NUTRIEN LTD.

ROCANVILLE POTASH

NATIONAL INSTRUMENT 43-101 TECHNICAL REPORT ON

ROCANVILLE POTASH DEPOSIT (KL 305),

SASKATCHEWAN, CANADA

FEBRUARY 20, 2018

NUTRIEN LTD. AND POTASH CORPORATION OF SASKATCHEWAN INC.
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The scientific and technical information included in this report has been prepared under the supervision of persons who are ‘‘qualified persons’’ under Canadian National Instrument 43-101. **Craig Funk, P. Eng., P. Geo.** is the qualified person who supervised the preparation of the information presented in this report and who verified the data disclosed herein.

/s/ “Craig Funk”

Signature	**Craig Funk, P. Eng., P. Geo.** **Director, Earth Science** **Nutrien Ltd.**
Date	**February 20, 2018**

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The scientific and technical information included in this report has been prepared by, or under the supervision of, persons who are ‘‘qualified persons’’ under Canadian National Instrument 43-101.

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EFFECTIVE DATE OF REPORT

The effective date of this report is December 31, 2017, other than information with respect to the ownership of Potash Corporation of Saskatchewan Inc. by Nutrien Ltd., which information is effective January 1, 2018, and where otherwise noted.

1.0 SUMMARY

Effective January 1, 2018, Potash Corporation of Saskatchewan Inc. (“PotashCorp”) and Agrium Inc. (“Agrium”) completed a court-approved plan of arrangement (the “Arrangement”), involving, among others, PotashCorp, Agrium and Nutrien Ltd. (“Nutrien”) the new parent company of PotashCorp and Agrium. As a result of completing the Arrangement, PotashCorp and Agrium are wholly-owned subsidiaries of Nutrien. References to “the Company” means Nutrien, indirectly through PotashCorp, or, for references prior to the completion of the Merger, PotashCorp, as the context requires.

Nutrien is the world’s largest provider of crop inputs and services, with operations and investments in 14 countries. It produces the three primary plant nutrients: potash, phosphate, and nitrogen. It also has a retail network that services over 500,000 growers worldwide.

Nutrien is a corporation organized under the *Canada Business Corporations Act*, the common shares of which listed and publicly traded on the Toronto and New York stock exchanges (symbol NTR).

The Company owns and operates a potash mine at Rocanville, Saskatchewan, Canada (Rocanville Potash, Rocanville mine, or Rocanville). An aerial view of the Rocanville surface operations is shown in Figure 1. The Rocanville Crown Subsurface Mineral Lease is numbered KL 305. Production of potash from the Rocanville mine began in 1970.

Figure 1: Aerial photo of Rocanville surface operations, fall 2015.

As of December 31, 2017, annual nameplate capacity for Rocanville was 6.5 million tonnes and current annual operational capability is 5.4 million tonnes of finished potash products (concentrated KCl). Estimates of nameplate capacity are based on capacity as per design specifications or Canpotex entitlements once these have been determined. Operational capability is the estimated annual achievable production level at current staffing and operational readiness (estimated at beginning of year), not including any inventory-related shutdowns and unplanned downtime.

While the term potash refers to a wide variety of potassium bearing minerals, in the Rocanville region of Saskatchewan, the predominant potash mineralization is sylvinite, which is comprised mainly of the minerals sylvite (KCl) and halite or rock salt (NaCl), with minor carnallite ($KMgCl_3 \cdot 6H_2O$) and 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.

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 shafts. In addition to hoisting potash ore to surface, the two production shafts are used to exhaust air from underground workings; a third shaft from surface is used for service access and to provide fresh air into the mine. All shafts can be used as an egress. Raw potash ore is processed and concentrated on surface, and concentrated finished potash products (near-pure KCl) are sold and shipped to markets in North America and offshore.

Virtually all Rocanville underground mining rooms are in the potash mineralized zone situated approximately 30 m below the top of the host evaporite salt, the Prairie Evaporite Formation. More specifically, the Rocanville mine is located within the Esterhazy Member of the Prairie Evaporite Formation. Mine elevations range from approximately 895 m to 1040 m, averaging approximately 955 m. Within the Rocanville Lease, depths to the top of the ore zone can reach up 1250 m (the deepest potash exploration drillhole), but are expected to be shallower than 1200 m over most of the lease area. Mine workings are protected from aquifers in overlying formations by salt and potash beds which overlie the mineralized zone. Conservative local extraction rates (never exceeding 45% in any mining block) are employed at Rocanville 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.

Part of the normal surface infrastructure associated with operating the potash mine in Saskatchewan includes waste disposal on the land and disposal of salt brine into deep subsurface aquifers. The Company stows salt tailings within an engineered and licensed Tailings Management Area (TMA) and operates five brine disposal wells near the surface plant of the Rocanville mine.

Over the 47-year mine life, 231.458 million tonnes of potash ore have been mined and hoisted at Rocanville to produce 75.744 million tonnes of finished potash products (from startup in 1970 to December 31, 2017). The life-of-mine average concentration ratio (raw ore / finished potash products) is 3.06 and the overall extraction rate over this time period is 31%. Actual production of finished potash products at Rocanville for the last 10 years is shown in Figure 2.

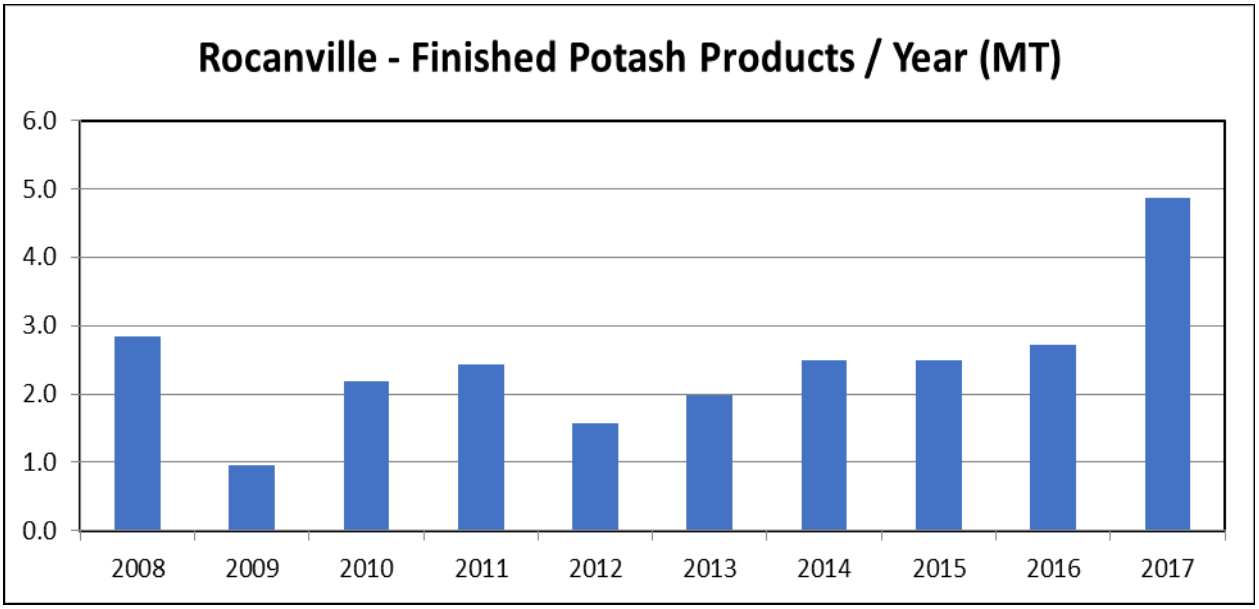


Figure 2: Actual finished potash products production from the Rocanville mine over the past 10 years (in million tonnes per year).

Over the past three years (2015, 2016, 2017), actual potash production at Rocanville has totaled:

- 31.579 million tonnes of ore mined and hoisted (10.526 million tonnes per year, on average)
- 10.060 million tonnes of concentrated finished potash products produced (3.353 million tonnes per year, on average)
- Average mill feed ore grade was 23.3% K_20 equivalent
- Average concentration ratio (ore mined / potash produced) was 3.147

The Canadian Institute of Mining and Metallurgy and Petroleum (CIM) has defined Mineral Resources and Reserves in *The CIM Definition Standards for Mineral Resources and Reserves* (2014). Based on these guidelines, all mineral rights owned or leased by the Company at Rocanville can be assigned to Mineral Resource categories (Inferred, Indicated, and Measured) and Mineral Reserve categories (Probable and Proven). Mineral Resources (reported as in-place tonnes) and Mineral Reserves (reported as recoverable ore tonnes) for Rocanville as of December 31, 2017 are outlined in Table 1. Mineral Resources reported are exclusive of Mineral Reserves.

Table 1: Mineral Resources and Reserves for Rocanville Potash, as of December 31, 2017.

Proven Mineral Reserve (millions of tonnes recoverable ore)	204
Probable Mineral Reserve (millions of tonnes recoverable ore)	346
Total Mineral Reserve (millions of tonnes recoverable ore)	**550**
Measured Mineral Resource (millions of tonnes in-place)	1,740
Indicated Mineral Resource (millions of tonnes in-place)	1,373
Inferred Mineral Resource (millions of tonnes in-place)	1,376
Total Mineral Resource (millions of tonnes in-place)	**4,489**
Average % K_2O Grade (from Rocanville in-mine samples)	23.4%
Years of Remaining Mine Life	**52**

The average mineral grade Rocanville Mineral Resource and Mineral Reserve is 23.4% K_20 equivalent, and was determined from 39,245 in-mine samples collected over the life of the mine at Rocanville.

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

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 such hazards as: unusual or unexpected geological conditions, subsidence, water inflows of varying degree, and other situations associated with any potash mining operation.

2.0 INTRODUCTION

The purpose of this document is to give a formal reporting of potash Mineral Resource and Reserve for Rocanville Potash, and to provide a description of the method used to compute Mineral Resource and Reserve tonnages. Sources of geological and geotechnical information analysed from this study include:

- Publicly available geological maps, reports, and publications (listed in Section 27.0)
- Internal reports on historic exploration drillholes
- Data from recent exploration boreholes
- Hydrogeological analysis conducted in recent exploration boreholes
- Geological studies conducted at the Rocanville mine over the past 47 years

– In-mine geophysical studies conducted at the Rocanville mine over the past 47 years
– Geotechnical studies conducted for the Rocanville mine over the past 47 years
– 2D surface seismic exploration data (approximately 1,111 linear km collected to date)
– 3D surface seismic exploration data (an area covering approximately 627 km^2 to date)

All data and reports are archived at Nutrien's corporate office in Saskatoon and at the Rocanville mine. In addition, drillhole data (well-log data, drilling reports, drill-stem test results, etc.) are archived with the Saskatchewan Ministry of the Economy, Integrated Resource Information System (IRIS), and surface seismic data (shot records and stack) are archived through an offsite commercial data storage service.

All geological and geophysical data and information presented in this report were personally reviewed and inspected by Nutrien technical staff under the supervision of Craig Funk (P. Eng., P. Geo., Director, Earth Science). All historic mining and mineral rights data and information presented in this report were personally reviewed and inspected by Lisa MacKenzie (GIS Cert.) and Jodi Derkach (GIS Cert., P. Geo.). Jodi Derkach (GIS Cert., P. Geo.), Tanner Soroka (P. Geo.), and James Isbister (G.I.T) conducted or were involved with geological studies and investigations at Rocanville, and Randy Brehm (G.I.T.), and Matthew van den Berghe (G.I.T) conducted or were involved with geophysical studies and investigations at Rocanville. Each of these staff visits the Rocanville mine numerous times every year. Additionally, geological and geophysical data and information pertaining to the Rocanville mine are regularly presented to and discussed with technical and engineering staff from the Rocanville mine.

The authors of this report would like to acknowledge former staff, Arnfinn Prugger and Terry Danyluk for their past contributions to this report. The authors would also like to thank the many staff who provided information and expert reviews on portions of this report.

3.0 RELIANCE ON OTHER EXPERTS

Responsibility for the accuracy of the technical data presented in this report is assumed by the authors. Outside experts were not used in the preparation of this report.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 GENERAL

The Rocanville mine is located in south eastern Saskatchewan near the Saskatchewan-Manitoba Provincial Boundary, approximately 15 kilometers north-east of the town of Rocanville, Saskatchewan. The general location is shown on the map in Figure 3.

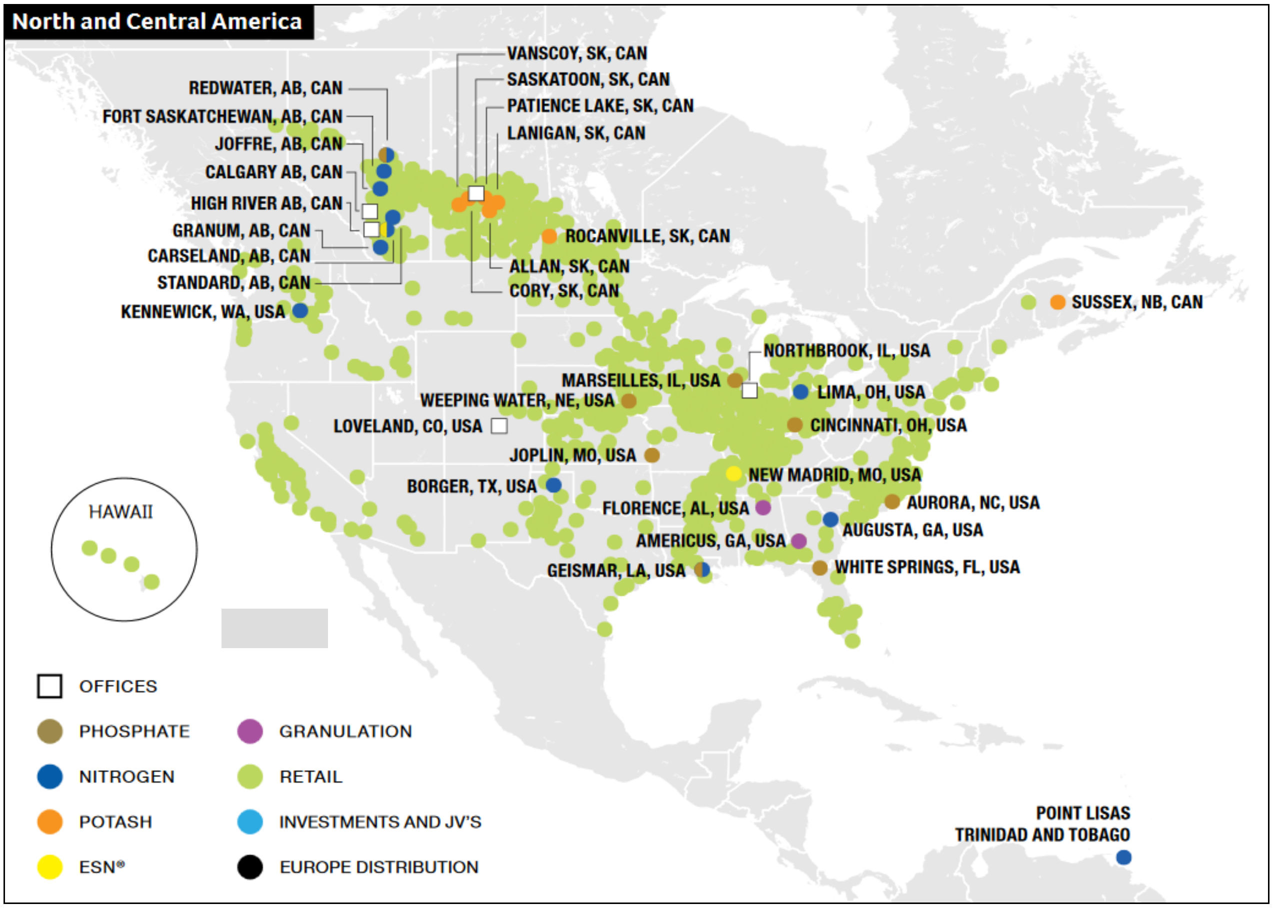


Figure 3: Map showing location of Nutrien Operations, including Rocanville.

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

- Latitude: 50 degrees 28 minutes 19.54 seconds North
- Longitude: 101 degrees 32 minutes 42.58 seconds West
- Elevation: 480.36 metres above mean Sea Level (SL)

- Northing: 5,596,826.122 m
- Easting: 745,137.307 m
- Projection: UTM
- Datum: NAD83
- Zone: 13

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

All permits and approvals required for the operation of a potash mine in Saskatchewan are in place at Rocanville.

Figure 4 is a more detailed map showing the location of Rocanville Potash relative to the potash deposits in Saskatchewan.

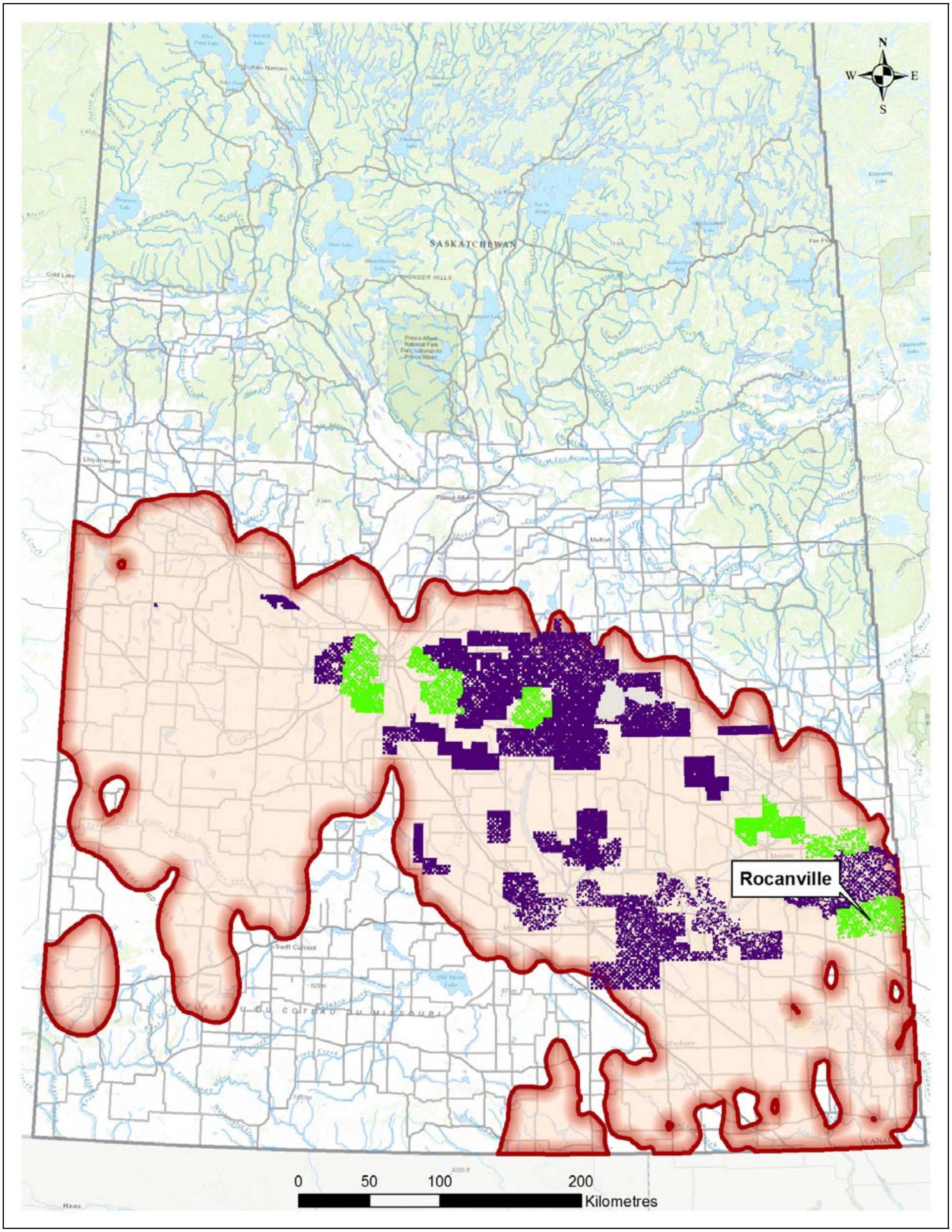


Figure 4: Map showing Rocanville Potash relative to Saskatchewan potash mineralization (pink). Also shown are Company (green) and other (purple) Crown Subsurface Mineral Leases (Saskatchewan Mining and Petroleum GeoAtlas).

4.2 MINERAL RIGHTS

Mineral rights at Rocanville are mined pursuant to Subsurface Mineral Leases with the Province of Saskatchewan, Canada (the Crown), and with non-Crown (Freehold) mineral rights owners. Crown mineral rights are governed by *The Subsurface Mineral Tenure Regulations, 2015,* and Crown Subsurface Mineral Leases are approved and issued by the Ministry of the Economy.

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

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

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

In October 2017, KL 305 was formed by the amalgamation of Crown Subsurface Leases KLSA 002 (KLSA 002B, following minor amendments) and KL 249. KL 305 covers an area of approximately hectares 113,975 (281,639 acres), as shown in Figure 5. At Rocanville, the Company has leased potash mineral rights for 54,184 hectares (133,892 acres) of Crown Land and owns or has leased approximately hectares 45,612 (112,710 acres) of Freehold Land within the Lease boundary. The Rocanville Crown Lease term is for a period of 21 years from October 2017, with renewals at the Company's option for 21 year periods. Freehold Lands also remain under lease providing, generally, that production is continuing and that there is a continuation of the Crown Lease.

Within the current Rocanville Crown Lease area, 80,181 hectares (198,132 acres) are mined pursuant to Unitization Agreements with mineral rights holders (Crown and Freehold) within two Unitized Areas shown in Figure 5. 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.

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.

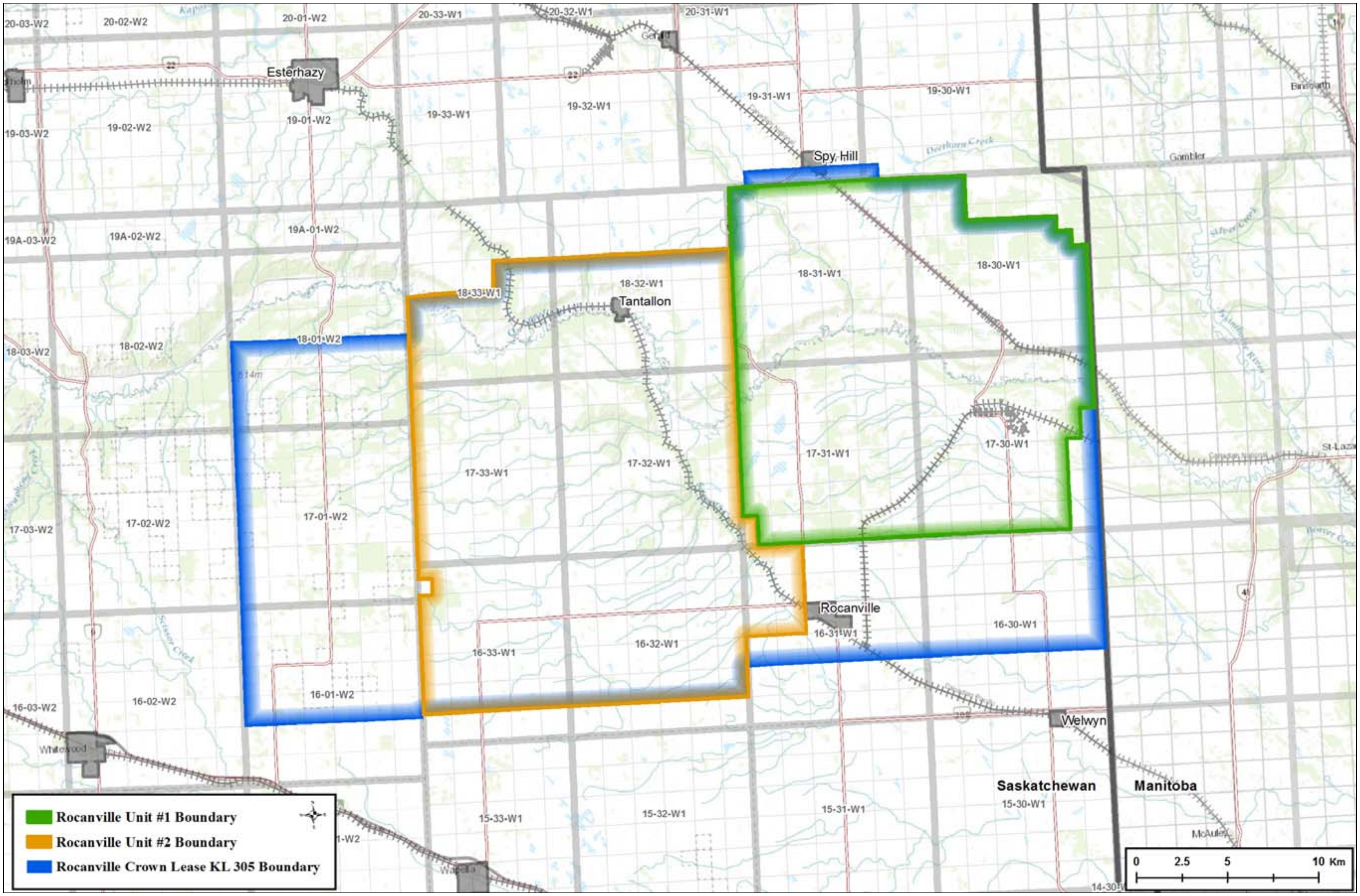


Figure 5: Map showing Rocanville Crown Lease KL 305 (blue), Unit Area #1 (green), and Unit Area #2 (orange).

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

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. Location of Rocanville Potash with respect to the features described in this section (major road and rail infrastructure, as well as nearby river systems) is shown in Figure 6.

The Rocanville mine is served by a number of towns and villages within 50 kilometres of the minesite. 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. The Qu'Appelle River valley, a glacial outflow channel, lies just north of the minesite, and the Assiniboine River Valley is a few kilometers to the east.

Climate at the Rocanville mine is typical for an inland prairie location at latitude 50º North (often characterized as "mid-latitude steppe" climate).

Part of the normal surface infrastructure associated with operating the potash mine in Saskatchewan includes waste disposal on the land and disposal of salt brine into deep subsurface aquifers. Facilities to carry out all aspects of these tasks are in place at Rocanville (for more information, see Section 20.0).

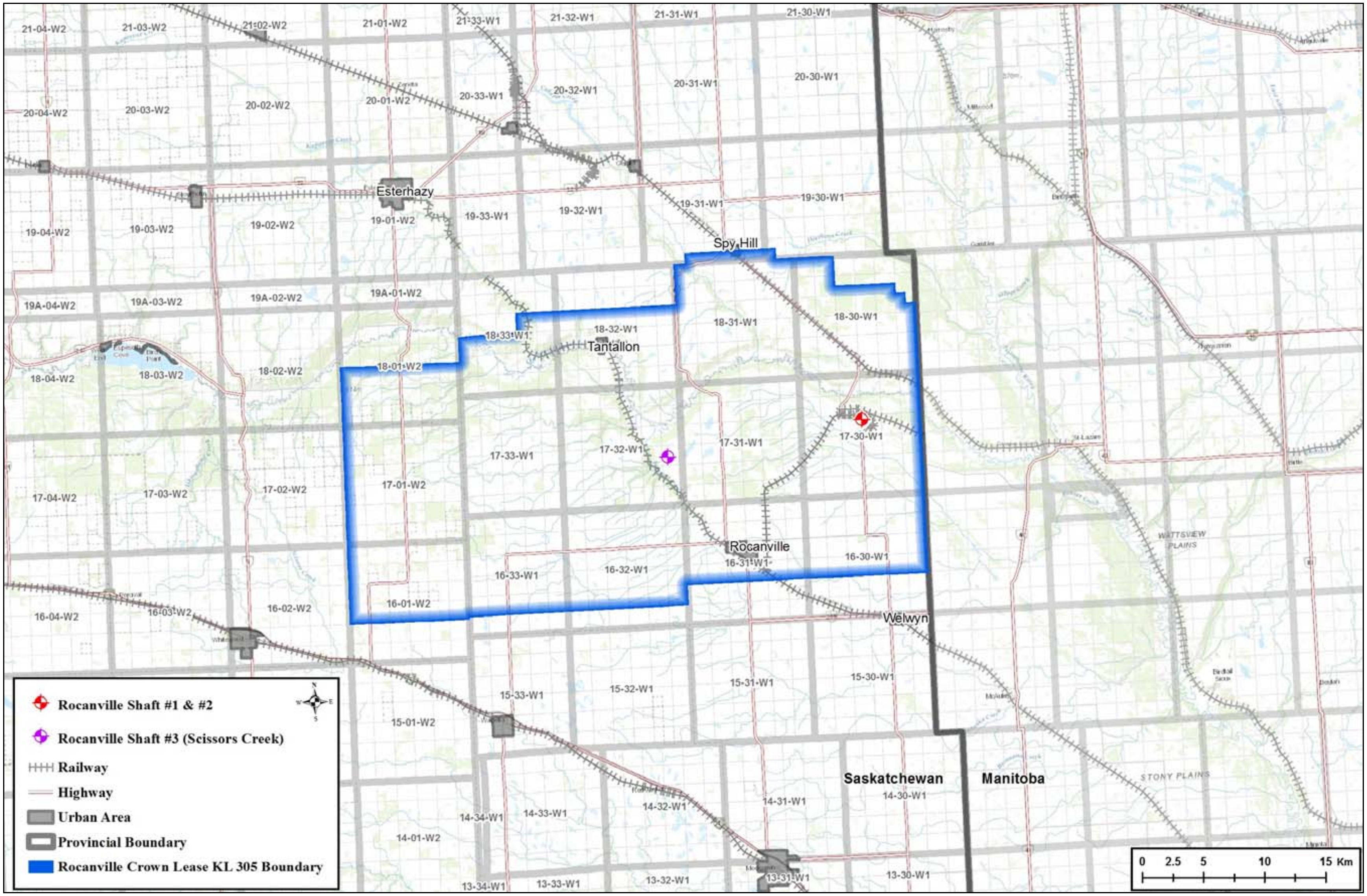


Figure 6: Map showing infrastructure (towns, rivers, roads, and railways) near Rocanville Potash. Rocanville shaft locations are shown in red and purple.

6.0 HISTORY

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

Exploration drilling for potash in the 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). PotashCorp acquired the Rocanville mine in 1977.

Effective January 1, 2018, PotashCorp and Agrium completed the Arrangement. As a result of completing the Arrangement, PotashCorp and Agrium are wholly-owned subsidiaries of Nutrien.

A major expansion to increase the nameplate capacity of Rocanville from 3.0 million tonnes to approximately 6.0 million tonnes of finished potash products per year was announced in 2007. Expansion work was substantially completed by the end of 2016, and production was ramped up through 2017 when a nameplate capacity of 6.5 million tonnes of finished potash product was announced. At present, the operational capability at Rocanville is 5.4 million tonnes of finished potash product. For further information, see Section 21.0.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

Much of southern Saskatchewan is underlain by the Prairie Evaporite Formation, a layered sequence of salts and anhydrite which contains one of the world’s largest deposits of potash. The potash extracted from the predominantly sylvinite ore has its main use as a fertilizer. A map showing the extent of the potash deposits in Saskatchewan is shown in Figure 7.

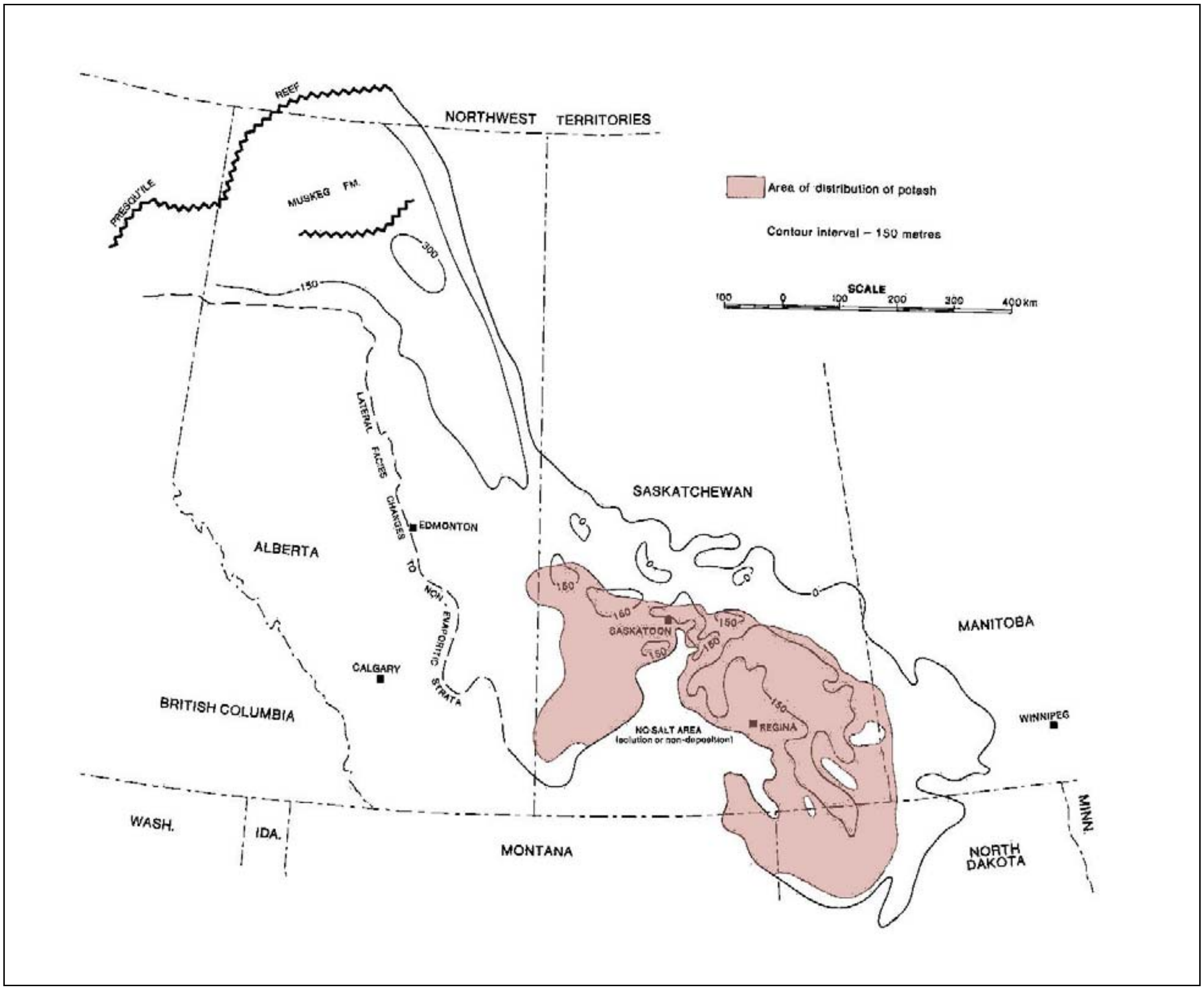


Figure 7: Thickness of the Prairie Evaporite Formation and area of potash distribution within these salts (from Fuzesy, 1982).

The 100 m to 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 (Fuzesy, 1982). The Phanerozoic stratigraphy of Saskatchewan is remarkable in that units are flat-lying and relatively undisturbed over very large areas. A geological section representing Saskatchewan stratigraphy is shown in Figure 8. Rocanville stratigraphy differs slightly from this regional model in that Mississippian carbonates and Jurassic clastics are present.

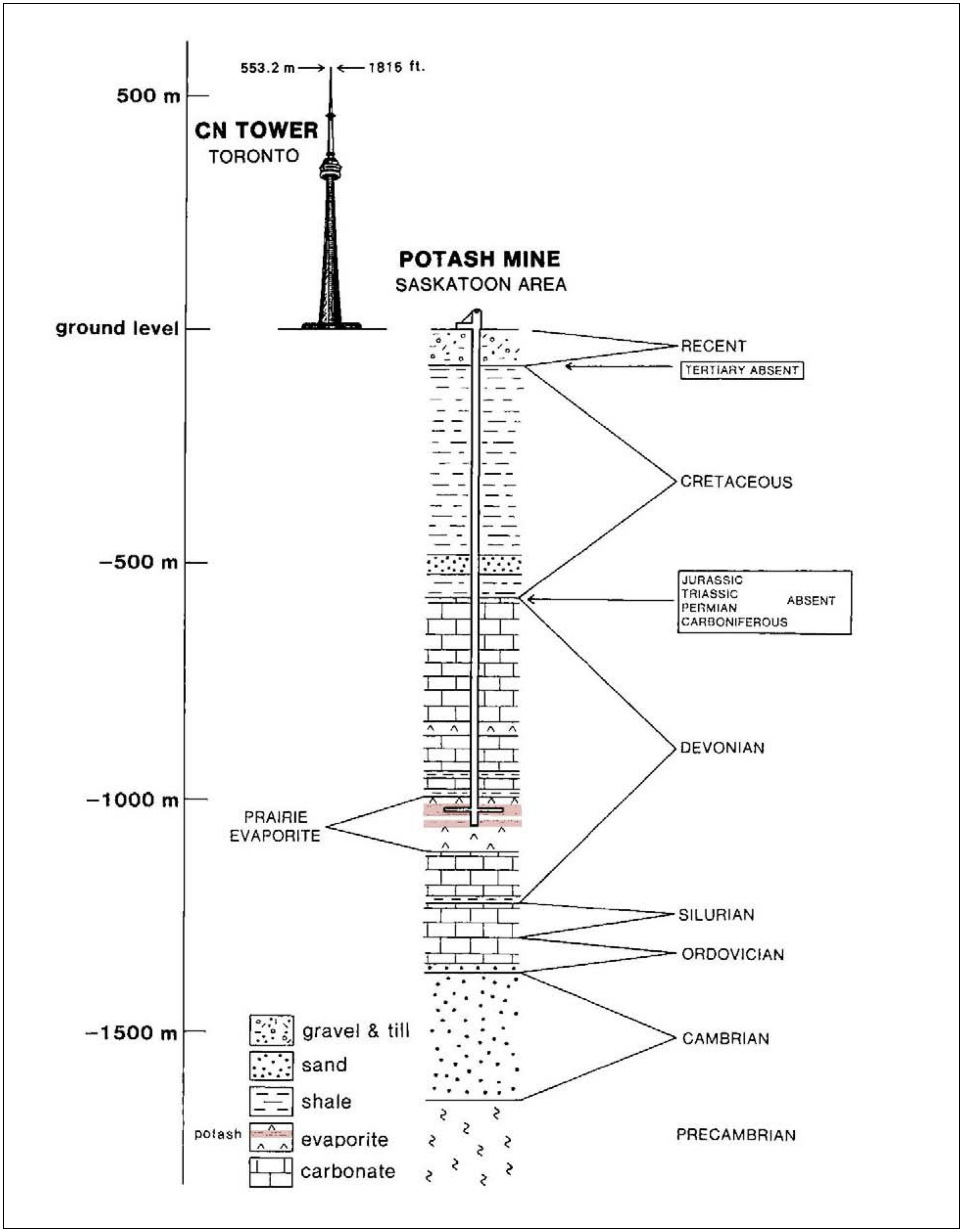


Figure 8: Diagrammatic vertical section showing basic layered-Earth stratigraphy in a typical Saskatchewan potash region (from Fuzesy, 1982).

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 minor carnallite ($KMgCl_3 \cdot 6H_2O$) and water insolubles. Potash fertilizer is concentrated, nearly pure KCl (i.e. greater than 95% pure KCl), but ore grade is traditionally reported on a % K_2O equivalent basis. The "% K_2O equivalent" gives a standard measurement of the nutrient value of different potassium-bearing rocks and minerals. To convert from % K_2O equivalent tonnes to actual KCl tonnes, multiply by 1.58.

Over the past three years (2015, 2016, 2017), the average, measured potash ore grade of the mill feed at Rocanville was 23.3% K_20 equivalent. The average ore grade reported from 31 surface drillhole intersections, all within Rocanville Lease KL 305, is 22.4% K_20 equivalent (discussed further in Section 10.0). The average ore grade observed from 39,245 in-mine chip samples taken over 47 years of mining (to December 31, 2017) is 23.4% K_20 equivalent (discussed further in Section 11.2).

8.0 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. A geological section showing potash members that occur in Saskatchewan is shown in Figure 9.

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

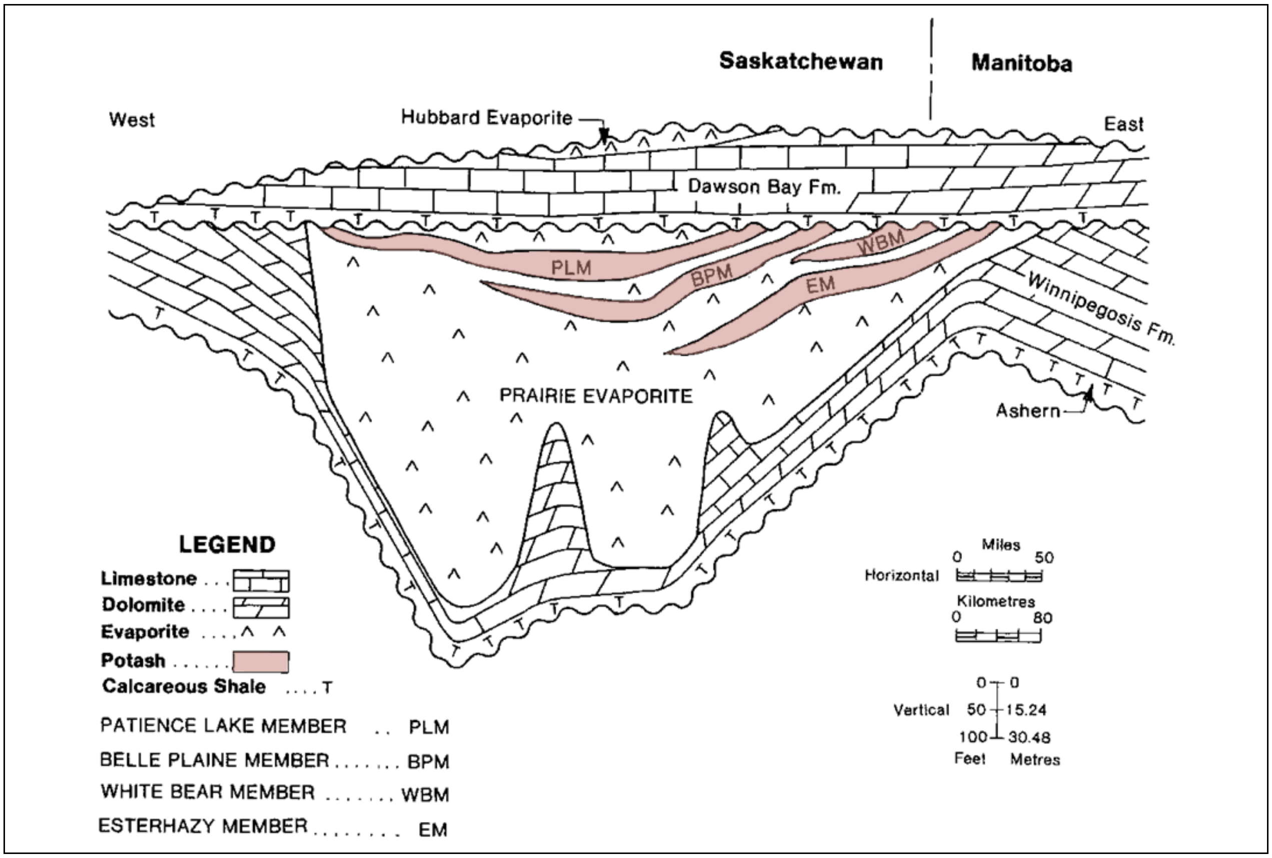


Figure 9: Schematic cross-section across southern Saskatchewan of the Prairie Evaporite Formation showing relative position of potash members. At Rocanville, potash is mined from the Esterhazy Member, labeled "EM" (from Fuzesy, 1982).

9.0 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 (results are discussed in Section 10.0). PotashCorp did not conduct any exploration drilling after start-up until 2008, when a potash exploration program was initiated under the direction of PotashCorp staff to determine the extent of potash mineralization in the western portion of the current Lease. Between 2007 and 2008, exploration work consisted of:

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

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

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

A map showing all potash exploration coverage near Rocanville Potash (drillholes, 2D seismic and 3D seismic coverage) is shown in Figure 10. A detailed air photo showing the area around the Rocanville surface operations is shown in Figure 11. A detailed air photo showing the area around the Scissors Creek surface operations is shown in Figure 12.

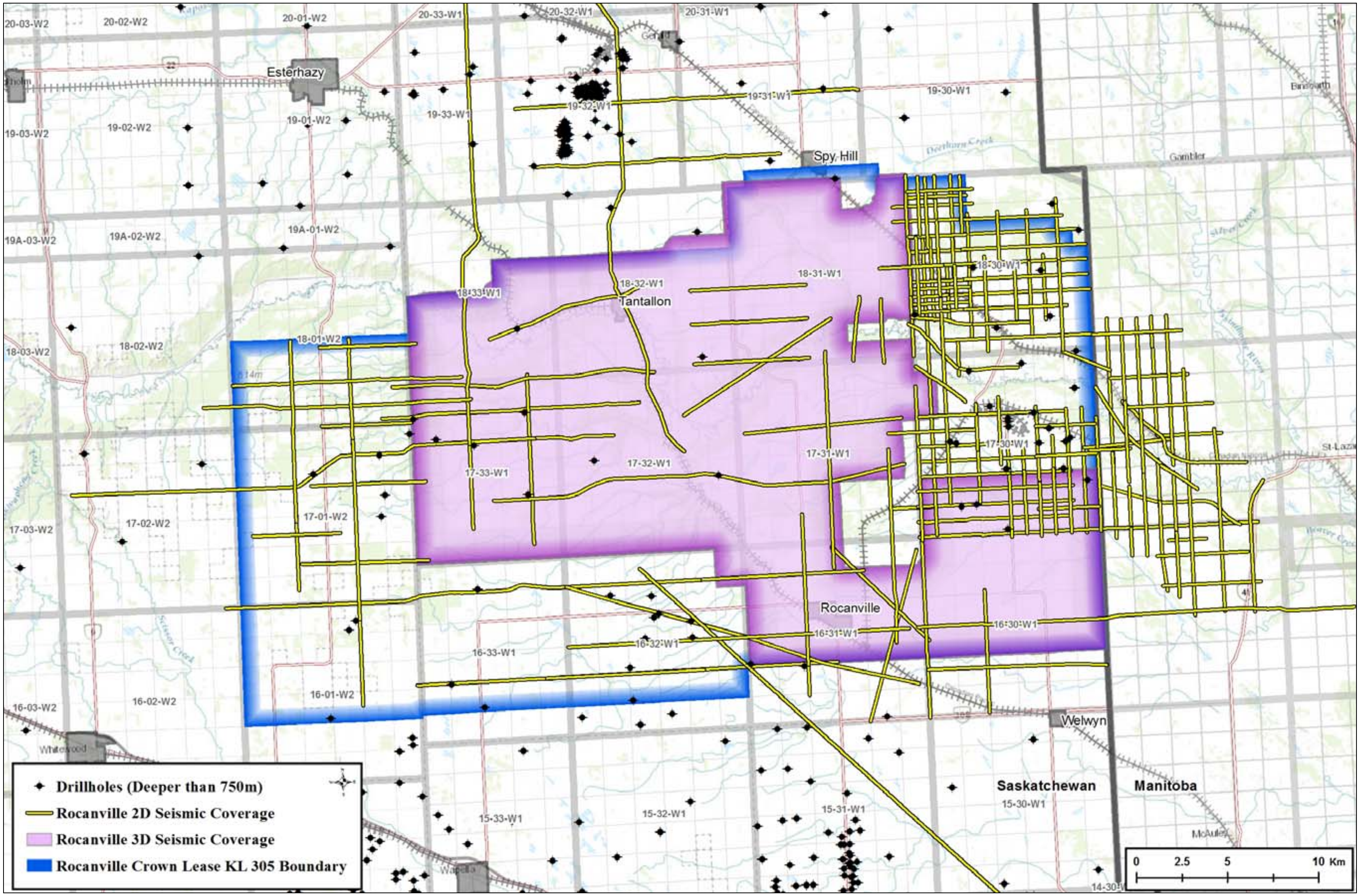


Figure 10: Potash exploration at Rocanville (2D & 3D surface seismic and drillholes deeper than 750 m).

Figure 11: Air photo showing the Rocanville Mine surface operations and Tailings Management Area.

Figure 12: Air photo showing the Scissors Creek surface operations.

A typical seismic section from the Rocanville area is shown in Figure 13. This is a fence section extracted from the "Rocanville-Cutarm" 2008 3D survey. A 2x vertical stretch has been applied to these data. The vertical scale is in metres relative to sea level (SL). The seismic section is coloured with rock velocities computed from the seismic data: blues are slow (shales), reds are fast (carbonates), and pinks / whites are intermediate (sand, salt). Note that the reflectors at both top and bottom of the unit marked Prairie Evaporite (salt) are continuous. This indicates an undisturbed, flat-lying salt within which potash is likely to be found based on 47 years of mining experience at Rocanville. The reflection from a Rocanville mine panel also shows up.

Figure 14 is a detailed (zoomed-in) view of the data plotted in Figure 13. In this figure, mine elevations from the in-mine level survey are added into the seismic data volume; the seismic data were acquired in 2007 and the room plotted in the figure was cut in 2008.

Experience has shown that the potash mining zone is continuous when seismic data are undisturbed and flat-lying, as shown in Figure 13. 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.

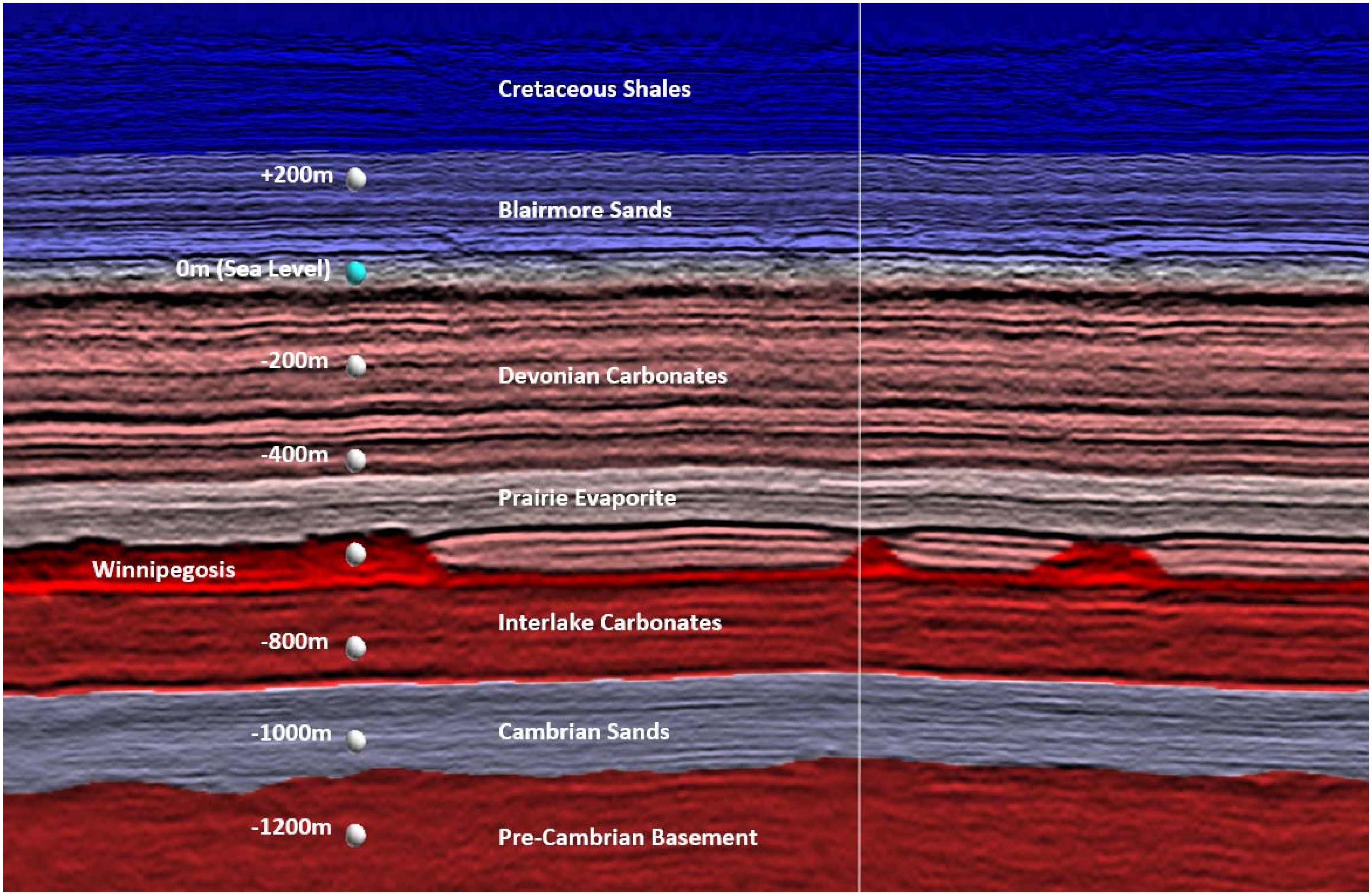


Figure 13: Seismic section from the Rocanville 2007 3D seismic data volume showing relative rock velocities of fast (red), slow (blue) and in between (white/pink). Vertical exaggeration is 2X, Sea Level (SL) is marked in metres, and major geological units are labeled.

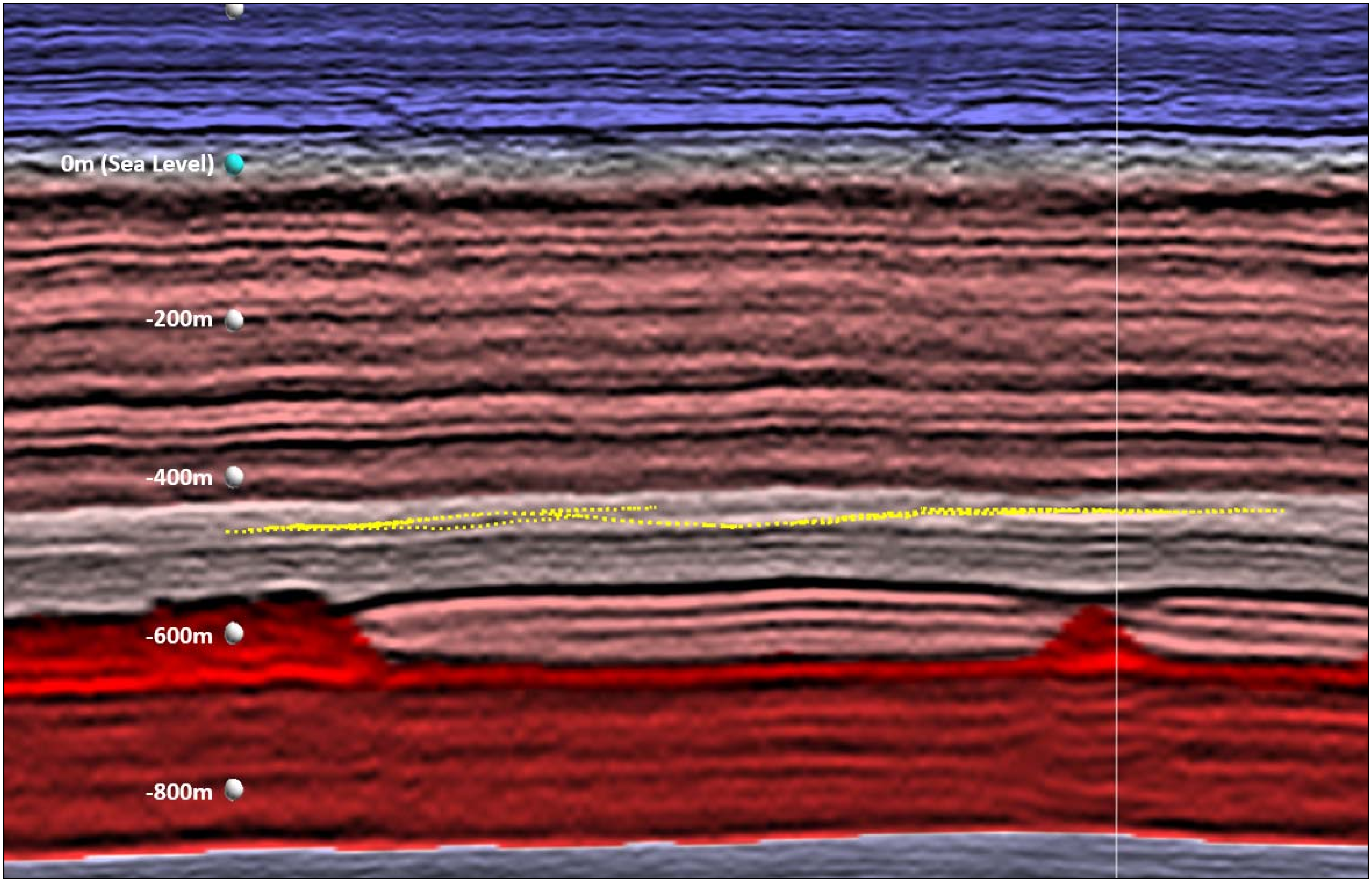


Figure 14: Detail of seismic section from the Rocanville 3D seismic data volume (see text for explanation). Mine room is marked in yellow. Ground surface is at approximately +500 m above Sea Level.

10.0 DRILLING

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

Original Rocanville drillhole assay data are taken from Robertson et al. (1977), where the best 2.44 m (8') 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 Lease KL 305 and are shown in Table 2. See also Figure 10 for drillhole locations.

Potash intersections for one drillhole in Table 2 revealed anomalously low grades. With nearly 50 years of mining experience at Rocanville, it is the opinion of the authors that areas of low grade (i.e. <15% K_2O) are localized with a relatively small lateral extent. Therefore, the average grade calculation does not include these drillholes.

No further exploration drilling was done by the Company at Rocanville until 2008, when four potash exploration drillholes and one shaft pilot hole were completed. The basic drilling program was specified by PotashCorp technical staff. Figure 15 is a photograph showing the drill site for the Scissors Creek shaft pilot hole. The drill rig shown in the photo is the same one used to drill the four exploration holes in the 2008 exploration program.

Figure 15: Drilling of pilot hole at the Scissors Creek shaft site in April 2009 (photo by K. Weedmark, Moosomin World Spectator).

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 as described in Section 12.0 of this report. The assay results for these drillholes are listed in Table 2. Note that 2008 assay results are for the best 2.59 m (8.5') mining interval, since an operational decision was made to develop parts of the western portion of Rocanville Lease KL 305 at a height of 2.59 m (8.5'). 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') 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 2).

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

Table 2: Assay results for all potash test holes within Rocanville Lease KL 305.

Weighted Average for 2.44 m (8') Mining Interval				
Drillhole	**Year Drilled**	**% K2O**	**% 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
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') mining interval is reported

11.0 SAMPLING METHOD AND APPROACH

11.1 BASIC APPROACH

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. Potash core samples are acquired as described in Section 10.0. Short segments of core usually about 0.3 m (1') in length are labeled based on visible changes in mineralization, and sometimes based on more or less fixed intervals. Each segment of core is then split in half using some type of rock or masonry saw. The split portion of core is then bagged and labeled and sent to a laboratory for chemical analysis. Samples from historical drillholes were sometimes quartered; most historical samples have deteriorated substantially. Exploration drillhole samples from 2008 were halved. Potash samples remain stored at the Subsurface Geological Laboratory of the Saskatchewan Ministry of the Economy (Regina, Saskatchewan).

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

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

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

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

Detailed sample preparation was as follows:

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

2. Clean out jaw crusher, and place a clean 18.93 L (5 gallon) pail under crusher. Start up crusher, check 0 setting, and then set gap to 10 mm. (Note: jaw crusher should be running when adjusting gap).
3. Put approximately half of the broken core through the jaw crusher. Shake pan under the jaw crusher occasionally to spread out material. Remove crushed material and place on a full height 5 mesh screen with a full height pan underneath. Shake and tap screen by hand. Place +5 mesh in pan to be re-crushed. Place -5 mesh in a separate pan for crushed material.
4. Repeat step #3 with the other half of the original broken sample.
5. Re-crush the +5 mesh from step #3 & #4 with 10 mm opening on jaw crusher. Screen out +5 and -5.
6. Adjust jaw crusher to 5 mm opening and crush +5. Screen out +5 and -5. Repeat crushing +5 mesh at 5 mm opening.
7. Adjust crusher to 2.5 mm opening and crush +5 mesh. Screen out +5 and -5. Repeat crushing +5 mesh at 2.5 mm opening.
8. Combine all crushed fractions and mix well. Place in a well-labeled bag. Seal tightly.
9. Split out ¼ from each crushed sample and pulverize for chemical analysis. The remaining ¾ of the sample is bagged and sealed for future test work.

After chemical analysis was completed, PotashCorp's technical staff identified the ore zone (2.59 m) section of the cores. A composite sample of the ore zone was prepared for each core location. Flotation, liberation and metallurgical analysis were conducted on the composite samples to confirm milling assumptions for the ore in the western portion of Rocanville Lease KL 305. An example of the potash mineralized zone seen in drillhole PCS Tantallon 08-02-18-32 W1 is shown in Figure 16.

Figure 16: 82.6 mm (3¼") diameter potash core from drillhole PCS Tantallon 08-02-18-32 W1. The top of the best 2.59 m (8.5') potash interval for this drillhole is indicated by the yellow arrow at 1035.41 m depth, and the base of the interval is indicated by the red arrow at 1038.00 m. The blue line highlights the best 2.59 m potash interval.

An assay plot corresponding to PCS Tantallon 08-02-18-32 W1 core (Figure 16) is shown in Figure 17.

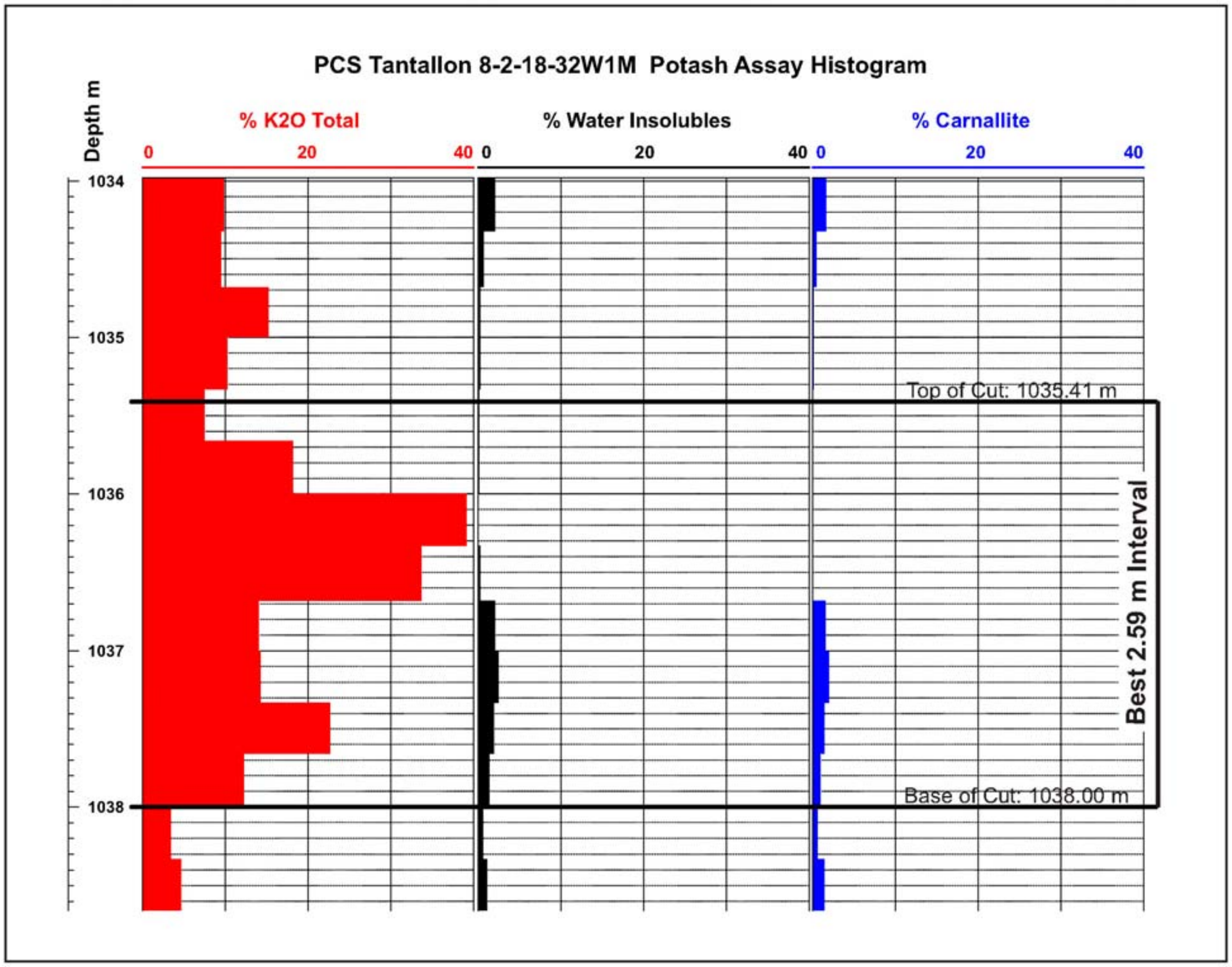


Figure 17: Potash assay plot for drillhole PCS Tantallon 08-02-18-32 W1 indicating the best 2.59 m (8.5') mining interval.

At Rocanville, on-borer potassium sensing instrumentation is used to keep continuous mining machines centered on the optimal (highest mineral grade) portion of the potash seam.

Table 3 lists the assay values used in the Figure 17 plot. Note that sample 5 in

Table 3 is split into two samples as it crosses the optimal mining interval. This sample is deemed to be uniformly distributed through 1035.33 m to 1035.66 m.

Table 3: Values for potash assay plot in Figure 17.

PCS Tantallon 08-02-18-32 W1 Assay Values						
#	From (m)	To (m)	Interval (m)	% K2O	% Water Insoluble	% Carnallite
1	1033.98	1034.32	0.34	9.83	2.04	1.611
2	1034.32	1034.68	0.36	9.50	0.65	0.480
3	1034.68	1035.00	0.32	15.23	0.28	0.114
4	1035.00	1035.33	0.33	10.29	0.25	0.149
5	1035.33	1035.41	0.08	7.52	0.09	0.046
2.59 m (8.5') Mining Interval Top of Cut 1035.41 m						
5	1035.41	1035.66	0.25	7.52	0.09	0.046
6	1035.66	1036.00	0.34	18.18	0.11	0.000
7	1036.00	1036.33	0.33	39.13	0.07	0.000
8	1036.33	1036.68	0.35	33.72	0.28	0.000
9	1036.68	1037.00	0.32	14.07	2.08	1.543
10	1037.00	1037.33	0.33	14.24	2.44	1.966
11	1037.33	1037.66	0.33	22.66	1.93	1.440
12	1037.66	1038.00	0.34	12.24	1.37	0.983
2.59 m (8.5') Mining Interval Base of Cut 1038.00 m						
13	1038.00	1038.33	0.33	3.44	0.61	0.583
14	1038.33	1038.66	0.33	4.64	1.10	1.417
2.59m (8.5') Mining Interval Weighted Average				**20.70**	**1.06**	**0.76**

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

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

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

11.2 MEAN POTASH MINERAL GRADE FROM IN-MINE SAMPLES

In-mine grade samples are taken at 60 m intervals in every underground mine room at Rocanville. Traditionally, Rocanville in-mine grade samples were collected as chips along a sidewall from back (roof) to floor; this methodology is referred to as channel sampling. In 2015, in-mine grade samples were taken from the floor (i.e. grab sampling) at the same 60 m sampling interval. Nutrien technical staff believe that collecting samples from the floor is as representative of ore grade in the mining interval as channel sampling, and far less labour-intensive. Grab sample results are currently being compared to channel sample results to thoroughly assess the best practice moving forward.
To the end of 2017, 39,245 in-mine ore grade samples were collected. All samples were analysed in the Rocanville mill laboratory using analysis techniques that were up-to-date for the era in which the sample was collected. Figure 18 shows a histogram of in-mine chip sample assay results from the Rocanville mine. The mean ore grade for this family of in-mine samples is 23.4% K_2O equivalent, while the median ore grade for this family of in-mine samples is 23.6% K_2O. The mean ore grade from in-mine samples is considered to be a more representative estimate of expected potash ore grade at Rocanville than drilling results presented in Section 10.0.

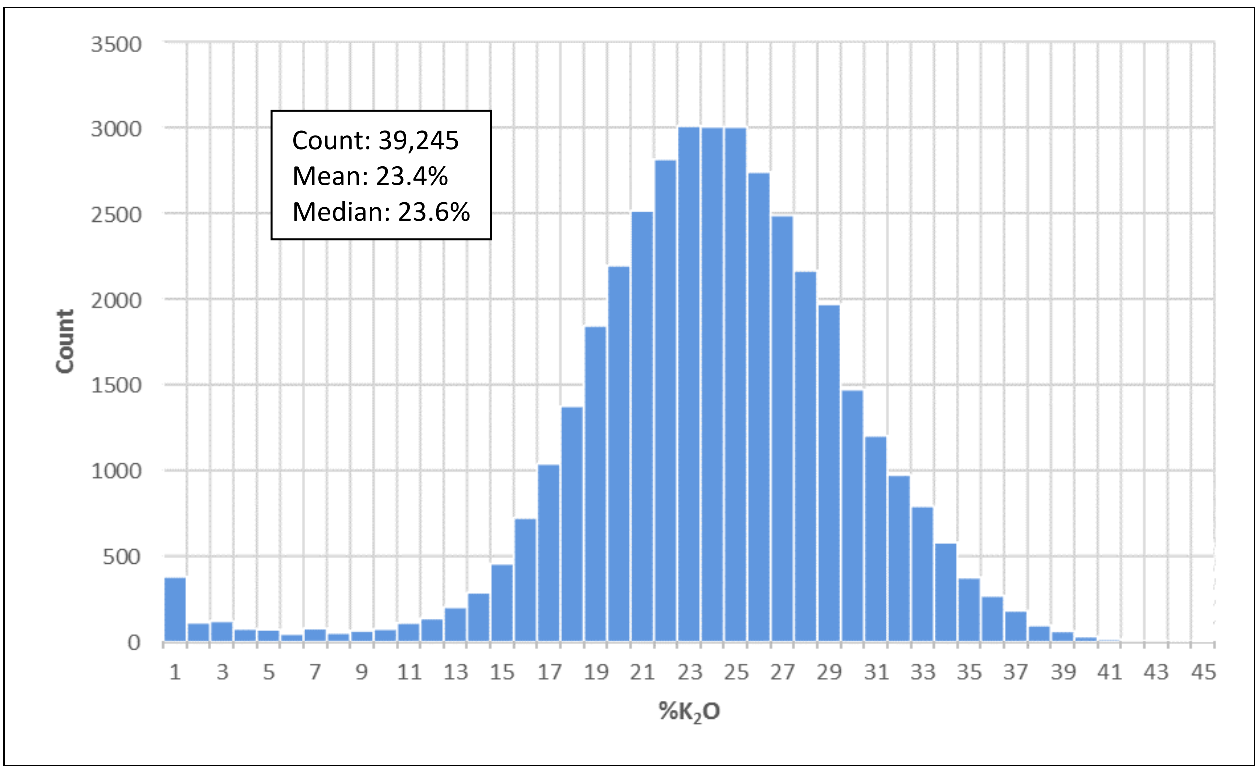


Figure 18: Histogram of potash ore grade from 39,245 Rocanville in-mine samples (collected 1970 – 2017).

11.3 POTASH ORE DENSITY FROM IN-MINE MINERAL GRADE MEAS UREMENTS

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

Another approach is to look up density values for the minerals which constitute potash rock – values determined in a laboratory to a high degree of accuracy and published in reliable scientific journals / textbooks – then apply these densities to the bulk-rock in some way. Given that the density of each pure mineral is quantified and known, the only difficult aspect of this approach is determining what proportion of each mineral makes up the bulk-rock at a particular sample location. This is the methodology that was used to determine an estimate of bulk-rock density for the Rocanville ore zone. An obvious benefit of this approach is that a mean value computed on the distribution shown in Figure 18 (39,245 sample points) has a much greater confidence interval than the mean value computed from 31 drillhole assays (Section 10.0).

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

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

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

Halite – NaCl

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

Sylvite – KCl

- K 52.45%
- Cl 47.55%
- Oxide form K_2O 63.18%
- Mineral density 1990 kg / m^3

Carnallite – $KMgCl_3 \cdot 6(H_2O)$

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

Insolubles

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

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

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

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

The percent of halite is assumed to be:

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

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

$$\mathbf{RHO_{bulk\text{-}rock}} = (\text{Halite density} * \%\ \text{Halite}) + (\text{Sylvite density} * \%\ \text{Sylvite}) + (\text{Carnallite density} * \%\ \text{Carnallite}) + (\text{Insol. density} * \%\ \text{Insol.})$$

$$= (2170 * \%\ \text{Halite}) + (1990 * \%\ \text{Sylvite}) + (1600 * \%\ \text{Carnallite}) + (2790 * \%\ \text{Insol.})$$

$$= 2080$$

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

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

12.0 DATA VERIFICATION

12.1 ASSAY DATA

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

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

Ore grades of in-mine samples are measured inhouse 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, discussed in Section 11.1, does occur.

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

12.2 EXPLORATION DATA

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

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

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

Data for the Mineral Resource and Reserve estimates for Rocanville mine reported in Sections 14.0 and 15.0 were verified by PotashCorp staff as follows:

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

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

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

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

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

See also Section 17.0.

14.0 MINERAL RESOURCE ESTIMATES

14.1 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:

1) **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.

2) **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.

3) **Measured Mineral Resource**: that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.

CIM defines Modifying Factors as “considerations used to convert Mineral Resources into Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.”

In south-central Saskatchewan, where geological correlations are straightforward, and within a (potash) Subsurface Mineral Lease with an operating potash mine, Mineral Resource categories are generally characterized by PotashCorp as follows:

1) **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 Crown Subsurface Mineral Lease KL 305.

2) **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 Crown Subsurface Mineral Lease KL 305.

3) **Measured Mineral Resource:** areas of detailed, physical exploration through actual drilling or mine sampling, near existing underground workings, and within Crown Subsurface Mineral Lease KL 305.

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

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

14.2 ROCANVILLE POTASH RESOURCE CALCULATIONS

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. Based on the definitions and guidelines in Section 14.1, all mineral rights leased or owned by the Company, and within Crown Subsurface Mineral Lease KL 305, are assigned to one of the three Mineral Resource categories.

Mineral Resources are reported as mineralization in-place and are exclusive of Mineral Reserves. In-place tonnes were calculated for each of the Mineral Resource categories using the following parameters:

Mining Height: 2.51 metres (8.25 feet)
Ore Density: 2.080 tonnes / cubic metre

The Mineral Resources for Rocanville Potash, as of December 31, 2017 are as follows:

Inferred Resource	1,376	millions of tonnes
Indicated Resource	1,373	millions of tonnes
Measured Resource	1,740	millions of tonnes
Total Resource	4,489	millions of tonnes

Rocanville Mineral Resources are plotted in Figure 19.

The average mineral grade of the Rocanville Mineral Resource is 23.4% K_20 equivalent, and was determined from 39,245 in-mine samples at Rocanville. See Section 11.2 for more detail.

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.

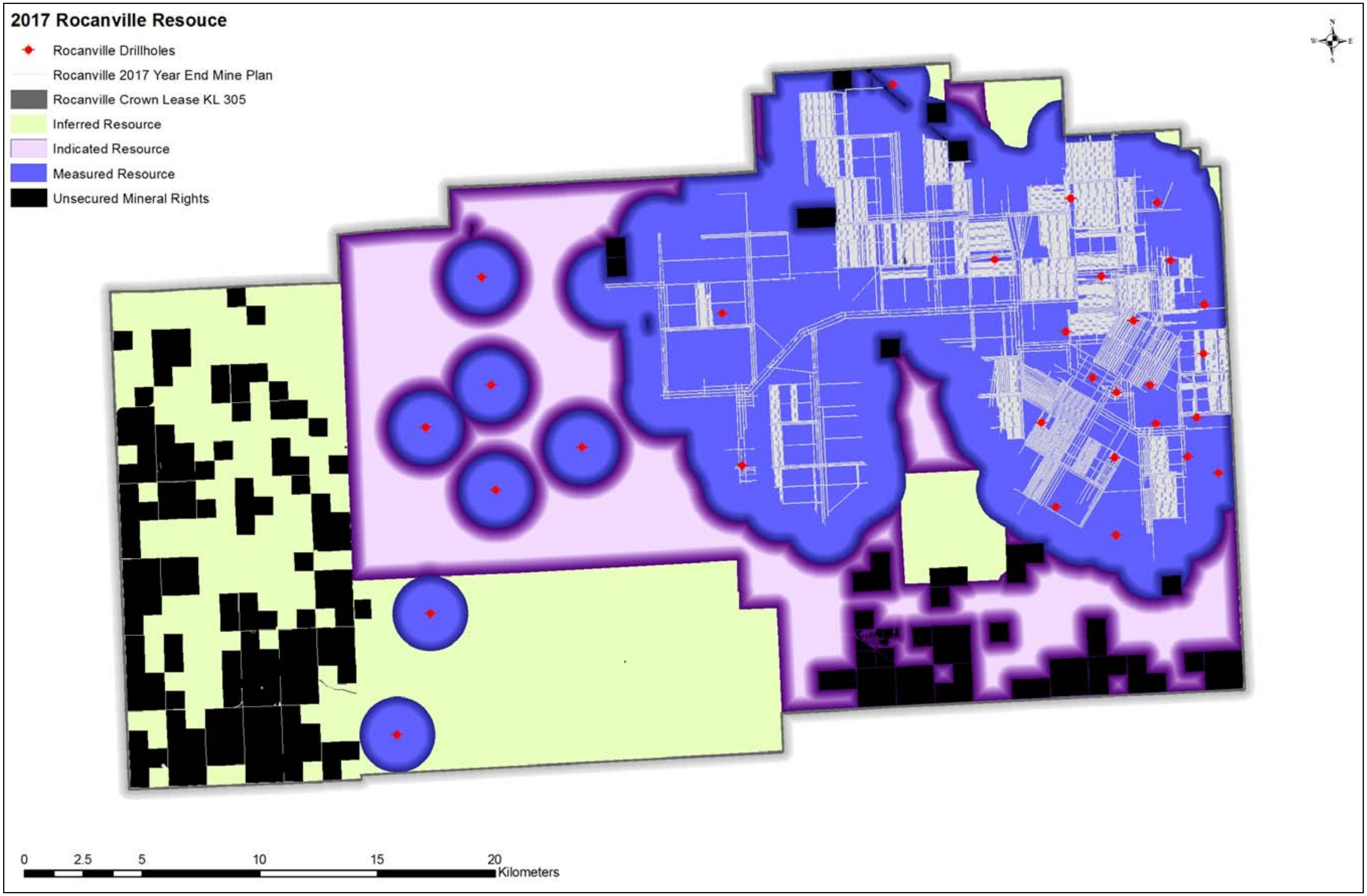


Figure 19: Map showing Rocanville Mineral Resource with mine workings to December 2017.

15.0 MINERAL RESERVE ESTIMATES

15.1 DEFINITIONS OF MINERAL RESERVE

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

1) **Probable Mineral Reserve:** the economically mineable part of an Indicated, and in some circumstances, 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.

2) **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.

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."

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

1) **Probable Mineral Reserve:** identified recoverable potash mineralization classified as a Measured Resource, within a 1.6 km (1 mile) radius of a sampled mine entry or contiguous exploration drillhole, and within Crown Subsurface Mineral Lease KL 305.

2) **Proven Mineral Reserve**: identified recoverable potash mineralization classified as a Measured Resource, delineated on at least three sides by sampled mined entries or exploration drillholes to a maximum of 3.2 km (2 miles) apart, and within Crown Subsurface Mineral Lease KL 305.

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

15.2 ROCANVILLE POTASH RESERVE CALCULATIONS

Using the definitions outlined in Section 15.1, 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 in Section 15.1. An overall extraction rate for the Rocanville mine has been applied to the qualifying areas outlined as Measured Resource in Figure 19. This extraction rate is significantly lower than the local extraction rate described in Section 16.1, as it takes into account areas which cannot be mined due to unfavorable geology.

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

Note that only drillholes whose 1.6 km radii are contiguous to mine workings or the 1.6 km radius placed around mine workings are used to compute Probable Mineral Reserve. The remaining non-contiguous drillholes remain in the Measured Resource category.

The Mineral Reserves for Rocanville Potash as of December 31, 2017 are as follows:

Probable Reserve	346	millions of tonnes
Proven Reserve	204	millions of tonnes
Total Reserve	550	millions of tonnes

Rocanville Mineral Reserves are plotted in Figure 20.

The average mineral grade of the Rocanville Mineral Reserve is 23.4% K_20 equivalent, and was determined from 39,245 in-mine samples at Rocanville.

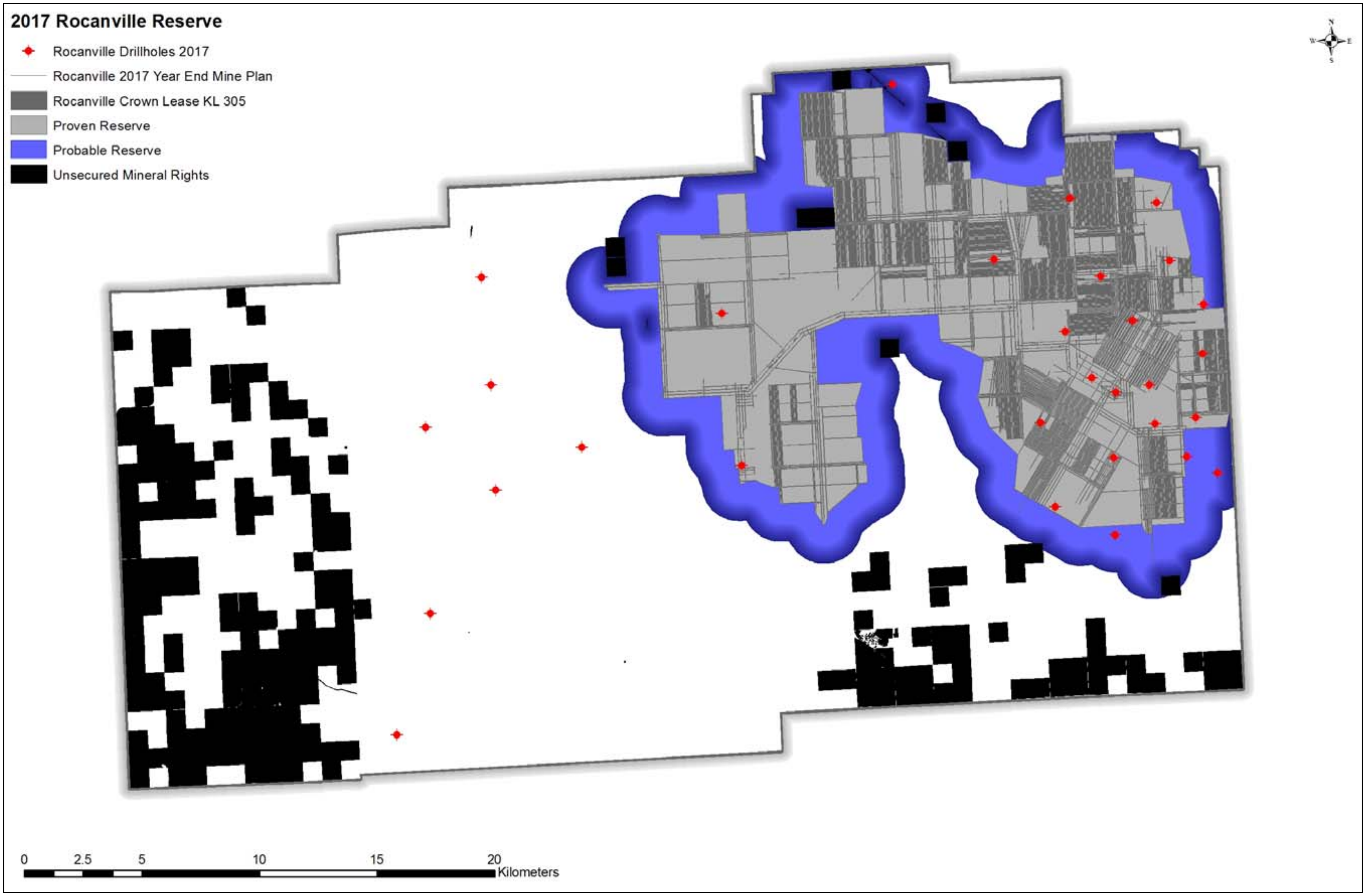


Figure 20: Map showing Rocanville Mineral Reserve with mine workings to December 2017.

16.0 MINING METHOD

16.1 MINING OPERATIONS

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

- Shafts are sunk to the potash ore body;
- Continuous mining machines cut out the ore, which is hoisted to surface through the shafts;
- Raw potash is processed and concentrated in a mill on surface; and
- Concentrated finished potash products (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. The current operational capability of the Rocanville facility is 5.4 million tonnes per year.

Virtually all Rocanville underground mining rooms are in one potash mineralized zone, within the Esterhazy Member the Prairie Evaporite Formation (the host evaporite salt). In contrast, Nutrien potash mines further west in Saskatchewan mine in a different potash layer, the Patience Lake Member of the Prairie Evaporite. Saskatchewan potash geology is illustrated in Figure 21. Rocanville mine elevations range from approximately 895 m to 1040 m, averaging approximately 955 m. Within the Rocanville Lease, depths to the top of the ore zone can reach up 1250 m (the deepest potash exploration drillhole), but are expected to be shallower than 1200 m over most of the lease area. Mine workings are protected from aquifers in overlying formations by approximately 30 m of overlying salt and potash beds, along with salt plugged porosity in the Lower Dawson Bay Formation, a carbonate layer lying immediately above potash hosting salt beds.

The Rocanville mine is a conventional underground mining operation whereby continuous mining machines are used to excavate the potash ore by the long-room and pillar mining method. Continuous conveyor belts transport ore from the mining face to the bottom of the production shaft. 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 ‘) 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’). These five older machines were recently adjusted to cut a thicker 2.51 m (8.25’) mining height. Six newly-acquired boring machines cut a slightly thicker 2.59 m (8.5’) 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’) was applied to Mineral Resource and Reserve calculations.

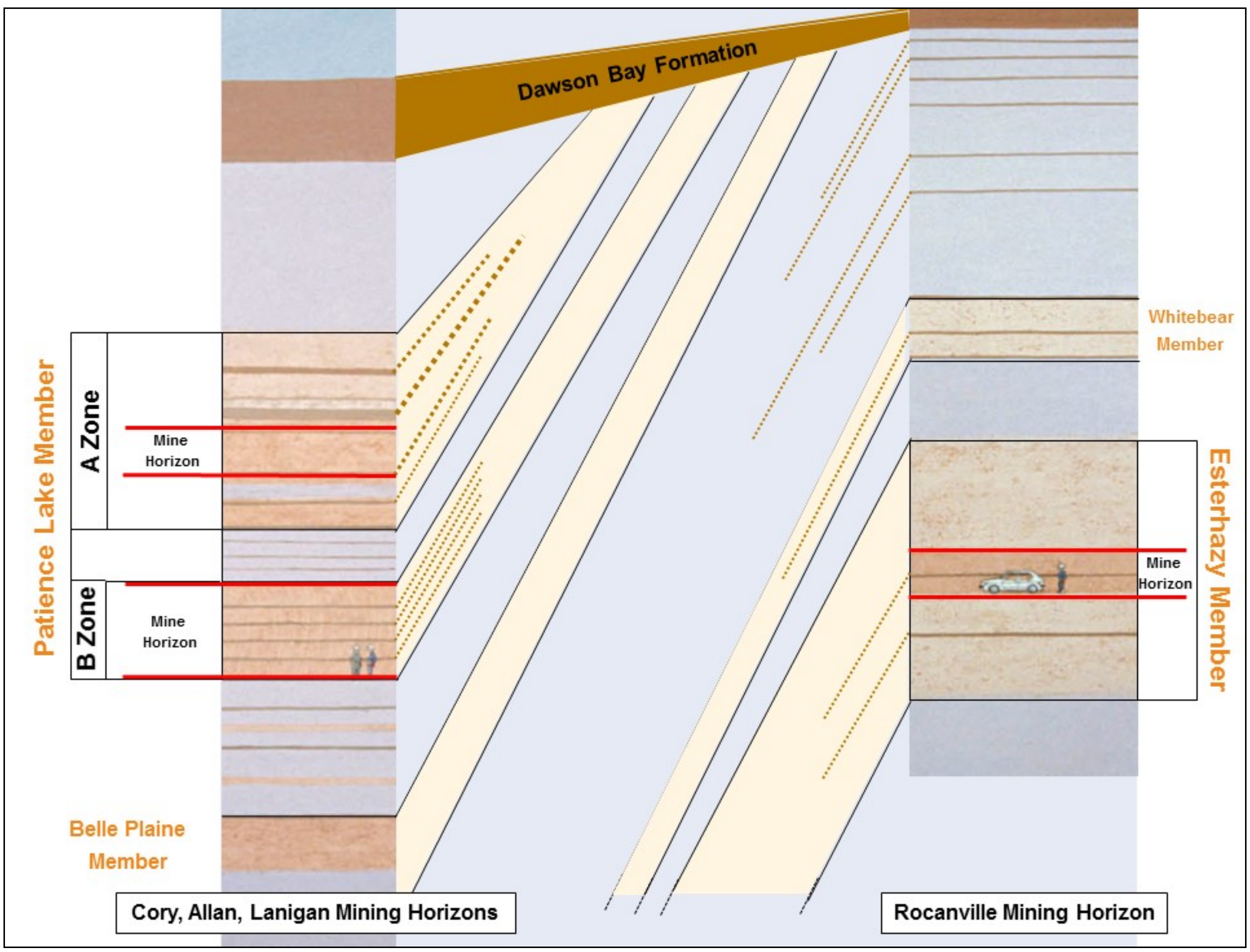


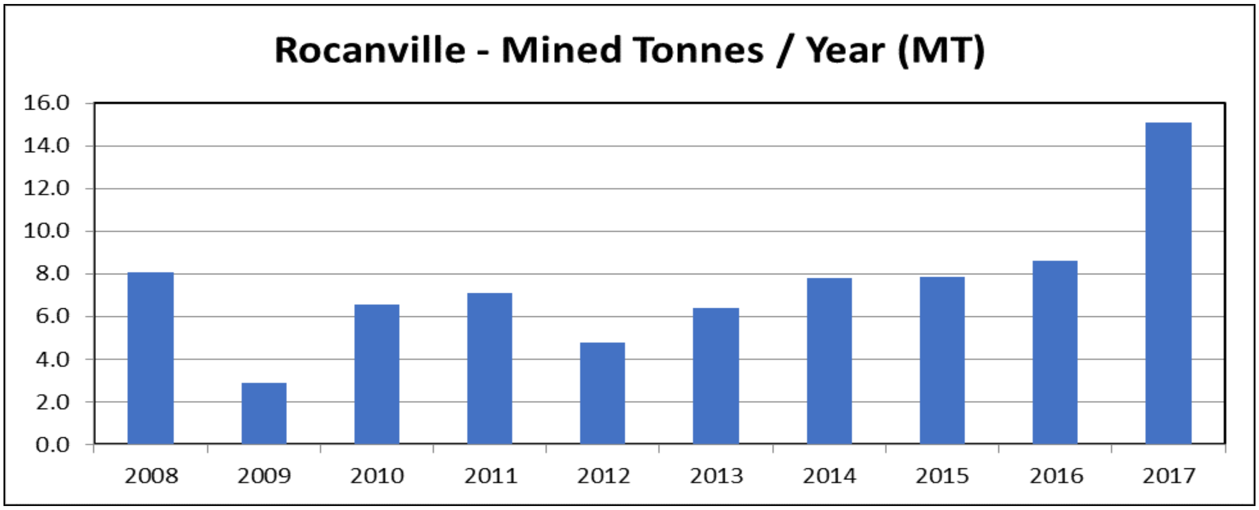
Figure 21: Typical stratigraphic section correlated with composite photos covering both the Patience Lake Member and the Esterhazy Member potash production intervals. At Rocanville, mining takes place in the Esterhazy Member.

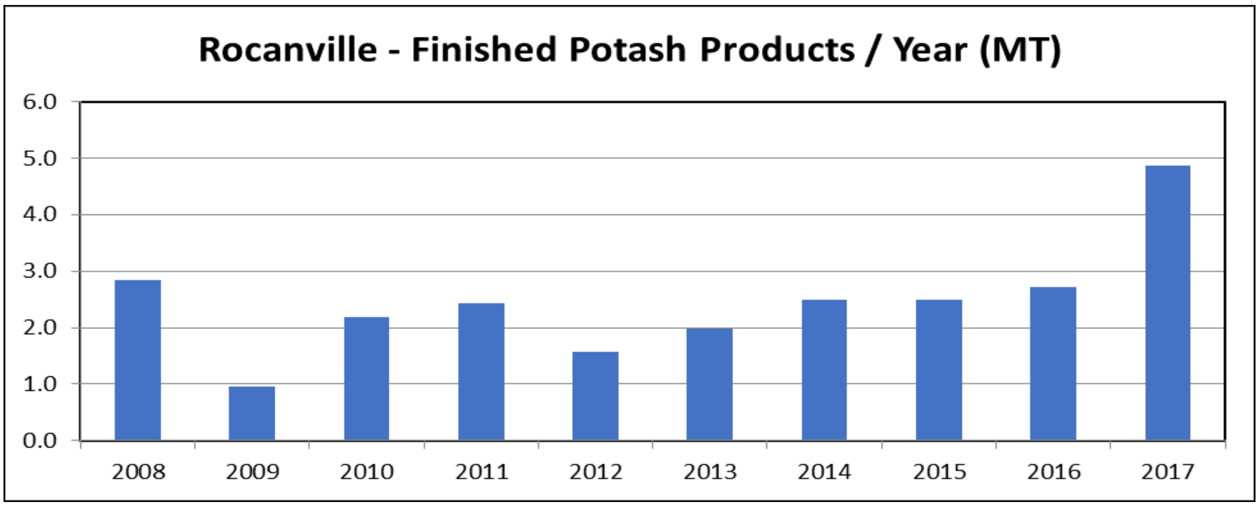
Conservative local extraction rates (never exceeding 45% in any mining block) are employed at all Saskatchewan mines, including Rocanville, in order to minimize potential detrimental effects of mining on overlying strata; this is common practice in flat-lying, tabular ore bodies overlain by water-bearing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

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

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

Actual potash production tonnages for the Rocanville mine, along with concentration ratios (tonnes mined / tonnes product), are plotted for the past decade in Figure 22.





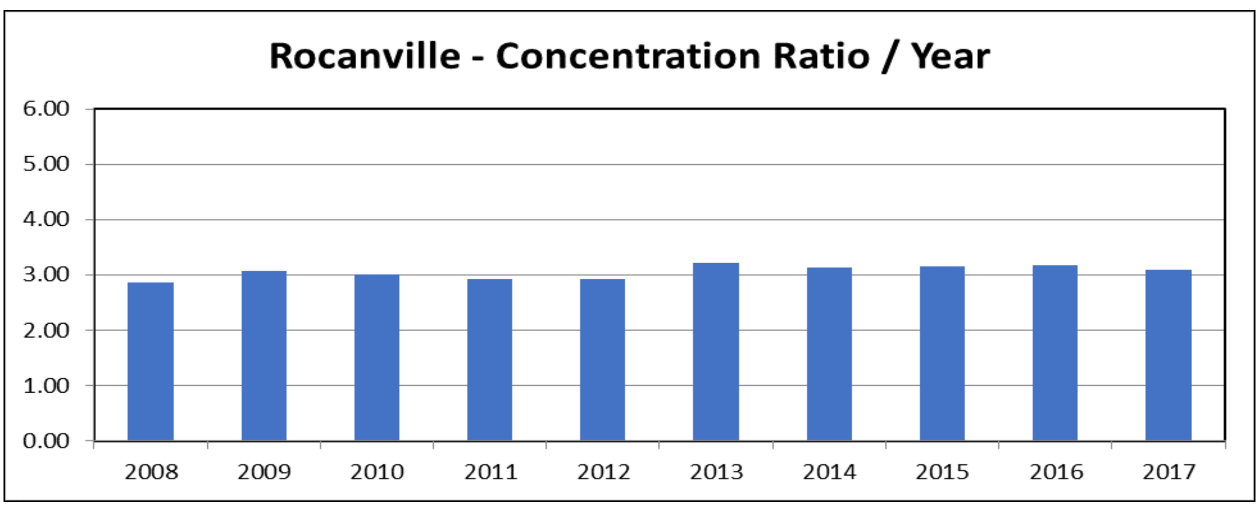


Figure 22: Actual mining, production and concentration ratio for the Rocanville mine over the past 10 years.

16.2 RISKS TO POTASH MINING OPERATIONS, WITH EMPHASIS ON WATER INFLOWS

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 such hazards as unusual or unexpected geological conditions, subsidence, water inflows of varying degree, and other situations associated with any potash mining operation.

Potash beds in all regions of Saskatchewan are overlain by a number of water-bearing formations, and there are water zones underlying the potash beds as well. A water inflow into mine workings is generally significant in a potash mine since salt dissolves in water; an inflow can lead to anything from increased costs at best to closure of the mine at worst (e.g. see Prugger and Prugger, 1991).

In November 1984 a major brine inflow occurred at Rocanville. A single production room mined into a previously unknown geological disturbance (a vertical “chimney-like” solution collapse), resulting in an uncontrolled inflow into the mine that was as high as approximately 18,927 litres / minute (5,000 US gallons / minute). Mining operations were suspended and all of the mine’s physical and human resources were devoted to sealing the inflow. By the end of January 1985, a concrete plug was installed at the inflow point, and in March 1985, high pressure valves in the plug were shut off. After four months of concerted effort, the brine inflow into the mine was completely contained.

Since 1984 there has been no ingress of subsurface brines of any significance at Rocanville. At present, brine flow into underground workings at Rocanville is effectively nil (not measurable), and inflow into each existing shaft is estimated at less than 3 litres / minute (less than 1 US gallon / minute).

17.0 RECOVERY METHODS

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. A simplified process flow diagram is shown in Figure 23. 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.

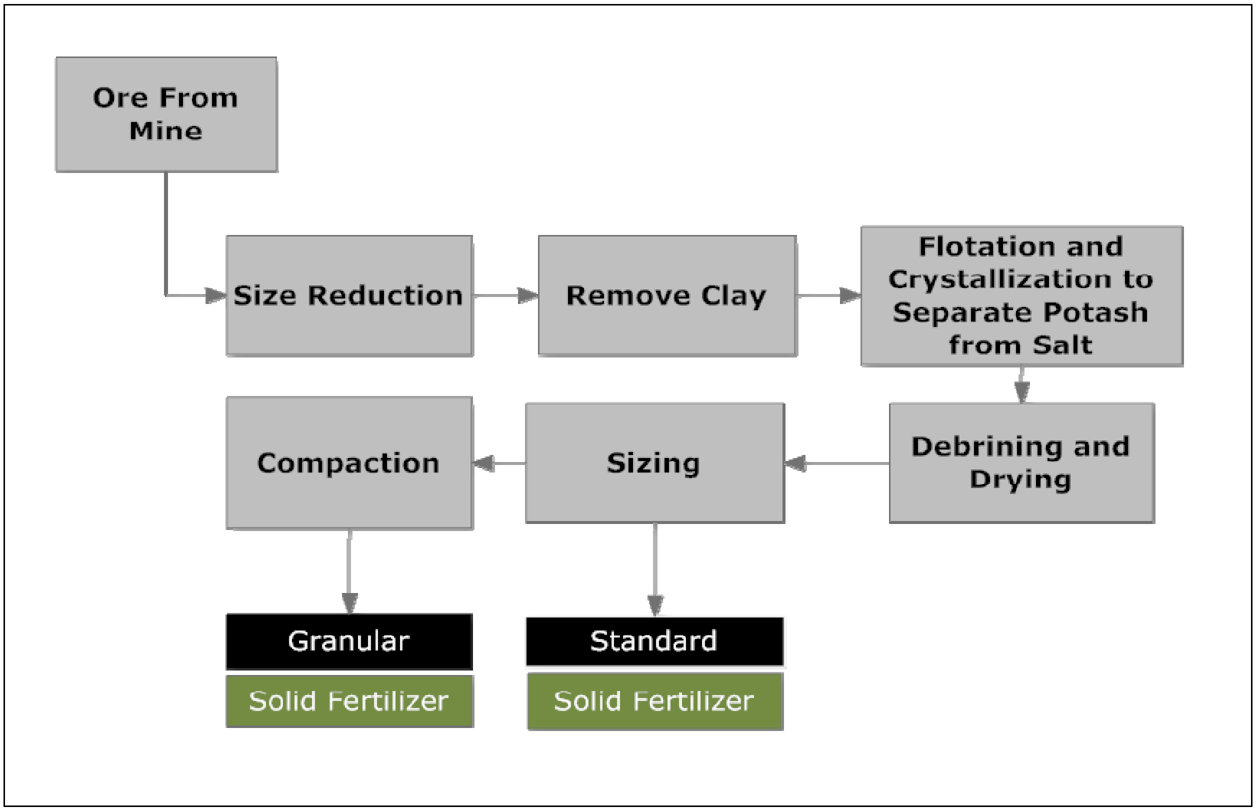


Figure 23: Simplified flow diagram for potash flotation and crystallization milling methods used at Rocanville.

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

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

Over the past decade actual mill recovery rates have been between 81.5% and 86.0%, averaging 83.8% (see Figure 24). 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 minesites 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.

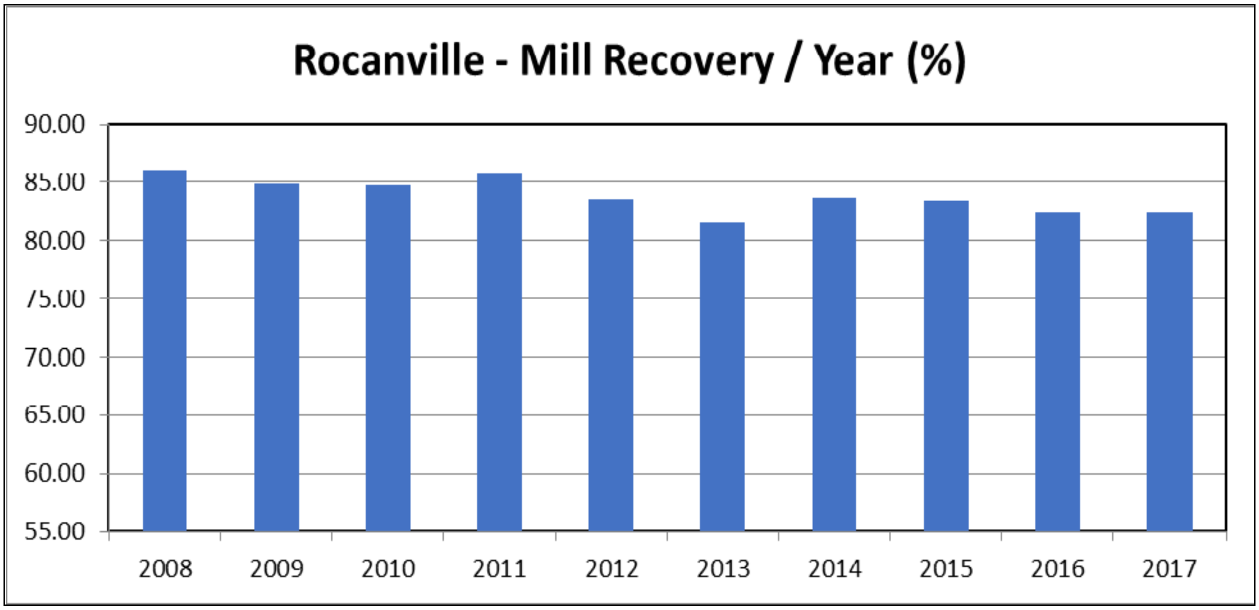


Figure 24: Rocanville mill recovery rate over the past 10 years.

18.0 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. See also Section 5.0.

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

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

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

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

19.0 MARKET STUDIES AND CONTRACTS

Potash from Company mines (including Rocanville) has been sold on a continuous basis since mining began in 1968. At present, Nutrien products are sold in more than 50 countries, to three types of end-use:

1. **Fertilizer**, focused on balanced plant nutrition to boost crop yields in order to meet the world's ever-increasing appetite for food (nitrogen, phosphate, potash)

2. **Feed Supplements**, focused on animal nutrition (mainly phosphate)

3. **Industrial**, focused on products for high-grade food, technical and other applications (nitrogen, phosphate, as phosphoric acid, potash)

The Company owns and operates five potash mines in Saskatchewan and owns one potash mine in New Brunswick, Canada. The potash mine in New Brunswick is currently in care-and-maintenance mode. Nutrien, indirectly through Agrium, also owns and operates a sixth potash mine in Saskatchewan. Over the past three years (2015, 2016 and 2017) PotashCorp had potash sales of 26.712 million tonnes. Historical PotashCorp potash sales data for the past 10 years are plotted in Figure 25 and Figure 26.

Potash is mainly used for fertilizer, which typically makes up approximately 90 percent of the company's annual potash sales volumes. By helping plants develop strong root systems and retain water, it enhances yields and promotes greater resistance to disease and insects. Because it improves the taste and nutritional value of food, potash is often called the "quality nutrient." Industrial applications of potash include use in soaps, water softeners, de-icers, drilling muds and food products.

Potash fertilizer is sold primarily as solid granular and standard products. Granular product has a larger and more uniformly shaped particle than standard product and can be easily blended with solid nitrogen and phosphate fertilizers. It is typically used in more advanced agricultural markets such as the US and Brazil.

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

The most significant exporters are producers with mines in the large producing regions of Canada, the Middle East and the former Soviet Union, which all have relatively small domestic requirements.

World consumption of potash fertilizer has grown over the last decade, with the primary growth regions being developing markets in Asia and Latin America. These are countries with expanding crop production requirements, where potash has historically been under-applied and crop yields lag behind those of the developed world. Although temporary pauses can occur in certain countries, the underlying fundamentals of food demand that encourage increased potash application are expected to continue the growth trends in key importing countries. See Figure 27 for world potash shipments and consumption in 2016.

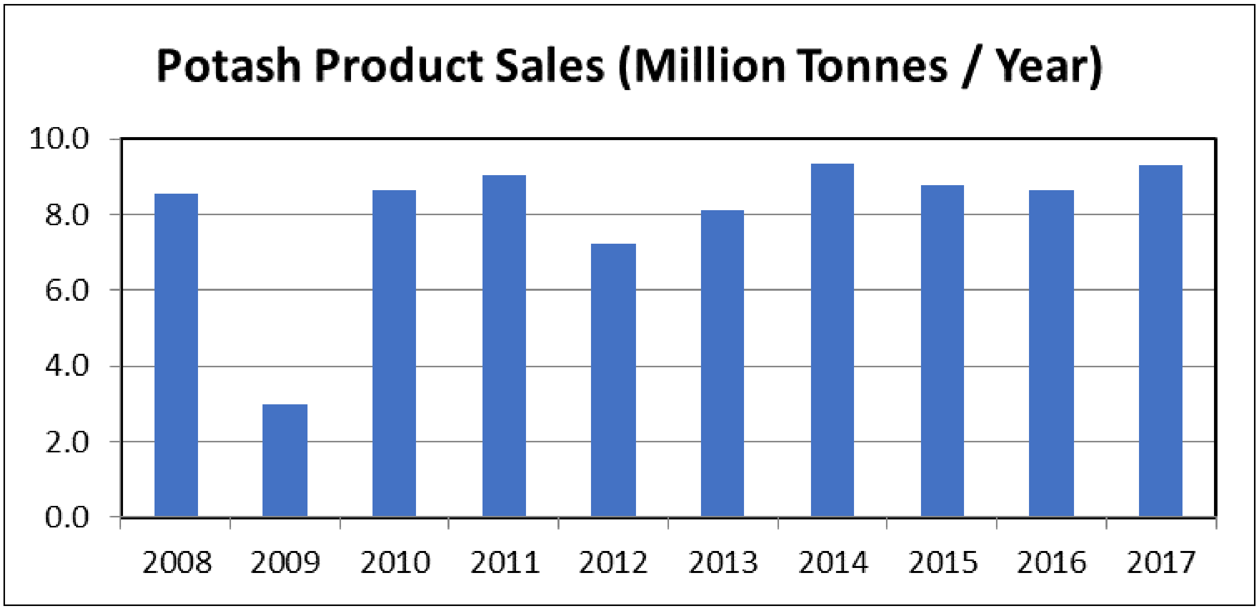


Figure 25: Historical PotashCorp potash sales, 2008 to 2017 in million tonnes / year (from Nutrien Financial Reporting).

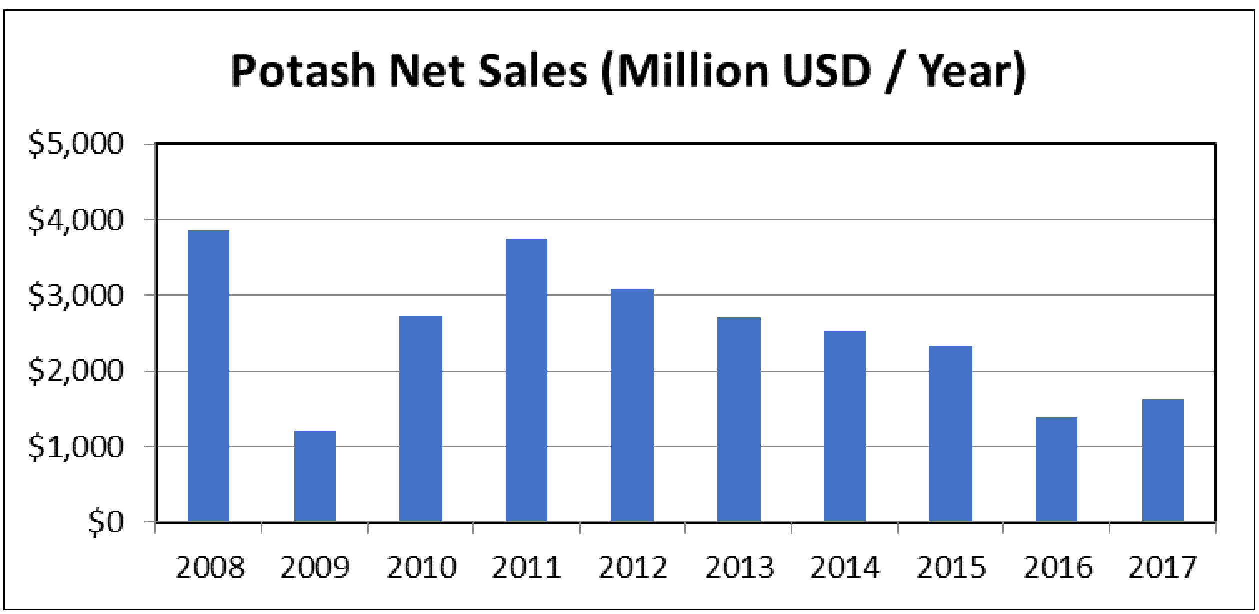


Figure 26: Historical PotashCorp potash net sales, 2008 to 2017 in million USD / year (from Nutrien Financial Reporting).

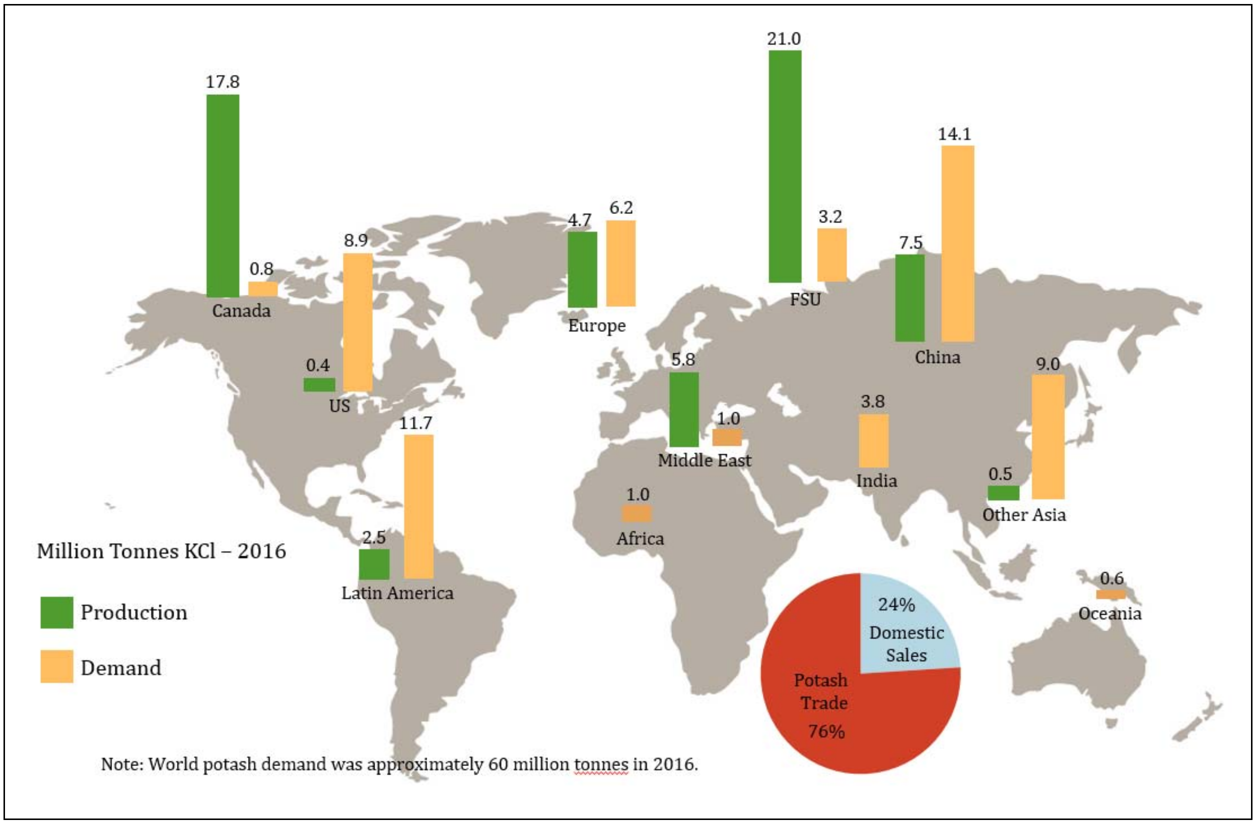


Figure 27: World potash production and demand for 2016 (from Nutrien Financial Reporting).

Potash is used on many agricultural commodities. Wheat, rice, corn, oilseed, and sugar crops consume over half of the potash used worldwide. Fruits and vegetables are also important users of potash fertilizers, accounting for about 19 percent of the total consumption. The remainder goes to other consumer and industrial crops such as oil palm, rubber, cotton, coffee, and cocoa. See Table 4 for primary potash market profile. This diversity means that global potash demand is not tied to the market fundamentals for any single crop or growing region.

Table 4: Primary Potash Market Profile

Country/Region	Growth Rate*	Key Consuming Crops
China	4.1%	Vegetables, rice, fruits, corn
India	0.1%	Rice, wheat, vegetables, sugar crops
Other Asia	4.6%	Oil palm, rice, sugar crops, fruits, vegetables
Latin America	4.2%	Soybeans, sugar crops, corn
North America	0.2%	Corn, soybeans

*10-year CAGR for consumption (2006 – 2016)

Historically, the major consuming regions of Brazil, China, India and other Asian countries have accounted for approximately two-thirds of total potash consumption. The Company believes that potash-deficient soils in these major offshore markets provide the opportunity for significant long-term growth in consumption.

World potash shipments declined during the global economic downturn of 2009 as distributors and farmers acted with more caution and were averse to holding inventories. And, India's potash demand fell subsequently in 2011 due to changes in potash subsidies. However, potash markets have rebounded strongly in recent years, supported by strong customer engagement, record global consumption and positive potash sector fundamentals. The Company believes that supportive agriculture fundamentals and the need to address declining soil fertility levels will enable strong demand growth in the years ahead. World potash shipments and consumption in recent years is shown in Figure 28.

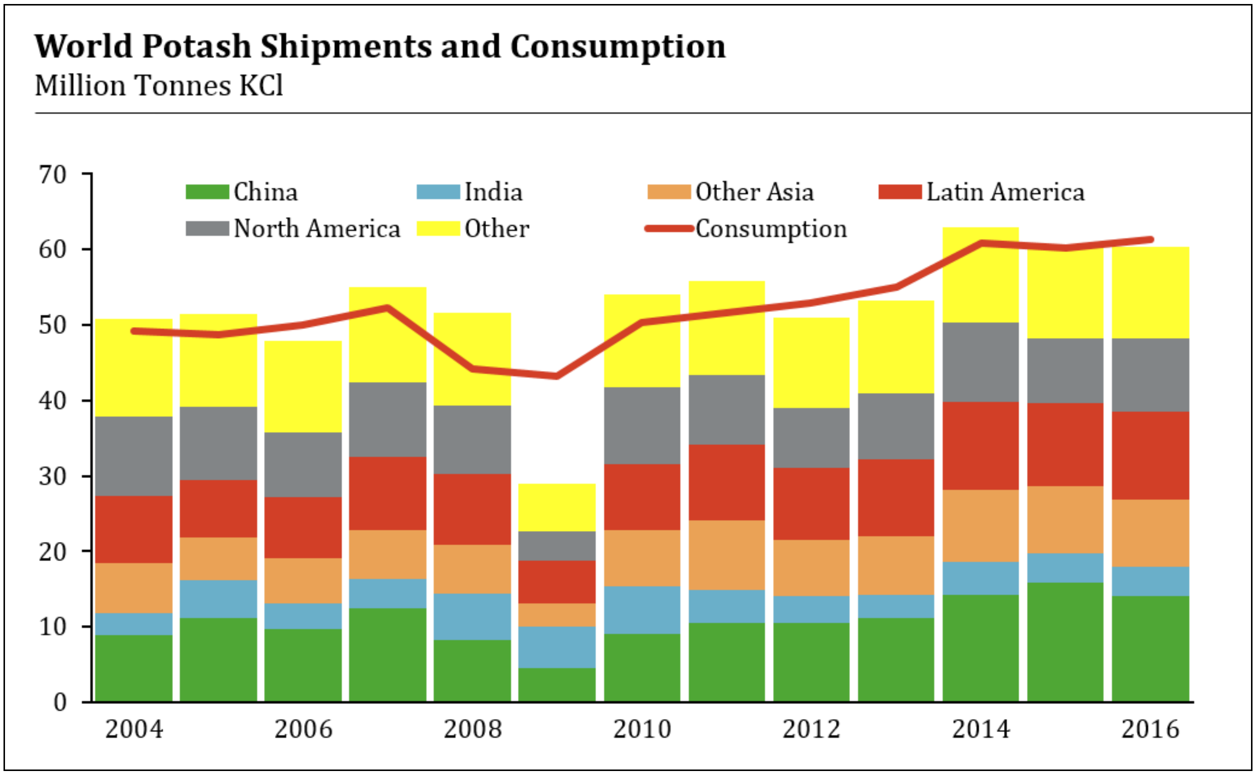


Figure 28: World potash shipments and consumption, 2004 to 2016 (from Nutrien Financial Reporting).

Canpotex Limited (Canpotex), the offshore marketing company owned by the Company and other Saskatchewan potash producers, handles all sales, marketing and distribution of potash produced by its member companies to customers outside of the US and Canada (including the potash produced at Allan).

In North America, Nutrien sells potash to retailers, cooperatives, and distributors, who provide storage and application services to farmers, the end-users. This includes sales to Nutrien's retail distribution business, which has the largest retail distribution network in North America. Typically, the Company's North American potash sales are larger in the first half of the year. The primary customers for potash fertilizer products for the Rocanville operation are retailers, dealers, cooperatives, distributors and other fertilizer producers who have both distribution and application capabilities.

Nutrien's market research group provides management with market information on a regular basis including global agriculture and fertilizer markets, demand and supply in fertilizer markets and general economic conditions that may impact fertilizer sales. These may include specific market studies and analyses on different topics as may be required. This information is reviewed on a regular basis and the author of this report takes this information into account in understanding the markets and the assumptions within this report.

Plans and arrangements for potash mining, mineral processing, product transportation, and product sales are established by Nutrien and are within industry norms.

20.0 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

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

Rocanville currently operates five brine disposal wells near the surface plant of the Rocanville mine (marked in Figure 11) where clear salt brine (i.e. no silt, clay slimes, or other waste) is borehole-injected into the Interlake Carbonates, at a depth of approximately 1200 m to 1400 m below surface (marked in Figure 13). The groundwater in these extensive deep aquifers is naturally saline.

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

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

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

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

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

21.0 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.

22.0 ECONOMIC ANALYSIS

22.1 FUNDAMENTALS

The Company conducts ongoing and detailed economic analyses on each of its operations and on all aspects of its business. While the Company considers its operating costs and results on a per mine basis to be competitively sensitive and confidential information, the Company is confident that the economic analysis conducted routinely for each of the Company's operating potash mines is complete, reasonable, and meets industry standards.

On a cash flow basis, PotashCorp's potash segment generated USD $5,338 million in net sales over the past three years (2015, 2016 and 2017) based on sales volume of 26.712 million tonnes of finished potash products. The annual average realized potash price for manufactured products (includes North American and offshore sales) over a 10-year period (2008 – 2017) is plotted in Figure 29.

Over the past three years (2015, 2016 and 2017) the Rocanville mine produced 10.060 million tonnes of finished potash products. In the past three years (2015, 2016 and 2017), the Rocanville mine accounted for 36.6% of total potash production at PotashCorp over this time period. Rocanville is currently making a positive contribution to the Company's potash segment.

Given the Company's previous history (including 47 years of mining at the Rocanville operation), recent market conditions, and extensive reserve base, the economic analysis for Rocanville has met the Company's internal hurdle rates.

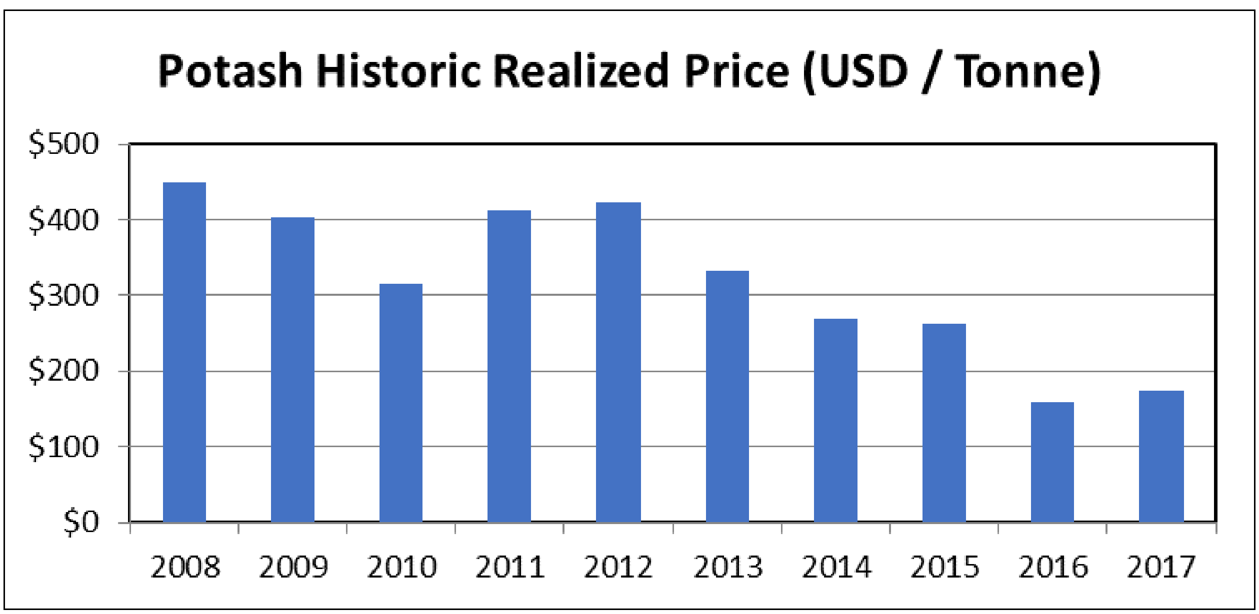


Figure 29: Historic annual average realized potash price in USD / tonne (from Nutrien Financial Reporting).

22.2 TAXES

Royalties are paid to the Province of Saskatchewan, which holds approximately half of the mineral rights in the Rocanville Crown Subsurface Mineral Lease. Royalties from non-Crown lands are paid to various freeholders of mineral rights in Saskatchewan. The crown royalty rate is 3% 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.

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, Nutrien is also subject to a resource surcharge that is a percentage of the value of its resource sales (as defined in *The Corporation Capital Tax Act of Saskatchewan*).

In addition to this, Nutrien pays federal and provincial income taxes based on corporate profits from all its operations in Canada.

23.0 ADJACENT PROPERTIES

The Company Rocanville Potash Lease KL 305 is adjacent to the following potash dispositions (Figure 30).

Producing Subsurface Mineral Leases:

- Mosaic Company Crown Subsurface Mineral Lease KLSA 003
- Mosaic Company Crown Subsurface Mineral Lease KL 105
- Mosaic Company Crown Subsurface Mineral Lease KL 126

Non-producing Potash Exploration Permits and Subsurface Mineral Leases:

- 101211205 Saskatchewan Ltd. Crown Subsurface Mineral Lease KL 279
- Taiji Resources Ltd. Crown Potash Exploration Permit KP 460 – Active Pending Lease
- BHP Billiton Ltd. Crown Potash Exploration Permit KP 342 – Active Pending Lease
- Manitoba Potash Corporation Russell-McAuley Potash Property (Manitoba)

For up-to-date information on Crown Potash Leases and Exploration Permits, see the Saskatchewan Mining and Petroleum GeoAtlas which is available online at the Government of Saskatchewan website.

The Mosaic Company (Mosaic) operates a mine with extensive underground workings within Potash Lease areas KLSA 003, KL 105 and KL 126, which are immediately adjacent to Rocanville Lease KL 305. The Company and Mosaic have negotiated a safety buffer between the two companies' lease areas, where it is agreed that no mining will occur. This buffer ensures that mine workings in one company's lease area will not impact workings of the other company.

There are no potash permits or leases south of the Rocanville properties, since this area is a producing oil and gas zone and not a producing potash zone. The Crown will not currently issue either potash exploration permits or potash leases on lands south of Rocanville Lease KL 305.

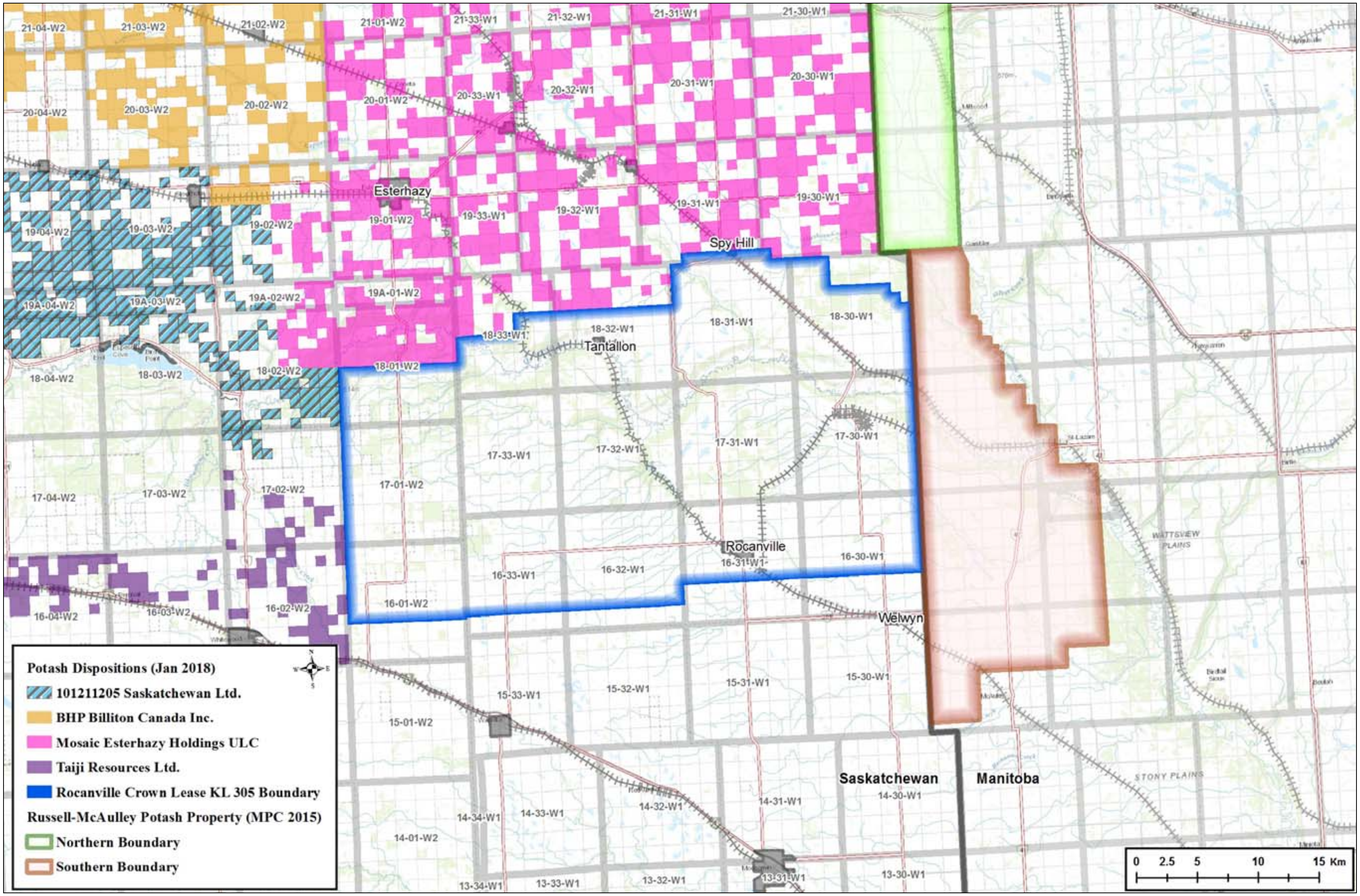


Figure 30: Potash properties adjacent to Rocanville Potash.

24.0 OTHER RELEVANT DATA AND INFORMATION

Not applicable.

25.0 INTERPRETATION AND CONCLUSIONS

PotashCorp has a long history of successful potash mining at Rocanville, where potash has been produced for the past 47 years. The authors believe that the experience gained mining and milling potash for this length of time has produced a reliable body of information about potash mineralization, mining and milling at Rocanville.

In a Saskatchewan potash mine that has been producing for many decades, reduction of mine life through increased production is counter-balanced by development mining into new mineral land parcels. This increases mine life through increasing the potash Mineral Reserve.

For Rocanville, mine life can be estimated by dividing the total Mineral Reserve (Proven + Probable) of 550 million tonnes by the average annual mining rate (million tonnes of ore hoisted per year). For Rocanville, the mining rate is defined as equal to the actual three-year running average (consecutive, most recent years). The average mining rate at Rocanville over 2015, 2016 and 2017 was 10.526 million tonnes of potash ore mined and hoisted per year.

If this mining rate is sustained and if Mineral Reserves remain unchanged, then the Rocanville mine life would be 52 years.

This estimate of mine life is likely to change as mining advances further into new mining blocks, and / or if mining rates change.

26.0 RECOMMENDATIONS

Not applicable for a potash mine that has been in operation since 1970.

27.0 REFERENCES

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