal peak demand, ensuring timely product availability. Trinidad mainly supplies our international fertilizer and industrial customers.

Our US production has continued to benefit from the low cost of natural gas, and to a greater extent our Western Canadian production, which utilizes natural gas indexed to the Alberta benchmark price, has also benefited. In Trinidad, the price at which we purchase natural gas varies primarily with ammonia market prices, and annual escalating floor prices. Ammonia and urea predominate our offshore sales of nitrogen and originate primarily from Trinidad, with other sales coming from purchased product locations. For 2019, our offshore sales of nitrogen products represented 18 percent (2018 – 18 percent) of our total nitrogen sales.

Sources of Raw Materials

Natural gas is the primary raw material used for producing ammonia, which is the base for virtually all nitrogen products. In North America, we may enter into natural gas hedging transactions with the goal of minimizing risk from volatile gas prices. In Trinidad, natural gas is purchased under contract using a pricing formula related to the market price of ammonia. In 2018, we entered into a new five-year gas supply contract, which includes minimum take or pay requirements, to provide the entire Trinidad ammonia complex with 90 percent of its expected requirements for 2019 through 2023. 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 90 percent of our North American 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.

5.4 Phosphate Operations

Overview

Our Phosphate operations include the manufacture and sale of solid and liquid phosphate fertilizers, phosphate feed and purified phosphoric acid, which is used in food and industrial products. We have phosphate mines and mineral processing plant complexes in White Springs, Florida and Aurora, North Carolina. We also have three Phosphate feed plants in the US.

In 2018, we made the decision to repurpose our Redwater Phosphate facility in order to increase our ammonium sulfate capacity. The production of phosphoric acid at the Redwater Phosphate facility ceased in May 2019 once phosphate rock inventory at the facility was depleted.

In connection with the 2018 sale of our Conda phosphate production facility and adjacent mineral rights, we entered into long-term supply and offtake agreements with Itafos Conda LLC. Based on these agreements, which extend through 2023, we expect to market an estimated 330,000 tonnes per year of MAP produced at Conda, Idaho.

Our Phosphate properties include:

Plant Locations	Primary Products Produced [1]
Aurora, North Carolina	DAP, MAP, SPA, liquid fertilizer, purified acid, merchant grade phosphoric acid (“MGA”), hydrofluosilicic acid, deflourinated merchant grade acid and low magnesium SPA (“LOMAG”)
Cincinnati, Ohio	Blended purified acid products
Joplin, Missouri	Animal feed
Marseilles, Illinois	Animal feed
Redwater, Alberta	MAP (ceased production in May 2019)
Weeping Water, Nebraska	Animal feed
White Springs, Florida	SPA, MGA [2], LOMAG, MAP and MAP MST

1 The following scientific terms have the following meanings:

DAP	diammonium phosphate, 46 percent P_2O_5 (solid)
MAP	monoammonium phosphate, 52 percent P_2O_5 (solid)
MAP MST	sulfur enhanced MAP
SPA	superphosphoric acid, 70 percent P_2O_5 (liquid)

2 All of the MGA from White Springs is consumed internally in the production of additional products.

We execute offshore marketing and sales of our solid phosphate fertilizer through PCS Sales (USA), Inc.

Transportation, Storage and Distribution

With respect to Phosphate, we have approximately 160 owned or leased phosphate distribution points and a fleet of approximately 5,800 owned and leased railcars. 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 and truck.

Sulfur is delivered to the White Springs facility by rail and truck from Canada and the US. 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 and White Springs is supplied by rail and truck from our production facilities in Lima, Ohio and Augusta, Georgia.

Purchased rock for our Redwater facility was imported into the port of Vancouver using ocean-going vessels and shipped by rail to Alberta. Our contract for phosphate rock from Africa to supply the Redwater phosphate facility ended as of December 31, 2018 and we depleted our remaining phosphate rock inventories, ceasing production of MAP in May 2019. Sulfur used in production at our Redwater facility was sourced locally in Alberta and delivered exclusively by truck. MAP was shipped out of the plant by either railcar or truck to customers primarily in Western Canada.

Production Methods

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 2019, the Aurora facility's total production of phosphate rock was 4.38 million tonnes and the White Springs facility's total production of phosphate rock was 1.61 million tonnes. The sequence for mining portions of the Aurora property was identified in the permit issued by the US Army Corps of Engineers in June 2009. The permit authorizes mining in excess of 20 years. Phosphate rock is the major input in our phosphorus processing operations. Substantially all the phosphate rock produced is used internally for the production of phosphoric acid, SPA, chemical fertilizers, purified phosphoric acid and animal feed products.

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 from purchased sulfur.

Our Phosphate operations purchase all their ammonia at market rates from or through our nitrogen and sales subsidiaries. Phosphoric acid is reacted with ammonia to produce DAP, MAP and MAP MST as well as liquid fertilizers.

We produce MGA at our Aurora and White Springs facilities. Some MGA from Aurora 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.

Competitive Position

Markets for phosphate fertilizer products are highly competitive and based largely on price, reliability and deliverability. 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. Our in-market distribution network ensures product supply during peak demand periods.

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

In offshore markets, we compete primarily with OCP S.A. ("OCP") and other producers from Africa and the Middle East. For 2019, our offshore sales of phosphate products represented 15 percent (2018 – 16 percent) of our total phosphate sales.

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 US and we compete with ICL, Innophos Holdings, Inc. and Chinese producers for North American industrial sales.

Sources of Raw Materials

Phosphate rock is the major input in our phosphorus processing operations, which is mined at our Aurora and White Springs facilities. Until the end of 2018, we also purchased phosphate rock from OCP for our Geismar and Redwater Phosphate facilities. We closed our Geismar phosphate facility at the end of 2018. The Redwater Phosphate operation ceased production in May 2019 as we repurposed this facility in order to increase our ammonium sulfate capacity, thereby eliminating the need for the Company to purchase phosphate rock.

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 from purchased sulfur. Ammonia for Aurora is supplied by rail and truck from our production facilities in Lima, Ohio and Augusta, Georgia. Ammonia for White Springs is primarily supplied by truck from our Augusta nitrogen plant.

5.5 Specialized Skill and Knowledge

We believe our success is dependent on the performance of our management and key operational employees, many of whom have specialized skills and knowledge relating to the retail, potash, nitrogen and phosphate industries, and to the conduct of the Retail, Potash, Nitrogen and Phosphate operations. We believe that we have adequate personnel with the specialized skills and knowledge to successfully carry out our business and operations.

5.6 Intangible Properties

We have registered and pending trademarks and patents in Canada, the US and other countries where our products are sold. In addition, it has been our practice to seek patent protection for inventions and improvements that are likely to be incorporated into our products, where appropriate, and to protect the freedom to use our inventions in its manufacturing processes. We consider several factors in assessing the materiality of our patents including, but not limited to, scope and breadth of claims, sales volumes of products incorporating the technology, strategic importance and patent duration.

While these trademarks and patents constitute valuable assets, we do not regard any single trademark or patent as being material to our operations as a whole. See Note 16 of the 2019 Consolidated Financial Statements for disclosure on estimated useful lives of intangible assets.

5.7 Seasonality

The agricultural products business is seasonal. Crop input sales are generally higher in the spring and fall crop input application seasons. Crop nutrient inventories are normally accumulated leading up to each application season. Our cash collections generally occur after the application season is complete, while customer prepayments made to us are typically concentrated in December and January and inventory prepayments paid to our vendors are typically concentrated in the period from November to January. Feed and industrial sales are more evenly distributed throughout the year. See “Risk Factors” below for a description of the risks related to seasonality.

5.8 Environmental Matters

Our operations are subject to numerous environmental requirements under federal, provincial, state and local laws, regulations and permits of the countries we operate in. These laws, regulations and permits 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 continue to become increasingly stringent, and the cost of compliance with these requirements can be expected to increase over time.

Future environmental capital expenditures are subject to a number of uncertainties, including changes to environmental laws and regulations and interpretations by regulatory authorities or changes in circumstances affecting the Company’s operations. At this time, we are unable to estimate the capital expenditures we may make in subsequent years to meet pollution prevention and emissions control objectives, as well as other environmental requirements.

Environmental Requirements, Permits and Regulatory Approvals

Many of our operations and facilities are subject to a variety of regulatory requirements, permits and approvals, all of which vary depending on the operation in question. Licenses, permits and approvals at operating sites are obtained in accordance with applicable laws and regulations, which may limit or regulate: operating conditions, rates and efficiency; land, water and raw material use and management; product storage, quality and transportation; waste storage and disposal; and emissions and other discharges. Additional legal requirements may apply in circumstances where site contamination predates the current applicable regulatory framework, where remediation is ongoing or where there is otherwise evidence that historic remediation activities have not been successful in protecting the environment. These additional requirements may result in an environmental remediation liability that must be resolved.

We believe that we are currently in material compliance with existing regulatory requirements, permits and approvals. Permits and approvals are typically required 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 by the Company.

Air Quality

With respect to air emissions, we anticipate that additional actions and expenditures may be required to meet increasingly stringent federal, provincial and state regulatory and permit requirements in the areas in which we operate, including existing and anticipated regulations under the US federal *Clean Air Act*. The US Environmental Protection Agency ("EPA") has issued a number of regulations establishing requirements to reduce air pollutant emissions. We continue to monitor developments in these various programs and assess their potential impact on our operations. The calciners at our Aurora, North Carolina phosphoric acid plant are subject to mercury emission limits adopted by the EPA in 2015, which do not reflect actual emissions during normal operations. The EPA has announced that it intends to issue a revised rule to address the issue and remove the need for the state consent order under which the calciners have been operating while the EPA addresses the issue. In 2015, we entered a consent decree that requires reductions in sulfur dioxide emissions at specified sulfuric acid plants with the final compliance dates occurring at the beginning of 2020. See Note 30 of the 2019 Consolidated Financial Statements for additional information.

Water Quality

There are international, federal, provincial and state regulatory initiatives underway that may result in new regulatory restrictions on discharges of nutrients, including discharges of nitrogen and phosphorus to waters in the US ("Nutrient Criteria"). There are also ongoing litigation efforts in several jurisdictions of the US 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 in the US. 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. We are closely monitoring and evaluating the impact of these initiatives on our operations.

Waste Management

In 2003, the EPA began investigating the phosphate industry as part of its National Enforcement Initiative regarding the mineral processing industry. The purpose of the EPA's National Enforcement Initiative is to ensure that waste resulting from mineral processing is managed in accordance with regulations under *The Resource Conservation and Recovery Act*, which is the US federal statute that governs the generation, transportation, treatment, storage and disposal of hazardous wastes. The EPA is also evaluating the mineral processing industry's compliance with the *Emergency Planning and Community Right to Know Act* and the *Comprehensive Environmental Response, Compensation and Liability Act of 1980*("CERCLA").

Several of the Company's phosphoric acid production facilities have received notices of violation or entered orders with the EPA as a result of the EPA's National Enforcement Initiative. These facilities include the Conda, Idaho Phosphate production facility sold in January 2018, for which we retained environmental liabilities attributable to our historic activities. We are negotiating with the EPA and the relevant state environmental agencies to resolve the matters relating to these facilities, and these negotiations are ongoing. In these negotiations, we are seeking to minimize the costs and impact on our future operations consistent with applicable legal requirements, including financial assurance for the future closure, maintenance and monitoring of phosphogypsum stack systems. The full scope of the costs that we may ultimately incur to bring these matters to a conclusion could be material to our operations, but are not currently predictable or quantifiable with reasonable certainty. See Note 30 of the 2019 Consolidated Financial Statements for additional information.

Asset Retirement Obligations

Provisions are recognized when: (i) the Company has a present legal or constructive obligation as a result of past events; (ii) it is probable that an outflow of resources will be required to settle the obligation; and (iii) the amount can be reliably estimated.

We have recorded in the 2019 Consolidated 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 (phosphate mining, in particular), 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.

The estimation of the costs of asset retirement obligations 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. As at December 31, 2019, we had accrued a total of $1,254 million for asset retirement obligations, the current portion of which totaled $123 million. For additional information, see Note 24 of the 2019 Consolidated Financial Statements.

Site Assessment and Remediation

We are also subject to environmental statutes that may require investigation and, where appropriate, remediation of contaminated properties. Canadian federal and provincial laws as well as 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 in respect 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.

As at December 31, 2019, we had accrued environmental costs of $544 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. As at December 31, 2019, the current portion of these costs totaled $25 million. The accrued amounts include the Company's and its subsidiaries' expected final share of the costs for the site assessment and remediation matters to the extent future outflow of resources is probable and can be reliably estimated, as well as accrued amounts from acquired companies. For additional information, see Note 24 of the 2019 Consolidated Financial Statements.

It is often difficult to estimate and predict the potential costs and liabilities, including natural resource damages, 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. For certain matters, we are unable to make a reliable estimate of the amount and timing of any financial effect in excess of the amounts accrued for various reasons including: complexity of the matters; early phases of most proceedings; lack of information on the nature and timing of future actions in the matters; dependency on the completion and findings of investigations and assessments; and the lack of specific information as to the nature, extent, timing and cost of future remediation with respect to those matters. Until we have greater clarity as to our liability and the extent of our financial exposure, it is not practicable to make a reliable estimate of the financial effect. For additional information, see Note 30 of the 2019 Consolidated Financial Statements.

Climate Change and Greenhouse Gas ("GHG") Emissions

Nutrien generates GHG emissions directly and indirectly through the production, distribution and use of its products. These emissions may be subject to climate change policies and regulations, all of which are developing in unique ways within various federal, provincial and state jurisdictions. Increasing regulation of GHGs may impact our operations by requiring changes to our production processes or increasing raw material, energy, production or transportation costs in order to ensure compliance. There are also significant differences in the climate change policies of countries where Nutrien operates as some are parties to the Paris Agreement, negotiated in December 2015, under the United Nations Framework Convention on Climate Change, and some are not.

Sources of GHGs from our production operations include emissions from the reforming of natural gas to produce hydrogen, which is used to synthesize ammonia, as well as process emissions from some of our nitric acid plants. We estimate that the production stage of our operations accounts for approximately 95 percent of our overall emissions. Approximately two-thirds of the natural gas required to produce ammonia – the basic building block of all nitrogen fertilizer – is used to provide the necessary hydrogen for the process. Given current economically viable technologies, the CO2 emissions related to this process are fixed by the laws of chemistry and cannot be reduced. We have developed strategies to attempt to improve energy efficiency in our production operations, to capture and store carbon, and to reduce the amount of nitrous oxide ("N_2O") emissions from our nitric acid facilities. We are also investing in developing new precision agriculture technologies and agronomic services that improve the efficiency of fertilizer applications within our Retail operations, so more grain can be produced with the same amount of fertilizer and with reduced loss to the environment.

Our Canadian manufacturing facilities are primarily located in the provinces of Alberta and Saskatchewan and are subject to a variety of provincial and federal requirements to reduce GHG emissions ranging from carbon taxes to emissions intensity reduction requirements. We attempt to minimize our Canadian compliance costs through the implementation of various efficiency and emissions reduction projects, including: overall efforts to increase operational efficiency; operating a cogeneration facility in partnership with TransCanada Energy Ltd., a subsidiary of TC Energy Corporation, at Carseland, Alberta that captures waste heat and produces emission offset credits; operating a cogeneration facility in partnership with ATCO Power Ltd. and SaskPower at our Cory, Saskatchewan potash mine that captures waste heat and provides all of the mine's steam requirements; and the development and implementation of the Nitrous Oxide Emissions Reduction Protocol designed to generate emission offset credits for farmers who reduce their N_2O emissions. We have also partnered with Enhance Energy Inc. to supply CO_2 from the Redwater nitrogen facility to the Alberta Carbon Trunk Line to be captured and used for enhanced oil recovery in Central Alberta. The project began its first CO_2 injection in December 2019.

Large final emitters (industrial facilities emitting over 100,000 tonnes of carbon dioxide equivalents ("CO_2e")) in Alberta have been subject to emission reduction requirements and a GHG pricing system since implementation of the *Specified Gas Emitters Regulation* ("SGER") in 2007. Nutrien's Carseland, Fort Saskatchewan and Redwater facilities were subject to compliance reporting and carbon pricing under this program. In 2018, the Alberta government replaced SGER with product specific emission intensity benchmarks under the *Carbon Competitiveness Incentive Regulation* ("CCIR"). This program was phased-in through 2018 and 2019, whereby facilities were granted an additional transitional emission allowance representing 50 percent of the facility's historical compliance obligation (based on emissions and production) for 2018 and 25 percent of historical compliance obligation for 2019. The aggregated compliance costs for Nutrien in the first year of the CCIR were minimal. This was due to the additional phase-in emission allowance in the first year of the program, and good plant reliability in 2018. Compliance costs for 2019 were approximately $3 million, with the higher costs due to lower emission allowances in the second year of CCIR and maintenance outages at the Redwater and Carseland facilities.

In late 2016, Canada and its provinces, other than Saskatchewan and Manitoba, agreed to the Pan-Canadian Framework on Clean Growth and Climate Change ("Framework"). Manitoba subsequently signed onto the Framework, whereas Ontario and Alberta have since pulled out of it. The Framework is the blueprint by which Canada will attempt to meet its commitment under the Paris Agreement. The *Greenhouse Gas Pollution Pricing Act* ("GGPPA"), passed in June 2018, is Canada's legislative tool for implementing the Framework. The GGPPA is designed to act as a federal backstop that will apply in provinces that do not establish their own systems that meet federal stringency criteria. The GGPPA is comprised of two parts: a federal fuel charge beginning at $20 per tonne CO_2e in 2019 and rising by $10 per tonne CO_2e per year through 2022, and an output-based pricing system for large industrial emitters.

In September 2018, the Canadian federal government announced that the federal GGPPA backstop would apply in Saskatchewan, Manitoba, Ontario and New Brunswick; however, the Saskatchewan *Management and Reduction of Greenhouse Gases Act* was deemed equivalent, which allows for a Saskatchewan potash industry-specific five percent emission intensity reduction from a specified three-year baseline by 2030. All six of our Saskatchewan potash facilities submitted baseline applications for provincial approval in September 2019. Negotiations between the Saskatchewan Ministry of Environment and the federal Department of Environment and Climate Change Canada are underway to develop a system that would apply to power generation and, as a result, pass-through costs on electricity from the backstop are yet to be determined. The GGPPA backstop did not apply in Alberta as it already had an economy wide fuel carbon levy and equivalent large emitter program through the CCIR.

On January 1, 2020, the Alberta government replaced the CCIR with the *Technology Innovation and Emissions Reduction Regulation* ("TIER"). Under this program, facilities that emit 100,000 tonnes or more of CO_2e will be subject to the less stringent of a product-specific high-performance benchmark ("HPB") based on the emission intensity of the most efficient facilities, or a facility-specific benchmark based on a 10 percent emission intensity reduction relative to the facility's own historical baseline. The stringency of facility-specific benchmarks will increase by one percent annually beginning in 2021 until the facility benchmark reaches the HPB. The tightening rate will not apply to industrial process emissions, which are fixed by chemistry and cannot be reduced through efficiency improvements. TIER was designed to meet federal stringency criteria to avoid application of the federal GGPPA backstop and is currently priced at $30 per tonne of CO_2e. On December 6, 2019, the Canadian federal government announced that TIER has met its stringency criteria, albeit only for the year 2020. In 2021, the federal price on carbon for large emitters under the GGPPA will increase to $40 per tonne of CO_2e. It is currently unknown if Alberta will increase its carbon price under TIER by a similar amount.

In June 2019, the Alberta government repealed the Alberta carbon levy. This provincial carbon levy previously applied at the point of purchase to all fuels beginning in 2017. With the provincial levy now canceled, the federal backstop fuel charge under the GGPPA began to apply in Alberta starting January 1, 2020. This will not impact Alberta facilities regulated under TIER.

Saskatchewan, Ontario, and more recently Alberta, have launched legal challenges to the constitutionality of the GGPPA. Decisions have been issued in the Ontario and Saskatchewan challenges upholding the federal government's jurisdiction to implement the backstop; however, both provinces are appealing the decisions. As of the date hereof, Alberta's challenge has not been ruled upon.

The Canadian federal government is currently conducting consultations with stakeholders to implement a federal Clean Fuel Standard that will apply to liquid fuels beginning in 2022 and gaseous fuels beginning in 2023. This standard will be designed to incent the development and use of lower carbon fuels. Nutrien is tracking development of the standard and will remain engaged through the consultation process.

In the US, the EPA has issued GHG emissions regulations that establish a reporting program for emissions of CO_2, methane and other GHGs, as well as a permitting program for certain large GHG emissions sources. Beyond that, there is significant uncertainty regarding the likelihood of new or amended federal GHG regulations in the US under the current presidential administration, and the potential impact on the Company cannot be determined at this time. Apart from federal regulation of GHGs, some US states have also enacted laws concerning GHG emissions that we are monitoring for impacts on our operations.

The impacts of climate change and future restrictions on emissions of GHGs on the Company's operations could be material but cannot be determined with any certainty at this time.

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 US and elsewhere using approved security vulnerability methodologies. Additional actions and expenditures may be required in the future. In the US, 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 the US 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 have also 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.

5.9 Employees

At December 31, 2019, we employed approximately 22,300 people. Of these 22,300 employees, our Retail operations employed approximately 14,800 people, our Potash operations approximately 2,600, our Nitrogen operations approximately 1,700, our Phosphate operations approximately 1,600, our Corporate functions approximately 1,400, with the remaining approximately 200 people employed within our shared services group providing sales and logistics services to our Potash, Nitrogen and Phosphate operations.

We have entered into 16 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[1]
Cory, Saskatchewan	April 30, 2019[1]
Lanigan, Saskatchewan	January 31, 2021
Patience Lake, Saskatchewan	April 30, 2019[1]
Regina, Saskatchewan	December 31, 2019[1]
Regina, Saskatchewan	December 31, 2019[1]
Regina, Saskatchewan	December 31, 2019[1]
Rocanville, Saskatchewan	May 31, 2023
Vanscoy, Saskatchewan	April 30, 2018[1]
Florence, Alabama	July 14, 2023
Mulberry, Florida	May 31, 2021
White Springs, Florida	December 10, 2021
Americus, Georgia	June 30, 2023
Greenville, Mississippi	August 27, 2021
Cincinnati, Ohio	November 1, 2024
Lima, Ohio	October 31, 2022

1 The terms of this collective bargaining agreement, including new expiry date, remain under renegotiation as of the date hereof.

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

5.10 Social and Environmental Policies

Code of Ethics

Nutrien's most important assets are our employees, customers, shareholders, suppliers and the communities in which we operate. It is critical that we maintain the trust of each of these stakeholders. Our Code of Ethics ("Code") helps us fulfill our responsibilities by: committing to the public and our stakeholders our uncompromising integrity in every aspect of our business; describing our values and principles of business conduct, including our own high standards and fundamental respect for the rule of law; guiding employees how to engage in ethical decision making in all of our operations around the world; and outlining our approach to interacting ethically with stakeholders and acting in the best interest of shareholders. The Code also outlines our commitment to the safety of people and protection of the environment.

We actively promote ethical behavior through the Code and numerous supporting policies, which are reinforced by due diligence procedures, training, and our compliance hotline. In 2019, all Nutrien employees received formal training on the Code and other compliance related topics. Our confidential 24-hour, 365 days a year, externally administered compliance hotline allows employees to report any violations or suspected violations of the Code, other Nutrien policies or any other illegal or unethical behavior. The Code also clearly sets out our non-retaliation policy which is designed to enable employees to raise good faith issues in a safe environment without fear of retaliation.

Anti-Corruption Policy

We operate in a wide range of jurisdictions and are vigilant and proactive in preventing and detecting corruption. Our global Anti-Corruption Policy requires those who work on behalf of Nutrien to ensure that their own conduct fulfils the corporate commitment to compliance with the laws in each applicable jurisdiction. It applies to Nutrien's directors, officers, employees, representatives, consultants, and other agents of Nutrien and each of its subsidiaries and in every country where we do business.

Nutrien maintains an anti-corruption due diligence program that includes:

- Identifying high risk third parties, including acquisition targets and potential joint venture partners, and conducting diligence;
- Incorporating anti-corruption clauses in contracts or obtaining certifications that include anti-corruption language for high risk third parties; and
- Requiring anti-corruption training and other risk mitigation steps where appropriate, such as annual certification or continued monitoring to identify and address any potential issues.

Workplace Policies

We have adopted a robust diversity and inclusion strategy that focuses on increasing gender diversity and match-to-market representation of visible minorities, including Indigenous peoples in Canada. Within the strategy, we are committed to increasing diversity of our workforce while increasing inclusive practices and a sense of belonging for our employees. We implemented a Respect in the Workplace Policy, an Inclusive Workplace Commitment Statement and an Equal Employment and Affirmative Action Policy. Implementation of our workplace diversity and inclusion initiatives is supported by training and workshops, employee resource groups, and ongoing monitoring of internal employment trends (new hires, promotion and turnover) for diverse employee groups. We benchmark our inclusion maturity using a comparison of our practices to the Global Diversity and Inclusion Benchmark model as a basis for continuous improvement.

Supplier Code of Ethics and Procurement Procedure

Our Supplier Code of Ethics ("Supplier Code") is aligned with our commitment to the 10 principles of the United Nations Global Compact and international standards. The Supplier Code identifies the values that we expect our suppliers to embrace and applies to those suppliers that provide products or services to us around the world.

Commitment by our suppliers to the principles of the Supplier Code is significant in our decision making process. Our legal and compliance teams support the due diligence process for high-risk suppliers, which includes ensuring that appropriate language is included in contracts with various suppliers and a requirement that the supplier adhere to our Supplier Code. Where suppliers refuse to follow the principles of the Supplier Code or show signs that they are not committed to improving their practices to comply with its principles, Nutrien will review its relationship with the supplier. Where contractual commitments and local law permit, this review may include termination of our relationship with the non-compliant supplier.

We are also committed to supporting diversity and inclusion throughout the procurement process. Our procurement policies and procedures – including our Procurement Diversity and Inclusion Procedure – are designed to ensure that fair consideration is given to all potential suppliers. We have developed an Aboriginal Content Playbook to assist suppliers in developing local Aboriginal content in their own organizations and supply chains. In addition, we work with Aboriginal opportunity partner companies to provide contracting opportunities at our worksites. We believe in building and maintaining relationships of mutual respect with Aboriginal communities through our procurement practices, and extend this further by providing employment and training opportunities and community investments.

Safety, Health, Environment and Security Policy

We are committed to the care and protection of our people, environment, community, and customers. We honor that commitment by making safety a core value of our organization, as we grow our world from the ground up.

Under our Safety, Health, Environment and Security ("SHE&S") Policy, our goals are to:

- Protect our people, assets, facilities, communities and environment;
- Proactively prevent incidents and minimize risk by continuously improving our safety, health and environmental performance;
- Promote employee physical and mental health and well-being; and
- Drive excellence in safety, health and environment ("SH&E") across our operations and supply chain.

We strive to accomplish these goals through our SH&E strategy of "home safe, every day", which brings our safety vision, principles and priorities to life and guides our daily actions and behaviors. Nutrien will ensure leaders and their teams are well-supported with SH&E expertise and resources to help everyone go home safe, every day.

We have well-defined SHE&S policies, programs and processes, committed leadership, and a responsible workforce. In addition to a Corporate SHE&S Department, we have established a SHE&S organization in each business unit with clear lines of reporting and accountability. This has enabled us to focus on both oversight and governance as well as increasing management involvement in our operations and activities. We steward to an integrated SHE&S management system, which includes a policy and system of documenting SHE&S management and performance expectations applicable to our facilities. Our business units and, where appropriate, individual facilities augment these requirements with system controls necessary to manage the risks unique to those operations.

Continuous improvement and performance monitoring of our operations occur in part through the Board SHE&S Committee ("BSC"), and also through various business unit initiatives and work teams. The development of environmental management systems standards, guidance documents and continuous improvement occurs at the business unit level SHE&S leaders' committee ("Operational Committee") and the Corporate SHE&S Department. The Corporate SHE&S Department reports through the Operational Committee, where performance and risk management issues are addressed. The SHE&S leaders' committee reports through the Corporate SHE&S Committee ("CSC"), which in turn reports to the BSC. Policy and strategy are reviewed annually at the CSC level for relevance and modified as appropriate. The BSC is responsible for the general oversight of SHE&S governance. These committees meet on a recurring basis to monitor performance against annual and longer-term performance goals, to discuss plans and strategies relating to our processes, and to evaluate opportunities for improving our systems.

Technical support and compliance assurance for our operations are managed at three levels within the organization: the facilities level, business unit level and corporate level. At the corporate level, Corporate SHE&S staff are responsible for maintaining integrated systems, performance monitoring, providing technical expertise and conducting business unit SHE&S audits. The use of a structured compliance assurance program enables us to achieve continuous improvement and consistent management practices at our facilities and in our operations.

We maintain ongoing, close working relationships with industry associations and regulatory agencies. These relationships ensure that new or changing regulations are known, understood, and communicated so risk management strategies can be developed to maintain compliance.

Sustainability

In 2019, we continued to develop our sustainability strategy to advance resilient agricultural practices and strengthen sustainable food production through innovative solutions that balance environmental, social and economic factors in our business and across our value chain. Nutrien's sustainability strategy complements our corporate strategy by providing key enablers for organizational success and bringing our purpose to life.

We published our 2018 Sustainability Report in July 2019 detailing Nutrien's Sustainability program and providing information about our strategy, material topics, performance data and initiatives. The report can be viewed on the Company's website at www.nutrien.com. The Company intends to focus on sustainability disclosures for the investment community and other stakeholders by issuing Nutrien's first Environmental, Social and Governance Report in the first half of 2020.

5.11 Risk Factors

Our performance and our future operations are and may be affected by a wide range of risks. The following section describes our key risks and uncertainties. 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, cash flows, value of our debt securities and, in certain cases, our reputation.

Significant changes in the agriculture space could adversely impact our business

The agricultural landscape continues to evolve at an increasingly fast pace as a result of factors including farm and industry consolidation, agricultural productivity and development and climate change.

Farm consolidation in the US and other developed markets has been ongoing for decades and is expected to continue as grower demographics shift and advancements in innovative technology and equipment enables farmers to manage larger operations to create economies of scale in a lower-margin, more capital-intensive environment. Increased consolidation in the crop nutrient industry has resulted in greater resources dedicated to expansion, research and development opportunities, leading to increased competition in advanced product offerings and innovative technologies. Some of these competitors have greater total resources or are state-supported, which make them less vulnerable to industry downturns and better positioned to pursue new expansion and development opportunities.

The advancement and adoption of technology and digital innovations in agriculture and across the value chain has increased and is expected to further accelerate as grower demographics shift and pressures from consumer preferences, governments and climate change initiatives evolve. The development of seeds that require less crop nutrients, development of full or partial substitutes for our products or developments in the application of crop nutrients such as improved nutrient use or efficiency through use of precision agriculture could also emerge, all of which have the potential to adversely affect the demand for our products and results of operations.

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 changing 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 and the risk relating to the impact of climate change could include acute risks resulting from increased severity of extreme weather events and chronic risks resulting from longer-term changes in climate patterns. Risks also arise from a wide variety of policy, regulatory, legal, technological and market responses to the challenges posed by climate change.

These factors as well as other factors affecting long-term demand for our products and services (such as population growth and changes in dietary habits) could adversely impact our strategy, demand for our products and financial performance.

Shifting market fundamentals may result in a prolonged agriculture downturn

Global macro-economic conditions and shifting dynamics, including trade tariffs and restrictions and increased price competition, or a significant change in agriculture production or consumption trends, could lead to a sustained environment of reduced demand for our products, and/or low commodity prices.

We are subject to intense price competition from both domestic and foreign sources, including state-owned and government-subsidized entities. Crop nutrients, including potash, nitrogen and phosphate, are global commodities with little or no product differentiation, and customers make their purchasing decisions principally on the basis of delivered price and, to a lesser extent, on customer service and product quality. Historically, selling prices for our products have fluctuated in response to periodic changes in supply and demand conditions. Supply is affected by available capacity and operating rates, raw material costs and availability, government policies and global trade.

Periods of high demand, high capacity utilization and increasing operating margins tend to result in investment in production capacity, which may cause supply to exceed demand and capacity utilization and realized selling prices for our products to decline, resulting in possible reduced profit margins. Such conditions could also include write-downs in the value of our inventory and production assets, and temporary or permanent curtailments of production. Competitors and potential new entrants in the markets for potash, nitrogen and phosphate have in recent years expanded capacity, begun construction of new capacity, or announced plans to expand capacity or build new facilities. The extent to which current global or local economic and financial conditions, changes in such conditions or

other factors may cause delays or cancellation of some of these ongoing or planned projects, or result in the acceleration of existing or new projects, is uncertain. Future growth in demand for our products may not be sufficient to absorb excess industry capacity.

We are impacted by global market and economic conditions that could adversely affect agriculture commodity trade flows and demand for crop nutrients or increase prices for, or decrease availability of, raw materials and energy necessary to produce our products. These conditions include international trade disputes, international crises or risks thereof (such as pandemics or epidemics), rising incomes in developing countries, the relative value of the US dollar and its impact on the importation of fertilizers, foreign agricultural policies, the existence of, or changes in, import or foreign currency exchange barriers in certain foreign markets and other regulatory policies of foreign governments, as well as the laws and policies affecting foreign trade and investment.

Trade disputes, tariffs and other restrictions may lead to volatility in commodity prices, disruptions in historical trade flows and shifts in planting patterns that could have an adverse effect on our business, financial condition and results of operations. Additionally, some of our customers require access to credit to purchase our products and a lack of available credit to customers in one or more countries, due to this deterioration, could adversely affect demand for crop nutrients as there may a reluctance to replenish inventories in such conditions.

Our business may be adversely affected by changing regulations

We are subject to numerous federal, state, provincial and local environmental, health and safety laws and regulations, including laws and regulations relating to land, water and raw material use and management; the emission of contaminants to the air or water; land reclamation; the generation, treatment, storage, transportation, disposal and handling of hazardous substances and wastes; the clean-up of hazardous substance releases; and the demolition of existing plant sites upon permanent closure. Specifically, our mining and manufacturing processes release CO_2 and other GHGs and consume energy generated by processes that result in GHG emissions.

We incur significant costs and associated liabilities in connection with these laws and regulations. There are substantial uncertainties as to the nature and timing of any future regulations with many of the laws and regulations continuing to become increasingly stringent, and the cost of compliance 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 to address concerns related to fertilizer and food prices, accidents, terrorism or transportation of potentially hazardous substances. Increased or more stringent regulations, if enacted, could impact our ability to produce or transport certain products, increase our raw material, energy, transportation, and compliance costs, reduce our efficiency, require us to make capital improvements to our facilities and have a negative effect on our customer satisfaction, reputation and financial performance. To the extent that such regulations, including GHG restrictions, are not imposed in the countries where our competitors operate or are less stringent than regulations that may be imposed in the US, Canada or the other jurisdictions in which we operate, our competitors may have a cost or other competitive advantages over us.

We hold numerous environmental, mining and other governmental permits and approvals authorizing operations at each of our facilities. Continuation and/or expansion of our operations is dependent upon renewing or securing the necessary environmental or other permits or approvals. A decision by a government agency to deny or delay issuing a new or renewed material permit or approval, or to revoke or substantially modify an existing permit or approval, could materially adversely affect our ability to continue operations at the affected facility.

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 antitrust laws, trade agreements or regulations may limit our operations or the operations of Canpotex, and could negatively impact opportunities for future acquisitions or organic growth.

Our operations may be affected by political, economic and social instability in the areas in which we operate

We are a global business with significant operations in Canada and the US as well as operations outside of North America, including Australia, South America, European countries and Trinidad, with a focus on expanding our international presence in Brazil. We also hold business investments primarily in Egypt, China and Argentina.

We are subject to numerous risks and uncertainties relating to international sales and operations, including: difficulties and costs associated with complying with a wide variety of complex laws, treaties and regulations; abrupt or unexpected changes in regulatory environments; increased government regulation of the economy and/or state ownership of enterprises; forced divestures or changes to or nullification of existing agreements, mining permits or leases; political and economic instability, including the possibility for civil unrest, inflation and adverse economic conditions resulting from governmental attempts to reduce inflation, such as imposition of higher interest rates and wage and price controls; nationalization of properties or assets by foreign governments; the imposition of tariffs, exchange controls, trade barriers or other restrictions; restrictions on monetary distributions; and currency exchange rate fluctuations between the US dollar and foreign currencies.

The occurrence of any of the above in the countries in which we operate or elsewhere could jeopardize or limit our ability to transact business and could adversely affect our revenue and operating results and the value of our assets located in such countries.

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. Our Code, together with our mandatory policies, such as our 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.

Our information technology systems, infrastructure and data may become the target of cybersecurity attacks

Information technology systems are embedded in our business and operational control systems and, as we grow our digital platform and process automation systems, we may become more exposed to cyberattacks, which continue to become increasingly sophisticated. Cybersecurity risks include attacks on information technology and infrastructure by hackers, damage or loss of information due to viruses, the unintended disclosure of confidential information, the misuse or loss of control over computer control systems, and breaches (intentional or otherwise). 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 fail to maintain the support of our stakeholders for our business plans

Our stakeholders, which consist of shareholders, customers, employees, suppliers, global and indigenous communities and governments, among others, may place an increasing importance on the structure of our business, our ability to execute on our strategy and our core sustainability and social responsibilities. Underperformance due to weak market fundamentals or business issues, inadequate communication, engagement and/or collaboration with our stakeholders, inadequate management of climate change issues, or dissatisfaction with our practices or strategic direction may lead to a lack of support for our business plans. Loss of stakeholder confidence impairs our ability to execute on our business plans, negatively impacts our ability to produce or sell our products and may also lead to reputational and financial losses, or shareholder action.

We may fail to develop the right organizational structure, talent and resources

Our ability to attract and retain qualified top talent and provide the necessary organizational structure, programs and culture to engage and develop our employees is crucial to our growth and achieving our business results.

Although we strive to be an employer of choice, competition for skilled employees in certain geographical areas 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. Failure to develop the right organizational structure or culture could result in decreased productivity, reliability, efficiency and safety performance, higher costs or reputational harm. It could also negatively impact our ability to take on new projects or acquisitions and sustain operations, which might negatively affect our operations or our ability to grow.

New digital technologies or innovations could adversely impact our Retail business model

Digital innovations, increased research and development activities and use of new technology in the agriculture market by new or existing competitors could alter the competitive environment, resulting in existing business models being disrupted, which may adversely impact our Retail operations and financial performance.

We may fail to effectively allocate capital to achieve sustained growth

Challenges may arise in the capital allocation process due to changing market conditions, including the unavailability, due to geopolitical, market or other reasons, of appropriate capital deployment opportunities, and our ability to anticipate and incorporate such changes in our decision-making process. 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. Failure to allocate capital in an effective manner may lead to reduced returns on capital invested, operational inefficiencies, damage to our reputation or limitations on our access to capital.

When we undertake any strategic initiatives, our ability to achieve the expected returns and other benefits will be affected by our degree of preparedness and ability to execute.

- 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, or 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.

- With respect to any completed and future acquisitions, including the Merger, we are dependent upon our ability to successfully consolidate functions and integrate operations, technology, systems, procedures and personnel in a timely and efficient manner. The integration of 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 with respect to any completed or future acquisitions, including the Merger, may result in the disruption of our existing business and customer relationships, which may adversely affect our ability to achieve the anticipated synergies and other benefits and may, in turn, 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 or in a timely manner, which could delay the accomplishment of our strategic objectives.

We may fail to maintain high levels of safety and health or to protect the environment

Our operations are subject to hazardous safety and environmental risks inherent in mining, manufacturing, transportation, storage and distribution of chemical fertilizers, including ammonia, which is highly toxic and corrosive. These risks can include: underground water inflows at our potash mines; explosions; fires; severe weather and natural disasters; train derailments, collisions, vessel groundings and other transportation and maritime incidents; leaks and ruptures involving storage tanks, pipelines and railcars; spills, discharges and releases of toxic or hazardous substances or gases; uncontrolled tailings, gypsum stack or other containment breaches; significant subsidence from mining activities; and deliberate sabotage and terrorist incidents. We also have personnel who work or travel in higher risk countries and are subject to increased safety and security risks as a result.

The potash mining process is complex and subject to certain geological conditions and hazards, including the presence of water-bearing strata above and below many underground mines, which pose 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.

Failure to prevent or appropriately respond to a safety, health or security incident could result in injuries or fatalities among our employees, contractors or residents in 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. Preventing or responding to accidents could require us to expend significant managerial time and effort, and financial resources to remediate safety issues, compensate injured parties or repair damaged facilities. Any of the foregoing could have an adverse impact on our ability to produce or distribute product, financial results and our reputation. Failure to prevent a significant environmental incident could 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.

Our business and operations are subject to other general and ongoing risks, most of which are outside our control

Canpotex may be dissolved or its ability to operate impaired

Canpotex is the offshore marketing, transportation and distribution company we rely on to deliver our potash to customers outside Canada and the US. 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 are exposed to various market risks that may impact our operating results

We are exposed to various market factors that may impact our operating results including: changes in the price of, or ability to source, raw materials and energy, which could, among other things, impact our gross margins and profitability; commodity price volatility, including the possibility of asset impairment as a result thereof; currency volatility and risk, including as a result of the translation of foreign subsidiaries' financial statements to US dollars for consolidation at the Nutrien level; and fluctuations in interest rates which could negatively impact our financial results given our use of floating rate debt, floating rate credit facilities and commercial paper, as well as the refinancing of long-term debt and anticipated future financing needs. We seek to manage a portion of the risks relating to changes in commodity prices and foreign currency exchange rates by using derivative instruments; however, such instruments may be ineffective in fully mitigating such risks.

Changes in the price of raw materials and energy required to produce our products, including natural gas, which is the principal raw material used to manufacture our nitrogen products and a significant energy source in the potash milling and mining process, could have a material impact on our business. The price of raw materials and energy can fluctuate widely for a variety of reasons, including changes in availability because of additional capacity or limited availability due to curtailments, regulatory changes, including changes related to production of certain raw materials or energy sources, 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, weather conditions and forecasts, competitors' actions, international events and circumstances and governmental regulation in the US and abroad. Because most of our products are commodities or derived from commodities, there can be no assurance that we will be able to recover increases in the price of such raw materials through an increase in the price of our related crop nutrient products. Conversely, when the market prices for these raw materials rapidly decrease, the selling prices for related crop nutrients can fall more rapidly than we are able to consume our raw material inventory that we purchased or committed to purchase at higher prices. As a result, our costs may not fall as rapidly as the selling prices of our products. Until we are able to consume the higher-priced raw materials, our gross margins and profitability may be adversely affected.

We have benefited from relatively low North American natural gas prices in recent years; however, the price for natural gas in North America can vary significantly compared to the price for natural gas in Europe and Asia. Significantly lower natural gas prices in Europe and/or Asia may give our competitors in Europe and Asia a competitive advantage, which could, in turn, decrease international and domestic product prices and reduce our margins. In addition, higher natural gas prices, particularly in North America, during a period of low crop input selling prices could adversely affect our results of operations.

There is also a risk to production at various of our facilities due to concerns over the availability of natural gas supplies. Nitrogen facilities in Argentina, Egypt and Trinidad have all experienced supply strains or curtailments. Continued or increased natural gas shortages may result in reduced production available for sale and higher production costs per tonne.

We may be unable to access sufficient, cost-effective and timely transportation, distribution and storage of our products

We rely on railroad, trucking, pipeline and other transportation service providers to transport raw materials to our manufacturing facilities, to coordinate and deliver finished products to our storage and distribution system and our Retail centers and to ship finished products to our customers.

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 a number of factors, including labor disputes, system failures, accidents (such as spills or derailments), 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 reputational damage with our customers.

Adverse weather conditions may decrease demand for our products or delay grower purchases

Our business and our customers are impacted by weather patterns and conditions. Adverse conditions that can delay or intermittently disrupt fieldwork during the planting and growing seasons may cause agricultural customers to use different forms of crop nutrients and crop protection products, which may adversely affect demand for the forms that we sell or may impede farmers from applying our crop nutrients and crop protection products until the following growing season, or in some cases not at all, resulting in lower demand for our products and reduced revenues. In addition, we face the significant risk and cost of continuing to carry inventory should our customers' activities be curtailed during their normal application seasons. We must manufacture and distribute product throughout the year in order to meet peak season demand, as well as react quickly to unexpected changes in weather patterns that affect demand. Weather can also have an adverse effect on crop yields, which could lower the income of growers and impair their ability to purchase our crop nutrients, crop protection and seed products and services. As a result, our quarterly financial results may vary significantly from one year to the next due to weather-related shifts in planting schedules and purchasing patterns, and losses due to adverse weather conditions in one quarter may not be recovered in the following season.

We may be unable to access capital on a cost-effective or timely basis

We rely on access to debt capital markets to finance ourday-to-day and long-term operations. Access to and cost of capital may be affected by factors not specific to our Company, such as adverse conditions in the credit markets, general and industry-specific market and economic conditions and interest rate fluctuations. Our access to capital will also be dependent on our credit ratings, which are determined by, among other things, the level and quality of our earnings, our ability to generate cash flows and restrictions on our ability to repatriate cash offshore. A credit rating downgrade could potentially limit our access to private and public credit markets and increase the costs of borrowing under our existing credit facilities. A downgrade could also limit our access to short-term debt markets and increase the cost of borrowing in the short-term and long-term debt markets. Inability to access capital on a cost-effective or timely basis may result in a loss of liquidity, an increase in the cost of capital or inability to execute on value-added transactions requiring significant capital. Our reputation and financial performance may be impacted by concerns regarding the contribution of our operations to climate change and could include a reduction in investor confidence and constraints on our ability to access capital markets.

Our operations are exposed to counterparty risk

We are exposed to the risks associated with counterparty performance, including credit risk and performance risk. We may experience material financial losses in the event of customer payment default for our products and/or financial derivative transactions.

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, including matters arising from our activities or activities of predecessor companies. The outcome of these matters may be difficult to assess or quantify, and such matters may not be resolved in our favor. Such matters could result in unfavorable outcomes, including fines, sanctions and monetary damages against us or our directors, officers or employees. The defense of such matters may also be costly and time consuming, and could divert the attention of management and key personnel from our operations. We may also be subject to adverse publicity associated with such matters, regardless of whether such allegations are valid or whether we are ultimately found liable.

Our insurance coverage may not adequately cover our losses

We maintain property, business interruption, casualty and liability insurance policies, but we are not fully insured against all potential hazards and risks pertaining to our business. As a result, we may incur significant liability for which we are not fully insured. We are subject to various self-retentions, deductibles and limits under these insurance policies. The policies also contain exclusions and conditions that could have a material adverse impact on our ability to receive indemnification thereunder. Our policies are generally renewed annually. As a result of market conditions, our premiums, self-retentions and deductibles for certain insurance policies can increase substantially and, in some instances, certain insurance may become unavailable or available only for reduced amounts of coverage. In addition, significantly increased costs could lead us to decide to reduce, or possibly eliminate, coverage for certain hazards and risks.

We may be subject to labor disruptions or disputes

A significant portion of our workforce is unionized or otherwise governed by collective bargaining or similar agreements. In addition, seven of our sixteen collective bargaining agreements remain under renegotiation as of the date hereof. 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 financial performance.

Our reported mineral reserves and mineral resources are only estimates

Our reported mineral reserves and mineral resources are only estimates. The estimated mineral reserves and mineral resources may not be recovered or may not be recovered at the rates estimated. Mineral reserves and mineral resources estimates are based on limited sampling, and, consequently, are uncertain because the samples may not be representative of the actual resources. Mineral reserves and mineral resources estimates may require revision (either up or down) based on actual production experience. Further, market fluctuations in the price of potash, as well as increased production costs or reduced recovery rates (including due to policy, legal, technological, market and societal responses to climate change), may render certain mineral reserves and mineral resources uneconomic and may ultimately result in a restatement of estimated resources and/or reserves.

5.12 Mineral Projects

See “Schedule B – Mineral Projects” for information regarding our Allan, Cory, Lanigan, Rocanville and Vanscoy potash operations.

Item 6 – Dividends

The declaration, amount and payment date of any dividend by Nutrien is at the discretion of the Board and will depend on numerous factors, including compliance with applicable laws and the financial performance, debt obligations, working capital requirements and future capital requirements of Nutrien and its subsidiaries. See “Item 5 – Description of the Business – 5.11 Risk Factors”.

Dividends declared by Nutrien for the years ended December 31 were as follows:

2019		2018	
Date Declared	**Per Common Share**	**Date Declared**	**Per Common Share**
May 10, 2019	0.43	February 20, 2018	0.40
July 30, 2019	0.45	May 23, 2018	0.40
December 13, 2019	0.45	July 19, 2018	0.40
		November 5, 2018	0.43
		December 14, 2018	0.43
Total	**1.33**	**Total**	**2.06**

In 2017, PotashCorp declared aggregate cash dividends of $0.40 per PotashCorp Share and Agrium declared aggregate cash dividends of $3.50 per Agrium Share.

Item 7 – Description of Capital Structure

7.1 General Description of Capital Structure

Authorized Capital

The authorized share capital of Nutrien consists of an unlimited number of Common Shares and an unlimited number of preferred shares issuable in series.

As of the date hereof, 570,736,961 Common Shares were issued and outstanding and no preferred shares were issued or outstanding. The following is a general description of the material rights, privileges, restrictions and conditions attached to the Common Shares and the preferred shares.

Common Shares

Each Common Share entitles the holder to: (i) vote at all meetings of holders of Common Shares (except meetings at which only holders of a specified class or series of shares of Nutrien are entitled to vote as provided in the CBCA) and to one vote for each Common Share held on all polls taken at such meetings; (ii) receive, subject to the rights of the holders of another class of shares of Nutrien, any dividend declared by the Board from time to time, in their absolute discretion, in accordance with applicable law; and (iii) receive, subject to the rights of holders of another class or series of shares of Nutrien, the remaining property of Nutrien on the liquidation, dissolution or winding up of Nutrien or any other distribution of the assets of Nutrien for the purposes of winding up its affairs, whether voluntary or involuntary. There are no pre-emptive or conversion rights attaching to the Common Shares and the Common Shares are not subject to redemption. All Common Shares currently outstanding and to be outstanding upon exercise of outstanding options and other securities, as applicable, are, or will be, fully paid and non-assessable.

Our by-laws provide for certain rights of holders of our Common Shares in accordance with the provisions of the CBCA. Such by-laws may be amended either by a majority vote of the holders of Common Shares or by a majority vote of the Board. Any amendment of the by-laws by action of the Board must be submitted to the next meeting of our shareholders whereupon the by-law amendment must be confirmed, confirmed as amended or rejected by a majority vote of the shareholders voting on such matter. The Common Shares are not redeemable or convertible.

Preferred Shares

The preferred shares may at any time and from time to time be issued in one or more series with the designation, rights, privileges, restrictions and conditions attaching to each series of the preferred shares to be determined by the Board.

The preferred shares of each series rank on a parity with the preferred shares of every other series, and are entitled to preference over the Common Shares and any other shares of the Company ranking junior to the preferred shares, with respect to (i) the payment of dividends; (ii) the distribution of property in the event of the liquidation, dissolution or winding-up of Nutrien; and (iii) such other preferences as may be determined by the Board.

Except as specifically provided in the rights, privileges, restrictions and conditions attaching to any series of preferred shares and except as provided by the CBCA, the holders of preferred shares are not entitled to receive notice of or attend any meeting of the shareholders of the Company or to vote at any such meeting for any purpose.

The provisions attaching to the preferred shares as a class may be added to, changed or removed, and the Board may create shares ranking prior to the preferred shares, only with the approval of the holders of the preferred shares as a class, any such approval to be given by the holders of not less than 66$^{2}/_{3}$ percent of the preferred shares in writing by the registered holders of the preferred shares or by resolution at a meeting of such holders.

7.2 Constraints

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

7.3 Debt Ratings

The following information relating to Nutrien's credit ratings is provided as it relates to Nutrien's financing costs, liquidity and operations and to satisfy disclosure requirements under applicable Canadian securities rules. 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 could increase the interest rates applicable to future borrowings.

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 credit 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. The Company has paid each of Standard & Poor's Rating Services ("S&P") and Moody's Investors Service ("Moody's") their customary fees in connection with the provision of the following ratings. The Company has not made any payments to S&P or Moody's in the past two years for services unrelated to the provision of such ratings.

	S&P Rating	**Moody's Rating**
Nutrien Notes	BBB	Baa2
US$ Commercial Paper	A-2	P-2
Ratings Outlook	Stable	Stable

S&P

The BBB rating assigned by S&P is the fourth highest rating of S&P's eleven 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 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.

S&P's stable outlook on Nutrien's credit ratings means that the ratings are not likely to change.

Moody's

The Baa2 rating assigned by Moody's is the fourth 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 two 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. Nutrien's issuer rating assigned by Moody's is Baa2.

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 fromP-1 to NP. Issuers rated P-2 are defined by Moody's as having a strong ability to repay short-term debt obligations.

Moody's stable outlook on Nutrien's credit ratings indicates a low likelihood of a rating change over the medium term.

Item 8 – Market for Securities

8.1 Trading Price and Volume

During 2019, Nutrien's common shares traded on the Toronto Stock Exchange ("TSX") and the New York Stock Exchange ("NYSE") under the symbol "NTR".

The following table sets out the high, low and closing prices and trading volume of the common shares on the TSX for 2019 on a monthly basis:

Month (2019)	High Price (CA$)	Low Price (CA$)	Closing Price (CA$)	Volume
January	69.29	60.52	68.07	27,613,912
February	73.63	66.64	71.63	20,736,746
March	73.64	67.33	70.48	37,681,855
April	73.32	68.74	72.66	23,156,560
May	73.25	63.27	65.92	33,543,855
June	73.00	66.02	70.05	28,673,160
July	72.69	64.72	72.36	25,672,307
August	72.84	63.58	67.05	20,803,880
September	69.52	64.60	66.00	25,471,875
October	67.53	62.82	63.01	24,313,320
November	66.74	61.32	62.70	17,858,660
December	64.58	60.81	62.17	24,531,313

The following table sets out the high, low and closing prices and trading volume of the common shares on the NYSE for 2019 on a monthly basis:

Month (2019)	High Price (US$)	Low Price (US$)	Closing Price (US$)	Volume
January	52.52	44.88	51.82	29,120,871
February	56.00	50.21	54.44	29,792,527
March	55.21	50.11	52.76	41,605,600
April	54.78	51.58	54.18	27,913,676
May	54.48	46.87	48.74	46,743,023
June	55.34	48.89	53.46	35,402,973
July	55.25	49.60	54.81	42,067,770
August	54.99	47.84	50.36	25,432,174
September	52.41	48.69	49.88	20,027,744
October	51.07	47.75	47.79	26,161,105
November	50.78	46.17	47.42	22,711,094
December	49.23	45.82	47.91	25,312,168

8.2 Prior Sales

During the year ended December 31, 2019, Nutrien issued 474,655 Common Shares pursuant to the exercise and settlement of outstanding share-based compensation award plans, including those assumed from PotashCorp and Agrium in connection with the Merger. During 2019, Nutrien also granted 1,376,533 stock options under its stock option plan. See Note 6 and Note 25 of the 2019 Consolidated Financial Statements for additional information.

In addition, in April 2019, Nutrien issued $750 million aggregate principal amount of 4.200 percent notes due April 1, 2029 and $750 million aggregate principal amount of 5.000 percent notes due April 1, 2049. These notes are unsecured, rank equally with Nutrien's existing unsecured debt, and have no sinking fund requirements prior to maturity. Each series is redeemable and provides for redemption prior to maturity, at the Company's option, at specified prices. See Note 20 of the 2019 Consolidated Financial Statements for additional information.

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 executive officers, including names, municipality and country of residence, all current positions held with the Company, present principal occupation and principal occupations held during the last five years. The current directors will hold office until the earlier of their resignation and our next annual meeting of shareholders at which directors are elected or until such directors cease to hold office pursuant to the provisions of 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**
Mayo M. Schmidt Las Vegas, Nevada, US	2018 (Agrium from 2013 – 2017)	Corporate Director Board Chair of Nutrien	President & Chief Executive Officer and Director of Hydro One Inc., an electricity transmission and distribution company
Charles (Chuck) V. Magro Heritage Pointe, Alberta, Canada	2018 (Agrium from 2013 – 2017)	President & Chief Executive Officer of Nutrien	President & Chief Executive Officer of Agrium
Christopher M. Burley [1, 3] Calgary, Alberta, Canada	2018 (PotashCorp from 2009 – 2017)	Corporate Director	Corporate Director
Maura J. Clark [1, 2] New York, New York, US	2018 (Agrium from 2016 – 2017)	Corporate Director	Corporate Director
John W. Estey [2, 4] Naples, Florida, US	2018 (PotashCorp from 2003 – 2017)	Corporate Director	Current Chairman and former President & CEO of S&C Electric Company, a global provider of equipment and services for electric power systems Board Chair of PotashCorp
David C. Everitt [2, 4] Marco Island, Florida, US	2018 (Agrium from 2013 – 2017)	Corporate Director	Current Board Chair and former Interim President & CEO of Harsco Corporation, a global industrial company

Directors (Name and Municipality of Residence)	Director Since	Present principal occupation or employment	Prior principal occupation or employment within the preceding five years
Russell K. Girling [1, 2] Calgary, Alberta, Canada	2018 (Agrium from 2006 – 2017)	President & Chief Executive Officer and Director of TC Energy Corporation, a diversified energy and pipeline company	Same as present
Miranda C. Hubbs [3, 4] Toronto, Ontario, Canada	2018 (Agrium from 2016 – 2017)	Corporate Director	Corporate Director
Alice D. Laberge [1, 3] Vancouver, British Columbia, Canada	2018 (PotashCorp from 2003 – 2017)	Corporate Director	Corporate Director
Consuelo E. Madere [3, 4] Destin, Florida, US	2018 (PotashCorp from 2014 – 2017)	President and Founder of Proven Leader Advisory, LLC, a management consulting and executive coaching firm	Same as present
Keith G. Martell [1, 2] Eagle Ridge, Saskatchewan, Canada	2018 (PotashCorp from 2007 – 2017)	President & Chief Executive Officer and Director of First Nations Bank of Canada, a Canadian charted bank independently controlled by Aboriginal shareholders	Same as present
Aaron W. Regent [1, 2] Toronto, Ontario, Canada	2018 (PotashCorp from 2015 – 2017)	Founding Partner and Managing Partner of Magris Resources Inc., a private equity investment firm specializing in the mining sector Chairman and Chief Executive Officer of Niobec Inc., a company that owns and operates the Niobec mine which comprises niobium deposit	Same as present

1 Member of the Audit Committee of the Board.
2 Member of the Human Resources & Compensation Committee of the Board.
3 Member of the Corporate Governance & Nominating Committee of the Board.
4 Member of the Safety, Health, Environment & Security Committee of the Board.

Executive Officers (Name and Municipality of Residence)	Present position with the Company and Principal Occupation	Prior principal occupation or employment within the preceding five years
Charles (Chuck) V. Magro Heritage Pointe, Alberta, Canada	President and Chief Executive Officer of Nutrien	President & Chief Executive Officer, Agrium
Pedro Farah Calgary, Alberta, Canada	Executive Vice President and Chief Financial Officer of Nutrien	Executive Vice President and Treasurer, Walmart; Executive Vice President and Chief Financial Officer, Walmex (Walmart Mexico)
Michael J. Frank Timnath, Colorado, US	Executive Vice President and Chief Executive Officer of Retail of Nutrien	Executive Vice President and President, Retail, Agrium; Senior Vice President & Chief Commercial Officer, Monsanto Company, an agrochemical and agricultural biotechnology company

Executive Officers (Name and Municipality of Residence)	Present position with the Company and Principal Occupation	Prior principal occupation or employment within the preceding five years
Susan C. Jones [1] Saskatoon, Saskatchewan, Canada	Executive Advisor to the CEO	Executive Vice President and Chief Executive Officer of Potash, Nutrien; Senior Vice President & Chief Legal Officer, Agrium; Vice President, Marketing & Distribution, Agrium
Robert (Bob) Kirkpatrick Saskatoon, Saskatchewan, Canada	Interim Chief Legal Officer and Senior Vice President, General Counsel, Securities and Corporate Secretary of Nutrien	Senior Vice President, General Counsel, Securities and Corporate Secretary, Nutrien; Vice President, Deputy General Counsel & Assistant Corporate Secretary, PotashCorp
Leslie A. O'Donoghue [2] Calgary, Alberta, Canada	Executive Advisor to the CEO	Executive Vice President, Corporate Development & Strategy & Chief Risk Officer, Nutrien and Agrium
Brent Poohkay Canmore, Alberta, Canada	Executive Vice President and Chief Information Officer of Nutrien	Senior Vice President, Information Technology, PotashCorp; Vice President, Chief Information Officer and Chief Privacy Officer, Enbridge Inc., a multinational energy transportation company
Ken Seitz Saskatoon, Saskatchewan, Canada	Executive Vice President and Chief Executive Officer of Potash of Nutrien	President and Chief Executive Officer, Canpotex Limited, a potash exporter; Senior Vice President and Chief Commercial Officer, Cameco Corporation, a uranium producer
Raef Sully Loveland, Colorado, US	Executive Vice President and Chief Executive Officer of Nitrogen and Phosphate of Nutrien	President, Nitrogen and Phosphate, PotashCorp; President, Nitrogen, PotashCorp
Mark Thompson Saskatoon, Saskatchewan, Canada	Executive Vice President, Chief Corporate Development and Strategy Officer of Nutrien	Vice President of Business Development, Vice President of Strategy, Special Assistant to CEO, Nutrien and Agrium
Michael R. Webb Calgary, Alberta, Canada	Executive Vice President and Chief Human Resources and Administrative Officer of Nutrien	Senior Vice President, Human Resources, Agrium

1 Ms. Jones' employment with Nutrien as the Executive Advisor to the CEO ended January 1, 2020.
2 Ms. O'Donoghue's employment with Nutrien as the Executive Advisor to the CEO ended January 1, 2020.

As at December 31, 2019, the directors and executive officers of the Company as a group beneficially own, or control or direct, directly or indirectly, 309,919 Common Shares, representing less than 1 percent of the outstanding Common Shares.

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 10 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, to the knowledge of the Company, 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 10 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 10 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) and voluntary petitions for relief under Chapter 11 of the *United States Bankruptcy 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* (Canada) on March 3, 2016. In 2015, securities regulators for the Provinces of Alberta, British Columbia, Manitoba, Ontario, Quebec, Saskatchewan and New Brunswick issued cease trade 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 *Companies' Creditors Arrangement Act* (Canada). 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 of the 2019 Consolidated Financial Statements is incorporated by reference herein. 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 of any 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, 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, 2019, the registrar and transfer agent for the Common Shares was AST Trust Company (Canada), at its principal offices in Saskatoon, Saskatchewan; Calgary, Alberta and Toronto, Ontario.

The trustee for the Nutrien Notes is the Bank of New York Mellon at its principal 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 Company's 2019 and 2018 Consolidated Financial Statements have been audited by KPMG LLP. The consolidated financial statements of the Company as at December 31, 2017 and for the period from the date of incorporation (June 2, 2017) to December 31, 2017 have been jointly audited by KPMG LLP and Deloitte LLP.

The Consolidated Financial Statements of PotashCorp for the year ended December 31, 2017 ("PotashCorp 2017 Consolidated Financial Statements") have been audited by Deloitte LLP.

The Consolidated Financial Statements of Agrium for the year ended December 31, 2017 ("Agrium 2017 Consolidated Financial Statements") have been audited by KPMG 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 (each, as defined in Schedule B hereto). Mr. Funk is a qualified person under National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI43-101") 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.

A. Dave Mackintosh, P.Geo., of ADM Consulting Limited, and Michael Ryan Bartsch, P.Eng. and Dennis William Aldo Grimm, P.Eng., both employees of the Company as of the date of the Vanscoy Technical Report (as defined in Schedule B hereto), each prepared certain sections of the Vanscoy Technical Report in accordance with NI 43-101 on behalf of the Company. Mr. Mackintosh, of ADM Consulting Limited, Messrs. Bartsch and Grimm are qualified persons under NI 43-101 and have reviewed and approved the scientific and technical information within this AIF relating to the Company's Vanscoy potash operations.

16.2 Interests of Experts

KPMG LLP are the auditors of the Company and have confirmed with respect to the Company that they are independent within the meaning of the relevant rules and related interpretations prescribed by the relevant professional bodies in Canada and any applicable legislation or regulations and also that they are independent accountants with respect to the Company under all relevant US professional and regulatory standards.

Deloitte LLP, the former auditors of the Company and PotashCorp, have confirmed that they were, with respect to the Company, throughout the period from the date of incorporation of the Company (June 2, 2017) to December 31, 2017 and as of February 20, 2018, and, with respect to PotashCorp, throughout the period covered by the PotashCorp 2017 Consolidated Financial Statements and as of February 20, 2018, independent with respect to the Company and PotashCorp (and their associates or affiliates) within the meaning of the United States *Securities Act of 1933*, as amended, and the applicable rules and regulations thereunder adopted by the US Securities and Exchange Commission and the Public Company Accounting Oversight Board (United States) and within the meaning of the rules of professional conduct of the Chartered Professional Accountants of Saskatchewan.

Craig Funk is an employee of the Company 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.

A. Dave Mackintosh, P.Geo., ADM Consulting Limited and the partners, employees and consultants of ADM Consulting Limited, did not hold any registered or beneficial interests, directly or indirectly, in the securities of the Company or its associates or affiliates.

Dennis William Aldo Grimm, P.Eng., is a retired employee of the Company and holds beneficially, directly or indirectly, less than one percent of any class of the Company's securities.

Michael Ryan Bartsch, P.Eng., is an employee of the Company and holds beneficially, directly or indirectly, less than one percent of any class of the Company's securities.

Item 17 – Audit Committee

17.1 Audit Committee Charter

Attached, as Schedule A, is the charter for the Company's Audit Committee.

17.2 Composition of the Audit Committee

Members of the Audit Committee are Maura J. Clark, Christopher M. Burley, Russell K. Girling, Alice D. Laberge, Keith G. Martell and Aaron W. Regent. David C. Everitt was a member of the Audit Committee until May 7, 2019. Each member of the Audit Committee is (and, in the case of Mr. Everitt, was, during his time of service on the Audit Committee) independent and financially literate (as such terms are defined in National Instrument 52-110 – Audit Committees).

17.3 Relevant Education and Experience of Members of the Audit Committee

Name **(Director Since)**	**Principal Occupation and Full Biography**
Ms. Maura J. Clark (2018) (Audit Committee Chair) B.A. (Economics), CPA, CA New York, New York, US Other Public Directorships Fortis Inc., a North American electric and gas utility holding company, (TSX) Garrett Motion Inc., a turbocharger and electric-boosting technology manufacturer, (NYSE)	Ms. Clark is a Corporate Director and the former President of Direct Energy Business, a subsidiary of Centrica plc, a North American energy and energy-related services provider from 2007 to 2014. Previously, Ms. Clark was Executive Vice President of North American Strategy and Mergers and Acquisitions for Direct Energy. She also served as a managing director at Goldman Sachs & Co., an investment-banking firm, and as Executive Vice President, Corporate Development and Chief Financial Officer of Premcor, Inc. (formerly known as Clark Refining & Marketing, Inc.), a petroleum refiner and marketer. Ms. Clark holds a Bachelor of Arts degree from Queen's University and a Chartered Professional Accountant designation.
Mr. Christopher Burley (2018) B.Sc., M.B.A. Calgary, Alberta, Canada Other Public Directorships None	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 Chairman and a director of WestJet Airlines Ltd. Mr. Burley is a graduate of the Institute of Corporate Directors' Education Program and holds the ICD.D designation.
Mr. David C. Everitt [1] (2018) B.Sc. Marco Island, Florida, US Other Public Directorships Harsco Corporation, an industrial company (NYSE) Brunswick Corporation, a manufacturing company (NYSE) Allison Transmission Holdings, Inc., a manufacturing company (NYSE)	Mr. Everitt is a Corporate Director and former interim Chief Executive Officer of Harsco Corporation, a global industrial company. Previously he was President, Agriculture and Turf Division – North America, Asia, Australia, and Sub-Saharan and South Africa, and Global Tractor and Turf Products of Deere & Company, a farm equipment manufacturer. Mr. Everitt serves as a director of the National Business Aviation Association and the Kansas State University Foundation. Mr. Everitt holds a Bachelor of Science (Engineering) from Kansas State University.
Mr. Russell K. Girling (2018) B. Comm., M.B.A. (Finance) Calgary, Alberta, Canada Other Public Directorships TC Energy Corporation, a diversified energy and pipeline company, (TSX, NYSE)	Mr. Girling has been the President and Chief Executive Officer of TC Energy Corporation and TransCanada PipeLines Limited since July 1, 2010. Prior to his appointment, he served as Chief Operating Officer from July 17, 2009 to June 30, 2010 and President, Pipelines from June 1, 2006 until June 30, 2010. Previously, Mr. Girling served as Chief Financial Officer and Executive Vice President, Corporate Development of TC Energy Corporation until May 31, 2006, and as Executive Vice

Name (Director Since)	Principal Occupation and Full Biography
	President, Power from 1995 until his appointment as Chief Financial Officer in 1999. Mr. Girling has held various other leadership positions since joining TC Energy Corporation in 1994. Prior to his employment with TC Energy Corporation, he held several marketing and management positions at Suncor Inc., Northridge Petroleum Marketing and Dome Petroleum. Mr. Girling is a member of the Canadian Council of Chief Executives, US National Petroleum Council, the US Business Roundtable and a member of the board of directors of the American Petroleum Institute and the Business Council of Canada. Mr. Girling also holds the ICD.D designation.
Ms. Alice D. Laberge (2018) B.Sc., M.B.A. Vancouver, British Columbia Other Public Directorships Royal Bank of Canada, a global financial services provider, (TSX, NYSE) Russel Metals Inc., a North American metal distribution company, (TSX)	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, the Canadian Public Accountability Board and the B.C. Cancer Foundation and has served as a director of SilverBirch Holdings Inc., Delta Hotels Ltd. and Catalyst Paper Corporation. She was recognized as a Fellow of the Institute of Corporate Directors in 2015.
Mr. Keith G. Martell (2018) B. Comm, CPA, CA Eagle Ridge, Saskatchewan, Canada Other Public Directorships None	Mr. Martell is President & Chief Executive Officer and a director of First Nations Bank of Canada, a Canadian chartered bank primarily focused on providing financial services to the First Nations marketplace. He is a Chartered Professional Accountant, formerly with KPMG LLP. He is a director of River Cree Enterprises Ltd., is a trustee of the National Indian Brotherhood Trust, serves on the Dean's Advisory Council of the University of Saskatchewan's Edwards School of Business and is a trustee of Primrose Lake Trust. Mr. Martell is a former director of the Canadian Chamber of Commerce, Public Sector Pension Investment Board of Canada and The North West Company Inc., and a former trustee of the North West Company Fund.
Mr. Aaron W. Regent (2018) B.A., FCPA, FCA Toronto, Ontario, Canada Other Public Directorships The Bank of Nova Scotia, a global financial services provider, (TSX, NYSE)	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.

1 Member of the Audit Committee of the Board until May 7, 2019.

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 implemented a Pre-Approval Policy for Audit and Non-Audit Services for the pre-approval of services performed by our auditors. The objective of this policy is to specify the scope of services permitted to be performed by our auditors and to ensure that the independence of our auditors is not compromised through engaging them for other services. Our Audit Committee pre-approves all audit services and all permitted non-audit services provided by our external auditors and reviews on a quarterly basis whether these services affect our external auditors' independence. All services provided by our auditors in 2019 complied with the Pre-Approval Policy for Audit and Non-Audit Services, and professional standards and securities regulations governing auditor independence.

17.5 External Auditor Service Fees (by Category)

KPMG LLP and Deloitte LLP were appointed by the Board as external auditors of Nutrien in January 2018 in connection with the joint audit of the Company's consolidated financial statements for the period from the date of incorporation (June 2, 2017) to December 31, 2017. In July 2018, KPMG LLP was appointed by the Board as the sole external auditor of Nutrien and Deloitte LLP ceased to be an external auditor of the Company.

The following table sets out the fees billed to us by KPMG LLP and its affiliates for professional services rendered during the years ended December 31, 2019 and December 31, 2018.

Category	Year Ended December 31 (US$)	
	2019	2018
Audit Fees [1]	4,986,000	5,942,200
Audit-Related Fees [2]	112,500	325,900
Tax Fees [3]	367,200	362,400
All Other Fees [4]	336,000	-
Total	**5,801,700**	**6,630,500**

1 For professional services rendered by KPMG LLP for the audit and review of the Company's financial statements or services that are normally provided by KPMG LLP in connection with statutory and regulatory filings or engagements.
2 For professional services rendered by KPMG LLP for specified audit procedures regarding financial assurances issued to certain government agencies, and services which are reasonably related to the performance of the audit of the Company's financial statements and are not included in Audit Fees.
3 For professional services rendered by KPMG LLP for tax compliance, tax advice and tax planning with respect to the Canadian, US and key international jurisdictions; review of tax filings; assistance with the preparation of tax filings; tax advice relating to asset dispositions; and other tax planning, compliance, and transaction services. These amounts include fees paid to KPMG LLP specifically for tax compliance and preparation services rendered in 2019 and 2018 in the amount of $358,200 and $289,200, respectively.
4 For professional services rendered by KPMG LLP for a cybersecurity risk assessment, a greenhouse gas emission engagement and a real-time assessment of a system implementation. KPMG LLP did not provide any "other services" in 2018.

The following table sets out the fees billed to us by Deloitte LLP and its affiliates for professional services rendered while serving as an external auditor of the Company during the year ended December 31, 2018.

Category	Year Ended December 31 (US$)
	2018
Audit Fees [1]	958,200
Audit-Related Fees [2]	488,000
Tax Fees [3]	182,000
All Other Fees [4]	24,400
Total	**1,652,600**

1 For professional services rendered by Deloitte LLP for the review of the Company's interim consolidated 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 subscription-based services for human resource related literature.

Item 18 – Additional Information

Additional financial information is provided in the 2019 Consolidated Financial Statements and the 2019 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 March 22, 2019 for the annual meeting of the Company's shareholders that took place on May 9, 2019.

Additional information related to Nutrien may be found on the Company's website at www.nutrien.com, on the Canadian Securities Administrators' website at www.sedar.com and on the EDGAR section of the US SEC's website at www.sec.gov.

Schedule A

Audit Committee Charter

Introduction

The Audit Committee (the "**Committee**") is established to assist the Board of Directors (the "**Board**") of Nutrien Ltd. (the "**Corporation**") in fulfilling its oversight responsibilities with respect to the accounting and financial reporting processes and the reviews and audits of the financial statements of the Corporation by monitoring: (i) the quality and integrity of the Corporation's financial statements and related disclosures; (ii) the Corporation's internal control systems, including internal control over financial reporting; (iii) specific elements of risk management (including all financial risk management) delegated to the Committee by the Board; (iv) the qualifications and independence of the external auditors of the Corporation and the recommendation of the Board to shareholders for the appointment thereof; (v) the performance of the Corporation's Internal Audit function and external auditors; and (vi) the Corporation's compliance with legal and regulatory requirements with respect to matters within the Committee's mandate and the Code of Ethics.

Introduction	**40**
Composition	**40**
Committee Chair	**41**
Quorum	**41**
Meetings	**41**
Responsibilities	**41**
Other Matters	**45**
Annex 1: Committee Chair Position Description	**46**

Management is responsible for preparing the consolidated financial statements of the Corporation and the external auditors are responsible for auditing those financial statements. Nothing in this Charter is intended, or may be construed, to impose on any member of the Committee a standard of care or diligence that is in any way more onerous or extensive than the standard to which all directors are subject under applicable laws or regulatory requirements.

In this Charter, "**Committee Chair**" means the Chair of the Committee; "**Chair**" means the Board Chair; and "**CEO**" means the Chief Executive Officer of the Corporation.

Composition

The members of the Committee shall be appointed by the Board, on the recommendation of the Corporate Governance & Nominating Committee. Any member of the Committee may be removed or replaced at any time by the Board and shall cease to be a member of the Committee on ceasing to be a director. Subject to the above, each member of the Committee shall serve as a member of the Committee until the next annual meeting of shareholders after his or her appointment.

The Committee shall consist of not less than three and not more than eight members. Each Committee member shall be independent according to the independence standards set out in the Corporate Governance Framework, including applicable independence requirements of stock exchanges on which the Corporation is listed and securities laws, rules and regulations.

Each member of the Committee shall be "financially literate", and at least one member of the Committee shall be designated as the "audit committee financial expert" and shall have "accounting or related financial management expertise", in each case, as such qualification is interpreted by the Board in its business judgment and as defined by applicable requirements of stock exchanges on which the Corporation is listed and securities laws, rules and regulations.

No member of the Committee shall serve on the audit committees of more than two other publicly listed companies, unless the Board determines that such simultaneous service would not impair the ability of such member to effectively serve on the Committee and discloses such determination in the Corporation's annual management proxy circular.

The Board may fill vacancies on the Committee from among its members, on the recommendation of the Corporate Governance & Nominating Committee. 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 place.

The members of the Committee shall be entitled to receive such remuneration for acting as members of the Committee as the Board may from time to time determine.

The Corporate Secretary or such other person acceptable to the members shall act as Secretary to the Committee.

Committee Chair

The Board, upon recommendation of the Corporate Governance & Nominating Committee, shall appoint a Committee Chair. The Committee Chair may be removed and replaced by the Board.

If the Committee Chair is not present at any meeting of the Committee, one of the other members of the Committee present at the meeting shall be chosen by the Committee to chair the meeting.

The Committee Chair shall have the duties and responsibilities set forth in **Annex 1** which is incorporated by reference herein.

Quorum

Fifty percent 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.

Meetings

All Committee members are expected to attend, in person or via teleconference, video conference, or other electronic communications facilities that permits all participants to communicate adequately, all meetings of the Committee, to come prepared for the meeting, and to remain in attendance for the duration of the meeting. The powers of the Committee may be exercised by resolution in writing signed by all members of the Committee who would have been entitled to vote on that resolution at a meeting of the Committee.

The Committee may invite such directors, officers, employees and external advisors of the Corporation as it may see fit from time to time to attend meetings of the Committee and assist in the discussion and consideration of the duties of the Committee.

The time at which and place where the meetings of the Committee shall be held, and the calling of meetings and the procedure at such meetings, shall be determined by the Committee in accordance with the Corporation's articles, by-laws, and applicable laws.

The Committee shall meet at each Committee meeting alone without Management present, and shall meet separately with applicable senior Management, the external auditors, and the Chief Audit Executive.

Responsibilities

The Committee, to the extent required by applicable laws or rules, or otherwise considered by the Committee to be necessary or appropriate, is responsible for the oversight in respect of the Corporation's financial disclosure and accounting practices, internal control systems (including internal control over financial reporting), specific elements of risk management (including all financial risk management) delegated to the Committee by the Board, the external auditors, the Internal Audit function, and legal and regulatory compliance with respect to matters within the Committee's mandate and the Code of Ethics.

To fulfill its duties and responsibilities, the Committee shall:

Financial Disclosure and Accounting

- meet with Management and the external auditors to review and discuss, and to recommend to the Board for approval prior to public disclosure, the annual audited financial statements and the specific disclosures in "Management's Discussion and Analysis of Financial Condition and Results of Operations" ("**MD&A**");

- meet with Management and the external auditors to review and discuss, and to approve prior to public disclosure, the unaudited quarterly financial statements, including the specific disclosures in the MD&A and quarterly interim reports (including annual guidance);

- review and discuss with Management and the external auditors prior to public disclosure each press release that contains significant financial information respecting the Corporation or contains estimates or information regarding the Corporation's future financial performance or prospects; and the type and presentation of information to be included in such press releases (in particular, the use of "pro forma" or "adjusted" information that is not in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board ("**IFRS**"));

- review and discuss with Management and the external auditors, and recommend to the Board for approval prior to public disclosure:

    - the portions of the Annual Information Form containing significant information within the Committee's mandate;

- the portions of the Corporation's annual management proxy circular containing significant information within the Committee's mandate;
- all financial statements included in prospectuses or other offering documents;
- all prospectuses and all documents which may be incorporated by reference in a prospectus, other than any pricing supplement issued pursuant to a shelf prospectus; and
- significant financial information, including "pro forma" or "adjusted"non-IFRS information respecting the Corporation contained in a publicly disclosed document (other than routine investor relations or similar communications);

- review and discuss with Management and the external auditors (including those of the following that are contained in any report of the external auditors): (1) any 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 alternative accounting principles in accordance with IFRS; (2) all critical accounting policies and practices to be used by the Corporation in preparing its financial statements; (3) all material alternative treatments of financial information within IFRS that have been discussed with Management, ramifications of the use of these alternative treatments, and the treatment preferred by the external auditors; and (4) other material communications between the external auditors and Management, such as any Management Representation Letter or Schedule of Unadjusted Differences;

- review and discuss with Management and the external auditors significant accounting and reporting issues and understand their impact on the financial statements, including complex or unusual transactions and areas involving significant assumptions; major issues regarding accounting principles and financial statement presentation, including any significant changes in the Corporation's selection or application of accounting principles, and the effect of regulatory and accounting initiatives, as well as off balance sheet structures, on the financial statements of the Corporation, any significant issues as to the adequacy of the Corporation's internal controls and any special audit steps adopted in light of significant control deficiencies;

- review and discuss with Management and the external auditors non-IFRS financial measures, as well as financial information and earnings guidance provided externally, including to analysts and rating agencies;

- review with Management and the external auditors the results of the annual audit, including 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;

- review Management's Internal Control Report and the related attestation by the external auditors of the Corporation's internal controls over financial reporting; and

- review with Management and the external auditors and, if necessary, legal counsel, any litigation, claim or contingency, including tax assessments, or material reports or inquiries from regulators or governmental agencies, that could have a material effect upon the financial position of the Corporation, and the manner in which these matters have been disclosed in the financial statements.

Internal Controls

- assess the effectiveness of the Corporation's internal control systems, including internal control over financial reporting and information technology strategy, risks and, in consultation with the Safety, Health, Environment + Security Committee, cyber security controls and related matters;

- understand the scope of Internal Audit's and the external auditors' review of internal controls over financial reporting, and obtain reports on significant findings and recommendations, together with Management's responses;

- annually review the Corporation's disclosure controls and procedures, including any significant deficiencies in or materialnon-compliance with such controls and procedures;

- receive and review reports from the Corporation's Disclosure Committee and periodically review the Corporation's Disclosure Policy;

- review and discuss with the CEO and Chief Financial Officer their disclosures made during their annual and quarterly certification processes 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;

- discuss with Management the Corporation's material financial risk exposures and the steps Management has taken to monitor and control such exposures; and

- review executive officers' expenses and aircraft usage reports and periodically report to the Corporate Governance & Nominating Committee thereon, as appropriate.

Risk Management

- regularly review with Management the Corporation's material risks within the Committee's scope (i.e. the principal financial risks facing the Corporation and any other risks specifically delegated to the Committee by the Board), the assessment of those risks, and how they are being managed or mitigated; and

- monitor and review at least annually Management processes and controls designed to identify, assess, monitor and manage the risks referred to above.

Internal Audit

- review with Management, the external auditors, and Internal Audit (and if appropriate, approve) the Charter, plans, activities, and organizational structure of the Internal Audit function;

- review the significant findings prepared by Internal Audit and recommendations issued by any external party relating to Internal Audit issues, together with Management's response thereto;

- take reasonable steps to ensure there are no unjustified or inappropriate restrictions or limitations on the functioning of the Internal Audit function, or on access to requested information;

- review the adequacy of the resources of Internal Audit to satisfy itself as to the effectiveness, objectivity and independence of the Internal Audit function;

- review and concur on the appointment, replacement, or dismissal of the Chief Audit Executive (or such individual in a similar capacity or position who performs a substantially similar function); and

- review the performance and effectiveness of the Internal Audit function.

External Audit

- meet with the external auditors prior to the annual audit to review (and if appropriate, approve) the proposed audit scope, approach and staffing (including coordination of audit efforts with Internal Audit) and budget;

- monitor the progress of the annual audit;

- obtain feedback about the conduct of the external audit from key employees engaged in the process;

- when applicable, review the annual post-audit letter from the external auditors and Management's response thereto andfollow-up in respect of any identified weakness;

- at least annually, obtain and review a report by the external auditors describing: (i) the external auditors' internal quality control procedures, and (ii) 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;

- annually receive from the external auditors, and review, a report on items required to be communicated to the Committee by applicable rules and regulations;

- annually review the independence of the external auditors, including their formal written statement of independence delineating all relationships between the external auditors and the Corporation, review all such relationships, and consider applicable auditor

independence standards and take any decisions and actions that are necessary and appropriate where the Committee becomes aware of the potential for a conflict (or the reasonable perception of a conflict) between the interests of the external auditors and the interests of the Corporation;

- annually evaluate the performance of the external auditors, including the lead audit partner, and report to the Board on its conclusions regarding the external auditors and recommendation to shareholders for appointment of the external auditors;

- investigate and consider whether any action is required if the external auditors resign;

- ensure the rotation of the lead audit partner having primary responsibility for the audit as required by applicable law; and

- set clear hiring policies for partners, employees and former partners and employees of the present and former external auditors.

Oversight in Respect of Audit and Non-Audit Services

- subject to confirmation by the external auditors of their compliance with Canadian and US regulatory requirements, be directly responsible (subject to Board confirmation) for the appointment of the external auditors for the purpose of preparing or issuing any audit report or performing other audit, review or attest services for the Corporation, such appointment to be confirmed by the Corporation's shareholders at each annual meeting;

- be directly responsible (subject to Board confirmation) for the approval of fees to be paid to the external auditors for audit services, and shall pre-approve the retention of the external auditors for any permitted non-audit service to the Corporation;

- be directly responsible for the retention and oversight of the services of the external auditors (including resolution of disagreements between Management and the external auditors regarding financial reporting) for the purpose of preparing or issuing an audit report or performing other audit, review or attest services for the Corporation (with the external auditors reporting directly to, and being accountable to, the Committee);

- have the sole authority to pre-approve all audit services and all permitted non-audit services to the Corporation, provided that the Committee need not approve in advance non-audit services where:
    - the aggregate amount of all such non-audit services provided to the Corporation constitutes not more than 5% of the total amount of fees paid by the Corporation to the external auditors during the fiscal year in which the non-audit services are provided; and
    - such services were not recognized by the Corporation at the time of the engagement to be non-audit services; and
    - such services are promptly brought to the attention of the Committee and approved prior to the completion of the audit by the Committee or by one or more members of the Committee to whom authority to grant such approvals has been delegated by the Committee.

- have the sole authority to delegate to one or more designated members of the Committee the authority to grant pre-approvals required by this section, provided that the decision of any member to whom authority is delegated to pre-approve a service shall be presented to the Committee at its next scheduled meeting. If the Committee approves an audit service within the scope of the engagement of the external auditors, such audit service shall be deemed to have been pre-approved for purposes of this section.

Compliance

- 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, and institute and oversee any special investigations as needed;

- review with the Chief Legal Officer (or such individual in a similar capacity or position who performs a substantially similar function) the Corporation's significant compliance policies and any legal matters or reports or inquiries received from regulators or governmental agencies that could have a material effect upon the financial position of the Corporation and that are not subject to the oversight of another committee of the Board;

- review the effectiveness of the system for monitoring compliance with laws and regulations (including those with respect to anti-fraud and anti-bribery) and the results of Management's investigations and follow-up of any instances of non-compliance that

could have a material effect upon the financial position of the Corporation and that are not subject to the oversight of another committee of the Board;

- review the process for communicating the Corporation's Code of Ethics to the Corporation's personnel and monitoring compliance therewith; and

- 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.

The Committee may perform such other functions as the Committee deems necessary or appropriate for the performance of its responsibilities and duties.

Delegation

The Committee may from time to time delegate any of its responsibilities to a subcommittee comprised of one or more members of the Committee and shall also carry out such other duties that may be delegated to it by the Board from time to time.

Other Matters

At the Corporation's expense, the Committee may retain, when it considers it necessary or desirable, outside consultants and advisors to advise the Committee independently on any matter. The Committee shall have the sole authority to retain and terminate any such consultants or advisors, including sole authority to establish or review a consultant's or advisor's fees and other retention terms, and to direct the payment thereof.

The Corporation will provide appropriate funding, as determined by the Committee, for payment of ordinary administrative expenses of the Committee that are necessary or appropriate in carrying out its duties.

Authority to make minor technical amendments to this Charter is hereby delegated to the Corporate Secretary, who will report any amendments to the Committee at its next meeting.

The Committee's performance and effectiveness shall be evaluated annually, in accordance with a process developed by the Corporate Governance & Nominating Committee and approved by the Board. The results of that evaluation, including progress on adopted recommendations, shall be reported to the Corporate Governance & Nominating Committee and to the Board.

On an annual basis, this Committee Charter shall be reviewed and assessed, and any proposed changes shall be submitted to the Corporate Governance & Nominating Committee for review and recommendation, and then to the Board for approval.

Date of Last Revision: February 18, 2020

ANNEX 1

AUDIT COMMITTEE CHAIR
POSITION DESCRIPTION

The Committee Chair shall provide overall leadership to enhance the effectiveness of the Committee and be responsible to:

- set the “tone” for the Committee and its members to foster ethical and responsible decision making, appropriate oversight of Management and appropriate corporate governance practices;
- encourage free and open discussion at meetings of the Committee;
- schedule and set the agenda for Committee meetings with input from other Committee members, the Chair and Management as appropriate;
- facilitate the timely, accurate and proper flow of information to and from the Committee, and arrange sufficient time during Committee meetings to fully discuss agenda items;
- report to the Board following each meeting of the Committee on the activities, findings and any recommendations of the Committee;
- provide advice and counsel to the senior members of Management in the areas covered by the Committee’s mandate;
- proactively encourage training and education of the Committee and its members in areas falling within the Committee’s mandate;
- take reasonable steps to ensure that Committee members understand the boundaries between the Committee and Management responsibilities;
- organize the Committee to function independently of Management and take reasonable steps to ensure that the Committee has an opportunity at each of its meetings to meet in separate closed sessions without Management present, and with or without internal personnel or external advisors as needed or appropriate;
- lead the Committee in monitoring and evaluating, in consultation with the Corporate Governance & Nominating Committee, the performance and effectiveness of the Committee as a whole and the contributions to the Committee of individual directors; and
- take 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.

SCHEDULE B
MINERAL PROJECTS

For the purposes of NI 43-101, our Allan, Cory, Lanigan, Rocanville and Vanscoy potash operations are the properties material to Nutrien.

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, 2018 ("Allan Technical Report") prepared by Craig Funk, B.Sc., M.Sc., P.Eng., P.Geo., who is a "qualified person" as defined in 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 meters 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 kilometers 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 ("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 the Saskatchewan Ministry of Energy and Resources ("SMER"). 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 ("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

10 potash mines were brought into production in Saskatchewan in the period 1962 through 1970. With decades 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 the Western 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 ("$KMgCl_3$ $6H_2O$") 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 (2017, 2018, 2019), the average, measured potash ore grade of the mill feed at Allan was 25.4% 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. Per the Allan Technical Report, the average ore grade observed from in-mine samples 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 1,000 meters depth below surface. The A Zone is approximately 3.35 meters 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.

Seismic coverage is outlined in the Allan Technical Report.

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 analyzed 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 kilometers 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.

The A Zone mining interval was historically fixed at 3.35 m (11 feet). Recently acquired mining machines cut at a fixed height of 3.65 m (12 feet). At present, seven older mining machines cut at a height of 3.35 m (11 feet) and four new mining machines cut at a height of 3.65 m (12 feet). These mining heights allow for comfortable working headroom and efficient extraction of 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 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. An additional six historical test holes were studied by Nutrien staff in 2018, which 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 decades of mining experience at Allan, it is the opinion of the Allan Technical Report authors that areas of low grade (i.e., <15% K_2O) 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 decades 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 and 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 and are 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. 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 SMER. Most of these have deteriorated substantially.

All in-mine samples were analyzed 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 has participated 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. Participants include all major Canadian potash mine site labs, the Nutrien Pilot Plant Lab, and an independent surveyor lab. The Sample Exchange Program provided 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 ("SRC"), 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. Per the Allan Technical Report, in-mine potash mineral grade samples collected from the Allan A Zone were analyzed 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 the family of in-mine samples is 25.5% K_2O equivalent and the mean ore grade is 24.8%.

Per the Allan Technical Report, the B Zone mineral grade at Allan is reported to be 20.3% K_2O equivalent, the grade observed from the 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 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 the Nutrien mining areas, 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 has a much greater confidence interval than a mean value computed from fewer 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 operations 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 (sourced from Webmineral Mineralogy Database, 2018):

Halite – NaCl
- Na 39.34%
- Cl 60.66%
- Oxide form Na_2O 53.03%
- Mineral density 2,170 kg/m^3

Sylvite – KCl

- K 52.45%
- Cl 47.55%
- Oxide form K_2O 63.18%
- Mineral density 1,990 kg/m^3

Insolubles (Allan A Zone)

- Component minerals: dolomite, muscovite, clinochlore, potassium feldspar, illite, quartz, anhydrite and other minor mineral components
- Average density – 2,510 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 decades 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 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:

$RHO_{bulk\text{-}rock}$ = (Halite density * % Halite) +
(Sylvite density * % Sylvite) +
(Insol. density * % Insol.)
= (2,170 * % Halite) +
(1,990 * % Sylvite) +
(2,510 * % Insol.)
= 2,110

$RHO_{bulk\text{-}rock}$ (Allan Zone) = 2,110 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 are 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, we use the potash bulk-rock density calculated using in-mine grade samples from Lanigan B Zone:

$RHO_{bulk\text{-}rock}$ (Allan B Zone) = $RHO_{bulk\text{-}rock}$ (Lanigan B Zone) = 2,120 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 (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 reanalyze 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 has occurred.

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 drillholes. This fact is a validation of the methodology. Based on decades of mining experience at Allan, historical assay results are considered to be 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 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 as 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 were 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 conducted 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/orin-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, analyzed, and verified by Company staff, at times in cooperation with an independent consultant.

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

- Review of potash assay sample information (drillholes andin-mine grade samples);
- Review of surface geophysical exploration results (3D and 2D seismic data);
- Crosscheck of mined tonnages reported by mine site technical staff with tonnages estimated from mine survey information; and
- 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 51-year mine life, 156.393 million tonnes of potash ore have been mined and hoisted at Allan to produce 55.127 million tonnes of finished potash product (from startup in 1968 to December 31, 2019). Given this level of sustained production over 51 years, basic mineralogical processing and prospective metallurgical testing of Allan potash is not considered 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 the Company 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, except for 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 us with 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. We believe that our approach provides a body of information that guides and constrains our 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: 3.353 meters (11 feet)
Ore Density: 2.110 tonnes/cubic meter (A Zone)
Ore Density: 2.120 tonnes/cubic meter (B Zone)

The mineral resources per the Allan Technical Report are as follows:

Allan A Zone:		
Inferred Resource	2,678	millions of tonnes
Indicated Resource	366	millions of tonnes
Measured Resource	1,006	millions of tonnes
Total A Zone Resource	4,050	millions of tonnes
Allan B Zone:		
Inferred Resource	2,691	millions of tonnes
Indicated Resource	367	millions of tonnes
Measured Resource	1,506	millions of tonnes
Total B Zone Resource	4,564	millions of tonnes
Total for Allan (A Zone + B Zone):		
Inferred Resource	5,369	millions of tonnes
Indicated Resource	733	millions of tonnes
Measured Resource	2,512	millions of tonnes
Total A Zone + B Zone Resource	8,614	millions of tonnes

The December 31, 2019 Mineral Resource estimates remain the same as the estimates outlined in the Allan Technical Report.

The average mineral grade of the Allan A Zone Mineral Resource is 24.8% K_2O equivalent, and was determined from in-mine samples at Allan collected over the life of the mine. The average mineral grade of the Allan B Zone Mineral Resource is 20.3% K_2O equivalent and was determined from 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 the Company 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 exploration drillhole, and within the applicable Crown lease.

Proven Mineral Reserve: identified recoverable potash mineralization classified as a measured resource, delineated on at least two 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 us with 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 decades 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.

The mineral reserves per the Allan Technical Report are as follows:

Allan A Zone:		
Probable Reserve	250	millions of tonnes
Proven Reserve	99	millions of tonnes
Total A Zone Reserve =	349	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	250	millions of tonnes
Proven Reserve	99	millions of tonnes
Total A Zone and B Zone Reserve =	349	millions of tonnes

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

The December 31, 2019 Mineral Reserve estimates essentially remain the same as the estimates outlined in the Allan Technical Report. Tonnes mined since the Allan Technical Report (i.e. 6.155 million tonnes) can be removed from the A Zone Proven Reserve resulting in a total A Zone Proven Reserve estimate of 92 million tonnes.

ix) Mining Operations

All conventional potash mines in Saskatchewan operate at 900 m to 1,200 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 Allan 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.

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. Per the Allan Technical Report, mine elevations range from approximately 980 m to 1,120 m, averaging approximately 1,010 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. Per the Allan Technical Report, 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 1,000 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 51-year mine life, 156.393 million tonnes of potash ore have been mined and hoisted at Allan to produce 55.127 million tonnes of finished potash products (from startup in 1968 to December 31, 2019). 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:

- 2017: 1.832 million tonnes finished potash products at 61.39% K_2O (average grade)
- 2018: 2.410 million tonnes finished potash products at 61.17% K_2O (average grade)
- 2019: 2.178 million tonnes finished potash products at 61.20% K_2O (average grade)

Over the past decade actual mill recovery rates have been between 82.2% and 87.0%, averaging 85.05%. 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 kilometers 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 Allan is 40 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 ("SMOE"), the provincial regulator. The Allan mine is in compliance in all material respects with all regulations stipulated by the Environmental Protection Branch of the SMOE. The current Allan Approval to Operate has been granted to July 1, 2028.

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. The Company has conducted numerous studies of this topic, and the most recent decommissioning and reclamation plan for Allan was approved by SMOE 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., Allan, Cory, Lanigan, Patience Lake, Rocanville and Vanscoy).

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 (5.974 million tonnes of potash ore mined and hoisted per year) is sustained, and if mineral reserves remain unchanged, then the Allan mine life is 57 years from December 31, 2019.

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 103 B), Saskatchewan, Canada" dated effective December 31, 2018 ("Cory Technical Report") prepared by Craig Funk, B.Sc., M.Sc., 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 meters above mean SL
- Northing: 5,772,861 m
- Easting: 372,951 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 kilometers 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 northwest 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 SMER. 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 103 B ("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 "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 “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 (2017, 2018, 2019), 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 the Cory Crown Lease, is 25.6% K_2O equivalent. Per the Cory Technical Report, the average ore grade at Cory 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 1,010 m depth below surface. The A Zone is approximately 3.35 meters thick and occurs near the top of the Prairie Evaporite Formation salts. Salt cover from the ore zone to overlying units is approximately 14 meters. 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, drilling has been infrequent.

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.

Seismic coverage is outlined in the Cory Technical Report.

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 analyzed 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.

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 the Cory Crown Lease.

Average in 3.35 m (11 feet) mining interval (undiluted)			
Drillhole	**Year Drilled**	**% K_2O**	**% 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 decades of mine production, potash exploration drilling has been infrequent 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. 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 SMER. Most of these have deteriorated substantially.

Regarding quality assurance for analytical results ofin-mine samples, the Company has participated 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. Participants include all major Canadian potash mine site labs, the Nutrien Pilot Plant Lab and an independent surveyor lab. The Sample Exchange Program provided 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 SRC, 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 twoin-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 of the Cory Technical Report 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.

Per the Cory Technical Report, in-mine potash mineral grade samples collected from the Cory A Zone were analyzed 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 the family of in-mine samples is 22.5% K_2O equivalent and the mean ore grade is 23.5%.

Per the Cory Technical Report, the B Zone mineral grade at Cory is reported to be 20.3% K_2O equivalent, which is the grade observed from 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 byin-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 the Nutrien mining areas, 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, we use the potash bulk-rock density calculated using in-mine samples from Allan A Zone:

$RHO_{bulk\text{-}rock}$ (Cory) = $RHO_{bulk\text{-}rock}$ (Allan) = 2,110 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, we use the potash bulk rock density calculated using in-mine samples from Lanigan B Zone:

$RHO_{bulk\text{-}rock}$ (Cory B) = $RHO_{bulk\text{-}rock}$ (Lanigan) = 2,120 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 reanalyze 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 has occurred.

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 decades of in-mine experience at Cory, we consider these historical assay results to be acceptable and to 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 in-mine grade samples is thought to provide the most accurate measurement of potash grade for the Cory mine site.

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 as a safety pillar is required around every surface drillhole once underground mining commences. This is the main reason that exploration drilling has been infrequent at Cory in recent years. The majority of 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. 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, analyzed, and verified by Company staff, at times in cooperation with an independent consultant.

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

- Review of potash assay sample information (drillholes and in-mine grade samples);
- Review of surface geophysical exploration results (3D and 2D seismic data);
- Crosscheck of mined tonnages reported by mine site technical staff with tonnages estimated from mine survey information; and
- 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 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 51-year mine life, 118.914 million tonnes of potash ore have been mined and hoisted to produce 37.269 million tonnes of finished potash product (from startup in 1968 to December 31, 2019). Given this level of sustained production over 51 years, basic mineralogical processing and prospective metallurgical testing of Cory potash is not considered relevant.

viii) Mineral Resource and Mineral Reserve Estimates

Definitions of Mineral Resource

See "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 core drilling has been infrequently 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 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. We believe that our approach provides a body of information that guides and constrains our 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 per the Cory Technical Report are as follows:

Cory A Zone:		
Inferred Resource	1,310	millions of tonnes
Indicated Resource	437	millions of tonnes
Measured Resource	983	millions of tonnes
Total A Zone Resource	2,730	millions of tonnes
Cory B Zone:		
Inferred Resource	1,316	millions of tonnes
Indicated Resource	439	millions of tonnes
Measured Resource	1,353	millions of tonnes
Total B Zone Resource	3,108	millions of tonnes
Total for Cory (A Zone + B Zone):		
Inferred Resource	2,626	millions of tonnes
Indicated Resource	876	millions of tonnes
Measured Resource	2,336	millions of tonnes
Total A Zone + B Zone Resource	5,838	millions of tonnes

The December 31, 2019 Mineral Resource estimates remain the same as the estimates outlined in the Cory Technical Report.

Per the Cory Technical Report, the average mineral grade of the Cory A Zone mineral resource is 22.5% K_2O equivalent, and was determined from 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 fromin-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 "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 decades 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 per the Cory Technical Report are as follows:

Cory A Zone:		
Probable Reserve	171	millions of tonnes
Proven Reserve	77	millions of tonnes
Total A Zone Reserve =	248	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	171	millions of tonnes
Proven Reserve	77	millions of tonnes
Total A Zone and B Zone Reserve =	248	millions of tonnes

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

The December 31, 2019 Mineral Reserve estimates essentially remain the same as the estimates outlined in the Cory Technical Report. Tonnes mined since the Cory Technical Report (i.e. 3.459 million tonnes) can be removed from the A Zone Proven Reserve resulting in a total A Zone Reserve estimate of 74 million tonnes.

ix) Mining Operations

All conventional potash mines in Saskatchewan operate at 900 m to 1,200 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 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 (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 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. Per the Cory Technical Report, mine elevations at Cory range from approximately 980 m to 1,045 m, averaging approximately 1,010 m. 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 1,000 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 51-year mine life, 118.914 million tonnes of potash ore have been mined and hoisted at Cory to produce 37.269 million tonnes of finished potash products (from startup in 1968 to December 31, 2019). The life-of-mine average concentration ratio (raw-ore/MOP-product) is 3.18 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. 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:

- 2017: 0.988 million tonnes finished potash products at 61.96% K_2O (average grade)
- 2018: 0.810 million tonnes finished potash products at 62.63% K_2O (average grade)
- 2019: 0.973 million tonnes finished potash products at 61.79% K_2O (average grade)

Over the past decade, actual mill recovery rates have been between 69.0% and 75.6%, averaging 73.1%. 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 kilometers 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. Theten-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 (1,027 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 modernair-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 SMOE, the provincial regulator. The Cory mine is in compliance with all regulations stipulated by the Environmental Protection Branch of the SMOE. The current Cory Approval to Operate has been granted to July 1, 2028, 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. The Company has conducted numerous studies of this topic, and the most recent decommissioning and reclamation plan for Cory was approved by SMOE 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., Allan, Cory, Lanigan, Patience Lake, Rocanville, and Vanscoy).

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. 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 (3.231 million tonnes of potash ore mined and hoisted per year is sustained), and if Mineral Reserves remain unchanged, then the Cory mine life is 76 years from December 31, 2019.

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 001 C), Saskatchewan, Canada" dated effective December 31, 2018 ("Lanigan Technical Report") prepared by Craig Funk, B.Sc., M.Sc., 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 meters above mean SL
- Easting: 485,560.306 m
- Northing: 5,745,008.726 m
- Projection: UTM
- Datum: NAD83
- Zone: 13

The Company owns approximately 3,700 hectares (9,140 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* (Saskatchewan), and Crown leases are approved and issued by the SMER.

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 001 A. KLSA 001 B 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 001 C ("Lanigan Crown Lease").

The Lanigan Crown Lease 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 kilometers 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 "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. As of December 31, 2019, the annual nameplate capacity at Lanigan is 3.8 million tonnes.

iii) Geological Setting, Mineralization and Deposit Types

Geological Setting and Mineralization

See “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 below surface. Salt cover from the top of the A Zone mining horizon to overlying units is approximately 7 m thick and salt cover from the top of the B Zone mining horizon to overlying units is approximately 14 m 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, exploration drilling has been infrequent.

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 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.

Seismic coverage is outlined in the Lanigan Technical Report.

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 analyzed 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 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 kilometers 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 risk 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 and 7.30 m averaging 5.08 m, a more conservative mining height of 4.88 m is used for mineral resource and reserve estimates.

Per the Lanigan Technical Report, 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 the Lanigan Crown Lease, 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 the Lanigan Crown Lease 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 give an estimated mean grade of 25.29% K_2O with 5.78% water insolubles.

Drillhole assay data for B Zone at Lanigan give an estimated mean grade of 23.21% K_2O with 5.59% water insolubles.

Table C: Assay results for all potash test holes within the Lanigan Crown Lease.

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*

Location	Year Drilled	A Zone			B Zone		
		Interval (m)	% K_2O Equiv.	% Water Insol.	Interval (m)	% K_2O Equiv.	% Water Insol.
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.

Due to the remarkably consistent mineralogy and continuity of the resource, as experienced through decades 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.

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. 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 SMER. Most of these have deteriorated substantially.

Regarding quality assurance for analytical results ofin-mine samples, the Company has participated 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. Participants include all major Canadian potash mine site labs, the Nutrien Pilot Plant Lab, and an independent surveyor lab. The Sample Exchange Program provided 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 SRC, 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 every approximately 23 m (76 feet) in production panels, and a sample taken every approximately 47 m (155 feet) in development panels. Per the Lanigan Technical Report, in-mine potash mineral grade samples collected from the Lanigan A Zone were analyzed in the Lanigan mill laboratory using up-to-date analysis techniques. The median ore grade for the 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. Per the Lanigan Technical Report, in-mine potash mineral grade samples collected from the Lanigan B Zone were analyzed 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 the 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 the Nutrien mining areas, 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 has a much greater confidence interval than a mean value computed from drillhole assays.

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

- Halite – NaCl
- Sylvite – KCl
- Carnallite – $KMgCl_3\ 6(H_2O)$
- 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 (sourced from Webmineral Mineralogy Database, 2018):

Halite – NaCl

- Na 39.34%
- CL 60.66%
- Oxide form Na_2O 53.03%
- Mineral density 2,170 kg/m^3

Sylvite – KCl

- K 52.45%
- CL 47.55%
- Oxide form K_2O 63.18%
- Mineral density 1,990 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 1,600 kg/m^3

Insolubles (Lanigan B Zone)

- Component minerals: dolomite, muscovite, clinochlore, potassium feldspar, illite, quartz, anhydrite and other minor mineral components
- Average density 2,870 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 decades 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 Zonein-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 give a mean bulk-rock density for Lanigan B Zone potash of:

$\mathbf{RHO_{bulk\text{-}rock}}$ = (Halite density * % Halite) +
(Sylvite density * % Sylvite) +
(Carnallite density * % Carnallite) +
(Insol. density * % Insol.)
= (2,170 * % Halite) +
(1,990 * % Sylvite) +
(1,600 * % Carnallite) +
(2,870 * % Insol.)
= 2,120

$\mathbf{RHO_{bulk\text{-}rock}}$ (Lanigan B Zone) = 2,120 kg/m^3

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

To date, not enough A Zone mining has been carried out at Lanigan to permit the calculation of a properin-situ bulk-rock potash density based solely on in-mine grade samples. A Zone mining has proven successful at Lanigan and takes place in several different geographic locations within the Lanigan Crown 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 in-mine samples from the Allan A Zone:

$\mathbf{RHO_{bulk\text{-}rock}}$ (Lanigan A Zone) = $\mathbf{RHO_{bulk\text{-}rock}}$ (Allan A Zone) = 2,110 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 reanalyze 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) reanalyzed 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 has occurred.

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 decades of in-mine experience at Lanigan, we consider these historical assay results to be acceptable and to 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 in-mine grade samples, and the B Zone mean mineral grade of 20.3% K_2O equivalent determined from 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 as 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, except for a potash test hole in 1975 and four 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, analyzed and verified by Company staff, at times, in cooperation with an independent consultant.

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

- Review of potash assay sample information (drillholes and in-mine grade samples);
- Review of surface geophysical exploration results (3D and 2D seismic data);
- Crosscheck of mined tonnages reported by mine site technical staff with tonnages estimated from mine survey information; and
- 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 51-year mine life, 213.596 million tonnes of potash ore have been mined and hoisted to produce 62.024 million tonnes of finished potash product (from startup in 1968 to December 31, 2019). Given this level of sustained production over 51 years, basic mineralogical processing and prospective metallurgical testing of Lanigan potash is not considered relevant.

viii) Mineral Resource and Mineral Reserve Estimates

Definitions of Mineral Resources

See "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 resource 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; three 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 us with 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. We believe that our approach provides a body of information that guides and constrains our 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 the Lanigan 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 (A Zone):	3.66 meters (12 feet)
Mining Height (B Zone):	4.88 meters (16 feet)
Ore Density (A Zone):	2.110 tonnes/cubic meter
Ore Density (B Zone):	2.120 tonnes/cubic meter

The mineral resources per the Lanigan Technical Report are as follows:

Lanigan A Zone Resource:		
Inferred Resource	671	million tonnes
Indicated Resource	1,325	million tonnes
Measured Resource	2,142	million tonnes
Total A Zone Resource	4,138	million tonnes
Lanigan B Zone Resource:		
Inferred Resource	899	million tonnes
Indicated Resource	1,775	million tonnes
Measured Resource	2,578	million tonnes
Total B Zone Resource	5,252	million tonnes
Total Resource for Lanigan (A Zone + B Zone):		
Inferred Resource	1,570	million tonnes
Indicated Resource	3,100	million tonnes
Measured Resource	4,720	million tonnes
Total A Zone + B Zone Resource	9,390	million tonnes

The December 31, 2019 Mineral Resource estimates remain the same as those outlined in the Lanigan Technical Report.

Per the Lanigan Technical Report, the average mineral grade of the Lanigan A Zone Mineral Resource is 23.5% K_2O equivalent and was determined from 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 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 “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 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 decades 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.

The mineral reserves per the Lanigan Technical Report are as follows:

Lanigan A Zone:		
Probable Reserve	142	million tonnes
Proven Reserve	19	million tonnes
Total A Zone Reserve =	161	million tonnes
Lanigan B Zone:		
Probable Reserve	287	million tonnes
Proven Reserve	92	million tonnes
Total B Zone Reserve =	379	million tonnes
Total for Lanigan (A Zone + B Zone):		
Probable Reserve	429	million tonnes
Proven Reserve	111	million tonnes
Total A Zone and B Zone Reserve =	540	million tonnes

The December 31, 2019 Mineral Reserve estimates essentially remain the same as those outlined in the Lanigan Technical Report. Tonnes mined since the Lanigan Technical Report (i.e. 4.019 million tonnes from A Zone and 1.816 million tonnes from B Zone) can be removed from A Zone and B Zone Proven Reserve. This results in an A Zone Proven Reserve of 15.2 million tonnes, and a B Zone Proven Reserve of 90.2 million tonnes.

Per the Lanigan Technical Report, average mineral grade of the Lanigan A Zone Mineral Resource is 23.5% K_2O equivalent and was determined from 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 in-mine samples at Lanigan.

ix) Mining Operations

All conventional potash mines in Saskatchewan operate at 900 m to 1,200 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, 2019, annual nameplate capacity for Lanigan was 3.8 million tonnes.

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 4 m to 6 m 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. Per the Lanigan Technical Report, mine elevations range from approximately 940 m to 1,030 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 where continuous mining machines are used to excavate potash ore by the stress-relief 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. Mining methods employed in Saskatchewan are discussed in Jones and Prugger (1982) and in Gebhardt (1993).

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 1,000 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 51-year mine life, 213.596 million tonnes of potash ore have been mined and hoisted at Lanigan to produce 2.024 million tonnes of finished potash products (from startup in 1968 to December 31, 2019). 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:

- 2017: 1.817 million tonnes finished potash products at 60.92% K_2O (average grade)
- 2018: 1.962 million tonnes finished potash products at 60.97% K_2O (average grade)
- 2019: 1.748 million tonnes finished potash products at 60.83% K_2O (average grade)

Over the past decade, actual mill recovery rates have been between 81.0% and 85.9%, averaging 83.4%.

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 Bradwell 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 SMOE. The Lanigan mine is in compliance in all material respects with all regulations stipulated by the Environmental Protection Branch of the SMOE. The current Lanigan Approval to Operate has been granted to July 1, 2028, 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. The Company has conducted numerous studies of this topic, and the most recent decommissioning and reclamation plan for Lanigan was approved by SMOE 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., Allan, Cory, Lanigan, Patience Lake, Rocanville and Vanscoy).

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 (6.375 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 25 years from December 31, 2019 and Lanigan B Zone mine life is 59 years from December 31, 2019.

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 (KL 305) Saskatchewan, Canada” dated effective December 31, 2018 (the “Rocanville Technical Report”) prepared by Craig Funk, B.Sc., M.Sc., 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 southeastern Saskatchewan near the Saskatchewan-Manitoba Provincial Boundary, approximately 15 kilometers northeast 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 meters above mean 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 kilometers 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. Crown mineral rights are governed by *The Subsurface Mineral Tenure Regulations, 2015* (Saskatchewan) and Crown Leases are approved and issued by the SMER.

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, Rocanville Crown Subsurface Mineral Lease KL 305 (“Rocanville Crown Lease”) was formed by the amalgamation of Crown Subsurface Leases KLSA 002 (KLSA 002 B, following minor amendments) and KL 249. The Rocanville Crown Lease covers an area of approximately 113,975 hectares (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 45,612 hectares (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 “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.

iii) Geological Setting, Mineralization and Deposit Types

See "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 (2017, 2018, 2019), the average, measured potash ore grade of the mill feed at Rocanville was 23.2% K_2O equivalent. Per the Rocanville Technical Report, the average ore grade reported from surface drillhole intersections, all within Rocanville Crown Lease, is 22.4% K_2O equivalent. Average ore grade observed from in-mine samples 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 meters thick and occurs near the top of the Prairie Evaporite Formation. Potash mineralization in this area is flat-lying and continuous. Per the Rocanville Technical Report, 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 1,250 m (the deepest potash exploration drillhole), but are expected to be shallower than 1,200 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. Except for an exploration drilling program in 2008, drilling has been infrequent since the 1950s and 1960s.

In most of southern Saskatchewan, potash mineralization is in place wherever Prairie Evaporite Formation salts exist; they 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.

Seismic coverage is outlined in the Rocanville Technical Report.

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 analyzed 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. As explained in the Robertson Associates report, the Rocanville prospect was originally explored by 34 drillholes in Saskatchewan and Manitoba. Of these original drillholes, 26 are located within the current Rocanville Crown Lease and are shown in Table D below.

Potash intersections for one drillhole in Table D revealed anomalously low grades. With decades of mining experience at Rocanville, it is the opinion of the authors of the Rocanville Technical Report 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.

Except for an exploration drilling program in 2008, drilling has been infrequent since the 1950s and 1960s. 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 Crown Lease 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 decades 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 the Rocanville Crown Lease.

Weighted Average for 2.44 m (8 feet) Mining Interval				
Drillhole	**Year Drilled**	**% K_2O**	**% Water Insolubles**	**% Carnallite**
01-04-17-30 W1	1957	23.84	1.15	4.34
16-14-017-01W2	1957	Excluded	N/A	N/A
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

Weighted Average for 2.44 m (8 feet) Mining Interval				
Drillhole	**Year Drilled**	**% K_2O**	**% Water Insolubles**	**% Carnallite**
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/A
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 feet) 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 (Regina, Saskatchewan) of the SMER.

Regarding quality assurance for analytical results of in-mine samples, the Company participated 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. Participants include all major Canadian potash mine site labs, the Nutrien Pilot Plant Lab and an independent surveyor lab. The Sample Exchange Program provided 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 SRC, 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 labor-intensive.

Per the Rocanville Technical Report, in-mine ore grade samples were collected and analyzed 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 the 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/m3) 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 the Nutrien mining areas, 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 – $KMgCl_3$ 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 (sourced from Webmineral Mineralogy Database, 2018):

Halite – NaCl

- Na 39.34%
- CL 60.66%
- Oxide form Na_2O 53.03%
- Mineral density 2,160 kg/m^3

Sylvite – KCl

- K 52.45%
- CL 47.55%
- Oxide form K_2O 63.18%
- Mineral density 1,990 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 1,600 kg/m3

Insolubles

- Component minerals: dolomite, muscovite, clinochlore, potassium feldspar, illite, quartz, anhydrite and other minor mineral components
- Average density 2,790 kg/m3 (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 decades 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 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 Rocanville potash of:

$RHO_{bulk\text{-}rock}$ = (Halite density * % Halite) +
(Sylvite density * % Sylvite) +
(Carnallite density * % Carnallite) +
(Insol. density * % Insol.)
= (2,170 * % Halite) +
(1,990 * % Sylvite) +
(1,600 * % Carnallite) +
(2,790 * % Insol.)
= 2,080

$RHO_{bulk\text{-}rock}$ (Rocanville) = 2,080 kg/m3

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 reanalyze 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 has occurred.

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 the decades of in-mine experience at Rocanville, we consider these historical assay results to be accurate and to 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 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 as 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 were 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 the Company 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, analyzed and verified by Company staff, at times, in cooperation with an independent consultant.

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

- Review of potash assay sample information (drillholes andin-mine grade samples);
- Review of surface geophysical exploration results (3D and 2D seismic data);
- Crosscheck of mined tonnages reported by mine site technical staff with tonnages estimated from mine survey information; and
- 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 49-year mine life, 264.151 million tonnes of potash ore have been mined and hoisted at to produce 86.111 million tonnes of finished potash product (from startup in 1970 to December 31, 2019). Given this level of sustained production over 49 years, basic mineralogical processing and prospective metallurgical testing of Rocanville potash is not considered relevant.

viii) Mineral Resource and Mineral Reserve Estimates

Definitions of Mineral Resource

See “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 resource categories for its potash mines.

The Rocanville mine began production in 1970 and core drilling has been infrequent over the years, except for five holes drilled during the 2008 exploration program. Exploration primarily involves collecting surface seismic data which has become 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 us with 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. We believe that our approach provides a body of information that guides and constrains our 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 the Rocanville 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:	2.51	meters (8.25 feet)
Ore Density:	2.080	tonnes/cubic meter

The mineral resources per the Rocanville Technical Report are as follows:

Inferred Resource	1,376	million tonnes
Indicated Resource	1,342	million tonnes
Measured Resource	1,761	million tonnes
Total Resource =	4,479	million tonnes

The December 31, 2019 Mineral Resource estimates remain the same as the estimates outlined in the Rocanville Technical Report.

The average mineral grade of the Rocanville Mineral Resource is 23.4% K_2O equivalent, and was determined from 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 "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 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 decades 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.

The mineral reserves per the Rocanville Technical Report are as follows:

Probable Reserve	348	million tonnes
Proven Reserve	195	million tonnes
Total Reserve (Proven + Probable) =	543	million tonnes

The December 31, 2019 Mineral Reserve estimates essentially remain the same as the estimates outlined in the Rocanville Technical Report. Tonnes mined since the Rocanville Technical Report (i.e. 15.958 million tonnes) can be removed from the Proven Reserve resulting in a total Proven Reserve estimate of 179 million tonnes.

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

ix) Mining Operations

All conventional potash mines in Saskatchewan operate at 900 m to 1,200 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 (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 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.

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. Per the Rocanville Technical Report, mine elevations range from approximately 895 m to 1,040 m, averaging approximately 955 m. Within the Rocanville Crown Lease, depths to the top of the ore zone can reach up 1,250 m (the deepest potash exploration drillhole) but are expected to be shallower than 1,200 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. Mining methods employed in Saskatchewan are discussed in Jones and Prugger (1982) and in Gebhardt (1993).

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 49-year mine life, 264.151 million tonnes of potash ore have been mined and hoisted at Rocanville to produce 86.111 million tonnes of finished potash products (from startup in 1970 to December 31, 2019). The life-of-mine average concentration ratio (raw ore/finished potash products) is 3.07 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:

- 2017: 4.587 million tonnes finished potash products at 60.62% K_2O (average grade)
- 2018: 5.222 million tonnes finished potash products at 60.46% K_2O (average grade)
- 2019: 5.144 million tonnes finished potash products at 60.53% K_2O (average grade)

Over the past decade actual mill recovery rates have been between 81.5% and 85.7%, averaging 83.45%. 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 kilometers 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 mine 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 (1,400 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 1,200 m to 1,400 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 SMOE. The Rocanville mine is in compliance with all regulations stipulated by the Environmental Protection Branch of the SMOE. The current Rocanville Approval to Operate has been granted to July 1, 2028, 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. The Company has conducted numerous studies of this topic, and the most recent decommissioning and reclamation plan for Rocanville was approved by SMOE 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., Allan, Cory, Lanigan, Patience Lake, Rocanville, and Vanscoy).

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.

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 (15.930 million tonnes of potash ore mined and hoisted per year) is sustained, and if mineral reserves remain unchanged then the Rocanville mine life is 33 years from December 31, 2019.

e) Vanscoy Potash Operations

Certain scientific and technical information regarding Vanscoy Potash Operations ("VPO") is based on the technical report titled "National Instrument 43-101 Technical Report on Vanscoy Potash Operations" dated effective October 31, 2014 ("Vanscoy Technical Report") prepared by Michael Ryan Bartsch, P.Eng., and Dennis Grimm, P.Eng., both employees of the Company as of the date of the Vanscoy Technical Report, and A. Dave Mackintosh, P.Geo., of ADM Consulting Limited, who are each a Qualified Person (collectively, the "Authors") as defined in NI 43-101. The economic analysis set out under the heading "– Exploration and Development – Economic Analysis" below refers to the incremental one million metric tonne Vanscoy Project and not for VPO in its entirety. The Vanscoy 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 Vanscoy Technical Report.

i) Project Description and Location

The Company owns and operates VPO, a potash mining and milling facility located in Vanscoy, Saskatchewan (southwest of Saskatoon). The operation has been in existence for 51 years and has produced approximately 60.4 million tonnes of muriate of potash.

The SMER has granted the Company the exclusive right to mine potash on approximately 148,332 acres (600.3 km^2) of crown land pursuant to Crown Subsurface Mineral Leases KL 114-A and KL 204, last revised August 2013. The lands subject to KL114-A and KL 204, and that are the subject of the Vanscoy Technical Report, form a contiguous area in excess of 189,333 acres (766.2 km^2) containing the lands subject to the Crown Subsurface Mineral Leases KL 114-A and KL 204, lands owned by Agrium and Freehold mineral rights owned by others and leased by the Company ("VPO Lands"). Freehold mineral rights not leased by the Company are not included in the Vanscoy Technical Report. For reporting purposes, the VPO Lands have been divided into three areas: (1) the Unitized Area containing most of the mining to date; (2) the South Block to the south and east of the shafts (currently under development); and (3) the North Expansion Block north of the Unitized Area.

The VPO Lands are located in the Province of Saskatchewan, Canada, in the rural municipalities and National Topographic System of Canada ("NTS") blocks indicated in the following table:

Municipal and NTS Block Locations

R.M. Name	R.M. Number	NTS Block
Corman Park	344	073B03/02
Vanscoy	345	072O14/15
Montrose	315	072O14/15

The lands subject to KL 114-A are located within townships 34 to 37 of ranges 7 to 9, west of the 3d meridian. The lands subject to KL 204 are located within townships 33 and 35 of ranges 6 to 8 west of the 3rd meridian.

The Company owns the surface rights to approximately 7,200 acres (2,914 hectares) of land to accommodate the processing facility, TMA and provide a surrounding buffer. Useable farmland is rented to local farmers.

All operating licenses required by the provincial government, and permits to operate a tailings area or waste management facility have been obtained. Required permits for VPO include the Subsurface Mineral Lease Agreement, Potash Unitization Agreement, Mine Hoist Operating Certificate, Approval to Operate a Pollutant Control Facility, Approval to Dispose of Waste Brine and the Approved Decommissioning and Reclamation Report.

As a result of the Merger, the timing of the ramp-up to full capacity will be considered as part of the optimization of the combined potash production base of Nutrien. Increased hoisting capacity, an increase to the underground mining fleet, a second parallel milling facility, additional compaction capacity and other enhancements to the site, support the increase.

ii) Accessibility, Climate, Local Resources, Infrastructure and Physiography

The VPO Lands are accessible by the Saskatchewan highway and municipal grid road system. Although grid roads may not have been built in all areas, a one chain (20 meters ("m")) road allowance is provided every one mile (1.6 kilometers ("km")) in an east-west direction and every two miles (3.2 km) in the north-south direction. The mine site is serviced by both national railways through one common spur line from the north of the VPO Lands.

VPO is located in the Saskatchewan Plains Region, which has elevations between 300 m and 600 m above sea level. Land use is almost totally agricultural, largely in cropland with some unimproved pasture and southern woodland. Prairie winters are long and cold with short, warm summers. Average daily mean temperatures range between -16oC in January to +20oC in July. Mean annual precipitation averages 430 millimeters ("mm") with the majority occurring in the summer months. Winds are predominantly from the northwest throughout the year with mean annual wind speeds of 20 km per hour.

Mining and milling operations continue year-round, utilizing a workforce that commutes from nearby cities and towns or comes from the local farming community. The closest major population center is Saskatoon, approximately 25 km northeast of the mine site.

Services are provided by Saskatchewan public utilities with a dedicated 138 KVA electrical power transmission service and natural gas pipelines. Fresh water, provided by SaskWater, is delivered via pipeline from the South Saskatchewan River.

iii) History

Imperial Oil first discovered potash in southeastern Saskatchewan in 1942 during oil exploration activity. In 1950, when oil exploration companies started routinely running gamma logs, the existence of potash rich beds over a vast area in southern Saskatchewan was indicated.

Consolidated Mining and Smelting Company of Canada Limited, subsequently Cominco Ltd. ("CM&S"), carried out an exploration program in 1964, drilling 23 holes in the vicinity of Vanscoy, Delisle and Asquith, Saskatchewan. Of the 23 drill holes, one hole penetrated a major solution collapse feature where, although the Prairie Evaporite Formation is present, the potash beds are not. The drilling identified a prospect averaging just over 25 percent K_2O that was large enough to support a mining operation, and Stearns-Roger Canada Ltd. along with J.T. Boyd and Associates carried out an engineering study in 1965 and a similar capital and operating cost estimate was also completed by Kilborn Engineering Ltd. in December 1965. The mine went into production under CM&S ownership in early 1969.

In 1993, Cominco Fertilizers Ltd. was formed as a separate entity from Cominco Ltd. In 1995, all Cominco involvement in Cominco Fertilizers Ltd. ceased and shares were transferred to the new entity, Agrium Inc. In the site history, lease expansions occurred in 1993 and 2005 to enlarge the total area available for extraction. This brought three additional drill holes into the lease area. The three exploration wells were completed in 1955 and 1957.

In the past 51 years of operating life, 16 additional drill holes and numerous two-dimensional (2D) and three-dimensional (3D) seismic programs have contributed to the understanding of the Prairie Evaporite Formation. Production from the VPO Lands to December 31, 2019 was 60.4 million tonnes of muriate of potash from 178.6 million tonnes of ore hoisted.

iv) Geological Setting

Canadian potash deposits are estimated to be among the largest in the world, stretching some 720 km (450 miles) across Saskatchewan. The deposits lie diagonally across the southern plains of Saskatchewan gently dipping from approximately 1,000 m depth along a northwest line through Rocanville, Esterhazy and Saskatoon to more than 1,600 m depth at Belle Plaine and up to 3,000 m depth in North Dakota. The deposit is unique in the world in that the mineralization covers such a vast area. The same beds mined on the west side of Saskatoon are mined over 100 km to the east and can be traced into Manitoba, North Dakota and Montana.

The Prairie Evaporite Formation forms part of the Elk Point Basin, a sub-basin of the Williston Basin centered on the northwest corner of North Dakota. The Prairie Evaporite Formation, deposited on the Winnipegosis Formation (limestone), varies in thickness from 120 m (400 feet ("ft")) to over 210 m (700 ft) and is overlain by the 2nd Red Bed unit, the lower shale member of the Dawson Bay Formation (limestone).

There are four main potash layers in Saskatchewan. The first to be deposited was the Esterhazy Member, which is the bed mined at Mosaic Esterhazy and Rocanville. Above this is the White Bear Marker, which is not thick enough or of sufficient grade, to be of commercial value. This is followed by the Belle Plaine and finally the Lower and Upper Patience Lake. The Lower Patience Lake is mined by Lanigan and the Upper Patience Lake is mined by all other Saskatoon area mines. The Esterhazy Member, being the first potash bearing bed to be deposited, is stratigraphically the deepest. However, the Rocanville/Esterhazy area mines are shallower than the younger Patience Lake Member mines (Saskatoon area) because of their proximity to the basin edge.

The salt cover between the ore zone and the overlying 2nd Red Beds and Dawson Bay Formation varies from no cover near the evaporite edge in Manitoba to over 45 m (150 ft) in south-central Saskatchewan. Salt cover is relied upon to isolate the mining level from potential water-bearing limestone formations above the 2nd Red Beds. Similarly, the depth increases to the southwest from just over 800 m (2,600 ft) in Manitoba to over 1,200 m (4,000 ft) in south-central Saskatchewan.

The local geology of VPO characteristically mirrors the regional geology. The Upper and Lower Patience Lake and Belle Plaine Members exist throughout the VPO Lands. The Esterhazy Member does not exist in the area but is evidenced by a thin (5 centimeters ("cm") thick) seam containing minor potash values. The mining zone dips gently (less than 0.5°) to the southwest from approximately 500 m to 600 m below sea level. The depth below surface ranges from approximately 1,000 m (3,300 ft) in the northeast to over 1,130 m (3,700 ft) in the southwest. The salt cover ranges from 12 m (40 ft) to just under 20 m (65 ft) across the lease area.

v) Mineralization

The potash deposit is generally a flat-lying, bedded deposit dipping slightly to the southwest. It is amenable to mining using track mounted boring machines, floor or roof mounted conveyor systems and ancillary wheel mounted mining and transport equipment.

The potash beds at the VPO site are entirely composed of sylvinite, a mixture of KCl and NaCl, and are within a stratigraphic sequence of halite beds. The same beds mined on the west side of Saskatoon are mined over 100 km to the east. These same beds can be traced into Manitoba, Montana and North Dakota. Despite this remarkable continuity, potash deposits are not without interruption. Solution activity over geological time has resulted in barren or collapse features that have the potential to introduce water from formations above to the mining level.

vi) Exploration

Exploration work other than drilling has consisted of numerous 2D and 3D seismic programs and underground channel sampling. Seismic exploration has been used to try and delineate solution collapse features to be avoided when mine planning. Initial 2D acquisition programs, on relatively sporadic time intervals, have been replaced by 3D programs that have recently been expanded to shoot the entire areas of interest. In 2019, a 3D seismic program was collected west of the mine. Final results are expected early 2020. Programs have confirmed the continuity of the Prairie Evaporite Formation and identified features to be avoided, greatly improving the successful completion of mine development entries. In the opinion of the Authors, in order to be categorized as a Measured Mineral Resource, both 3D seismic coverage and adequately spaced drillhole or assay data points are required. Despite the completed 3D program, given that access to the northwest requires considerable entry development time, and there is no drilling program currently planned for the area, the northwest region will remain categorized as an Inferred Mineral Resource.

In addition to drill holes and seismic programs, Nutrien utilizes an underground sampling program to confirm thickness, grade and insolubles. Samples are acquired by geologists employed by Nutrien and delivered to the SRC's Geoanalytical Laboratory. The SRC issues a "Sample Shipment Receipt Notification" followed soon after by a "Sample Receipt Report" indicating a complete sample listing, including total numbers and sample labels.

vii) Drilling

Original CM&S Drill Holes

All drilling was carried out following SMER regulations. Drilling was originally carried out by Canamerican Drilling Corporation. The initial CM&S program set a 10.75 inch (273 mm) diameter surface casing in a 15 inch (381 mm) diameter hole to a depth of 450 ft (137 m). From there, a 9 inch (228 mm) diameter hole was drilled to a core point just above the Prairie Evaporite Formation. Then, a 7 inch (177.8 mm) diameter intermediate casing was pinned into the Dawson Bay Formation. Coring was completed in a 6.125 inch (155 mm) diameter hole. Once complete, abandonment consisted of cementing the hole from the total depth to 150 ft (45 m) into the intermediate casing. The casing was cut off 40 ft (12 m) above the cement top and retrieved. Subsequent plugs were run from the cement top to approximately 65 ft (20 m) into the surface casing. The surface casing was then cut off 3 ft (1 m) below the surface, a cap was welded on, and the area was backfilled. A full suite of geophysical logs was run on each hole from surface to total depth.

Recent VPO Drill Holes

In 1989, hole 2-16-36-8-W3 in the Unitized Area was drilled by Sebco Drilling on behalf of Agrium. A 244.5 mm diameter surface casing was cemented in at 146 m depth in a 349 mm diameter drill hole. From there, a long string 177.8 mm diameter casing was cemented the full length to 979 m depth in a 222 mm diameter hole. The hole confirmed the VPO mining zone was present at a depth of 1,021 m. In 1999, hole 1-24-34-8-W3 in the South Block was completed by Ensign Drilling Services Inc. on behalf of Agrium. A 244.5 mm diameter surface casing was installed to 150 m depth in a 349 mm diameter hole.

From there, a 222.3 mm diameter well was then completed “open hole” (without casings) to 1,229 m depth with inverted oil emulsion drilling mud. Hole 1-24-34-8-W3 confirmed the potash beds mined at VPO existed at a depth of 1,110 m.

In 2007, hole 4-3-35-7-W3 in the South Block was drilled by Akita Drilling Ltd. on behalf of Agrium. A 244.5 mm diameter surface casing in a 349 mm diameter hole was cemented to 145 m depth. A 177.8 mm diameter intermediate casing in a 222 mm diameter hole was pinned into the Dawson Bay Formation at 1,092 m depth. The well confirmed the presence of the mining zone at a depth of 1,112 m.

In 2010 and 2011, 14 drill holes were completed on the VPO Lands in the South Block. A 349.0 mm hole was drilled to 165 m where a 244.5 mm surface casing was set and cemented. The main hole was drilled with a 222.0 mm diameter bit to the top of the Dawson Bay Formation at depths ranging from 1,045 m to 1,075 m. The Dawson Bay was cored to the middle of the 2nd Red Beds, providing a 101 mm diameter core from a 199 mm diameter hole. A drill stem test was then carried over the complete Dawson Bay. The mud system was changed from brine water to invert mud in order to core the Prairie Evaporite. A 200 mm diameter hole was then drilled to final depth, approximately 15 m into the underlying Winnipegosis Formation. The hole was geophysically logged from total depth to surface casing. Holes were plugged back to surface with a total of 5 cement plugs. After required gas checks, the surface casing was cut off approximately 1.5 m below ground level, a cap welded on, and the site restored to pre-drilling condition.

Drilling cutting samples were collected on 5 m intervals from approximately 350 m depth to total depth with one set retained by Agrium and two sets delivered to the SMER. The evaporite core was logged and sampled on site by ADM Consulting Limited. A quarter core was delivered by ADM Consulting Limited to the SRC Geoanalytical Laboratory in Saskatoon for assay, and the remaining three quarters core delivered to the SMER subsurface laboratory in Regina by Blackie’s Coring.

Additional drill holes are planned to be drilled in the South Block.

Composite grades of all the drill holes over the 3.35 m mining interval are shown in the table below. These intervals represent true thickness.

Drill Hole ID	Composite From (ft)	Composite To (ft)	Comp. % NaCl	Comp. % KCl [1]	Comp. % Insolubles	Comp. % K_2O
D15-32-34-8	1,121.0	1,124.4	82.2	10.3	5.9	6.5
D16-28-34-8	1,114.0	1,117.3	48.4	46.5	4.3	29.4
E04-11-35-9	1,140.0	1,143.4	52.1	38.8	7.1	24.5
E04-12-35-9	1,132.3	1,135.7	48.2	43.4	6.7	27.4
E04-24-35-9	1,096.9	1,100.3	45.5	46.2	7.0	29.2
E04-36-35-9	1,083.6	1,087.0	43.6	46.0	7.8	29.1
E16-22-35-9	1,115.4	1,118.8	46.4	47.4	5.0	29.9
V04-10-35-8	1,076.9	1,080.2	50.4	41.6	6.4	26.3
V04-18-35-8	1,090.7	1,094.0	52.1	40.8	5.6	25.8
V04-20-35-8	1,076.8	1,080.1	50.6	41.6	4.8	26.3
V04-22-35-8	1,081.6	1,085.0	48.8	47.0	3.5	29.7
V04-24-35-8	1,079.8	1,083.2	94.4	2.5	5.2	1.6
V04-28-35-8	1,043.7	1,047.0	51.9	44.5	2.7	28.1
V04-34-35-8	1,052.8	1,056.2	51.7	42.4	4.4	26.8
V11-16-35-8	1,077.9	1,081.3	51.5	41.3	5.6	26.1
V13-01-35-8	1,096.0	1,099.4	47.3	45.7	5.8	28.9
V13-11-35-8	1,069.9	1,073.3	47.7	45.3	5.5	28.6
V13-16-35-8	1,074.7	1,078.0	50.6	42.0	6.0	26.5
V13-23-35-8	1,050.1	1,053.4	49.5	45.8	3.9	28.9
V14-29-35-8	1,048.0	1,051.3	53.4	41.0	4.3	25.9
V16-06-35-8	1,095.4	1,098.8	50.8	43.4	4.3	27.4
V16-08-35-8	1,083.8	1,087.2	47.6	44.3	6.3	28.0
2-16-36-8	1,022.48	1,025.81	52.3	42.2	5.4	26.7
1-24-34-8	1,110.57	1,114.13	55.1	40.6	4.3	25.7
4-3-35-7	1,119.06	1,122.41	49.6	44.2	6.2	27.9
1-21-34-7	1,106.61	1,109.96	50.7	43.8	5.5	27.7
1-11-35-7	1,100.38	1,103.73	49.5	46.5	4	29.4
1-15-35-7	1,075.48	1,078.83	64.4	28.8	6.8	18.2
1-29-34-7	1,110.55	1,113.9	81.4	14.4	4.2	9.1
8-7-34-7	1,124.55	1,127.9	66.4	30.2	3.4	19.1
8-11-35-7	n/a	n/a	n/a	n/a	n/a	n/a
13-9-34-7	n/a	n/a	n/a	n/a	n/a	n/a
13-23-34-7	1,105.44	1,108.79	50.8	42.4	6.8	26.8
15-28-34-8	1,116.69	1,120.04	51.6	43.4	5	27.4

Drill Hole ID	Composite From (ft)	Composite To (ft)	Comp. % NaCl	Comp. % KCl [1]	Comp. % Insolubles	Comp. % K_2O
16-26-34-7	1,098.31	1,101.66	47.4	46.4	6.2	29.3
4-5-34-7	1,122.66	1,126.01	50.9	43.1	6	27.2
6-3-34-7	1,110.85	1,114.2	55.2	39.6	5.2	25
12-31-34-7	1,093.65	1,097.00	57.6	38.8	3.6	24.5
13-35-33-8	1,138.22	1,141.57	51.8	42.3	5.9	26.7
16-6-37-8	1,023.27	1,026.62	58	38.8	3.2	24.5
13-22-36-8	1,020.69	1,024.04	53.9	43.7	2.4	27.6

1 KCl grade is the % K 2O equivalent divided by 0.63177.

North Expansion Wildcat Drill Holes

North Expansion Wildcat Drill Holes were drilled between 1955 and 1957. Canamerican Drilling Company completed two of the holes and Rio Palmer drilled one. Typically, a 10.75 inch diameter surface casing was installed in a 13.75 inch or 15 inch diameter hole to between 360 and 400 ft depth. From there, a 5.5 inch or 7 inch diameter intermediate casing was installed in either a 7 inch or 9 inch diameter hole into the 2nd Red Beds near 3,300 ft depth with either cement or an anchor packer. These three holes confirmed the presence of the mining zone within the Prairie Evaporite Formation.

viii) Sampling and Analysis

The 2010 and 2011 holes were all logged and sampled at the well site by ADM Consulting Limited in a lab trailer provided by Blackie's Coring of Estevan, Saskatchewan. In general, the core was logged, depth corrected using geophysical logs, convenient sample lengths of 0.25 m to 0.5 m were chosen based on geological changes and existing core breaks, and the intervals measured. Sample intervals were chosen by ADM Consulting Limited and a quarter core was removed either by cutting the core in half along the length of the sample, and one half cut into quarters, or a quarter cut out using a diamond bladed cut-off saw. The quarter core was numbered, bagged and tagged for assay purposes by an employee of Agrium and checked by ADM Consulting Limited. The remaining three quarters were returned to the core box.

Before transport, a packing slip was filled out identifying the drill hole and sample numbers being transported. Samples were transported to SRC's Geoanalytical Laboratories in Saskatoon, Saskatchewan. SRC is accredited by the Standards Council of Canada. Transport was carried out by ADM Consulting Limited on behalf of Agrium.

Upon receiving the samples, SRC acknowledged that the samples had been received and issued a "Sample Shipment Receipt Notification" followed soon after by a "Sample Receipt Report" indicating a complete sample listing, including total numbers and sample labels. The samples were at all times in the possession of a responsible person.

Underground Samples

Underground channel sampling programs are carried out by employees of Nutrien. Samples are obtained by cutting two slots in the mine wall, approximately five centimeters apart and three centimeters deep, from approximately 15 cm above the normal mining zone down to below the normal mining height of 3.35 m. Horizontal slots are then cut across the verticals to isolate mud seams and noticeable changes in mineralogy to create blocks that are typically 7.5 to 10 cm long. The blocks are removed from the wall with a hammer and chisel. Often, a number of blocks (typically up to three) are combined into one sample interval. The mass of material obtained for assay is very similar to that obtained from a quarter core. Samples are transported to the SRC Geoanalytical Laboratory by an employee of Nutrien and subject to the same documentation procedures as described above.

All VPO drilled hole and underground samples received by the SRC are then crushed, split and a portion pulverized in a grinding mill. The remainder of the split is returned to Nutrien. As part of their Quality Assurance and Quality Control procedures, one in every 20 samples is repeated. A prepared standard sample is also submitted with each batch of client samples. This is done to ensure repeatability of the analyses. The range in results is within the acceptable tolerance.

ix) Data Verification Procedures

The grade forecasts derived from the underground sampling program are reconciled with mill feed grades obtained from belt mounted K40 analyzers and daily feed samples assayed in the on-site laboratory and reported on a daily, monthly, and year to date basis. The mineral reserve tonnage is reconciled monthly to compare the hoisted tonnages, surveyed tonnages and milled tonnages and is approved if agreement is within a 3 percent difference, while the milled grade is reconciled to the block model grade.

x) Mineral Resource and Mineral Reserve Estimates

The table below summarizes the mineral resource estimates regarding VPO as of August 8, 2014:

Area	Grade % Est. % K_2O	% Insolubles	Measured Mineral Resources (million tonnes)	Indicated Mineral Resources (million tonnes)	Inferred Mineral Resources (million tonnes)
South Block	23.4	5.0	687.0	-	-
South Block	25.4	5.2	-	214.9	-
South Block	24.9	5.2	-	-	962.1
North Expansion Block	26.8	3.9	-	-	79.2

1 Grades are based on the block model estimate.
2 Insolubles are a deleterious material affecting mineral processing.
3 Mineral resources that are not mineral reserves do not have demonstrated economic viability.
4 Mineral reserves are not included in mineral resource estimates.
5 KCl grade is the % K 2O equivalent divided by 0.63177.

The table below summarizes the mineral reserves estimates regarding VPO as of August 31, 2014:

Area	Grade Est. % K_2O	% Insolubles	Mineral Reserves – Proven (million tonnes)	Mineral Reserves – Probable (million tonnes)
South Block	25.8	4.8	122.9	-
South Block	24.3	4.8	-	56.4
Unitized Area	25.2	4.9	52.8	-

Grades determined using Vulcan block model.
KCl grade is the % K 2O equivalent divided by 0.63177.

To estimate the potential extent, grade and tonnage of the VPO mineral resource and reserves, the Authors made certain assumptions and implemented certain parameters, including assumptions and parameters relating to the property area used in the estimates, the mining height used at VPO, in-situ densities, certain seismic features, exploration and drilling data, the calculation of tonnages and extraction rates. For a complete description of key assumptions and parameters associated with the information above, reference should be made to the full text of the Vanscoy Technical Report.

xi) Mining Operations

In the mine, borer style miners are used to mechanically excavate the rock and load it directly onto a series of interconnected conveyor belts. The broken ore is then transported to a shaft where it is hoisted from underground to surface at a capacity of 1,800 tonnes per hour and fed to the mill. The mine is accessed using a fleet of 4x4 trucks and a network of roads that stretches 11 km north, 11 km south and 14 km east of the shaft. The borer miners are 3.35 m high, 5.5 m wide and use two, three armed rotors to cut the rock. The miners can advance at about 30 cm (1 ft) per minute and will mine tunnels up to 2,200 m long and 10.2m wide. The potash ore being mined contains about 40 percent potassium chloride (potash), 55 percent sodium chloride (common salt) and 5 percent insolubles.

Production Forecast

Significant changes to the processing facility have been introduced by the Vanscoy Project. As per the Vanscoy Technical Report, the annual production rate will be increased to 2.8 million tonnes from the existing 1.8 million tonnes of product. The circuit is designed to process a range of ore grades between 22.0 percent K_2O to 25.5 percent K_2O, with an average expected grade of 24.6 percent K_2O. The nominal milling rate will be 1,084 tonnes per hour (operating 24 hours per day). VPO produces an agricultural grade muriate of potash with an average product grade of 60.6 percent K_2O (the product grade must exceed 60.0 percent K_2O to achieve the product specification). The design product split will be 75 percent premium (2,100,000 tonnes per annum) and 25 percent non-premium (700,000 tonnes per annum). The amenability of the VPO ore body to recover and concentrate potash has been well established by the long processing history of the plant. Given the remarkable continuity of the Prairie Evaporite Formation potash beds the relative ease of concentration is not expected to change. The process improvements introduced by the Vanscoy Project are supported by bench and pilot scale test work. Furthermore, industry proven technology with a minimum of one year of successful use within the potash industry has been used in the design to improve the target recovery to 87 percent. In 2019, the mill recovery rate was 83.2 percent. The 2020 target recovery is 83.5 percent.

The increased production and recovery will be accomplished through modifications to the existing circuits by installation of new crushing, attrition scrubbing, slimes separation, scavenger flotation and brine handling circuits and the installation of additional flotation and compaction circuit capacity. There have also been enhancements to the existing ore storage, crystallization and loadout circuits.

Infrastructure

The infrastructure at the mine site includes the following key items: mine site location access infrastructure, site power supply, the TMA, rail access and nearby towns and villages. Electrical energy is provided from the SaskPower distribution grid via a 138 KVA power line sized to accommodate current needs. Process water is provided by a dedicated water line from the South Saskatchewan River.

Environmental Considerations

The byproducts of potash extraction are insoluble fine tailings (clay) and salt tailings. The TMA is the destination for these tailings. With an increase in potash production, there will be a corresponding increase in tailings deposition rates. Nutrien has conducted a review of its TMA and developed a plan to extend the current tailings operations through 2077 in the currently approved footprint. As part of the Vanscoy Project, the following scope was completed: relocated and increased the size of its brine pond, relocated and increased the size of the fine TMA ("FTMA"), installation of a settling pond for both salt and FTMA areas, development of west side deposition cell number 3 (WS3), and planned for significantly higher salt pile heights. In 2019, Nutrien started the development of an additional FTMA Cell (Cell 3B) located within the existing TMA boundary. Construction of Cell 3B will continue in 2020.

A slope stability study has been completed to understand the sensitivities of containment dyke geometries, deposition rates and duration, and brine mound effect on pore water pressures both in the tailings and underlying soils. Slope inclinometers and pressure transducers are monitored on a continuous basis as tailings are deposited. Additional slope inclinometers and pore water pressure transducers will be installed in key areas of the pile to monitor pile stability as the tailings pile develops. In 2019, monitoring equipment was installed for the FTMA Cell 3A and additional monitoring equipment was installed in the Course Tailings pile.

Salt deposition is partly offset by excess brine injection into the Deadwood Formation and a road salt operation actively removing tailings from the pile.

Nutrien is in material compliance with all environmental permitting requirements. The site is currently permitted by the SMOE pursuant to*The Environmental Management and Protection Act, 2010*.

The operating potash mines have agreed to provide the Province of Saskatchewan with financial assurances in the form of an irrevocable trust, whereby each producer has agreed to contribute a total of CA$25 million to their respective trusts for the purpose of decommissioning, restoring and rehabilitating their mines site(s). Payments to this trust were initiated on July 1, 2014 and will continue with annual payments through July 1, 2025. This trust agreement provides for possible adjustment of the trust amount at each five-year decommissioning plan review period based upon the most recent closure cost estimate.

Mine Life

Per the Vanscoy Technical Report, after 45 years of production, VPO has a Mineral Reserve remaining of 232.1 million tonnes (Proven Mineral Reserve of 175.7 million tonnes grading 25.6 percent K_2O and Probable Mineral Reserve of 56.4 million tonnes grading 24.3 percent K_2O). The Proven and Probable Reserve estimation is sufficient for approximately 29 years of mining life at the expanded rate of 2.8 million tonnes of product per year.

Measured Mineral Resources of 687.0 million tonnes grading 23.4 percent K_2O and Indicated Mineral Resource of 214.9 million tonnes grading 25.4 percent K2O has the potential to add a further 32 years.

xii) Exploration and Development

It is reasonable to expect that a significant portion of the Inferred Mineral Resources will be upgraded to Indicated Mineral Resources and Measured Mineral Resources as exploration programs are undertaken in the North Expansion Block and South Block. This has the potential to significantly increase mine life.

Capital and Operating Cost Estimates

As described in the Vanscoy Technical Report, the VPO site has been in operation since 1969. In the years immediately preceding this, major capital investment was made to bring the mine into production. Since then, capital expenditures have been made on a regular and ongoing basis to sustain and expand production. The Vanscoy Project was announced in 2011 whereby VPO would be expanded to increase operational capacity to a total of 2.8 million tonnes muriate of potash product per year. The Vanscoy Project cost is approximately US$2.33 billion. Engineering commenced in 2010 and initial early work construction started in 2011. As a result of the Merger, the timing of the ramp-up to full capacity will be considered as part of the optimization of the combined potash production base of Nutrien.

A summary of the expansion costs is outlined in the table below:

Capital Costs	**(billions US$)**
Shaft headframe and above ground mining buildings	0.19
Surface ore handing	0.23
Ancillary buildings (offices/shops etc.)	0.02
Underground equipment and development	0.14
Process plants	1.05
Compaction	0.40
Infrastructure	0.23
Product loadout	0.07
Total	**2.33** [1]

1 Excludes investigation costs and engineering studies completed prior to Agrium's board of directors' approval of the Vanscoy Project.

Operating costs for the facility are largely driven by labor requirements. As we expand production, more equipment and manpower resources are required in both the mine and mill facilities to cover production, maintenance and administrative requirements. Additionally, as the mine transitions into deeper sections of the ore body in the South Block and eventually into KL 204 mine rehabilitation costs are expected to increase to deal with the impact of increased ground pressure. These costs are expected to manifest themselves in both equipment and manpower and have been included in forecast projections. These and other adjustments, such as reagent usage, have been reflected in operating cost estimates that are updated annually for a forward-looking period of 20 years. These projections result in cost per tonne projections that are expected to peak during the period of intense ramp-up before decreasing and levelling off at a more normalized level once full production rates are attained.

f) Taxes Relating to Potash Operations

Royalties are paid to the Province of Saskatchewan in connection with the Company's Potash operations, which holds most of the mineral rights in the lease areas, and royalties from Freehold lands are paid to various freeholders of mineral rights in the area. The Crown royalty rate is three percent and is governed by *The Subsurface Mineral Royalty Regulations, 2017*. The actual amount paid is dependent on selling price and production tonnes.

Municipal taxes are paid based on site property values to the applicable municipality in Saskatchewan. Saskatchewan potash production is taxed at the provincial level under *The Mineral Taxation Act, 1983*. This tax, governed by *The Potash Production Tax Regulations*, consists of a base payment and a profit tax, collectively known as the potash production tax. As a resource corporation in the Province of Saskatchewan, the Company is also subject to a resource surcharge equal to a percentage of the value of its resource sales (as defined in *The Corporation Capital Tax Act of Saskatchewan*). In addition to this, the Company pays federal and provincial income taxes based on corporate profits from all of its operations in Canada.

Exhibit 99.2



2019 Management's Discussion and Analysis



Management's Discussion & Analysis

As at and for the year ended
December 31, 2019

12 **Strategy**

21 **Operating Segment Performance & Outlook**

22-27 **Retail**

28-33 **Potash**

34-39 **Nitrogen**

40-43 **Phosphate**

44 **Corporate & Others**

45 **Financial Overview**

The following management's discussion and analysis ("MD&A") is the responsibility of management and is dated as of February 19, 2020. The Board of Directors of Nutrien carries out its responsibility for review of this disclosure principally through its audit committee, comprised exclusively of independent directors. The audit committee reviews and, prior to its publication, recommends to the Board of Directors approval of this disclosure. The Board of Directors has approved this disclosure. The term "Nutrien" refers to Nutrien Ltd. and the terms "we," "us," "our," "Nutrien" and "the Company" refer to Nutrien and, as applicable, Nutrien and its direct and indirect subsidiaries as a group. This MD&A is based on the Company's audited consolidated financial statements for the year ended December 31, 2019 ("financial statements") prepared in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board ("IFRS") unless otherwise stated.

This MD&A contains certain non-IFRS financial measures which do not have a standard meaning under IFRS and, therefore, may not be comparable to similar measures presented by other issuers. Such non-IFRS financial measures include:

- EBITDA, Adjusted EBITDA and Potash Adjusted EBITDA
- Adjusted net earnings and adjusted net earnings per share
- Adjusted EBITDA and adjusted net earnings per share guidance
- Free cash flow and free cash flow including changes in non-cash working capital
- Gross margin excluding depreciation and amortization per tonne - manufactured
- Potash cash cost of product manufactured
- Ammonia controllable cash cost of product manufactured
- Adjusted net debt
- Retail adjusted average working capital to sales
- Retail cash operating coverage ratio
- Retail normalized comparable store sales
- Retail EBITDA per US selling location
- Nutrien Financial receivables
- Debt-to-capital ratio (see disclosures on page 53)

For definitions, further information and reconciliation of these measures to the most directly comparable measures under IFRS, see "Non-IFRS Financial Measures" beginning on page 63.

Also see the cautionary statement on forward-looking information on page 62.

All references to per share amounts pertain to diluted net earnings (loss) per share. Financial data in this annual report are stated in millions of US dollars which is the functional currency of Nutrien and the majority of its subsidiaries unless otherwise noted. N/m indicates information that is not meaningful.

See pages 134 and 135 for definitions, abbreviations and terms used in the annual report.

Additional information relating to Nutrien (which, except as otherwise noted, is not incorporated by reference herein), including our Annual Information Form for the year ended December 31, 2019, can be found on SEDAR at www.sedar.com and on EDGAR at www.sec.gov. The Company is a foreign private issuer under the rules and regulations of the US Securities and Exchange Commission (the "SEC").

The information contained on or accessible from our website or any other website is not incorporated by reference into this MD&A or any other report or document we file with or furnish to applicable Canadian or US securities regulatory authorities.

Nutrien's Global Profile

We will provide industry-leading Ag Solutions to Feed the Future.

We have operations and investments in 14 countries, with over 22,000 employees and more than 500,000 grower accounts worldwide. We operate the world's premier Ag Retail network, supplying growers with the latest products, services and technology. As the world's largest producer of fertilizers, we have some of the highest-quality and lowest-cost production assets. Our extensive supply chain allows us to deliver products to the market with improved efficiency.

North America



To view and download **our Industry Factbook,** visit https://www.nutrien.com/resources



To view **A Day in the Life of Nutrien Ag Solutions,** visit https://www.nutrien.com/what-we-do/our-business/retail



To view the **Nutrien Potash Facility Tour,** visit https://www.nutrien.com/what-we-do/our-business/potash



Africa/Asia



Nutrien's Strategy

Nutrien's strategy begins with the depth and breadth of our unique portfolio of assets that span the crop input and services value chain.

As the leading diversified and best positioned company in the crop input Ag sector, our strategy focuses on creating value through the cycle and developing a platform for growth while minimizing risks. This creates cost, revenue and supply chain synergies that deliver value for our customers and other stakeholders.

Building a unique relationship with the grower

We are the leading retailer of crop inputs and services across key Ag markets where we operate with an award-winning digital platform and over 3,400 agronomists serving growers from more than 2,000 retail locations across North America, South America and Australia. We enrich our relationships by offering our customers a full suite of solutions to meet their needs. Technology, innovation and data are integral to providing Ag Solutions to Feed the Future, which is why we have a clear vision for developing the leading digital agricultural platform supported by our people, products, extensive distribution network and systems.

Create the best channel to the customer

We unlock value through integration and innovation across our supply chain and our approach to market. The types of products and services we offer require significant supply chain investments, particularly given the seasonal nature of our industry. In North America alone, we have more than 1,800 distribution points with approximately 6.3 million tonnes of storage capacity. We are further solidifying our leading position in the marketplace and expanding our reach to customers through a tuck-in acquisition and consolidation strategy in North America, a growth strategy in Brazil and integrating Ruralco into our business in Australia.

Own the leading production assets and proprietary offerings

We own and operate the world's leading fertilizer assets with 25 million tonnes of sales in 2019, which have significant cost and/or market advantaged positions. We have approximately 6 million tonnes of additional available potash capacity which we expect to draw upon in the coming years. We are optimizing our production assets to lower costs, investing in high-return nitrogen brownfield capacity expansions and implementing technologies across our business to reduce carbon emissions. We also develop value-enhancing offerings that help growers optimize yields and address challenges.



Priorities & Performance

We focus on several key priorities to support the execution of our corporate strategy and deliver superior long-term results for our stakeholders.

In each of these areas we set clearly defined targets and performance metrics that measure our progress. Our strategy and performance are supported by governance oversight and risk management by our leaders and Board of Directors.



Sustainability 14-15

Be at the forefront of Ag related Environmental, Social and Governance (ESG), including building a climate-smart agricultural strategy



Growth & Capital Allocation 16-17

Grow our business and create value by more efficiently allocating capital through the cycle



Innovation & Technology 18-19

Drive growth through innovation and digital solutions



Employees 20

Foster a purpose-driven culture that supports growth, diversity and inclusion

Sustainability

Find out more at nutrien.com/sustainability



Sustainability Initiatives

LEAD THE NEXT WAVE OF SUSTAINABLE AGRICULTURE
Acquired Actagro and Agrible – companies that focus on soil and plant health and enable analysis of on-farm sustainability practices.

MINIMIZE OUR ENVIRONMENTAL FOOTPRINT
Baselining our environmental impact, implementing efficiency projects and developing a long-term environmental strategy.

CHAMPION DIVERSITY AND INCLUSIVE GROWTH IN THE AGRICULTURE INDUSTRY
Addressing D&I across our company, value chain and communities where we operate.

Nutrien is integrating sustainability across the company by focusing on three priorities that contribute to the United Nations Sustainable Development Goals.

2019 Performance

Actagro
SUSTAINABLE AG SOLUTIONS ACQUISITION

1.2Mmt
CAPTURED CO_2

25%
PROPORTION OF FEMALE VICE PRESIDENTS AND ABOVE

Sustainable Agriculture

Our goal is to lead the next wave of sustainability in agriculture by developing solutions for our customers that increase crop yields, enhance their profitability and enable greater environmental stewardship. We aim to accomplish this goal through three key areas:

1. Develop solutions that increase nutrient availability and uptake by crops, improving productivity and crop resilience and reducing overall losses to the environment. **Our 2019 acquisition of Actagro, a manufacturer of environmentally sustainable soil and plant health products and technologies, is expected to contribute to growth and progress.**
2. Enhance the data linkage between growers and downstream partners, such as food production companies and carbon markets. Our goal is to increase the data and analytical capabilities for on-field sustainability information tracking and enable insight and connectivity through our industry-leading Retail digital tools.

   The acquisition of Agrible in 2018 adds field-level predictive analytics to our digital platform enabling farmers to quantify their performance and pursue opportunities for continuous improvement. **In 2019, we began the integration of this tool into our digital platform for a broad customer roll-out.**
3. Collaborate with our stakeholders to enable the uptake of best practices. This approach requires collaboration at multiple levels, including with government, regulatory agencies and international and local non-governmental organizations.

Environmental Footprint

Nutrien is committed to reducing its environmental footprint and has established a baseline to understand our current state and identify future areas of opportunity and investment. Reducing our footprint means we are focused on air emissions, water usage and discharge, and waste.

Climate change is a key focus for Nutrien and we are committed to reducing greenhouse gas (GHG) emissions within our operations and across our value chain. Fertilizer production, especially nitrogen fertilizer, generates GHG emissions; however, nitrogen is critical for healthy crops and soil organic carbon. Agricultural practices that increase yield on land reduce pressure to convert additional land to food production. Improved fertilizer use efficiency contributes to soil health and makes a positive impact to climate change by sequestering carbon naturally. **This year, we obtained external assurance on our 2018 baseline scope 1 and 2 GHG emissions, which we expect to be provided in our 2020 ESG Report. We are also engaged in assessing our scope 3 GHG emissions inventory. Later in 2020, we plan to provide more detail on our climate strategy and targets for reducing emissions across our value chain.**

Water is important to our operations and is primarily used in our fertilizer production facilities and we are taking action to reduce our water use and increase water recycling. Examples include recycling water in a closed-loop system, using on-site collection ponds, and in some cases, using non-potable water sources to reduce intake of fresh water.

Diversity and Inclusive Growth

Nutrien is committed to diversity and inclusion within our workforce, our supply chain, local communities and the agricultural sector. D&I is an important component of how we deliver on our goal to be the leading integrated Ag Solutions provider. We aspire to lead in diversity and inclusion by focusing on a world class approach which links inclusion with our global sustainability agenda.

This means our strategy includes both internal and external efforts and advocacy and collaboration with multiple stakeholders. A key component is our focus on advancing our workforce diversity efforts through attracting, developing and engaging talent and creating an inclusive culture. In addition, we work to advance supplier diversity, partnerships and community advocacy for inclusion. An example of this is our Aboriginal Engagement strategy which focuses on opportunities in our workforce, supply chain and community investment.

In 2019, Nutrien renewed its partnership with the Saskatoon Tribal Council. Through a memorandum of understanding, Nutrien continues a commitment to initiatives and events that ensure our Indigenous partners share in opportunities both as employees and as suppliers.

Growth & Capital Allocation



Growth & Capital Allocation Initiatives

SAFE AND RELIABLE ASSETS
Efficiently maintaining our assets and managing associated costs to provide safe and reliable production to optimize returns.

GROW
Expanding our footprint and optimizing our business to provide stable and growing financial returns while minimizing risk and protecting our balance sheet.

COMPETE FOR CAPITAL
Prudently allocating capital to the best risk adjusted opportunities to lead future growth and increase cash returns to shareholders.

Nutrien is focused on financial growth and creating long-term value through capital allocation. We believe our integrated model provides greater opportunity to allocate capital more efficiently through the cycle and provide superior financial returns for shareholders.

2019 Performance

$1.0B	~50%	$3.0B	$2.0B
SUSTAINING CAPITAL EXPENDITURES	OF CAPITAL DEPLOYMENT TO DIVIDENDS AND SHARE REPURCHASES	CASH USED FOR DIVIDENDS AND SHARE REPURCHASES	ACQUISITIONS, INVESTMENTS AND GROWTH PROJECT SPENDING



Nutrien's capital allocation strategy is simple and clear. The first priority is to sustain our assets to ensure that we have safe and reliable operations. Sustaining capital spending totaled $1.0 billion in 2019, which is in line with our depreciation.[1]

The next priority is to protect the balance sheet. We target an investment-grade credit rating throughout the cycle which provides reliable access to capital and financial flexibility, allowing us to be opportunistic when value-enhancing opportunities arise.

We are focused on delivering to shareholders a stable, predictable and growing dividend underpinned by growth in our Retail business unit. We have increased the dividend twice since Nutrien's inception and target a payout range of 40 to 60 percent of free cash flow through the cycle.

We allocate the remaining free cash flow on a compete for capital basis. Our internal approval process and strict hurdle rates ensure that we are allocating capital to the best alternatives on a risk adjusted basis.

Nutrien's long-term financial growth is primarily within our control by investing in our world class Retail distribution network, growing our crop nutrient production and optimizing the combined network. Firstly, we are expanding our Retail footprint in key regions and unlocking value by leveraging the scale of our existing platform which is expected to provide stable and growing earnings.

Secondly, we have a clear strategy and measurable goals for optimizing crop nutrient production by reducing costs and investing in low-cost and low-risk expansion projects. As we optimize and expand capacity, earnings leverage to crop nutrient price recovery increases significantly.

During low points of the cycle, we expect to focus on growing our crop nutrient production, distributions to shareholders and transformational opportunities. At the high points of the cycle, we expect to focus on organic growth opportunities and reducing leverage. The stability of Retail allows us to keep growing this business and our dividend throughout the cycle.

In 2019, we allocated approximately $1.0 billion to grow our Retail footprint and product offering in the US and Australia. We also returned $3.0 billion to shareholders through share repurchases and dividends.

2019 Capital Allocation

(percent)



Source: Nutrien

1 Depreciation excluding the impact of PPA adjustments as a result of the Merger and depreciation of right-of-use assets recognized upon adoption of IFRS 16 "Leases".

Innovation & Technology



Innovation & Technology Initiatives

RETAIL DIGITAL PLATFORM
Our digital platform aims to provide the leading digital offering to growers.

NEXT GENERATION POTASH
We are adopting innovative mining tools and creating ways to increase productivity, lower costs and create a safer work environment for our people.

PRODUCT INNOVATION
Develop solutions that increase nutrient availability and uptake by crops, improving productivity and crop resilience and reducing overall losses to the environment.

We invest in new products, processes and digital solutions to better serve our customers, increase efficiency, improve employee safety and deliver environmental benefits. Providing **Ag Solutions to Feed the Future** requires us to expand the boundary of the current state of agriculture.

2019 Performance

11.5%

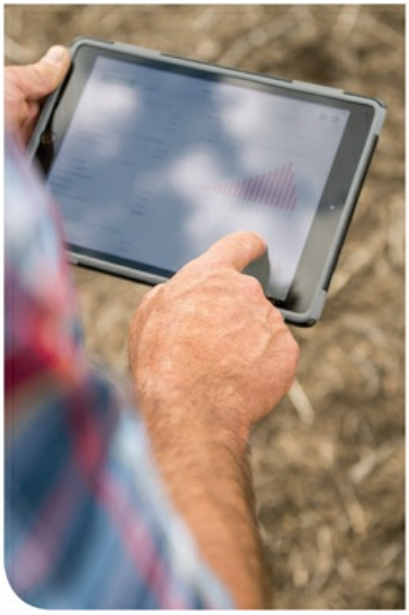
$63

+150

PROPORTION OF
NORTH AMERICAN SALES
THROUGH THE DIGITAL PLATFORM

POTASH CASH COST OF PRODUCT
MANUFACTURED
PER TONNE

NEW PROPRIETARY
PRODUCTS IN 2019

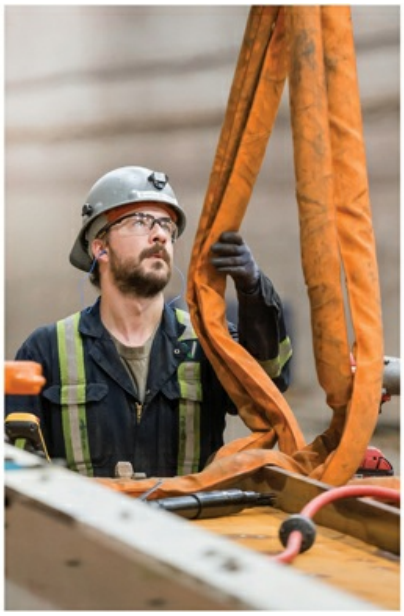


Retail Digital Platform

We are investing over $60 million per year to deliver the leading digital platform in the Ag retail sector. The platform provides our customers with a one-stop shop for account management, farm planning, agronomic tools, ecommerce and crop input financing.

North American Retail customers representing approximately $6.6 billion in annual sales are currently signed up on the platform. Payments made through the customer portal reached $336 million in 2019.

As we continue to enhance our digital offerings we expect to more efficiently serve our customers, drive down supply chain costs, reduce working capital and increase our share of the market while leading sustainable agriculture initiatives in our industry.



Next Generation Potash Program

Our goal is to operate the safest, most efficient, lowest-cost potash operations in the world. We launched a series of initiatives to improve our potash operations. Through operational excellence, we aim to improve processes from the mine face to the mill and our logistic channels. We expect to leverage data analytics and automation to drive more value.

Our operations are implementing and piloting initiatives with a focus on autonomous mining, advanced process control, dynamic scheduling, connected workforce, and predictive maintenance. We anticipate these initiatives will enhance the safety of our operations and will lower costs by leveraging these technologies as we ramp up production.

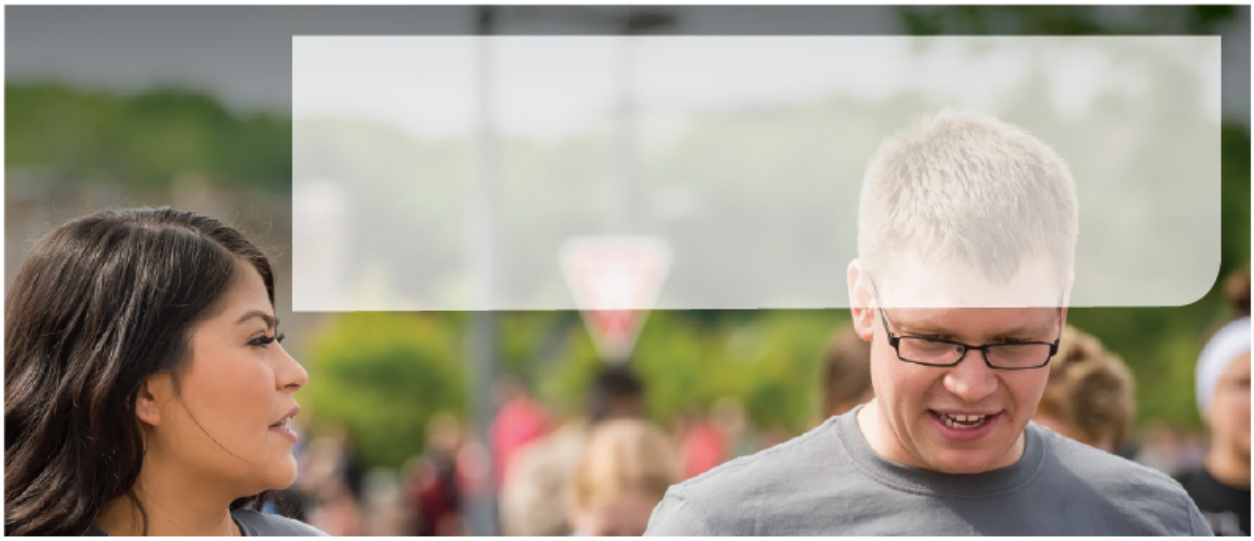


Product Innovation

We have invested in more than 1,850 proprietary products, including patented technologies in crop nutrients, crop protection, biocatalysts and seed. We develop these products at the more than 30 facilities dedicated to innovation, breeding and associated production.

Nutrien developed ESN, the market's leading controlled release nitrogen product, and continues to focus on the innovation of new fertilizer products including ag-biologicals that provide both agronomic and environmental benefits. This year we also introduced a Smart Nutrition MAP – a micronized sulfur MAP which speeds sulfur delivery to the plant and reduces the potential for sulfur loss.

Employees



Employees Initiatives

LEADERSHIP AND TALENT DEVELOPMENT

Launching a global leadership development framework which includes development programming for all levels of employees.

EMPLOYEE EXPERIENCE

Focusing on the experience of Nutrien employees informed by frequent and focused listening events upon which action is taken.

DIVERSITY & INCLUSION

Continued focus on increasing diversity within the organization and increasing our employees' experience of inclusion.

Our strategy is to attract, develop and engage skilled and diverse employees who are committed to Grow Our World from the Ground Up. Our focus on employee development, D&I, engagement and wellness nurtures the best ideas and attracts the best talent to help achieve our purpose.

Leadership and Talent Development

2019 marked the implementation of a customized Nutrien global Leadership Development Program. The program will be cascaded across Nutrien, and will focus on developing authentic leadership, leading in accordance with Nutrien's key principles, and increasing leaders' knowledge of Nutrien's integrated business model. Focused efforts are underway to provide supporting development programming at all levels across Nutrien, to reinforce and develop leadership behaviors aligned with the organization's values and engagement principles.

Employee Experience

In 2019, we continued harmonization of our people programs and focused on managing and monitoring the experience of our employees through frequent listening activities. We conducted nine formal listening events with various employee groups involving nearly 19,000 individuals and used the results to prioritize our efforts to improve the employee experience. In 2020, we will continue to use employee listening as a driver to improve all aspects of the employee experience, with a targeted focus on the wellness of our employees; physically, mentally, financially, and through the community.

Diversity & Inclusion

A diverse and inclusive workforce provides a sense of belonging for our employees, enhances our organizational strength and better reflects our customers and stakeholders. We have a strategy of increasing representation of underrepresented groups and ensuring employees feel valued and respected. In 2019 we set defined goals of having 30 percent female Vice Presidents by the end of 2020 and 20 percent female Senior Leaders by the end of 2022. In 2020, we will increase our efforts to attract women and individuals with military experience in North America and continue to focus on the recruitment of Aboriginal people in Canada.

2019 Performance

13%

EMPLOYEE TURNOVER

19,000

INDIVIDUALS INVOLVED IN LISTENING EVENTS

$17M

SPENT ON COMMUNITY INVESTMENT



Operating Segment Performance & Outlook

We report our results in four operating segments: Retail, Potash, Nitrogen and Phosphate.

- Our reporting structure reflects how we manage our business. In the first quarter of 2019, our Executive Leadership Team reassessed our product groupings and decided to evaluate the performance of ammonium sulfate as part of the Nitrogen segment, rather than the Phosphate and Sulfate segment as previously reported in 2018.
- Net earnings (loss) from continuing operations before finance costs, income taxes, and depreciation and amortization (“EBITDA”) is the primary profit measure used to evaluate performance and allocate resources in each of our operating segments.
- Net sales (sales revenues less freight, transportation and distribution expenses) is the primary revenue measure used in planning and forecasting in the Potash, Nitrogen and Phosphate operating segments.

22-27 **Retail**

28-33 **Potash**

34-39 **Nitrogen**

40-43 **Phosphate**

44 **Corporate & Others**


Nutrien
Ag Solutions

Retail

2%

RETAIL EBITDA GROWTH
IN 2019

318

NUMBER OF RETAIL
LOCATIONS ACQUIRED
IN 2019

$967K

RETAIL EBITDA
PER US SELLING
LOCATION

11.5%

PROPORTION OF
NORTH AMERICAN SALES
THROUGH THE
DIGITAL PLATFORM

R

Retail Operating Environment

Our Business

Our Retail business provides a complete set of crop input products and solutions, including seed, crop protection, fertilizers and other crop inputs, as well as associated services, agronomic advice, financing and leading-edge digital capabilities.

As the world's largest retail distributor of crop inputs, we operate more than 2,000 retail locations across the US, Canada, Australia and key areas of South America. Our operations service more than 500,000 grower accounts globally and over 100 crops, with corn, soybeans, wheat and canola accounting for the majority of our business.

We have more than 3,400 agronomists and field experts working directly with growers to help optimize crop yields and maximize economic returns from their farm businesses. Our digital platform aims to provide the leading digital offering to growers, improve ease of doing business and provide unprecedented insight for our customers with the goal of adding advisory value at each stage of the growing season.

Our experts help growers implement sustainable management practices based on a thorough understanding of soils, climate conditions and crop requirements, and by utilizing our portfolio of leading products and services.

We also manufacture and sell a full range of advanced proprietary crop protection products and nutritionals that provide farmers with a portfolio of useful and competitive choices to successfully grow and protect their crops and livestock. Proprietary products also provide meaningfully higher margins than national brand offerings as we procure and blend the products at seven formulation facilities across our key markets.

Our Strategy

We are focused on being the **Ag Retailer of the future** by creating the leading channel to the customer and further enhancing our relationship with the grower.

We will leverage our position as the largest Ag Retailer by combining a strong local presence with the responsiveness of our world-class supply chain and whole-acre solutions. In 2019, we established a five-year strategy to enhance our Retail platform and set out four key pillars to guide our pathway to transforming our relationship with the grower.

Further Consolidate the Retail Industry:
We expect to continue to make strategic acquisitions in our key target markets and leverage our scale, experience, supply chain and whole-acre solutions to create additional value for our customers.

Create the Leading Ag Retail Digital Platform:
We expect to offer growers the leading products, agronomic services and digital interface. We intend to further enhance our award-winning digital platform by creating value-added features, expanding our credit offering for growers and by entering into strategic partnerships.

Drive Organic Growth and Increase Efficiency:
Through optimization of our supply chain and leveraging unprecedented insight from our digital platform, we expect to improve efficiency. We intend to further strengthen Nutrien Financial capabilities and provide customers with a seamless purchasing and planning experience.

Enhance Proprietary Product Offering:
We aim to enhance our product portfolio through innovation, collaboration and focused acquisitions to provide comprehensive solutions to growers including innovative and sustainable specialty products.

2019 Performance

In 2019, we finalized a number of accretive acquisitions including Ruralco, the third largest Ag Retailer in Australia, and Actagro, a manufacturer of environmentally sustainable soil and plant health products and technologies.

We also completed numerous tuck-in acquisitions in North America and Australia, and established an office in Brazil where we are building out our network. This includes greenfield location builds and progressing on our pipeline of acquisition opportunities.

We enhanced our award-winning digital platform by adding online purchasing, account payment and management, and advisory services. Through 2020 and 2021, we intend to add new functionality that includes crop planning, field level insight and crop input recommendations. We offer to our customers flexible financial solutions in support of Nutrien's agricultural product and service sales. We manage our credit portfolio through Nutrien Financial.

During a notably difficult growing year, we increased our Retail EBITDA per US selling location and grew our digital platform.

Digital Progress (2019 North America)

- **Purchasing** of key crop protection products, order online or have your agronomist do it on your behalf
- **Pay bills** online, look up past purchases, see account balances, downloadable for tax/banking purposes
- **Notifications** of new statements, invoices and licenses/permits
- **Latest weather** outlook & **grain market** information
- **Farm insight app** with current spray conditions, radar for rain & temp, last 24 hours of rainfall, and national rainfall layers

>60%	Proportion of North American revenue from customers signed up on the Digital Platform
$260M	Retail sales ordered through the digital platform
$336M	Customer payments made through the Customer Portal

Competitive Landscape

The retail landscape in most developed agricultural markets is comprised of numerous competitors of differing size and ownership structure.

Most markets are fragmented and we believe scale and size are required in order to meet evolving grower needs. Growers want a full suite of products, services and solutions, rooted in sound unbiased agronomic advice and analytics, stressing the importance of timely delivery and reliability of supply.

In North America and Australia, we compete withmid-sized national retailers, co-operatives and smaller independent operations. In Brazil, the market is characterized by smaller independent owners and represents an opportunity for larger retailers, including Nutrien, to enhance the product, service and solution offerings to growers.

2019 Market Conditions

Unprecedented precipitation in North America in the first half of 2019 impacted planting and pressured crop input demand.

Growers in the US claimed a record 20 million acres in Prevented Plantings in 2019, driven by record precipitation during the planting season. Not only did record area go unplanted, but many growers were unable to apply pre-plant herbicide and fertilizers.

Lower US acreage and poor early crop development conditions significantly reduced US corn and soybean production in 2019, which began to support crop prices. Strengthening crop prices were, however, capped by weak global demand driven, in part, by continued impacts of the US-China trade dispute and the African Swine Fever in China.

Strong South American soybean and corn production in 2019 offset some of the production losses in the US, but Brazilian crop inventories ended the year historically low. Tight soybean and corn inventories provided support for local crop prices and in turn crop input demand.

Drought continued to negatively impact Australian crop production, driving wheat yields approximately 20 percent below long-term trend levels and creating a headwind for Australian crop input demand. Considering the historical severity of the drought, both crop yields and crop input demand have been very resilient versus historical drought events.

Market Outlook

We expect a rebound in US crop acreage will support increased crop input demand in 2020.

We expect US growers will return to historic planting acreage in 2020, including approximately 94 million acres of corn and 85 million acres of soybeans. This alone represents an increase of more than 14 million acres from 2019 levels.

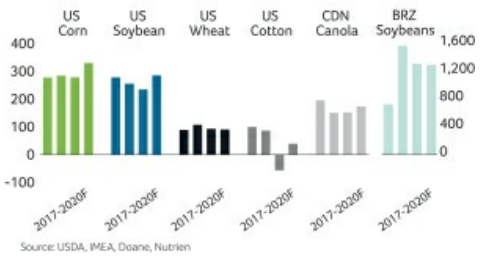
Additionally, we anticipate higher North American fertilizer application rates in 2020, driven by improved affordability and lower than normal fall application in parts of the US and Canada due to a delayed harvest and challenging fall weather conditions. Grower sentiment is positive, and we expect this to support higher than normal spring fertilizer applications for all primary nutrients.

Soybean production in Argentina and Brazil are expected to be at or near record levels, supported by favorable growing conditions. Additionally, we expect growers in Brazil to increase Safrinha corn planting supported by strong local prices. We expect strong production will result in high nutrient removal and support crop input demand in 2020.

Weather will continue to be an important factor as higher planting in North America and South America will require more normal weather conditions. Precipitation in Australia has recently improved, however, conditions during the winter crop growing season will be critical to 2020 crop production.

Key Crop Grower Cash Margins

(local currency margin/acre)



Source: USDA, IMEA, Doane, Nutrien

Retail EBITDA & Margin[1]



Source: Nutrien

[1] 2011-2016 data is based upon Agrium Inc. financials and 2020F on the annual guidance range provided on February 18, 2020.

Retail Financial Performance

(millions of US dollars, except as otherwise noted)	Dollars 2019	Dollars 2018	Dollars % Change	Gross Margin 2019	Gross Margin 2018	Gross Margin % Change	Gross Margin (%) 2019	Gross Margin (%) 2018
Sales								
Crop nutrients [1]	4,989	4,577	9	1,032	923	12	21	20
Crop protection products	4,983	4,862	2	1,173	1,155	2	24	24
Seed	1,712	1,687	1	336	333	1	20	20
Merchandise [2]	598	584	2	109	103	6	18	18
Services and other	939	810	16	590	521	13	63	64
	13,221	12,520	6	3,240	3,035	7	25	24
Cost of goods sold [2]	9,981	9,485	5					
Gross margin	3,240	3,035	7					
Expenses [3]	2,604	2,328	12					
Earnings before finance costs and taxes ("EBIT")	636	707	(10)					
Depreciation and amortization	595	499	19					
EBITDA	1,231	1,206	2					

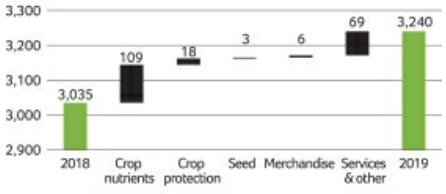
1 Includes intersegment sales. See Note 3 to the financial statements.

2 Certain immaterial figures have been reclassified or grouped together for the year ended December 31, 2018.

3 Includes selling expenses of $2,484 million (2018 – $2,303 million).

Retail Gross Margin Changes by Product

($ millions)

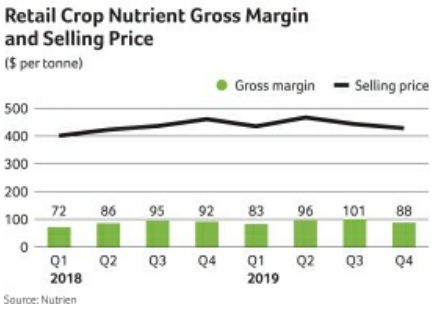


Source: Nutrien

The most significant contributors to the changes in our Retail financial performance were as follows:

	2019 vs 2018
Crop nutrients	Sales increased primarily due to higher volumes sold in the US due to acquisitions and from higher selling prices in the first half of the year, more than offsetting reduced sales volumes due to unfavorable weather conditions particularly in the US and Canada. Gross margin percentage increased due to strategic purchasing and an increase in the proportion of higher-margin specialty and proprietary products sold.
Crop protection products	Sales increased primarily due to higher herbicide and fungicide applications in the US due to excessive moisture experienced in the fall of 2018 as well as favorable changes in sales mix. Gross margin percentage was flat as favorable changes in the product sales mix and strategic purchasing were offset by the impact of higher competition in a condensed season and higher cost of raw materials sourced from China.
Seed	Sales increased primarily due to increased sales of higher-priced corn and cotton seeds which more than offset the impact of lower total planted acreage in the US.
Merchandise	Sales increased due to our recent acquisition of Ruralco.
Services and other	Sales increased due to an increase in US application services required as a result of a condensed application season and sales from recent acquisitions, including Ruralco. Gross margin percentage was lower due to changes in product mix from the Ruralco acquisition more than offsetting the increase in higher-margin US application services.
Selling expenses	Expense increased due to higher sales from acquisitions; however, expense as a percentage of sales was relatively flat.
EBITDA	EBITDA was higher primarily due to higher sales and gross margin and the impact of adopting IFRS 16 "Leases", which caused a decrease in lease expenses and a corresponding increase in depreciation and amortization, more than offsetting higher selling expenses.

R





Selected Retail Measures

	2019	2018
Proprietary products margin as a percentage of product line margin (%)		
Crop nutrients	23	21
Crop protection products	34	37
Seed	38	38
All Products	24	25
Crop nutrients sales volumes (tonnes – thousands)		
North America	8,812	8,547
International	2,236	2,142
Total	11,048	10,689
Crop nutrients selling price per tonne		
North America	465	437
International	398	395
Total	452	428
Crop nutrients gross margin per tonne		
North America	102	94
International	60	57
Total	93	86

Financial performance measures	2019 Target	2019 Actuals	2018 Actuals
Retail EBITDA to sales (%) [1]	10	9	10
Retail adjusted average working capital to sales (%) [1]	20	23	21
Retail cash operating coverage ratio (%) [1]	60	62	59
Retail EBITDA per US selling location (thousands of US dollars) [1]		967	n/a
Retail normalized comparable store sales (%) [1]		(1)	(1)
Retail digital platform sales to total sales [2]		11	n/a
Retail grower engagement [3]		5	n/a

1 Rolling four quarters ended December 31, 2019 and December 31, 2018 respectively.

2 Grower and employee orders directly from the digital platform.

3 Percent of North American Retail growers doing one or more significant activities on the digital platform, such as ordering products, making payments, applying for Nutrien Finance or completing a farm plan.

Nutrien Financial

We offer flexible financing solutions to our customers in support of Nutrien's agricultural product and service sales. Retail customers in the United States are offered extended payment terms, typically up to one year, to facilitate the alignment of grower crop cycles with cash flows. We manage our credit portfolio based on a combination of customer credit metrics, past experience with the customer and by managing exposure to any single customer. Retail receivables segregated in Nutrien Financial have the lowest risk of default of Retail receivables and typically offer lower financing costs for our customers. The balance of our Retail receivables are subject to marginally higher credit risk.

	As at December 31, 2019				
(millions of US dollars)	Current	31-90 days past due	>90 days past due	Allowance [1]	Total
Nutrien Financial receivables	799	24	3	(5)	821

1 Bad debt expense on the above receivables was $5 million for the year ended December 31, 2019.



Potash

73%

GROSS MARGIN PER MANUFACTURED TONNE
(EXCL DEPRECIATION AND AMORTIZATION)

$63

POTASH CASH COST OF PRODUCT MANUFACTURED PER TONNE

+6Mmt

AVAILABLE CAPACITY

Potash Operating Environment

Our Business

Nutrien is the world's largest producer of potash with approximately 21 percent of global potash capacity. We have access to decades of low-cost reserves from our six potash mines in Saskatchewan.

In 2019, we produced 11.7 million tonnes of potash. We have approximately 6 million tonnes of incremental available operational capacity - a unique advantage in the industry giving us the flexibility to respond quickly and efficiently to both short-term market requirements as well as long-term demand growth.

We also have the ability to add 5 million tonnes of incremental brownfield capacity that are estimated to be at much lower cost and which takes much less time to complete than a greenfield project.

We have the most extensive distribution network, including our own Retail operations, warehouse and transportation assets and our investment in Canpotex, which provides low-cost marketing and logistics to the approximately 40 international markets it serves.

Nutrien's potash mines represent some of the lowest-cost and highest-quality mines in the world. We take great care to ensure our mines run at optimal levels and to undertake preventative maintenance to maximize safety and to minimize unscheduled downtime.

Our Strategy

At Nutrien, we are strengthening our position as the world's largest underground soft rock miner and as the potash industry leader by optimizing our network, reducing costs, implementing leading technologies and leveraging our extensive capacity to capture market growth.

Network optimization:
We are optimizing our potash network to capitalize on the production flexibility of our six low cost mines and our global distribution network and to leverage the benefits of Nutrien's integrated model.

Incremental capacity:
We will use our existing production platform, which includes 6 million tonnes of additional available capacity to capture incremental share of new market demand. We also have 5 million tonnes of incremental brownfield capacity that we can develop in half the time and at a fraction of the cost of a conventional greenfield mine to meet longer term demand growth.

Next Generation Potash:
We aim to be the safest and lowest-cost potash producer through operational excellence, digitized operations and technology leadership. We are adopting innovative mining tools and creating means to increase productivity, lower costs and create a safer work environment for our people.

2019 Performance

We continue to enhance our network by effectively managing our supply chain and optimizing volumes to minimize costs while meeting our customers' needs.

In 2019 we progressed our Next Generation Potash program by implementing and piloting several initiatives at our operations in the areas of digital tools, advance process control and automation. We gained insight on how these initiatives can improve safety, cost and efficiency across our production network as production increases. Additionally, we plan to advance projects to increase network flexibility, improve ore recovery and quality, and improve efficiency as we increase volumes.

We remain focused on optimizing production across our entire mine network which includes improving productivity at our lower cost mines.

Potash Operational Capability
(million tonnes)



Source: Nutrien

¹ Represents 2019 finished product production.

North America	Offshore via Canpotex
6 low-cost mines in Canada	5 offices around the world
Integration with our Retail network	Access to 4 different marine terminals
~6,100 Railcars	>5,200 Railcars
~300 strategically located distribution points	>550Kmt dry storage capacity at port
100Kmt Hammond, IN warehouse distribution facility – strategically located for key markets	>225 vessel voyages each year

Competitive Landscape

Potash is found in significant quantity and quality in a limited number of countries. Canada has the largest known global potash reserves and accounts for approximately 35 percent of global capacity.

More than 70 percent of the world's potash capacity is held by the six largest producers. Our primary competitors are located in Belarus, Canada, Germany, Israel, Jordan and Russia.

Most major potash consuming countries in Asia and Latin America have limited or no indigenous production capability and rely on imports to meet their needs. This is an important difference between potash and other major crop nutrient businesses. Trade typically accounts for approximately three-quarters of demand for potash, resulting in a globally diversified marketplace.

The demand growth rate for potash has outpaced that of other primary nutrients, averaging an approximately 2.5 percent CAGR since 2000 despite demand in 2019 declining from record levels seen in 2018. This growth is driven by the increasing nutrient requirements of higher yielding crops and improving soil fertility practices, particularly in emerging markets where potash has been historically under-applied and crop yields lag.

K

2019 Market Conditions

World potash demand softened in 2019 due to adverse weather in North America, weak palm oil prices and a drawdown in customer inventories in late 2019.

Global potash shipments in 2019 are estimated at approximately 64.5 million tonnes, down 3 percent from the previous year's record level.

Challenging application conditions in the US reduced potash demand by 1 million tonnes, while historically low palm oil prices in Southeast Asia reduced potash demand by nearly 2 million tonnes in 2019. While there was no Chinese potash contract in 2019, Chinese shipments were strong in the first half of 2019. This led to an increase in Chinese port inventories, which pressured imports in the second half of the year.

The combination of weaker demand in these markets and the delayed monsoon in India, led to increased levels of competition in other markets like Brazil.

In response to a temporary slowdown in potash demand, several producers announced production curtailments which we estimate exceeded 3 million tonnes. New projects in Canada and the Former Soviet Union (FSU) continued to ramp up slowly, which contributed to a lower global operating rate in 2019.

Market Outlook

Improving potash market conditions with expected shipment growth to most markets in 2020.

We expect potash market fundamentals to improve as growers in key markets look to increase planting and replenish soil nutrients amid improved affordability. We expect potash shipments to most markets will increase in 2020, while production curtailments in 2019 help to lower previously built-up inventories.

We anticipate North American demand to rebound as planting acreage returns to recent historical levels and growers look to replenish soil nutrients following several missed application windows. In South America, elevated crop production and yields removed significant nutrients from the soil. As growers prepare for another strong season of planting, we believe potash demand will be strong as they look to maximize returns.

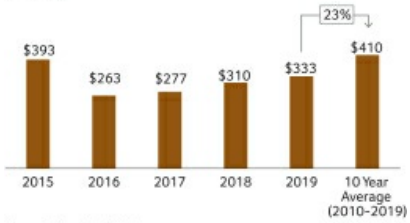
Shipments to Southeast Asian countries are expected to increase from 2019 levels, supported by a significant improvement in palm oil prices and lower inventory. We expect positive consumption trends to continue in India, particularly with an improved monsoon season and the long-term agronomic need to balance fertilizer application rates.

Despite improved consumption trends in China and a shift to more potassium-intensive crops, we expect 2020 shipments will be limited by a drawdown of port inventories and a delayed contract settlement.

We expect global potash operating rates to increase in 2020 driven by a rebound in global demand and a slow-down in the pace of new project ramp-ups. We forecast global potash shipments will be 66 to 68 million tonnes in 2020.

US MidWest Potash Price

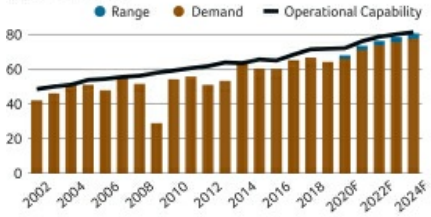
($/tonne)



Source: Fertilizer Week, Nutrien

Global Potash Supply & Demand

(Million Tonnes KCl)



Source: CRU, Fertecon, IFA, Nutrien

Potash Financial Performance

(millions of US dollars, except as otherwise noted)	Dollars 2019	Dollars 2018	Dollars % Change	Tonnes (thousands) 2019	Tonnes (thousands) 2018	Tonnes (thousands) % Change	Average per Tonne 2019	Average per Tonne 2018	Average per Tonne % Change
Manufactured product [1]									
Net sales									
North America	978	1,007	(3)	4,040	4,693	(14)	242	214	13
Offshore	1,625	1,657	(2)	7,481	8,326	(10)	217	199	9
	2,603	2,664	(2)	11,521	13,019	(12)	226	205	10
Cost of goods sold	1,103	1,182	(7)				96	91	5
Gross margin – manufactured	1,500	1,482	1				130	114	14
Gross margin – other [2]	1	2	(50)		**Depreciation and amortization**		34	31	10
Gross margin – total	1,501	1,484	1		**Gross margin excluding depreciation and amortization – manufactured**		164	145	13
Impairment of assets	–	1,809	(100)						
Expenses [3]	298	282	6						
EBIT	1,203	(607)	n/m		**Potash cash cost of product manufactured**		63	60	5
Depreciation and amortization	390	404	(3)						
EBITDA	1,593	(203)	n/m						
Adjusted EBITDA	1,593	1,606	(1)						

1 Includes intersegment sales. See Note 3 to the financial statements.

2 Includes other potash and purchased products and is comprised of net sales of $1 million (2018 – $3 million) less cost of goods sold of $Nil (2018 – $1 million).

3 Includes provincial mining and other taxes of $287 million (2018 – $244 million).

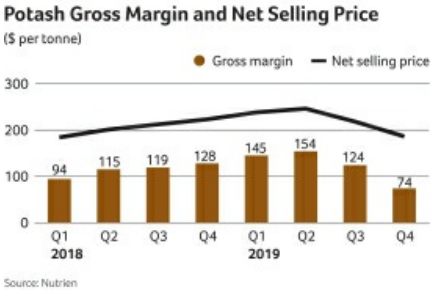
The most significant contributors to the changes in our Potash financial performance were as follows:

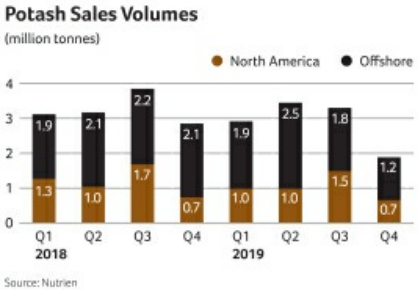
	2019 vs 2018
Sales volumes	Offshore volumes were lower due to a combination of lower demand in Southeast Asia due to lower palm oil prices in 2019 and a slowdown in demand in offshore markets in the fourth quarter as customers delayed purchases and drew down inventories. North American volumes were lower due to extreme weather in the US which impacted both the spring and fall application seasons.
Net realized selling price	Average selling prices increased in 2019 due to higher global benchmark prices in the first nine months of the year, which offset weaker prices in the fourth quarter resulting from a slowdown in demand in the second half of the year.
Cost of goods sold per tonne	Costs increased primarily due to lower production volumes resulting from the temporary production downtime at our Allan, Lanigan and Vanscoy potash mines, taken in response to the decrease in global potash demand, and from downtime at our Rocanville potash mine related to the Canadian National Railway strike. These impacts were partially offset by favorable foreign exchange impacts.
Impairment of assets	In 2018, we recorded a non-cash impairment of property, plant and equipment as a result of the decision to safely shut down our New Brunswick operations, which were no longer part of our medium or long-term strategic plans. See Note 15 to the financial statements.
Provincial mining and other taxes	We are subject to Saskatchewan provincial resource taxes, including the potash production tax and the resource surcharge. Expenses increased due to regulatory changes that raised taxes and from higher average potash selling prices, which are the basis for certain taxes.
EBITDA	EBITDA increased primarily due to the impairment of assets in 2018 noted above. Adjusted EBITDA in 2019 was similar to the prior year, as higher prices were offset by lower sales volumes and higher provincial mining taxes.

Canpotex Sales by Market

(percentage of sales volumes)	2019	2018	% Change
Latin America	31	33	(6)
Other Asian markets [1]	27	31	(13)
China	22	18	22
India	10	10	–
Other markets	10	8	25

1 All Asian markets except China and India.





Potash Production

(million tonnes KCl)	Nameplate Capacity [1]	Operational Capability [2] 2020	Operational Capability [2] 2019	Production 2019	Production 2018
Rocanville Potash	6.5	5.4	5.4	5.14	5.22
Allan Potash	4.0	2.8	2.8	2.18	2.41
Vanscoy Potash	3.0	1.7	2.2	1.42	2.24
Lanigan Potash	3.8	2.3	2.1	1.75	1.96
Cory Potash	3.0	1.0	1.0	0.97	0.81
Patience Lake Potash	0.3	0.3	0.3	0.24	0.20
Total	20.6	13.5	13.8	11.70	12.84
Shutdown weeks [3]				55	39

1 Represents estimates of capacity as at December 31, 2019. Estimates based on capacity as per design specifications or Canpotex entitlements once determined. 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 Represents weeks of full production shutdown, excluding the impact of any periods of reduced operating rates and planned routine annual maintenance shutdowns and announced workforce reductions.



Nitrogen

2%

NITROGEN EBITDA GROWTH
IN 2019

+350,000mt

ADDED AMMONIUM
SULFATE
CAPACITY IN 2019

91%

AMMONIA
OPERATING RATE
IN 2019
(EXCLUDES TRINIDAD AND JOFFRE)

N

Nitrogen Operating Environment

Our Business

Nutrien has a total of 7.1 million mt of ammonia capacity from nine major facilities in North America and Trinidad with the ability to produce and sell more than 11 million tonnes of total finished nitrogen products.

Our asset base is highly flexible, allowing us to optimize product mix and profitability in response to changing market conditions.

Our nitrogen plants in Canada and the US have access to low-cost natural gas and benefit from regional selling advantages. We also operate a large-scale nitrogen facility in Trinidad with gas costs indexed primarily to ammonia prices, providing margin stability.

We produce all key nitrogen products and have flexibility to optimize product mix in response to changing market conditions.

Approximately half of our nitrogen sales are agriculture-related and the remainder is sold for industrial purposes. A portion of our industrial sales are linked to natural gas costs, reducing variability in margins.

We have equity investments in two world-scale nitrogen facilities located in Argentina and Egypt that contribute to our nitrogen earnings.

Our Strategy

We are growing our nitrogen business and enhancing our competitive position through product and network optimization and strategic capacity expansion.

Network optimization:
We are optimizing our nitrogen network to best leverage the production flexibility of our nine low-cost facilities and our extensive distribution network to capitalize on the benefits of our integrated model that includes our Retail business.

Operational excellence:
We are leveraging best practices in engineering and maintenance to improve the reliability and safety of our operations and to decrease costs of turnarounds. Reliable and safe operations lower costs and improve utilization. We are also implementing a number of projects aimed to reduce climate-related impact from production.

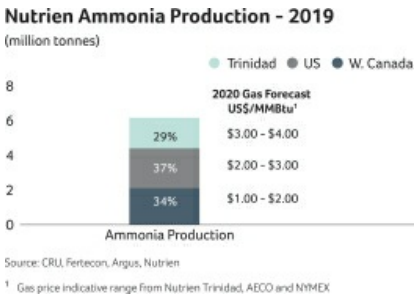
Brownfield capacity expansion:
We are increasing capacity through low-cost and low-risk brownfield expansion and debottleneck projects.

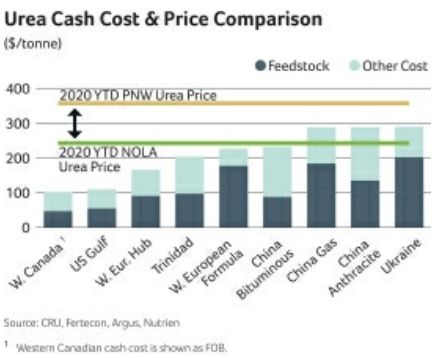
2019 Performance

In 2019, we advanced several projects that will add a combined 350,000 mt of annual ammonia and urea capacity, increase efficiencies and reduce emissions. The cost of these projects is significantly lower than greenfield economics and are expected to be complete by the end of 2021.

We continue to evaluate additional debottleneck opportunities and are also advancing engineering on two larger scale brownfield projects that could add 1.2 million tonnes of annual capacity at a cost of approximately $500 per tonne.

In 2019, we captured approximately 1.2 million mt of CO_2 equivalent and are aiming to increase this by over 15 percent in 2020.





Competitive Landscape

Production of nitrogen is the most geographically diverse of the three primary nutrients due to the widespread availability of hydrogen sources.

Ammonia is primarily consumed close to the regions in which it is produced due to the high cost of transportation, whereas urea and nitrogen solutions are more widely transported and traded. We compete with other producers in Canada, the US and several offshore suppliers.

The US remains one of the largest importers of nitrogen and a key driver of global trade despite a significant increase in domestic capacity and production over the past few years.

2019 Market Conditions

Weak global energy prices pressured nitrogen prices in 2019.

Nitrogen prices were strong going into 2019, which incentivized high operating rates by marginal producers in Europe and China. At the same time, natural gas and coal prices began to decline in those regions which enhanced their competitiveness.

Challenging weather in the US negatively impacted agricultural ammonia demand in 2019 while new marketable production capacity in the US, Russia and Indonesia added supply. This caused supply to temporarily outpace demand, leading to pricing pressure throughout most of 2019.

Global urea prices were relatively stable in the first half of 2019, supported by steady demand in most major markets. A stable pricing environment combined with declining feedstock costs led Chinese producers to increase production and exports. Coal prices continued to decline while the Chinese currency weakened, allowing operating rates to remain high despite a declining price environment. Although Chinese exports increased in 2019, they remain well below recent historical levels.

Global UAN trade flows were disrupted by European Union anti-dumping duties on imports from the US, Russia and Trinidad. In addition, low European gas prices supported higher marginal production which pressured prices.

Approximately 70 percent of our nitrogen production is located in North America where natural gas prices remained subdued in 2019. In 2019, AECO benchmark gas prices were $1.22/MMBtu and US NYMEX gas prices were $2.63/MMBtu.

Market Outlook

Limited new capacity and robust demand in North America is expected to tighten nitrogen supply and demand in 2020.

We expect that limited global nitrogen capacity additions and ongoing industry closures will help to tighten the nitrogen market and partially offset the impact of lower energy prices.

We expect North American nitrogen demand to be supported by an increase in corn planting and below-normal fall ammonia application in 2019, caused by a compressed application window. We expect this to also result in higher in-season applications as growers maximize yields with affordable fertilizers.

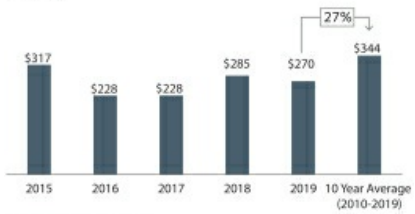
India is expected to maintain elevated import levels as itre-enters the market seasonally. Stability will depend on monsoon rains and may be influenced by any changes to the subsidy policy and maximum retail prices that growers pay.

Outside of India, major nitrogen buyers have been purchasing hand-to-mouth due to the weak pricing environment in the second half of 2019. We expect that once the Northern Hemisphere's spring season begins, it will support tightening in other markets as well.

Overall, we project that global nitrogen demand will grow by two percent in 2020, supported by strength in North America and more normal growth in other major markets. We project that global productive capacity will increase by less than one percent, driving higher operating rates in 2020.

US NOLA Urea Price

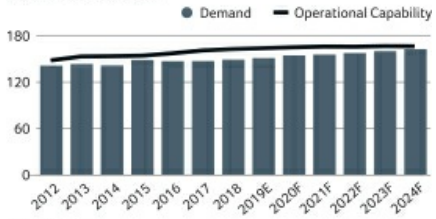
($/tonne)



Source: Fertilizer Week, Nutrien

Global Nitrogen Supply & Demand

(million tonnes nitrogen)



Source: CRU, Nutrien

Nitrogen Financial Performance

(millions of US dollars, except as otherwise noted)	Dollars 2019	Dollars 2018 [1]	Dollars % Change	Tonnes (thousands) 2019	Tonnes (thousands) 2018 [1]	Tonnes (thousands) % Change	Average per Tonne 2019	Average per Tonne 2018 [1]	Average per Tonne % Change
Manufactured product [2]									
Net sales									
Ammonia	743	903	(18)	2,971	3,330	(11)	250	271	(8)
Urea	932	895	4	3,037	3,003	1	307	298	3
Solutions, nitrates and sulfates	706	729	(3)	4,262	4,265	–	166	171	(3)
	2,381	2,527	(6)	10,270	10,598	(3)	232	238	(3)
Cost of goods sold	1,749	1,777	(2)				170	168	1
Gross margin – manufactured	632	750	(16)				62	70	(11)
Gross margin – other [2]	68	70	(3)			**Depreciation and amortization**	52	42	24
Gross margin – total	700	820	(15)			**Gross margin excluding depreciation and amortization – manufactured**	114	112	2
(Income) Expenses	(4)	47	n/m						
EBIT	704	773	(9)			**Ammonia controllable cash cost of product manufactured**	45	43	5
Depreciation and amortization	535	442	21						
EBITDA	1,239	1,215	2						

1 Restated for the reclassification of sulfate from the Phosphate segment. See Note 3 to the financial statements.

2 Includes intersegment sales. See Note 3 to the financial statements.

3 Includes other nitrogen (including ESN® and Rainbow) and purchased products and is comprised of net sales of $467 million (2018 – $438 million) less cost of goods sold of $399 million (2018 – $368 million).

The most significant contributors to the changes in our Nitrogen financial performance were as follows:

	2019 vs 2018
Sales volumes	Volumes were down slightly as adverse weather caused ammonia applications in North America to decline.
Net realized selling price	Our average selling price for nitrogen products was down slightly from the prior year primarily due to lower global benchmark prices. Our net realized selling price for urea increased slightly despite these market conditions due to the benefit of higher US inland premiums in the spring when supply was impacted by elevated water levels on many of the US river systems.
Cost of goods sold per tonne	Costs were slightly higher as a decrease in our overall gas cost was offset by a lower proportion of sales from our lower-cost facilities, increased maintenance costs and slightly lower operating rates.
Expenses	Expenses decreased primarily due to higher earnings from our equity-accounted investees Misr Fertilizers Production Company S.A.E. in Egypt and Profertil S.A. in Argentina.
EBITDA	EBITDA was higher primarily due to the impact of adopting IFRS 16 "Leases", which caused a decrease in lease expenses and increases in depreciation and amortization, lower natural gas costs and higher earnings from our equity-accounted investees, more than offsetting lower sales volumes and net realized selling prices.

Natural Gas Prices

(US dollars per MMBtu, except as otherwise noted)	2019	2018	% Change
Overall gas cost excluding realized derivative impact	2.47	2.54	(3)
Realized derivative impact	0.11	0.29	(62)
Overall gas cost	2.58	2.83	(9)
Average NYMEX	2.63	3.09	(15)
Average AECO	1.22	1.19	3

	2019 vs 2018
Overall gas cost	Gas costs were lower due to lower average NYMEX gas prices and lower derivative losses more than offsetting higher average AECO and contract gas prices.

Selected Nitrogen Measures

	2019	2018
Sales volumes (tonnes – thousands)		
Fertilizer	5,554	5,680
Industrial and feed	4,716	4,918
Net sales (millions of US dollars)		
Fertilizer	1,466	1,444
Industrial and feed	915	1,083
Net selling price per tonne		
Fertilizer	264	254
Industrial and feed	194	220





Nitrogen Production

	Ammonia [1]			Urea [2]		
		Production			Production	
(million tonnes product)	Annual Capacity [3]	2019	2018	Annual Capacity [3]	2019	2018
Trinidad Nitrogen	2.2	1.76	1.88	0.7	0.66	0.58
Redwater Nitrogen	0.9	0.76	0.88	0.7	0.60	0.73
Augusta Nitrogen	0.8	0.70	0.72	0.5	0.51	0.52
Lima Nitrogen	0.7	0.68	0.67	0.5	0.48	0.46
Geismar Nitrogen	0.5	0.54	0.44	0.4	0.33	0.26
Fort Saskatchewan Nitrogen	0.5	0.48	0.40	0.4	0.45	0.37
Carseland Nitrogen	0.5	0.45	0.52	0.8	0.61	0.68
Joffre Nitrogen	0.5	0.42	0.47	–	–	–
Borger Nitrogen	0.5	0.37	0.39	0.6	0.46	0.42
Total	7.1	6.16	6.37	4.6	4.10	4.02
Ammonia operating rate [4]		91	92			

1 All figures are shown on a gross production basis.
2 Reflects capacity and production of urea liquor prior to final product upgrade. Urea liquor is used in the production of solid urea, UAN and DEF.
3 Annual capacity estimates include allowances for normal operating plant conditions.
4 Excludes Trinidad and Joffre.



Phosphate

89%	$194M	$421
P_2O_5 OPERATING RATE (EXCLUDES REDWATER)	2019 EBITDA	AVERAGE REALIZED NET SELLING PRICE PER TONNE IN 2019

Phosphate Operating Environment

Our Business

Nutrien has two integrated phosphate facilities in the US, both located near key fertilizer consuming markets and industrial customers.

We are the second largest phosphate producer in North America and sell approximately 3 million tonnes of finished product.

Due to the high quality of our phosphate rock, we are able to produce a diverse mix of phosphate products, including solid and liquid fertilizers, feed and industrial acids.

Our Strategy

We are focused on optimizing our phosphate business by increasing production at our Aurora, North Carolina and White Springs, Florida facilities after converting our Redwater, Alberta phosphate facility to an ammonium sulfate facility in 2019.

We will continue to advance continuous improvement initiatives at our sites and evaluate opportunities to increase production of higher-margin product.

2019 Performance

In 2019, we successfully converted our Redwater, Alberta facility to produce only ammonium sulfate – a milestone that eliminated, company-wide, our need to purchase phosphate rock.

We restarted a second dry phosphate production line at White Springs, Florida, at the end of 2018 and began supplying the Western Canadian market with dry phosphate produced at our US facilities.

P

Competitive Landscape

Phosphate rock is found in significant quantity and quality in only a handful of geographic locations, and few with a progressive ethical and sustainability record.

Many factors impact the viability of developing a rock deposit for mining. These include the quality of the phosphate rock deposit, government stability, access to financing, environmental requirements and proximity to target markets. Given the concentration of deposits in North Africa and the Middle East, government stability is a major consideration when evaluating potential phosphate project developments. We compete with producers primarily from China, Morocco, Russia, Saudi Arabia and the US. For the production of finished phosphate products (DAP, MAP), access to low cost ammonia and sulfur is also a consideration.

Significant low-cost capacity has been commissioned over the past few years, including most notably in Morocco and Saudi Arabia.

2019 Market Conditions

Phosphate prices were under significant pressure throughout 2019 due to increased supply, including higher exports from China, and lower demand in the US driven by weather factors and weak ammonia and sulfur input costs.

New capacity continued to ramp up in Morocco and Saudi Arabia adding to global supply and lowering global operating rates. Meanwhile weak demand in China led to stronger-than-expected exports, particularly in the first half of the year.

The negative momentum in the second half of 2019 led to the lowest ammonium phosphate prices in more than a decade. This gradual decline over an extended period of time led buyers to purchase on a just-in-time basis, which further pressured global demand. By the end of 2019, production margins were at unsustainably low levels, which led to further production reductions and provided some support to prices entering 2020.

Market Outlook

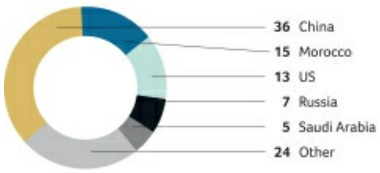
Phosphate prices began to recover in early 2020 due to global production curtailments and improved demand prospects ahead of the spring season in the Northern Hemisphere.

Chinese production and exports will be a key driver in 2020. Chinese production levels were already being pressured by poor economics, but the impact of the Coronavirus in Hubei province has had a negative impact on production and exports from that key phosphate producing region. India has drawn down its DAP inventories, which in combination with strong domestic sales is expected to support import demand in 2020.

We expect that our phosphate business will continue to benefit from a diversified portfolio and that liquid phosphate fertilizers and purified phosphoric acid will continue to be more stable than solid phosphates.

Global Phosphate Capability[1] (2019)

(percent share)

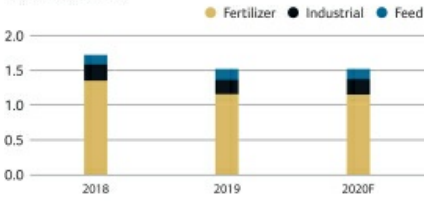


Source: CRU, Fertecon, IFA, Nutrien

[1] Based on operational capability.

Phosphate Sales Tonnes

(million tonnes P_2O_5)



Source: Nutrien

Phosphate Financial Performance

(millions of US dollars, except as otherwise noted)	Dollars			Tonnes (thousands)			Average per Tonne		
	2019	2018 [1]	% Change	2019	2018 [1]	% Change	2019	2018 [1]	% Change
Manufactured product [2]									
Net sales									
Fertilizer	790	995	(21)	2,130	2,425	(12)	371	410	(10)
Industrial and feed	426	424	–	759	847	(10)	561	500	12
	1,216	1,419	(14)	2,889	3,272	(12)	421	434	(3)
Cost of goods sold	1,218	1,329	(8)				422	406	4
Gross margin – manufactured	(2)	90	n/m				(1)	28	n/m
Gross margin – other [3]	(3)	(2)	50	**Depreciation and amortization**			82	59	39
Gross margin – total	(5)	88	n/m	**Gross margin excluding depreciation and amortization – manufactured**			81	87	(7)
Expenses	38	26	46						
EBIT	(43)	62	n/m						
Depreciation and amortization	237	193	23						
EBITDA	194	255	(24)						

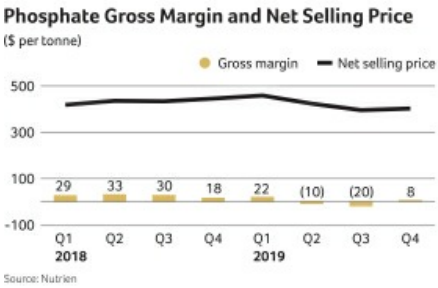
1 Restated for the reclassification of Sulfate to the Nitrogen segment. See Note 3 to the financial statements.

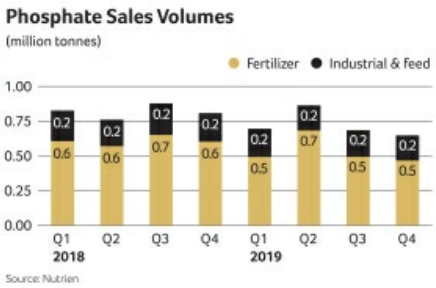
2 Includes intersegment sales. See Note 3 to the financial statements.

3 Includes other phosphate and purchased products and is comprised of net sales of $152 million (2018 – $142 million) less cost of goods sold of $155 million (2018 – $144 million).

The most significant contributors to the changes in our Phosphate financial performance were as follows:

	2019 vs 2018
Sales volumes	Volumes decreased due to adverse weather causing shortened spring and fall application seasons across North America in 2019.
Net realized selling price	Our average realized phosphate prices were lower due to the impact of lower phosphate fertilizer prices globally and increased freight, transportation and distribution costs from shipping more product from our US facilities to Canada after the conversion of the Redwater facility. These factors more than offset the impact of higher realized industrial and feed prices.
Cost of goods sold per tonne	Costs increased due to lower sales volumes, and higher asset retirement obligation adjustments, which more than offset lower phosphate rock and raw material costs.
EBITDA	EBITDA decreased as lower net realized selling prices, lower sales volumes and higher costs per tonne more than offset the impact of adopting IFRS 16 "Leases", which caused a decrease in lease expenses and increases in depreciation and amortization.





Phosphate Production

(million tonnes)	Phosphate Rock Annual Capacity	Phosphate Rock Production 2019	Phosphate Rock Production 2018	Phosphoric Acid (P_2O_5) Annual Capacity	Phosphoric Acid (P_2O_5) Production 2019	Phosphoric Acid (P_2O_5) Production 2018	Liquid Products Annual Capacity	Liquid Products Production 2019	Liquid Products Production 2018	Solid Fertilizer Products Annual Capacity	Solid Fertilizer Products Production 2019	Solid Fertilizer Products Production 2018
Aurora Phosphate	5.4	4.38	4.03	1.2	1.02	1.08	2.7 [1]	2.01	2.10	0.8	0.85	0.82
White Springs Phosphate	2.0	1.61	1.85	0.5	0.49	0.47	0.7 [2]	0.50	0.62	0.8	0.24	0.17
Total producing locations	7.40	5.99	5.88	1.70	1.51	1.55	3.40	2.51	2.72	1.60	1.09	0.99
Redwater Phosphate [3]	–	–	–	0.3	0.10	0.30	–	–	–	0.7	0.21	0.57
Total	7.40	5.99	5.88	2.00	1.61	1.85						
P_2O_5 operating rate [4]					89	91						

1 A substantial portion is consumed internally in the production of downstream products. The balance is exported to phosphate fertilizer producers or sold domestically to dealers who custom-mix liquid fertilizer. Capacity comprised of 2.0 million tonnes merchant grade acid and 0.7 million tonnes superphosphoric acid.

2 Represents annual superphosphoric acid capacity. A substantial portion is consumed internally in the production of downstream products. The balance is exported to phosphate fertilizer producers and sold domestically to dealers who custom-mix liquid fertilizer.

3 Phosphate operations at Redwater ceased in May 2019 and that facility is now used to produce ammonium sulfate for our Nitrogen operations.

4 Excludes Redwater. Comparative figures were restated to exclude Redwater.

In addition to the production above, annual capacity (in millions of tonnes) for phosphate feed and purified acid was 0.7 and 0.3, respectively. 2019 production was 0.30 and 0.21, respectively, and 2018 production was 0.29 and 0.23, respectively.

Corporate and Others Financial Performance

Effective January 1, 2019 we renamed the "Others" segment "Corporate and Others". "Corporate and Others" is a non-operating segment comprising corporate and administrative functions that provide support and governance to our operating business units. Eliminations of sales between operating segments in 2019 were $(1,060) million (2018 – $(1,164) million) with gross margin of $5 million (2018 – $(35) million). Eliminations are not part of the Corporate and Others segment.

Dollars (millions), except percentage amounts	2019	2018	% Change
Sales	133	150	(11)
Cost of goods sold	133	150	(11)
Gross margin	–	–	–
Selling expenses	(18)	(22)	(18)
General and administrative expenses	264	284	(7)
Provincial mining and other taxes	2	2	–
Share-based compensation	104	116	(10)
Impairment of assets	120	–	n/m
Other expenses	171	106	61
EBIT	(643)	(486)	32
Depreciation and amortization	42	54	(22)
EBITDA	(601)	(432)	39
Finance costs	554	538	3
Income tax expense (recovery)	316	(93)	n/m

The most significant contributors to the changes in our Corporate and Others financial performance were as follows:

2019 vs 2018

Impairment of Assets

In 2019 there were certain individually insignificant impairments of intangible assets and property, plant and equipment related primarily to changes to our future plans for those assets.

Other Expenses

Other expenses increased primarily due to a defined benefit plans curtailment gain recognized in 2018 (see Note 23 to the financial statements) with no comparative gain recognized in 2019 and higher acquisition and integration related costs from our recent acquisition. These were partially offset by lower Merger and related costs.

Finance Costs

There were no significant changes to finance costs as higher long-term interest costs from a higher long-term debt balance and impact of the adoption of IFRS 16 "Leases" were partially offset by lower short-term interest costs due to lower average commercial paper outstanding throughout the year.

Weighted Average Debt Balances and Rates

Dollars (millions), except percentage amounts	2019	2018
Short-term balance [1]	1,324	2,933
Short-term rate (%) [1]	4.5	3.3
Long-term balance (excluding lease obligations)	8,534	8,175
Long-term rate (excluding lease obligations) (%)	4.7	4.8
Lease obligations balance	1,024	25
Lease obligations rate (%)	3.4	3.7

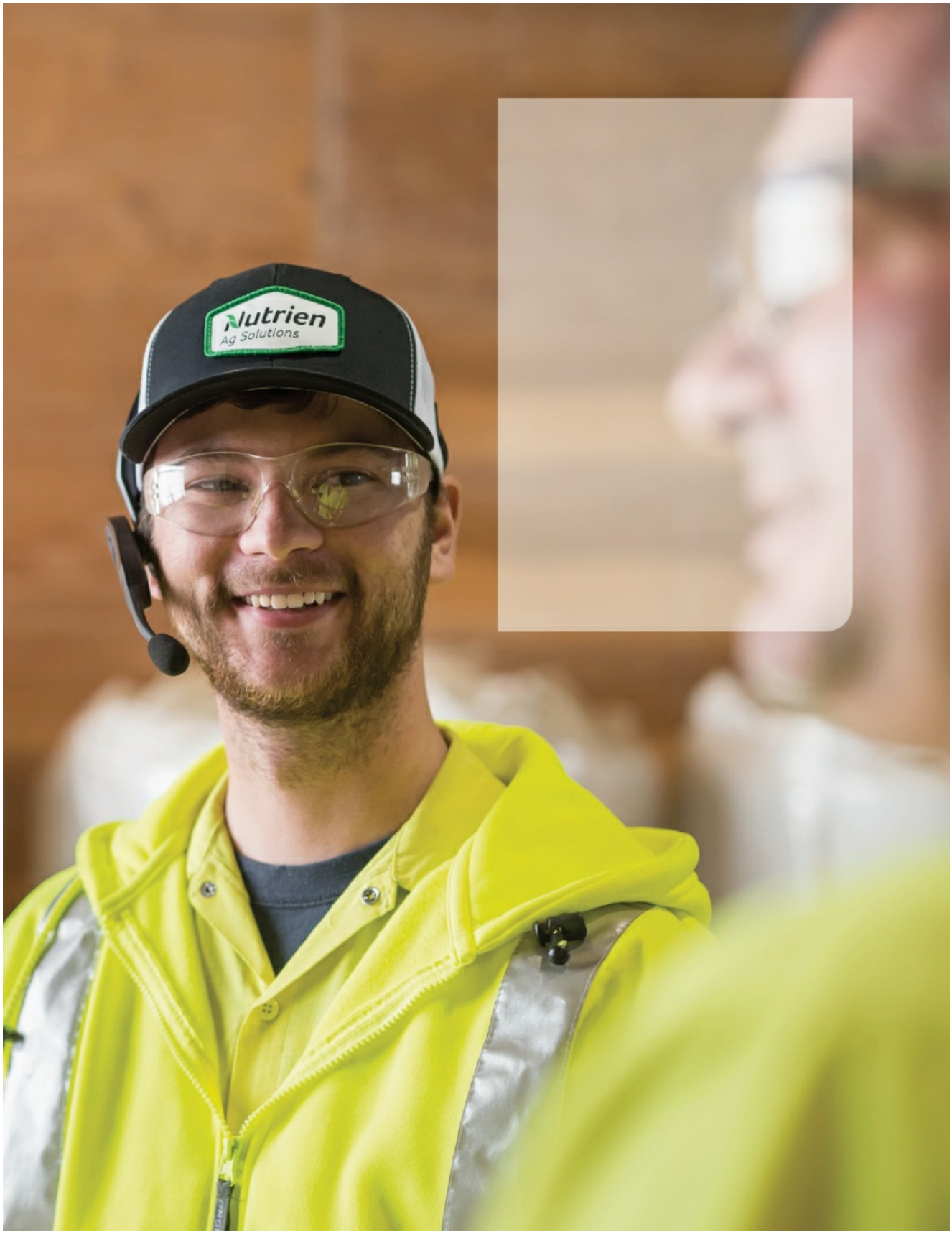
[1] North American weighted average short-term debt balances were $1,063 (2018 – $2,719) and rates were 2.4 percent (2018 – 2.5 percent).

Income Tax Expense (Recovery)

The decrease in the effective tax rates on earnings from continuing operations in 2019 compared to 2018 was a result of the 2018 impairment of property, plant and equipment in Canada.

Effective Tax Rates and Discrete items

Dollars (millions), except percentage amounts	2019	2018
Actual effective tax rate on ordinary earnings (%)	24	72
Actual effective tax rate including discrete items (%)	24	75
Discrete tax adjustments that impacted the rate	(2)	4



Financial Overview

46	Guidance and Sensitivities
47	Financial Highlights
48	Financial Condition Review
49	Liquidity and Capital Resources
52	Capital Structure and Management
53	Off-Balance Sheet Arrangements
53	Other Financial Information
55	Quarterly Results
57	Enterprise Risk Management
61	Controls and Procedures
62	Forward-Looking Statements
63	Appendix – Non-IFRS Financial Measures

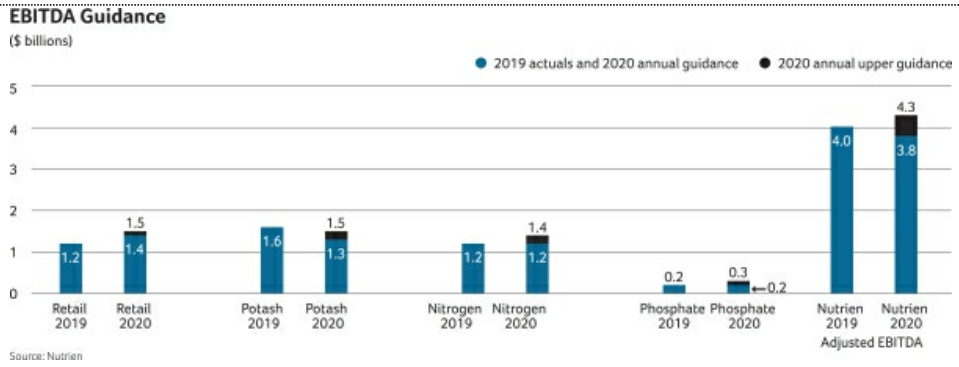
2020 Guidance

Dollars (billions) unless otherwise noted	2020 Guidance Ranges [1] Low	High
Adjusted net earnings per share ("Adjusted EPS") [2]	1.90	2.60
Adjusted EBITDA	3.8	4.3
Retail EBITDA	1.4	1.5
Potash EBITDA	1.3	1.5
Nitrogen EBITDA	1.2	1.4
Phosphate EBITDA (millions)	180	250
Potash sales tonnes (millions) [3]	12.3	12.7
Nitrogen sales tonnes (millions) [3]	11.0	11.6
Depreciation and amortization	1.80	1.90
Effective tax rate on continuing operations (%)	23	25
Sustaining capital expenditures	1.0	1.1

1 See the "Forward-Looking Statements" section.

2 Assumes 574 million shares outstanding for all EPS guidance and sensitivities.

3 Manufactured product only. Nitrogen sales tonnes excludes ESN® and Rainbow products.



2020 Sensitivities

Price and Volume Sensitivities

Dollars (millions), except EPS amounts		Effect on Adjusted EPS	Adjusted EBITDA
Price	Potash changes by $20/tonne	± 0.25	± 205
	Ammonia changes by $20/tonne	± 0.05	± 40
	Urea changes by $20/tonne	± 0.09	± 65
Volume	Potash changes by 100,000 tonnes	± 0.01	± 10
	Nitrogen changes by 50,000 N tonnes	± 0.02	± 15
Retail	Crop nutrients changes by 1% [1]	± 0.07	± 55
	Crop protection changes by 1% [1]	± 0.08	± 60
	Seed changes by 1% [1]	± 0.03	± 20

1 Gross margin as a percentage of sales.

Input Cost Sensitivities

Dollars (millions), except EPS amounts		Effect on Adjusted EPS	Adjusted EBITDA
NYMEX natural gas price changes by $1/MMBTu	Nitrogen	± 0.21	± 165
Canadian to US dollar changes by $0.02	Canadian operating expenses included in net earnings, excluding provincial taxes	± 0.02	± 15

Financial Highlights

Dollars (millions) unless otherwise noted	Nutrien 2019	Nutrien 2018	PCS 2017
Sales	20,023	19,636	4,547
Net earnings (loss) from continuing operations	992	(31)	154
Basic net earnings (loss) per share from continuing operations	1.70	(0.05)	0.18
Diluted net earnings (loss) per share from continuing operations	1.70	(0.05)	0.18
Net earnings	992	3,573	327
Basic net earnings per share	1.70	5.72	0.39
Diluted net earnings per share	1.70	5.72	0.39
Total assets	46,799	45,502	16,998
Total non-current financial liabilities	9,431	7,616	3,746
Dividends declared per share	1.33	2.06	0.40

	Nutrien 2019 vs Nutrien 2018	Nutrien 2018 vs PCS 2017
Sales	Sales increased primarily due to recent Retail acquisitions and higher potash realized prices driven by higher global benchmark pricing in the first half of the year, more than offsetting lower potash and nitrogen volumes.	Sales increased primarily due to the addition of Agrium's operations as a result of the Merger. Sales also increased due to Retail acquisitions, higher potash sales volumes and increases in potash, urea and phosphate fertilizer prices.
Net earnings and earnings per share from continuing operations	We had earnings from continuing operations in 2019 compared to a loss from continuing operations in 2018, which was impacted by a non-cash impairment of property, plant and equipment in the Potash segment of $1,809 million. The repurchase of more than 36 million shares in 2019 positively impacted the 2019 per share amount.	We had a loss from continuing operations in 2018 compared to earnings in 2017 primarily due to a non-cash impairment of property, plant and equipment in the Potash segment of $1,809 million in 2018 more than offsetting the impact of the addition of Agrium's operations and higher gross margin in all operating segments.
Net earnings and earnings per share	Net earnings and earnings per share were lower than 2018 primarily due to the 2018 gain on sale of our equity investments presented as discontinued operations offset by the 2018 non-cash impairment of property, plant and equipment in the Potash segment. The repurchase of more than 36 million shares in 2019 positively impacted the 2019 per share amount.	Net earnings, and the related per share amounts, were higher in 2018 due to the gain on sale of our equity investments presented as discontinued operations, the addition of Agrium's operations and higher gross margin in all operating segments more than offsetting the 2018 non-cash impairment of property, plant and equipment in the Potash segment.
Assets and non-current financial liabilities	Assets increased primarily due to Retail acquisitions and the addition of right-of-use assets from adoption of IFRS 16 "Leases", partially offset by a decrease in cash and cash equivalents. Non-current financial liabilities increased primarily due to additional lease liabilities recognized upon the adoption of IFRS 16 "Leases", Retail acquisitions and the issuance of notes, partially offset by the repayment of notes.	Assets and financial liabilities increased primarily due to the addition of Agrium's assets and liabilities, including related purchase price allocation adjustments, acquired in the Merger.

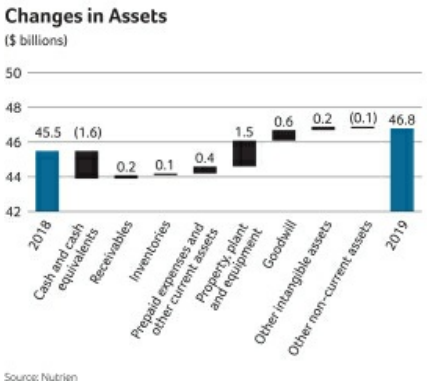
Other Comprehensive Income (Loss)

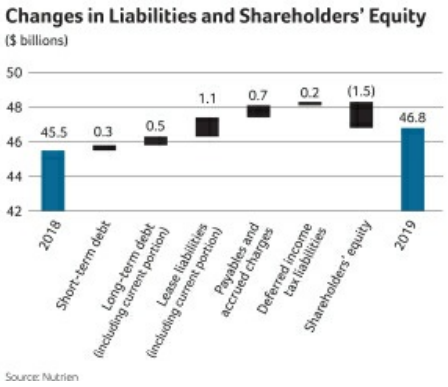
There was other comprehensive income of $36 million in 2019 compared to a loss of $302 million in 2018 primarily related to translation of our Retail operations in Canada, Australia and Argentina to US dollars. The Canadian dollar strengthened relative to the US dollar in 2019, while in 2018, the Canadian dollar, Argentine peso and Australian dollar weakened relative to the US dollar.

Financial Condition Review

Balance Sheet Analysis

The most significant contributors to the changes in our balance sheet are analyzed below.





Assets

For information regarding changes in **cash and cash equivalents**, refer to the "Sources and Uses of Cash" section on page 50 and the consolidated statements of cash flows in our financial statements.

Receivables increased due to the recent Retail acquisition in Australia and a delayed fall application season in North America that pushed back sales and collection of receivables.

Inventories increased due to the recent Retail acquisition in Australia, partially offset by lower inventory levels in North America in 2019. 2018 North American inventory purchases were higher than average in anticipation of increasing inventory prices.

Prepaid expenses and other current assets increased due to accelerated seasonal Retail prepaid inventory purchases to take advantage of early payment discounts.

Property, plant and equipment increased due to the addition of "right-of-use" assets of approximately $1 billion from the adoption of IFRS 16, "Leases". Property, plant and equipment also increased due to recent Retail business acquisitions that closed in 2019.

Goodwill and other intangible assets increased as a result of additional goodwill and intangible assets from the recent Retail acquisitions, primarily from Ruralco and Actagro.

Liabilities

Short-term debt increased due to commercial paper issuances as part of our working capital management which was impacted by short-term softness in the global market.

Long-term debt (including current portion) increased due to the addition of $1.5 billion in notes issued in April 2019 exceeding the repayment of $1 billion in notes that matured earlier in 2019.

Lease liabilities (including current portion) increased due to the recognition of approximately $1 billion in lease liabilities from the adoption of IFRS 16 "Leases".

Payables and accrued charges increased as we had additional vendor prepayment arrangements, whereby we made financial commitments to vendors and financial institutions to prepay for inventory in return for product discounts. The recent acquisition in Australia also contributed to the increase.

Deferred income tax liabilities increased due to the deferred tax provision recorded on higher earnings from continuing operations.

Shareholders' Equity

Share capital decreased due to share repurchases.

Retained earnings decreased due to the impact of share repurchases and dividends declared exceeding net earnings.

We do not hold material cash and cash equivalents in currencies other than the US dollar, Canadian dollar and Australian dollar. We held approximately $159 million US dollar equivalent in Australia. We do not depend on repatriation of cash from our foreign subsidiaries to meet our liquidity and capital resources needs in North America.

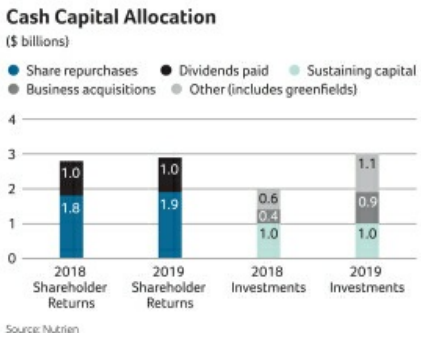
Liquidity and Capital Resources

Sources and Uses of Liquidity

Liquidity risk arises from our general funding needs and in the management of our assets, liabilities and capital structure. We manage liquidity risk to maintain sufficient liquid financial resources to fund our financial position and meet our commitments and obligations in a cost-effective manner. Our 2019 significant liquidity sources are listed below along with our expected ongoing primary uses of liquidity.

	Primary uses of liquidity	Primary sources of liquidity
2019 Included:	• operational expenses and prepayments • seasonal working capital requirements • sustaining and investing capital • business acquisitions • dividends • principal payments of debt securities • share repurchases	• cash from operations (including customer prepayments) • commercial paper issuances • credit facility drawdowns • debt capital markets • inventory prepayment arrangements
2019 Highlights:	• Repurchased over 36 million common shares for cancellation at an aggregate cost of $1,878 million and increased our current normal course issuer bid ("NCIB"). At December 31, 2019 we had up to 12 million shares available to repurchase under the NCIB, which expires on February 26, 2020. As of February 19, 2020, an additional 2,214,780 common shares were repurchased at a cost of $95 million. See Note 25 to the financial statements. • Repaid at maturity $1 billion of notes in the first half of 2019. See Note 20 to the financial statements. • Acquired Ruralco, an agriservices business in Australia with approximately 250 Retail operating locations. In addition, we acquired 68 other Retail locations globally, which included Actagro, Van Horn, Inc. and Security Seed and Chemical, Inc. in the US as well as completing the remainder of the Agrichem acquisition in Brazil. See Note 4 to the financial statements. Cash used to acquire Retail locations totaled $911 million. • Paid over $1 billion in dividends to shareholders. We increased our expected quarterly dividend from $0.43 per share to $0.45 per share commencing for dividends declared in the third quarter of 2019.	• Issued $1.5 billion in notes consisting of $750 million in 4.2% notes due April 1, 2029 and $750 million in 5.0% notes due April 1, 2049. See Note 20 to the financial statements. • Increased commercial paper outstanding from $391 million to $650 million.



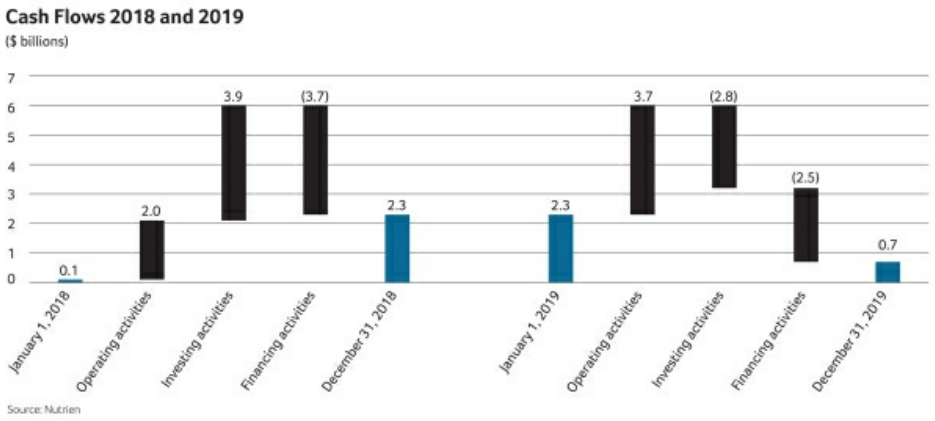


We believe that internally generated cash flow, supplemented by available borrowings under our existing financing sources, if necessary, will be sufficient to meet our anticipated capital expenditures and other cash requirements for at least the next 12 months. We do not reasonably expect any presently known trend or uncertainty to affect our ability to access our historical sources of liquidity. We had positive working capital of $1.55 billion and a working capital ratio of 1.2 at December 31, 2019 and an adjusted net debt to adjusted EBITDA ratio of 2.5.

Sources and Uses of Cash

Our cash flows from operating, investing and financing activities are summarized in the following table:

(millions of US dollars, except as otherwise noted)	2019	2018	% Change
Cash provided by operating activities	3,665	2,052	79
Cash (used in) provided by investing activities	(2,798)	3,887	n/m
Cash used in financing activities	(2,479)	(3,705)	(33)
Effect of exchange rate changes on cash and cash equivalents	(31)	(36)	(14)
(Decrease) increase in cash and cash equivalents	(1,643)	2,198	n/m



Cash and cash equivalents decreased by $1,643 million in 2019 compared to an increase of $2,198 million in 2018, due to:

- Decrease of approximately $5.8 billion in cash receipts related to the 2018 sale of SQM and APC equity investments and cash acquired as a result of the Merger in 2018.
- Increase in our acquisitions and capital expenditures by approximately $900 million as we continue to grow our Retail business and invest in technology and long-term assets.
- These decreases were partially offset by an increase from our financing activities as we borrowed an incremental $500 million in long-term debt and reduced our short-term debt repayments.

In addition, cash provided by operations was $3,665 million, an increase of $1,613 million over 2018. Our payables and accrued charges increased as a result of deferring payments related to our inventory prepayment arrangements.

Cash Requirements

The following aggregated information about our contractual obligations and other commitments summarizes our liquidity and capital resource requirements as at December 31, 2019. The information presented in the table below does not include planned (but not legally committed) cash requirements. Planned or anticipated cash requirements that may not yet be fully included in the table below include annual investments in sustaining capital, share repurchases, dividends, acquisition of Retail and other businesses, investments in technology such as our Retail digital platform, investments in our Next Generation Potash program and potential investments in brownfield projects in Nitrogen and Phosphate. We do not currently have any significant projects in process that have not generated revenue.

Dollars (millions) at December 31, 2019	Financial Statement Note Reference	Payments Due by Period				
		Total	Within 1 Year	1 to 3 Years	3 to 5 Years	Over 5 Years
Long-term debt obligations	Note 20, 27	8,704	508	521	1,250	6,425
Estimated interest payments on long-term debt obligations	Note 27	5,688	386	747	673	3,882
Lease liabilities	Note 21, 27	1,122	217	318	204	383
Estimated interest payments on lease liabilities	Note 27	180	32	46	30	72
Purchase commitments	Note 27	2,290	877	766	438	209
Capital commitments	Note 27	50	43	7	–	–
Other commitments	Note 27	437	118	137	58	124
Asset retirement obligations and environmental costs[1]	Note 24	3,002	206	301	334	2,161
Other long-term liabilities[2]	Note 9, 12, 23	3,688	101	114	116	3,357
Total		25,161	2,488	2,957	3,103	16,613

1 Commitments associated with our asset retirement obligations are the estimated cash outflows and are expected to occur over the next 485 years for phosphate (with the majority taking place over the next 80 years) and between 40 and 440 years for Potash. Potash cash flows are estimated for the first year of decommissioning for operating sites and for all years for permanently shut down sites. Environmental costs consist of restoration obligations, which are expected to occur through 2050.

2 Other long-term liabilities consist primarily of pension and other post-retirement benefits, derivative instruments, income taxes and deferred income taxes. Deferred income tax liabilities may vary according to changes in tax laws, tax rates and our operating results. Since it is impractical to determine whether there will be a cash impact in any particular year, all deferred income tax liabilities have been reflected as other long-term liabilities in the Over 5 Years category.

Capital Structure and Management

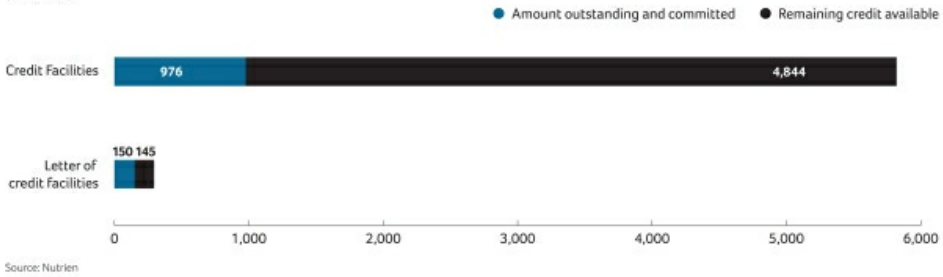
We manage our capital structure with a focus on maintaining a strong balance sheet, enabling a strong investment-grade credit rating.

Principal Debt Instruments

We use a combination of cash generated from operations and short-term and long-term debt to finance our operations. We have the following short-term debt instruments available:

Short-term Debt

As at December 31, 2019
($ millions)



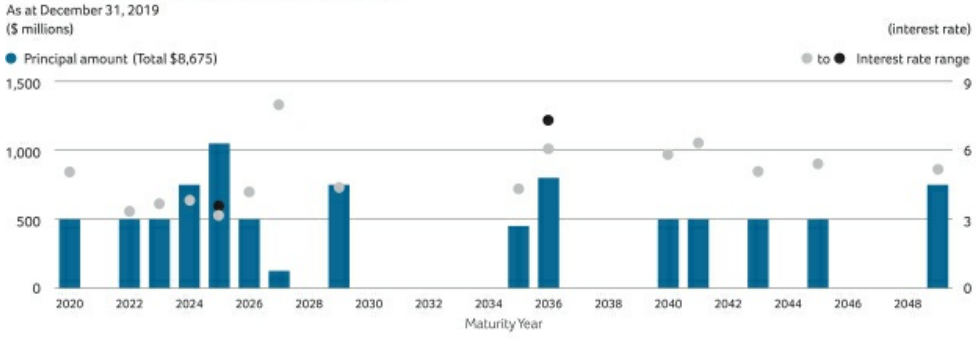
Source: Nutrien

The credit facilities consist of a $4,500 million unsecured North American revolving term credit facility, a $500 million North American uncommitted revolving demand facility and approximately $820 million of other credit facilities in the US, Europe, Australia and South America. Included in the amount outstanding and committed is $650 million of commercial paper and $326 million of other short-term debt. We have a $4,500 million credit limit under our commercial paper program, which is limited to the availability of backup funds backstopped by the $4,500 million unsecured revolving term credit facility. Interest rates on outstanding commercial paper ranged from 2.0 to 2.1 percent.

Our long-term debt consists primarily of notes and debentures with the following maturities and interest rates:

Notes and Debentures Maturities and Rates

As at December 31, 2019
($ millions)



Source: Nutrien

We also have lease obligations totaling $1,073 million (including current portion) with a weighted average effective interest rate of 3 percent as at December 31, 2019.

In July 2017, the head of the United Kingdom Financial Conduct Authority announced the desire to phase out the London Interbank Offered Rate ("LIBOR") by the end of 2021. We are in the process of identifying and updating existing contracts extending past 2021 that reference LIBOR, and we expect no material impact to our financial statements as a result of the transition.

Debt Covenants

Our credit facilities have financial tests and other covenants with which we must comply at each quarter-end. Non-compliance with any such covenants could result in accelerated payment of amounts borrowed and termination of lenders' further funding obligations under the credit facilities. We were in compliance with all such covenants as at December 31, 2019.

The accompanying table summarizes the limits and results of certain covenants.

At December 31	Limit	2019
Debt-to-capital ratio [1]	0.65	0.33

[1] This debt covenant is a non-IFRS financial measure and is calculated as the sum of short-term debt, long-term debt (including current portion), lease obligations and financial letters of credit divided by the sum of those amounts, non-controlling interests and shareholders' equity. The ratio of our short-term debt and long-term debt (including current portion) to our short-term debt, long-term debt (including current portion) and shareholders' equity, which is the nearest comparable IFRS measure, is 0.33.

Credit Ratings

Our ability to access reasonably priced debt in the capital markets depends, 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 could increase the interest rates applicable to borrowings under our credit facilities.

Commercial paper markets are normally a source of same-day cash for us. 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.

	Long-term Debt Rating (Outlook)		Short-Term Debt Rating	
As at December 31,	2019	2018	2019	2018
Moody's	Baa2 (stable)	Baa2 (stable)	P-2	P-2
S&P	BBB (stable)	BBB (stable)	A-2	A-2

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.

Outstanding Share Data

	February 19, 2020
Common shares	570,736,961
Options to purchase common shares	9,163,502

For more information on **our capital structure and management**, see Note 26 to the financial statements.

For more information on **our short-term debt and long-term debt**, see Note 19 and Note 20 to the financial statements.

Off-Balance Sheet Arrangements

Principal off-balance sheet activities primarily include:

- Agreement to reimburse losses of Canpotex (see Note 30 to the financial statements).
- Issuance of guarantee contracts (see Note 28 to the financial statements).
- Certain non-financial derivatives that were entered into and continued to be held for the purpose of the receipt or delivery of a non-financial item in accordance with expected purchase, sale or usage requirements. Other derivatives are included on our balance sheet at fair value.

We do not reasonably expect any presently known trend or uncertainty to affect our ability to continue using these arrangements.

Other Financial Information

Related Party Transactions

Our most significant related party is Canpotex, which provides us with low-cost marketing and logistics for the offshore potash markets that we serve. Refer to Note 29 to the financial statements for information on our related party transactions.

Market Risks Associated With Financial Instruments

Market risk is the potential for loss from adverse changes in the market value of financial instruments. The level of market risk to which we are exposed varies depending on the composition of our derivative instrument portfolio, as well as current and expected market conditions. See Note 12 to the financial statements for information on our financial instruments' risks and risk management.

Critical Accounting Estimates

We prepare our financial statements in accordance with IFRS, which requires us to make judgments, assumptions and estimates in applying accounting policies. Critical accounting estimates are those which are highly uncertain at the time they are made or where different estimates would be reasonably likely to have a material impact on our financial condition or results of operations. We have discussed the development, selection and application of our key accounting policies, and the critical accounting estimates and assumptions they involve, with the audit committee of the Board.

Critical Accounting Estimate	Financial Statement Reference [1]	Description
Business combinations – measurement of assets acquired, and liabilities assumed	Note 4	Significant judgment for our business combinations included identifying assets acquired and liabilities assumed, and estimation of their fair values. Key assumptions used in estimation of fair value include discount rates and revenue growth rates specific to the acquired assets or liabilities assumed. All segments are impacted as all assets acquired, and liabilities assumed, from Agrium in the Merger were required to be measured at fair value. In 2019, all of the significant business combinations were in the Retail segment.
Goodwill impairment	Note 16 and Note 31	Operating segments other than Phosphate have goodwill allocated to them that must be assessed for impairment when events or circumstances indicate there could be an impairment, or at least annually. Based on our assumptions at the time of our goodwill impairment testing, the excess of the recoverable value of the Retail – North America group of cash-generating units ("CGUs") over the book value is 6 percent. Key assumptions in our testing models may change, and changes that could reasonably be expected to occur may cause impairment. The sensitivity of Retail – North America's recoverable amount, in millions of US dollars, to changes in key assumptions is as follows:

Key Assumptions	Percentage Point Change	Change in Recoverable Amount
Discount rate	+0.1	(330)
	-0.1	350
Terminal growth rate	+0.1	290
	-0.1	(280)
Forecasted EBITDA over forecast period	+5.0	960
	-5.0	(960)

Critical Accounting Estimate	Financial Statement Reference [1]	Description
Long-lived asset impairment	Note 15 and Note 31	At December 31, 2019, we reviewed our Phosphate CGUs for impairment triggers. For our Aurora CGU, we used judgment in assessing possible indicators of impairment including expected mine life, supply and demand variables and expected benchmark prices. Based on our assessment, there were no impairment triggers. For our White Springs CGU, we identified an impairment trigger due to deteriorating price expectations and the expected remaining mine life. We completed an impairment analysis and determined that there was no impairment in excess of the $250 million impairment loss previously recorded at December 31, 2017. The following table highlights for White Springs CGU, sensitivities to the recoverable amount in millions of US dollars which could result in additional impairment losses or reversals of previously recorded losses:

Key Assumptions	Percentage Point Change	Change in Recoverable Amount
Sales prices	±1.0	±20
Forecasted EBITDA over forecast period	±5.0	±20
Discount rate	±0.5	±10

Critical Accounting Estimate	Financial Statement Reference [1]	Description
Income taxes – measurement	Note 9 and Note 30	Significant estimates for the measurement of our income taxes include assessing the probability and measurement of our uncertain tax provisions related to complex global tax regulations, estimating forecasted taxable income and the timing of reversal of temporary differences, and assessing the probability of future taxable income used to recognize deferred tax assets. Although we believe our assumptions and estimates are reasonable, our tax assets are realizable and our accruals for tax liabilities are adequate for all open tax years based on our interpretation of tax laws and prior experience, actual results could differ. Changes in the income tax legislations, regulations and interpretations may result in a material impact to our financial statements. Income taxes are recorded in our Corporate and Others segment.

Critical Accounting Estimate	Financial Statement Reference [1]	Description
Asset retirement obligations ("AROs") and accrued environmental costs – measurement ("ERLs")	Note 24	The Potash and Phosphate segments have these liabilities (which have a high degree of estimation uncertainty for future costs and estimated timelines) associated with their mining operations while the Corporate and Others segment has AROs and ERLs associated with non-operational mines.

1 Included in the notes are a description of the estimate and the methodology for calculating (when applicable) key areas of judgment related to the estimate and changes to the estimate (if any).

Recent Accounting Changes

We adopted IFRS 16 "Leases" as of January 1, 2019. For details on all significant accounting standards changes refer to Note 31 to the financial statements.

Quarterly Results

	2019				2018			
(millions of US dollars, except as otherwise noted)	Q4	Q3	Q2	Q1	Q4	Q3	Q2	Q1
Sales	3,442	4,169	8,693	3,719	3,762	4,034	8,145	3,695
Net (loss) earnings from continuing operations	(48)	141	858	41	296	(1,067)	741	(1)
Net earnings from discontinued operations	–	–	–	–	2,906	23	675	–
Net (loss) earnings	(48)	141	858	41	3,202	(1,044)	1,416	(1)
EBITDA	499	785	1,781	596	944	(932)	1,507	487
Earnings (loss) per share ("EPS") from continuing operations								
Basic	(0.08)	0.25	1.48	0.07	0.48	(1.74)	1.18	–
Diluted	(0.08)	0.24	1.47	0.07	0.48	(1.74)	1.17	–
EPS								
Basic	(0.08)	0.25	1.48	0.07	5.23	(1.70)	2.25	–
Diluted	(0.08)	0.24	1.47	0.07	5.22	(1.70)	2.24	–

The agricultural products business is seasonal. Crop input sales are primarily concentrated in the spring and fall application seasons. Crop nutrient inventories are normally accumulated leading up to each application season. Our cash collections generally occur after the application season is complete, while customer prepayments made to us are typically concentrated in December and January, and our inventory prepayments paid to our vendors are typically concentrated in the period from November to January. Feed and industrial sales are more evenly distributed throughout the year.

Beginning on January 1, 2018, earnings were impacted by the operations of Agrium acquired in the Merger. In the second and fourth quarters of 2018, earnings were impacted by $0.6 billion and $2.9 billion, respectively, in after-tax gains on the sales of our investments in SQM and APC, which were categorized as discontinued operations. In the third quarter of 2018, earnings were impacted by a $1.8 billion non-cash impairment to property, plant and equipment in the Potash segment.

Fourth Quarter Financial Performance

(millions of US dollars)	Sales			Gross Margin		
Three months ended December 31	2019	2018	% Change	2019	2018	% Change
Retail						
Crop nutrients	907	917	(1)	186	184	1
Crop protection products	635	644	(1)	281	270	4
Seed	99	103	(4)	60	56	7
Merchandise [1]	211	142	49	44	27	63
Services and other	319	211	51	165	125	32
Total [1]	2,171	2,017	8	736	662	11

1 Certain immaterial figures have been reclassified or grouped together for the three months ended December 31, 2018.

(millions of US dollars) Three months ended December 31	Manufactured Product Sales Tonnes (thousands) 2019	2018	% Change	Manufactured Product Average Net Price per MT 2019	2018	% Change
Potash						
North America	651	731	(11)	226	242	(7)
Offshore	1,234	2,126	(42)	164	216	(24)
Sales	1,885	2,857	(34)	186	223	(17)
Cost of goods sold				112	95	18
Gross margin				74	128	(42)
Nitrogen						
Ammonia	571	808	(29)	245	290	(16)
Urea	695	687	1	278	337	(18)
Solutions, nitrates and sulfates	1,096	1,016	8	152	177	(14)
Sales	2,362	2,511	(6)	212	257	(18)
Cost of goods sold				171	175	(2)
Gross margin				41	82	(50)
Phosphate						
Fertilizer	466	601	(22)	334	423	(21)
Industrial and feed	181	207	(13)	581	513	13
Sales	647	808	(20)	403	446	(10)
Cost of goods sold				395	428	(8)
Gross margin				8	18	(56)

Highlights of our 2019 fourth quarter compared to the 2018 fourth quarter results were as follows:

	Q4 2019 vs Q4 2018
Retail	Gross margin increased primarily due to higher merchandise sales, application services sales and livestock exports from the recently acquired Ruralco in Australia.
Potash	Gross margin decreased primarily due to lower offshore demand as customers in key markets drew down existing inventory. The temporary production downtime in response to lower demand and the Canadian National Railway labour strike led to higher costs of goods sold per tonne. This temporary slowdown in global demand caused lower benchmark prices and a lower net realized selling price per tonne. Our offshore net realized selling price per tonne was also negatively impacted by adjustments to our provisional selling price to Canpotex.
Nitrogen	Gross margin decreased primarily due to a lower net realized selling price caused by declines in global benchmark prices and from lower ammonia sales volumes caused by unfavorable weather in North America.
Phosphate	Gross margin decreased primarily due to a reduced net realized selling price as higher prices for industrial products were more than offset by lower dry fertilizer prices aligned with lower benchmark prices. This was partially offset by a decrease in cost of goods sold per tonne resulting from lower raw materials costs and positive asset retirement obligation adjustments from changes to cost estimates.
Other fourth quarter financial highlights	Selling costs in Retail increased due to higher sales related to acquired businesses. Impairment of assets increased due to certain individually insignificant impairments of intangible assets and property, plant and equipment related primarily to changes to our future plans for those assets. We had an income tax recovery in the fourth quarter of 2019 due to the loss from continuing operations and income tax expense in the fourth quarter of 2018 due to the earnings from continuing operations. The effective tax rate increased as a result of a change in proportionate earnings between jurisdictions. Net earnings from discontinued operations were higher in the fourth quarter of 2018 primarily due to gains on the sale of our equity investments in SQM and APC (net of tax). There was other comprehensive income in the fourth quarter of 2019 compared to an other comprehensive loss in the fourth quarter of 2018 primarily due to a gain on translation of our Retail operations in Canada and Australia in 2019 compared to losses in 2018.

Enterprise Risk Management

Nutrien integrates enterprise risk management into all of our strategic and business activities. We focus on managing risks and facilitating informed risk taking to remain competitive in an increasingly volatile and uncertain global economy.



Risk Strategy and Governance

Our strategic and risk management processes are integrated to ensure we understand and benefit from the relationship between strategy, risk and value creation. By considering risk throughout our business, we seek to align our strategy with our vision and effectively manage the embedded business risks that could impact the achievement of our strategy.

Our approach to risk management is governed by our Board of Directors, including our Board committees, which oversee our Executive Leadership Team. By understanding the principal risks to our business and strategy and implementing measures to manage those risks, we seek an appropriate balance between risk and return.

Key Risks

We characterize a Key Risk as a risk or combination of risks that could negatively impact the achievement of our vision and ability to deliver on our strategy. We evaluate those risks we believe could have a significant negative effect on safety, health and environment, the Company's financial results, or our reputation, while also considering mitigation efforts. We consider the following to be Key Risks at this time. For a more detailed discussion of our risks, refer to Nutrien's 2019 Annual Information Form.

1 Agriculture Changes and Trends

Associated Key Priorities: Sustainability, Growth & Capital Allocation, Innovation & Technology

Description

The following factors, in addition to other factors, could impact our strategy, demand for our products and/or financial performance: farm and industry consolidation, shifting grower demographics, agriculture productivity and development, climate change, changes in consumer food preferences, governments and climate change initiatives, and technological innovation and digital business models.

Risk Management Approach

Our integrated business platform and diversified earnings portfolio (consisting of crop inputs and services) are designed to respond and adapt to changes in agriculture. We are proactive in developing and using new agricultural products and practices including our integrated digital platform. Our teams have strong industry knowledge and direct customer relationships across the value chain, providing unique insights on trends and developments in the agriculture industry.

Sustainability | Growth & Capital Allocation | Innovation & Technology | Employees

2 Shifting Market Fundamentals

Associated Key Priorities

Description

Changes in global macroeconomic conditions – including trade tariffs and/or other trade restrictions, increased price competition or a significant change in agriculture production or consumption trends – could lead to a low crop price environment and reduced demand for our products or increased prices or decreased availability of raw materials used in making our products.

Risk Management Approach

Our diversified business model and portfolio of agricultural products, services and solutions, combined with our global presence, is designed to enable us to respond to changing economic conditions.

We have a favorable cost-to-service position and the flexibility to make operational changes across our portfolio in order to minimize the impact of changing market dynamics. We also engage in market development, education, training and customer relations initiatives that support growth.

3 Changing Regulations

Associated Key Priorities

Description

Changing laws, regulations and government policies – including health and safety, environmental and climate change – could affect our ability to produce or sell certain products, reduce our efficiency and competitive advantage, increase our costs of raw material, energy, transportation or compliance, or require us to make capital improvements to our operations – all of which could impact our financial performance or reputation.

Risk Management Approach

We have a Government & Industry Affairs team and an active engagement strategy with governments and regulators that keeps us current on regulatory developments affecting our business. We are active in industry associations that address proposed changes to laws and regulations impacting our industry. We have a sustainability strategy and we are developing a climate change strategy to assist in managing the impact of potential regulatory changes.

4 Political, Economic and Social Instability

Associated Key Priorities

Description

Political, economic and social instability may affect our business including, for instance, if any of the jurisdictions in which we operate introduce restrictions on monetary distributions, forced divestitures or changes to or nullification of existing agreements, mining permits or leases. Instability in political or regulatory regimes could also affect our ability to do business and could impact our sales and operating results, our reputation or the value of our assets.

Risk Management Approach

We have a Government & Industry Affairs team and an active engagement strategy with governments, regulators and other stakeholders in the countries where we operate or plan to operate. We assess capital investments and project decisions against political, country and other related risk factors. Dedicated teams regularly monitor developments and global trends that may impact us.

Sustainability | Growth & Capital Allocation | Innovation & Technology | Employees

5 Cybersecurity Threats

Associated Key Priorities

Description
Cyberattacks or breaches of our systems, including our digital platform or exposure to potential computer viruses, could lead to disruptions to our operations, loss of data, or the unintended disclosure of confidential information or property damage. Any of these could result in business disruptions, reputational damage, personal injury, or third-party claims, impacting our operations, financial performance or reputation.

Risk Management Approach
We maintain an enhanced focus on cybersecurity in conjunction with our cybersecurity strategy, policy and framework. Threat and risk assessments are completed for all new information technology systems, and our cybersecurity incident response processes are backstopped by external response measures.

6 Stakeholder Support

Associated Key Priorities

Description
Our stakeholders may not support our business plans or structure, strategy or core sustainability and social responsibilities. Loss of stakeholder confidence impairs our ability to execute our business plans, negatively impacts our ability to produce or sell our products and may lead to reputational and financial losses or shareholder action.

Risk Management Approach
We proactively and regularly engage with our stakeholders to identify and address their concerns and communicate the long-term value opportunities associated with our business plans. We have a sustainability strategy that is structured to support what matters most to our stakeholders and are in the process of developing a climate strategy.

See page 14 of this report for more information on sustainability strategy.

7 Talent and Organizational Structure

Associated Key Priorities

Description
An inability to attract, develop or retain skilled employees, or establish the right organizational structure or culture, could impact productivity, reliability, safety performance, costs or our reputation.

Risk Management Approach
We strategically map critical talent in anticipation of future needs, seeking to hire talent with the right fit for our culture and purpose. Our succession planning proactively identifies critical roles and links to internal top talent. Our incentive programs are competitive and support our purpose-driven culture with performance expectations encouraging inclusion and diversity.

See page 20 of this report for Nutrien's people strategy.

Sustainability | Growth & Capital Allocation | Innovation & Technology | Employees

8 Retail Business Model

Associated Key Priorities

Description

Digital innovations, increased research and development activity and new technologies in the agriculture industry, among other factors, could alter the competitive environment, impacting our Retail operations and financial performance.

Risk Management Approach

Our full-service offering, continued investment in technology, and integrated digital platform position our Retail business as a leader in agricultural solutions for growers. We are actively involved in the ag technology innovation space through external investments and partnerships. We seek to maintain strong relationships with industry partners, positioning Nutrien Ag Solutions as a key part of the ag value chain for both suppliers and growers.

Our dedicated in-house product innovation teams continue to invest in enhancing our digital platform and e-commerce capabilities through focused research and development and acquisitions.

See page 18 of this report for more information on innovation & technology at Nutrien.

9 Capital Allocation

Associated Key Priorities

Description

Our inability to deploy capital or to effectively execute on opportunities – whether due to market conditions, lack of options or otherwise, or deploying capital in a manner inconsistent with our strategic priorities – could impact our returns, operations, reputation or access to capital.

Risk Management Approach

We are focused on creating long-term value and on allocating capital consistent with our strategic priorities and capital allocation strategy. We employ a governance process for all capital allocation decisions and incorporate risk-related factors, including execution risk, in those decisions.

See page 16 of this report for our capital allocation strategy.

10 Safety, Health & Environment

Associated Key Priorities

Description

Our operations are subject to safety, health and environmental risks inherent in the mining, manufacturing, transportation, storage and distribution of our products. These factors could result in injuries or fatalities, or impact the biodiversity, water resources or related ecosystems near our operations, impacting our operations, financial performance or reputation.

Risk Management Approach

We have robust governance processes that ensure we follow all regulatory, industry and internal standards of safety, health and environmental responsibility. We have structured incident prevention and response systems in place, conduct regular security vulnerability assessments and maintain protocols for employees working and traveling abroad. We have developed crisis communication protocols and emergency response programs and personnel can be deployed in the event of a significant incident.

We maintain environmental monitoring and control systems, including third-party reviews of key containment structures.

Sustainability | Growth & Capital Allocation | Innovation & Technology | Employees

Controls and Procedures

Disclosure Controls and Procedures

We maintain disclosure controls and procedures designed to provide reasonable assurance that information required to be disclosed by Nutrien in its annual filings, interim filings (as these terms are defined in National Instrument 52-109 – Certification of Disclosure in Issuers Annual and Interim Filings (NI 52-109)) and other reports filed or submitted by us under securities legislation is recorded, processed, summarized and reported within the required time periods. Our Chief Executive Officer and Chief Financial Officer, after evaluating the effectiveness of our disclosure controls and procedures as of the end of the period covered by the annual filings, being December 31, 2019, have concluded that, as of such date, our disclosure controls and procedures were effective in providing reasonable assurance that information required to be disclosed by Nutrien in its annual filings, interim filings or other reports filed or submitted by it under securities legislation is (a) recorded, processed, summarized and reported within the time periods specified in the securities legislation, and (b) accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives.

Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended, and NI 52-109. Internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and preparation of financial statements for external purposes in accordance with IFRS.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the design and effectiveness of our internal control over financial reporting as of the end of the fiscal year covered by this report based on the framework issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in Internal Control – Integrated Framework (2013). There was no change in our internal control over financial reporting in 2019 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as at December 31, 2019, Nutrien Ltd. did maintain effective internal control over financial reporting.

We completed the Ruralco acquisition on September 30, 2019 as more fully described in Note 4 to the Financial Statements. This business was excluded from management's evaluation of the effectiveness of the Company's internal control over financial reporting as of December 31, 2019 due to the proximity of the acquisition to year-end. The associated total assets represent 2 percent of consolidated assets and total revenues represent 1 percent of consolidated revenues included in our 2019 financial statements.

The effectiveness of the Company's internal control over financial reporting as at December 31, 2019 was audited by KPMG LLP, as reflected in their report, which is included in this 2019 Annual Report.

Forward-Looking Statements

Certain statements and other information included in this document, including within the "2020 Guidance" section, constitute "forward-looking information" or "forward-looking statements" (collectively, "forward-looking statements") under applicable securities laws (such statements are often accompanied by words such as "anticipate", "forecast", "expect", "believe", "may", "will", "should", "estimate", "intend" or other similar words). All statements in this document, other than those relating to historical information or current conditions, are forward-looking statements, including, but not limited to: Nutrien's 2020 annual guidance, including our growth and capital allocation strategies and expectations regarding our adjusted net earnings per share, adjusted EBITDA and EBITDA by segment; expectations regarding our sustainability, environmental (including climate), D&I and innovation and technology initiatives; capital spending expectations for 2020; expectations regarding performance of our operating segments in 2020; our operating segment market outlooks and market conditions for 2020, and including anticipated supply and demand for our products and services, expected market and industry conditions with respect to crop nutrient application rates, planted acres, crop mix, prices and the impact of currency fluctuations and import and export volumes; expectations regarding repurchases of our Common Shares, including the timing thereof; expectations regarding completion of previously announced expansion projects (including timing and volumes of production associated therewith); and acquisitions and divestitures (including expected timing of closing thereof), and the expected synergies associated with various acquisitions, including timing thereof. These forward-looking statements are subject to a number of assumptions, risks and uncertainties, many of which are beyond our control, which could cause actual results to differ materially from such forward-looking statements. As such, undue reliance should not be placed on these forward-looking statements.

All of the forward-looking statements are qualified by the assumptions that are stated or inherent in such forward-looking statements, including the assumptions referred to below and elsewhere in this document. Although we believe that these assumptions are reasonable, this list is not exhaustive of the factors that may affect any of the forward-looking statements and the reader should not place an undue reliance on these assumptions and such forward-looking statements. The additional key assumptions that have been made include, among other things, assumptions with respect to our ability to successfully complete, integrate and realize the anticipated benefits of our already completed and future acquisitions, and that we will be able to implement our standards, controls, procedures and policies at any acquired businesses to realize the expected synergies; that future business, regulatory and industry conditions will be within the parameters expected by us, including with respect to prices, margins, demand, supply, product availability, supplier agreements, availability and cost of labor and interest, exchange and effective tax rates; the completion of our expansion projects on schedule, as planned and on budget; assumptions with respect to global economic conditions and the accuracy of our market outlook expectations for 2020 and in the future (including as outlined in the 2020 Outlook section); the adequacy of our cash generated from operations and our ability to access our credit facilities or capital markets for additional sources of financing; our ability to identify suitable candidates for acquisitions and divestitures and negotiate acceptable terms; our ability to maintain investment grade ratings and achieve our performance targets; and the receipt, on time, of all necessary permits, utilities and project approvals with respect to our expansion projects and that we will have the resources necessary to meet the projects' approach.

Events or circumstances that could cause actual results to differ materially from those in the forward-looking statements include, but are not limited to: general global economic, market and business conditions; failure to complete announced and future acquisitions or divestitures at all or on the expected terms and within the expected timeline; climate change and weather conditions, including impacts from regional flooding and/or drought conditions; crop planted acreage, yield and prices; the supply and demand and price levels for our products; governmental and regulatory requirements and actions by governmental authorities, including changes in government policy (including tariffs, trade restrictions and climate change initiatives), government ownership requirements, changes in environmental, tax and other laws or regulations and the interpretation thereof; political risks, including civil unrest, actions by armed groups or conflict and malicious acts including terrorism; the occurrence of a major environmental or safety incident; innovation and cybersecurity risks related to our systems; regional natural gas supply restrictions; counterparty and sovereign risk; delays in completion of turnarounds at our major facilities; gas supply interruptions; any significant impairment of the carrying value of certain assets; risks related to reputational loss; certain complications that may arise in our mining processes; the ability to attract, engage and retain skilled employees and strikes or other forms of work stoppages; and other risk factors detailed from time to time in Nutrien reports filed with the Canadian securities regulators and the Securities and Exchange Commission in the United States.

The purpose of our expected adjusted net earnings per share, adjusted EBITDA and EBITDA by segment guidance ranges, as well as our adjusted earnings per share and adjusted EBITDA price and volume and input cost sensitivities ranges, are to assist readers in understanding our expected and targeted financial results, and this information may not be appropriate for other purposes.

Nutrien disclaims any intention or obligation to update or revise any forward-looking statements in this document as a result of new information or future events, except as may be required under applicable Canadian securities legislation or applicable US federal securities laws.

Appendix

Non-IFRS Financial Measures

We use both IFRS and certainnon-IFRS financial measures to assess performance. Non-IFRS financial measures are numerical measures of a company's performance, that either exclude or include amounts that are not normally excluded or included in the most directly comparable measures calculated and presented in accordance with IFRS. In evaluating these measures, investors should consider that the methodology applied in calculating such measures may differ among companies and analysts.

Management believes the non-IFRS financial measures provide transparent and useful supplemental information to help investors evaluate our financial performance, financial condition and liquidity using the same measures as management. These non-IFRS financial measures should not be considered as a substitute for, or superior to, measures of financial performance prepared in accordance with IFRS.

The following section outlines our non-IFRS financial measures, their definitions, and why management uses each measure. It includes reconciliations to the most directly comparable IFRS measures.

EBITDA, Adjusted EBITDA and Potash Adjusted EBITDA

Most directly comparable IFRS financial measure: Net earnings (loss) from continuing operations.

Definition: EBITDA is calculated as net earnings (loss) from continuing operations before finance costs, income taxes and depreciation and amortization. Adjusted EBITDA is calculated as net earnings (loss) from continuing operations before finance costs, income taxes, depreciation and amortization, Merger and related costs, acquisition and integration related costs, share-based compensation, defined benefit plans curtailment gain, impairment of assets, and foreign exchange gain/loss, net of related derivatives. In the fourth quarter of 2019, we amended our calculations of adjusted EBITDA and restated the comparative periods to exclude the impact of foreign exchange gain/loss, net of related derivatives, as foreign exchange changes are not indicative of our operating performance. We have also amended our calculations of adjusted EBITDA to adjust for acquisition and integration related costs for certain acquisitions such as Ruralco. There were no similar acquisitions in the comparative periods.

Why we use the measure and why it is useful to investors: These are meaningful measures because they are not impacted by long-term investment and financing decisions, but rather focus on the performance of our day-to-day operations. These provide a measure of our ability to service debt and to meet other payment obligations.

(millions of US dollars)	2019	2018	2017 [1]
Net earnings (loss) from continuing operations	992	(31)	656
Finance costs	554	538	515
Income tax expense (recovery)	316	(93)	20
Depreciation and amortization	1,799	1,592	1,221
EBITDA	3,661	2,006	2,412
Merger and related costs	82	170	178
Acquisition and integration related costs	16	–	–
Share-based compensation	104	116	92
Defined benefit plans curtailment gain	–	(157)	–
Impairment of assets	120	1,809	305
Foreign exchange loss (gain), net of related derivatives	42	(10)	35
Adjusted EBITDA	4,025	3,934	3,022

1 Amount presented is the combined historical financial results of PotashCorp and Agrium.

(millions of US dollars)	2019	2018
Potash EBITDA	1,593	(203)
Impairment of assets	–	1,809
Potash adjusted EBITDA	1,593	1,606

Adjusted EBITDA, Adjusted Net Earnings and Adjusted Net Earnings Per Share Guidance

This guidance is provided on a non-IFRS basis. We do not provide a reconciliation of such forward-looking measures to the most directly comparable financial measures calculated and presented in accordance with IFRS due to unknown variables and the

uncertainty related to future results. These unknown variables may include unpredictable transactions of significant value that may be inherently difficult to determine, without unreasonable efforts. Guidance excludes the impacts of acquisition and integration related costs, share-based compensation and foreign exchange gain/loss, net of related derivatives.

Adjusted Net Earnings and Adjusted Net Earnings Per Share

Most directly comparable IFRS financial measure: Net earnings (loss) from continuing operations and net (loss) earnings per share from continuing operations.

Definition: Net earnings from continuing operations before Merger and related costs, acquisition and integration related costs, share-based compensation, impairment of assets, purchase price allocation, defined benefit plans curtailment gain, dividend income of SQM and APC and foreign exchange gain/loss (net of related derivatives), net of tax. In the fourth quarter of 2019, we amended our calculations of adjusted net earnings and restated the comparative periods to exclude the impact of foreign exchange gain/loss, net of derivatives, as foreign exchange changes are not indicative of our operating performance. We have also amended our calculations of adjusted net earnings to adjust for acquisition and integration related costs for certain acquisitions such as Ruralco. There were no similar acquisitions in the comparative periods.

Why we use the measure and why it is useful to investors: Focuses on the performance of ourday-to-day operations excluding the effects of non-operating items.

	2019			2018		
(millions of US dollars, except as otherwise noted)	Increases (Decreases)	Post-Tax	Per Diluted Share	Increases (Decreases)	Post-Tax	Per Diluted Share
Net earnings (loss) from continuing operations		992	1.70		(31)	(0.05)
Adjustments:						
Merger and related costs	82	62	0.10	170	130	0.21
Acquisition and integration related costs	16	12	0.02	–	–	–
Share-based compensation	104	79	0.14	116	89	0.14
Impairment of assets	120	91	0.16	1,809	1,320	2.11
Foreign exchange loss (gain), net of related derivatives	42	32	0.05	(10)	(8)	(0.01)
Purchase price allocation	–	–	–	211	161	0.26
Defined benefit plans curtailment gain	–	–	–	(157)	(120)	(0.19)
Dividend income of SQM and APC	–	–	–	156	130	0.21
Adjusted net earnings		1,268	2.17		1,671	2.68

Free Cash Flow and Free Cash Flow Including Changes in Non-Cash Working Capital

Most directly comparable IFRS financial measure: Cash from operations before working capital changes.

Definition: Cash from operations before working capital changes less sustaining capital expenditures and cash provided by operating activities from discontinued operations. We also calculate this measure including changes in non-cash working capital.

Why we use the measure and why it is useful to investors: For evaluation of liquidity and financial strength, and as a component of employee remuneration calculations. These are also useful as an indicator of our ability to service debt, meet other payment obligations and make strategic investments. These do not represent residual cash flow available for discretionary expenditures.

(millions of US dollars)	2019	2018	2017 [1]
Cash from operations before working capital changes	3,175	3,190	2,511
Cash used in operating activities from discontinued operations	–	(130)	(200)
Sustaining capital expenditures	(1,018)	(1,085)	(1,018)
Free cash flow	2,157	1,975	1,293
Changes in non-cash working capital	490	(1,138)	57
Free cash flow including changes in non-cash working capital	2,647	837	1,350

1 Amount presented is the combined historical financial results of PotashCorp and Agrium.

Gross Margin Excluding Depreciation and Amortization Per Tonne – Manufactured

Most directly comparable IFRS financial measure: Gross margin.

Definition: Gross margin per tonne from manufactured products less depreciation and amortization per tonne. Reconciliations are provided in the "Operating Segment Performance & Outlook" section.

Why we use the measure and why it is useful to investors: Focuses on the performance of ourday-to-day operations, which excludes the effects of items that primarily reflect the impact of long-term investment and financing decisions.

Potash Cash Cost of Product Manufactured ("COPM")

Most directly comparable IFRS financial measure: Cost of goods sold ("COGS") for the Potash segment.

Definition: Potash COGS for the period excluding depreciation and amortization expense and inventory and other adjustments divided by the production tonnes for the period.

Why we use the measure and why it is useful to investors: To assess operational performance. Potash cash COPM excludes the effects of production from other periods and long-term investment decisions, supporting a focus on the performance of our day-to-day operations.

(millions of US dollars, except as otherwise noted)	2019	2018
Total COGS – Potash	1,103	1,183
Change in inventory	10	(5)
Other adjustments	(16)	(14)
COPM	1,097	1,164
Depreciation and amortization included in COPM	(355)	(391)
Cash COPM	742	773
Production tonnes (tonnes – thousands)	11,700	12,842
Potash cash COPM per tonne	63	60

Ammonia Controllable Cash COPM

Most directly comparable IFRS financial measure: COGS for the Nitrogen segment.

Definition: The total of COGS for the Nitrogen segment excluding depreciation and amortization expense included in COGS, cash COGS for products other than ammonia, other adjustments, and natural gas and steam costs, divided by net ammonia production tonnes.

Why we use the measure and why it is useful to investors: To assess operational performance. Ammonia controllable cash COPM excludes the effects of production from other periods, the costs of natural gas and steam, and long-term investment decisions, supporting a focus on the performance of our day-to-day operations.

(millions of US dollars, except as otherwise noted)	2019	2018
Total COGS – Nitrogen	2,148	2,145
Depreciation and amortization in COGS	(462)	(442)
Cash COGS for products other than ammonia	(1,226)	(1,212)
Ammonia		
Total cash COGS before other adjustments	460	491
Other adjustments [1]	(57)	(28)
Total cash COPM	403	463
Natural gas and steam costs	(273)	(321)
Controllable cash COPM	130	142
Production tonnes (net tonnes [2] – thousands)	2,887	3,320
Ammonia controllable cash COPM per tonne	45	43

1 Includes changes in inventory balances and other adjustments.

2 Ammonia tonnes available for sale, as not upgraded to other Nitrogen products.

Adjusted Net Debt

Most directly comparable IFRS financial measure: Long-term debt.

Definition: Long-term and short-term debt plus lease liabilities (including their respective current portions) less cash and cash equivalents and related unamortized fair value adjustments.

Why we use the measure and why it is useful to investors: As a component of adjusted net debt to adjusted EBITDA, it is used to evaluate our ability to pay our debts. See Note 26 to the financial statements for a reconciliation of adjusted net debt.

Nutrien Financial Receivables

Most directly comparable IFRS financial measure: Receivables.

Definition: Refer to page 27 for details.

Why we use the measure and why it is useful to investors: To differentiate a sub-group of receivables with lower credit risk.

(millions of US dollars)	2019
Nutrien Financial Receivables	821
Non-Nutrien Financial Receivables	2,721
Receivables	3,542

Retail Adjusted Average Working Capital to Sales

Most directly comparable IFRS financial measure: (Current assets minus current liabilities for Retail) divided by Retail sales.

Definition: Retail average working capital divided by Retail sales for the last four rolling quarters excluding working capital acquired in the quarter certain recent acquisitions, such as Ruralco, were completed.

Why we use the measure and why it is useful to investors: To evaluate operational efficiency. A lower or higher percentage represents increased or decreased operational efficiency, respectively.

	Rolling four quarters ended December 31, 2019				
(millions of US dollars, except as otherwise noted)	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Average/Total
Working capital	3,190	3,741	3,699	1,759	
Working capital from certain recent acquisitions	–	–	(75)	(138)	
Adjusted working capital	3,190	3,741	3,624	1,621	3,044
Sales	2,039	6,512	2,499	2,171	13,221
Adjusted average working capital to sales (%)					23

Retail Cash Operating Coverage Ratio

Most directly comparable IFRS financial measure: Retail operating expenses [1] as a percentage of Retail gross margin.

Definition: Retail operating expenses excluding depreciation and amortization expense, divided by Retail gross margin excluding depreciation and amortization expense in cost of goods sold for the last four rolling quarters.

Why we use the measure and why it is useful to investors: To understand the costs and underlying economics of our Retail operations and to assess our Retail operating performance and ability to generate free cash flow.

	Rolling four quarters ended December 31, 2019				
(millions of US dollars, except as otherwise noted)	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Total
Gross margin	409	1,440	655	736	3,240
Depreciation and amortization in cost of goods sold	2	1	2	2	7
Gross margin excluding depreciation and amortization	411	1,441	657	738	3,247
Operating expenses	571	749	617	667	2,604
Depreciation and amortization in operating expenses	(132)	(143)	(150)	(160)	(585)
Operating expenses excluding depreciation and amortization	439	606	467	507	2,019
Cash operating coverage ratio (%)					62

1 Includes Retail expenses below gross margin including selling expenses, general and administrative expenses and other (income) expenses.

Retail Normalized Comparable Store Sales

Most directly comparable IFRS financial measure: Retail sales from comparable base as a component of total Retail sales.

Definition: Prior year comparable store sales adjusted for published potash, nitrogen and phosphate benchmark prices and foreign exchange rates used in the current year. We retain sales of closed locations in the comparable base if the closed location is in close proximity to an existing location, unless we plan to exit the market area or are unable to economically or logistically serve it. We do not adjust for temporary closures, expansions or renovations of stores.

Why we use the measure and why it is useful to investors: To evaluate sales growth by adjusting for fluctuations in commodity prices and foreign exchange rates. Includes locations we have owned for more than 12 months.

(millions of US dollars, except as otherwise noted)	2019	2018
Sales from comparable base		
Current period	12,568	12,253
Prior period	12,520 [1]	12,103
Comparable store sales (%)	0	1
Prior period normalized for benchmark prices and foreign exchange rates	12,636 [1]	12,363
Normalized comparable store sales (%)	(1)	(1)

1 Certain immaterial figures have been reclassified for 2018.

Retail EBITDA per US Selling Location

Most directly comparable IFRS financial measure: Retail US EBITDA.

Definition: Total Retail US EBITDA for the last four rolling quarters adjusted for acquisitions in those quarters, divided by the number of US locations that have generated sales in the last four rolling quarters adjusted for acquired locations.

Why we use the measure and why it is useful to investors: To assess our US Retail operating performance. Includes locations we have owned for more than 12 months.

	Rolling four quarters ended December 31, 2019				
(millions of US dollars, except as otherwise noted)	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Total
US EBITDA	(58)	672	142	143	899
Adjustments for acquisitions					(27)
US EBITDA adjusted for acquisitions					872
Number of US selling locations adjusted for acquisitions					902
EBITDA per US selling location (thousands of US dollars)					967

Terms and Definitions

Terms

AECO	Alberta Energy Company, Canada
Argus	Argus Media group, UK
CRU	CRU International limited, UK
Doane	Doane University, USA
FAO or FAOSTAT	Food and Agriculture Organization of the United Nations, Italy
Fertecon	Fertecon Limited, UK
IFA	International Fertilizer Industry Association, France
IMEA	Instituto Mato-Grossense De Economia Agropecuária, Brazil
Moody's	Moody's Corporation (NYSE: MCO), USA
NYMEX	New York Mercantile Exchange, USA
NYSE	New York Stock Exchange, USA
PNW	Pacific Northwest, USA
S&P	Standard & Poor's Financial Services LLC, USA
TSX	Toronto Stock Exchange, Canada
USDA	United States Department of Agriculture, USA
CDN	Canadian dollar
USD	United States dollar
AUD	Australian dollar

Scientific Terms

Potash	KCl	potassium chloride, 60-63.2% K_2O (solid)
Nitrogen	NH_3	ammonia (anhydrous), 82.2% N (liquid)
	UAN	nitrogen solutions, 28-32% N (liquid)
Phosphate	MGA	merchant grade acid, 54% P_2O_5 (liquid)
	DAP	diammonium phosphate, 46% P_2O_5 (solid)
	MAP	monoammonium phosphate, 52% P_2O_5 (solid)
	SPA	superphosphoric acid, 70% P_2O_5 (liquid)
	AS	ammonium sulfate (solid)

Product Measures

K_2O tonne	Measures the potassium content of products having different chemical analyses
N tonne	Measures the nitrogen content of products having different chemical analyses
P_2O_5 tonne	Measures the phosphorus content of products having different chemical analyses
Product tonne	Standard measure of the weights of all types of potash, nitrogen and phosphate products

Definitions

Brownfield	New project expanding or developing an existing facility or operation
Capital deployment	Cash outlays for property, plant and equipment, intangible assets, business acquisitions (net of cash acquired), investments, dividends and repurchase of common shares.
Community Investment	Represents cash disbursements, matching of employee gifts andin-kind contributions of equipment, goods and services and employee volunteerism (on corporate time).
Compound Annual Growth Rate	Represents the rate of return that would be required for an investment to grow from its beginning balance to its ending balance assuming the profits were reinvested at the end of each year of the investment's lifespan.
Environmental Incidents	Number of incidents includes release quantities that exceed the US Comprehensive Environmental Response, Compensation, and Liability Act limits, in Potash facilities any release that exceeds Saskatchewan Release Limits (based on the Saskatchewan Environmental Code), non-compliance incidents that exceed $10,000 in costs to reach compliance or enforcement actions with fines exceeding $1,000.
Employee Turnover Rate	The number of permanent employees who left the Company (due to deaths and voluntary and involuntary terminations, and excluding announced workforce reductions) as a percentage of average total employees during the year. Terminations of temporary employees are excluded.
Investing Capital	Capital for significant expansions of current operations or to create cost savings (synergies), including capitalized interest. Investing capital excludes capital outlays for business acquisitions and equity-accounted investees.
Greenfield capacity	New operation built on undeveloped site
Latin America	South America, Central America, Caribbean and Mexico
Lost-Time Injury Frequency	Total lost-time injuries for every 200,000 hours worked for all Nutrien employees, contractors and others on site. Calculated as the total lost-time injuries multiplied by 200,000 hours worked divided by the actual number of hours worked.
Merger	The merger of equals transaction between PotashCorp and Agrium completed effective January 1, 2018, pursuant to which PotashCorp and Agrium combined their businesses pursuant to a statutory plan of arrangement under the Canada Business Corporations Act and became wholly owned subsidiaries of Nutrien Ltd.
Mmt	Million metric tonnes
North America	Canada and the US
Offshore	All markets except Canada and the US
Sustaining Capital	Sustaining capital expenditures are required to sustain operations at existing levels and include major repairs and maintenance and plant turnarounds.
Taxes and Royalties	Includes tax and royalty amounts on an accrual basis calculated as: current income tax expense from continuing and discontinued operations minus investment tax credits and realized excess tax benefit related to share-based compensation plus potash production tax, resource surcharge, royalties, municipal taxes and other miscellaneous taxes.
Total Recordable Injury Frequency	Total recordable injuries for every 200,000 hours worked for all Nutrien employees, contractors and others on site. Calculated as the total recordable injuries multiplied by 200,000 hours worked divided by the actual number of hours worked.
Total Shareholder Return	Return on investment in Nutrien shares from the time the investment is made based on two components: (1) growth in share price and (2) return from reinvested dividend income on the shares.
Working Capital Ratio	Current assets divided by current liabilities.

Table of Contents

Exhibit 99.3



2019 Annual Audited Financial Statements

Table of Contents



Financial Statements

	76	**At a Glance**	
	77	**Consolidated Statements of Earnings**	
	77	**Consolidated Statements of Comprehensive Income**	
	78	**Consolidated Statements of Cash Flows**	
	79	**Consolidated Statements of Changes in Shareholders' Equity**	
	80	**Consolidated Balance Sheets**	
	81	**Note 1**	Description of Business
	81	**Note 2**	Basis of Presentation
P,E	82	**Note 3**	Segment Information
P,E	86	**Note 4**	Business Combinations
	90	**Note 5**	Nature of Expenses
P,E	90	**Note 6**	Share-Based Compensation
	92	**Note 7**	Other Expenses
	93	**Note 8**	Finance Costs
P,E	93	**Note 9**	Income Taxes
P	97	**Note 10**	Discontinued Operations
	97	**Note 11**	Net Earnings Per Share
P	98	**Note 12**	Financial Instruments and Related Risk Management
P,E	103	**Note 13**	Receivables
P,E	104	**Note 14**	Inventories
P,E	105	**Note 15**	Property, Plant and Equipment
P,E	109	**Note 16**	Goodwill and Other Intangible Assets
P,E	111	**Note 17**	Investments
	113	**Note 18**	Other Assets
	113	**Note 19**	Short-Term Debt
	114	**Note 20**	Long-Term Debt
	115	**Note 21**	Lease Liabilities
	116	**Note 22**	Payables and Accrued Charges
P,E	116	**Note 23**	Pension and Other Post-Retirement Benefits
P,E	121	**Note 24**	Asset Retirement Obligations and Accrued Environmental Costs
	123	**Note 25**	Share Capital
	124	**Note 26**	Capital Management
	125	**Note 27**	Commitments
P	126	**Note 28**	Guarantees
	127	**Note 29**	Related Party Transactions
E	127	**Note 30**	Contingencies and Other Matters
P,E	129	**Note 31**	Accounting Policies, Estimates and Judgments

P Includes Accounting Policies
E Includes Accounting Estimates and Judgments

Table of Contents



Management's Responsibility

Management's Responsibility for Financial Reporting

Management's Report on Financial Statements

The accompanying consolidated financial statements and related financial information are the responsibility of the management of Nutrien Ltd. (the "Company"). They have been prepared in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board ("IFRS") and include amounts based on estimates and judgments. Financial information included elsewhere in this report is consistent with the consolidated financial statements.

The consolidated financial statements are approved by the Board of Directors on the recommendation of the audit committee. The audit committee of the Board of Directors is composed entirely of independent directors. The audit committee discusses and analyzes Nutrien's interim condensed consolidated financial statements and Management's Discussion and Analysis ("MD&A") with management before such information is approved by the committee and submitted to securities commissions or other regulatory authorities. The audit committee and management also analyze the annual consolidated financial statements and MD&A prior to their approval by the Board of Directors.

The audit committee duties also include reviewing critical accounting policies and significant estimates and judgments underlying the consolidated financial statements as presented by management and approving the fees of our independent registered public accounting firm.

Our independent registered public accounting firm, KPMG LLP, performs an audit of the consolidated financial statements, the results of which are reflected in their report for 2019 included on Page 74. KPMG LLP have full and independent access to the audit committee to discuss their audit and related matters.

Management's Annual Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act, as amended, and National Instrument 52-109 – Certification of Disclosure in Issuers' Annual and Interim Filings. Internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and preparation of financial statements for external purposes in accordance with IFRS.

Under our supervision and with the participation of management, the Company conducted an evaluation of the design and effectiveness of our internal control over financial reporting as of the end of the fiscal year covered by this report, based on the framework issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in Internal Control – Integrated Framework (2013). Based on this evaluation, management concluded that, as of December 31, 2019, the Company did maintain effective internal control over financial reporting.

We completed the Ruralco acquisition on September 30, 2019 as more fully described in Note 4 of the Notes to the Consolidated Financial Statements. This business was excluded from management's evaluation of the effectiveness of the Company's internal controls over financial reporting as of December 31, 2019 due to the proximity of the acquisition to year-end. The associated total assets represent approximately 2 percent of consolidated total assets and total revenues represent approximately 1 percent of consolidated revenues included in Nutrien's 2019 consolidated financial statements.

The effectiveness of the Company's internal control over financial reporting as at December 31, 2019 has been audited by KPMG LLP, as reflected in their report for 2019 included on page 73.



Chuck Magro
President and Chief Executive Officer
February 19, 2020



Pedro Farah
Chief Financial Officer
February 19, 2020

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of Nutrien Ltd.

Opinion on Internal Control Over Financial Reporting

We have audited Nutrien Ltd. and subsidiaries' (the "Company") internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets of the Company as of December 31, 2019 and 2018, the related consolidated statements of earnings, comprehensive income, changes in shareholders' equity, and cash flows for the years then ended, and the related notes (collectively, the "consolidated financial statements"), and our report dated February 19, 2020 expressed an unqualified opinion on those consolidated financial statements.

The Company acquired Ruralco Holdings Limited ("Ruralco") during 2019, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2019, Ruralco's internal control over financial reporting associated with 2 percent of total assets and 1 percent of total revenues included in the consolidated financial statements of the Company as of and for the year ended December 31, 2019. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of Ruralco.

Basis for Opinion

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

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

KPMG LLP

Chartered Professional Accountants

Calgary, Canada
February 19, 2020

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of Nutrien Ltd.

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Nutrien Ltd. and subsidiaries (the "Company") as of December 31, 2019 and 2018, the related consolidated statements of earnings, comprehensive income, changes in shareholders' equity, and cash flows for the years then ended, and the related notes (collectively, the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for the years then ended, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 19, 2020 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 31 to the consolidated financial statements, the Company has changed its method of accounting for leases as of January 1, 2019 due to the adoption of International Financial Reporting Standard 16, Leases.

Basis for Opinion

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

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

Critical Audit Matters

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

Assessment of the carrying amount of goodwill for the Retail North America cash-generating unit

As discussed in Note 16 to the consolidated financial statements, the carrying amount of goodwill as of December 31, 2019 was $11,986 million, of which $6,826 million of goodwill has been allocated to the Retail North America cash-generating unit. The Retail North America cash-generating unit is tested for impairment annually, and whenever events or changes in circumstances indicate that the carrying amount of the cash-generating unit, including goodwill, exceeds its estimated recoverable amount. The

assessment of the carrying amount of the Retail North America cash-generating unit involves a number of estimates including forecasted earnings before tax, interest, depreciation and amortization ("EBITDA"), terminal growth rate and the discount rate assumptions used to calculate the recoverable amount of the Retail North America cash-generating unit.

We identified the assessment of the carrying amount of goodwill for the Retail North America cash-generating unit as a critical audit matter. Complex auditor judgment was required to evaluate the Company's forecasted EBITDA, terminal growth rate and discount rate, which were used to calculate the recoverable amount of the Retail North America cash-generating unit. Minor changes to these assumptions have a significant effect on the Company's assessment of the carrying amount of the goodwill.

The primary procedures we performed to address this critical audit matter included the following. We tested certain internal controls over the Company's goodwill impairment assessment process, including controls related to the determination of the recoverable amount of the Retail North America cash-generating unit, and the forecasted EBITDA, terminal growth rate and discount rate. We performed sensitivity analyses over the terminal growth rate and discount rate to assess their impact on the Company's determination that the recoverable amount of the Retail North America cash-generating unit exceeded its carrying amount. We evaluated the Company's forecasted EBITDA for the Retail North America cash-generating unit by comparing to historical results and forecasted planted acreage in the United States. We compared the terminal growth rate to historical growth of the Retail North America cash-generating unit and to market information, including forecasted inflation and forecasted gross domestic product in the United States. We compared the Company's historical forecasts of EBITDA to actual results to assess the Company's ability to accurately forecast. In addition, we involved valuation professionals with specialized skills and knowledge, who assisted in:

- Evaluating the Company's method for estimating its discount rate, and testing assumptions used to estimate the discount rate to publicly available market data for comparable companies; and
- Evaluating the Company's method for estimating the recoverable amount of the Retail North America cash-generating unit and comparing the results of the Company's estimate to publicly available market data and valuation metrics for comparable companies.



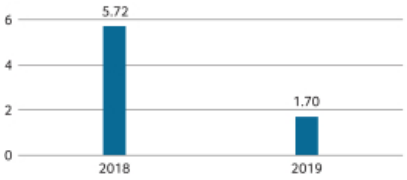
Chartered Professional Accountants

We have served as the Company's auditor since 2018.

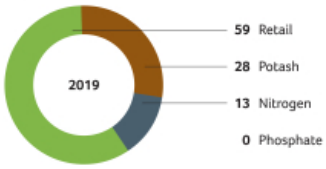
Calgary, Canada
February 19, 2020

2019
At a Glance

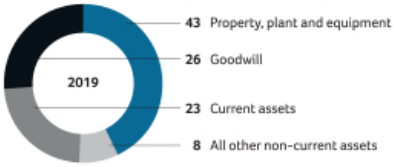
Diluted Net Earnings per Share
($ per share)



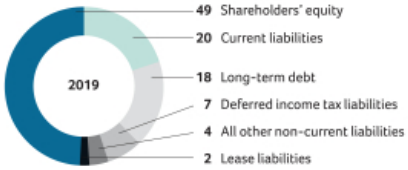
Gross Margin by Operating Segment
(%)



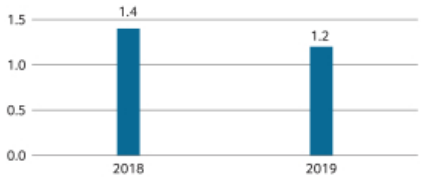
Total Assets
As at December 31
(%)



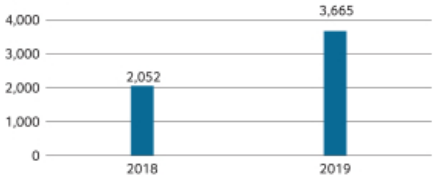
Total Liabilities and Shareholders' Equity
As at December 31
(%)



Working Capital Ratio
As at December 31
(ratio)



Cash Provided by Operating Activities
($ millions)



Find out more at nutrien.com

In millions of US dollars except as otherwise noted

Consolidated Financial Statements

Consolidated Statements of Earnings

For the years ended December 31	Note	2019	2018
			Note 2
Sales	3	20,023	19,636
Freight, transportation and distribution	5	768	864
Cost of goods sold	5	13,814	13,380
Gross Margin		5,441	5,392
Selling expenses	5	2,505	2,337
General and administrative expenses	5	404	423
Provincial mining and other taxes	5	292	250
Share-based compensation	6	104	116
Impairment of assets	15, 16	120	1,809
Other expenses	7	154	43
Earnings Before Finance Costs and Income Taxes		1,862	414
Finance costs	8	554	538
Earnings (Loss) Before Income Taxes		1,308	(124)
Income tax expense (recovery)	9	316	(93)
Net Earnings (Loss) from Continuing Operations		992	(31)
Net earnings from discontinued operations	10	–	3,604
Net Earnings		992	3,573
Net Earnings (Loss) per share from Continuing Operations	11		
Basic		1.70	(0.05)
Diluted		1.70	(0.05)
Net Earnings per share from Discontinued Operations	11		
Basic		–	5.77
Diluted		–	5.77
Net Earnings per share ("EPS")	11		
Basic		1.70	5.72
Diluted		1.70	5.72
Weighted average shares outstanding for basic EPS	11	582,269,000	624,900,000
Weighted average shares outstanding for diluted EPS	11	583,102,000	624,900,000

Consolidated Statements of Comprehensive Income

For the years ended December 31 (net of related income taxes)	2019	2018
Net Earnings	992	3,573
Other comprehensive income (loss)		
Items that will not be reclassified to net earnings:		
Net actuarial gain on defined benefit plans	7	54
Net fair value loss on investments	(25)	(99)
Items that have been or may be subsequently reclassified to net earnings:		
Gain (loss) on currency translation of foreign operations	47	(249)
Other	7	(8)
Other Comprehensive Income (Loss)	36	(302)
Comprehensive Income	1,028	3,271

(See Notes to the Consolidated Financial Statements)

Consolidated Statements of Cash Flows

For the years ended December 31	Note	2019	2018 Note 2
Operating Activities			
Net earnings		992	3,573
Adjustments for:			
Depreciation and amortization		1,799	1,592
Share-based compensation	6	104	116
Impairment of assets	15, 16	120	1,809
Provision for (recovery of) deferred income tax		177	(290)
Gain on sale of investments in Sociedad Quimica y Minera de Chile S.A. ("SQM") and Arab Potash Company ("APC")		–	(4,399)
Income tax related to the sale of the investment in SQM		–	977
Other long-term liabilities and miscellaneous		(17)	(188)
Cash from operations before working capital changes		3,175	3,190
Changes in non-cash operating working capital:			
Receivables		(64)	(153)
Inventories		190	(887)
Prepaid expenses and other current assets		(238)	561
Payables and accrued charges		602	(659)
Cash Provided by Operating Activities		3,665	2,052
Investing Activities			
Additions to property, plant and equipment	15	(1,728)	(1,405)
Additions to intangible assets	16	(163)	(102)
Business acquisitions, net of cash acquired	4	(911)	(433)
Proceeds from disposal of discontinued operations, net of tax	10	55	5,394
Purchase of investments		(198)	(135)
Cash acquired in Merger	4	–	466
Other		147	102
Cash (Used in) Provided by Investing Activities		(2,798)	3,887
Financing Activities			
Transaction costs on long-term debt		(29)	(21)
Proceeds from (repayment of) short-term debt, net	19	216	(927)
Proceeds from long-term debt	20	1,510	–
Repayment of long-term debt	20	(1,010)	(12)
Repayment of principal portion of lease liabilities	20	(234)	–
Dividends paid	25	(1,022)	(952)
Repurchase of common shares	25	(1,930)	(1,800)
Issuance of common shares	25	20	7
Cash Used in Financing Activities		(2,479)	(3,705)
Effect of Exchange Rate Changes on Cash and Cash Equivalents		(31)	(36)
(Decrease) Increase in Cash and Cash Equivalents		(1,643)	2,198
Cash and Cash Equivalents – Beginning of Year		2,314	116
Cash and Cash Equivalents – End of Year		671	2,314
Cash and cash equivalents [1] comprised of:			
Cash		532	1,506
Short-term investments		139	808
		671	2,314
Supplemental Cash Flows Information			
Interest paid		505	507
Income taxes paid		29	1,155
Total cash outflow for leases		345	–

1 Highly liquid investments with a maturity of three months or less from the date of purchase are considered to be cash equivalents.

(See Notes to the Consolidated Financial Statements)

In millions of US dollars except as otherwise noted

Consolidated Statements of Changes in Shareholders' Equity

			Accumulated Other Comprehensive (Loss) Income ("AOCI")						
	Share Capital	Contributed Surplus	Net Fair Value Gain (Loss) on Investments	Net Actuarial Gain on Defined Benefit Plans [1]	Loss on Currency Translation of Foreign Operations	Other	Total AOCI	Retained Earnings	Total Equity [2]
Balance – December 31, 2017	1,806	230	73	–	(2)	(46)	25	6,242	8,303
Merger impact (Note 4)	15,898	7	–	–	–	–	–	(1)	15,904
Net earnings	–	–	–	–	–	–	–	3,573	3,573
Other comprehensive (loss) income	–	–	(99)	54	(249)	(8)	(302)	–	(302)
Shares repurchased (Note 25)	(998)	(23)	–	–	–	–	–	(831)	(1,852)
Dividends declared	–	–	–	–	–	–	–	(1,273)	(1,273)
Effect of share-based compensation including issuance of common shares	34	17	–	–	–	–	–	–	51
Transfer of net actuarial gain on defined benefit plans	–	–	–	(54)	–	–	(54)	54	–
Transfer of net loss on sale of investment	–	–	19	–	–	–	19	(19)	–
Transfer of net loss on cash flow hedges	–	–	–	–	–	21	21	–	21
Balance – December 31, 2018	16,740	231	(7)	–	(251)	(33)	(291)	7,745	24,425
Net earnings	–	–	–	–	–	–	–	992	992
Other comprehensive (loss) income	–	–	(25)	7	47	7	36	–	36
Shares repurchased (Note 25)	(992)	–	–	–	–	–	–	(886)	(1,878)
Dividends declared	–	–	–	–	–	–	–	(754)	(754)
Effect of share-based compensation including issuance of common shares	23	17	–	–	–	–	–	–	40
Transfer of net actuarial gain on defined benefit plans	–	–	–	(7)	–	–	(7)	7	–
Transfer of net loss on sale of investment	–	–	3	–	–	–	3	(3)	–
Transfer of net loss on cash flow hedges	–	–	–	–	–	8	8	–	8
Balance – December 31, 2019	15,771	248	(29)	–	(204)	(18)	(251)	7,101	22,869

1 Any amounts incurred during a period were closed out to retained earnings at each period-end. Therefore, no balance exists at the beginning or end of period.
2 All equity transactions were attributable to common shareholders.

(See Notes to the Consolidated Financial Statements)

In millions of US dollars except as otherwise noted

Consolidated Balance Sheets

As at December 31	Note	2019	2018
Assets			
Current assets			
Cash and cash equivalents		671	2,314
Receivables	13	3,542	3,342
Inventories	14	4,975	4,917
Prepaid expenses and other current assets		1,477	1,089
		10,665	11,662
Non-current assets			
Property, plant and equipment	15	20,335	18,796
Goodwill	16	11,986	11,431
Other intangible assets	16	2,428	2,210
Investments	17	821	878
Other assets	18	564	525
Total Assets		46,799	45,502
Liabilities			
Current liabilities			
Short-term debt	19	976	629
Current portion of long-term debt	20	502	995
Current portion of lease liabilities	21	214	8
Payables and accrued charges	22	7,437	6,703
		9,129	8,335
Non-current liabilities			
Long-term debt	20	8,553	7,579
Lease liabilities	21	859	12
Deferred income tax liabilities	9	3,145	2,907
Pension and other post-retirement benefit liabilities	23	433	395
Asset retirement obligations and accrued environmental costs	24	1,650	1,673
Other non-current liabilities		161	176
Total Liabilities		23,930	21,077
Shareholders' Equity			
Share capital	25	15,771	16,740
Contributed surplus		248	231
Accumulated other comprehensive loss		(251)	(291)
Retained earnings		7,101	7,745
Total Shareholders' Equity		22,869	24,425
Total Liabilities and Shareholders' Equity		46,799	45,502

(See Notes to the Consolidated Financial Statements)

Approved by the Board of Directors,



Director



Director

In millions of US dollars except as otherwise noted

Note 1 Description of Business

Nutrien Ltd. (collectively with its subsidiaries, "Nutrien", "we", "us", "our" or "the Company") is the world's largest provider of crop inputs and services. Nutrien plays a critical role in helping growers around the globe increase food production in a sustainable manner.

The Company is a corporation organized under the laws of Canada with its registered head office located at Suite 500, 122 – 1st Avenue South, Saskatoon, Saskatchewan, Canada. As at December 31, 2019, the Company had assets as follows:

Retail

- various retail facilities across the US, Canada, Australia and South America
- private label and proprietary crop protection products and nutritionals
- an innovative integrated digital platform for growers and crop consultants

Potash

- six operations in the province of Saskatchewan

Nitrogen

- eight production facilities in North America: four in Alberta and one each in Georgia, Louisiana, Ohio and Texas
- one large-scale operation in Trinidad
- seven upgrade facilities in North America: three in Alberta and one each in Alabama, Georgia, Missouri, and Washington
- 50 percent investment in Profertil S.A. ("Profertil"), a nitrogen producer based in Argentina
- 26 percent investment in Misr Fertilizers Production Company S.A.E. ("MOPCO"), a nitrogen producer based in Egypt

Phosphate

- two mines and processing plants: one in Florida and one in North Carolina
- phosphate feed plants in Illinois, Missouri and Nebraska
- an industrial phosphoric acid plant in Ohio

Corporate and Others

- investment in Canpotex Limited ("Canpotex"), a Canadian potash export, sales and marketing company owned in equal shares by Nutrien and another potash producer
- 22 percent investment in Sinofert Holdings Limited ("Sinofert"), a fertilizer supplier and distributor in China

Note 2 Basis of Presentation

These consolidated financial statements have been prepared in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board ("IFRS"). We have consistently applied the same accounting policies throughout all periods presented, as if these policies had always been in effect, with the exception of IFRS 16, "Leases" ("IFRS 16"), which was adopted effective January 1, 2019, the impacts of which are disclosed in Note 31.

Certain immaterial 2018 figures have been reclassified or grouped together in the consolidated statements of earnings, consolidated statements of cash flows, segment information and nature of expenses.

These consolidated financial statements were authorized for issue by the Board of Directors on February 19, 2020.

Where an accounting policy is applicable to a specific note to the consolidated financial statements, the policy is described within that note, with the related financial disclosures by major caption as noted in the table of contents. Certain of our accounting policies that relate to the consolidated financial statements as a whole, as well as estimates and judgments we have made and how they affect the amounts reported in the consolidated financial statements, are disclosed in Note 31. Sensitivity analyses included throughout the notes should be used with caution as the changes are hypothetical and not reflective of future performance. The sensitivities have been calculated independently of changes in other key variables. Changes in one factor may result in changes in another, which could increase or reduce certain sensitivities. These consolidated financial statements were prepared under the historical cost basis, except for items that IFRS requires to be measured at fair value.

Note 3 Segment Information

The Company has four reportable operating segments: Retail, Potash, Nitrogen and Phosphate. The Retail segment distributes crop nutrients, crop protection products, seed and merchandise, and provides services directly to growers through a network of farm centers in North and South America and Australia. The Potash, Nitrogen and Phosphate segments are differentiated by the chemical nutrient contained in the products that each produces.

Accounting Policies, Estimates and Judgments

Operating Segments

We identified the Executive Leadership Team ("ELT"), comprised of officers at the Executive Vice President level and above, as the Chief Operating Decision Maker ("CODM"). The CODM uses net earnings (loss) before finance costs, income taxes, and depreciation and amortization ("EBITDA") to measure performance and allocate resources to the operating segments. The CODM considers EBITDA a meaningful measure because it is not impacted by long-term investment and financing decisions, but rather focuses on the performance of our day-to-day operations.

In 2019, the CODM reassessed our product groupings and decided to evaluate the performance of ammonium sulfate as part of the Nitrogen segment, rather than the Phosphate and Sulfate segment, as previously reported in our 2018 annual consolidated financial statements. Comparative amounts for the Nitrogen and Phosphate segments were restated. For the year ended December 31, 2018, Nitrogen reflected increases of $121, $40, and $53 in sales, gross margin and EBITDA, respectively, and $377 in assets, with corresponding decreases in Phosphate. In addition, the "Others" segment was renamed to "Corporate and Others".

Judgment is used in determining the composition of the reportable segments based on factors including risks and returns, internal organization, and internal reports reviewed by the CODM.

Certain expenses are allocated across segments based on reasonable considerations such as production capacities or historical trends.

Revenue

We recognize revenue when we transfer control over a good or service to a customer.

Transfer of Control for	Retail	Potash, Nitrogen and Phosphate
Sale of Goods	At the point in time when the product is • purchased at our Retail farm center or • delivered and accepted by customers at their premises.	At the point in time when the product is • loaded for shipping or • delivered to the customer.
Services	Over time as the promised service is rendered.	Over time as the promised service is rendered.

For transactions in which we act as an agent rather than the principal, revenue is recognized net of any commissions earned. The relating commissions are recognized as the sales occurred or as unconditional contracts are signed.

Retail

Retail revenue is generated primarily from sales of the following:

Crop nutrients	Dry and liquid macronutrient products including potash, nitrogen and phosphate, proprietary liquid micronutrient products and nutrient application services.
Crop protection products	Various third-party supplier and proprietary products designed to maintain crop quality and manage plant diseases, weeds, and other pests.
Seed	Various third-party supplier seed brands and proprietary seed product lines.
Merchandise	Fencing, feed supplements, livestock-related animal health products, storage and irrigation equipment, and other products.
Services and other revenues	Product application, soil and leaf testing, crop scouting and precision agriculture services, water services, financial services and livestock marketing.

Provisions for returns, trade discounts and rebates are deducted from sales revenue.

Note 3 Segment Information Continued

Potash, Nitrogen and Phosphate

Our sales revenue is recorded and measured based on the "freight on board" mine, plant, warehouse or terminal price specified in the contract (except for certain vessel sales or specific product sales that are shipped and recorded on a delivered basis), which reflects the consideration we expect to be entitled to in exchange for the goods or services, net of any variable consideration (e.g., any trade discounts or estimated volume rebates). Where customer contracts include volume rebates, we estimate revenue at the earlier of the most likely amount of consideration we expect to receive or when it is highly probable that a significant reversal will not occur. Our customer contracts may provide certain product quality specification guarantees but do not generally provide for refunds or returns.

Sales prices are based on North American and International benchmark market prices which are variable and subject to global supply and demand and other market factors.

	Potash	Nitrogen	Phosphate
Products	• North American – primarily granular • Offshore (international) – primarily granular and standard	• Ammonia, urea, urea ammonium nitrate, industrial grade ammonium nitrate and ammonium sulfate	• Solid fertilizer, liquid fertilizer, industrial products and feed products
Sales prices impacted by	• North American prices referenced at delivered prices (including transportation and distribution costs) • International prices referenced at the mine site (excluding transportation and distribution costs)	• Global energy costs and supply	• Global prices and supplies of ammonia and sulfur

Other

We do not provide general warranties. Intersegment sales are made under terms that approximate market value. Transportation costs are generally recovered from the customer through sales pricing.

We elected to use the practical expedient related to the adjustment of the promised consideration for the effects of a significant financing component as the expected period between when control over a promised good or service is transferred and when the customer pays for that good or service is less than 12 months.

Seasonality in our business results from increased demand for products during planting season. Crop input sales are generally higher in spring and fall crop input application seasons. Crop nutrient inventories are normally accumulated leading up to each application season. Our cash collections generally occur after the application season is complete, while customer prepayments made to us are typically concentrated in December and January and inventory prepayments paid to our vendors are typically concentrated in the period from November to January. Feed and industrial sales are more evenly distributed throughout the year.

For product sales with volume rebates, revenue is recognized to the extent that it is highly probable that significant reversals will not occur using the most likely method and accumulated experience.

Returns and incentives are estimated based on historical and forecasted data, contractual terms and current conditions. Due to the nature of goods and services sold, any single estimate would have only a negligible impact on revenue.

Note 3 Segment Information Continued

Supporting Information

Financial information on each of these segments is summarized in the following tables:

2019	Retail	Potash	Nitrogen	Phosphate	Corporate and Others	Eliminations	Consolidated
Sales – third party	13,183	2,702	2,608	1,397	133	–	20,023
– intersegment	38	207	612	203	–	(1,060)	–
Sales – total	13,221	2,909	3,220	1,600	133	(1,060)	20,023
Freight, transportation and distribution	–	305	372	232	–	(141)	768
Net sales	13,221	2,604	2,848	1,368	133	(919)	19,255
Cost of goods sold	9,981	1,103	2,148	1,373	133	(924)	13,814
Gross margin	3,240	1,501	700	(5)	–	5	5,441
Selling expenses	2,484	9	25	5	(18)	–	2,505
General and administrative expenses	112	6	15	7	264	–	404
Provincial mining and other taxes	–	287	2	1	2	–	292
Share-based compensation expense	–	–	–	–	104	–	104
Impairment of assets (Note 15 and 16)	–	–	–	–	120	–	120
Other expenses (income)	8	(4)	(46)	25	171	–	154
Earnings (loss) before finance costs and income taxes	636	1,203	704	(43)	(643)	5	1,862
Depreciation and amortization	595	390	535	237	42	–	1,799
EBITDA	1,231	1,593	1,239	194	(601)	5	3,661
Assets [1]	19,990	11,696	10,991	2,198	2,129	(205)	46,799

1 Included in the Retail and Nitrogen segments are $126 and $482, respectively, relating to equity-accounted investees as described in Note 17.

2018	Retail	Potash	Nitrogen [1]	Phosphate [1]	Corporate and Others	Eliminations	Consolidated
Sales – third party	12,470	2,796	2,712	1,508	150	–	19,636
– intersegment	50	220	626	268	–	(1,164)	–
Sales – total	12,520	3,016	3,338	1,776	150	(1,164)	19,636
Freight, transportation and distribution	–	349	373	215	–	(73)	864
Net sales	12,520	2,667	2,965	1,561	150	(1,091)	18,772
Cost of goods sold	9,485	1,183	2,145	1,473	150	(1,056)	13,380
Gross margin	3,035	1,484	820	88	–	(35)	5,392
Selling expenses	2,303	14	32	10	(22)	–	2,337
General and administrative expenses	100	10	20	9	284	–	423
Provincial mining and other taxes	–	244	3	1	2	–	250
Share-based compensation expense	–	–	–	–	116	–	116
Impairment of assets (Note 15)	–	1,809	–	–	–	–	1,809
Other (income) expenses	(75)	14	(8)	6	106	–	43
Earnings (loss) before finance costs and income taxes	707	(607)	773	62	(486)	(35)	414
Depreciation and amortization	499	404	442	193	54	–	1,592
EBITDA	1,206	(203)	1,215	255	(432)	(35)	2,006
Assets [2]	17,964	11,710	10,386	2,406	3,678	(642)	45,502

1 Comparative figures have been restated to reflect the change in the sulfate product grouping from Phosphate and Sulfate to Nitrogen.

2 Included in the Retail and Nitrogen segments are $208 and $428, respectively, relating to equity-accounted investees as described in Note 17.

Note 3 Segment Information Continued

Financial information by geographic area is summarized in the following tables:

Sales – Third Party	2019	2018
United States	12,522	11,891
Canada	2,504	2,790
Australia	1,955	1,681
Canpotex [1]	1,625	1,657
Trinidad	113	190
Argentina	388	387
Europe	210	312
Other	706	728
	20,023	19,636

1 As described in Note 1, Canpotex executed offshore marketing, sales and distribution functions for certain of our products. Canpotex's 2019 sales volumes were made to: Latin America 31 percent, China 22 percent, India 10 percent, Other Asian markets 27 percent, Other markets 10 percent (2018 – Latin America 33 percent, China 18 percent, India 10 percent, Other Asian markets 31 percent, Other markets 8 percent) (Note 29).

Non-Current Assets [1]	2019	2018
United States	15,685	14,501
Canada	17,503	17,100
Australia	1,172	607
Trinidad	691	570
Other	639	621
	35,690	33,399

1 Excludes financial instruments (other than equity-accounted investees), deferred tax assets and post-employment benefit assets.

We disaggregated revenue from contracts with customers by product line or geographic location for each reportable segment to show how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors. Sales reported under our Corporate and Others segment primarily relates to our non-core Canadian business.

	2019	2018
Retail sales by product line		
Crop nutrients	4,989	4,577
Crop protection products	4,983	4,862
Seed	1,712	1,687
Merchandise	598	584
Services and other	939	810
	13,221	12,520

Note 3 Segment Information Continued

	2019	2018
Potash sales by geography		
Manufactured product		
North America	1,283	1,356
Offshore [1]	1,625	1,657
Other potash and purchased products	1	3
	2,909	3,016
Nitrogen sales by product line [2]		
Manufactured product		
Ammonia	884	1,061
Urea	1,019	979
Solutions, nitrates and sulfates	812	825
Other nitrogen and purchased products	505	473
	3,220	3,338
Phosphate sales by product line [2]		
Manufactured product		
Fertilizer	944	1,141
Industrial and feed	475	469
Other phosphate and purchased products	181	166
	1,600	1,776

1 Relates to Canpotex.

2 Comparative figures have been restated to reflect the change in the sulfate product grouping from Phosphate and Sulfate to Nitrogen.

Note 4 Business Combinations

The Company's business combinations include the merger between Potash Corporation of Saskatchewan Inc. ("PotashCorp") and Agrium Inc. ("Agrium") (the "Merger"), the acquisition of Retail businesses, including Ruralco Holdings Limited ("Ruralco"), and various digital agriculture, proprietary products and agricultural services.

Accounting Policies, Estimates and Judgments

- Consideration is measured at the aggregate of the fair values of assets transferred, liabilities incurred or assumed, and equity instruments issued in exchange for control of the acquiree at the acquisition date.
- Identifiable assets acquired and liabilities assumed are generally measured at fair value.
- The excess of total consideration for each acquisition plus non-controlling interest in the acquiree, over the fair value of the identifiable net assets acquired, is recorded as goodwill.
- For each business combination, we elect to measure thenon-controlling interest in the acquired entity either at fair value or at the proportionate share of the acquiree's identifiable net assets.

Note 4 Business Combinations Continued

Judgment is required to determine which entity is the acquirer in a merger of equals. In identifying PotashCorp as the acquirer in the Merger, we considered the voting rights of all equity instruments, the intended corporate governance structure of the combined company, the intended composition of senior management of the combined company and the size of each of the companies. In assessing the size of each of the companies, we evaluated various metrics. No single factor was the sole determinant in the overall conclusion that PotashCorp was the acquirer for accounting purposes in the Merger; rather, all factors were considered in arriving at the conclusion.

Purchase price allocation involves judgment in identifying assets acquired and liabilities assumed, and estimation of their fair values. To determine fair values, we used quoted market prices or widely accepted valuation techniques as described below. Key assumptions include discount rates and revenue growth rates specific to the acquired assets or liabilities assumed. We performed a thorough review of all internal and external sources of information available on circumstances that existed at the acquisition date. We also engaged independent valuation experts on certain acquisitions to assist in determining the fair value of certain assets acquired and liabilities assumed and related deferred income tax impacts.

Asset	Ruralco	Merger	Other Acquisitions	Valuation Technique and Judgments Applied
Property, plant and equipment	X	X	X	Market approach for land and certain types of personal property: sales comparison that measures the value of an asset through an analysis of sales and offerings of comparable assets. Replacement costs for all other depreciable property, plant and equipment: measures the value of an asset by estimating the costs to acquire or construct comparable assets and adjusts for age and condition of the asset.
Other intangible assets	X	X	X	Income approach – multi-period excess earnings method: measures the value of an asset based on the present value of the incremental after-tax cash flows attributable to the asset after deducting contributory asset charges ("CACs"). Allocation of CACs is a matter of judgment and based on the nature of the acquired businesses' operations and historical trends. We considered several factors in determining the fair value of customer relationships, such as customers' relationships with the acquired company and its employees, the segmentation of customers, historical customer attrition rates and revenue growth. Segmenting customers is a matter of judgment and includes factors such as the size of the customer and customer behavior patterns.
Long-term debt		X		Comparable debt instruments with similar maturities, adjusted where necessary to the acquired company's credit spread, based on information published by financial institutions.
Asset retirement obligations and accrued environmental costs		X		Decision-tree approach of future costs and a risk premium to capture the compensation sought by risk-averse market participants for bearing the uncertainty inherent in the cash flows of the liability. We expect asset retirement obligations for phosphate sites to be paid over the next 68 years, while we expect asset retirement obligations for potash and nitrogen sites to be paid subsequently. We expect accrued environmental costs – discounted using a credit adjusted risk-free rate – to be paid over the next 30 years.

Note 4 Business Combinations Continued

Supporting Information

	Ruralco	Merger	Other Acquisitions
Acquisition date	September 30, 2019	January 1, 2018	Various
Purchase price, net of cash and cash equivalents acquired	$330 On the acquisition date, we acquired 100% of the Ruralco stock that was issued and outstanding. Also included in the total consideration, net of cash and cash equivalents acquired, is the impact of $18 relating to a foreign exchange hedge loss which we designated a cash flow hedge. Transaction costs are recorded in acquisition and integration related costs in other expenses.	$16,010 We determined the purchase price based on the number of Agrium shares outstanding and their trading price on December 29, 2017. On the acquisition date, shareholders of PotashCorp received 0.400 common shares of Nutrien for each PotashCorp share held, and shareholders of Agrium received 2.230 common shares of Nutrien for each Agrium share held. Merger and related costs are included in other expenses.	2019 – $581, net of $100 previously held equity-accounted interest in Agrichem. We acquired the remaining 20 percent interest in Agrichem in the first nine months of 2019, making Agrichem a wholly owned consolidated subsidiary of the Company. (2018 – $433)
Goodwill and expected benefits of the acquisition	$202	$11,185, none of which is deductible for income tax purposes.	$341 (2018 – $197)
	The expected benefits of the acquisitions resulting in goodwill include: • synergies from expected reduction in operating costs; • wider distribution channel for selling products of acquired businesses; • a larger assembled workforce; • potential increase in customer base; • enhanced ability to innovate; • production and expense optimization, including procurement savings (specific to Merger); and • closer proximity of nitrogen operations to sources oflow-cost natural gas (specific to Merger).		
Description	An agriservices business in Australia with approximately 250 operating locations.	A major global producer and distributor of agricultural products, services and solutions.	68 Retail locations in North and South America and Australia, including companies operating in the proprietary products business, such as Actagro, LLC, a developer, manufacturer and marketer of environmentally sustainable soil and plant health products and technologies (2018 – 53 Retail locations in North America and Australia and companies operating within the digital agriculture, proprietary products and agricultural services businesses).

Note 4 Business Combinations Continued

We allocated the following values to the acquired assets and assumed liabilities based upon fair values at their respective acquisition date:

	2019				2018	
	Ruralco (Estimate)					
	Preliminary [1]	Adjustments [2]	Revised Fair Value	Other Acquisitions [3]	Merger (Final)	Other Acquisitions [3]
Cash and cash equivalents	–	–	–	–	466	–
Receivables	250	39	289 [4]	68	2,600 [4]	20
Inventories	116	1	117	145	3,303	146
Prepaid expenses and other current assets	11	(3)	8	38	1,124	2
Property, plant and equipment	70	66	136	115	7,459	107
Goodwill	272	(70)	202	341	11,185	197
Other intangible assets	55	110	165	179	2,348	8
Investments	15	–	15	–	528	11
Other assets	16	–	16 [5]	2	293 [5]	3
Total assets	805	143	948	888	29,306	494
Short-term debt	112	–	112	25	867	–
Payables and accrued charges	299	46	345	156	5,239	52
Long-term debt, including current portion	–	–	–	11	4,941	–
Lease liabilities, including current portion	44	66	110	1	–	–
Deferred income tax liabilities	7	31	38	7	934	–
Pension and other post-retirement benefit liabilities	–	–	–	–	142	–
Asset retirement obligations and accrued environmental costs	–	–	–	–	1,094	–
Other non-current liabilities	13	–	13	7	79	9
Total liabilities	475	143	618	207	13,296	61
Total consideration	330	–	330	681	16,010	433
Previously held equity-accounted interest in Agrichem	–	–	–	100	–	–
Total consideration, net of cash and cash equivalents acquired	330	–	330	581	16,010	433

1 Preliminary value as previously reported in our third quarter 2019 unaudited financial statements. The purchase price allocation is not final as we continue to obtain and verify information required to determine the fair value of certain assets and liabilities and the amount of deferred income taxes arising on their recognition. We estimated the preliminary purchase price allocation as of the date of the acquisition based on information that was available and continue to adjust those estimates as new information that existed at the date of acquisition becomes available. We expect to finalize the amounts recognized when we obtain the information necessary to complete the analysis, and in any event, not later than September 30, 2020.

2 We recorded adjustments to the preliminary fair value to reflect facts and circumstances in existence as of the date of acquisition. These adjustments primarily related to changes in the preliminary valuation assumptions, including refinement of intangible assets. All measurement period adjustments were offset against goodwill.

3 This represents preliminary fair values. For certain acquisitions, we finalized the purchase price with no material change to the fair values disclosed in prior periods.

4 Includes receivables from customers with gross contractual amounts of $247, of which $5 are considered to be uncollectible relating to Ruralco (2018 – $2,247 and $80 respectively relating to the Merger).

5 Includes deferred income tax assets of $14 relating to Ruralco (2018 – $158 relating to the Merger).

Financial Information Related to the Acquired Operations

2019 Proforma [1]	Ruralco	Other Acquisitions
Sales	1,090	480
EBITDA	50	40

1 Estimated annual sales and EBITDA if acquisitions occurred at the beginning of the year. Net earnings before income taxes is not available.

Note 4 Business Combinations Continued

From date of acquisition	2019 Actuals		2018 Actuals	
	Ruralco	Other Acquisitions	Merger	Other Acquisitions
Sales	249	312	14,551	213
Net earnings (loss) before income taxes	(2)	(1)	546	10

Note 5 Nature of Expenses

	2019	2018
Purchased and produced raw materials and product for resale[1]	11,335	10,881
Depreciation and amortization	1,799	1,592
Employee costs[2]	2,268	1,949
Freight	845	934
Impairment of assets (Note 15 and 16)	120	1,809
Provincial mining and other taxes[3]	292	250
Offsite warehouse costs[4]	51	68
Railcar and vessel costs[4]	5	128
Merger and related costs	82	170
Acquisition and integration related costs	16	–
Contract services	504	469
Lease expense[5]	66	148
Fleet fuel, repairs and maintenance	202	183
Other	576	641
Total cost of goods sold and expenses	18,161	19,222

1 Significant expenses include: supplies, energy, fuel, purchases of raw material (natural gas – feedstock, sulfur, ammonia and reagents) and product for resale (crop nutrients and protection products, and seed).

2 Includes employee benefits and share–based compensation. In 2018, employee costs also include a $157 gain on curtailment of defined benefit pension and other post-retirement benefit plans ("Defined Benefit Plans Curtailment Gain") as described in Note 23.

3 Includes $190 and $102 (2018 – $160 and $90) relating to Saskatchewan potash production tax and Saskatchewan resource surcharge and other, respectively, as required under Saskatchewan provincial legislation.

4 Includes expenses relating to operating leases in 2018.

5 In 2019, includes lease expense relating to short-term leases, leases of low-value and variable lease payments.

Note 6 Share-Based Compensation

We have share-based compensation plans (including those assumed from PotashCorp and Agrium) for eligible employees and directors as part of their remuneration package, including Stock Options, Performance Share Units ("PSUs"), Restricted Share Units ("RSUs") and Deferred Share Units ("DSUs").

Accounting Policies, Estimates and Judgments

For awards with performance conditions that determine the number of options or units to which employees are entitled, measurement of compensation cost is based on our best estimate of the outcome of the performance conditions. Changes to vesting assumptions are reflected in earnings immediately for compensation cost already recognized.

For plans settled through the issuance of equity

- fair value for stock options is determined on grant date using the Black-Scholes-Merton option-pricing model, and
- fair value for PSUs is determined on grant date by projecting the outcome of performance conditions.

For plans settled through cash, a liability is recorded based on the fair value of the awards each period.

Note 6 Share-Based Compensation Continued

Estimation involves determining:

- stock option-pricing model assumptions as described in the weighted average assumptions table;
- forfeiture rate for options granted based on past experience and future expectations, and adjusted upon actual vesting;
- projected outcome of performance conditions for PSUs, including the relative ranking of our total shareholder return, including expected dividends, compared with a specified peer group using a Monte Carlo simulation option-pricing model and the outcome of our synergies relative to the target; and
- the number of dividend equivalent units expected to be earned.

Supporting Information

The following summarizes the Nutrien share-based compensation plans, under which we have awards available to be granted, and the assumed legacy plans of PotashCorp and Agrium, under which no awards will be granted.

Plan Features	Stock Options	PSUs	RSUs	DSUs	SARs/TSARs [4]
Eligibility	Officers and eligible employees	Officers and eligible employees	Eligible employees	Non-executive directors	Awards no longer granted; legacy awards only
Granted	Annually	Annually	Annually	At the discretion of the Board of Directors	Awards no longer granted; legacy awards only
Vesting Period	25% per year over four years [1]	On third anniversary of grant date based on total shareholder return over a three-year performance cycle, compared to average total shareholder return of a peer group of companies over the same period	On third anniversary of grant date and are not subject to performance conditions	Fully vest upon grant	25% per year over four years
Maximum Term	10 years	Not applicable	Not applicable	Not applicable	10 years
Settlement	Shares	Cash / Shares [2]	Cash	Cash [3]	Cash

1 Under the assumed legacy PotashCorp long-term incentive and performance option plan, stock options vest on the third anniversary of the grant date.
2 Under the assumed legacy PotashCorp long-term incentive plan, PSUs will be settled in shares for grantees who are subject to our share ownership guidelines and in cash for all other grantees.
3 Based on the common share price at the time of the director's departure from the Board of Directors.
4 Under the assumed legacy Agrium stock appreciation rights ("SARs") plan, holders of tandem stock appreciation rights ("TSARs") have the ability to choose between (a) receiving in cash the price of our shares on the date of exercise in excess of the exercise price of the right or (b) receiving common shares by paying the exercise price of the right. Our past experience and future expectation is that substantially all TSAR holders will elect to choose the first option.

The weighted average fair value of stock options granted was estimated as of the date of the grant using the Black-Scholes-Merton option-pricing model. The weighted average grant date fair value of stock options per unit granted in 2019 was $11.27 (2018 – $9.71). The weighted average assumptions by year of grant that impacted current year results are as follows:

Assumptions	Based On	Year of Grant 2019	2018
Exercise price per option	Quoted market closing price [1]	53.54	44.50
Expected annual dividend yield (%)	Annualized dividend rate [2]	3.22	3.58
Expected volatility (%)	Historical volatility [3]	27	29
Risk-free interest rate (%)	Zero-coupon government issues [4]	2.55	2.79
Average expected life of options (years)	Historical experience	7.5	7.5

1 Of common shares on the last trading day immediately preceding the date of the grant.
2 As of the date of grant.
3 Of the Company's share over a period commensurate with the expected life of the option.
4 Implied yield available on equivalent remaining term at the time of the grant.

Note 6 Share-Based Compensation Continued

A summary of the status of our stock option plans as at December 31, 2019 and 2018 and changes during the years ending on those dates is as follows:

	Number of Shares Subject to Option		Weighted Average Exercise Price	
	2019	2018	2019	2018
Balance – beginning of year	9,044,237	9,947,583	58.41	69.54
Granted	1,376,533	1,875,162	53.54	44.50
Exercised	(451,574)	(647,331)	42.73	42.86
Forfeited or cancelled	(502,016)	(1,793,077)	86.53	82.84
Expired	(275,700)	(338,100)	76.59	154.94
Outstanding – end of year	9,191,480	9,044,237	56.88	58.41

The aggregate grant-date fair value of all stock options granted during 2019 was $16. The average share price during 2019 was $50.91 per share.

The following table summarizes information about our stock options outstanding as at December 31, 2019 with expiry dates ranging from May 2020 to February 2029:

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	Number	Weighted Average Remaining Life in Years	Weighted Average Exercise Price	Number	Weighted Average Exercise Price
$37.84 to $40.23	1,345,235	6	38.21	1,170,022	38.26
$40.24 to $45.40	1,934,844	7	43.61	1,067,346	42.88
$45.41 to $49.51	1,371,872	7	46.46	788,169	46.38
$49.52 to $52.75	912,183	5	51.96	912,183	51.96
$52.76 to $77.62	1,814,520	8	58.58	574,542	69.47
$77.63 to $130.78	1,812,826	3	93.56	1,812,826	93.56
	9,191,480	6	56.88	6,325,088	60.71

Information for all employee and Director share-based compensation plans is summarized below:

	Units Granted in 2019	Units Outstanding as at December 31, 2019	Compensation Expense (Recovery)	
			2019	2018
Stock Options	1,376,533	9,191,480	19	23
PSUs	719,330	1,834,984	65	83
RSUs	425,082	986,756	18	14
DSUs	50,958	434,093	2	–
SARs	–	1,750,169	–	(4)
			104	116

Note 7 Other Expenses

	2019	2018
Merger and related costs	82	170
Acquisition and integration related costs	16	–
Foreign exchange loss (gain), net of related derivatives	42	(10)
Earnings of equity-accounted investees	(66)	(40)
Bad debts	24	26
Defined Benefit Plans Curtailment Gain (Note 23)	–	(157)
Other expenses	56	54
	154	43

In millions of US dollars except as otherwise noted

Note 8 Finance Costs

	2019	2018
Interest expense		
Short-term debt	87	129
Long-term debt	387	372
Lease liabilities (Note 21)	34	–
Unwinding of discount on asset retirement obligations (Note 24)	54	51
Interest on net defined benefit pension and other post-retirement plan obligations (Note 23)	15	15
Borrowing costs capitalized to property, plant and equipment	(18)	(12)
Interest income	(5)	(17)
	554	538

Borrowing costs capitalized to property, plant and equipment in 2019 were calculated by applying an average capitalization rate of 4.6 percent (2018 – 4.4 percent) to expenditures on qualifying assets.

Note 9 Income Taxes

Accounting Policies, Estimates and Judgments

We operate in a specialized industry and in several tax jurisdictions. As a result, our earnings are subject to various rates of taxation. Taxation on items recognized in the consolidated statements of earnings, other comprehensive income ("OCI") or contributed surplus is recognized in the same location as those items.

Taxation on earnings (loss) is comprised of current and deferred income tax.

Current income tax is

- the expected tax payable on the taxable earnings for the year,
- calculated using rates enacted or substantively enacted at the dates of the consolidated balance sheets in the countries where our subsidiaries and equity-accounted investees operate and generate taxable earnings, and
- inclusive of any adjustment to income tax payable or recoverable in respect of previous years.

Deferred income tax is

- recognized using the liability method,
- based on temporary differences between carrying amounts of assets and liabilities and their respective income tax bases, and
- determined using tax rates that have been enacted or substantively enacted by the dates of the consolidated balance sheets and are expected to apply when the related deferred income tax asset is realized or the deferred income tax liability is settled.

Uncertain income tax positions are accounted for using the standards applicable to current income tax liabilities and assets (i.e., both liabilities and assets are recorded when probable and measured at the amount expected to be paid to (or recovered from) the taxation authorities using our best estimate of the amount).

Deferred income tax is not accounted for

- with respect to investments in subsidiaries and equity-accounted investees where we are able to control the reversal of the temporary difference and that difference is not expected to reverse in the foreseeable future; and
- if arising from initial recognition of an asset or liability in a transaction, other than a business combination, that at the time of the transaction affects neither accounting nor taxable profit or loss.

The realized and unrealized excess tax benefits from share-based compensation arrangements are recognized in contributed surplus as current and deferred tax, respectively.

Deferred income tax assets are reviewed at each balance sheet date and amended to the extent that it is no longer probable that the related tax benefit will be realized.

Note 9 Income Taxes Continued

Income tax assets and liabilities are offset when

Current income taxes	Deferred income taxes
• we have a legally enforceable right to offset the recognized amounts[1], and • the intention to settle on a net basis or realize the asset and settle the liability simultaneously.	• we have a legally enforceable right to set off current tax assets against current tax liabilities, and • they relate to income taxes levied by the same taxation authority on either: 1) the same taxable entity; or 2) different taxable entities intending to settle current tax liabilities and assets on a net basis, or realize assets and settle liabilities simultaneously in each future period. [2]

1 For income taxes levied by the same taxation authority and the authority permits us to make or receive a single net payment or receipt.
2 In which significant amounts of deferred tax liabilities or assets expected are to be settled or recovered.

Estimates and judgments to determine our taxes are impacted by

- the breadth of our operations, and
- global complexity of tax regulations.

The final taxes paid, and potential adjustments to tax assets and liabilities, are dependent upon many factors including:

- negotiations with taxation authorities in various jurisdictions;
- outcomes of tax litigation; and
- resolution of disputes arising from federal, provincial, state and local tax audits.

Estimates and judgments are used to recognize the amount of deferred tax assets, which includes the probability that future taxable profit will be available to use deductible temporary differences, and could be reduced if projected earnings are not achieved or increased if earnings previously not projected become probable.

Supporting Information

Income Taxes included in Net Earnings (Loss) from Continuing Operations

The provision for income taxes differs from the amount that would have resulted from applying the Canadian statutory income tax rates to earnings (loss) before income taxes as follows:

	2019	2018
Earnings (loss) before income taxes		
Canada	765	(1,195)
United States	315	619
Australia	27	96
Trinidad	(28)	98
Other	229	258
	1,308	(124)
Canadian federal and provincial statutory income tax rate (%)	27	27
Income tax at statutory rates	353	(33)
Adjusted for the effect of:		
Impact of foreign tax rates	(45)	(58)
Non-taxable income	(19)	(10)
Production-related deductions	(17)	(15)
Foreign accrual property income	18	15
Impact of tax rate changes	16	–
Other	10	8
Income tax expense (recovery) included in net earnings (loss) from continuing operations	316	(93)

In millions of US dollars except as otherwise noted

Note 9 Income Taxes Continued

Total income tax expense (recovery), included in net earnings (loss) from continuing operations, was comprised of the following:

	2019	2018
Current income tax		
Tax expense for current year	161	195
Adjustments in respect of prior years	(22)	(15)
Total current income tax expense	139	180
Deferred income tax		
Origination and reversal of temporary differences	152	(283)
Adjustments in respect of prior years	9	12
Impact of tax rate changes	16	–
Other	–	(2)
Total deferred income tax expense (recovery)	177	(273)
Income tax expense (recovery) included in net earnings (loss) from continuing operations	316	(93)

Income Tax Balances

Income tax balances within the consolidated balance sheets as at December 31 were comprised of the following:

Income Tax Assets and Liabilities	Balance Sheet Location	2019	2018
Current income tax assets			
Current	Receivables (Note 13)	104	248
Long-term	Other assets (Note 18)	36	36
Deferred income tax assets	Other assets (Note 18)	249	216
Total income tax assets		389	500
Current income tax liabilities			
Current	Payables and accrued charges (Note 22)	43	47
Non-current	Other non-current liabilities	44	64
Deferred income tax liabilities	Deferred income tax liabilities	3,145	2,907
Total income tax liabilities		3,232	3,018

Note 9 Income Taxes Continued

Deferred Income Taxes

In respect of each type of temporary difference, unused tax loss and unused tax credit, the amounts of deferred tax assets and liabilities recognized in the consolidated balance sheets as at December 31 and the amount of the deferred tax expense (recovery) recognized in net earnings (loss) from continuing operations were:

	Deferred Income Tax (Assets) Liabilities		Deferred Income Tax Expense (Recovery) Recognized in Net Earnings (Loss)	
	2019	**2018**	**2019**	**2018**
Deferred income tax assets				
Asset retirement obligations and accrued environmental costs	(387)	(412)	25	11
Tax loss and other carryforwards	(270)	(261)	(9)	(198)
Pension and other post-retirement benefit liabilities	(145)	(130)	(13)	44
Long-term debt	(107)	(110)	3	10
Lease liabilities	(227)	–	55	–
Receivables	(51)	(58)	7	(3)
Inventories	(59)	(54)	(5)	(13)
Derivatives	(9)	(17)	5	15
Other assets	(61)	(57)	4	18
Deferred income tax liabilities				
Property, plant and equipment	3,647	3,218	147	(132)
Goodwill and other intangible assets	523	546	(58)	(31)
Other liabilities	42	26	16	6
	2,896	2,691	177	(273)

Reconciliation of net deferred income tax liabilities:

	2019	**2018**
Balance – beginning of year	2,691	2,187
Merger and acquisitions (Note 4)	29	776
Income tax expense (recovery) recognized in net earnings (loss) from continuing operations	177	(273)
Income tax expense (recovery) recognized in net earnings (loss) from discontinued operations	–	(17)
Income tax charge recognized in OCI	2	22
Other	(3)	(4)
Balance – end of year	2,896	2,691

Amounts and expiry dates of unused tax losses and unused tax credits as at December 31, 2019 were:

	Amount	**Expiry Date**
Unused operating losses	1,027	2020 - Indefinite
Unused capital losses	829	Indefinite
Unused investment tax credits	38	2020 - 2038

The unused tax losses and credits with no expiry dates can be carried forward indefinitely.

As at December 31, 2019, we had $965 of tax losses for which we did not recognize deferred tax assets.

We have determined that it is probable that all recognized deferred tax assets will be realized through a combination of future reversals of temporary differences and taxable income.

The aggregate amount of temporary differences associated with investments in subsidiaries and equity-accounted investees, for which deferred tax liabilities have not been recognized, as at December 31, 2019 was $9,183 (2018 – $8,710).

Note 10 Discontinued Operations

Accounting Policies

Discontinued operations represent a component of our business that either has been disposed of, or is classified as held for sale, and represents a separate major line of business or geographic area of operations or is a part of a single coordinated plan to dispose of a separate major line of business or geographical area of operations.

Our significant policies include:

- cessation of equity accounting for associates and joint ventures at the date the investments were classified as held for sale;
- measurement of assets at the lower of carrying amount and fair value less costs to sell, with the exception of financial assets measured at fair value through other comprehensive income ("FVTOCI"); and
- dividends received are recorded on the consolidated statements of earnings.

Supporting Information

In 2018, our investments in SQM, Israel Chemicals Ltd. ("ICL") and APC were presented as discontinued operations due to regulatory requirements to dispose of these investments in connection with the Merger.

As of December 31, 2018, we completed all required divestitures and retained no residual interests as outlined below:

For the year ended December 31, 2018	Proceeds [1]	Gain (Loss) on Sale	Gain (Loss) on Sale Net of Income Taxes	AOCI	Net Earnings and Retained Earnings
Shares in SQM	5,126	4,278	3,366	–	3,366
Shares in ICL	685	(19)	(19)	(19)	–
Shares in APC	501	121	126	–	126
Conda Phosphate operations	98	–	–	–	–
Total sale	6,410 [2]	4,380	3,473	(19)	3,492

1 Proceeds are net of commissions.

2 Proceeds of $39 were collected in 2019.

Net earnings from discontinued operations for the year ended December 31 were as follows:

	2018
Gain on disposal of investments in SQM and APC	4,399
Dividend income of SQM, APC and ICL [1]	156
Income tax expense [2]	(951)
Net earnings from discontinued operations	3,604

1 Dividend income is included in cash provided by operating activities on the consolidated statements of cash flows, net of tax of $26.

2 For 2018, income tax expense is comprised of $(912) relating to the disposals of SQM shares, including the repatriation of the net proceeds, and $(39) relating to earnings from discontinued operations ($(18) for the planned repatriation of the remaining excess cash available in Chile, $(26) for the repatriation of dividend income received from SQM and $5 relating to APC).

Note 11 Net Earnings Per share

	2019	2018
Weighted average number of common shares	582,269,000	624,900,000
Dilutive effect of stock options	777,000	– [1]
Dilutive effect of share-settled PSUs	56,000	– [1]
Weighted average number of diluted common shares	583,102,000	624,900,000

1 The diluted weighted average share calculations excluded an additional 658,000 stock options and 137,000 equity-settled PSUs due to their anti-dilutive effect.

Note 11 Net Earnings Per share Continued

Options excluded from the calculation of diluted net earnings per share due to the option exercise prices being greater than the average market price of common shares were as follows:

	2019	2018
Number of options excluded	4,539,529	5,721,656
Performance option plan years fully excluded	2010 – 2015	2009 – 2015
Stock option plan years fully excluded	2015, 2019	2015, 2018

Note 12 Financial Instruments and Related Risk Management

Accounting Policies

Financial instruments are classified and measured as follows:

	Fair Value Through Profit or Loss ("FVTPL")	Fair Value Through Other Comprehensive Income ("FVTOCI")	Financial Assets and Liabilities at Amortized Cost [1]
Instrument type	Cash and cash equivalents and derivatives	Equity investments not held for trading	Receivables, short-term debt, payables and accrued charges, long-term debt, other long-term debt instruments
Measurement	Fair value	Fair value	Amortized cost
Fair value gains and losses	Profit or loss	OCI [2]	–
Interest and dividends	Profit or loss	Profit or loss	Profit or loss: effective interest rate
Impairment of assets	–	–	Profit or loss
Foreign exchange	Profit or loss	OCI	Profit or loss
Transaction costs	Profit or loss	OCI	Included in cost of instrument

1 Amortized cost is applied if the objective of the business model for the instrument or group of instruments is to hold the asset to collect the contractual cash flows and the contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest.

2 For equity investments not held for trading, we may make an irrevocable election at initial recognition to recognize changes in fair value through OCI rather than profit or loss.

Financial instruments are recognized at trade date when we commit to purchase or sell the asset. Financial assets are derecognized when the rights to receive cash flow from the investments have expired or we have transferred them, and all the risks and rewards of ownership have been substantially transferred.

Derivatives are used to lock in commodity prices and exchange rates. For designated and qualified cash flow hedges:

- the effective portion of the change in the fair value of the derivative is accumulated in OCI;
- when the hedged forecast transaction occurs, the related gain or loss is removed from AOCI and included in the cost of inventory;
- the hedging gain or loss included in the cost of inventory is recognized in earnings when the product containing the hedged item is sold or becomes impaired; and
- the ineffective portions of hedges are recorded in net earnings in the current period.

We also assess whether the natural gas swaps used in hedging transactions are expected to be or were highly effective, both at the hedge's inception and on an ongoing basis, in offsetting changes in fair values of hedged items. Hedge effectiveness related to our New York Mercantile Exchange ("NYMEX") natural gas hedges is assessed on a prospective and retrospective basis using regression analyses. In 2018, our Alberta Energy Company ("AECO") natural gas hedges were assessed using a qualitative assessment. Potential sources of ineffectiveness are changes in timing of forecast transactions, changes in volume delivered or changes in our credit risk or the counterparty.

Net investment hedges relating to the commitment to purchase a foreign operation:

- are considered a non-financial item and are accounted for similar to a cash flow hedge; and
- the gain or loss from the hedging instrument is deferred in OCI and subsequently recorded as an adjustment to goodwill when the business combination occurs.

Financial assets and financial liabilities are offset and the net amount is presented in the consolidated balance sheets when we:

- currently have a legally enforceable right to offset the recognized amounts; and
- intend either to settle on a net basis, or to realize the assets and settle the liabilities simultaneously.

Supporting Information

Credit Risk

Our exposure to credit risk on our cash and cash equivalents, receivables (excluding taxes) and derivative instrument assets is the carrying amount of each instrument on the consolidated balance sheets.

Maximum exposure to credit risk as at December 31:

	2019	2018
Cash and cash equivalents	671	2,314
Receivables [1]	3,438	3,094
Other current assets – derivatives	5	5
	4,114	5,413

1 Excluding income tax receivable.

Credit risk is managed through policies applicable to the following assets:

	Acceptable Minimum Counterparty Credit Ratings	Exposure Thresholds by Counterparty	Daily Counterparty Settlement Based on Prescribed Credit Thresholds	Counterparties to Contracts are Investment-Grade Quality
Cash and Cash Equivalents	X	X		
Natural Gas Derivatives	X		X	X
Foreign Currency Derivatives	X			

We manage our credit risk on receivables from customers through a credit management program whereby:

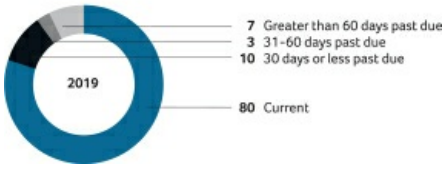
- credit approval policies and procedures are in place to guide the granting of credit to new customers as well as our continued extension to existing customers;
- existing customer accounts are reviewed every12-24 months, depending on the credit limit amounts;
- credit is extended to international customers based upon an evaluation of both customer and country risk;
- the credit period on sales is generally 15 and 30 days for wholesale fertilizer customers, 30 days for industrial and feed customers, 30-90 days for Retail customers and up to 180 days for select export sales customers; and
- credit agency reports, where available, and an assessment of other relevant information such as current financial statements and/or credit references, are used before assigning credit limits to customers. We may transact with customers that fail to meet specified benchmark creditworthiness on a cash basis or provide other evidence of ability to pay.

In our Retail operations in Western Canada, credit risk in accounts receivable is mitigated through an agency agreement with a Canadian financial institution wherein the financial institution provides credit to qualifying customers to assist in financing their crop input purchases. Through the agency agreement, which expires in 2021, customers have financing arrangements directly with the financial institution while we have only a limited recourse involvement to the extent of an indemnification of the financial institution for 54 percent (2018 – 52 percent) of its future bad debts to a maximum of 3 percent (2018 – 5 percent) of the qualified customer loans. Outstanding customer credit with the financial institution was $521 at December 31, 2019, which is not recognized in our consolidated balance sheets. Historical indemnification losses on this arrangement have been negligible, and the average aging of the customer loans with the financial institution is current. Our receivables from customers also include a concentration in Retail operations in Australia for advances to customers to purchase crop inputs and livestock. We mitigate risk in these receivables by obtaining security over livestock and crop.

Note 12 Financial Instruments and Related Risk Management Continued

Aging of Receivables from Customers

As at December 31
(%)



Liquidity Risk

Liquidity risk arises from our general funding needs and the management of our assets, liabilities and optimal capital structure. We manage our liquidity risk to maintain sufficient liquid financial resources to fund our operations and meet our commitments and obligations in a cost-effective manner. In managing our liquidity risk, we have access to a range of funding options and have established an external borrowing policy with the following objectives:

- maintain an optimal capital structure;
- maintain investment-grade credit ratings that provide ease of access to the debt capital and commercial paper markets;
- maintain sufficient short-term credit availability; and
- maintain long-term relationships with a sufficient number of high-quality and diverse lenders.

The table below outlines our available credit facilities as at December 31, 2019:

	Total Amount	Amount Outstanding and Committed	Amount Available
Unsecured revolving term credit facility [1]	4,500	650	3,850
Uncommitted revolving demand facility	500	–	500
Other credit facilities	820	326	494

1 The unsecured revolving term credit facility matures April 10, 2023, subject to extension at the request of Nutrien provided that the resulting maturity date shall not exceed five years from the date of request.

The following maturity analysis of our financial liabilities and gross settled derivative contracts (for which the cash flows are settled simultaneously) is based on the expected undiscounted contractual cash flows from the date of the consolidated balance sheets to the contractual maturity date.

2019	Carrying Amount of Liability as at December 31	Contractual Cash Flows	Within 1 Year	1 to 3 Years	3 to 5 Years	Over 5 Years
Short-term debt [1]	976	976	976	–	–	–
Payables and accrued charges [2]	5,264	5,264	5,264	–	–	–
Long-term debt, including current portion [1]	9,055	14,392	894	1,268	1,923	10,307
Lease liabilities, including current portion [1]	1,073	1,302	249	364	234	455
Derivatives	33	33	14	10	9	–
	16,401	21,967	7,397	1,642	2,166	10,762

1 Contractual cash flows include contractual interest payments related to debt obligations and lease liabilities. Interest rates on variable rate debt are based on prevailing rates as at December 31, 2019.

2 Excludes non-financial liabilities and includes trade payables of approximately $1.4 billion paid in January and February 2020 through an arrangement whereby a supplier sold the right to receive payment to a financial institution.

Note 12 Financial Instruments and Related Risk Management Continued

Foreign Exchange Risk

To manage foreign exchange risk (primarily related to our foreign operations), we may enter into foreign currency derivatives. Treasury risk management policies allow such exposures to be hedged within certain prescribed limits for both forecast operating and capital expenditures. The risk management policy is to manage the earnings impact that could occur from a reasonably possible strengthening or weakening of the US dollar. The foreign currency derivatives are not currently designated as hedging instruments for accounting purposes.

The following table presents the significant foreign currency derivatives that existed at December 31:

	2019			2018		
Sell/buy	**Notional**	**Maturities**	**Average contract rate**	**Notional**	**Maturities**	**Average contract rate**
Forwards						
USD/CDN	337	2020	1.3096	502	2019	1.3583
CDN/USD	120	2020	1.3138	205	2019	1.3636
USD/AUD [1]	78	2020	1.4593	40	2019	1.3777
AUD/USD	47	2020	1.4563	48	2019	1.3816

1 Australian Dollar

Interest Rate Risk

Fluctuations in interest rates impact the future cash flows and fair values of various financial instruments.

Interest rate risk on debt is addressed by:

- using a portfolio of fixed and floating rate instruments;
- aligning current and long-term assets with demand and fixed-term debt;
- monitoring the effects of market changes in interest rates; and
- using interest rate swaps, if desired.

Related to interest rate risk on investments in marketable securities, our primary objectives are to:

- ensure the security of principal amounts invested;
- provide for an adequate degree of liquidity; and
- achieve a satisfactory return.

Treasury risk management policies specify investment parameters including eligible types of investment, maximum maturity dates, maximum exposure by counterparty and minimum credit ratings.

We have credit facilities in Argentina that are subject to floating interest rates. We do not believe we have material exposure to interest rate risk on our financial instruments and earnings as at December 31, 2019 and 2018.

Price Risk

Commodity price risk exists on our natural gas derivative instruments. Our natural gas strategy is to diversify our forecast gas volume requirements, including a portion of annual requirements purchased at spot market prices, a portion at fixed prices (up to 10 years) and a portion indexed to the market price of ammonia. Our objective is to acquire a reliable supply of natural gas feedstock and fuel on a location-adjusted, cost-competitive basis.

Price risk also exists for exchange-traded equity securities measured at FVTPL or FVTOCI.

We had no material exposure to price risk on our financial instruments as at December 31, 2019 and 2018.

Fair Value

Estimated fair values for financial instruments are designed to approximate amounts for which the instruments could be exchanged in a current arm's-length transaction between knowledgeable, willing parties. The valuation policies and procedures for financial reporting purposes are determined by our finance department.

Note 12 Financial Instruments and Related Risk Management Continued

Financial instruments included in the consolidated balance sheets are measured either at fair value or amortized cost. The tables below explain the valuation methods used to determine the fair value of each financial instrument and its associated level in the fair value hierarchy.

Financial Instruments Measured at Fair Value	Fair Value Method
Cash and cash equivalents	Carrying amount (approximation to fair value assumed due to short-term nature)
Equity securities	Closing bid price of the common shares as at the balance sheet date
Debt securities	Closing bid price of the debt or other instruments with similar terms and credit risk (Level 2) as at the balance sheet date
Foreign currency derivatives not traded in an active market	Quoted forward exchange rates (Level 2) as at the balance sheet date
Foreign exchange forward contracts, swaps and options and natural gas swaps not traded in an active market	A discounted cash flow model[1] Market comparison[2]

1 Inputs included contractual cash flows based on prices for natural gas futures contracts, fixed prices and notional volumes specified by the swap contracts, the time value of money, liquidity risk, our own credit risk (related to instruments in a liability position) and counterparty credit risk (related to instruments in an asset position). Futures contract prices used as inputs in the model were supported by prices quoted in an active market and therefore categorized in Level 2.

2 Inputs include current market and contractual prices, forward pricing curves, quoted forward prices, basis differentials, volatility factors and interest rates and therefore categorized in Level 2. Market comparison was used for the 2018 AECO natural gas hedges.

Financial Instruments Measured at Amortized Cost	Fair Value Method
Receivables, short-term debt and payables and accrued charges	Carrying amount (approximation to fair value assumed due to short-term nature)
Long-term debt	Quoted market prices (Level 1 or 2 depending on the market liquidity of the debt)
Other long-term debt instruments	Carrying amount

The following table presents our fair value hierarchy for financial assets and financial liabilities carried at fair value on a recurring basis or measured at amortized cost:

	2019			2018		
Financial instruments measured at	**Carrying Amount**	**Level 1[1]**	**Level 2[1]**	**Carrying Amount**	**Level 1[1]**	**Level 2[1]**
Fair value on a recurring basis						
Cash and cash equivalents	671	–	671	2,314	–	2,314
Derivative instrument assets	5	–	5	5	–	5
Other current financial assets – marketable securities[2]	193	27	166	97	12	85
Investments at FVTOCI (Note 17)	161	161	–	186	186	–
Derivative instrument liabilities	(33)	–	(33)	(71)	–	(71)
Amortized cost						
Current portion of long-term debt						
Notes and debentures	(494)	–	(503)	(995)	–	(1,009)
Fixed and floating rate debt	(8)	–	(8)	(8)	–	(8)
Long-term debt						
Notes and debentures	(8,528)	(1,726)	(7,440)	(7,569)	(1,004)	(6,177)
Fixed and floating rate debt	(25)	–	(25)	(22)	–	(22)

1 Financial instruments included in Level 1 are measured using quoted prices in active markets for identical assets or liabilities, while those classified as Level 2 are measured using significant other observable inputs. During 2019 and 2018, there were no transfers between Level 1 and Level 2 for financial instruments measured at fair value on a recurring basis. Our policy is to recognize transfers at the end of the reporting period.

2 Marketable securities consist of equity and fixed income securities.

Note 12 Financial Instruments and Related Risk Management Continued

	2019			2018		
Financial assets (liabilities)	**Gross**	**Offset**	**Net Amounts Presented**	**Gross**	**Offset**	**Net Amounts Presented**
Derivative instrument assets						
Natural gas derivatives	–	–	–	31	(27)	4
Derivative instrument liabilities						
Natural gas derivatives [1]	(30)	–	(30)	(92)	26	(66)
Other long-term debt instruments [2]	(150)	150	–	(150)	150	–
	(180)	150	(30)	(211)	149	(62)

1 Cash margin deposits of $17 (2018 – $18) were placed with counterparties related to legally enforceable master netting arrangements.

2 Back-to-back loan arrangements that are not subject to any financial test covenants but are subject to certain customary covenants and events of default. We were in compliance with these covenants as at December 31, 2019.

Natural gas derivatives outstanding:

	2019				2018			
	Notional [1]	**Maturities**	**Average Contract Price [2]**	**Fair Value of Assets (Liabilities)**	**Notional [1]**	**Maturities**	**Average Contract Price [2]**	**Fair Value of Assets (Liabilities)**
NYMEX swaps	16	2020 – 2022	4.26	(30)	22	2019 – 2022	4.26	(35)
AECO swaps	–	n/a	–	–	26	2019	1.92	(25)

1 In millions of British thermal units ("MMBtu").

2 US dollars per MMBtu.

n/a = not applicable

Note 13 Receivables

Accounting Policies, Estimates and Judgments

Receivables from customers are recognized initially at fair value and subsequently measured at amortized cost less allowance for expected credit losses of receivables from customers. We estimate losses on receivables based on known troubled accounts and historical experience of losses incurred using the lifetime expected credit loss method, which represents the expected credit loss that will result from all possible default events over the expected life of a financial instrument. To determine the expected credit losses, receivables from customers have been grouped based on geography, days past due and/or customer credit risk profile. Receivables are considered to be in default and are written off against the allowance when it is probable that all remaining contractual payments due will not be collected in accordance with the terms of the agreement. Subsequent recoveries of amounts previously written off are credited to the consolidated statements of earnings.

Vendors may offer various incentives to purchase products for resale. Vendor rebates and prepay discounts are accounted for as a reduction of the prices of the suppliers' products. Rebates based on the amount of materials purchased reduce cost of goods sold as inventory is sold. Rebates earned based on sales volumes of products are offset to cost of goods sold.

Rebates that are probable and can be reasonably estimated are accrued. Rebates that are not probable or estimable are accrued when certain milestones are achieved.

Determining when there is no reasonable expectation of recovering the amounts requires judgment.

Estimation of rebates can be complex in nature as vendor arrangements are diverse. The amount of the accrual is determined by analyzing and reviewing historical trends to apply negotiated rates to estimated and actual purchase volumes. Estimated amounts accrued throughout the year could also be impacted if actual purchase volumes differ from projected volumes.

Note 13 Receivables Continued

Supporting Information

		2019	2018
Receivables from customers	– third parties	2,936	2,628
	– Canpotex (Note 29)	194	208
Less allowance for expected credit losses of receivables from customers		(83)	(90)
		3,047	2,746
Rebates		190	169
Income taxes (Note 9)		104	248
Other receivables		201	179
		3,542	3,342

Note 14 Inventories

Accounting Policies, Estimates and Judgments

Inventories are valued monthly at the lower of cost and net realizable value. Costs are allocated to inventory using the weighted average cost method and include: direct acquisition costs, direct costs related to units of production and a systematic allocation of fixed and variable production overhead, as applicable.

Net realizable value is based on

Products and raw materials	Materials and supplies
• selling price of the finished product (in ordinary course of business) less the estimated costs of completion and estimated costs to make the sale.	• replacement cost.

A writedown is recognized if the carrying amount exceeds net realizable value and may be reversed if the circumstances which caused it no longer exist.

Various factors impact our estimates of net realizable value, including inventory levels, forecasted prices of key production inputs, global nutrient capacities, and crop price trends.

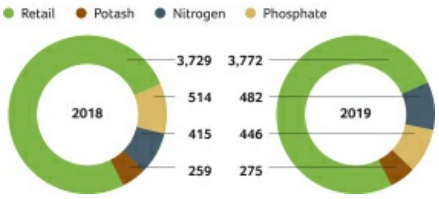
Supporting Information

	2019	2018
Product purchased for resale [1]	3,592	3,545
Finished products	524	501
Intermediate products	244	218
Raw materials	205	275
Materials and supplies	410	378
	4,975	4,917

1 Includes biological assets of $33 (December 31, 2018 – $2) measured at fair value less cost of disposal.

Inventories by Segment

As at December 31
($ millions)



Inventories expensed to cost of goods sold during the year were $13,465 (2018 – $13,083).

Note 15 Property, Plant and Equipment

The majority of our tangible assets are the buildings, machinery and equipment used to produce or distribute our products and render our services.

Accounting Policies, Estimates and Judgments

Owned Property, Plant and Equipment

Property, plant and equipment are carried at cost less accumulated depreciation and any recognized impairment loss.

Cost includes all expenditures directly attributable to bringing the asset to the location and installing it in working condition for its intended use, including:

- additions to, and betterments and renewals of, existing assets;
- borrowing costs incurred during construction using a capitalization rate based on the weighted average interest rate of our outstanding debt; and
- a reduction for income derived from the asset during construction.

Each component of an item of property, plant and equipment with a cost that is significant in relation to the item's total cost is depreciated separately. When the cost of replacing part of an item of property, plant and equipment is capitalized, the carrying amount of the replaced part is derecognized. The cost of major inspections and overhauls is capitalized and depreciated over the period until the next major inspection or overhaul. Maintenance and repair expenditures that do not improve or extend productive life are expensed in the period incurred.

Environmental costs related to current operations are also capitalized if:

- property life is extended,
- capacity is increased,
- contamination from future operations is mitigated or prevented, or
- the expenditure is related to legal or constructive asset retirement obligations.

Judgment involves determining:

- costs, including income or expenses derived from an asset under construction, that are eligible for capitalization;
- timing to cease cost capitalization, generally when the asset is capable of operating in the manner intended by management, but also considering the circumstances and the industry in which the asset is to be operated, normally predetermined by management with reference to such factors as productive capacity;
- the appropriate level of componentization (for individual components for which different depreciation methods or rates are appropriate);
- repairs and maintenance that qualify as major inspections and overhauls; and
- useful life over which such costs should be depreciated.

Certain property, plant and equipment directly related to the Potash, Nitrogen and Phosphate segments are depreciated using the units-of-production method based on the shorter of estimates of reserves or service lives. Pre-stripping costs are depreciated on a units-of-production basis over the ore mined from the mineable acreage stripped. Land is not depreciated. The remaining assets are depreciated on a straight-line basis.

Estimated useful lives, expected patterns of consumption, depreciation method and residual values are reviewed at least annually with the effect of any changes in estimate being accounted for on a prospective basis.

Uncertainties are inherent in estimating reserve quantities, particularly as they relate to assumptions regarding future prices, the geology of our mines, the mining methods used, and the related costs incurred to develop and mine reserves. Changes in these assumptions could result in material adjustments to reserve estimates, which could result in impairments or changes to depreciation expense in future periods.

Note 15 Property, Plant and Equipment Continued

Leased Property, Plant and Equipment

A contract is a lease or contains a lease if it conveys the right to control the use of an identified asset for a period of time in exchange for consideration. Leases are recognized as right-of-use ("ROU") assets and corresponding liabilities at the date at which a leased asset is available for use. Lease payments are allocated between finance costs, calculated using the effective interest method, and a reduction of the liability. ROU assets are depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

Our major categories of assets leased are:

- railcars and marine vessels used to transport product to customers;
- real estate used as office space, storage and distribution; and
- mobile equipment primarily used to deliver and apply product and to meet with customers.

Railcars are utilized in North America and include general service and high-pressure tank cars and general-purpose hopper cars. Railcars are sourced from multiple suppliers and terms vary by lease agreement. For railcars required in our operations, we have a history of renegotiating new leases at termination of existing leases. Marine vessels include ocean-going vessels used to transport ammonia from our nitrogen facilities in Trinidad to our customers. We lease real estate across our operations consisting of office space and product storage and distribution sites. Real estate leases have varying terms by location and use of the property, and are normally renewable at market rates. Most storage and distribution leases do not convey a right to use a specific identified space and accordingly these are not classified as leases under IFRS 16 and are expensed as incurred. Our Retail segment leases a fleet of motor vehicles and product application equipment and other transportation equipment. Motor vehicle leases primarily have a 50-month initial term and are renewable annually thereafter. We expect to renew all our Retail motor vehicle leases for substantially all of the useful life of the equipment.

We seek to maximize operational flexibility in managing our leasing activities by including extension options when negotiating new leases. Extension options are exercisable at our option and not by the lessors. In determining if a renewal period should be included in the lease term, we consider all relevant factors that create an economic incentive for us to exercise a renewal, including the location of the asset, the availability of suitable alternatives, the significance of the asset to operations, and our business strategy.

Lease agreements do not contain significant covenants; however, leased assets may be used as security for lease liabilities and other borrowings.

ROU assets are measured at cost, less any impairments, including:

- the initial measurement of lease liability (see Note 21);
- any lease payments made at or before the commencement date less any lease incentives received;
- any initial direct costs; and
- an estimate of costs, if any, to be incurred by us in restoring the underlying asset to the condition required by the terms and conditions of the lease.

Liabilities arising from a lease are initially measured as the net present value of the future lease payments, including:

- fixed payments (including in-substance fixed payments), less any lease incentives;
- variable lease payments that are based on an index or a rate;
- amounts expected to be payable under residual value guarantees;
- the exercise price of a purchase option if we are reasonably certain to exercise that option; and
- payments of penalties for terminating the lease, if the lease term reflects us exercising that option.

In recording ROU assets and related liabilities at inception of a lease, lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be determined, an incremental borrowing rate is used, being a rate that we would have to pay to borrow the funds required to obtain a similar asset, adjusted for term, security, asset value and the borrower's economic environment.

The carrying amount of ROU assets and lease liabilities is remeasured if there is a modification of the lease, a change in the lease term, a change in the in-substance fixed lease payments, a change in the expected amount under a residual value guarantee or a change in the assessment to exercise a purchase, extension or termination option.

Payments for short-term leases and leases of low-value assets are expensed on a straight-line basis. Short-term leases are leases with a lease term of 12 months or less that do not contain a purchase option. Low-value assets generally comprise IT equipment and office furniture.

Judgment is required to determine whether a contract or arrangement includes a lease and if it is reasonably certain that an extension option will be exercised.

Estimation is used to determine the useful lives of ROU assets, the lease term and the appropriate discount rate applied to the lease payments to calculate the lease liability.

Refer to Note 31 for impacts of the adoption of IFRS 16.

Accounting policies, estimates and judgments related to impairment of long-lived assets are described in Note 31.

Note 15 Property, Plant and Equipment Continued

Supporting Information

	Land and Improvements	Buildings and Improvements	Machinery and Equipment	Mine Development Costs	Assets Under Construction	Total
Useful life range (years)	3 – 80	1 – 60	1 – 80	n/a	n/a	
Carrying amount – December 31, 2018	1,018	6,044	9,882	709	1,143	18,796
ROU assets recognized on adoption of IFRS 16	48	307	704	–	–	1,059
Acquisitions (Note 4)	17	136	61	–	37	251
Additions	14	30	225	–	1,487	1,756
Additions – ROU	–	22	177	–	–	199
Disposals	(3)	(5)	(84)	–	–	(92)
Transfers	108	145	932	110	(1,295)	–
Foreign currency translation and other	(4)	(37)	(14)	5	6	(44)
Depreciation	(36)	(187)	(1,004)	(77)	–	(1,304)
Depreciation – ROU	(2)	(46)	(186)	–	–	(234)
Impairment	–	–	(52)	–	–	(52)
Carrying amount – December 31, 2019	1,160	6,409	10,641	747	1,378	20,335
Balance – December 31, 2019 comprised of:						
Cost	1,474	8,207	18,548	2,068	1,378	31,675
Accumulated depreciation and impairments	(314)	(1,798)	(7,907)	(1,321)	–	(11,340)
Carrying amount – December 31, 2019	1,160	6,409	10,641	747	1,378	20,335
Balance – December 31, 2019 comprised of:						
Owned property, plant and equipment	1,117	6,065	9,973	747	1,378	19,280
ROU assets	43	344	668	–	–	1,055
Carrying amount – December 31, 2019	1,160	6,409	10,641	747	1,378	20,335
Carrying amount – December 31, 2017	612	4,184	6,744	979	452	12,971
Merger impact (Note 4)	396	2,695	4,042	–	326	7,459
Other acquisitions	10	31	66	–	–	107
Additions	41	61	327	42	975	1,446
Disposals	(3)	(14)	(30)	–	–	(47)
Transfers	10	30	538	18	(596)	–
Foreign currency translation and other	(9)	28	(21)	10	(14)	(6)
Depreciation	(33)	(195)	(1,032)	(65)	–	(1,325)
Impairment	(6)	(776)	(752)	(275)	–	(1,809)
Carrying amount – December 31, 2018	1,018	6,044	9,882	709	1,143	18,796
Balance – December 31, 2018 comprised of:						
Cost	1,294	7,617	16,806	1,954	1,143	28,814
Accumulated depreciation and impairments	(276)	(1,573)	(6,924)	(1,245)	–	(10,018)
Carrying amount – December 31, 2018	1,018	6,044	9,882	709	1,143	18,796

Note 15 Property, Plant and Equipment Continued

Depreciation of property, plant and equipment was included in the following:

	2019	2018
Freight, transportation and distribution	137	15
Cost of goods sold	1,008	1,016
Selling expenses	344	259
General and administrative expenses	40	35
	1,529	1,325
Depreciation recorded in inventory	161	108
	1,690	1,433

After a strategic portfolio review was completed in 2018, we determined the New Brunswick Potash operations would no longer be part of our medium-term or long-term strategic plans. The decision was considered a significant change in the expected manner of use and the related assets were moved from the Potash cash-generating unit ("CGU") to the New Brunswick CGU, which was then assessed for impairment. The estimated recoverable amount of the New Brunswick CGU, based on fair value less costs of disposal ("FVLCD"), was $50 resulting in an impairment loss of $1,809 ($1,320 net of tax) being recorded in the Potash segment. The estimated recoverable amount was determined to be the salvage value of the assets based on the estimated fair market value of similar used assets and past experience, a Level 3 fair value measurement. There were no reversals of impairment in 2019 or 2018.

Property, Plant and Equipment

As at December 31
(%)



Note 16 Goodwill and Other Intangible Assets

Accounting Policies, Estimates and Judgments

Goodwill is carried at cost, is not amortized, and represents the excess of the cost of an acquisition over the fair value of the Company's share of the net identifiable assets of the acquired subsidiary at the date of acquisition. Other intangible assets are generally measured at cost less accumulated amortization and any accumulated impairment losses.

Goodwill is allocated to CGUs or groups of CGUs for impairment testing based on the level at which it is monitored by management, and not at a level higher than an operating segment. The allocation is made to those CGUs or groups of CGUs expected to benefit from the business combination in which the goodwill arose.

Judgment is applied in determining when expenditures are eligible for capitalization as intangible assets.

Estimation is applied to determine expected useful lives used in the straight-line amortization of intangible assets with finite lives. Useful lives are reviewed, and adjusted if appropriate, at least annually.

Supporting Information

		Other Intangibles				
	Goodwill	Customer Relationships [2]	Technology	Trade Names	Other	Total
Useful life range (years)	n/a	3 – 15	3 – 30	10 – 20 [3]	1 – 20	
Carrying amount – December 31, 2018	11,431	1,554	117	90	449	2,210
Acquisitions (Note 4)	543	173	43	13	115	344
Additions – internally developed	–	–	197	–	2	199
Foreign currency translation and other	12	2	9	18	(25)	4
Impairment	–	–	–	(35)	(33)	(68)
Amortization [1]	–	(145)	(15)	(24)	(77)	(261)
Carrying amount – December 31, 2019	11,986	1,584	351	62	431	2,428
Balance – December 31, 2019 comprised of:						
Cost	11,993	1,906	429	92	597	3,024
Accumulated amortization and impairment	(7)	(322)	(78)	(30)	(166)	(596)
Carrying amount – December 31, 2019	11,986	1,584	351	62	431	2,428
Carrying amount – December 31, 2017	97	–	–	–	69	69
Merger impact (Note 4)	11,185	1,708	44	122	474	2,348
Other acquisitions (Note 4)	197	1	–	–	7	8
Additions – internally developed	–	–	79	–	19	98
Disposals	–	–	–	–	(27)	(27)
Foreign currency translation and other	(48)	(20)	1	(4)	(6)	(29)
Amortization [1]	–	(135)	(7)	(28)	(87)	(257)
Carrying amount – December 31, 2018	11,431	1,554	117	90	449	2,210
Balance – December 31, 2018 comprised of:						
Cost	11,438	1,691	124	118	586	2,519
Accumulated amortization	(7)	(137)	(7)	(28)	(137)	(309)
Carrying amount – December 31, 2018	11,431	1,554	117	90	449	2,210

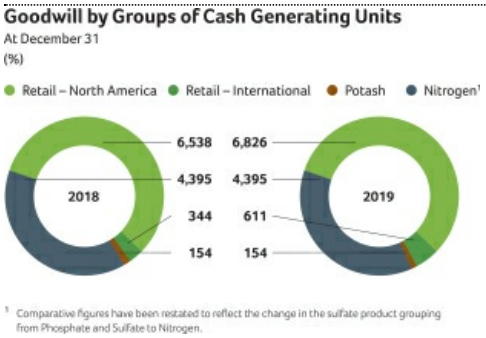
1 Amortization of $234 was included in selling expenses during the year ended December 31, 2019 (2018 – $225).

2 The remaining amortization period of customer relationships at December 31, 2019, was approximately 7 years.

3 Certain trade names have indefinite useful lives as there are no regulatory, legal, contractual, cooperative, economic or other factors that limit their useful lives.

Note 16 Goodwill and Other Intangible Assets Continued

Goodwill Impairment Testing



[1] Comparative figures have been restated to reflect the change in the sulfate product grouping from Phosphate and Sulfate to Nitrogen.

We performed our annual impairment test on goodwill during the fourth quarter and did not identify any impairment, however the recoverable amount for Retail – North America did not substantially exceed its carrying amount.

In testing for impairment of goodwill, we calculate the recoverable amount for groups of CGUs containing goodwill. We used the FVLCD methodology based on after-tax discounted cash flows (five-year projections and a terminal year thereafter) and incorporated assumptions an independent market participant would apply. We adjusted discount rates for each group of CGUs for the risk associated with achieving our forecasts (five-year projections) and for the currency in which we expect to generate cash flows. FVLCD is a Level 3 measurement. We use our market capitalization and comparative market multiples to corroborate discounted cash flow results.

The key assumptions with the greatest influence on the calculation of the recoverable amounts are the discount rates, terminal growth rates and cash flow forecasts. The key forecast assumptions were based on historical data and estimates of future results from internal sources as well as industry and market trends.

For each group of CGUs, terminal growth rates and discount rates used were as follows:

	Terminal Growth Rate (%)	Discount Rate (%)
Retail – North America	2.5	7.0
Retail – International [1]	2.0	7.5 - 15.0
Potash	2.5	8.0
Nitrogen	2.0	9.0

[1] The discount rates reflect the country risk premium and size for our international groups of CGUs.

Note 16 Goodwill and Other Intangible Assets Continued

The Retail – North America group of CGUs recoverable amount exceeds its carrying amount by $794 which is 6% of the recoverable amount. As a result of the Merger, the non-cash fair value adjustment to the Retail — North America goodwill was $4,284. Goodwill is more susceptible to impairment risk if business operating results or economic conditions deteriorate and we do not meet our forecasts. A reduction in the terminal growth rate, an increase in the discount rate or a decrease in forecasted cash flows could cause material impairment in the future. The following table indicates the percentage by which key assumptions would need to change individually for the estimated Retail — North America recoverable amount to be equal to the carrying amount:

Key Assumptions	Change Required for Carrying Amount to Equal Recoverable Amount (%)	Value Used in Impairment Model
Terminal growth rate	(0.3)	2.5%
Forecasted EBITDA over forecast period	(4.1)	6,128
Discount rate	0.2	7.0%

Note 17 Investments

We hold interests in associates and joint ventures, the most significant being Canpotex, MOPCO and Profertil. Our most significant investment accounted for as FVTOCI is Sinofert.

Accounting Policies, Estimates and Judgments

Investments in Equity-Accounted Investees

Investments in which we exercise significant influence (but do not control) or have joint control (as joint ventures) are accounted for using the equity method. Significant influence is the power to participate in the financial and operating policy decisions of the investee, commonly referred to as an associate.

We recognize profits on sales to Canpotex when there is a transfer of control, either at the time the product is loaded for shipping or delivered, depending on the terms of the contract.

Investments at FVTOCI

The fair value of investments designated as FVTOCI is recorded in the consolidated balance sheets, with unrealized gains and losses, net of related income taxes, recorded in AOCI.

Our significant policies include the following:

- the cost of investments sold is based on the weighted average method, and
- unrealized gains and losses on these investments remain in OCI until the time of sale or disposal when it is transferred to retained earnings.

Investments in Equity-Accounted Investees and Investments at FVTOCI

We continuously assess our ability to exercise significant influence or joint control over our investments. Our 22 percent ownership in Sinofert does not constitute significant influence as we do not have any representation on the Board of Directors of Sinofert.

We have representation on the MOPCO Board of Directors providing significant influence over MOPCO. We recorded our share of MOPCO's earnings on a one-quarter lag, adjusted for any material transactions for the current quarter, as the financial statements of MOPCO are not available on the date of issuance of our consolidated financial statements.

We elected to account for our investment in Sinofert as FVTOCI as it is held for strategic purposes.

Note 17 Investments Continued

Supporting Information

Equity-accounted investees and investments at FVTOCI as at December 31 were comprised of:

Name	Principal Activity	Principal Place of Business and Incorporation	Proportion of Ownership Interest and Voting Rights Held (%)		Carrying Amount	
			2019	2018	2019	2018
Equity-accounted investees						
MOPCO	Nitrogen Producer	Egypt	26	26	270	236
Profertil	Nitrogen Producer	Argentina	50	50	212	192
Canpotex	Marketing and Logistics	Canada	50	50	–	–
Agrichem [1]	Fertilizer Producer and Marketer	Brazil	100	80	–	103
Other associates and joint ventures					178	161
Total equity-accounted investees					660	692
Investments at FVTOCI						
Sinofert	Fertilizer Supplier and Distributor	China/Bermuda	22	22	161	180
Other			–	–	–	6
Total investments at FVTOCI					161	186

1 During 2019, we acquired the remaining 20 percent interest in Agrichem making it a wholly owned consolidated subsidiary, as described in Note 4, and as a result ceased equity accounting. Prior to this acquisition, we had joint control with the other shareholder of Agrichem.

Future conditions, including those related to MOPCO and Profertil, are subject to variability due to political instability and civil unrest. We are exposed to foreign exchange risk related to fluctuations in the Egyptian pound and Argentine peso against the US dollar. This may also restrict our ability to obtain dividends from Profertil.

Additional financial information on our proportionate interest in equity-accounted investees for the years ended December 31 was as follows:

	Associates		Joint Ventures	
	2019	2018	2019	2018
Earnings from continuing operations and net earnings	34	24	32	16
Other comprehensive income	6	–	–	–
Total comprehensive income	40	24	32	16

Note 18 Other Assets

Other assets as at December 31 were comprised of:

	2019	2018
Deferred income tax assets (Note 9)	249	216
Ammonia catalysts – net of accumulated amortization of $71 (2018 – $79)	89	81
Long-term income tax receivable (Note 9)	36	36
Accrued pension benefit asset (Note 23)	25	27
Other – net of accumulated amortization of $41 (2018 – $38)	165	165
	564	525

Note 19 Short-Term Debt

We use our $4.5 billion commercial paper program for our short-term cash requirements. The commercial paper program is backstopped by the $4.5 billion unsecured revolving term credit facility ("Nutrien Credit Facility"). Short-term facilities are renegotiated periodically.

Short-term debt as at December 31 was comprised of:

	Rate of Interest (%)	2019	2018
Commercial paper	2.0 – 2.1	650	391
Other credit facilities [1]	0.8 – 10.4	326	238
		976	629

1 Credit facilities are unsecured and consist of South American facilities with debt of $149 (2018 – $216) and interest rates ranging from 3.00 percent to 10.38 percent, Australia facilities with debt of $157 (2018 – $Nil) and interest rates ranging from 0.75 percent to 2.09 percent, and Other facilities with debt of $20 (2018 – $22) and interest rates ranging from 1.64 percent to 2.50 percent.

The amount available under the commercial paper program is limited to the availability of backup funds under the Nutrien Credit Facility. As at December 31, 2019, we were authorized to issue commercial paper up to $4,500 (2018 – $4,500). Principal covenants and events of default under the Nutrien Credit Facility include a debt to capital ratio of less than or equal to 0.65:1 and other customary events of default and covenant provisions. Non-compliance with such covenants could result in accelerated repayment and/or termination of the credit facility. We were in compliance with all covenants as at December 31, 2019.

We also had other facilities available from which we could draw short-term debt, including a $500 uncommitted revolving demand facility and $820 of other facilities mostly denominated in foreign currencies. Our $500 accounts receivable securitization program was terminated in 2019.

Note 20 Long-Term Debt

We source our borrowings for funding purposes primarily through notes, debentures and long-term credit facilities. We have access to the capital markets through our base shelf prospectus.

Supporting Information

Long-term debt as at December 31 was comprised of:

	Rate of Interest (%)	Maturity	2019	2018
Notes [1]				
	6.750	January 15, 2019	–	500
	6.500	May 15, 2019	–	500
	4.875	March 30, 2020	500	500
	3.150	October 1, 2022	500	500
	3.500	June 1, 2023	500	500
	3.625	March 15, 2024	750	750
	3.375	March 15, 2025	550	550
	3.000	April 1, 2025	500	500
	4.000	December 15, 2026	500	500
	4.200	April 1, 2029	750	–
	4.125	March 15, 2035	450	450
	7.125	May 23, 2036	300	300
	5.875	December 1, 2036	500	500
	5.625	December 1, 2040	500	500
	6.125	January 15, 2041	500	500
	4.900	June 1, 2043	500	500
	5.250	January 15, 2045	500	500
	5.000	April 1, 2049	750	–
Debentures [1]	7.800	February 1, 2027	125	125
Other			33	10
			8,708	8,185
Add net unamortized fair value adjustments			424	444
Less net unamortized debt issue costs			(77)	(55)
			9,055	8,574
Less current maturities			(508)	(1,000)
Less current portion of net unamortized fair value adjustments			–	(1)
Add current portion of net unamortized debt issue costs			6	6
			(502)	(995)
			8,553	7,579

1 Each series of notes and debentures is unsecured and has no sinking fund requirements prior to maturity. Each series is redeemable and has various provisions that allow redemption prior to maturity, at our option, at specified prices.

We are subject to certain customary covenants including limitation on liens, merger and change of control covenants, and customary events of default. We were in compliance with these covenants as at December 31, 2019.

Note 20 Long-Term Debt Continued

The following is a summary of changes in liabilities arising from financing activities:

	Short-Term Debt and Current Portion of Long-Term Debt [1]	Current Portion of Lease Liabilities	Long-Term Debt	Lease Liabilities	Total
Balance – December 31, 2018	1,624	8	7,579	12	9,223
Adoption of IFRS 16 (Note 15)	–	196	–	863	1,059
Debt acquired (Note 4)	145	20	3	91	259
Cash flows [1]	(794)	(184)	1,461	75	558
Reclassifications	500	178	(500)	(178)	–
Foreign currency translation and other non-cash changes	3	(4)	10	(4)	5
Balance – December 31, 2019	1,478	214	8,553	859	11,104
Balance – December 31, 2017	730	–	3,711	–	4,441
Debt acquired in Merger (Note 4)	870	8	4,918	12	5,808
Cash flows [1]	(927)	–	(12)	–	(939)
Reclassifications	1,023	–	(1,023)	–	–
Foreign currency translation and other non-cash changes	(72)	–	(15)	–	(87)
Balance – December 31, 2018	1,624	8	7,579	12	9,223

[1] Cash inflows and cash outflows are presented on a net basis.

Note 21 Lease Liabilities

We adopted IFRS 16, "Leases" as of January 1, 2019. See Note 15 and 31 for the respective accounting policies, estimates and judgments.

	Rate of Interest (%)	2019	2018
Lease liabilities	3.35	859	12
Current portion of lease liabilities	3.06	214	8
Total		1,073	20

Note 22 Payables and Accrued Charges

Payables and accrued charges consist primarily of amounts we owe to suppliers and prepayments made by customers planning to purchase our products for the upcoming growing season.

Payables and accrued charges as at December 31 were comprised of:

	2019	2018
Trade accounts	4,016	3,053
Customer prepayments	1,693	1,625
Dividends	258	526
Accrued compensation	434	425
Current portion of asset retirement obligations and accrued environmental costs (Note 24)	148	156
Accrued interest	103	105
Current portion of share-based compensation (Note 6)	118	87
Current portion of derivatives	13	45
Income taxes (Note 9)	43	47
Current portion of pension and other post-retirement benefits (Note 23)	15	13
Other payables and other accrued charges	596	621
	7,437	6,703

Note 23 Pension and Other Post-Retirement Benefits

We offer the following pension and other post-retirement benefits to qualified employees: defined benefit pension plans; defined contribution pension plans; and health, disability, dental and life insurance (referred to as other defined benefit) plans. Substantially all our employees participate in at least one of these plans.

Accounting Policies, Estimates and Judgments

For employee retirement and other defined benefit plans

- accrued liabilities are recorded net of plan assets;
- costs including current and past service costs, gains or losses on curtailments and settlements, and remeasurements are actuarially determined on a regular basis using the projected unit credit method; and
- past service cost is recognized in net earnings at the earlier of i) when a plan amendment or curtailment occurs; or ii) when related restructuring costs or termination benefits are recognized.

Remeasurements, recognized directly in OCI in the period they occur, are comprised of actuarial gains and losses, return on plan assets (excluding amounts included in net interest) and the effect of the asset ceiling (if applicable).

When a plan amendment occurs before a settlement, we recognize past service cost before any gain or loss on settlement.

Defined contribution plan costs are recognized in net earnings for services rendered by employees during the period.

Note 23 Pension and Other Post-Retirement Benefits Continued

Estimates and judgments are required to determine discount rates, health care cost trend rates, projected salary increases, retirement age, longevity and termination rates. These assumptions are determined by management and are reviewed annually by our independent actuaries.

Our discount rate assumptions are impacted by:

- the weighted average interest rate at which each pension and other post-retirement plan liability could be effectively settled at the measurement date;
- country specific rates; and
- the use of a yield curve approach based on the respective plans' demographics, expected future pension benefits and medical claims, payments are measured and discounted to determine the present value of the expected future cash flows. The cash flows are discounted using yields on high-quality AA-rated non-callable bonds with cash flows of similar timing where there is a deep market for such bonds. Where we do not believe there is a deep market for such bonds (such as for terms in excess of 10 years in Canada), the cash flows are discounted using a yield curve derived from yields on provincial bonds rated AA or better to which a spread adjustment is added to reflect the additional risk of corporate bonds.

Supporting Information

The significant assumptions used to determine the benefit obligations and expense for our significant plans as at and for the year ended December 31 were as follows:

	Pension		Other	
	2019	**2018**	**2019**	**2018**
Assumptions used to determine the benefit obligations[1]:				
Discount rate (%)	3.35	4.22	3.20	4.17
Rate of increase in compensation levels (%)	4.66	4.75	n/a	n/a
Medical cost trend rate – assumed (%)	n/a	n/a	4.50 – 6.10 [2]	4.50 – 6.10 [2]
Medical cost trend rate – year reaches ultimate trend rate	n/a	n/a	2037	2037
Mortality assumptions (years)[3]				
Life expectancy at 65 for a male member currently at age 65	20.5	20.6	20.3	20.4
Life expectancy at 65 for a female member currently at age 65	22.7	22.8	22.9	22.8
Average duration of the defined benefit obligations[4] (years)	14.61	13.7	15.8	15.1

1 The current year's expense is determined using the assumptions that existed at the end of the previous year.

2 We assumed a graded medical cost trend rate starting at 6.10 percent in 2019, moving to 4.50 percent by 2037 (2018 – starting at 6.10 percent, moving to 4.50 percent by 2037).

3 Based on actuarial advice in accordance with the latest available published tables, adjusted where appropriate to reflect future longevity improvements for each country.

4 Weighted average length of the underlying cash flows.

n/a = not applicable

Of the most significant assumptions, a change in discount rates has the greatest potential impact on our pension and other post-retirement benefit plans, with sensitivity to change as follows:

		2019		2018	
	Change in Assumption	**Benefit Obligations**	**Expense in Earnings Before Income Taxes**	**Benefit Obligations**	**Recovery in Loss Before Income Taxes**
As reported		2,044	71	1,797	(87)
Discount rate	1.0 percentage point decrease	335	9	271	24
	1.0 percentage point increase	(268)	(11)	(218)	(22)

Note 23 Pension and Other Post-Retirement Benefits Continued

Description of Defined Benefit Pension Plans

We sponsor defined benefit pension plans as follows:

	Plan Type	Contributions
United States	• non-contributory, • guaranteed annual pension payments for life, • benefits generally depend on years of service and compensation level in the final years leading up to age 65,	• made to meet or exceed minimum funding requirements of the Employee Retirement Income Security Act of 1974 and associated Internal Revenue Service regulations and procedures.
Canada	• benefits available starting at age 55 at a reduced rate, and • plans provide for maximum pensionable salary and maximum annual benefit limits.	• made to meet or exceed minimum funding requirements based on provincial statutory requirements and associated federal taxation rules.
Supplemental Plans in US and Canada for Senior Management	• non-contributory, • unfunded, and • supplementary pension benefits.	• provided for by charges to earnings sufficient to meet the projected benefit obligations, and • payments to plans are made as plan payments to retirees occur.

Our defined benefit pension plans are funded with separate funds that are legally separated from the Company and administered through an employee benefits or management committee in each country, which is composed of our employees. The employee benefits or management committee is required by law to act in the best interests of the plan participants and, in the US and Canada, is responsible for the governance of the plans, including setting certain policies (e.g., investment and contribution) of the funds. The current investment policy for each country's plans generally does not include any asset/liability matching strategies or currency hedging strategies. Plan assets held in trusts are governed by local regulations and practice in each country, as is the nature of the relationship between the Company and the trustees and their composition.

Note 23 Pension and Other Post-Retirement Benefits Continued

Description of Other Post-Retirement Plans

We provide health care plans for certain eligible retired employees in the US, Canada and Trinidad. Eligibility for these benefits is generally based on a combination of age and years of service at retirement. Certain terms of the plans include:

- coordination with government-provided medical insurance in each country;
- certain unfunded cost-sharing features such as co-insurance, deductibles and co-payments – benefits subject to change;
- for certain plans, maximum lifetime benefits;
- at retirement, the employee's spouse and certain dependent children may be eligible for coverage;
- benefits are self-insured and are administered through third-party providers; and
- generally, retirees contribute towards annual cost of the plans.

We provide non-contributory life insurance plans for certain retired employees who meet specific age and service eligibility requirements.

Risks

The defined benefit pension and other post-retirement plans expose us to broadly similar actuarial risks. The most significant risks include investment risk and interest rate risk as discussed below. Other risks include longevity risk and salary risk.

Investment Risk	A deficit will be created if plan assets underperform the discount rate used in the defined benefit obligation valuation. To mitigate investment risk, we employ: • a total return on investment approach whereby a diversified mix of equities and fixed income investments is used to maximize long-term return for a prudent level of risk; and • risk tolerance established through careful consideration of plan liabilities, plan funded status and corporate financial condition. Other assets such as private equity and hedge funds are not used at this time. Our policy is not to invest in commodities, precious metals, mineral rights, bullions, or collectibles. Investment risk is measured and monitored on an ongoing basis through quarterly investment portfolio reviews, annual liability measurements and periodic asset/liability studies.
Interest Rate Risk	A decrease in bond interest rates will increase the pension liability; however, this is generally expected to be partially offset by an increase in the return on the plan's debt investments.

Note 23 Pension and Other Post-Retirement Benefits Continued

Financial Information

Movements in the pension and other post-retirement benefit assets (liabilities)

	2019			2018		
	Obligation	Plan Assets	Net	Obligation	Plan Assets	Net
Balance – beginning of year	(1,797)	1,416	(381)	(1,831)	1,380	(451)
Merger impact [1]	–	–	–	(347)	205	(142)
Components of defined benefit expense recognized in earnings						
Current service cost for benefits earned during the year	(40)	–	(40)	(67)	–	(67)
Interest (expense) income	(74)	59	(15)	(77)	62	(15)
Past service cost, including curtailment gains and settlements[2]	–	–	–	157	–	157
Foreign exchange rate changes and other	(29)	13	(16)	39	(27)	12
Subtotal of components of defined benefit (expense) recovery recognized in earnings	(143)	72	(71)	52	35	87
Remeasurements of the net defined benefit liability recognized in OCI during the year						
Actuarial gain arising from:						
Changes in financial assumptions	(199)	–	(199)	210	–	210
Changes in demographic assumptions	14	–	14	11	–	11
Loss on plan assets (excluding amounts included in net interest)	–	193	193	–	(149)	(149)
Subtotal of remeasurements	(185)	193	8	221	(149)	72
Cash flows						
Contributions by plan participants	(5)	5	–	(6)	6	–
Employer contributions	–	21	21	–	53	53
Benefits paid	86	(86)	–	114	(114)	–
Subtotal of cash flows	81	(60)	21	108	(55)	53
Balance – end of year[3]	(2,044)	1,621	(423)	(1,797)	1,416	(381)
Balance comprised of:						
Non-current assets						
Other assets (Note 18)			25			27
Current liabilities						
Payables and accrued charges (Note 22)			(15)			(13)
Non-current liabilities						
Pension and other post-retirement benefit liabilities			(433)			(395)

1 We acquired Agrium's pension and other post-retirement benefit obligations, representing the fair values at the acquisition date as described in Note 4.

2 In 2018, as part of our continuous assessment of our operations, participation (based on age and years of service) in certain company defined benefit pension and other post-retirement benefit plans was suspended and/or discontinued effective January 1, 2020. As a result, we recognized a Merger-related Defined Benefit Plans Curtailment Gain of $157.

3 Obligations arising from funded and unfunded pension plans are $(1,652) and $(392), respectively (2018 – $(1,466) and $(331)). Other post-retirement benefit plans have no plan assets and are unfunded.

Note 23 Pension and Other Post-Retirement Benefits Continued

Plan Assets

As at December 31, the fair value of plan assets of our defined benefit pension plans, by asset category, were as follows:

	2019			2018		
	Quoted Prices in Active Markets for Identical Assets	Other [1]	Total	Quoted Prices in Active Markets for Identical Assets	Other	Total
Cash and cash equivalents	8	112	120	6	54	60
Equity securities and equity funds						
US	1	571	572	454	65	519
International	35	62	97	175	65	240
Debt securities [2]	–	698	698	187	329	516
International balanced fund	–	112	112	–	97	97
Other	–	22	22	(25)	9	(16)
Total pension plan assets	44	1,577	1,621	797	619	1,416

1 Approximately 60% of the Other plan assets are held in funds whose fair values are estimated as a practical expedient using their net asset value per share. The redemption frequency of these funds is immediate and no notice period is required.

2 Debt securities included US securities of 82 percent (2018 – 52 percent), International securities of 18 percent (2018 – 31 percent) and Mortgage-backed securities of Nil percent (2018 – 17 percent).

Letters of credit secured certain of our Canadian unfunded defined benefit plan liabilities as at December 31, 2019.

We expect to contribute approximately $95 to all pension and post-retirement plans during 2020. Total contributions recognized as expense under all defined contribution plans for 2019 was $88 (2018 – $75).

Note 24 Asset Retirement Obligations and Accrued Environmental Costs

A provision is an estimated liability with uncertainty over the timing or amount that will be paid. The most significant asset retirement and environmental remediation provisions relate to costs to restore potash and phosphate sites to their original, or another specified, condition.

Accounting Policies, Estimates and Judgments

Provisions are:

- measured at the present value of the cash flow expected to be required to settle the obligation; and
- reviewed at the end of each reporting period for any changes, including the discount rate, foreign exchange rate and amount or timing of the underlying cash flows, and adjusted against the carrying amount of the provision and any related asset; otherwise, it is recognized in net earnings.

As a result of the Merger, we recognized contingent liabilities, which represent additional environmental costs that are present obligations although cash outflows of resources are not probable. These contingent liabilities are subsequently measured at the higher of the amount initially recognized and the best estimate of the discounted underlying cash flows.

Asset retirement obligations and accrued environmental costs include:

- reclamation and restoration costs at our potash and phosphate mining operations, including 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 cleanup activities aimed at returning the areas to an environmentally acceptable condition; and
- post-closure care and maintenance.

Note 24 Asset Retirement Obligations and Accrued Environmental Costs Continued

Estimates for provisions take into account the following:

- most provisions will not be settled for a number of years;
- environmental laws and regulations and interpretations by regulatory authorities could change or circumstances affecting our operations could change, either of which could result in significant changes to current plans; and
- the nature, extent and timing of current and proposed reclamation and closure techniques in view of present environmental laws and regulations.

It is reasonably possible that the ultimate costs could change in the future and that changes to these estimates could have a material effect on our consolidated financial statements.

We 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. Other than certain land reclamation programs, settlement of the obligations is typically correlated with mine life estimates.

Supporting Information

The pre-tax risk-free discount rate, expected cash flow payments and sensitivity to changes in the discount rate on the recorded liability for asset retirement obligations and accrued environmental costs at December 31, 2019 were as follows:

	Risk-Free Rate (%) [1]	Cash Flow Payments (years) [2]	Undiscounted Cash Flows	Discounted Cash Flows	Discount Rate +0.5%	Discount Rate -0.5%
Asset retirement obligations					(81)	87
Retail	2.08 – 2.81	1 – 30	11	10		
Potash	5.00	40 – 442	650 [3]	70		
Phosphate	2.93 – 3.19	1 – 81	853	495		
Corporate and Other [4,5]	1.22 – 6.50	1 – 483	864	675		
Accrued environmental costs					(14)	17
Retail	1.92 – 4.27	1 – 30	77	72		
Corporate and Other	1.47 – 3.02	1 – 28	563	467		

1 Risk-free discount rates reflect current market assessments of the time value of money and the risks specific to the timing and jurisdiction of the obligation.

2 Time frame in which payments are expected to principally occur from December 31, 2019. Changes in years can result from changes to the mine life and/or changes in the rate of tailing volumes.

3 Represents total undiscounted cash flows in the first year of decommissioning. This excludes subsequent years of tailings dissolution, fine tails capping, tailings management area reclamation, post reclamation activities and monitoring, and final decommissioning, which are estimated to take an additional 92 to 401 years.

4 For nitrogen sites, we have not recorded any asset retirement obligations because no significant asset retirement obligations have been identified or there is no reasonable basis for estimating a date or range of dates of cessation of operations. We considered the historical performance of our facilities as well as our planned maintenance, major upgrades and replacements which can extend the useful lives of our facilities indefinitely.

5 Includes certain potash and phosphate sites that are non-operating sites, with the majority of phosphate site payments taking place over the next 81 years.

Following is a reconciliation of asset retirement obligations and accrued environmental costs:

	Asset Retirement Obligations	Accrued Environmental Costs	Total
Balance – December 31, 2018	1,295	534	1,829
Recorded in earnings	39	17	56
Capitalized to property, plant and equipment	5	–	5
Settled during the year	(103)	(16)	(119)
Foreign currency translation and other	18	9	27
Balance – December 31, 2019	1,254	544	1,798
Balance – December 31, 2019 comprised of:			
Current liabilities			
Payables and accrued charges (Note 22)	123	25	148
Non-current liabilities			
Asset retirement obligations and accrued environmental costs	1,131	519	1,650

In millions of US dollars except as otherwise noted

Note 24 Asset Retirement Obligations and Accrued Environmental Costs Continued

We are subject to numerous environmental requirements under federal, provincial, state and local laws in the countries in which we operate. We have gypsum stack capping, closure and post-closure obligations through our subsidiaries, PCS Phosphate Company, Inc. in White Springs, Florida and PCS Nitrogen Inc. in Geismar, Louisiana pursuant to the financial assurance regulatory requirements in those states. The recorded provisions may not necessarily reflect our obligations under these financial assurances.

Note 25 Share Capital

Authorized

We are authorized to issue an unlimited number of common shares without par value and an unlimited number of preferred shares. The common shares are not redeemable or convertible. The preferred shares may be issued in one or more series with rights and conditions to be determined by the Board of Directors.

Issued

	Number of Common Shares	Share Capital
Balance – December 31, 2018	608,535,477	16,740
Issued under option plans and share-settled plans	474,655	23
Repurchased	(36,067,323)	(992)
Balance – December 31, 2019	572,942,809	15,771

Share repurchase programs

	Board of Directors Approval	Expiry	Maximum Shares for Repurchase
2018 Normal Course Issuer Bid [1]	February 20, 2018	February 22, 2019	50,363,686
2019 Normal Course Issuer Bid [2]	February 20, 2019	February 26, 2020	42,164,420

1 On December 14, 2018, the normal course issuer bid was increased to permit the repurchase of up to approximately 8 percent of our outstanding common shares for cancellation.

2 On December 2, 2019, the normal course issuer bid was increased to permit the repurchase of up to 7 percent of our outstanding common shares for cancellation. Purchases of common shares can expire earlier than the date above if the maximum number of common shares allowable is acquired earlier or we otherwise decide not to make any further repurchases.

Purchases under the normal course issuer bids were, or may be, made through open market purchases at market prices as well as by other means permitted by applicable securities regulatory authorities, including private agreements.

The following table summarizes our share repurchases:

	2019	2018
Common shares repurchased for cancellation	36,067,323	36,332,197
Average price per share	52.07	50.97
Total cost	1,878	1,852

As of February 19, 2020, an additional 2,214,780 common shares were repurchased for cancellation at a cost of $95 and an average price per share of $42.84.

Dividends declared

Dividends declared for the years ended December 31 were as follows:

2019		2018	
Declared	Per Share	Declared	Per Share
May 10, 2019	0.43	February 20, 2018	0.40
July 30, 2019	0.45	May 23, 2018	0.40
December 13, 2019	0.45	July 19, 2018	0.40
		November 5, 2018	0.43
		December 14, 2018	0.43
	1.33		2.06

Subsequent to year-end, our Board of Directors declared a quarterly dividend of $0.45 per share payable on April 16, 2020 to shareholders of record on March 31, 2020. The total estimated dividend to be paid is $257.

Note 26 Capital Management

The objective of our capital allocation policy is to balance the return of capital to our shareholders, improvements in the efficiency of our existing assets, and delivery on our growth opportunities, while maintaining a strong balance sheet and flexible capital structure to optimize the cost of capital at an acceptable level of risk. Our goal is to pay a stable and growing dividend with a target payout that represents 40 to 60 percent of free cash flow after sustaining capital through the agricultural cycle.

We monitor our capital structure and, based on changes in economic conditions, may adjust the structure by adjusting the amount of dividends paid to shareholders, repurchasing shares, issuing new shares, issuing new debt or retiring existing debt.

We use a combination of short-term and long-term debt to finance our operations. We typically pay floating rates of interest on short-term debt and credit facilities, and fixed rates on notes and debentures.

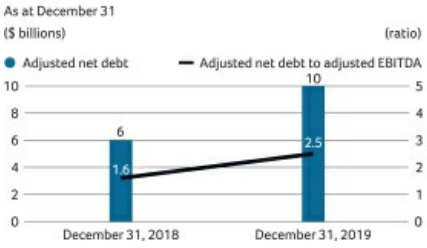
Adjusted net debt and adjusted shareholders' equity are included as components of our capital structure. The calculation of adjusted net debt, adjusted shareholders' equity and adjusted capital are set out in the following table:

	2019	2018
Short-term debt	976	629
Current portion of long-term debt	502	995
Current portion of lease liabilities	214	8
Long-term debt	8,553	7,579
Lease liabilities	859	12
Total debt	11,104	9,223
Cash and cash equivalents	(671)	(2,314)
Net debt	10,433	6,909
Unamortized fair value adjustments	(424)	(444)
Adjusted net debt	10,009	6,465
Total shareholders' equity	22,869	24,425
Accumulated other comprehensive loss	251	291
Adjusted shareholders' equity	23,120	24,716
Adjusted capital	33,129	31,181

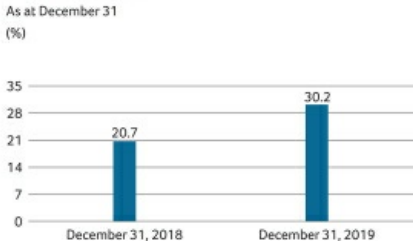
We monitor the following ratios:

	2019	2018
Adjusted net debt to adjusted EBITDA	2.5	1.6
Adjusted EBITDA to adjusted finance costs	8.0	8.1
Adjusted net debt to adjusted capital (%)	30.2	20.7

Adjusted Net Debt and Adjusted Net Debt to Adjusted EBITDA



Adjusted Net Debt to Adjusted Capital



Note 26 Capital Management Continued

Other components of ratios above are calculated as follows:

	2019	2018
Net earnings (loss) from continuing operations	992	(31)
Finance costs	554	538
Income tax expense (recovery)	316	(93)
Depreciation and amortization	1,799	1,592
EBITDA	3,661	2,006
Impairment of assets	120	1,809
Merger and related costs	82	170
Acquisition and integration related costs	16	–
Share-based compensation	104	116
Foreign exchange loss (gain), net of derivatives	42	(10)
Defined Benefit Plans Curtailment Gain	–	(157)
Adjusted EBITDA	4,025	3,934

	2019	2018
Finance costs	554	538
Unwinding of discount on asset retirement obligations	(54)	(51)
Borrowing costs capitalized to property, plant and equipment	18	12
Interest on net defined benefit pension and other post-retirement plan obligations	(15)	(15)
Adjusted finance costs	503	484

We maintain a base shelf prospectus, which permits issuance through April 2020 in Canada and the US, of common shares, debt, and other securities up to $11,000. Issuance of securities under the base shelf prospectus requires filing a prospectus supplement and is subject to the availability of funding in capital markets. During the year ended December 31, 2019, we filed a prospectus supplement to issue $1,500 of notes, as discussed in Note 20.

Note 27 Commitments

A commitment is a legally binding and enforceable agreement to purchase goods or services in the future. The amounts below reflect our commitments based on current expected contract prices.

Refer to Note 31 for details pertaining to the impact of the adoption of IFRS 16 in 2019 and Note 15 for the discussion related to the accounting policies, estimates and judgments.

Supporting Information

Minimum future commitments under these contractual arrangements were as follows at December 31, 2019:

	Lease Liabilities [1]	Long-Term Debt [1]	Purchase Commitments	Capital Commitments	Other Commitments	Total
Within 1 year	249	894	877	43	118	2,181
1 to 3 years	364	1,268	766	7	137	2,542
3 to 5 years	234	1,923	438	–	58	2,653
Over 5 years	455	10,307	209	–	124	11,095
Total	1,302	14,392	2,290	50	437	18,471

1 Includes principal portion and estimated interest.

Note 27 Commitments Continued

Purchase Commitments

In 2018, we entered into a new long-term natural gas purchase agreement in Trinidad, that began January 1, 2019 and is set to expire December 31, 2023. The contract provides for prices that vary primarily with ammonia market prices, and annual escalating floor prices. The commitments included in the foregoing table are based on floor prices and minimum purchase quantities.

Profertil has long-term gas contracts denominated in US dollars which expire in 2021, which account for virtually all of Profertil's gas requirements. YPF S.A., our joint venture partner in Profertil, supplies approximately 70 percent of the gas under these contracts.

The Carseland facility has a power co-generation agreement, expiring on December 31, 2026, which provides 60 megawatt-hours of power per hour. The price for the power is based on a fixed charge adjusted for inflation and a variable charge based on the cost of natural gas provided to the facility for power generation.

Agreements for the purchase of sulfur for use in production of phosphoric acid provide for specified purchase quantities and prices based on market rates at the time of delivery. Commitments included in the foregoing table are based on expected contract prices.

As part of the agreement to sell the Conda Phosphate operations ("CPO"), we entered into long-term strategic supply and offtake agreements which extend to 2023. Under the terms of the supply and offtake agreements, we will supply 100 percent of the ammonia requirements of CPO and purchase 100 percent of the monoammonium phosphate ("MAP") product produced at CPO. The MAP production is estimated at 330,000 tonnes per year.

Other Commitments

Other commitments consist principally of pipeline capacity, technology service contracts, throughput and various rail and vessel freight contracts, the latest of which expires in 2026, and mineral lease commitments, the latest of which expires in 2038.

Note 28 Guarantees

Accounting Policies

Guarantees are not recognized in the consolidated balance sheets, but are disclosed and include contracts or indemnifications that contingently require us to make payments to the guaranteed party based on:

- changes in the underlying contract or indemnification;
- another entity's failure to perform under an agreement; and
- failure of a third party to pay its indebtedness when due.

Supporting Information

In the normal course of business, we provide indemnification agreements to counterparties in transactions such as purchase and sale contracts, service agreements, director/officer contracts and leasing transactions. The terms of these indemnification agreements

- may require us to compensate counterparties for costs incurred as a result of various events, including environmental liabilities and changes in (or in the interpretation of) laws and regulations, or as a result of litigation claims or statutory sanctions that may be suffered by a counterparty as a consequence of the transaction;
- will vary based upon the contract, the nature of which prevents us from making a reasonable estimate of the maximum potential amount that it could be required to pay to counterparties; and
- have not historically resulted in any significant payments by Nutrien and, as at December 31, 2019, no amounts have been accrued in the consolidated financial statements (except for accruals relating to the underlying potential liabilities).

We directly guarantee certain commitments of our investee (such as railcar leases) under certain agreements with third parties. We would be required to perform on these guarantees in the event of default by the investee. No material loss is anticipated by reason of such agreements and guarantees.

Note 29 Related Party Transactions

We transact with a number of related parties, the most significant being with our associates and joint ventures, key management personnel and post-employment benefit plans.

Supporting Information

Sale of Goods

We sell potash from our Canadian mines for use outside Canada and the US exclusively to Canpotex. Sales are at prevailing market prices and are settled on normal trade terms. Sales to Canpotex for the year ended December 31, 2019 were $1,625 (2018 – $1,657). Canpotex's proportionate sales volumes by geographic area are shown in Note 3.

The receivable outstanding from Canpotex is shown in Note 13 and arose from sale transactions described above. It is unsecured and bears no interest. There are no provisions held against this receivable.

Receivables from equity holders of our equity-accounted investees

For certain equity holders of our other equity-accounted investees, we have provided loans which have an outstanding balance at December 31, 2019 of $1 (2018 – $Nil). There are no provisions held against these receivables.

Key Management Personnel Compensation

Compensation to key management personnel was comprised of:

	2019	2018
Salaries and other short-term benefits	15	19
Share-based compensation	31	53
Post-employment benefits	3	3
Termination benefits	12	23
	61	98

Transactions with Post-Employment Benefit Plans

Disclosures related to our post-employment benefit plans are shown in Note 23.

Note 30 Contingencies and Other Matters

Contingent liabilities, which are not recognized in the consolidated financial statements but may be disclosed, are possible obligations as a result of uncertain future events outside of our control, or present obligations not recognized because the amount cannot be sufficiently measured or payment is not probable.

Accounting Estimates and Judgments

The following judgments are required to determine our exposure to possible losses and gains related to environmental matters and other various claims and lawsuits pending:

- prediction of the outcome of uncertain events (i.e., being virtually certain, probable, remote or undeterminable);
- determination of whether recognition or disclosure in the consolidated financial statements is required; and
- estimation of potential financial effects.

Where no amounts are recognized, such amounts are contingent and disclosure may be appropriate. While the amount disclosed in the consolidated financial statements may not be material, the potential for large liabilities exists and, therefore, these estimates could have a material impact on our consolidated financial statements.

Note 30 Contingencies and Other Matters Continued

Supporting Information

Canpotex

Nutrien is a shareholder in Canpotex, which markets Canadian potash outside of Canada and the US. Should any operating losses or other liabilities be incurred by Canpotex, the shareholders have contractually agreed to reimburse it in proportion to each shareholder's productive capacity. Through December 31, 2019, there were no such operating losses or other liabilities.

Mining Risk

The risk of underground water inflows and other underground risks is insured on a limited basis, subject to insurance market availability.

Legal and Other Matters

We are engaged in ongoing site assessment and/or remediation activities at a number of facilities and sites. Anticipated costs associated with these matters are added to accrued environmental costs in the manner described in Note 24.

Environmental Remediation

We have established provisions for environmental site assessment and/or remediation matters to the extent that expenses associated with those matters we consider likely to be incurred. Except for the uncertainties described below, we do not believe that our future obligations with respect to these matters are reasonably likely to have a material adverse effect on our consolidated financial statements.

Legal matters with significant uncertainties include the following:

- The United States Environmental Protection Agency ("US EPA") has an ongoing enforcement initiative directed at the phosphate industry related to the scope of an exemption for mineral processing wastes under the US Resource Conservation and Recovery Act ("RCRA"). This initiative affects the Conda Phosphate plant previously owned by Nu-West Industries, Inc. ("Nu-West"), a wholly owned subsidiary of Agrium, and the Nutrien phosphoric acid facilities in Aurora, North Carolina; Geismar, Louisiana; and White Springs, Florida. All of these facilities received US EPA notices of violation ("NOVs") that remain outstanding for alleged violations of RCRA and various other environmental laws. Notwithstanding the sale of the Conda Phosphate operations in January 2018, Nu-West remains responsible for environmental liabilities attributable to its historic activities and for resolution of the NOVs. All of the facilities have been and continue to be involved in ongoing discussions with the US EPA, the US Department of Justice and the related state agencies to resolve these matters. Due to the nature of the allegations, we are uncertain as to how the matters will be resolved. Based on settlements with other members of the phosphate industry, we expect that a resolution could involve any or all of the following: 1) penalties, which we currently believe will not be material; 2) modification of certain operating practices; 3) capital improvement projects; 4) providing financial assurance for the future closure, maintenance and monitoring costs for the phosphogypsum stack system; and, 5) addressing findings resulting from RCRA section 3013 site investigations undertaken voluntarily in response to the NOVs.
- In August 2015, the US EPA finalized amendments to the hazardous air pollutant emission standards for phosphoric acid manufacturing and phosphate fertilizer production ("Final Rule"). Required emissions testing at our Aurora facility in 2016 indicated alleged exceedances of the mercury emission limits that were established by the Final Rule. We have communicated with the relevant agencies about this issue and petitioned the US EPA to reconsider the mercury emission limits. The facility also entered into an agreed order with the North Carolina Department of Environmental Quality in November 2016 to resolve the alleged mercury exceedances and provide a plan and schedule for evaluating alternative compliance strategies. Given the pending legal issues and our evaluation of alternative compliance strategies, the resulting cost of compliance with the various provisions of the Final Rule cannot be predicted with reasonable certainty at this time.
- We operate in countries that are parties to the Paris Agreement adopted in December 2015 pursuant to the United Nations Framework Convention on Climate Change. Each country that is a party to the Paris Agreement submitted an Intended Nationally Determined Contribution ("INDC") toward the control of greenhouse gas emissions. The impacts on our operations of these INDCs and other national and local efforts to limit or tax greenhouse gas emissions cannot be determined with any certainty at this time.

In addition, various other claims and lawsuits are pending against the Company in the ordinary course of business. While it is not possible to determine the ultimate outcome of such actions at this time, and inherent uncertainties exist in predicting such outcomes, we believe that the ultimate resolution of such actions is not reasonably likely to have a material adverse effect on our consolidated financial statements.

The breadth of our operations and the global complexity of tax regulations require assessments of uncertainties and judgments in estimating the taxes we will ultimately pay. The final taxes paid are dependent upon many factors, including negotiations with taxing authorities in various jurisdictions, outcomes of tax litigation and resolution of disputes arising from federal, provincial, state and local tax audits. The resolution of these uncertainties and the associated final taxes may result in adjustments to our tax assets and tax liabilities.

We own facilities that have been either permanently or indefinitely shut down. We expect to incur nominal annual expenditures for site security and other maintenance costs at some of these facilities. Should the facilities be dismantled, certain other shutdown-related costs may be incurred. Such costs are not expected to have a material adverse effect on our consolidated financial statements and would be recognized and recorded in the period in which they are incurred.

Note 31 Accounting Policies, Estimates and Judgments

Accounting Policies, Estimates and Judgments

The following table discusses the significant accounting policies, estimates, judgments and assumptions, in addition to those disclosed elsewhere in these consolidated financial statements, that we have adopted and made and how they affect the amounts reported in the consolidated financial statements. Certain of our policies involve accounting estimates and judgments because they require us to make subjective or complex judgments about matters that are inherently uncertain and because of the likelihood that materially different amounts could be reported under different conditions or using different assumptions.

Topic	Accounting Policies	Accounting Estimates and Judgments
Principles of Consolidation	These consolidated financial statements include the accounts of the Company and entities we control. We have control if we have: • power over the investee to direct its relevant activities; • exposure, or rights, to variable returns from involvement with the investee; and • the ability to use our power over the investee to affect the amount of our returns. The existence and effect of potential voting rights that are currently exercisable or convertible are considered when assessing whether we control another entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Company. They are deconsolidated from the date that control ceases.	Judgment involves: • assessing control, including if we have the power to direct the relevant activities of the investee; and • determining the relevant activities and the party that controls them. Consideration is given to: • voting rights; • the relative size and dispersion of the voting rights held by other shareholders; • the extent of participation by those shareholders in appointing key management personnel or board members; • the right to direct the investee to enter into transactions for our benefit; and • the exposure, or rights, to variability of returns from the Company's involvement with the investee.

Note 31 Accounting Policies, Estimates and Judgments Continued

Topic	Accounting Policies		Accounting Estimates and Judgments
Principles of Consolidation (continued)	Principal (wholly owned) Operating Subsidiaries:	Location	Principal Activity
	Potash Corporation of Saskatchewan Inc.	Canada	Mining and/or processing of crop nutrient products and corporate functions
	Agrium Inc.	Canada	Manufacturer and distributor of crop nutrients and corporate functions
	Agrium Canada Partnership	Canada	Manufacturer and distributor of crop nutrients
	Agrium Potash Ltd.	Canada	Manufacturer and distributor of crop nutrients
	Agrium U.S. Inc.	United States	Manufacturer and distributor of crop nutrients
	Cominco Fertilizer Partnership	United States	Manufacturer and distributor of crop nutrients
	Landmark Operations Ltd.	Australia	Crop input retailer
	Nutrien Ag Solutions (Canada) Inc.	Canada	Crop input retailer
	Nutrien Ag Solutions, Inc.	United States	Crop input retailer
	PCS Nitrogen Fertilizer, LP	United States	Production of nitrogen products in the United States
	PCS Nitrogen Trinidad Limited	Trinidad	Production of nitrogen products in Trinidad
	PCS Phosphate Company, Inc.	United States	Mining and/or processing of phosphate products
	Phosphate Holding Company, Inc.	United States	Mining and/or processing of phosphate products and production of nitrogen products in the United States
	Intercompany balances and transactions are eliminated on consolidation.		
Long-Lived Asset Impairment	To assess impairment, assets are grouped at the smallest levels for which there are separately identifiable cash inflows that are largely independent of the cash inflows from other assets or groups of assets (this can be at the asset or CGU level). At the end of each reporting period, we review conditions to determine whether there is any indication that an impairment exists that could potentially impact the carrying amounts of both our long-lived assets (including property, plant and equipment, and investments) to be held and used and our identifiable intangible assets and goodwill. When such indicators exist, impairment testing is performed. Regardless, goodwill is tested at least annually (in the fourth quarter). Where impairment indicators exist for the asset or CGU: • the recoverable amount is estimated (the higher of FVLCD and value in use); • to assess value in use, the estimated future cash flows are discounted to their present value (using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU for which the estimates of future cash flows have not been adjusted); • the impairment loss is the amount by which the carrying amount exceeds its recoverable amount; and		Estimates and judgment involves: • identifying the appropriate asset or CGU; • determining the appropriate discount rate for assessing the recoverable amount; and • making assumptions about future sales, market conditions, terminal growth rates and cash flow forecasts over the long-term life of the assets or CGUs. We cannot predict if an event that triggers impairment will occur, when it will occur or how it will affect reported asset amounts. Asset impairment amounts previously recorded could be affected if different assumptions were used or if market and other conditions change. Such changes could result in non-cash charges materially affecting our consolidated financial statements. Impairments were recognized during 2019 and 2018 as shown in Note 15 and Note 16. At December 31, 2019, we reviewed our Phosphate CGUs for impairment triggers. For our Aurora CGU, we used judgment in assessing possible indicators of impairment including expected mine life, supply and demand variables and expected benchmark prices. Based on our assessment, there were no impairment triggers. For our White Springs CGU, we identified an impairment trigger due to deteriorating price expectations and the expected remaining mine life. We completed an impairment analysis and determined that there was no impairment in excess of the $250 impairment loss previously recorded at December 31, 2017.

Note 31 Accounting Policies, Estimates and Judgments Continued

Topic	Accounting Policies	Accounting Estimates and Judgments
Long-Lived Asset Impairment (continued)	• the impairment loss is allocated first to reduce the carrying amount of any related goodwill and then pro rata to each asset in the unit (on the basis of the carrying amount). Non-financial assets, other than goodwill, that previously suffered an impairment loss are reviewed at each reporting date for possible reversal of the impairment.	The following table highlights for White Springs CGU sensitivities to the recoverable amount which could result in additional impairment losses or reversals of previously recorded losses: **Key Assumptions** / **Potential Change (percent)** / **Increase (Decrease) to Recoverable Amount** Sales prices: ±1.0 / ±20 Forecasted EBITDA over forecast period: ±5.0 / ±20 Discount rate: ±0.5 / ±10
Fair Value Measurements	Fair value measurements are categorized into levels based on the degree to which inputs are observable and their significance: • Level 1 – Unadjusted quoted prices (in active markets accessible at the measurement date for identical assets or liabilities). • Level 2 – Quoted prices (in markets that are not active or based on inputs that are observable for substantially the full term of the asset or liability). • Level 3 – Prices or valuation techniques that require inputs that are both unobservable and significant to the overall measurement.	Fair value estimates: • are at a point-in-time and may change in subsequent reporting periods due to market conditions or other factors; • can be determined using multiple methods, which can cause values (or a range of reasonable values) to differ; and • may require assumptions about costs/prices over time, discount and inflation rates, defaults and other relevant variables. Determination of the level hierarchy is based on our assessment of the lowest level input that is significant to the fair value measurement and is subject to estimation and judgment.
Restructuring Charges	Plant shutdowns, sales of business units or other corporate restructurings may trigger restructuring charges. Incremental costs for employee termination, contract termination and other exit costs are recognized as a liability and an expense when: • a detailed formal plan for restructuring has been demonstrably committed to; • withdrawal is without realistic possibility; and • a reliable estimate can be made.	Restructuring activities are complex, can take several months to complete and usually involve reassessing estimates throughout the process.
Foreign Currency Transactions	Items included in our consolidated financial statements and those of our subsidiaries are measured using the currency of the primary economic environment in which the individual entity operates (the "functional currency").	The consolidated financial statements are presented in US dollars, which was determined to be the functional currency of the Company and the majority of our subsidiaries. In determining the functional currency of our operations, we primarily considered the currency that determines the pricing of transactions rather than focusing on the currency in which transactions are denominated.

Note 31 Accounting Policies, Estimates and Judgments Continued

Topic	Accounting Policies	Accounting Estimates and Judgments
Foreign Currency Transactions (continued)	Foreign exchange gains and losses resulting from the settlement of foreign currency transactions, and from the translation at period-end of monetary assets and liabilities denominated in foreign currencies, are recognized and presented in the consolidated statements of earnings within other expenses, as applicable, in the period in which they arise. Translation differences from non-monetary assets and liabilities carried at fair value are recognized changes in fair value. Translation differences on non-monetary financial assets such as investments in equity securities classified as FVTOCI are included in OCI. Non-monetary assets measured at historical cost are translated at the average monthly exchange rate prevailing at the time of the transaction, unless the exchange rate in effect on the date of the transaction is available and it is apparent that such rate is a more suitable measurement.	

Standards, Amendments and Interpretations Effective and Applied

The International Accounting Standards Board ("IASB") and IFRS Interpretations Committee ("IFRIC") have issued certain standards and amendments or interpretations to existing standards that were effective and we have applied. The standards disclosed below had a material impact or disclosure impact on our consolidated financial statements.

Standard	Description	Impact
IFRS 16, Leases	Issued to supersede IAS 17 and related standards, we are required to apply a new model for lessee accounting under which all leases will be recorded as a ROU asset on the balance sheet and a corresponding lease liability. Lease costs will be recognized in the income statement over the lease term as depreciation of the ROU asset and finance charges on the lease liability. ROU assets represent the right to use an asset for the lease term, and lease liabilities represent the obligation to make lease payments arising from a lease. ROU assets and liabilities are recognized at commencement of a lease based on the present value of lease payments over the lease term. The standard requires capitalizing the lease payments and expected residual value guarantees over the initial non-cancellable period plus periods covered by renewal, purchase and termination options where such are reasonably certain of exercise. The standard requires capitalization using the interest rate implicit in the lease at commencement, or if the implicit rate is not available, an incremental borrowing rate, adjusted for term, security, asset value, and the borrower's economic environment.	We adopted IFRS 16 effective January 1, 2019, using the modified retrospective method, which in our case resulted in prospective application as there was no impact to opening retained earnings on transition. Under this method of adoption, we measured the ROU asset equal to the lease liability and used our incremental borrowing rate to determine the present value of future lease payments. We have chosen to apply practical expedients, including the use of a single discount rate for a portfolio of leases with reasonably similar characteristics, reliance on previous assessments as to whether lease contracts are onerous, exclusion of initial direct costs in measuring ROU assets at the date of initial application, the election not to separate non-lease components and instead to account for lease and non-lease components as a single arrangement, recognition exemptions for short-term and low-value leases, use of hindsight in assessing lease terms and grandfathering of the lease definition on transition. Until January 1, 2019, substantially all of our leases were classified as operating leases under IAS 17, "Leases", with payments expensed on a straight-line basis over the lease term.

Note 31 Accounting Policies, Estimates and Judgments Continued

IFRS 16, Leases (continued)

The following table summarizes the impact of adopting IFRS 16 on the consolidated financial statements:

	December 31, 2018	IFRS 16 Adjustment	January 1, 2019
Property, plant and equipment – ROU assets [1]	46	1,059	1,105
Lease liabilities, including current portion	20	1,059	1,079
Undiscounted operating lease commitments at December 31, 2018			1,087
Operating lease commitments that did not qualify as leases under IFRS 16			(150)
Extension options reasonably certain to be exercised			297
Effect of discounting using the incremental borrowing rate at January 1, 2019 [2]			(175)
Discounted operating lease commitments at January 1, 2019 [2]			1,059
Finance lease liabilities at December 31, 2018			20
Total lease liabilities at January 1, 2019			1,079

1 Balances as at December 31, 2018 reflect finance leases that were included in property, plant and equipment.

2 When measuring lease liabilities, we discounted lease payments using our incremental borrowing rate at January 1, 2019. The weighted average rate applied was 3.52 percent.

Refer to Note 15 and Note 21 for additional information relating the adoption of IFRS 16.

We have adopted the following amended standards and interpretations with no material impact on our consolidated financial statements:

- IFRIC 23, Uncertainty Over Income Tax Treatments
- Amendments to IAS 28, Long-term Interests in Associates and Joint Ventures
- Amendments to IAS 19, Employee Benefits
- Amendments to IFRS 3, Business Combinations
- Amendments to IAS 12, Income Taxes
- Amendments to IAS 23, Borrowing Costs

Standards, Amendments and Interpretations Not Yet Effective and Not Applied

The IASB and IFRIC have issued the following standards, amendments or interpretations to existing standards that were not yet effective and not applied as at December 31, 2019. The following amended standards are not expected to have a material impact on our consolidated financial statements:

- Conceptual Framework for Financial Reporting
- Amendments to IAS 1 and IAS 8, Definition of Material
- Amendments to IFRS 3, Business Combinations, Definition of a business

The following amended standards and interpretations are being reviewed to determine the potential impact on our consolidated financial statements:

- IFRS 17, Insurance Contracts

Exhibit 99.4



KPMG LLP
205 5th Avenue SW
Suite 3100
Calgary AB T2P 4B9
Tel (403) 691-8000
Fax (403) 691-8008
www.kpmg.ca

Consent of Independent Registered Public Accounting Firm

The Board of Directors of Nutrien Ltd.

We consent to the use of our reports, each dated February 19, 2020, with respect to the consolidated financial statements and the effectiveness of internal control over financial reporting for Nutrien Ltd. included in this Annual Report on Form 40-F.

We also consent to the incorporation by reference of such reports in the registration statements on Form S-8 of Nutrien Ltd. (File Nos. 333-222384, 333-222385 and 333-226295) and Form F-10 of Nutrien Ltd. (File No. 333-223273).

Our report refers to a change in the method of accounting for leases as of January 1, 2019 due to the adoption of International Financial Reporting Standard 16, *Leases*.

/s/ KPMG LLP
Chartered Professional Accountants

February 28, 2020
Calgary, Canada

KPMG LLP is a Canadian limited liability partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative (“KPMG International”), a Swiss entity. KPMG Canada provides services to KPMG LLP.

Exhibit 99.5

CERTIFICATION
REQUIRED BY RULE 13a-14(a) OR RULE 15d-14(a) OF THE
SECURITIES EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Charles V. Magro, certify that:

1. I have reviewed this Annual Report on Form 40-F of Nutrien Ltd.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in *Exchange Act* Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in *Exchange Act* Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 28, 2020

By: /s/ Charles V. Magro
Charles V. Magro
President and Chief Executive Officer

Exhibit 99.6

CERTIFICATION
REQUIRED BY RULE 13a-14(a) OR RULE 15d-14(a) OF THE
SECURITIES EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Pedro Farah, certify that:

1. I have reviewed this Annual Report on Form 40-F of Nutrien Ltd.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in *Exchange Act* Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in *Exchange Act* Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 28, 2020

By: /s/ Pedro Farah
Pedro Farah
Executive Vice President and
Chief Financial Officer

Exhibit 99.7

CERTIFICATIONS

Pursuant to Section 906 of the *Sarbanes-Oxley Act of 2002* (subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, *United States Code*), each of the undersigned officers of Nutrien Ltd. (the "Company"), does hereby certify, to such officer's knowledge, that:

The Annual Report on Form 40-F for the year ended December 31, 2019 (the "Form 40-F"), of the Company fully complies with the requirements of Section 13(a) or 15(d) of the *Securities Exchange Act of 1934* and information contained in the Form 40-F fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 28, 2020

By: /s/ Charles V. Magro
Charles V. Magro
President and Chief Executive Officer

Date: February 28, 2020

By: /s/ Pedro Farah
Pedro Farah
Executive Vice President and Chief Financial Officer

Exhibit 99.8

February 28, 2020

Nutrien Ltd.

Ladies and Gentlemen:

Re: Annual Report on Form 40-F

Reference is made to the Annual Report on Form 40-F (the "Annual Report") filed by Nutrien Ltd. under the Securities Exchange Act of 1934, as amended.

I, Craig Funk, B.Sc., M.Sc., P. Eng., P.Geo., a qualified person, am responsible for preparing or supervising the preparation of (1) the technical report entitled "National Instrument 43-101 Technical Report on Allan Potash Deposit (KL 112R A), Saskatchewan, Canada" dated effective December 31, 2018 (the "Allan Technical Report"); (2) the technical report entitled "National Instrument 43-101 Technical Report on Cory Potash Deposit (KL 103 B), Saskatchewan, Canada" dated effective December 31, 2018 (the "Cory Technical Report"); (3) the technical report entitled "National Instrument 43-101 Technical Report on Lanigan Potash Deposit (KLSA 001 C), Saskatchewan, Canada" dated effective December 31, 2018 (the "Lanigan Technical Report"); and (4) the technical report entitled "National Instrument 43-101 Technical Report on Rocanville Potash Deposit (KL 305), Saskatchewan, Canada" dated effective December 31, 2018 (together with the Allan Technical Report, the Cory Technical Report and the Lanigan Technical Report, the "Technical Reports").

I hereby consent to the inclusion in the Annual Report of references to and information derived from the Technical Reports and to the use of my name therein. I hereby also consent to the incorporation by reference of such information in the registration statements on Form S-8 (File Nos. 333-222384, 333-222385 and 333-226295) and on Form F-10 (File No. 333-223273) of Nutrien Ltd.

Yours truly,

/s/ Craig Funk

Craig Funk, B.Sc., M.Sc., P. Eng., P.Geo.
Director, Earth Science – Engineering, Technology & Capital
Nutrien Ltd.

Exhibit 99.9

February 28, 2020

Nutrien Ltd.

Ladies and Gentlemen:

Re: Annual Report on Form 40-F

Reference is made to the Annual Report on Form 40-F (the "Annual Report") filed by Nutrien Ltd. under the Securities Exchange Act of 1934, as amended.

I, A. Dave Mackintosh, B.Sc., P. Geo., a qualified person, am responsible for preparing or supervising the preparation of sections 1-3, 13, 17 and 24-27 of the technical report entitled "National Instrument 43-101 Technical Report on Vanscoy Potash Operations, Vanscoy, Saskatchewan, Canada" dated effective October 31, 2014 (the "Technical Report").

I hereby consent to the inclusion in the Annual Report of references to and information derived from the Technical Report and to the use of my name therein. I hereby also consent to the incorporation by reference of such references and information in the registration statements on Form S-8
(File Nos. 333-222384, 333-222385 and 333-226295) and on Form F-10 (File No. 333-223273) of Nutrien Ltd.

Yours truly,

/s/ A. Dave Mackintosh
A. Dave Mackintosh, B.Sc., P. Geo.

Exhibit 99.10

February 28, 2020

Nutrien Ltd.

Ladies and Gentlemen:

Re: Annual Report on Form 40-F

Reference is made to the Annual Report on Form 40-F (the "Annual Report") filed by Nutrien Ltd. under the Securities Exchange Act of 1934, as amended.

The undersigned hereby consents to the use of its name and references to the technical report entitled "National Instrument 43-101 Technical Report on Vanscoy Potash Operations, Vanscoy, Saskatchewan, Canada" dated effective October 31, 2014 (the "Technical Report"), and the inclusion of extracts from, or a summary of, the Technical Report in the Annual Report. The undersigned hereby also consents to the incorporation by reference of such information in the registration statements on Form S-8 (File Nos. 333-222384, 333-222385 and 333-226295) and on Form F-10 (File No. 333-223273) of Nutrien Ltd.

Yours truly,

ADM Consulting Limited

/s/ A. Dave Mackintosh
A. Dave Mackintosh, B. Sc., P. Geo.
President

Exhibit 99.11

February 28, 2020

Nutrien Ltd.

Ladies and Gentlemen:

Re: Annual Report on Form 40-F

Reference is made to the Annual Report on Form 40-F (the "Annual Report") filed by Nutrien Ltd. under the Securities Exchange Act of 1934, as amended.

I, Michael Ryan Bartsch, P. Eng., a qualified person, am responsible for preparing or supervising the preparation of sections 1-5, 12, 16 and 19-27 of the technical report entitled "National Instrument 43-101 Technical Report on Vanscoy Potash Operations, Vanscoy, Saskatchewan, Canada" dated effective October 31, 2014 (the "Technical Report").

I hereby consent to the inclusion in the Annual Report of references to and information derived from the Technical Report and to the use of my name therein. I hereby also consent to the incorporation by reference of such references and information in the registration statements on Form S-8
(File Nos. 333-222384, 333-222385 and 333-226295) and on Form F-10 (File No. 333-223273) of Nutrien Ltd.

Yours truly,

/s/ Michael Ryan Bartsch
Michael Ryan Bartsch, P.Eng.

Exhibit 99.12

February 28, 2020

Nutrien Ltd.

Ladies and Gentlemen:

Re: Annual Report on Form 40-F

Reference is made to the Annual Report on Form 40-F (the "Annual Report") filed by Nutrien Ltd. under the Securities Exchange Act of 1934, as amended.

I, Dennis William Aldo Grimm, P. Eng., a qualified person, am responsible for preparing or supervising the preparation of sections 1-3, 13, 17 and 24-27 of the technical report entitled "National Instrument 43-101 Technical Report on Vanscoy Potash Operations, Vanscoy, Saskatchewan, Canada" dated effective October 31, 2014 (the "Technical Report").

I hereby consent to the inclusion in the Annual Report of references to and information derived from the Technical Report and to the use of my name therein. I hereby also consent to the incorporation by reference of such references and information in the registration statements on Form S-8
(File Nos. 333-222384, 333-222385 and 333-226295) and on Form F-10 (File No. 333-223273) of Nutrien Ltd.

Yours truly,

/s/ Dennis William Aldo Grimm
Dennis William Aldo Grimm, P.Eng.

Exhibit 99.13

Information concerning mine safety violations or other regulatory matters required by Section 1503(a) of the Dodd-F rank Wall Street Reform and Consumer Protection Act.

The following table reflects citations, orders and notices issued to us by the United States Mine Safety and Health Administration (the "MSHA") for the year ended December 31, 2019 (the "Reporting Period") and contains certain additional information as required by Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 104 of Regulation S-K, including information regarding mining-related fatalities, proposed assessments from the MSHA and legal actions ("Legal Actions") before the United States Federal Mine Safety and Health Review Commission ("FMSHRC"), an independent adjudicative agency that provides administrative trial and appellate review of legal disputes arising under the United States Federal Mine Safety and Health Act of 1977, as amended by the Mine Improvement and New Emergency Response Act of 2006 (the "Act").

Included below is the information required by Section 1503(a) with respect to our facilities at Aurora, North Carolina (MSHA Identification Number 31-00212) ("Aurora") and White Springs, Florida (MSHA Identification Number 08-00798) ("White Springs") for the Reporting Period:

		Aurora	White Springs
(a)	the total number of violations of mandatory health or safety standards that could significantly and substantially contribute to the cause and effect of a coal or other mine safety or health hazard under Section 104 of the Act for which a citation was received from the MSHA	8	29
(b)	the total number of orders issued under Section 104(b) of the Act	0	0
(c)	the total number of citations and orders for unwarrantable failure of the Company to comply with mandatory health or safety standards under Section 104(d) of the Act	0	0
(d)	the total number of flagrant violations under Section 110(b)(2) of the Act	0	0
(e)	the total number of imminent danger orders issued under Section 107(a) of the Act	0	0
(f)	the total dollar value of proposed assessments from the MSHA under the Act	$ 10,415	$ 64,444
(g)	the total number of mining-related fatalities	0	0
(h)	received written notice from the MSHA of a pattern of violations under Section 104(e) of the Act	No	No
(i)	received written notice from the MSHA of potential to have a pattern of violations under Section 104(e) of the Act	No	No
(j)	the total number of Legal Actions pending as of the last day of the Reporting Period	0	0
(k)	Legal Actions instituted during the Reporting Period	0	0
(l)	Legal Actions resolved during the Reporting Period	0	0