NI 43-101 Technical Report Summarizing Detailed Engineering and Mine Life Review, Milestone Phase I Project, (Subsurface Mineral Lease KLSA 008) Saskatchewan

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IMPORTANT NOTICE

This report was prepared as a National Instrument (NI) 43-101 *Standards of Disclosure for Mineral Projects* Technical Report by March Consulting Associates Inc. (March), herein called the "Technical Report" or "TR." The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in March's services. The information, conclusions, and estimates contained herein are based on (i) information available at the time of preparation; (ii) data supplied by outside sources; and (iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended to be used by Western Potash Corp. (WPC), subject to the terms and conditions of its contract with March and relevant securities legislation. Those contracts permit WPC to file this report as a Technical Report with Canadian securities regulatory authorities pursuant to NI 43-101. Except for the purposes legislated under provincial securities law, any use of this report by any third party is at that party's sole risk.

CAUTIONS REGARDING FORWARD-LOOKING STATEMENTS

The following NI 43-101 Technical Report includes certain statements and information that contain forward-looking information within the meaning of applicable Canadian securities laws. Except for statements of historical fact, certain information contained in this Technical Report are forward-looking statements and include forward-looking information. Such forward-looking statements and forward-looking information specifically include, but are not limited to, statements concerning Company plans at the Milestone Project, Company ability to fund the Milestone Project, the timing of granting of key permits, the estimated potash production and the timing thereto, economic analyses, capital and operating costs, mine development programs, future potash prices, cash flow estimates, and economic indicators derived from the foregoing.

Generally, forward-looking information can be identified by the use of forward-looking terminology such as "intends" or "anticipates," or variations of such words and phrases or statements that certain actions, events or results "may," "could," "should," "would" or "occur." Forward-looking statements are based on the opinions and estimates set out in this Technical Report as of the date such statements are made. Forward-looking statements are subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of WPC to be materially different from those expressed or implied by such forward-looking statements or forward-looking information, including the receipt of all necessary approvals; the ability to conclude a transaction; uncertainty of future production; capital expenditures and other costs; financing and additional capital requirements; the receipt in a timely fashion of any further permitting for the Milestone Project; legislative, political, social or economic developments in the jurisdictions in which WPC carries on business; operating or technical difficulties in connection with mining or development activities; and the risks normally involved in the exploration, development and mining business.

Although the authors have attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements or forward-looking information, there may be other factors that cause results not to be as anticipated, estimated, or intended. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements and forward-looking information. WPC and the authors of this Technical Report do not undertake to update any forward-looking statements or forward-looking information that are set out herein or incorporated by reference herein, except in accordance with applicable securities laws.

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1. Summary

Western Potash Corporation's (hereinafter referred to as WPC or Western Potash) Milestone Phase I Project is located approximately 35 km southeast of Regina, Saskatchewan. As noted in the NI 43-101 report dated January 7, 2020, "the project currently holds some 35,420 hectares (including road allowances) of Crown mineral lands by means of Subsurface Mineral Lease KLSA 008, which was granted to WPC by the Government of Saskatchewan on May 18, 2010.

This Technical Report presents the results of the engineering review completed by March Consulting Associates Inc. (March) for the plant scale, selective solution mining operation (the "Phase I Project") located in Sections 19, 20, 29 and 30, Township 14, Range 17 West of the Second Meridian (the "Study Area") within the bounds of a Unitized Area within Saskatchewan Subsurface Mineral Lease KLSA 008. This includes a full mineral resource and reserve estimate, and an evaluation of the equipment and maintenance strategy to increase the lifespan of the Phase I project from 12 to 40 years and update of the mining plan.

The Project has been advanced from the Engineering Design through initial construction of the site development and infrastructure (Ponds, Pumphouse, E-Houses, and Administration offices) to support the cold and hot mining operations for the development for the initial three wells pairs and caverns. The site construction of the remainder of the Process Plant and Loadout building are yet to be complete. For production purposes, the area surrounding the three caverns has been unitized so that the holders of the mineral rights within the entire area within the four cadastral sections of land that enclose the project site will be paid production royalties proportionate to their ownership. To obtain the required annual KCl production, three additional wells pairs are to be drilled and developed over the next 2 years. An additional 6 to 7 well pairs will be drilled and developed every 6 years to maintain the production output of 146k tpa.

1.1 Summary of Exploration, Drilling, and Other Studies

No new exploration or drilling has taken place subsequent to the Technical Report dated January 7, 2020.

1.2 Summary of the Phase I Project

Early works for the site clearing, construction of the heavy haul access road commenced October 2018. Full Phase I construction started in April 2019 which included the drilling of 3 horizontal solution mining caverns completed in October 2019. All of the bulk material has been purchased and is on-site, as well as over 85% of the equipment. Construction of the crystallization pond, brine heating, pumphouse, administration building and laboratory, eHouses and associated electrical and control system are all complete. All other site infrastructure projects (gas, power, water, roads, telecommunication) are also complete. The construction of the process plant, drying and product load-out facilities is partially complete and currently on hold. Approximately 78% of the total project has been completed based on incurred costs for all activities (including engineering, procurement, infrastructure, and construction).

Western Potash commissioned and operated the selective solution mining for approximately 18 months from October 2019 to May 2021. This involved heating the brine via a submerged combustion and glycol heating units, then pumping the brine into the caverns and preferentially extracting the KCl (leaving the NaCl in place underground). Potash is being accumulated in the crystallization pond detailed in Section 16.

Using the experience and data obtained from the operations, and in conjunction with a number of leading solution mining experts, an optimized solution mining plan has been developed (Section 16.3). Three additional caverns will be needed initially, and then approximately six caverns will be replaced every six years to maintain production. The mining plan will extract both the Belle Plaine and Patience Lake members from a series of horizontal caverns which have been planned within the unitized area. The plan has been developed to support 40 years of production at 146,000 tonnes per annum.

1.3 Mineral Resource Estimates

1.3.1 Mineral Resources

A geological model of the deposit was constructed in Maptek Vulcan. The model was constructed as a 3D integrated stratigraphic grid model (ISM), using all available drilling information. Grid cells 50 m x 50 m were utilized. All available overburden horizons were included in this model (from the First White Speckled Shale downwards). In addition, 3D seismic data was incorporated from 6 horizons, including the underlying Winnipegosis Formation. The incorporation of the seismic data enabled the construction of a particularly robust geological model. Interpolation for the stratigraphic model was by inverse distance squared methodology.

The Measured, Indicated, and Inferred Mineral Resources have been classified based on the volume of potash in a cylinder centered on each available cored and assayed drillhole with the following ROI used for classification:

- Measured - 800 m
- Indicated - 2,500 m
- Inferred - 6,000 m

Further deductions for unseen/unknown anomalies were made. Deductions for Measured and Indicated were reduced based on the results of the 3D seismic within the unitized area.

- Measured – 5%
- Indicated – 9%
- Inferred – 25%

The areas around M 001, M 002, and M 002A, M003 through M 009, and W 001-2 are classified as Measured and Indicated Mineral Resources. The areas beyond the ROI for Indicated Resources are classified as Inferred Mineral Resources.

To estimate the potential extent, grade, and tonnage of the potash Mineral Resource, the following assumptions were employed:

- K_2O cut off grade of 15%
- No carnallite cut-off
- No insoluble cut-off
- No thickness cut-off

The Phase I Project is based on Mineral Resources in the Patience Lake and Belle Plaine Members within lease KLSA 008.

Table 1.1. Measured and Indicated Resources

Measured						
Type	**Thickness (meters)**	**Density**	**Tonnage (MMT)**	**Tonnage with subtractions (MMT)**	**K_2O (weight %)**	**K_2O tonnage (MMT)**
Measured	22.86	2.17	440.52	418.50	20.87	87.19
Indicated	22.77	2.12	2,532.13	2,304.23	21.03	483.91
Total M&I	**22.78**	**2.13**	**2,972.65**	**2,722.73**	**21.01**	**571.1**

**MMT: Million Metric Tonnes*

Measured and Indicated Mineral Resources are not discounted by modifying factors to account for losses associated with the brine remaining in the cavern or plant and transport losses. Measured and Indicated Mineral Resources are inclusive of Proven and Probable Mineral Reserves.

1.3.2 Mineral Reserves

Table 1.2 summarizes the Proven and Probable Mineral Reserves. The reserves represent the recoverable tonnages of KCl contained in the caverns within the Measured and Indicated Resource.

The reserve estimate is based on the mine plan developed after operating the preliminary Phase I caverns for an 18 month period. The estimate is based on the geologic model and assigned thicknesses and grades for the individual caverns.

Table 1.2. Proven and Probable Reserves for Phase I Project

Proven + Probable Reserves									
Category	Thickness (meters)	Density	Tonnage (MMT)	Tonnage with subtractions (MMT)	K_2O (weight %)	K_2O tonnage (MMT)	KCl (weight %)	KCl Tonnage (MMT)	KCl Tonnage Adjusted (MMT)
Proven	14.62	2.14	44.55	40.54	20.49	8.67	32.44	13.15	11.67
Probable	13.39	2.13	71.97	65.49	21.17	14.37	33.51	21.95	19.48
Total	**13.86**	**2.14**	**116.52**	**110.69**	**20.91**	**23.04**	**33.10**	**36.64**	**31.15**

Cavern losses (10%) and processing recoveries of 95% have been applied to the Reserves. The proven and probable reserves within the unitized area are sufficient for a mine life of over 200 years at the target production rate. The project economics are based on an operation period of 40 years at target production. Excess reserves would be available to extend mine life or increase production in the future.

1.4 CAPEX, OPEX, and Economic Analysis for the Milestone Phase I Project

1.4.1 CAPEX

The actual CAPEX allocated to the Phase I Project to date is $116.24M and a further $33.21M is needed to complete the Project and bring the plant into production, resulting in a total Phase I Project CAPEX of $149.45M (including a 12.5% contingency on the remaining CAPEX). This estimate adopts the AACE (Association for the Advancement of Cost Engineering) International Class 3 standard. Table 1.3 summarizes the Actual Costs To-Date, Estimate to Complete and Total Cost.

Table 1.3. Break Down of CAPEX for the Milestone Phase I Prjoect

Description	**Actual Cost To-date** (k$CAD)	**Estimate to Complete Cost** (k$CAD)	**Total Cost** (k$CAD)
General	562	-	562
Mining	22,593	1,006	23,600
Site General	5,193	304	5,498
Process	27,478	12,977	40,454
Brine/Brine Injection	599	5,802	6,401
Utilities	20,989	339	21,329
Admin Building	576	2	578
Off-site Facilities	11,864	-	11,864
Total Direct Field Costs	89,855	20,431	110,286
Indirect Field Costs	6,990	6,270	13,260
Non-field Costs	8,246	398	8,644
Owner's Costs	5,613	1,196	6,809
PST	5,040	1,698	6,737
Contingency	500	3,214	3,714
TOTAL CAPEX	116,243	33,207	149,451

1.4.2 OPEX

The total annual OPEX for the Phase I Project, based on operational data from the preliminary operation phase, is estimated at $CAD13.25M per year (excluding G&A, logistics and royalties) or $CAD90.60/t MOP for 146,000 tpa. Sustaining CAPEX consists mainly of expanding the wellfield (drilling, piping and infrastructure) and planned equipment maintenance. Sustaining CAPEX includes approximately $32M every six years to expand the wellfield for ongoing production. Table 1.4 summarizes the OPEX costs of the project.

Table 1.4. Operating Cost Breakdown

Cost Category	($CAD)	($CAD/t)
Labour	4,852,093	33.23
Maintenance & Repairs	962,496	6.43
Power	2,545,933	17.44
Natural Gas	3,388,661	23.21
Reagents	604,221	4.14
Diesel Fuel	137,100	0.94
Consumables	285,464	1.96
Wellfield Operation	475,503	3.26
Site OpEx	13,251,470	90.60

*Excludes Capitalized Development

1.4.3 Economic Analysis

An after-tax economic analysis was performed for the Phase I Project, assuming a 40-year life-of-mine with the first six caverns mined out and replaced by six new caverns in Year 7 and every 6 years following. The economic analysis considered the following parameters:

- Production capacity of 146,000 t MOP
- Net realized price at mine gate, based on local sales at US Cornbelt and deducting transportation costs, of US$415/t
- CAPEX of $CAD149.5M, including $116.2M already completed and $33.2M remaining to be completed
- OPEX of $CAD90.60/t MOP (excluding G&A, sustaining capital, logistics, and royalties)
- CAD/US exchange rate of 1.27
- Accuracy = -10/+20%
- Operating life-of-mine of 40 years commencing in 2022
- Sustaining capital of $CAD235.6M over the life of the mine for cavern development and related infrastructure.
- Decommissioning and reclamation costs of $CAD48.1M.
- Sales costs, taxes and royalties included
- Nominal discount rate = 8%
- 100% equity investment
- Inflation has not been applied to potash price or future costs

Table 1.5. Pre and Post Tax Base Case Economic Results

	Pre-Tax	Post-Tax
NPV	$273,292,614	$197,667,136
IRR	22.7%	20.4%

2. Introduction and Terms of Reference

This report was prepared for WPC by:

- Kyle Krushelniski, P.Eng., PMP of March Consulting Associates Inc
- Jack Nagy, P.Eng., of Nagy Process Consulting Inc.
- Louis Fourie, P.Geo. of Terra Modelling Services
- Geoff Wilkie, P.Eng., CCE of CanCost Consulting Inc.
- Karri Howlett, CFA, C.Dir. of Karri Howlett Consulting Inc.
- Latasha McMullen, P.Eng. of Western Potash Corporation

This technical report is a project evolution based on the previous technical report dated January 7, 2020. This report includes the following updates:

- Reassessment of the project resources
- Update of the mine plan based on preliminary operation of the initial three caverns
- Reassessment of the project reserves based on the updated resources and revised mine plan
- Technical review of project design to increase mine life from 12 to 40 years
- Update of the project CAPEX to reflect work completed to date and remaining expenditures
- Update project OPEX to reflect revised mine plan based on preliminary operations
- Update project Sustaining CAPEX to reflect increased mine life
- Update of the market study to reflect forecast product pricing
- Update of project financials

Relevant qualifications of the authors are presented in the Certificates of Qualified Persons (QPs) provided in Section 28 of this TR.

The information upon which this report is based was obtained from the Phase I Project detailed design completed previously by SNC-Lavalin and the TR dated January 7, 2020. No new exploration was completed to support this report.

The cores from the exploration wells and the production well are available for inspection at the Subsurface Geological Laboratory of the Saskatchewan Ministry of Energy and Resources (Saskatchewan Energy and Resources) in Regina. Louis Fourie inspected the cores from wells Milestone-006, -008 and W1-2 on October 13, 2021.

A site visit, as required by NI 43-101, was completed by Jack Nagy, Louis Fourie, and Geoff Wilkie on October 13, 2021.

2.1 Units

°	degrees
$	dollar
%	percent
/	per
C	Celsius
$CAD	Canadian dollars
cm	centimeters
g	gram
GJ	gigajoule
H	hour
Ha	hectares
km	kilometer
km^2	square kilometers
kPa	kilopascal
ktpa	thousand tonnes per year
kW-h	kilowatt-hour
kV	kilovolt
L	liter
m	meters
M	million
m^3	cubic meters
mm	millimeter
MMT	million metric tonnes
MPa	megapascal
Mpty	million tonnes per year
MW	megawatt
S	second
t	tonne
tph	tonnes per hour
tpa	tonnes per annum
Yr	year

2.2 Acronyms and Abbreviations

2D	two-dimensional
3D	three-dimensional
AACE International	Association for the Advancement of Cost Engineering
ADM	Archer Daniels Midland
API	American Petroleum Institute
BA	British American Oil Co.
Blackie’s	Blackie’s Coring Services Ltd
CAPEX	capital costs
CFR	cost and freight
CIM	Canadian Institute for Mining Metallurgy and Petroleum
CMC	constant mean stress in compression
CN	Canadian National
CP	Canadian Pacific Railway
CSA	Canadian Standards Association
CSR	constant strain rate
DCF	discounted cash flow
D&R Plan	Decommissioning & Reclamation Plan
DI	deionized
DST	drill-stem test
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EPCM	engineering, procurement, and construction management
ESA	Environmental Site Assessment
ESP	electric submersible pump
FOB	freight on board
GIS	geographic information system
GST	good and services tax
ICP-OES	Inductively Coupled Plasma-Optical Emission Spectroscopy
ID2	inverse distance-squared
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
IRR	Internal Rate of Return
K_2O	potassium oxide
KCl	potassium chloride
KNO_3	potassium nitrate
NaCl	sodium chloride
MOP	Muriate of Potash
MPEI	Mechanical Piping, Electrical, Instrumentation
MSL	Mean Sea Level
NCF	net cash flow
NI	National Instrument
nm	nanometers
NPV	Net Present Value

OPEX	operating costs
PEA	Preliminary Economic Assessment
PEX	photoelectric
PFS	Preliminary Feasibility Study
PSD	particle size distribution
PST	provincial sales tax
QA/QC	quality assurance/quality control
QP	Qualified Person
RM	Regional Municipality
ROI	radius of influence
EPA	Environmental Protection Act
SMoE	Saskatchewan Ministry of Environment
SNCL	SNC-Lavalin
Socony Sohio	Standard Oil Co. of New York/Standard Oil Co. of Ohio
SOP	potassium sulphate
SOPM	potassium magnesium sulphate
SRC	Saskatchewan Research Council
SSR	Stewart Southern Railway
TR	Technical Report
tph	Tonne per Hour
US	United States
USA	United States of America
WIPP	Waste Isolation Pilot Plant
WPC	Western Potash Corporation
WSA	Water Security Agency

3. Reliance on Other Experts

Information on the status of Crown Potash Lease KLSA 008 provided in Sections 4 and 14 of this TR was obtained from the Potash Disposition Database, Microsoft Excel file maintained online by the Saskatchewan Ministry of Energy and Resources (Saskatchewan Energy and Resources 2019). A copy of the Lease from Saskatchewan Energy and Resources is provided in Appendix A.

A legal opinion dated 9 December 2011, on the status of WPC land holdings and access agreements within and adjacent to the KLSA 008 Lease area was provided by MacPherson, Leslie and Tyerman LLP of Regina, Saskatchewan and was provided in Appendix B of Hardy et al. (2013). The authors of Sections 4 and 14 of this TR relied on this opinion as evidence that WPC is the holder of Subsurface Mineral Lease KLSA 008, the title holder of the surface lands indicated, and the holder of lease agreements for certain Freehold mineral rights. Lease Agreements for mineral rights signed after November 2011 have been reviewed by QP Dr. Douglas Hambley of AAI.

Information on potash markets provided in Section 19 of this TR was based on a report prepared by Argus Media. (2021), based in London, United Kingdom, and local market price information provided by Archer Daniels Midland (ADM). The TR authors are not aware of any reason that such potash market information should not be relied upon.

The information on environmental studies, permitting, and social and community impacts presented in Section 20 of this TR was provided by Mr. Gregory Vogelsang, P.Eng., P.Geo. who was the Project Manager for WPC at that time.

This report is an update of the previous technical report by Hambley, et. Al., dated January 7, 2020. Areas of material change include updated resource modelling, mine plan revision, reporting on activities currently completed on site, and extension of mine life from 12 to 40 years.

4. Property Description and Location

This section has been reproduced from the TR dated January 7, 2020. This section has been reproduced for the convenience of the reader and is provided for information only. It is not the responsibility of the Qualified Persons identified in this report. Table formats and sums have been updated for consistency and accuracy.

4.1 Subsurface Mineral Lease KLSA 008

Subsurface Mineral Lease KLSA 008 is located 35 km (39 km by highway) southeast of Regina in Saskatchewan, Canada as shown in Figure 4-1. Lease KLSA 008 is located northeast of Highway 39 and southwest of Highway 33 between the hamlets of Kronau to the north and Milestone to the south, and between the town of Rouleau to the west and the Rural Municipality of Lajord and the village of Sedley to the east. The hamlets of Gray and Riceton are located within the KLSA 008 Lease area. Lease KLSA 008 is also located 50 km east–southeast of the Belle Plaine solution mine owned by Mosaic Canada ULC, a subsidiary of The Mosaic Company.

Lease KLSA 008 was granted to WPC by the Saskatchewan Ministry of Energy and Resources on 18 May 2010. The lease has a term of 21 years from the date of issue and is renewable for additional terms of 21 years provided that the Lessee has fully complied with the terms of the Lease. The dimensions of Lease KLSA 008 are approximately 48 km in an east–west direction and 29 km in a north–south direction as shown in Figure 4-2. Lease KLSA 008 consists of portions of Townships 13 and 14 and Ranges 18 and 19 West and of portions of Townships 13, 14, and 15 and Range 17 West of the Second Meridian. Townships 13, 14, and 15 are each divided into 36 legally surveyed sections averaging 259.0 hectares (ha) (640 acres). A copy of Lease KLSA 008 is provided in Appendix A.

The KLSA 008 Lease boundary encompasses some 63,738 ha of which 35,422 ha are Crown mineral lands covered by the permit as shown in Table 4.1. These Crown mineral rights represent the mineral rights for all, or part of, 137 sections, or approximately 57% of the total area in the 246 sections within the physical boundaries of the KLSA 008 Lease area. The remaining mineral rights are owned by individuals or corporations, i.e., “Freehold” mineral rights.

To keep Lease KLSA 008 in good standing, WPC must make all payments or returns required by Saskatchewan government regulations. Payments include all rentals, royalties, fee rates, taxes, and assessments that may be charged or payable in respect of the minerals included in the Lease or the operations of WPC.

There are no active or inactive mines located on Lease KLSA 008. The site visits to the KLSA 008 Lease area did not identify any surficial environmental liabilities. AAI reviewed the online environmental databases operated by the Saskatchewan Ministry of Environment (SMoE) and found no environmental liabilities to which the property is subject. See Section 5 of this TR for the current uses of the Lease and surrounding properties.

4.2 Mineral Leases for Freehold Mineral Rights

WPC has negotiated and signed potash mineral leases with the owners of Freehold mineral rights within and adjacent to the KLSA 008 Lease area. As of 31 August 2019, WPC has negotiated leases covering 10,650 ha (26,316 acres) within the boundaries of the KLSA 008 Lease.

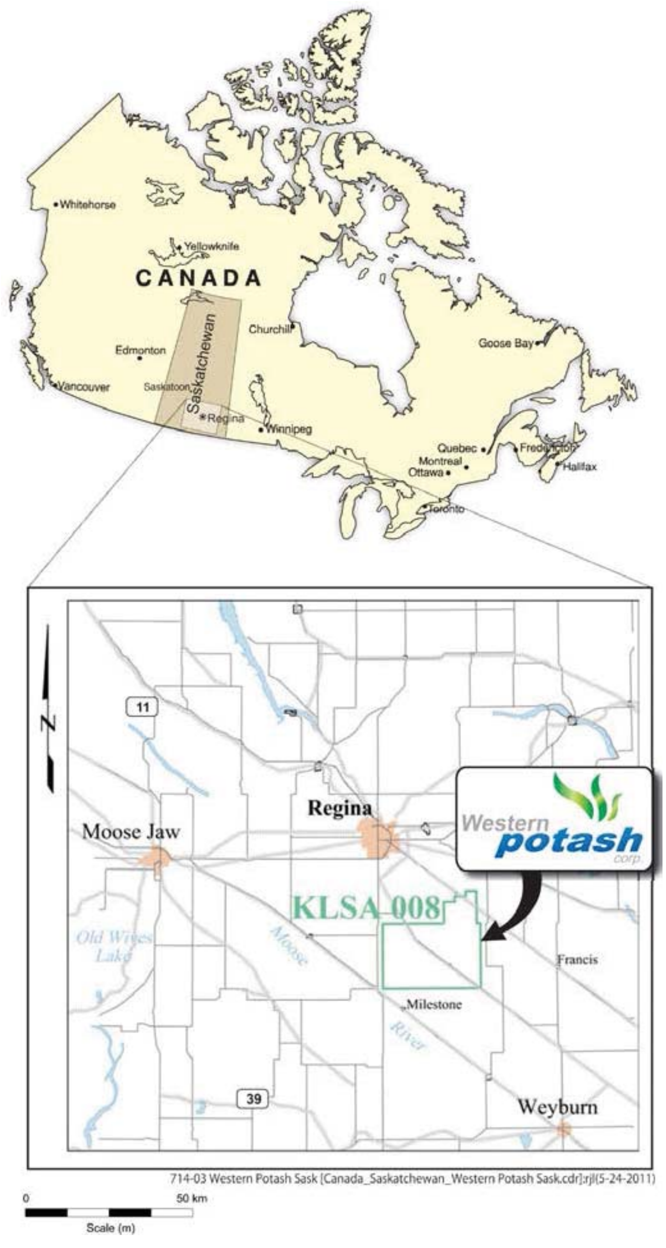

Figure 4-1. Location Map of Subsurface Mineral Lease KLSA 008

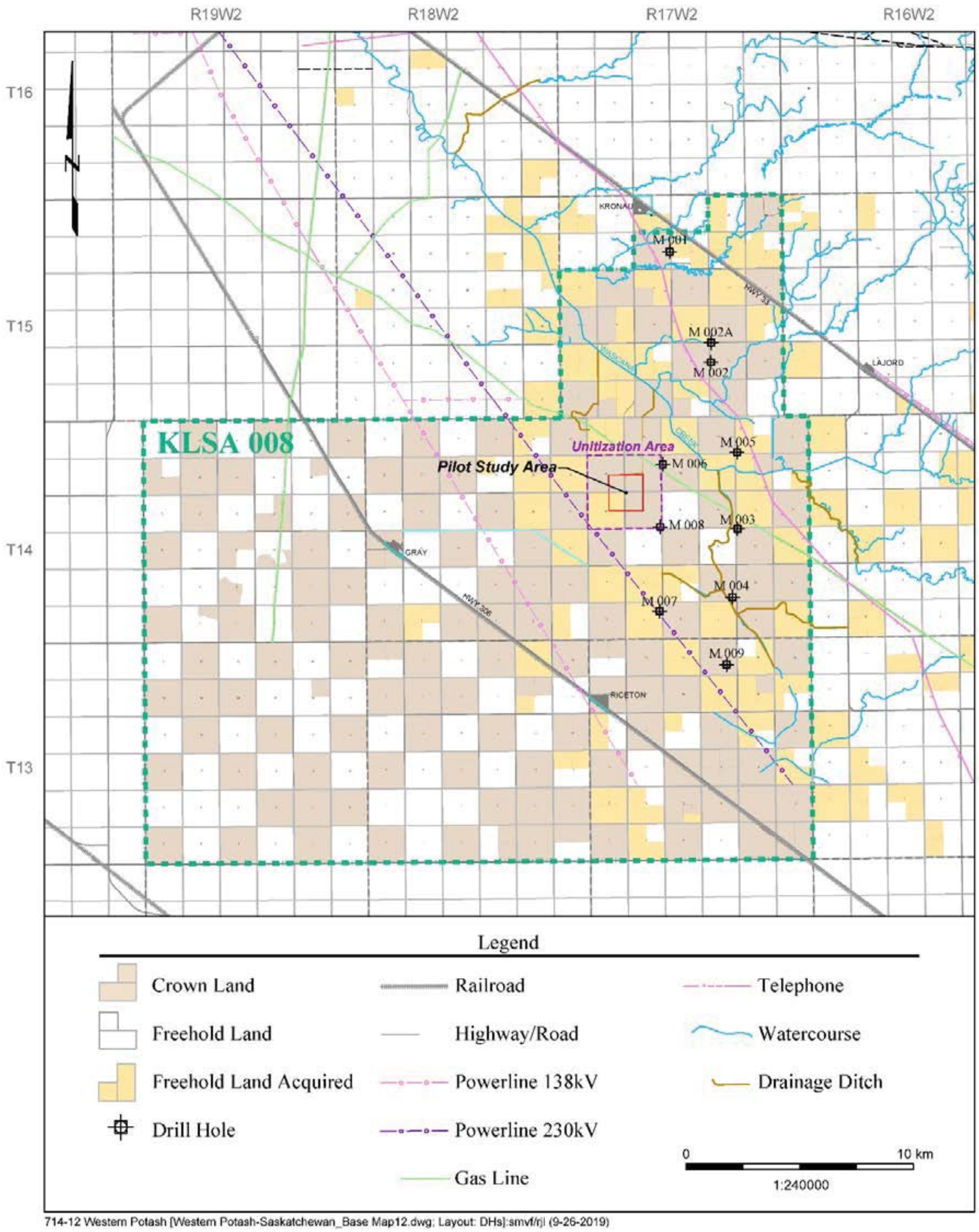

Figure 4-2. Base Map Showing Lease KLSA 008 Locations of Freehold Areas with Lease Agreements, WPC Drillholes, and Surface Features and Infrastructure

Table 4.1. Sections of Crown Mineral Rights included in Lease KLSA 008

Township/Range	Sections of Mineral Rights Held by the Crown[1]	Areas of Mineral Rights Owned by Crown	
		(hectares)	(Acres)
13/17	22-3/4	5,913.83	14,613.36
13/18	20-1/2	5,316.29	13,136.83
13/19	19	4,902.16	12,113.48
14/17	20-1/2	5,283.22	13,055.10
14/18	20	5,181.10	12,802.76
14/19	18-1/4	4,739.21	11,710.82
15/17	15-3/4	4,086.54	10,098.04
Total	136-3/4	35,422.35	87,530.39

Notes: 1. Full sections range from 257.4 ha (636 acres) to 261.4 ha (646 acres); total acreage shown above is based on section acreages shown on the Schedules of Crown Subsurface Mineral Land attached to the KLSA008 Lease provided in Appendix A.

WPC has also negotiated agreements concerning approximately 11,711 ha (28,938 acres) of Freehold mineral rights outside the boundaries of KLSA 008 as of 31 August 2019. Full quarter-sections for which agreements have been reached are shown on Figure 4-2 and identified in Table 4-2. WPC is continuing to negotiate agreements with the owners of Freehold mineral rights for lease of the rights to additional acreage within, or adjacent to, the KLSA 008 Lease boundaries. The legal validity of WPC's mineral leases held as of November 2011 was confirmed by an opinion by MacPherson, Leslie and Tyerman LLP, a copy of which (including attachments) was provided in Appendix B of a previous TR (Hardy et al. 2013). For leases signed since November 2011, QP Dr. Douglas F. Hambley reviewed copies of the lease agreements provided by WPC and compared the locations and acreages of the mineral rights conveyed to WPC by these leases with property data on Saskatchewan's Information Services Corporation website (www.isc.ca).

Areas of Freehold mineral rights under lease by WPC that are outside KLSA 008 but within the ROI for Inferred Mineral Resources have been included in the Inferred Mineral Resource estimate in Section 14 of this TR.

4.3 Unitized Area

In anticipation of the commencement of production from the Phase I Plant in early 2020, WPC applied to the Ministry of Energy and Resources to unitize the four sections encompassing the underground caverns and surface processing plant comprising the operation. The lands included in the Unitized Area are Sections 19, 20, 29, and 30 in Township 14 North, Range 17 West of the Second Meridian. Unitization means that the owners of the mineral rights receive royalties in proportion to their percentage ownership of the Unitized Area regardless of where the mining is actually occurring. The quarter sections within the Unitized Area, their areas in hectares, and the holders of the mineral rights below them are listed in Table 4.3. The caverns and the Plant locations are shown on Figure 4-3. A copy of the Unitization Application is provided in Appendix B.

Table 4.2. Sections and Approximate Acreages of Full-Section Leased Freehold Mineral Rights as of 31 August 2019

Township/Range	Equivalent Sections of WPC-Leaded Freehold Mineral Rights[1]	Areas of WPC-Leased Freehold Mineral Rights	
		(hectares)	(Acres)
13/15	9.36	2,423.78	5,989.27
13/16	8.72	2,257.31	5,577.93
13/17	8.74	2,264.09	5,594.69
13/18	1.72	446.63	1,103.34
14/15	3.24	837.98	2,070.68
14/16	9.01	2,332.41	5,763.49
14/17	12.40	3,210.71	7,933.83
14/18	5.99	1,511.96	3,834.97
15/16	2.53	655.12	1,618.84
15/17	12.26	3,176.24	7,848.64
15/18	8.02	2,076.29	5,130.62
16/18	2.74	710.01	1,754.47
Total	84.73	21,902.53	54,220.77

Notes: 1. Full sections range from 258.6 ha (639 acres) to 260.6 ha (64 acres); total acreage shown above us based on 259.0 ha (640 acres) per section where actual survey acreage is not available. *Totals corrected from previous report.*

4.4 Surface Lands

In Saskatchewan, the surface rights are subject to separate ownership and title from the subsurface mineral rights; therefore, the securing of mineral rights does not automatically secure the surface rights. In undertaking any form of surface exploration operation, access to the property for the purpose of geophysical operations must be negotiated with the surface owner. In such instances, WPC pays the landowner to obtain the right of entry and may be subject to additional environmental conditions imposed by the landowner. When commencing mining operations, WPC may decide to purchase the land upon which to build surface mining facilities such as injection and production pipelines and well pads. As will be seen in Subsections 4.4.1 and 4.4.2, WPC has purchased surface lands for the processing plant and cooling ponds.

Table 4.3. Unitized Sections, Surface Landowners and Mineral Rights Holders

Section	Quarter	Mineral Rights Holder	Surface Landowner	Area (ha)
19-14-17-2	NE	Linda Craig (50%)	P&T Boesch Holdings Ltd. (100%)	65.57
		Robin Waldo (50%)		
	SE	Linda Craig (50%)	J&J Boesch Holdings Ltd. (100%)	64.69
		Robin Waldo (50%)		
	SW	SK Boesch Holdings Ltd. (100%)	J&J Boesch Holdings Ltd. (100%)	64.78
	NW	SK Boesch Holdings Ltd. (100%)	P&T Boesch Holdings Ltd. (100%)	65.01
20-14-17-2	NE	HM the Queen in Right of Saskatchewan (100%)	0907414 BC Ltd. (100%)	64.65
	SE	HM the Queen in Right of Saskatchewan (100%)	Beverley and Wade Ulrich (100%)	64.44
	SW	HM the Queen in Right of Saskatchewan (100%)	Debra, Joy and Robert Sluser (Ext. 1)	59.15

Section	Quarter	Mineral Rights Holder	Surface Landowner	Area (ha)
	SW	HM the Queen in Right of Saskatchewan (100%)	Jesse Gooding (Block A 102124077)	5.04
	NW	HM the Queen in Right of Saskatchewan (100%)	0907414 BC Ltd. (100%)	64.77
29-14-17-2	NE	HM the Queen in Right of Saskatchewan (100%)	Terrence and Deanne Leurer (100%)	64.23
	SE	HM the Queen in Right of Saskatchewan (100%)	Terrence and Deanne Leurer (100%)	64.20
	SW	HM the Queen in Right of Saskatchewan (100%)	102048326 Saskatchewan Ltd. (100%)	64.44
	NW	HM the Queen in Right of Saskatchewan (100%)	102048326 Saskatchewan Ltd. (100%)	64.40
30-14-17-2	NE	HM the Queen in Right of Saskatchewan (100%)	102048326 Saskatchewan Ltd. (100%)	64.86
	SE	HM the Queen in Right of Saskatchewan (100%)	102048326 Saskatchewan Ltd. (100%)	64.70
	SW	HM the Queen in Right of Saskatchewan (100%)	102048326 Saskatchewan Ltd. (100%)	65.12
	NW	HM the Queen in Right of Saskatchewan (100%)	102048326 Saskatchewan Ltd. (100%)	64.93
Road Allowances		HM the Queen in Right of Saskatchewan (100%)	HM the Queen in Right of Saskatchewan (100%)	19.52
			Total Area	**1054.50**

4.4.1 Land Purchased for Phase I Project Processing Plant

In 2017, WPC purchased the land comprising the northwest quarter of Section 20 in Township 14, Range 17 of the Second Meridian (NW 20-14-17W2) and in 2019, WPC purchased NE 20-14-17W2. As discussed above in Subsection 4.3, Section 20 is the southeast corner of the area unitized for the Phase I Project. The title for this land is held by 0907414 B.C. Ltd., which is the WPC subsidiary responsible for WPC's land holdings. Table 4.3 shows the ownership of all the surface lands within the Unitized Area. The company, 102048326 Saskatchewan Ltd., is owned by the Muskowekwan First Nation according to the Corporate Registry on the ISC website (www.isc.ca).

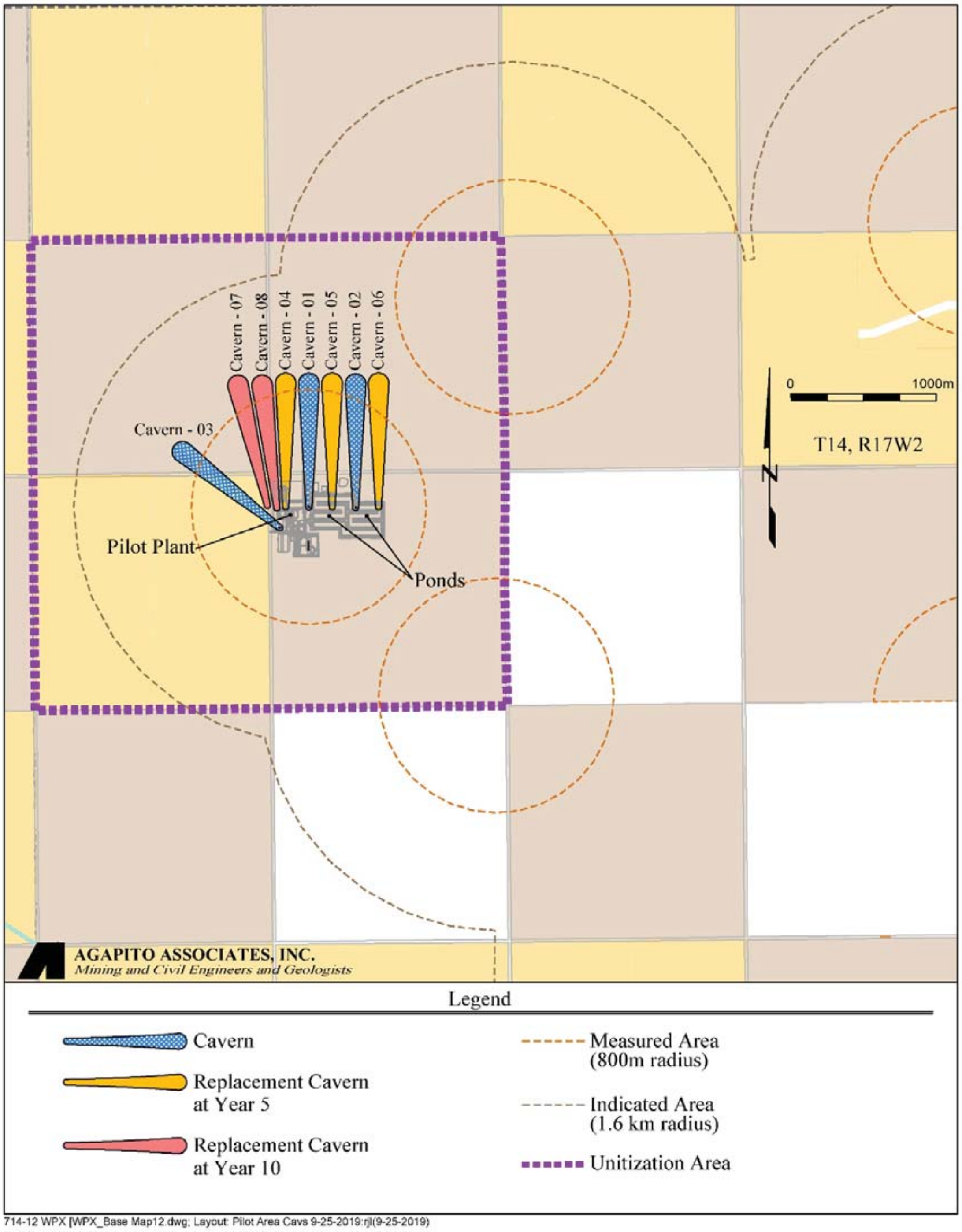

Figure 4-3 . Cavern and Plant Layout showing the Location of the Caverns for the Study

4.5 Environmental Liabilities, Permits, and Risks for the Property

WPC's Milestone Project is an advanced property as defined in the NI 43-101 regulations. Consequently, environmental issues and the status of permitting are discussed in Section 20 of this TR.

5. Accessibility, Climate, Local Resources, Infrastructure and Physiography

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5.1 Topography, Elevation, and Vegetation

Overall, the KLSA 008 Lease lands consist of flat, cleared farmland with occasional rows of trees planted to serve as windbreaks. The site has been farmed since the early 1900s and is primarily cropland used to grow a variety of crops, although there are scattered pastures and grazing lands. The ground surface at the Plant site in the Unitized Area is located at an elevation of 588 m above Mean Sea Level (MSL).

5.2 Accessibility

The KLSA 008 Lease area is accessible by a network of "grid" section gravel and paved roads, including three major paved highways (Highway 6, which runs approximately north–south between Regina and the United States of America (USA) border; Highway 33, which runs southeast from Regina through Kronau, Lajord, and Sedley; and Highway 39, which runs northwest from Estevan to Moose Jaw and is located southwest of the Lease area). Gravel road access is available within the KLSA 008 Lease area, in part due to the occupancy of the land by a combination of mixed farms. Rail access is good, with a Canadian Pacific Railway (CP) line between Moose Jaw and Estevan that runs through Milestone south of the Permit Areas; the Stewart Southern Railway (SSR) Tyvan short line from Regina to Stoughton that runs through Kronau, Lajord, and Sedley east of the Permit Areas; and a Canadian National (CN) spur from Regina south to Estlin northwest of the Permit Areas.

5.3 Local Resources

The large urban population center of Regina to the northwest and local rural communities such as Kronau, Lajord, Sedley, Gray, Riceton, and Milestone may provide a pool of skilled professional, technical, and trades persons; furthermore, the presence of the Belle Plaine potash solution mine to the northwest of the KLSA 008 Lease area means that the regional labor force may have experience in potash mine construction and operation.

At present, it is felt that manpower for development and operation of the Milestone Project could be found in the surrounding local areas. That could change very quickly, however, and may necessitate additional expenditure to attract the workforce required.

5.4 Climate

The climate is typical of the Canadian prairies and consists of a winter period (November–March) of snow with a mean temperature of –11 degrees Celsius (°C) and a warm (15°C to 35°C) summer period (June to early September) with moderate precipitation. The spring (April–May) and autumn (late-September to October) are cool with precipitation in the form of rain and occasional snow. Exploration operations and construction of the processing plant and other surface facilities are limited by weather conditions during the spring and fall periods when soft ground conditions due to thawing and/or precipitation create difficulties in moving heavy machinery. During the winter and summer months, access is largely restricted only by local conditions, periodic rains or snowfalls, or environmentally sensitive ground conditions.

5.5 Infrastructure

The surface lands of the KLSA 008 Lease area are primarily farmland, so it is reasonable to assume that it will be possible to continue to negotiate favorable land acquisition and usage agreements with private landowners for cavern drilling and well pads. As discussed in Section 4.3 of this TR, WPC has purchased 4½ sections of land totaling 1,166 ha (2,880 acres) for the mine plant, including the processing plant potash storage and loadout areas, evaporation ponds, and tailings management area for the original 2.8 Mtpa primary + secondary project as well as the Phase I project. Road and rail access is good as discussed in Section 5.2. The region is well served by natural gas delivery pipelines and an electrical distribution network.

Water supply in the settlements of Gray, Lajord, Milestone, Riceton, and Sedley is from municipal wells that generally meet Saskatchewan potable water quality standards. Water supply on the farms is generally from shallow domestic wells screened in sand lenses in the glacial till. Note that, although apparently not used for water supply, Wascana (Pile of Bones) Creek flows through the KLSA 008 Lease area. WPC has finalized a long-term agreement with the City of Regina for the supply of 25,000 cubic meters per day (m^3/day) for full-scale mine development. For the purposes of the Phase I Project, WPC has drilled a well in Section 34, Township 13, Range 17 West of the Second Meridian. Additional information on the status of water requirements is presented in Section 18 of this TR.

Existing 230-kilovolt (kV) (double circuit) and 138-kV overhead power lines and supporting tower structures cross the KLSA 008 Lease. The 230-kV power line runs from southeast to northwest and has a 45-m right-of-way; the 138-kV power line also runs from southeast to northwest and has a 35-m right-of-way. Information on power requirements for the Phase I Project is provided in Section 18 of this TR.

Three existing major buried gas pipeline rights-of-way traverse the KLSA 008 Lease. Two of these pipelines run from the northwest to the southeast within adjacent rights-of-way. Pipeline information is as follows:

- Alliance Pipeline Ltd: 914 millimeters (mm), 12-megapascals (MPa) maximum operating pressure steel pipeline on an 18-m-wide right-of-way.

- Cochin Pipeline Ltd: 323.8 mm, 9.93-MPa maximum operating pressure steel pipeline on an 18.3-m-wide right-of-way.

The third gas pipeline is the buried TransGas 250-mm-diameter, high-pressure distribution line that runs from Regina to Weyburn. Information on natural gas requirements for the Phase I Project is provided in Section 18 of this TR.

The Gray Community Water Pipeline right-of-way crosses through the southern end of the Milestone-owned land for the Processing Plant running diagonally from the southeast corner of Section 13 in Township 14, Range 18 (T14, R18W2) to the middle north edge of Section 14 in T14, R18W2. The Gray Community Water Pipeline may need to be relocated from its diagonal crossing to run along the perimeter of the Milestone-owned land so as not to interfere with any present and future plant facilities. More information on project infrastructure is presented in Section 18 of this TR.

6. History

Sections 6.1, 6.2, 6.3, and 6.4 have been reproduced from the TR dated January 7, 2020. Sections 6.5, 6.6, and 6.7 were also reproduced from the TR dated January 7, 2020 and have been moved to the History section to account for their status as not being current to this report. This section has been reproduced for the convenience of the reader and is provided for information only. It is not the responsibility of the Qualified Persons identified in this report.

6.1 Work Performed prior to 2009

The presence of evaporites in the sedimentary sequence in Saskatchewan was first noted in 1928 when a well drilled for oil near Unity, Saskatchewan, bottomed in a half a meter of salt (Fuzesy 1982). Subsequently, in 1942, sylvite and carnallite were identified in the Norcanols Radville No. 1 well drilled by Imperial about 100 km south of Regina (about 85 km south of the KLSA 008 Lease area).

The lands presently held under Lease KLSA 008 were drilled for petroleum in the 1950s by British American Oil Co. (BA), Richfield Oil Co., Standard Oil Co. of New York/Standard Oil Co. of Ohio (Socony Sohio), Amerada Oil Co., and in the late-1990s, by Northrock Resources Ltd. Of the six wells drilled by these various companies, only one, Northrock Corinne 4-25-13-19, was of sufficient depth to penetrate the Prairie Evaporite Formation. The gamma logs for the Northrock Corinne 4-25-13-19 indicated only 27 m of Prairie Evaporite Formation and the lithologic logs based on chip samples, indicated no trace of sylvite. The apparent lack of evaporites and the small thickness of the Prairie Evaporite Formation have been taken as evidence that this well is west of the “salt edge”—the colloquial term used to describe the limit of potash mineralization.

Holter (1969) and Fuzesy (1982) have reviewed and summarized the seismic and drillhole information available as of their respective publication dates regarding the thickness and extent of the Patience Lake, Belle Plaine, and Esterhazy Members of the Prairie Evaporite Formation. Detailed regional maps showing the interpreted locations of the edge of the salt beds, individual member thicknesses (isopachs), and locations of carnallite within the individual members are presented in both these references. More recently, the isopach maps have been updated by the Saskatchewan Geological Survey.

Between 1986 and 2000, 2D seismic surveys were run in the vicinity of the KLSA 008 Lease area by Exxon, Husky Oil, and Penn West Petroleum Co. Data from these seismic surveys were obtained in 2008 and reinterpreted for WPC by Boyd PetroSearch (Boyd PetroSearch 2010a). Seismic lines covering the northern portion of KLSA 008 were purchased by Boyd PetroSearch in spring 2009 to provide additional information. Boyd PetroSearch performed 2D and 3D seismic surveys on the southern portion of the KLSA 008 Lease area in the fall of 2009 and early 2010 (Boyd PetroSearch 2010b). The results of the 2008 through 2010 seismic exploration are discussed in Section 10 of this TR.

6.2 Work Performed by WPC Between 2009 and 2012

Between April 2009 and January 2010, WPC advanced nine cored wells (M 001, M 002, M 002A, M 003, M 004, M 005, M 006, M 007, and M 008) in Permit KP 409 (currently the east half of Lease KLSA 008) that intersected potash in the Prairie Evaporite Formation. A further two wells (M 009 and M 010) were advanced and cored in January and February 2011. The core from M 009 was assayed, whereas the core from M 010 was used for solubility and geomechanical testing to support design studies in the PFS (AMEC 2011) and FS (AMEC 2012). These eleven wells are discussed in more detail in Section 10 of this TR; the solubility and the geotechnical testing are discussed in Section 16 of this TR. Mineral Resources for the KLSA 008 Lease were estimated based on these eleven cored and assayed wells and were reported in a previous TR (Hambley et al. 2011).

Information on historical and recent drillholes located on and near Lease KLSA 008 was obtained from the Saskatchewan Ministry of Economy (now Ministry of Energy and Resources). Unless otherwise noted, cores from the Prairie Evaporite Formation for historical wells were not available. The historical information reviewed by the authors did not contain any statements regarding Mineral Resource or Reserve estimates for Lease KLSA 008.

A Scoping Study (AMEC 2010) and a PFS (AMEC 2011) for the Milestone Project were completed in 2010 and 2011, respectively. These studies, which have since been superseded, indicated that the project appeared economically viable and merited further study.

Geotechnical studies including creep testing were performed in 2011 and early 2012 by RESPEC of Rapid City, South Dakota (Hustoft 2012). The results of these studies are presented in Section 16.1 of this TR. Sylvinite dissolution studies were performed in 2011 and early 2012 by NG Consulting of Sondershausen, Germany. The results of these studies are presented in Section 16.2 of this TR.

6.3 WPC FS for Caverns with Two Vertical Wells

The FS performed in 2012 built on the PFS completed in September 2011. The results of the FS were disclosed in a TR released in January 2013 and revised in November 2013 (Hardy et al. 2013). The FS was based on the required level of engineering effort to define mining and processing facilities, infrastructure, utilities, and major services. The Milestone plant facilities incorporated in the FS included a cavern wellfield (vertical, dual-well caverns), a wet processing plant, a dry processing plant, product storage, loadout, and all other necessary site infrastructure. Ultimate plant production assumed by the FS for the Milestone Project was 2.8 Mtpa of MOP at a grade of 62% K_2O (or 98.1% KCl), including production from both primary and secondary solution mining.

CAPEX and OPEX presented in the FS were generated with a target accuracy of +15% to –10%, typical for an AACE International Class 3 study. Costs were given in Canadian dollars ($CAD) and potash prices were given in United States (US) dollars ($) FOB Vancouver, BC; however, the two currencies were approximately at parity at the time of the study. The total CAPEX estimate for the 2.8 Mtpa plant was $CAD3.3 billion.

The plant unit OPEX was estimated to be $CAD62/t of product at full production capacity. These OPEX include estimates for labor, maintenance, power, natural gas, water, consumables, diesel, and uncapitalized wellfield operations. The OPEX excluded taxes, royalties, or the costs associated with transportation to port and ship loading. Assuming a nominal discount rate of 10%, the economic analysis yielded an after-tax project NPV of $CAD2.4 billion, with an IRR of 18.6%, based on a weighted potash price of $US466/t. The price was for an assumed 80:20 granular-to-standard product mix with prices of $US450/t and $US470/t for standard and granular product, respectively.

Readers should note that the 2012 FS is no longer current, should not be relied upon, and information with respect to the 2012 FS is included in this TR for historical and background purposes only.

6.4 Studies for the Phase I Project for Production from Horizontal Wells

In 2015, a Scoping Study was completed for a Pilot Program using horizontal caverns at WPC's 100%-owned Milestone property in southern Saskatchewan (WPC 2015a). The Scoping Study outlined how WPC may effectively exploit the Milestone asset through reduced levels of production using innovative selective solution mining techniques while reducing CAPEX and maintaining competitive OPEX. Included in the study was an analysis of a selective mining method relying on horizontally drilled wells selectively mining the Esterhazy potash member. This method of selective solution mining has been proven in industry (see Section 16.2); however, the exact mining method has not been proven in Saskatchewan potash mining. The horizontally drilled wells are used to inject a sodium chloride (NaCl)-saturated brine having a temperature higher than the in-situ formation temperature. KCl is selectively dissolved leaving behind a lattice of NaCl. KCl-rich brine is then brought to surface through a dedicated production well.

The Milestone plant facilities incorporated in the Scoping Study included a cavern wellfield, a wet processing plant, a dry processing plant, product storage, loadout, and all other necessary site infrastructure. Phase I Plant production capacity was assumed to be 146,000 tonnes per year (ktpa) of MOP at a grade of 62% K_2O (or 98.1% KCl).

On November 30 ,2016 the Company received the final engineering report from AMEC Foster Wheeler ("AMEC") and AGAPITO Associates ("AGAPITO") for a 'Pilot Project' Selective Potash Solution Mining facility. The report provides a full scope of engineering and procurement services as well as a Class 3 (+/- 10%) Capital Cost Estimate and Operating Cost Estimate in advance of the company's construction decision for the Phase I Project. Deliverables include process flow diagrams, site plans, specifications, data sheets and detailed drawings.

On May 2020 the Company completed final engineering with SNC-Lavalin for the Phase I Project. The scope of the work with SNC included detailed engineering with Issued for Construction

Drawings, revised CAPEX and OPEX, procurement strategy, project schedule and execution plan, and commissioning and start-up support. By May 2021 all of the major packages of equipment required for the plant and ancillary facilities have been procured and approximately 90% delivered to the project site.

Work on this project has been ongoing over the last decade. By adjusting the plan to market, with a staged approach the Phase I Project (146,000 tonnes of MOP per year) to prove the innovative solution mining technology, and a future expansion options for Phase I a (further 150,00 tonnes per year) and Phase II and III (at 1.4 million tonnes per year scale of MOP Solution Mine for each phase) when the market is right, provides the most optimum strategy for the asset to be developed. WPC has advanced the Phase I Project through PFS, FS stages, Engineering Design and Detailed Design. The economic analysis is discussed in more detail in Sections 21 and 22 of this TR.

6.5 2010 – 2012 Geotechnical Testing

In 2010 WPC engaged RESPEC to conduct a laboratory study of the mechanical properties of various stratigraphic units of salt and potash. These mechanical properties were sought to support the development of the Milestone Project. The laboratory study comprised four types of mechanical properties tests on core recovered from the Milestone Project in Saskatchewan, Canada. The mechanical testing consisted of:

- 50 Brazilian indirect tensile strength tests
- 29 constant strain rate (CSR) compressive strength tests
- 17 tests of constant mean stress in compression (CMC)
- 24 triaxial compression creep tests

The CSR compressive tests were used to obtain values for Young’s modulus and Poisson’s ratio. The results of the CMC tests were compared by RESPEC to a dilation criterion (Van Sambeek, Ratigan, and Hansen 1993) proposed for salt and potash and were found to have the same average linear slope as that criterion.

Creep tests were performed on 24 specimens – 13 tests on samples from various halite zones and 11 tests on potash. Three different differential stresses were applied at a confining pressure equivalent to the cavern brine pressure at 65°C. To address the effect of temperature, 2 samples of Patience Lake potash ore were tested at 75°C. The loading conditions were held constant for the minimum 30 to 60 day duration of the tests. The steady state strain rate data from the creep tests were fitted to the Munson-Dawson multi-mechanism creep model (Munson and Dawson 1979) developed for the Waste Isolation Pilot Plant (WIPP). The results of the creep tests were used in modeling studies examining the dimensions and closure potential of the caverns.

6.6 Laboratory Sylvinite Dissolution Testing

6.6.1 2011–2012 Testing by NG Consulting

Laboratory dissolution testing of core samples were performed in 2011 by NG Consulting of Sondershausen, Germany (NG Consulting 2012). The samples were collected from the Patience Lake Member, the interbed between the Patience Lake and Belle Plaine Members, the floor below the Belle Plaine Member, the interbed above the Esterhazy Member, the Esterhazy Member, and the basal salt below the Esterhazy Member. The results of the testing indicated that:

- Dissolution rates varied as expected between those for pure sylvinite and pure halite and correlated well with theoretical data.
- Dissolution rates of the WPC samples fell in a range similar to that for common sylvinite from other deposits.
- No significant difference in dissolution rates were observed for the Patience Lake, Belle Plaine, and Esterhazy Members.
- Roughly 20% higher dissolution rates were observed for 75°C compared to 60°C.
- The presence of insoluble material (ie anhydrite) reduced the dissolution rate up to 30%.
- The dissolution testing provided a preliminary relationship between dissolution rate and KCl content of the sylvinite at 60°C and 75°C. *Note that dissolution testing has not as yet been performed at the temperature of 100°C assumed for the Phase I Project*.

A second set of dissolution tests was performed in late 2011 and January 2012. The purpose of this testing was to provide information regarding the relationship between the brine KCl grade and the grade of sylvite in the rock. The testing was necessary to investigate an apparent direct correlation between brine grade and grade in the rock that has been observed in both full-scale pilot tests and commercial caverns.

6.6.2 2016–2018 Static and Dynamic Testing by AAI

In 2016 Dissolution tests were conducted to determine the dissolution parameters of sylvinite in solvent with various NaCl and KCl concentrations under medium-high and high solvent temperatures. The executed tests included the static dissolution tests performed in 2016 and the dynamic dissolution tests in 2017 and 2018. The dissolution tests were conducted either on the core samples from the Esterhazy Member in well M 008 (also known as WPX Western Riceton 1-20-14-17) or on the reconstituted core potash samples consisting of mixtures of NaCl and KCl.

A total of 54 dissolution tests were conducted with the static dissolution process, including 50 tests using pre-concentrated solution and 4 tests using freshwater. The measured sylvinite dissolution rates in freshwater were to provide a baseline for other tests and were also used in simulating fresh water start up. Thereafter, dynamic dissolution testing was performed on an additional 28 synthetic cores constructed by mixing NaCl and KCl powders and compressing them.

For the 54 static dissolution tests, the dissolution times were 1 minute and 5 minutes. The KCl concentrations in the pre-concentrated solutions were 110, 130, 150, and 170 g/L. Based on the relationship between saturation concentration and temperature for the pure H_2O, KCl, and NaCl system shown in Figure 6-1, the NaCl concentrations in the pre-concentrated solution were selected to be 230 g/L for the 1-minute test and 250 g/L for the 5-minute test.

The dynamic dissolution tests were conducted on 12 core samples using solutions containing 200 g/L of NaCl and 110, 130, 150, and 170 g/L of KCl, and on 16 core samples containing 100 g/L of KCl and 237.5 g/L and 250 g/L of NaCl.

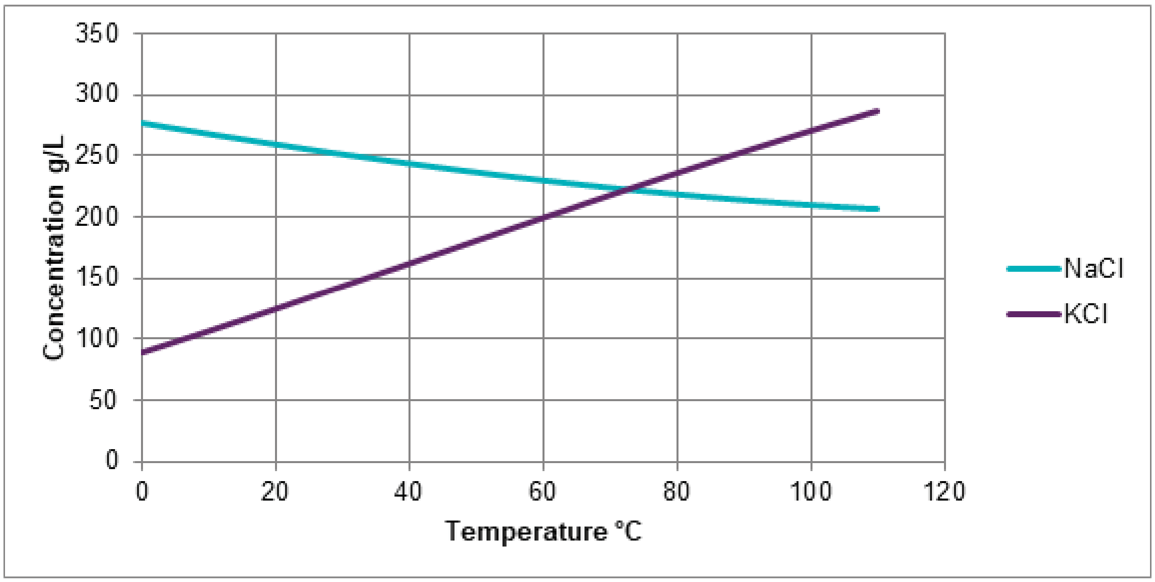


Figure 6-1. Saturation Concentration vs. Temperature for the H2O-NaCl-KCl System

Tests were executed at the inner core of the reconstituted core samples, and because the solvent flow conditions in the tests varied from laminar to turbulent flow, the durations of the dynamic dissolution tests varied from a few minutes to a maximum of 2 hours.

6.7 History from Phase I Project

In June 2018 Western successfully completed drilling and testing of a deep well water source well for the Phase I Project. The water source for the Pilot Project is a Mannville water well located about 7.5 km from the project site. This deep well aquifer contains non-potable water, not suitable for agriculture and is isolated and far below local domestic or agriculture use aquifers and will therefore not interfere with local water supplies or the environment. Hydrogeological testing determined that the well is able to fully support the required water usage of the Phase I Project over the life of the project according to the Water Supply Well Report completed by WaterMark Consulting Ltd.

Early Works construction activities were started at the Phase I site mid-October 2018 and completed mid-December 2018. This included construction of 8km of heavy haul road that connected the Lajord grid to the project site, as well as site civil works including site clearing, construction of the wellpad, crystallization pond, internal access roads, truck staging area and site runoff ponds.

In April 2019 pilling commenced as well as the remainder of the early works civil construction. In June 2019 Stuart Olson Prairie Construction ("Stuart Olson") was engaged as the general contractor for the construction of the Phase I Plant. In May 2020 construction was suspended with the solution mining systems complete, and partial construction of the process and compaction buildings, further detailed in Section 0.

Western Potash operated the selective solution mining for a period of approximately 18 months between October 2019 and May 2021. Hot mining involves recirculating brine from the crystallization pond through the brine heating systems then into the caverns where it preferentially extracts the potassium chloride ("KCl") leaving the sodium chloride ("NaCl") in place underground. The produced brine is then sent back to the crystallization pond, where the cooling causes the potash to precipitate and build up. Further details of the solution mining operations are given in Section 16.0

7. Geological Setting and Mineralization

7.1 Regional Geology

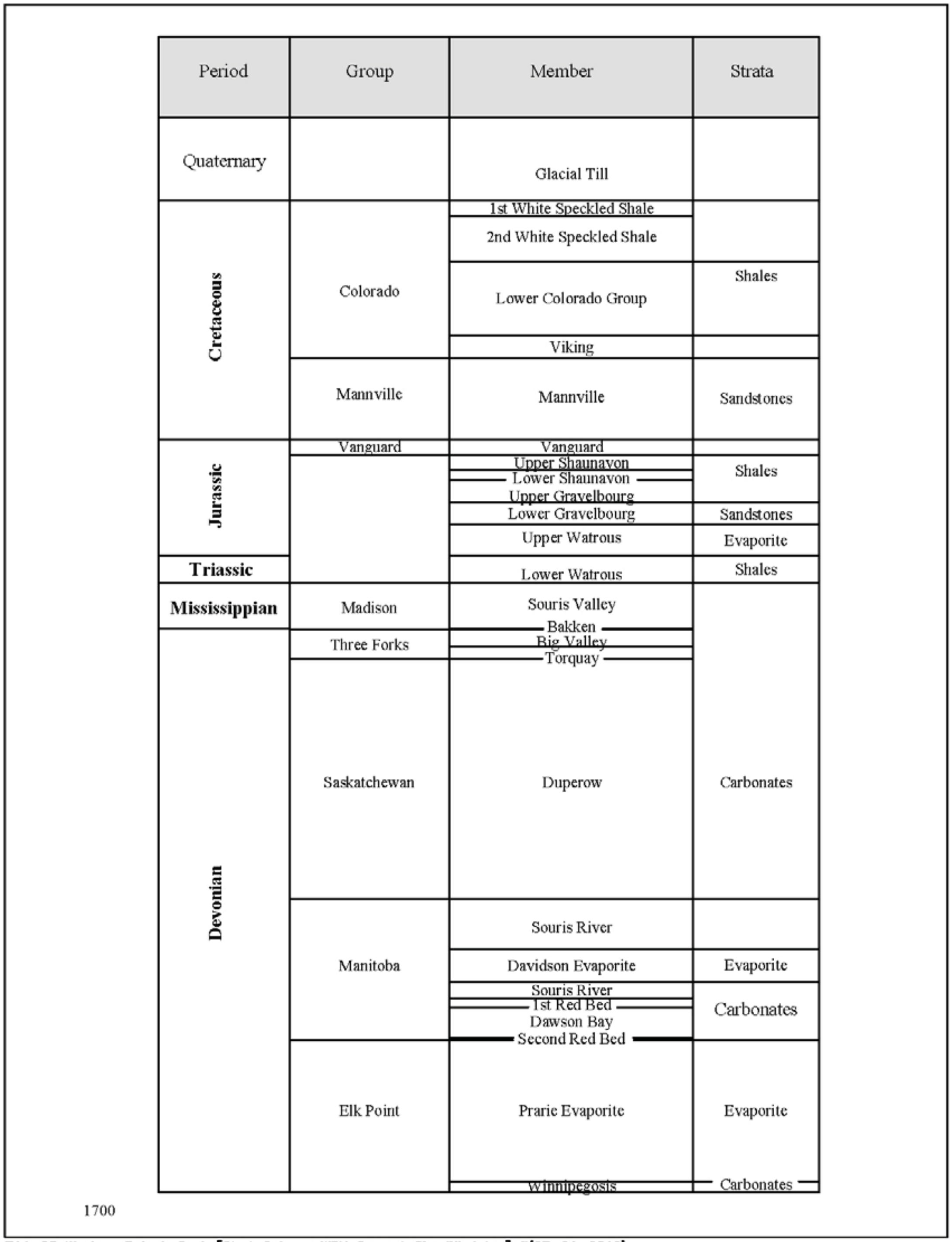
The regional subsurface stratigraphic column of central Saskatchewan is presented in Figure 7-1. The geological column may be subdivided into three broad intervals with approximate depths taken from examination of wells within the KLSA 008 Lease area:

1. An uppermost sequence extending from surface to an approximate depth of some 175 to 200 m and consisting of glacial tills, gravels, and clays and containing freshwater aquifers.
2. A medial sequence extending from the base of the glacial sediments to an approximate depth of some 980 m and consisting of Triassic to Cretaceous shales, siltstones, and sandstones with limited aquifers of brackish water.
3. A lowermost sequence extending from the Triassic/Mississippian Unconformity to below 2,100 m depth and consisting of Cambrian to Mississippian carbonates, evaporites, and basal shales and sandstones. The Deadwood Formation sandstone that lies immediately above the Precambrian basement will be used for disposal of salt brines from pre-production cavern sump development and excess brines from the processing plant.

The above strata are underlain by gneisses and granites of the Precambrian basement.

Laterally extensive, evaporite beds containing deposits of halite, sylvite, and carnallite are found within the Middle Devonian Elk Point Group, whose top ranges from a depth of 2,500 m in southern Saskatchewan to surface outcrop in northwestern Manitoba. The Elk Point Group lies unconformably on the Silurian-age Interlake Formation and is overlain unconformably by carbonate deposits of the Middle Devonian-age Dawson Bay Formation. The evaporite beds are contained within the Prairie Evaporite Formation, which overlies the Winnipegosis Formation within the Elk Point Group. The basal contact between the Prairie Evaporite and the Winnipegosis Formation is marked by a sharp transition from halite of the Prairie Evaporite Formation to mixed limestone, dolomite, and anhydrite of the Winnipegosis Formation. The uppermost contact between the Prairie Evaporite and the Dawson Bay Formations consists of shale and poorly consolidated silty detrital deposits named the “Second Red Beds.” Regionally, the underlying Winnipegosis forms a broad flat basin to platform deposit with local development of limestone/dolomite “reefs.”

The Elk Point Group was deposited within a broad mid-continental basin extending from North Dakota and northeastern Montana at its southern extent in a northwest direction through southwestern Manitoba, southern and central Saskatchewan, to eastern and northern Alberta. The evaporite strata in the basin are restricted to the southern one-third of the Elk Point Basin in south-central Saskatchewan, southwestern Manitoba, northeastern Montana, and northwestern North Dakota (Holter 1969).



714–05 Western Potash Sask [Strat Column_WPX General_Simplified.dwg]:rjl(07–01–2010)

Figure 7-1. Stratigraphic Column for Central Saskatchewan

The Manitoba Group that overlies the Elk Point Basin consists of the Dawson Bay Formation and overlying Souris River Formation. Present within this sequence are two halite beds:

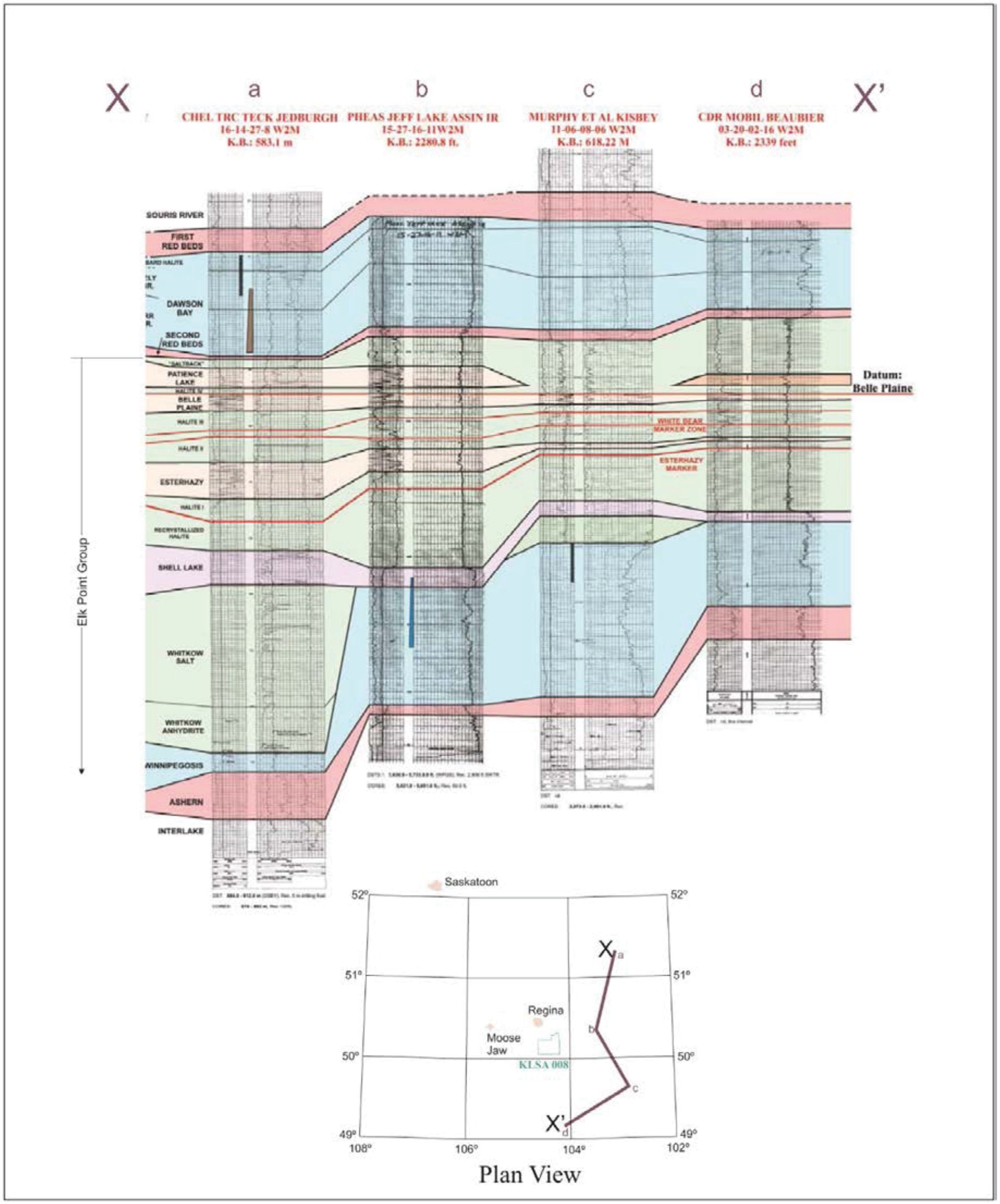
1. The Hubbard Salt, which is the uppermost bed of the Dawson Bay Formation
2. The Davidson Evaporite, which overlies the First Red Beds within the Souris River Formation

These halite beds are important from an underground mining viewpoint as they form a flood protection zone that separates the Prairie Evaporite Formation mining horizon from the overlying water and brine aquifers present within the Cretaceous sands, especially the Mannville Group (formerly known as the "Blairmore Formation"). However, the presence or absence of these beds is less critical for solution mining than for underground mining.

Lease KLSA 008 is situated to the south of what is commonly termed the "Commercial Potash Mining Belt." Where potash is mined by conventional underground means within this "belt," the potash-bearing beds of the uppermost Prairie Evaporite Formation range between 950 m and 1,100 m in depth. The depth to the top of the Prairie Evaporite Formation on the KLSA 008 Lease area ranges from 1,650 m near the northwest corner of the Lease area to 1,750 m along the southern boundary of the Lease area. Because salt and potash have been conventionally mined successfully only to depths of 1,200 m to 1,400 m due to geomechanical limitations, solution mining techniques must be considered the preferred means of recovery of the resource on the KLSA 008 Lease area.

The Prairie Evaporite Formation is divided into a basal "Lower Salt" and an overlying unnamed unit containing three potash-bearing units and one unit containing thin "marker beds." In ascending order, the potash beds in the upper unit are the Esterhazy Member, White Bear Marker Beds, Belle Plaine Member, and Patience Lake Member. Mineralogically, these members consist of sylvite and halite with minor amounts of carnallite. As will be shown in Section 11, the carnallite grades in the Patience Lake and Belle Plaine Members are sufficiently low such that carnallite will not interfere with mining operations for sylvite. Conversely, the carnallite grades in the Esterhazy Member exceed 6 percent (%) in four of the ten wells drilled by WPC for which assays are available. Carnallitic ores can be handled by the evaporator/crystallizer processing circuits used at solution mines, but the result is potassium chloride (KCl) losses to the magnesium purge and thus reduced KCl recovery. However, if the brines from the Esterhazy Member in the vicinity of these wells can be blended with brines from the Patience Lake or Belle Plaine Members, the resulting carnallite grade may be acceptable. The White Bear Marker Beds are typically of insufficient thickness and grade to be economically mineable.

Figure 7-2 shows a regional cross section from Saskatoon to some 160 kilometers (km) southeast of the KLSA 008 Lease area. This cross section was originally published in the Potash One NI 43-101 Resource Report (Hardy and Halabura 2008) and illustrates the regional consistency of the Prairie Evaporite Formation.



714-05 Western Potash [Profile_Regional X-X_5-24-2011.cdr]:rjl(5-24-2011)

Figure 7-2. Regional Stratigraphic Correlations of the Elk Point Group, Saskatchewan (after Hardy and Halabura 2008)

7.2 Local Geology of Potash-Bearing Members

In the KLSA 008 Lease area, the Patience Lake, Belle Plaine, and Esterhazy Members are present. Note that in the central part of the Lease area, the elevations are informed not only by the drill hole intersections, but the 3D seismic as well. Figure 7-3. shows the topography of the floor of the Belle Plaine Member, across the area covered by the 3D seismic survey. Also present is the "White Bear Marker Beds," which is a distinctive unit of thin interbedded clay, halite, and sylvinite beds between the Belle Plaine and Esterhazy Members but is of insufficient thickness and grade to be attractive for mining.

An approach appropriate for Western's selective mining application, is to distinguish between the various "sub-members" of the three major potash-bearing members. Mineralization in potash beds, especially in the Prairie Evaporite Formation, doesn't present itself as a single, discrete event, but rather as a collection of cycles, bounded by clay horizons, with great consistency over large areas, within a single member. The mineralization (and hence the Resource) in the individual sub-members was analyzed in order to build a better understanding of the nature of the members as a whole. Detailed descriptions of the sub-members are given in Section 7.3

- **Patience Lake Member:** The uppermost member of the Prairie Evaporite Formation with potash production potential. Between the top of the Prairie Evaporite and the top of the Patience Lake Member lies a 7 to 14 m thickness of halite with clay bands called the "salt-back." The sylvite-rich beds within the Patience Lake Member are mined using conventional underground mining techniques along a trend from Vanscoy to Lanigan in the Saskatoon area and by solution mining techniques at the Belle Plaine mine near Moose Jaw.
- **Belle Plaine Member:** The Belle Plaine Member underlies the Patience Lake Member and is separated from it by barren halite beds. The Belle Plaine is mined using solution mining techniques at the Belle Plaine potash mine.
- **Esterhazy Member**: The Esterhazy Member is separated from the Belle Plaine Member by the White Bear Marker Beds, a sequence of clay seams, low-grade sylvinite beds, and halite. The Esterhazy Member is mined using conventional underground techniques at the Esterhazy and Rocanville potash mines in southeastern Saskatchewan and by solution mining techniques at the Belle Plaine potash mine.

The potash beds are underlain by halite.

The typical sylvinite interval within the Prairie Evaporite Formation consists of a mass of interlocked sylvite crystals that range from pink to translucent, and which may be rimmed by greenish-grey clay or bright-red iron insolubles, with minor halite randomly disseminated throughout the interval. Local, large (greater than 2.0–2.5 cm), cubic, translucent to cloudy halite crystals may be present within the sylvite groundmass, and overall, the sylvinite ranges from a dusky brownish-red color (lower grade, 23%–27% potassium oxide [K_2O] grade with an increase in the amount of insolubles) to a bright, almost translucent pinkish-orange color (high grade, 30%+ K_2O grade). The intervening barren beds typically consist of brownish-red, vitreous to translucent halite with minor sylvite and increased insolubles content.

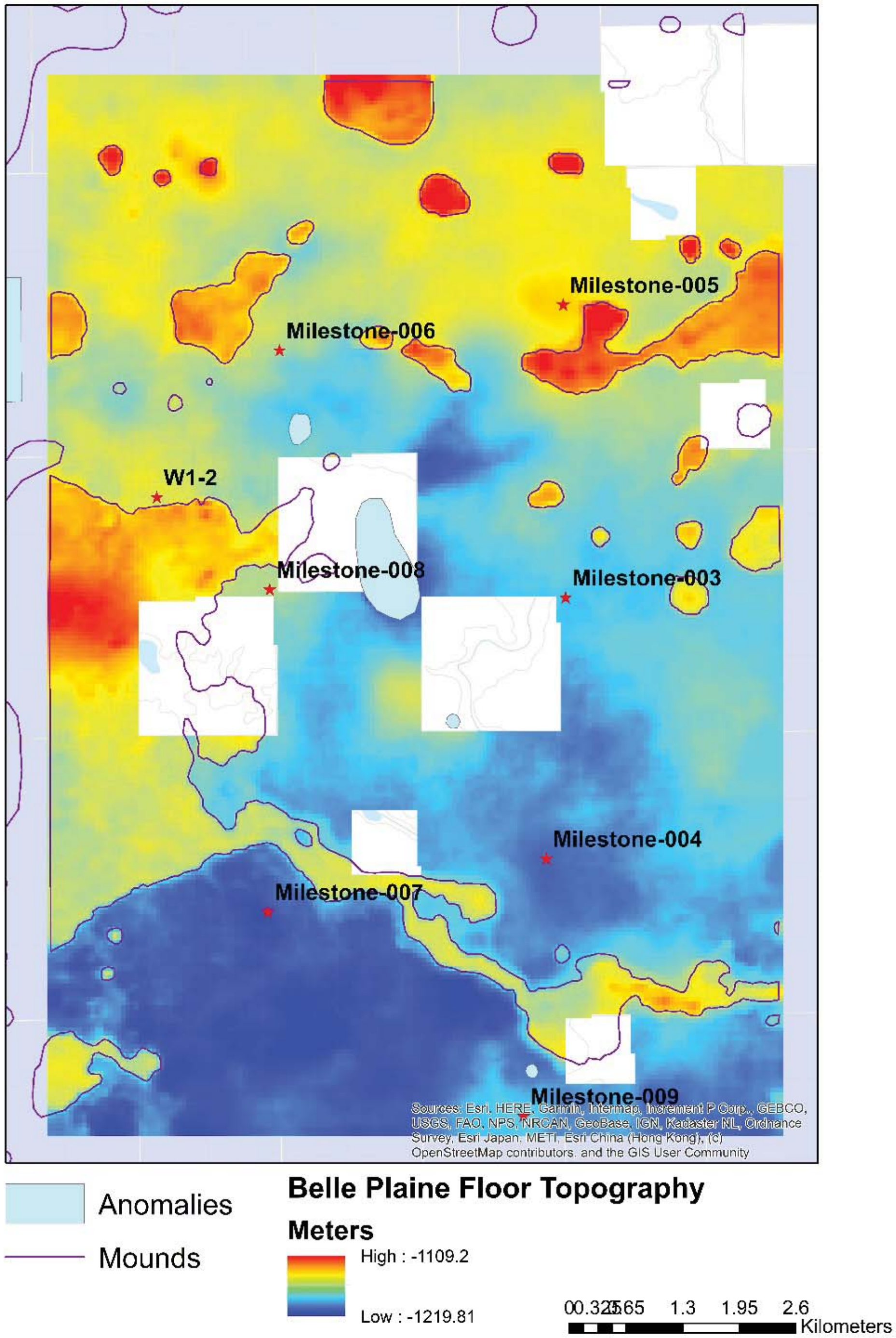


Figure 7-3. Topography for the floor of the Belle Plaine Member

7.3 Mineralization

The potash mineralization identified from drillhole data consists of three principal members:

7.3.1 Patience Lake Member:

Historically the Patience Lake Member in the Regina area was noted as having 9 potash beds and 10 clay seams, with 3 potash beds at the top having been eroded and their corresponding clay seams compressed into a clay zone at the top of the Member (Phillips, 1982). Identifying the individual clay seams and potash beds consistently between drill holes can be problematic, therefore the approach of defining sub-members that occur between well-defined clay seams and, more importantly, with similar mineralization between different wells. This is particularly important for selective solution mining, where differences in grade can result in different cavern growth potential.

For KLSA 008, the Patience Lake Member was divided into 4 sub-members, named Patience Lake A through D, with A being the lowest sub-member. The A member ranges in thickness from 4.15 m to 6.00 m, and K_2O grade from 10.39% to 16.04%. Note that these, as well as the numbers below, exclude the results from Milestone-002, which experienced a general dissolution event.

The B Member ranges from 1.80 m to 6.68 m in thickness, and K_2O grade from 16.26% to 26.66%. The C Member ranges from absent to 4.05 m in thickness, and K_2O grade from 8.09% to 27.35%. The D Member is much lower grade and fell well below cut-off grade (15% K_2O) across the Lease, with grades ranging from 2.91% to 11.65%, and thicknesses from absent to 4.65 m.

Maps of total Patience Lake thickness and composite K_2O grade (excluding the D sub-member), are shown in Figure 7-4 and Figure 7-5.

7.3.2 Belle Plaine Member

Historically the Belle Plaine Member in the Regina area was noted as having all 9 potash beds and 7 clay seams, although the latter was described as somewhat indistinct (Phillips, 1982).

Following the same methodology as with the Patience Lake Member, the Belle Plaine Member was divided into 3 sub-members, A through C. The A member ranges in thickness from 0.9 m to 2.58 m, and K_2O grade from 2.89% to 34.53%., while the B member ranges in thickness from 1.2 m to 1.95 m, and K_2O grade from 9.81% to 19.9%. The C member ranges from absent to 3.86 m in thickness, and from 14.9 % to 37.77% in K_2O grade.

Maps of total Belle Plaine thickness and composite K_2O grade, as well as a maps of the Belle Plaine C sub-member grade and thickness, are shown in Figure 7-6 to 7-10Figure 7-7.

7.3.3 Esterhazy Member

Historically the Esterhazy Member in the Regina area was noted as having 5 potash beds and 4 clay seams, although the latter was described as poorly defined (Phillips, 1982).

Following the same methodology as with the other 2 Members, the Esterhazy was divided into 3 sub-members, A through C. The A member ranges in thickness from 1.80 m to 6.81m, and K_2O grade from 3.42% to 7.61%, while the B member ranges in thickness from 1.70 m to 4.80 m, and K_2O grade from 7.3% to 18.45%. The C member ranges from 2.40 m to 6.68 m in thickness, and from 7.14% to 32.40% in K_2O grade.

Maps of total Esterhazy thickness and composite K_2O grade, are shown in Figure 7-10 and Figure 7-11.

Other Sylvite mineralization also occurs in the White Bear Marker Beds, which are found between the Belle Plaine and Esterhazy Members. However, based on the geophysical logs and assays for the eleven exploration wells and three production wells drilled for WPC, these beds are of insufficient thickness (typically 1 to 3 m) and grade to be economically mineable on KLSA 008.

7.3.4 Carnallite

Carnallite is present to a limited degree in all potash members of the Prairie Evaporite Formation; no significant concentrations of carnallite have been detected in the Patience Lake or Belle Plaine Members in KLSA 008. However, drilling by WPC has confirmed that only portions of the Esterhazy Member on the KLSA 008 Lease area contain carnallite above 6%. This differs from the expectations of Holter (1969) and Fuzesy (1982), who have shown elevated carnallite concentrations in the Esterhazy Member within the entire KLSA 008 Lease area. Carnallite is also present as a separate unit, 6 to 10 m below the Esterhazy Member in exploration wells M 004 and M 005 and in production wells W 001-2, W 002-2, and W 003-2.

7.4 Disturbances Affecting Geology of Potash-Bearing Members

Potash-bearing beds may be affected by three general types of anomalies and the presence of high concentrations of carnallite. In general, any disturbance that affects the normal character of the sylvinite-bearing beds is considered an “anomaly” and, thus, represents an area which is unsuitable for mining. Figure 7-12 illustrates the types of disturbances that typically create anomalous altered zones within the main sylvinite-bearing beds at Saskatchewan potash mining properties. These anomalies range from localized features less than a square kilometer in extent to disturbances that are regional (i.e., several square kilometers in extent).

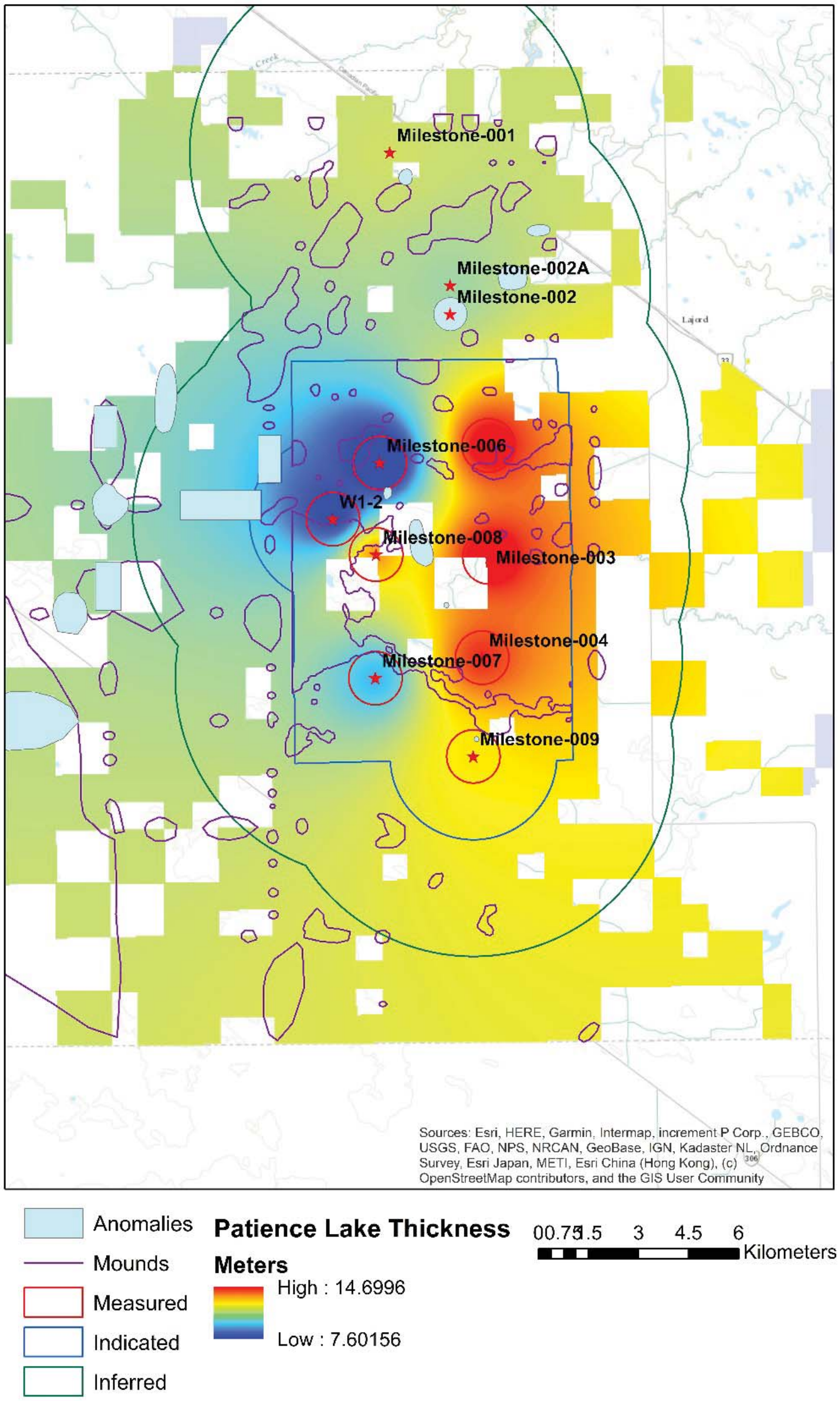


Figure 7-4. Sylvinite Bed Thicknesses (meters) in the Prairie Evaporite Formation, Patience Lake Member, sub-members A through C combined

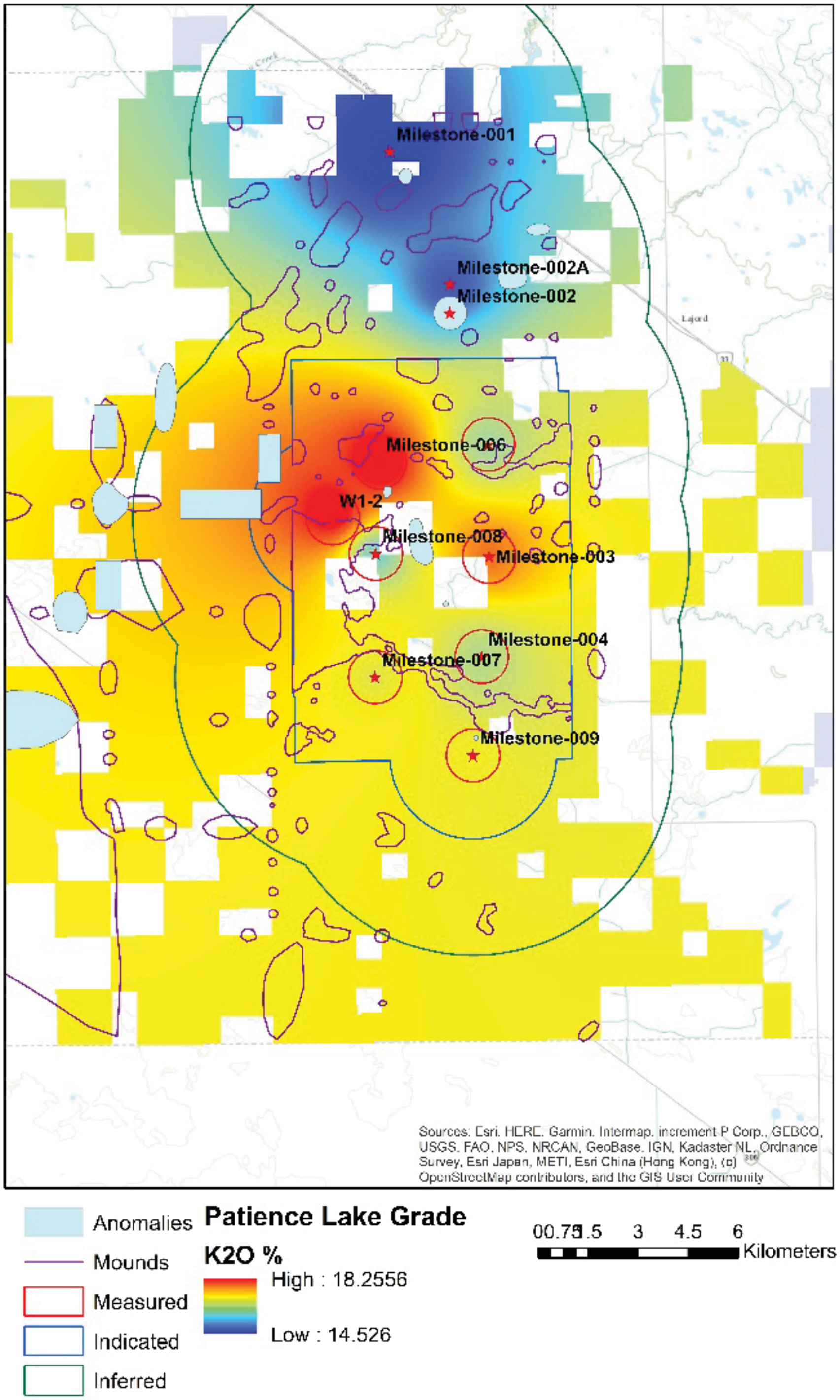


Figure 7-5. Composite K2O grade of the Patience Lake sub-members A through C

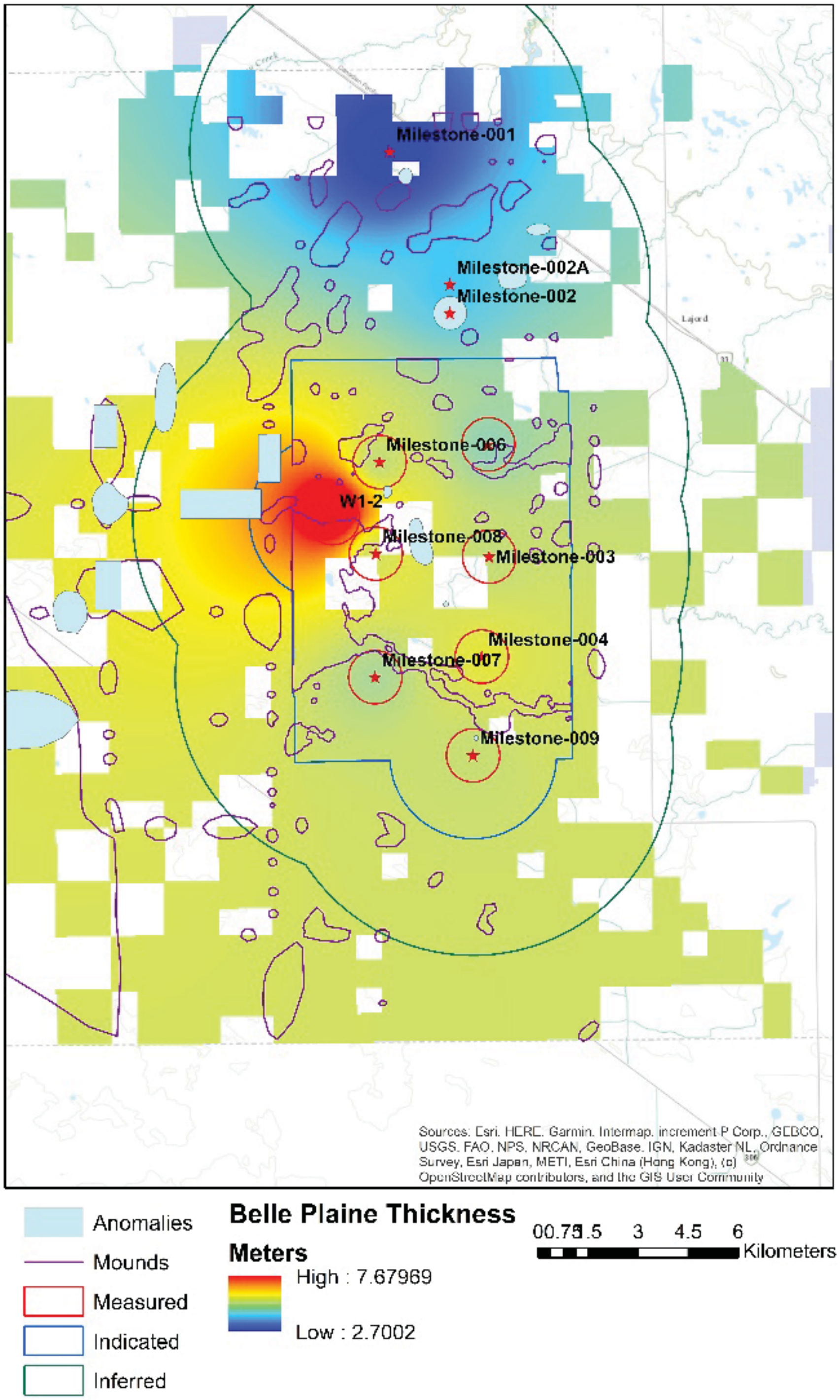


Figure 7-6. Sylvinite Bed Thicknesses (meters) in the Prairie Evaporite Formation, Belle Plaine Member, sub-members A through C combined

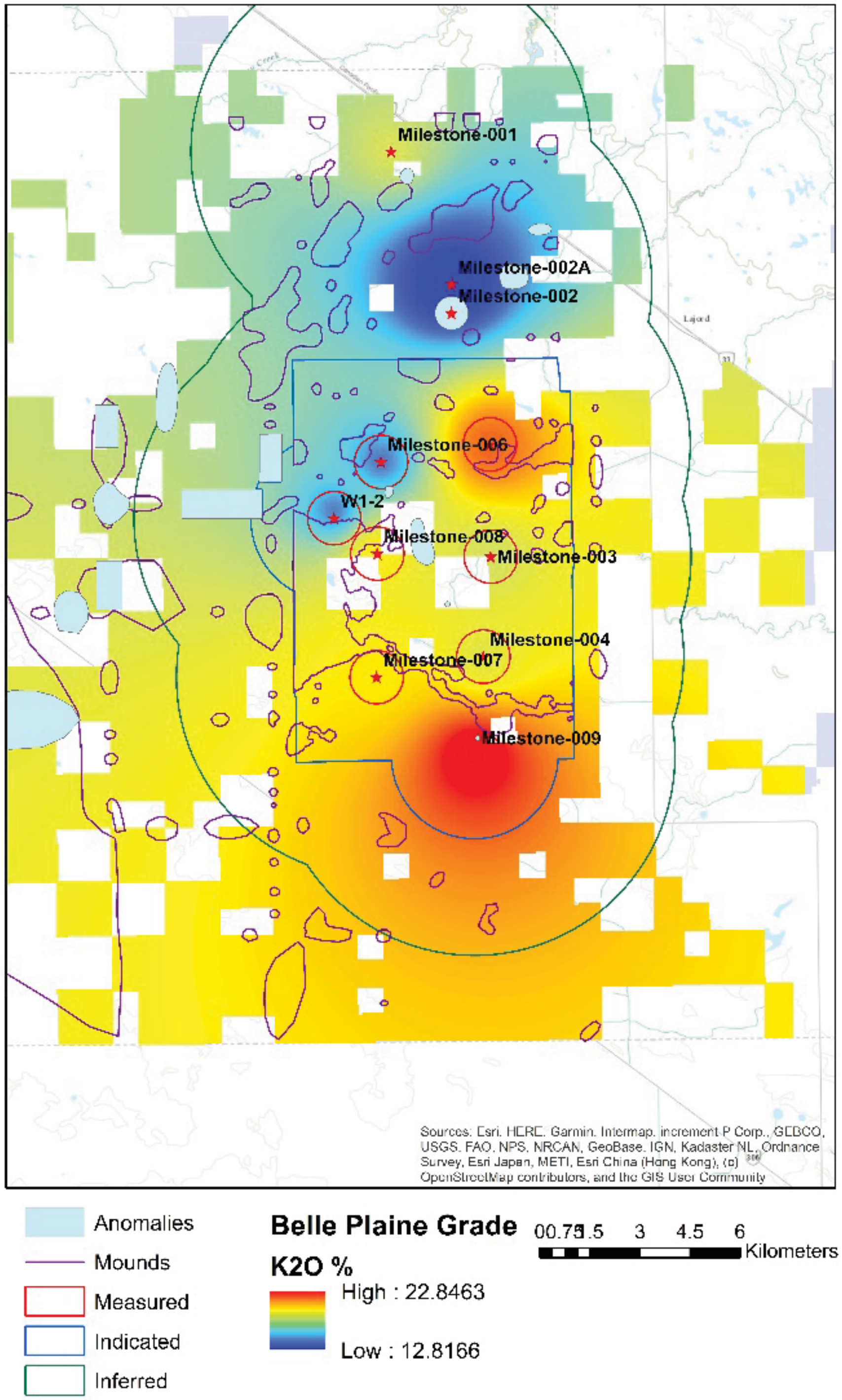


Figure 7-7. Composite K2O grade of the Belle Plaine sub-members A through C

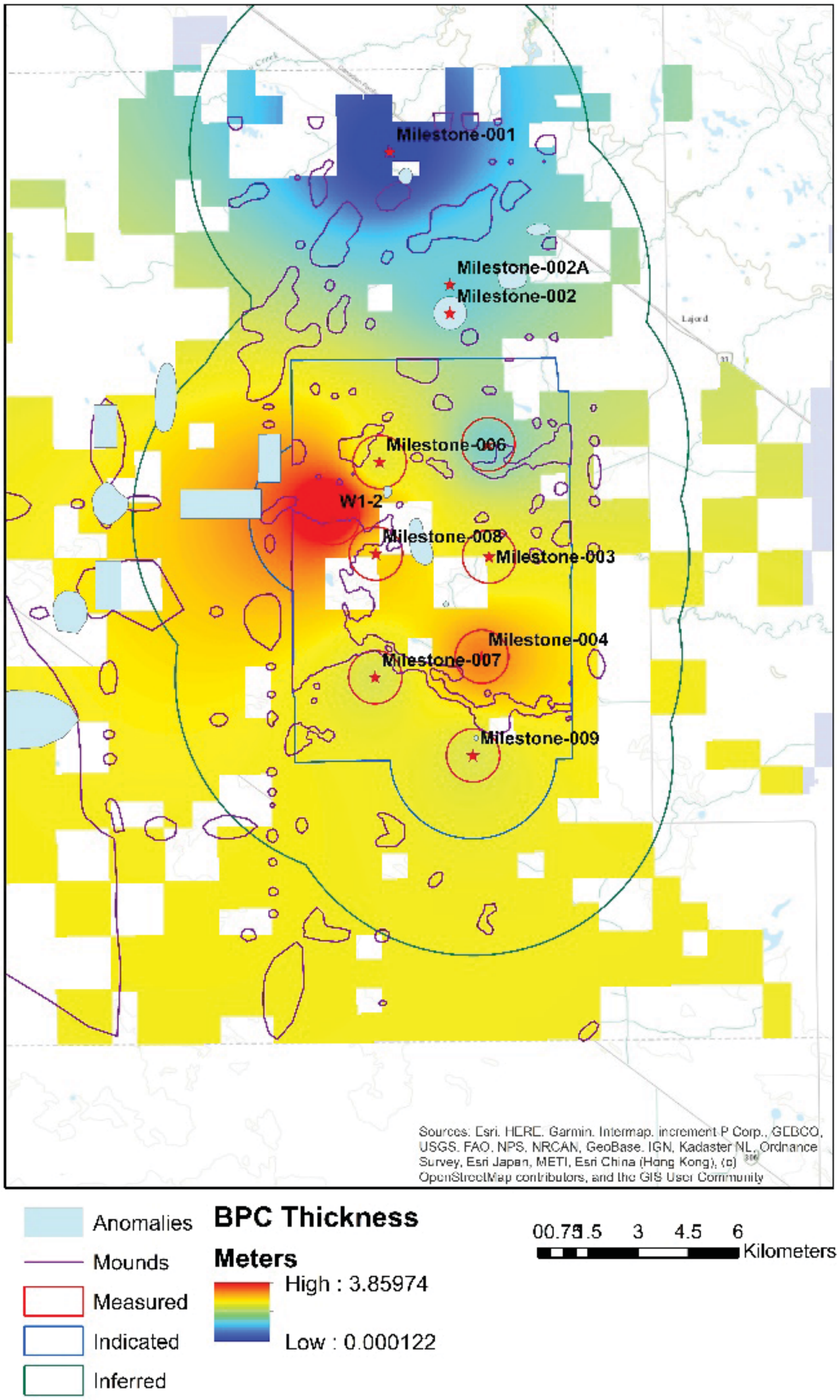


Figure 7-8. Sylvinite Bed Thickness (meters) of the Prairie Evaporite Formation, Belle Plaine Member, sub-member C

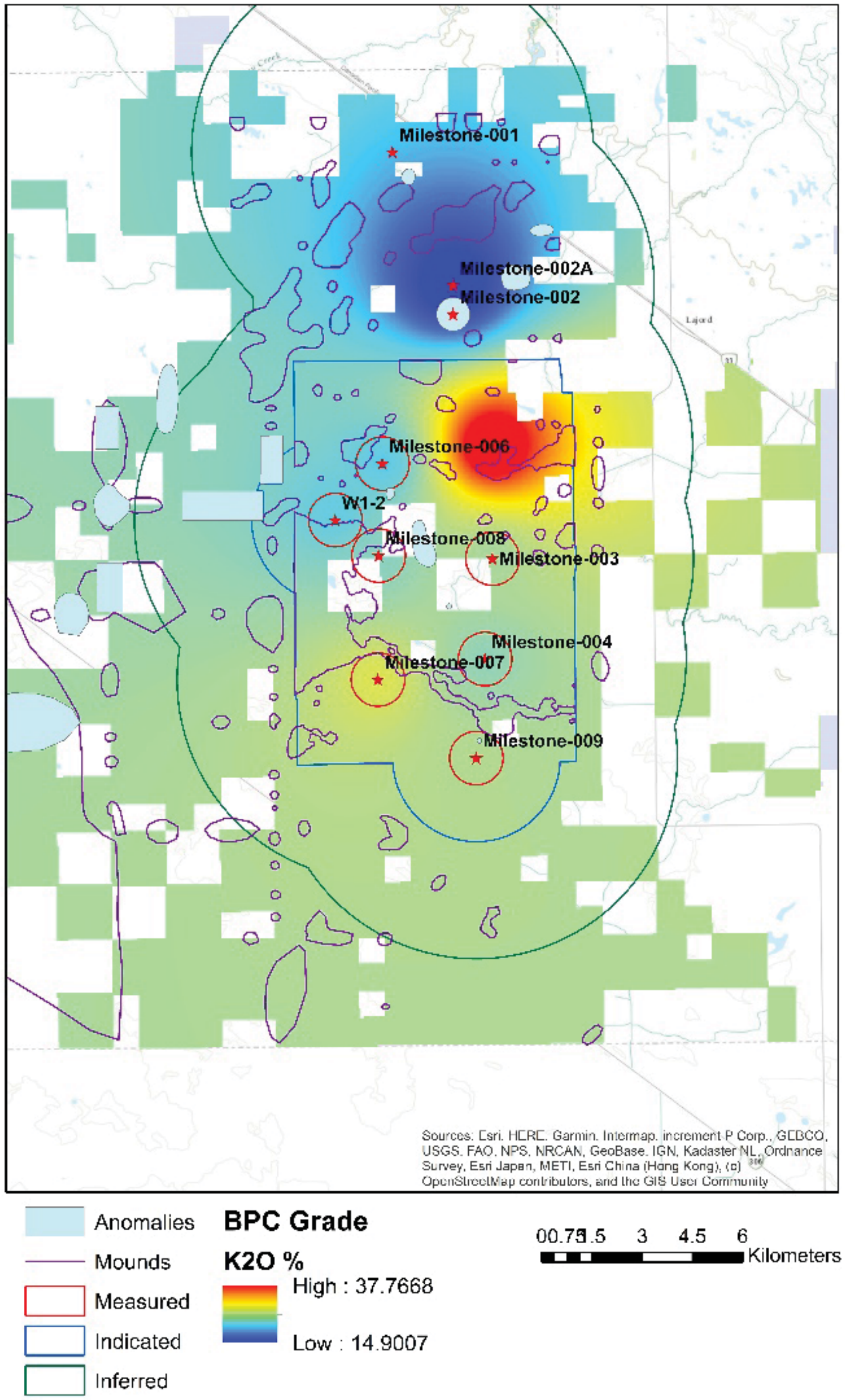


Figure 7-9. K2O grade of the Belle Plaine sub-member C

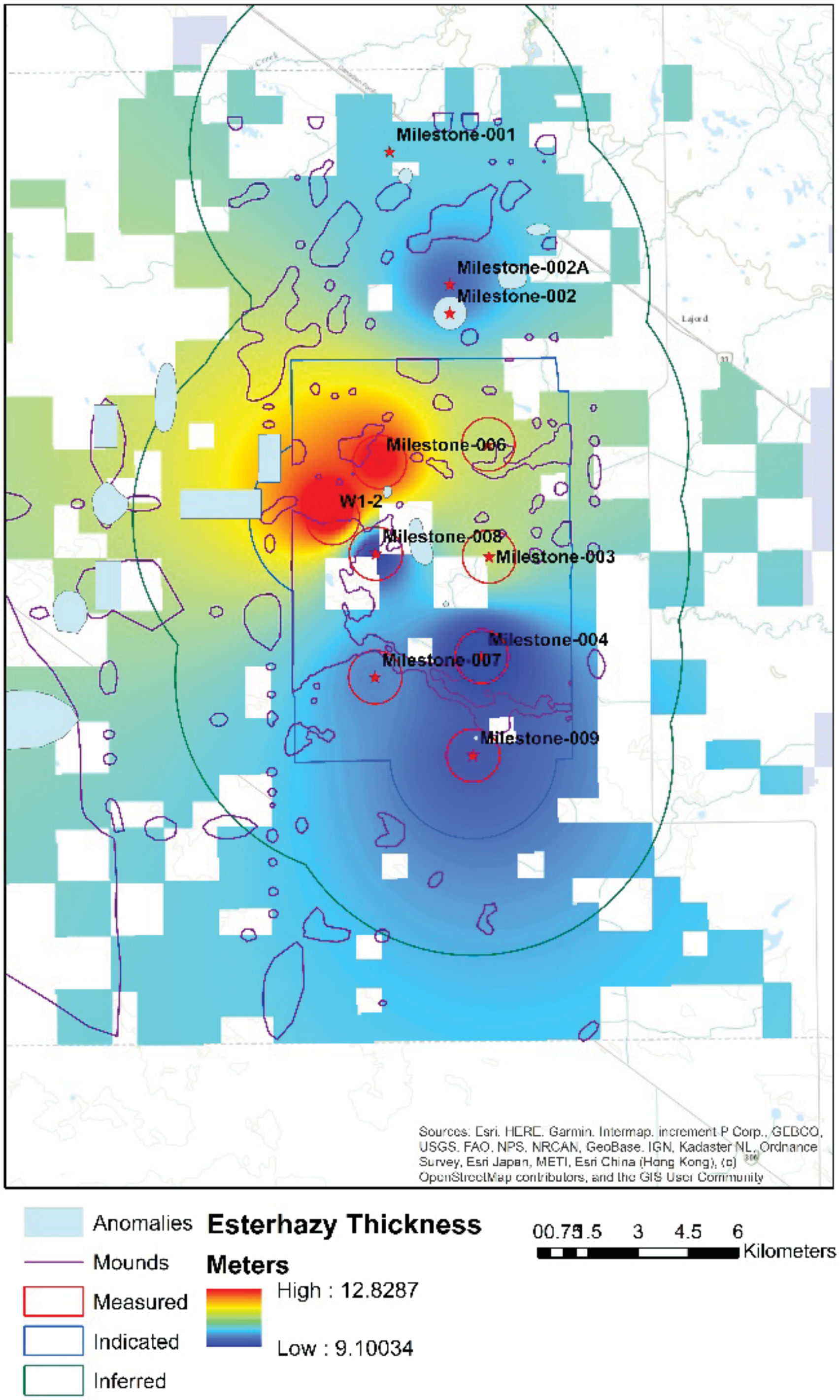


Figure 7-10. Sylvinite Bed Thickness (meters) of the Prairie Evaporite Formation, Esterhazy Member

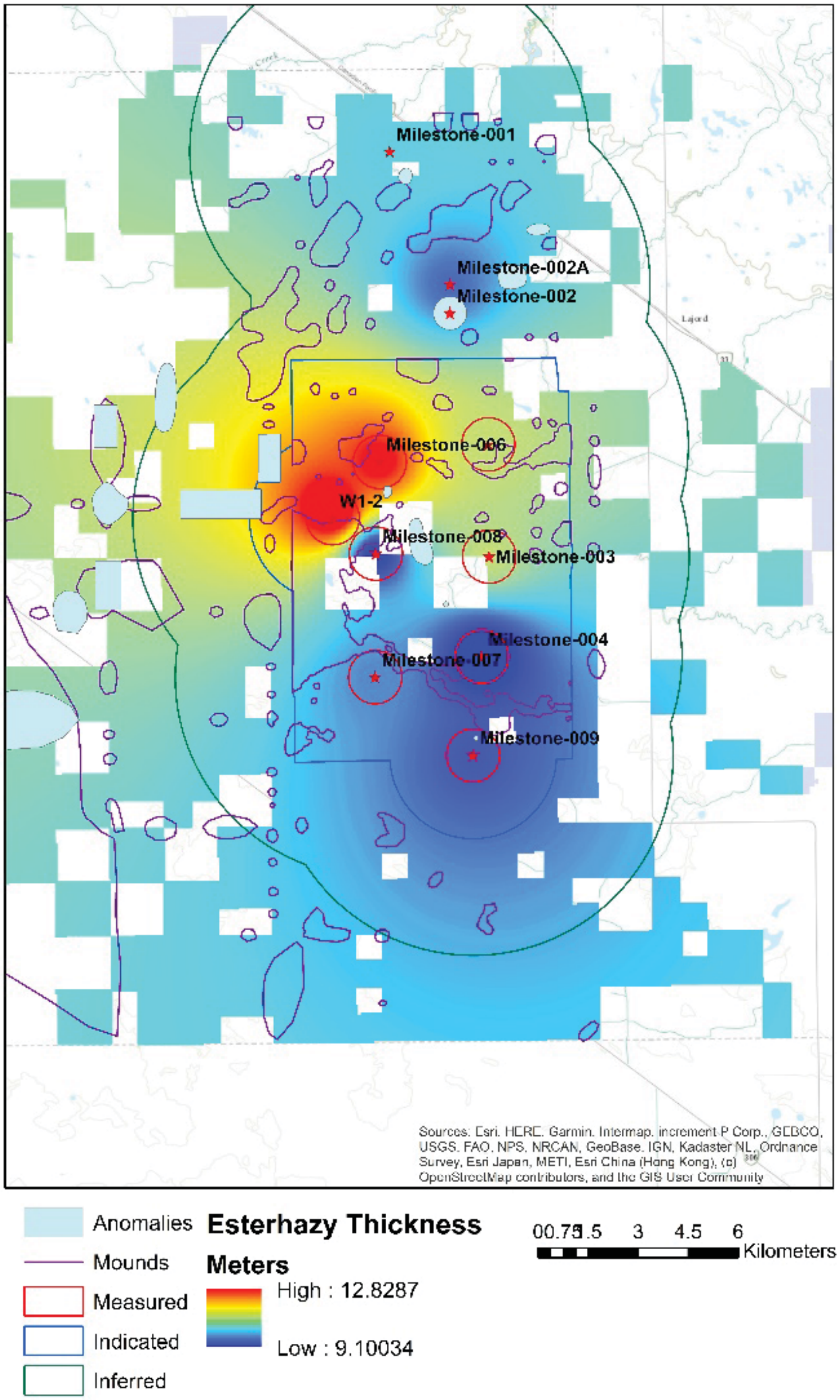


Figure 7-11. K2O grade of the Esterhazy Member

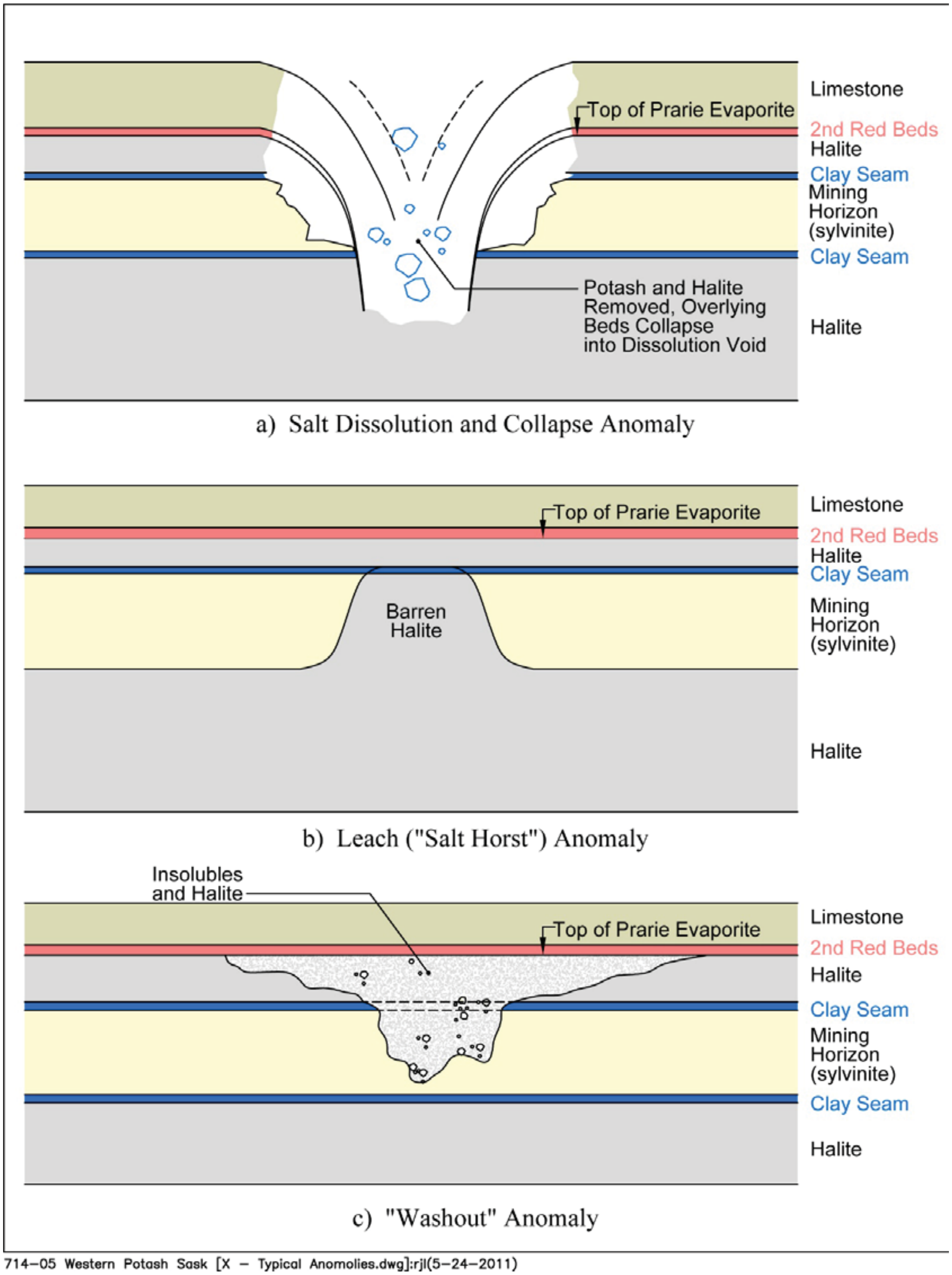


Figure 7-12. Disturbances Affecting Geology of Potash-Bearing Members

A "washout anomaly" is an anomaly wherein the typical sylvinite bed has been replaced or altered to a halite mass that consists of medium to large (0.5 to 1 cm) halite crystals within a groundmass of smaller intermixed halite and clay insolubles. Clay intrusions up to 1 cm long may be present and, typically, there is a concentration of clay at the top and base of the altered zone. Mackintosh and McVittie (1983) describe these disturbances as “salt-filled V- or U-shaped structures, which transect the normal bedded sequence and obliterate the stratigraphy.” Washouts may extend laterally for considerable distances, but generally appear over short intervals.

A “leach anomaly” is an anomaly wherein the typical sylvinite bed has been altered in such a manner that the sylvite mineral has been removed and replaced by halite. Such anomalies are also colloquially termed “salt horses” or “salt horsts” by mine operators. If the altered zone crosses any stratigraphic boundaries, these boundaries are commonly unaltered. This type of disturbance is generally considered post-depositional (i.e., formed after deposition of the primary sylvinite). These anomalies are commonly associated with underlying Winnipegosis reefs, which may have some formative influence upon the anomaly. For instance, a disturbance at the Agrium Vanscoy Mine has been described by Mackintosh and McVittie (1983) as characterized by “partial or complete absence of sylvite in what a normal, continuous, stratigraphic sequence is otherwise. Thinning is proportional to sylvite deficiency.” Mackintosh and McVittie describe these anomalies as being local in extent in that “they range in diameter from a few meters to as much as 400m, but a few are linear, being up to 20m wide and greater than 1600m long.”

Dissolution and collapse anomalies, or simply “collapse” anomalies, are those formed by the removal, in situ, of a portion or the entire mass of evaporite salts. In the case of these anomalies, the overlying beds typically slump down into the void thus formed, creating a rubble pile or “breccia chimney” where normally the evaporite beds would be expected. In contrast to the leach or washout anomaly, the collapse anomaly can be identified by means of seismic reflection surveys and can thus be avoided during mine design. Collapse anomalies are dangerous to conventional underground potash mining operations as they typically breach all overlying aquitards and aquicludes, thus forming conduits for overlying brines and freshwaters to flow downward into mine workings. An example encountered at the PCS Lanigan Division of an unusual and severe form of this type of anomaly has been presented by Danyluk et al. (1999).

The above anomalies impact mining operations by reducing the grade of potash ore being sent to the mill, prompting changes in the mine plan and reduction of the potash reserve as ground around them is left as safety pillars or is otherwise abandoned. An important aspect, therefore, of estimating the potash resource of a lease is identification of potential anomalous zones. Surface seismic reflection surveys (2D and 3D) can be used to identify and, in the case of 3D seismic, delineate large-scale collapse zones. Careful examination of core from surface drillholes can identify anomalies when they are intersected but provides no information on their shape or extent.

In addition to the anomalies discussed above that are caused by solutioning of various types, potash zones can also be affected by mounds jutting up from the underlying Winnipegosis Formation. The primary effects of the mounds appear to be local thinning of the potash members over the mounds and local steepening of the dip of the Prairie Evaporite bedding over the edges of the mounds. Based on the lack of discussion of these mounds in the potash mining literature, the effects do not appear to be as critical for underground mining as those of anomalies caused by collapse, dissolution or leaching. However, the presence of inclined beds can interfere with solution mining.

The presence of high concentrations of carnallite can impact the effective recovery of potash in the milling process. In Europe and Brazil, carnallite is mined as a source of KCl but no such operations exist in Canada. Carnallite is considered an impurity and the carnallite grade in conventional mill feed in Saskatchewan is generally limited to 6% by weight. Fuzesy (1982) and others have shown areas of high carnallite grade on regional maps based on interpretations of downhole gamma and neutron geophysical logs and assay records maintained for historical drillholes by Saskatchewan Energy and Resources. Carnallite dissolves more readily than sylvite and its presence reduces the concentrations of potassium in solution, which is detrimental for solution mining of sylvinite.

8. Deposit Type

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Potash at the Milestone Project area occurs conformably within Middle Devonian-age sedimentary rocks and is found in total thicknesses ranging from approximately 30 to 40 m at a depth of approximately 1,650 to 1,750 m. Evaporites are generally formed by seawater flowing into landlocked basins, followed by the evaporation of the seawater and precipitation of the dissolved salts. Progressive solar distillation of these salt-rich brines results in sequentially precipitated beds of limestone ($CaCO_3$), dolomite ($CaCO_3 \cdot MgCO_3$), anhydrite ($CaSO_4$), halite (NaCl), carnallite ($KCl \cdot MgCl_2 \cdot 6H_2O$), sylvite (KCl), kieserite ($MgSO_4.H_2O$), and other calcium and magnesium salts.

The term “potash” is the common name for various compounds that contain the element potassium and is derived from the fact that the historic source of the element was the ashes of plant matter burned in a pot. Hence, in a strict sense, the word potash refers to potassium oxide or K_2O. Because commercial potash minerals include both chlorides and sulfates containing varying quantities of potassium, potassium-bearing minerals are compared on the basis of their K_2O contents. The term “muriate of potash” (MOP), which is the term used for commercial-grade fertilizer containing potassium chloride, is the archaic name for that compound. The product mined and sold is KCl. A tonne of KCl contains an equivalent of 0.6317 t of K_2O.

The term “sylvinite” is used to describe the in-situ rock comprising a mixture of sylvite and halite that is the source of the potash. The Prairie Evaporites may also contain carnallite and insolubles such as clay, anhydrite, and dolomite crystals. Other minerals that may be present in sylvinite but not found in the Prairie Evaporites include kieserite, kainite, and polyhalite. The presence of carnallite impedes sylvite production from solution mining due to its more rapid solubility. In addition, elevated carnallite grades can affect plant performance and generally require special non-standard processing.

The geology of the potash-bearing beds of the Middle Devonian Prairie Evaporite Formation has been well documented. Overall, the potash-bearing beds may be described as being a bedded sedimentary rock, deposited across the Middle Devonian Elk Point Seaway. These beds, which are bedded sedimentary rocks, are remarkably consistent over all of Saskatchewan and portions of Manitoba, North Dakota, and northeast Montana with individual clay seams and sylvinite-bearing intervals that can be correlated over great distances. A standardized stratigraphic nomenclature has been established by Phillips (1982).

The widespread consistency of the potash-bearing sub-members and the flat-lying, bedded nature of the sylvinite intervals result in highly mechanized conventional underground mining operations. In areas suitable for solution mining, this consistency suggests that a cavern can be moved laterally by abandoning a well and drilling another, should the grade or thickness encountered within a well that was intended to develop a cavern be deemed insufficient for mining purposes.

Halabura and Hardy (2007) discuss the key parameters to consider when evaluating the potential for a solution mine, these being:

- **Thickness of Mineralization:** The solution-mining method allows for the selective removal of each of the mineralized members.
- **Grade of the Potash Bed:** This can control the concentration of the product liquor, the rate of solution mining, and the effectiveness of secondary mining.
- **Depth of Burial:** Underground temperature increases with depth, and sylvite solubility increases with increasing temperature making the solution process more efficient at greater depths.
- **Carnallite Content:** Increased amounts of carnallite, if not planned for, decrease the efficiency of cavern dissolution and potash recovery because carnallite dissolves more readily than sylvite. Carnallite is also weaker than sylvite, so carnallite in a roof layer can present roof stability issues.
- **Depositional Anomalies:** The presence of depositional anomalies can reduce the thickness or grade of the potash zones.
- **Faults:** The presence of faults or similar geologic features can displace the potash beds.
- **Potash Bed Dip:** Excessive dip can limit the lateral dimensions of the caverns due to dilution from barren or low-grade beds, which reduces resource recovery.
- **Presence of Clay Layers:** Clay layers in the immediate roof can lead to premature roof fallout and limit the lateral dimensions of the cavern.

For purposes of estimating the mineral resource on the KLSA 008 property, the Patience Lake, Belle Plaine, and Esterhazy Members are considered to have solution mining potential. Solution mining of the high-carnallite portions of the Esterhazy Member in the vicinity of wells M 001, M 002A, M 003, M 009, and W 001-2 may be possible if the resulting brine can be blended with brines from other potash members in other caverns. Consequently, the high-carnallite areas of the Esterhazy Member were included in the resource estimates. The White Bear Marker Beds are not considered to have solution mining potential because of their minimal thickness and low grade.

Temperature measurements from the drilling confirm the presence of the relatively high formation temperature. Temperature measurements from all the wells show bottom-hole temperatures during well logging ranging from 58°C to 65.5°C. The true in-situ temperature is higher than the logged bottom-hole temperature because the bottom-hole temperature is the temperature of the drilling mud and is not in equilibrium with the formation. Elevated temperature is an important component of the economics of future solution mining on the property, offering advantages in solution mass-balance and savings in capital, energy, and processing costs. The solubility of potash increases with temperature such that the higher the formation temperature, the higher the yield of KCl in the brine solution to be processed for potash recovery. The formation temperature at WPC is estimated to be 65°C.

9. Exploration

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The KLSA 008 Lease area is exploratory in that there has been no production yet of potash from the Milestone Project lands. The closest production of potash occurs within the bounds of production lease KL 106, which is the Belle Plaine potash solution mine owned and operated by Mosaic. This mine is located in Township 17, Ranges 23 and 24 West of the Second Meridian, approximately 50 km (30 miles) to the northwest. Historical exploration is discussed in Section 6.

9.1 2008 Reinterpretation of Historical Seismic Data Sets

In 2008, WPC contracted with Boyd PetroSearch of Calgary, Alberta, to obtain and reinterpret existing 2D seismic data over its KP 407, KP 408, and KP 409 Permits. (Permits KP 408 and KP 409 were converted into Lease KLSA 008 in 2010.) As discussed in Section 6 of this TR, the data consisted of 138 km of 2D seismic lines located in Townships 13 to 15 and Ranges 17 through 20 of the Second Meridian, and collected between 1989 and 2000 by Exxon Mobil Corporation, Husky Energy Inc., and Penn West Energy Trust. The surveys used dynamite sources and source intervals of 75 to 120 m and receiver intervals of 25 to 30 m, resulting in a vertical sensitivity of 12 to 15 m. Several features were identified from the interpreted survey data ranging from minor seismic character changes to total salt loss at the Prairie Evaporite level. Five Prairie Evaporite collapse anomalies were identified and mapped along the northern boundary of what was then KP 408 in Township 14, Range 17 within then Permit KP 409. The on-line positions and dimensions of collapses intersected by the 2D seismic lines were defined with accuracy. Off-line collapses were also identified, but were speculative in nature because their true position or size could not be determined from the 2D data. The collapse zones in Township 14, Range 17 were subsequently further delineated using 3D seismic surveys in 2010 as discussed in Section 10.3.

Several large Winnipegosis mounds were identified throughout the data set. The presence of these mounds does not directly influence mining; however, mounds have historically had an effect on mine room elevations and ore grade due to a high probability of potash leaching and elevation changes over the edges of the mounds at the mining level. The leaching is thought to be associated with vertical migration of fluid through fractures in steeply dipping beds over the mounds.

The seismic survey suggested a total loss of the Prairie Evaporite sequence on then Permit KP 407 and the western half of then Permit KP 408, which is west of the salt-edge location postulated by Holter (1969) and Fuzesy (1982). As a consequence of this information, WPC let Permit KP 407 lapse and focused its efforts on then Permit KP 409 and the eastern half of then Permit KP 408, both of which are now part of KLSA 008. The identification of lithologic layers by seismic survey data depends on the existence of contrasts in seismic velocity. Because such contrasts are relatively small between sylvite and the adjacent halite, seismic survey data does not provide any indication of the presence or absence of potash within a salt sequence and cannot delineate potash ore-grade anomalies or the presence of washout or leach anomalies.

As discussed below in Subsections 9.2 and 9.3, subsequent seismic surveys in 2009 and 2010 clarified the location of the salt edge.

9.2 Boyd PetroSearch 2009 2D Seismic Surveys

In the spring of 2009, Boyd PetroSearch purchased existing 2D seismic data and reprocessed and interpreted that data. The purchased data included 15 east–west seismic lines totalling approximately 145.5 km in length in Township 15, Range 17 West of the Second Meridian. Two of the lines were located in order to intersect the M 001 and M 002 wells. The results of the surveys (Boyd PetroSearch 2010a) identified one minor and three major collapse zones and significant areas underlain by Winnipegosis mounds.

In the fall of 2009, Boyd PetroSearch ran an additional 179 line-km of 2D seismic surveys in Townships 13 and 14, Ranges 17 through 19 West of the Second Meridian. The surveys consisted of five east–west lines totalling approximately 100 km and four north–south lines totalling approximately 69 km. The results of these surveys indicated that the Upper Salt of the Prairie Evaporite Formation is missing over much of Township 13, Range 19 and is thin in Township 14, Range 19 and the remainder of Township 13, Range 19. The results also showed collapse zones and a few Winnipegosis mounds. The collapse zones and Winnipegosis mounds identified by the 2D surveys are shown in Figure 9-1.

9.3 Boyd PetroSearch 2010 2D and 3D Seismic Surveys

Between January and April 2010, Boyd PetroSearch completed a 3D seismic reflection survey over 98 square kilometers (km^2) of the lease area in Township 14, Range 17 West of the Second Meridian and a 9.7-km 2D survey line east of the 3D survey area and parallel to the east boundary of the township. The results of these surveys identified three classes of collapses that may impact solution mining. These are designated as Class 1, 2, or 3 in decreasing severity. Figure 9-1 shows the location of the Class 1 collapse areas identified in the 3D seismic area, and Figure 9-2, taken directly from the Boyd PetroSearch (2010b) report, identifies the lesser collapse features superimposed over the structure map of the Second Red Bed. Figure 9-1 also shows the Winnipegosis mounds (Boyd PetroSearch 2010b), affirming the results from the 2D surveys run previously. As stated previously in Section 7.4, the presence of Winnipegosis Mounds does not directly affect mining. However, potash beds with steeper than normal dips may be encountered vertically over the edges of mounds. Class 1 collapse features will affect mining and, therefore, the areas of collapse zones within the lands with Crown and leased mineral rights were removed from the areas used to estimate the mineral resources, as described further in Section 14. Figure 9-1 incorporates the collapse zones and Winnipegosis mounds identified by the 2D and 3D seismic surveys.

The initial interpretation of the 3D seismic results identified an anomalous zone of Prairie Evaporite Formation located along the northern margin of the 3D seismic area north to northeast of well M 006. Further interpretation of the seismic results suggested that this area might be a zone where carnallite is present in the Belle Plaine Member. Further work is required to confirm the nature of this anomaly (Boyd PetroSearch 2010b). However, this area is outside the Unitized Area for the Phase I Project, so further definition of the anomaly is not a high priority at present. Because of the preliminary nature of this information, this anomalous zone was not excluded from the Mineral Resource estimates.

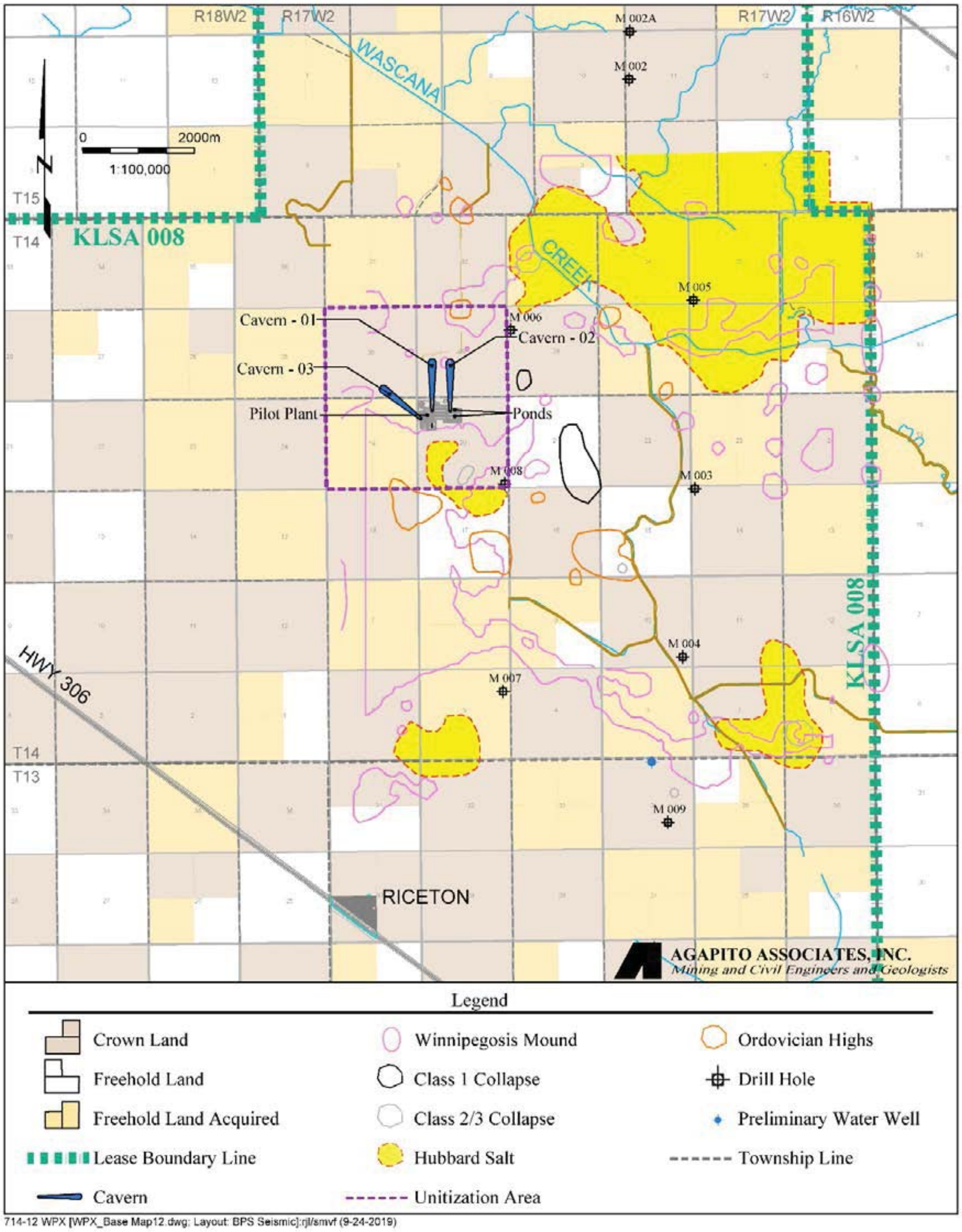

Figure 9-1. Collapse Zones and Winnipegosis Mounds from 2D and 3D Seismic Surveys

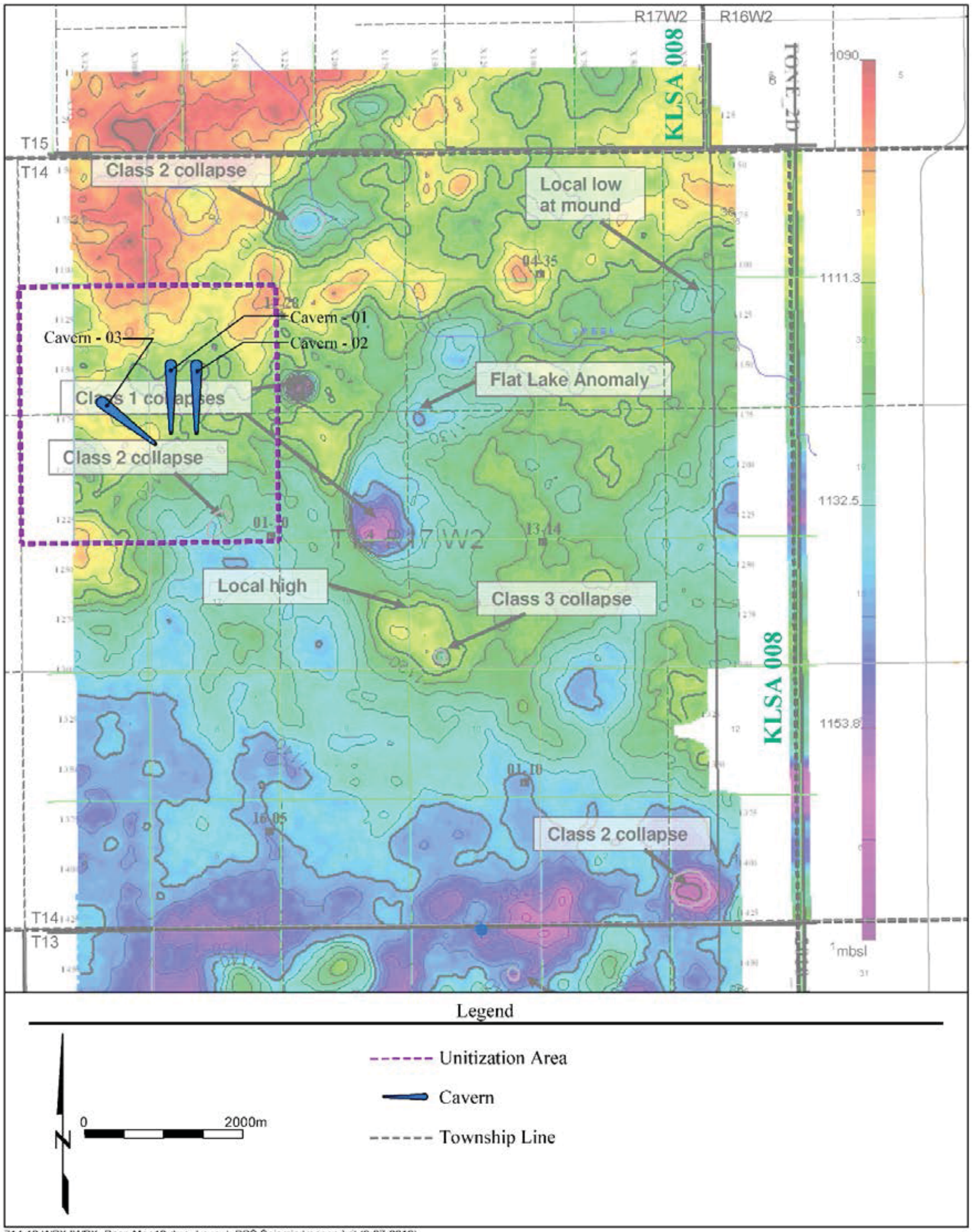

Figure 9-2. Identification of Collapse Zones (modified from Boyd PetroSearch 2010b)

10. Drilling

A four-hole exploration drilling program completed from May 2009 to July 2009 was followed by a five-hole program completed between July 2009 and January 2010 as part of the resource definition program. Red Dog Drilling Inc. of Estevan, Saskatchewan, was contracted to complete the drilling of seven of the potash wells utilizing oil-field drilling equipment capable of drilling to depths beyond that of the Prairie Evaporite Formation. A photo of the rig is presented in Figure 10-1. Precision Drilling Corp. of Calgary, Alberta, was contracted to complete the last two wells drilled on the property in the 2009–2010 drilling campaign. In January and February 2011, two additional wells were advanced in Section 34 of Township 13 North, Range 17 West of the Second Meridian. Cores were collected from both these holes: core samples from M 009 were sent to SRC for assay and those from M 010 were sent to RESPEC in South Dakota for geotechnical testing and to NG Consulting in Germany for dissolution testing. The RESPEC geotechnical testing is discussed in Section 16.1 of this TR; the dissolution testing is discussed in Section 16.2 of this TR.

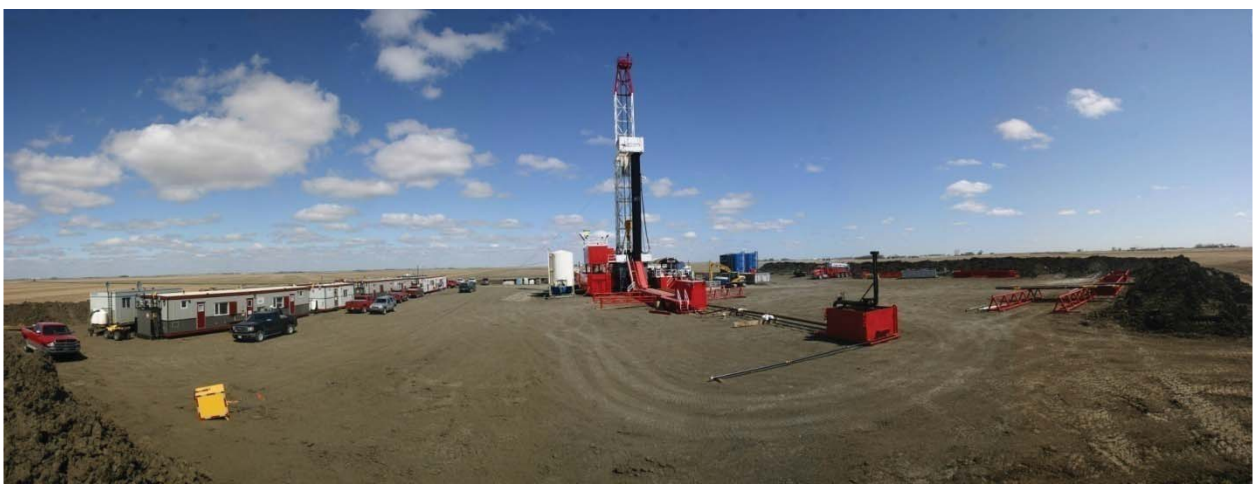

Figure 10-1. Red Dog Drilling Rig No. 3 at the M 001 Drill Site on the KLSA 008 Lease

In July and August 2019, three production wells (W 001-2, W 002-2, and W 003-2) were directionally drilled for the Phase I Project by Akita Drilling's Rig No. 29 with the directional drilling supervised by Millennium. All three wells were logged geophysically by Weatherford; well W 001-2 was cored and sampled with the cores sent to the SRC for assay.

The drilling and coring information for thirteen of the fourteen wells is summarized in Table 10.1. (Because well M 010 was only 50 m from M 009, it was essentially identical and is not listed.) Assay data for the ten wells that were assayed are summarized in Table 10-2; the grades of carnallite listed in Table 10-2 are the percentages of carnallite mineral ($KCl.MgCl_2{\cdot}6H_2O$) calculated from magnesium oxide (MgO) assays. Table 10-2 also contains thicknesses for the beds in wells W 002-2 and W 003-2 based on the downhole gamma logs.

Table 10.1. Drilling and Coring Data for WPC Wells

Well	Horizon	From	To	Thickness	K_2O	Carnallite	Insolubles
Milestone-001	Patience Lake C	1,660.30	1,663.00	2.70	8.09	0.63	15.07
	Patience Lake B	1,663.00	1,666.90	3.90	24.39	0.53	10.84
	Patience Lake A	1,666.90	1,672.00	5.10	10.39	0.57	9.29
	Belle Plaine Salt Back	1,672.00	1,675.20	3.20	5.13	0.67	9.72
	Belle Plaine B	1,675.20	1,676.40	1.20	16.98	1.09	14.30
	Belle Plaine A	1,676.40	1,677.90	1.50	19.72	0.51	3.14
	Esterhazy C	1,696.00	1,700.90	4.90	19.51	9.03	2.93
	Esterhazy B	1,700.90	1,704.50	3.60	10.70	6.45	3.44
	Esterhazy A	1,704.50	1,706.30	1.80	3.42	6.27	2.45
Milestone-002*	Patience Lake C	1,680.70	1,681.00	0.30	17.50	0.41	7.80
	Patience Lake B	1,681.00	1,682.50	1.50	0.22	0.74	41.08
	Patience Lake A	1,682.50	1,684.60	2.10	0.12	0.69	17.21
	Belle Plaine Salt Back	1,684.60	1,697.50	12.90	3.22	4.55	6.22
	Belle Plaine C	1,697.50	1,698.70	1.20	32.75	0.52	3.65
	Belle Plaine B	1,697.50	1,702.00	4.50	8.20	0.54	5.59
	Belle Plaine A	1,702.00	1,703.65	1.65	5.43	0.52	5.77
	Esterhazy C	1,719.90	1,723.05	3.15	26.82	0.38	4.12
	Esterhazy B	1,723.05	1,726.20	3.15	18.70	0.45	6.70
	Esterhazy A	1,726.20	1,728.40	2.20	6.54	0.44	6.36
Milestone-002A	Patience Lake C	1,674.00	1,677.30	3.30	16.21	0.51	6.45
	Patience Lake B	1,677.30	1,679.10	1.80	24.47	0.70	13.68
	Patience Lake A	1,679.10	1,685.10	6.00	11.40	0.62	8.67
	Belle Plaine Salt Back	1,685.10	1,687.35	2.25	3.15	0.72	10.01
	Belle Plaine C	1,687.35	1,688.55	1.20	14.90	0.67	5.95
	Belle Plaine B	1,688.55	1,690.35	1.80	12.61	0.56	3.32
	Belle Plaine A	1,690.35	1,691.25	0.90	10.45	0.80	5.83
	Esterhazy C	1,710.40	1,714.30	3.90	28.67	4.40	5.24
	Esterhazy B	1,714.30	1,718.40	4.10	12.93	9.16	4.77
	Esterhazy A	1,718.40	1,720.20	1.80	4.15	6.50	2.00
Milestone-003	Patience Lake C	1,715.55	1,719.60	4.05	19.25	0.74	11.89
	Patience Lake B	1,719.60	1,725.60	6.00	20.01	0.63	10.51
	Patience Lake A	1,725.60	1,730.25	4.65	12.88	0.53	10.11
	Belle Plaine Salt Back	1,730.25	1,731.45	1.20	1.62	0.66	9.67
	Belle Plaine C	1,731.45	1,733.55	2.10	24.29	0.42	3.22
	Belle Plaine B	1,733.55	1,735.25	1.70	14.96	0.52	2.69
	Belle Plaine A	1,735.25	1,736.30	1.05	12.07	1.05	6.67
	Esterhazy C	1,756.15	1,758.65	2.50	23.41	10.55	2.04
	Esterhazy B	1,758.65	1,762.95	4.30	11.48	10.46	4.63
	Esterhazy A	1,762.95	1,767.05	4.10	3.81	5.53	2.13
Milestone-004	Patience Lake C	1,735.70	1,739.25	3.55	20.60	0.55	10.08
	Patience Lake B	1,739.25	1,744.25	5.00	16.26	0.60	11.80

Well	Horizon	From	To	Thickness	K_2O	Carnallite	Insolubles
	Patience Lake A	1,744.25	1,749.75	5.50	13.52	0.66	10.30
	Belle Plaine Salt Back	1,749.75	1,751.55	1.80	2.66	0.85	14.63
	Belle Plaine C	1,751.55	1,754.35	2.80	23.42	0.55	4.35
	Belle Plaine B	1,754.35	1,755.80	1.45	10.96	0.60	2.65
	Belle Plaine A	1,755.80	1,756.75	0.95	16.70	0.75	4.89
	Esterhazy C	1,774.55	1,778.70	4.15	17.24	1.43	3.82
	Esterhazy B	1,778.70	1,781.00	2.30	11.65	4.36	6.97
	Esterhazy A	1,781.00	1,783.65	2.65	6.68	9.17	4.71
Milestone-005	Patience Lake D	1,699.60	1,702.70	3.10	2.91	0.94	15.73
	Patience Lake C	1,702.70	1,706.55	3.85	16.07	0.74	12.95
	Patience Lake B	1,706.55	1,712.15	5.60	21.19	0.72	11.45
	Patience Lake A	1,712.15	1,717.25	5.10	10.76	0.54	10.11
	Belle Plaine Salt Back	1,717.25	1,719.45	2.20	2.72	0.58	10.71
	Belle Plaine C	1,719.45	1,720.75	1.30	37.77	0.34	3.87
	Belle Plaine B	1,720.75	1,722.70	1.95	15.79	0.41	4.73
	Belle Plaine A	1,722.70	1,723.90	1.20	12.21	0.50	4.45
	Esterhazy C	1,742.30	1,745.40	3.10	28.23	0.33	2.54
	Esterhazy B	1,745.40	1,749.15	3.75	13.23	0.47	3.69
	Esterhazy A	1,749.15	1,753.20	4.05	3.96	0.25	1.44
Milestone-006	Patience Lake B	1,707.85	1,711.30	3.45	26.66	0.78	12.50
	Patience Lake A	1,711.30	1,715.45	4.15	11.27	0.48	7.32
	Belle Plaine Salt Back	1,715.45	1,717.00	1.55	1.87	0.62	4.17
	Belle Plaine C	1,717.00	1,719.05	2.05	21.41	0.47	4.29
	Belle Plaine B	1,719.05	1,720.75	1.70	12.14	0.48	4.08
	Belle Plaine A	1,720.75	1,721.85	1.10	7.44	0.66	4.25
	Esterhazy C	1,739.60	1,743.45	3.85	27.67	0.35	2.81
	Esterhazy B	1,743.45	1,745.15	1.70	18.45	0.52	5.64
	Esterhazy A	1,745.15	1,751.96	6.81	7.61	0.31	2.37
Milestone-007	Patience Lake C	1,747.70	1,750.40	2.70	14.32	0.71	11.53
	Patience Lake B	1,750.40	1,753.15	2.75	23.63	0.63	12.01
	Patience Lake A	1,753.15	1,757.70	4.55	13.82	0.77	9.36
	Belle Plaine Salt Back	1,757.70	1,759.15	1.45	2.33	0.93	12.62
	Belle Plaine C	1,759.15	1,761.10	1.95	26.62	0.49	3.47
	Belle Plaine B	1,761.10	1,762.65	1.55	9.81	0.53	2.82
	Belle Plaine A	1,762.65	1,763.80	1.15	20.53	0.79	4.94
	Esterhazy C	1,781.95	1,784.55	2.60	29.65	0.26	1.37
	Esterhazy B	1,784.55	1,786.75	2.20	7.30	0.59	5.54
	Esterhazy A	1,786.75	1,791.90	5.15	6.62	0.33	2.22
Milestone-008	Patience Lake D	1,725.90	1,730.55	4.65	6.01	0.83	13.65
	Patience Lake C	1,730.55	1,733.15	2.60	13.79	0.66	9.38
	Patience Lake B	1,733.15	1,738.70	5.55	17.78	0.68	10.97

Well	Horizon	From	To	Thickness	K_2O	Carnallite	Insolubles
	Patience Lake A	1,738.70	1,743.70	5.00	14.93	0.67	10.19
	Belle Plaine Salt Back	1,743.70	1,744.95	1.25	2.07	0.71	11.51
	Belle Plaine C	1,744.95	1,747.30	2.35	23.12	0.50	5.72
	Belle Plaine B	1,747.30	1,748.75	1.45	15.05	0.49	3.03
	Belle Plaine A	1,748.75	1,749.95	1.20	17.51	0.60	5.74
	Esterhazy C	1,766.70	1,769.10	2.40	32.40	0.30	2.77
	Esterhazy B	1,769.10	1,773.90	4.80	15.01	0.36	3.42
	Esterhazy A	1,773.90	1,776.00	2.10	7.48	0.30	3.01
Milestone-009	Patience Lake C	1,747.08	1,749.11	2.03	15.64	0.51	11.21
	Patience Lake B	1,749.11	1,754.79	5.68	19.84	0.70	11.81
	Patience Lake A	1,754.79	1,759.57	4.78	13.72	0.62	9.56
	Belle Plaine Salt Back	1,759.57	1,761.11	1.54	1.92	2.29	7.58
	Belle Plaine C	1,761.11	1,763.08	1.97	24.69	0.45	2.04
	Belle Plaine B	1,763.08	1,765.00	1.92	14.87	0.58	3.67
	Belle Plaine A	1,765.00	1,766.00	1.00	34.53	0.45	3.34
	Esterhazy C	1,785.90	1,788.40	2.50	19.00	10.93	1.49
	Esterhazy B	1,788.40	1,791.28	2.88	15.48	7.80	3.57
	Esterhazy A	1,791.28	1,795.54	4.26	6.98	3.69	2.39
W001-2	Patience Lake D	1,733.05	1,734.89	1.84	11.65	0.53	15.40
	Patience Lake C	1,734.89	1,736.28	1.39	27.35	0.30	6.19
	Patience Lake B	1,736.28	1,738.71	2.43	16.97	0.38	10.87
	Patience Lake A	1,738.71	1,743.26	4.55	16.04	0.39	10.53
	Belle Plaine Salt Back	1,743.26	1,746.52	3.26	4.51	0.53	10.30
	Belle Plaine C	1,746.52	1,750.38	3.86	21.67	0.27	3.13
	Belle Plaine B	1,750.38	1,751.62	1.24	19.90	0.42	5.23
	Belle Plaine A	1,751.62	1,754.20	2.58	2.89	0.46	2.76
	Esterhazy C	1,767.52	1,774.20	6.68	7.14	9.82	1.70
	Esterhazy B	1,774.20	1,777.07	2.87	16.82	4.78	2.46
	Esterhazy A	1,777.07	1,780.35	3.28	5.38	3.35	1.17

The aforementioned wells are shown on Figure 4-2 in Section 4. Complete assay data for WPC's 2011 and earlier wells were presented in Appendix C of Hambley, Hardy, and Pekeski (2011). Historical drilling is described in Section 6 of this TR.

The drillholes were designed to evaluate and define the grade, thickness, and extent of the potash beds located on the KLSA 008 Lease and to define the most suitable area within the Lease for the development of a solution potash mine.

The drillholes were advanced through the surface overburden to an approximate depth of 180 m below the Kelly bar using a 349 mm (13¾-inch) drill bit and casing. From that depth onward, the hole was advanced using a 244.5 mm (9⅝-inch) drill bit and short round thread casing. All holes, except M 009 and M 010, were drilled with invert (HT-30) muds from the base of the surface casing. Drillholes M 009 and M 010 were drilled with mineral-oil-based muds from the same collar. Well M 010 was directionally drilled and then reoriented to vertical at a distance of 50 m from well M 009. To ensure that the vertical location of a hole was known, drillholes were surveyed at 30 m below surface and at 50 m intervals thereafter.

At the expected depth of the top of the First Red Beds at the base of the Souris River Formation, the driller was instructed to drill ahead slowly. For the M 001, M 002, and M 002A wells, the driller was instructed to drill ahead slowly for about 50 m until the Second Red Beds (base of the Dawson Bay Formation) was reached and, at that point, to stop rotary drilling and commence continuous coring. For the remaining wells, the driller was instructed to drill ahead slowly for about 35 m, and commence coring above the Second Red Beds (base of the Dawson Bay Formation). After the first core run of 18 m was complete, a drill-stem test (DST) was performed to check for water inflow. After the DST, the driller was instructed to continue coring.

Continuous 101 mm (4-inch) diameter cores were collected through the Prairie Evaporite Formation and potash mineralization to a point beneath the lowest potash bed. As the beds within the Prairie Evaporite are relatively flat-lying and laterally continuous, the core length as measured in the drill core was taken as the true thickness of the mineralized bed. Coring to below the lowest potash bed was successful in all drillholes, and recovery through the Prairie Evaporite Formation was excellent. Upon completion of wireline logging, the drillholes were plugged and abandoned in accordance with regulatory procedures. Based on its visual examinations of the cores on 14, 15, and 16 December 2009 and 1 February 2011, AAI found that core recovery was excellent. AAI concluded that drilling procedures were appropriate.

As shown in Table 10-2, the thickness of sylvite in the Patience Lake Member in well M 002 was less than a meter. Immediately below the sylvite was a 12.5 m thick layer of halite, anhydrite, and insoluble clays, which indicated that the sylvite had been removed by post-depositional solutioning. This represents a “washout” anomaly as discussed in Section 7.4. Interestingly, unlike the Esterhazy Member encountered in wells M 001 and M 002A to the north, the Esterhazy in this well is not carnallitic, which supports the concept of renewed dissolution and recrystallization in the vicinity of this well. With the exception of M 003 and M 009, the Esterhazy Member in the wells to the south and southwest of M 002 was also generally not carnallitic. However, in M 004, carnallite was noted in the basal portion of the Esterhazy Member and masses of carnallite were noted below the Esterhazy in M 004 and M 005. Carnallite was also identified by assay and downhole logs in the upper part of the Esterhazy in W 001-2 but not in the downhole logs for wells W 002-2 and W 003-2.

Upon retrieving the core, each drillhole was logged from hole bottom (or total depth) to surface with geophysical wireline tools. These geophysical analyses were completed to provide WPC with detailed downhole information that could be used to cross-reference lithology, mineralogy, and geochemical assay data. Weatherford International Ltd. of Calgary, Alberta, was contracted to complete the logging. Gamma ray, neutron, sonic, bulk density, photoelectric (PEX), temperature, and caliper data were logged. The gamma-ray log provides a record of radioactivity and is displayed in American Petroleum Institute (API) units. These units are proportional to the potassium concentration of the rock and can provide a rough estimate of the potash grade. As discussed in Section 12 of this TR, the gamma logs and visual examination of cores were used as a qualitative check of the assay grades. The density, neutron, and PEX logs provide a means of assessing mineralogy.

Coring for the 2011 and older wells was performed by Blackie's Coring Services Ltd (Blackie's) of Estevan, Saskatchewan. Core was retrieved from the core barrel once each 18-m core interval was completed. A routine set of procedures were strictly followed to ensure the stratigraphic sequence of the core was maintained and to prevent any loss of material. Blackie's core hands retrieved the core under the supervision of the drill supervisor, wellsite geologist, and logistics manager. The following core handling and sampling procedures were followed by WPC during its 2009–2010 and 2011 drilling programs:

1. Prior to coring and pulling the core, a safety meeting was held with all core hands, drill crew, and geologists. This meeting was a forum to review the retrieval process and to identify safety issues and concerns. The core hands made up the core barrel and monitored core drilling. Once coring was complete and the core barrel hoisted to surface, the core hands flushed the core barrel with a Varsol™ cleaner on the drill floor after the core arrived at surface.
2. Core boxes were sequentially numbered and labeled with the drillhole name, location, depth interval, and core number.
3. The core was retrieved from the barrel in lengths similar to that of the core boxes. The core barrel was raised, and core was released from the barrel. If no natural breaks occurred, the core was struck with a hammer to retrieve suitably-sized pieces for handling. The core hands carefully removed the core from the barrel and marked the bottom of each piece with a chalk mark. The rig hands carried the core down steps to the catwalk and placed the pieces tightly together in two parallel rows, taking care to keep the core properly oriented. Two wellsite geologists observed this process: one from the dog house who ensured that the core was held in proper position by the rig hand, and another geologist at the catwalk to ensure that the core was laid out in the proper position and attitude.
4. The core hands and geologist measured the core for total recovery and recorded this measurement.
5. The geologist spray-cleaned and wiped the core with a Varsol™ cleaner. He then marked the core along its axis with a double-marker, measured and marked 1-m intervals on cross-lines, made preliminary written descriptions or a "quick" log prior to boxing, and took photos.

6. The core hands then placed the core in labeled boxes marked with hole number, run number, and meterage, breaking the longer lengths of core so that the boxes became tightly filled.
7. The boxes were carefully loaded into a vehicle for transport to the logging facility.
8. The core was hand-transported to the secure logging facility. No unauthorized personnel were allowed access to this facility.
9. Core was unloaded with each core run laid out on the logging table if logged immediately or stored on the shelves at the site.
10. Core containing significant salt/potash was sealed in poly sleeves if stored for more than 24 hours prior to logging.

11. Sample Preparation, Analyses, and Security

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11.1 Drill Site Sample Selection, Preparation, and Security Procedures

The geochemical sampling interval of interest extended from several meters above the Patience Lake Member to approximately 15 m below the base of the Esterhazy Member into the Basal Salt. The upper sampling boundary was selected to ensure capture of the uppermost mineralization of the Patience Lake Member, and the lower boundary was chosen to provide geochemical information through to the "sump" for future cavern design purposes. The drill core was measured, marked with meterage, and sample intervals logged and photographed prior to sampling. Detailed geological logging involved recording the geologic formation, member, and lithology. Maximum and minimum long-axis crystal measurements were also recorded for sylvite and halite crystals present. Through mineralized beds, the sylvite grade of each sample was visually estimated and recorded as low, medium, or high. The presence and minimum/maximum diameter of carnallite was also noted. Detailed geologic descriptions of each sample interval were also recorded. Downhole well logs were in hand before this process was completed.

Not all the rock that was cored was sampled for assaying; the Dawson Bay, Second Red Beds, upper salt-back above the Patience Lake Member, and portions of the salt between the Belle Plaine and Esterhazy Members were not sampled for assay. It is the opinion of the authors that apart from unassayed intervals between the base of the Belle Plaine and top of the Esterhazy Members, the core samples represent the entire mineralized interval. (Gamma ray logs will indicate if any mineralized zones occurred within the unassayed intervals and none of any significance were apparent.) Sample lengths were generally restricted to less than 0.3 m, with individual sample lengths varying to correspond to units of similar lithology or mineralization as discussed in bullet 1 below. Apart from the use of unequal sample lengths, the sampling methodology did not appear to introduce any sample bias. Core assay data, including sample numbers, depths, and lengths for the 2011 and earlier wells were presented in an appendix to a previous TR for the project (Hambley, Hardy, and Pekeski 2011). Core assay data for the W 001-2 well is provided in Appendix C to this TR.

The following sample preparation, analysis, and security procedures were followed by WPC in its 2009–2010 and 2011 drilling programs:

1. Core selected for sampling was handled in two ways. For the M 001, M 002, and M 002A wells, the core was divided into consistent 30-cm-long samples and split using the core table saw. For wells M 003 through M 008, the determination of sample intervals was based on changes in lithology, grade, crystal size, halite, or insolubles content. Samples through the mineralized zones were not to exceed 30 cm in length. Barren halite and

insoluble zones could be sampled at intervals greater than 30 cm, but were not to exceed approximately 65 cm in length.

2. Core was cut along its long axis at an angle to the parallel lines marked on the core on the catwalk. Cutting was completed in-house at the WPC core facility with a dry table saw. Saw blades were replaced when any breach of core integrity was noted (e.g., fracturing of crystals). After the core was cut, the two complimentary core halves were placed back in the box in stratigraphic sequence with both cut surfaces facing up. The cut surfaces were wiped down with a damp cloth to remove any rock powder generated by the cutting process and to enhance the appearance of the rock during visual logging. The upper core half was divided into sample intervals by drawing a straight line across the diameter of the core in permanent marker. This ensured the core was placed back properly in the core boxes. Core recovery was excellent and cutting of the drill core for slabbing and sampling purposes did not result in any notable material loss.
3. After the sample intervals were established, marked out, tagged and photographed, the length of each sample interval was recorded in a geological logging spreadsheet and a “depth from” and “depth to” was established for each sample number. The geologic formation and member names, lithology, crystal sizes, and geological descriptions were recorded for each sample.
4. One-half of the split core was placed as a sample in a plastic sample bag. Each bag had a unique sample number written on the outside of the bag and on a numbered sample tag deposited inside with the sample. The other half of the split core was sealed in a poly sleeve and returned to the core box from which it came with care taken to return it to its original position.
5. Sample bags were then sealed with plastic sample ties. A uniquely numbered security seal was then attached to the sample bag.
6. Samples were placed in numbered and labeled plastic buckets, three to four samples per bucket.
7. Prior to transporting drill core to the laboratory, the geologist completed all required drill logs, sample ledger, all required shipping documentation, and the chain of custody documentation for transporting drill core to the laboratory. The geologist initialed each sample and security number combination on the chain of custody sample ledger sheet. One copy of the chain of custody was sent with the samples; one copy was kept on file. The prepared samples were then forwarded to the Geoanalytical Laboratories at the SRC in Saskatoon, Saskatchewan.

11.2 Sample Preparation and Assay Procedures at the Laboratory

Samples were delivered to the SRC Geoanalytical Laboratories in Saskatoon, Saskatchewan, for analysis. Upon receipt of these samples at the laboratory, each sample was checked for bag integrity and evidence of tampering. If the sample bag was intact and the security seal present, the laboratory representative initialed the bag next to the sample. Any evidence of tampering was noted in the comment field of the chain of custody form. Chain of custody information accompanying the sample shipment included the client name and address, the e-mail list for distribution of assay results, type of geochemical analyses required, and a sample list detailing the sample numbers in each pail.

SRC received the core samples at the laboratory and prepared a Shipment Receipt Report that was e-mailed to the WPC contact list. Following sample organization and successful cross-referencing with the client sample list, a Sample Receipt Report was e-mailed. The following sample preparation procedures were then performed by SRC employees:

1. Prepare an in-house sample list and group number for the shipment.
2. Label sample vials with the appropriate sample numbers.
3. Individually crush all samples in the group to 6-mm screen size.
4. Evenly distribute each sample in the splitter to avoid sample bias. Clean the crusher and splitter equipment between each sample using compressed air.
5. Split the crushed sample and insert one portion into the appropriate sample vial.
6. Reseal all material that does not get analyzed (“reject”) in original labelled plastic bag and store in plastic pails with appropriate group number marked on the outside of the pail. Return the reject material to the client when all samples have been analyzed and passed through quality assurance/quality control (QA/QC).
7. Send vials of material for grinding: material is placed in a pot, ground for 1 minute, then returned to the vial. Vials are visually inspected to ensure fineness of material. Grinding pots are cleaned with compressed air between each sample and cleaned with silica sand and rinsed with water between each group.
8. Place the pulverized samples in a tray; submit sample paperwork to the Main Office. Worksheets are created detailing the samples to be analyzed, the type of analyses requested as well as the standards, blanks, and split replicates to be completed.
9. Submit samples and paperwork to the Geochemical Laboratory.

Samples were analyzed using SRC’s Basic Potash Package, which uses Inductively Coupled Plasma-Optical Emission Spectroscopy (ICP-OES) together with determinations of % Insolubles, and % Moisture. In ICP-OES analysis, a sample solution is introduced into the core of inductively coupled argon plasma (ICP), which generates an elevated temperature at which all elements become thermally excited and emit light at their characteristic wavelengths. This light is collected by the spectrometer and resolved into a spectrum of its constituent wavelengths. Within the spectrometer, the light is then collected by wavelength (typically 160 to 900 nanometers [nm]) and amplified to yield an intensity spectrum that is converted to elemental concentrations by comparison with spectra for known calibration standards. Sample preparation and analysis procedures are as follows:

1. For the soluble digestion and ICP-OES analysis, a 0.12-gram aliquot of pulp is placed in a test tube with 15 milliliters of 30°C deionized (DI) water. The sample is shaken. The soluble solution is then analysed by ICP-OES. The method is suitable for the soluble analysis of potash samples for the determination of commercial potash (KCl). The analysis is not suitable for the determination of insoluble salt minerals (e.g., anhydrite, kieserite) that may be present.
2. For the Insoluble (weight %) determination, a 2-gram aliquot of pulp is placed in a test tube with 30°C DI water. The sample is shaken, centrifuged, and the excess water is decanted. A second wash of the sample material is performed. The remaining sample material (insolubles) is dried and weighed.
3. For Moisture (weight %) determination, a 2-gram aliquot of sample is placed into a pre-weighed crucible and heated at 105°C overnight. The sample is then reweighed, and the moisture is the difference between the two weights expressed as a percentage of the original weight.

With each set of 40 samples analyzed by ICP-OES, analysis of two potash standards, one quartz blank, and one sample pulp replicate was completed. After processing the entire group of samples, a split-sample replicate was also analyzed. After receiving all results from the Geoanalytical Laboratories, the QA/QC department completed checks to ensure accuracy. Upon completion of the assaying and QA/QC procedures, the geochemical results were e-mailed to the WPC contact list in a password-protected zip file. The aforementioned standards, blank, and duplicates were laboratory internal checks. As discussed below in Subsection 11.3, additional blanks and duplicates were inserted by the samplers at the project site.

The sample preparation and analytical procedures were of the highest quality and suitable to support mineral resource estimation. SRC adheres to strict internal QA/QC procedures during sample preparation and analysis. SRC operates in accordance with International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) Standard 17025 (ISO 2017). SRC's lab management system and selected methods including analysis for water-soluble evaporites by ICP-OES are accredited by the Standards Council of Canada under Scope of Accreditation No. 537. SRC considers customer confidentiality and security of utmost importance and takes appropriate steps to protect the integrity of sample processing at all stages, from sample storage and handling to transmission of results. All electronic information is password protected and backed up on a daily basis. Electronic results were transmitted to WPC with additional security features. WPC provided AAI with the original laboratory assay spreadsheets as received from SRC. Access to SRC Geoanalytical Laboratories' premises is restricted by an electronic security system. The facilities at the main laboratory are regularly patrolled by security guards 24 hours a day.

11.3 Sample QA/QC Procedures

As part of the sampling procedure at the drill site, one duplicate sample and one blank sample were collected for approximately every 20 samples. The use of duplicate and blank samples in this manner is a good QA/QC procedure. AAI's review of the laboratory assay results showed that the assays of the duplicate samples were typically within 5% of the assays of the original samples, the potassium grades of the blind standards were within 0.5% of the theoretical values, and the assays of the blank samples were "non-detect" for the target analytes as they should be. In addition, the laboratory ran a new standard sample (or surrogate) approximately every 20 samples.

A plot of the sample duplicates is shown in Figure 11-1, indicating a 0.99 correlation.

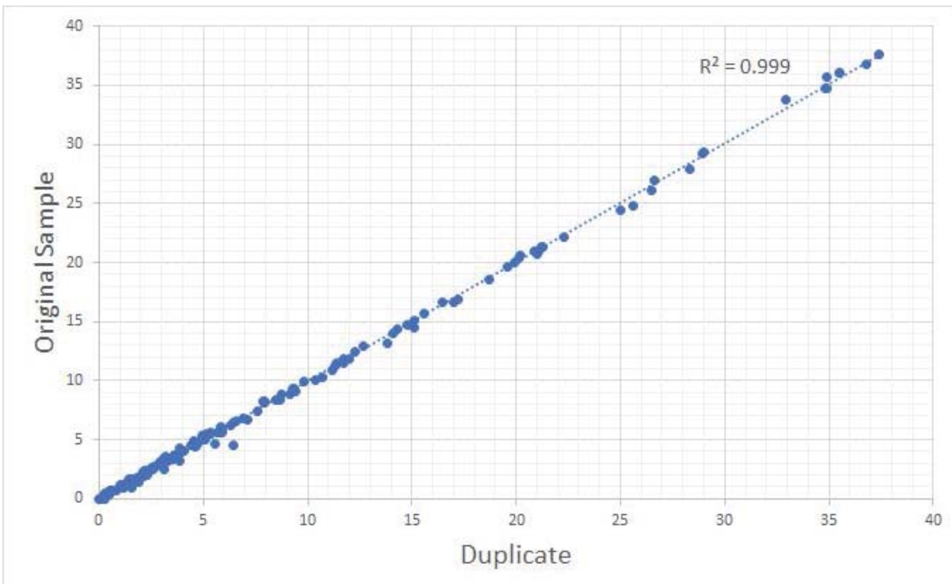

Figure 11-1. Samples and duplicates correlation.

12. Data Verification

Louis Fourie, Geology Qualified Person, visited the KLSA 008 Lease site on October 13, 2021. The plant and evaporation ponds were inspected, since well sites have been rehabilitated since being drilled.

On the same day a visit was made to the Subsurface Geological Laboratory of Saskatchewan Energy and Resources in Regina. During the visit core from Milestone-006, -008 and W1-2 were examined. As per Saskatchewan Provincial Regulations, half-core of all 3 wells were preserved. The thickness intervals, mineralisation, and other aspects (carnallite, clay seams) were compared against the drill logs and assays and were found to provide excellent correlation. Given previous examination of the core by the QP of the previous report, this was deemed satisfactory.

Figure 12-1. Photograph of Core from the W1-2 Drillhole taken on 13 October 2021, showing the top of the Patience Lake C sub-member.

13. Mineral Processing and Metallurgical Testing

The mineral processing of solution mining brine, involves the separation of KCl from the brine produced by the caverns. This is done using the KCl-NaCl solubility equilibrium in Figure 6-1 (using temperature or pressure changes) to precipitate the KCl into crystals via either mechanical methods (e.g. crystallizers) or natural crystallization ponds.

The Milestone Phase I project uses a crystallization pond to produce crystalized KCl. Crystallization ponds are used by three operating solution mines in Saskatchewan, and a number of other operations around the world. In Saskatchewan:

- Mosaic Belle Plaine - produces part of their capacity through the use of crystallization ponds;
- K+S Bethune - produces part of their capacity through the use of crystallization ponds;
- Nutrien Patience Lake - produces all of their product through the use of crystallization ponds.

Subsequent to the crystallization pond, the KCl slurry is then de-brined and compacted as further detailed in Section 0, again using a process similar to the other operating plants in Saskatchewan.

Dissolution testing was conducted by NG Consulting of Sondershausen, Germany for WPC in 2011 and 2012. Additional dissolution testing was performed by AAI from 2016 to 2018 to obtain dissolution rates for the NaCl-saturated brines assumed in WPC's secondary mining plans. The dissolution testing is discussed in Section 0.

Over the approximately 18 months that Phase I solution mining operated (details in Section 16-1) an average of over 0.3 m of salt has been deposited over the base of the crystallization pond during hot mining, as measured by a bathometric sonar survey of 75% of the pond (instrument failure limited the full results) in Figure 13-1. This layer forms the base layer of liner protection for the pond.

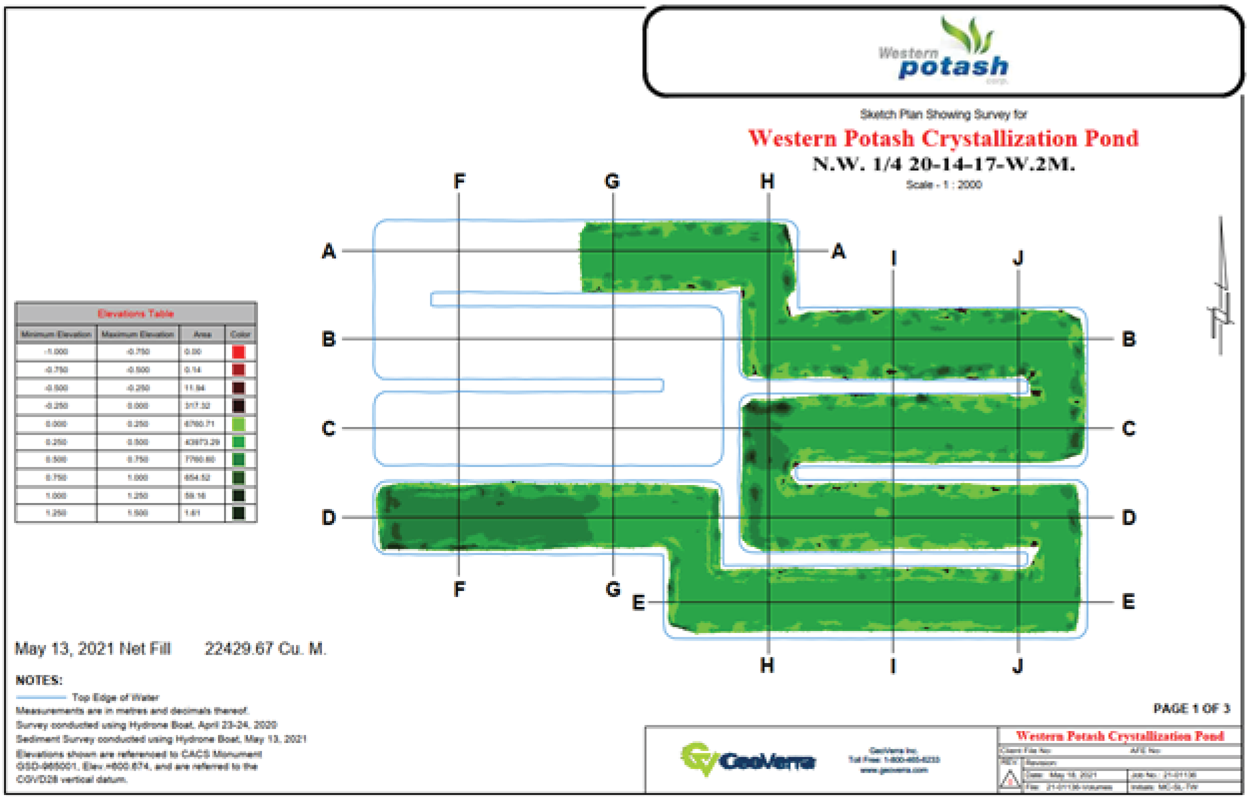

Figure 13-1. Bathymetric Survey of Crystallization Pond

As the brine cools along the crystallization pond path a portion of KCl precipitates and settles to the bottom of the pond. It is estimated that a blended average of 165 g/L KCl will return from the caverns to the crystallization pond. The exit brine from the crystallization pond will contain approximately 70 to 100 g/l KCl, depending on the month of operation; operation in colder months improves the recovery of KCl. This is detailed below in Table 13.1 which gives the predicted pond outlet concentrations by month. The pond production is then determined by the difference of the inlet concentration from the caverns and the final approach concentration of the pond outlet.

Table 13.1. Crystallization Pond Discharge Brine Concentrations

Month	Total Flow (tph)	Specific Gravity	Temperature (°C)	KCl (g/L)	NaCl (g/L)
January	326.9	1.23	-5.9	70.8	244.9
February	329.4	1.23	-1.9	78.2	241.8
March	334.1	1.23	4.6	90.3	236.9
April	339.3	1.23	10.9	102.0	232.5
May					
June					
July					
August					

Month	Total Flow (tph)	Specific Gravity	Temperature (°C)	KCl (g/L)	NaCl (g/L)
September	337.6	1.23	7.9	96.2	234.0
October	331.6	1.23	0.7	83.2	239.9
November	327.5	1.24	-4.7	73.1	244.2
December	326.7	1.23	-5.9	70.4	243.7
Average	331.6	1.23	0.7	83.0	239.7
Minimum	326.7	1.23	-5.9	70.4	231.3
Maximum	339.3	1.24	10.9	102.1	245.2
tph = tonnes per hour					

14. Mineral Resource Estimates

Given the revised approach to modelling the deposit as described in Sections 16.2 and 16.3, which was decided upon as a more appropriate methodology for the purposes of horizontal selective solution mining, the Mineral Resource Estimate has taken a different approach compared to previous studies. The previous study reported resources within the project unitized area. This TR reports resources as depicted in Figure 14-1. This resulted in an overall increase in measured and indicated resources given the larger area included.

14.1 Modelling

A geological model of the deposit was constructed in Maptek Vulcan. The model was constructed as a 3D integrated stratigraphic grid model (ISM), using all available drilling information. Grid cells 50 m x 50 m were utilized. All available overburden horizons were included in this model (from the First White Speckled Shale downwards). In addition, 3D seismic data was incorporated from 6 horizons, including the underlying Winnipegosis Formation. The incorporation of the seismic data enabled the construction of a particularly robust geological model. Interpolation for the stratigraphic model was by inverse distance squared methodology.

Assay information was also modelled in the ISM, using the same cell size (50 m x 50 m), and inverse distance squared interpolation. The data was not suited to kriging.

The model was visually reviewed for veracity to the original data, and assay input and model grade output was compared to verify the model.

14.1.1 Milestone-002

It is evident from the grades and thicknesses of all sub-members encountered in Milestone-002 that a leaching event took place. The apparent compaction of clay horizons in the Patience Lake Member, and the near absence of mineralization in all members, other than a single thin sub-horizon in all members close to the top of each member support this assessment. The absence of this leaching event in the nearby twin hole, Milestone-002A, indicates that this is a local event. Because of this, an anomaly with a radius of 500 m was defined around Milestone-002 and treated the same as the other seismic anomalies.

14.2 Resource Assumptions and Methodology

To estimate the potential extent, grade, and tonnage of the potash Mineral Resource, the QP employed the following assumptions:

- K_2O cut off grade of 15%
- No carnallite cut-off
- No insoluble cut-off
- No thickness cut-off

- The following Radii-of-Influence (ROI) were used. For a more detailed discussion on classification, see sub-section 19.3 below.
  - Inferred ROI = 6000 m
  - Indicated ROI = 2500 m, plus all remaining areas outside the 2500 m radius but within the 3D seismic survey boundaries
  - Measured ROI = 800 m, and within the 3D-seismic area.
  - All other anomalies were also clipped out of the model, except for Winnipegosis Mounds where these did not necessarily indicate anomalous salt.
- A further deduction of 25% for unseen / unknown anomalies was made in the Inferred category, and based on the results of the 3D seismic, this deduction was reduced to 9% for the Indicated Resource, and 5% for the Measured Resource.
- Density values used are the same as for the previous Resource Reports: 2.17 for the Patience Lake Member, and 2.07 for the Esterhazy and Belle Plaine Members

14.3 Resource Classification Criteria

Large stratigraphic deposits are commonly estimated using 2d radii-of-influence around the drill holes. There are substantially different methodologies and justifications for determining Radii-of-Influence (ROI), whereas the only consistent practice in literature is to (almost) never employ the Measured classification outside of 3D seismic survey areas. Indicated resources have been classified with or without 3D seismic, with varying Radii-of-influence depending on drilling density and whether the radii are applied on the inside or outside of the drilling field.

A summary of traditional practices was provided by renowned potash geologist Dave Mackintosh, in an article published by the CIM in August 2011, titled: “Let the discussion begin: Are potash technical reports meeting the intent of NI 43-101?”. The following is an extract from this article:

“Comparisons may be drawn between the low seam complexity of potash and some coal deposits. The CIM Standards refers to the 1989 GSC Paper 88-21, “A Standardized Coal Resource/Reserve Reporting System for Canada,” which states a “resource tonnage is always calculated on an in-place basis; that is, mining or other recovery factors are not applied.

A review of several technical reports shows that the “measured” category largely utilizes 3D seismic coverage and radius of influence (ROI) varying from 0.8 to 2.5 kilometres. The “indicated” ROI ranges from 1.6 to 2.5 kilometres, usually with 2D; however, the “inferred” category ranges from 3.2 to more than eight kilometres.

GSC Paper 88-21 suggests that for relatively flat lying or gently dipping (0 to 5 degree) deposits where drill hole data can be correlated with confidence, the distance from the nearest data point for resources classified as measured be <0.8 kilometres, indicated 0.8 to 1.6 kilometres, and inferred 1.6 to 4.8 kilometres. It must be remembered that these guides were put forth prior to the widespread use of 3D seismic programs.” (Mackintosh, 2011)

Given the availability of 3D seismic programs in this instance, and the continued grade continuity as indicated by further drilling, the QP considers the classification outlined under 14.2 as reasonable in the light of established practice.

The CIM definition standards (2014) defines Mineral Resources as:

A concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction.

The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated, or interpreted from specific geological evidence and knowledge, including sampling. With respect to the CIM (2014) definition of Mineral Resource, the phrase 'reasonable prospects for eventual economic extraction' implies a judgement by the Qualified Person (QP) in respect of the technical and economic factors likely to influence the prospect of economic extraction. Therefore, the exact extraction method or specific mine plan does not constrain the QP from classifying Resources. Also, what is worth noting is that the interpretation of the word 'eventual' in the context of the Mineral Resource definition may vary depending on the commodity or mineral involved. As further elaborated by CIM (2014): "For example, some coal, iron, potash deposits and other bulk minerals or commodities, it may be reasonable to envisage 'eventual economic extraction' as covering time periods in excess of 50 years." Again, this explanation further substantiates the classification of the deposit as Resource, where grades and tonnages of the potash could be extracted by several means, at an indefinite point in the future.

Mineral Resource can be sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. Based on the criteria outlined in sub-section 14.2, Inferred, Indicated, and Measured Resource quantities were defined for the sub-members of the Patience Lake, Belle Plaine and Esterhazy Members.

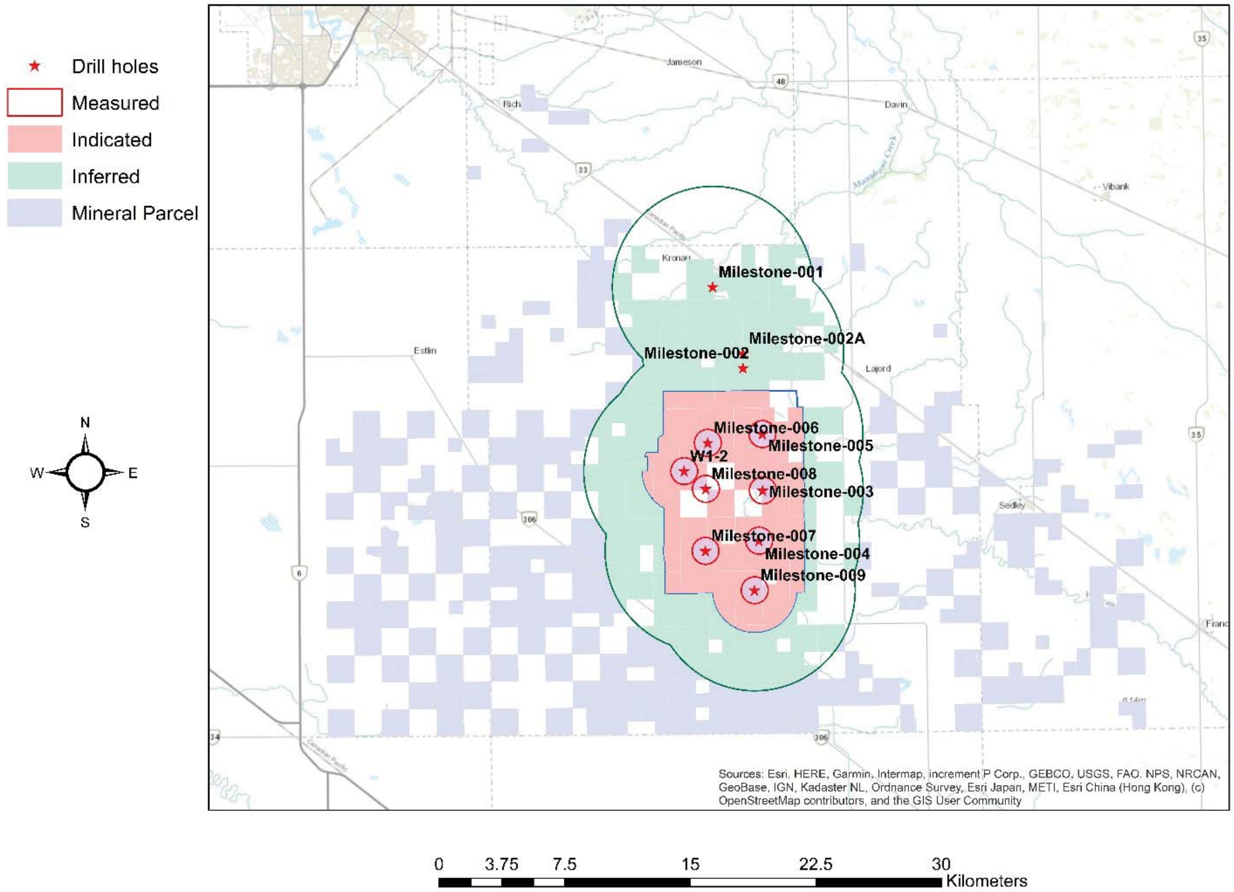

Figure 14-1. Resource Classification Map

14.4 Measured and Indicated Resources

The CIM standards (2014) defines a Measured Resource as:

A Measured Mineral Resource is 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.

A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

Based on these guidelines, and the assumptions listed in sub-section 14.2, the following Measured Resource was estimated:

Table 14.1. Measured Resources

Measured						
Horizon	**Thickness (meters)**	**Density**	**Tonnage (MMT)**	**Tonnage with subtractions (MMT)**	**K_2O (weight %)**	**K_2O tonnage (MMT)**
PLM-C	2.87	2.17	62.96	59.82	18.61	11.13
PLM-B	4.46	2.17	140.14	133.13	20.23	26.93
PLM-A	4.60	2.17	18.77	17.83	15.53	2.77
BPM-C	2.28	2.07	68.34	64.92	24.63	15.99
BPM-B	1.59	2.07	15.70	14.91	16.61	2.48
BPM-A	1.07	2.07	14.80	14.06	22.41	3.15
EZM-C	3.21	2.07	85.12	80.86	23.96	19.38
EZM-B	2.78	2.07	34.70	32.97	16.26	5.36
Total	**22.86**	**2.12**	**440.52**	**418.50**	**20.87**	**87.19**

**MMT: Million Metric Tonnes*

The CIM standards (2014) defines an Indicated Resource as:

Mineralization may be classified as an Indicated Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. The Qualified Person must recognize the importance of the Indicated Mineral Resource category to the advancement of the feasibility of the project. An Indicated Mineral Resource estimate is of sufficient quality to support a Pre-Feasibility Study which can serve as the basis for major development decisions.

Based on these guidelines, and the assumptions listed in Section 14.2, the following Indicated Resource was estimated:

Table 14.2. Indicated Resources

Indicated						
Horizon	**Thickness (meters)**	**Density**	**Tonnage (MMT)**	**Tonnage with subtractions (MMT)**	**K_2O (weight %)**	**K_2O tonnage (MMT)**
PLM-C	2.53	2.17	469.57	427.31	17.72	75.72
PLM-B	4.46	2.17	824.58	750.37	20.48	153.68
PLM-A	4.60	2.17	7.22	6.57	15.18	1.00
BPM-C	2.20	2.07	388.00	353.08	24.87	87.80
BPM-B	1.57	2.07	46.90	42.68	15.95	6.80

Indicated						
Horizon	**Thickness (meters)**	**Density**	**Tonnage (MMT)**	**Tonnage with subtractions (MMT)**	**K_2O (weight %)**	**K_2O tonnage (MMT)**
BPM-A	1.12	2.07	96.42	87.74	21.09	18.51
EZM-C	3.42	2.07	594.10	540.63	23.15	125.16
EZM-B	2.87	2.07	105.33	95.85	15.91	15.25
Total	**22.77**	**2.12**	**2,532.13**	**2,304.23**	**21.03**	**483.91**

**MMT: Million Metric Tonnes*

The Measured and Indicated Mineral Resources defined herein are inclusive of Proven and Probable Mineral Reserves.

14.4.1 Inferred Mineral Resources

The CIM standards (2014) defines an Inferred Resource as:

An Inferred Mineral Resource is based on limited information and sampling gathered through appropriate sampling techniques from locations such as outcrops, trenches, pits, workings and drill holes. Inferred Mineral Resources must not be included in the economic analysis, production schedules, or estimated mine life in publicly disclosed Pre-Feasibility or Feasibility Studies, or in the Life of Mine plans and cash flow models of developed mines. Inferred Mineral Resources can only be used in economic studies as provided under NI 43-101.

There may be circumstances, where appropriate sampling, testing, and other measurements are sufficient to demonstrate data integrity, geological and grade/quality continuity of a Measured or Indicated Mineral Resource, however, quality assurance and quality control, or other information may not meet all industry norms for the disclosure of an Indicated or Measured Mineral Resource. Under these circumstances, it may be reasonable for the Qualified Person to report an Inferred Mineral Resource if the Qualified Person has taken steps to verify the information meets the requirements of an Inferred Mineral Resource.

Based on these guidelines, and the assumptions listed in sub-section 14.2, the following Inferred Resource was estimated.

Table 14.3. Inferred Resources

Inferred						
Horizon	**Thickness (meters)**	**Density**	**Tonnage (MMT)**	**Tonnage with subtractions (MMT)**	**K_2O (weight %)**	**K_2O tonnage (MMT)**
PLM-C	2.55	2.17	487.85	365.89	16.98	62.14
PLM-B	4.37	2.17	1,208.22	906.17	22.04	199.69
BPM-C	1.74	2.07	435.82	326.86	23.16	75.71
BPM-B	1.21	2.07	112.20	84.15	15.59	13.11
BPM-A	1.12	2.07	138.65	103.98	19.01	19.77
EZM-C	3.86	2.07	1,026.72	770.04	23.36	179.91
EZM-B	3.04	2.07	24.10	18.08	15.24	2.75
Total	18.45	2.12	3,433.56	2,575.17	21.48	553.10

14.5 Additional Criteria for Industrial Minerals

Potash (MOP) is primarily used as a fertilizer, but approximately 5% of annual North American production is consumed by the chemical industry; hence, potash is also an “industrial mineral.” It is also classified as an industrial mineral because it is a mineral resource of massive tonnage whose economic development is more a function of market and mining profitability than the identification, control, and development of high-grade sylvinite rock.

In assessing the potash potential of Lease KLSA 008, the authors are relying on market information discussed in Section 19, which indicates that there is a viable market for MOP and that a market for new potash product can be reasonably developed.

15. Mineral Reserve Estimates

The CIM Definitions Standards (CIM 2014) define a mineral reserve as follows:

> *A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, economic extraction can be justified.*
>
> The CIM Definitions Standards (CIM 2014) further state that:
>
> *Mineral Reserves are those parts of Mineral Resources which, after the application of all mining factors, result in an estimated tonnage and grade which, in the opinion of the Qualified Person(s) making the estimates, is the basis of an economically viable project after taking account of all relevant Modifying Factors. Mineral Reserves are inclusive of diluting material that will be mined in conjunction with the Mineral Reserves and delivered to the treatment plant or equivalent facility. The Term "Mineral Reserve" need not necessarily signify that the extraction facilities are in place or operative or that all governmental approvals have been received. It does signify that there are reasonable expectations of such approvals.*

Table 15.1 summarizes the Proven and Probable Mineral Reserves; the cavern layout used to estimate the Proven and Probable Mineral Reserves is shown in Figure 16-1. The reserves represent the recoverable tonnages of KCl contained in the caverns within the Measured and Indicated Resource.

The reserve estimate is based on the mine plan developed after preliminary operations of the first three caverns of the Phase I Project. The estimate is based on the geologic model and assigned thicknesses and grades for the individual caverns shown in Figure 16-5. The cavern dimensions and mine plan are discussed in Section 16.

The reserve tonnages were obtained by applying modifying factors to reduce the in-place KCl within the perimeter of the caverns for unknown geologic anomalies (5% reduction for proven and 9% reduction for probable reserves), and for cavern and plant KCl losses. The cavern loss of 10% accounts for brine leakage from the caverns and remaining in the cavern at completion of mining. The plant loss is 5% (plant KCl recovery = 95%), which accounts for KCl losses in the plant and in transport from the plant to the sales point.

Mineral Reserves have increased significantly from the last report. The previous report had identified reserves sufficient to support the planned mine life of 12 years. With the increase of mine life to 40 years, additional reserves were required. Due to the changes in resource modelling, the reserves were based on all caverns planned within the unitized area and not just the caverns required for a 40 year mine life. As modelled, the Phase 1 Project has sufficient reserves to operated at the design capacity of 146,000 tpa for a period in excess of 200 years. These strategic reserves are available for future production increases or further increase of mine life.

Table 15.1. Proven and Probable Reserves for Phase I Project

Proven + Probable Reserves									
Category	**Thickness (meters)**	**Density**	**Tonnage (MMT)**	**Tonnage with subtractions (MMT)**	**K_2O (weight %)**	**K_2O tonnage (MMT)**	**KCl (weight %)**	**KCl Tonnage (MMT)**	**KCl Tonnage Adjusted (MMT)**
Proven	14.62	2.14	44.55	40.54	20.49	8.67	32.44	13.15	11.67
Probable	13.39	2.13	71.97	65.49	21.17	14.37	33.51	21.95	19.48
Total	**13.86**	**2.14**	**116.52**	**110.69**	**20.91**	**23.04**	**33.10**	**36.64**	**31.15**

The reserve tonnages could be affected if any of the following changes:

- Extraction ratio that is based on the shape and dimensions of the cavern and the size of the pillars between caverns
- Location and sizes of both structural anomalies and areas of high carnallite grades
- Plant recovery

The shape and dimensions of the cavern are based on experience gained during the Phase I operations and modelling as outlined in the next Section. They will be controlled by the drilling and operating conditions and will be part of the ongoing monitoring and evaluation.

Plant recovery depends on the operation of the plant and impurities in the brine feed. The primary impurity of concern is the magnesium content of the brine feed. A brine purge system is required to keep the $MgCl_2$ of the recirculating cavern brine in balance. A disposal well has been added to permit disposal of a percentage of the brine to control $MgCl_2$ in the injection brine. The estimate of the plant losses is discussed in Section 17.

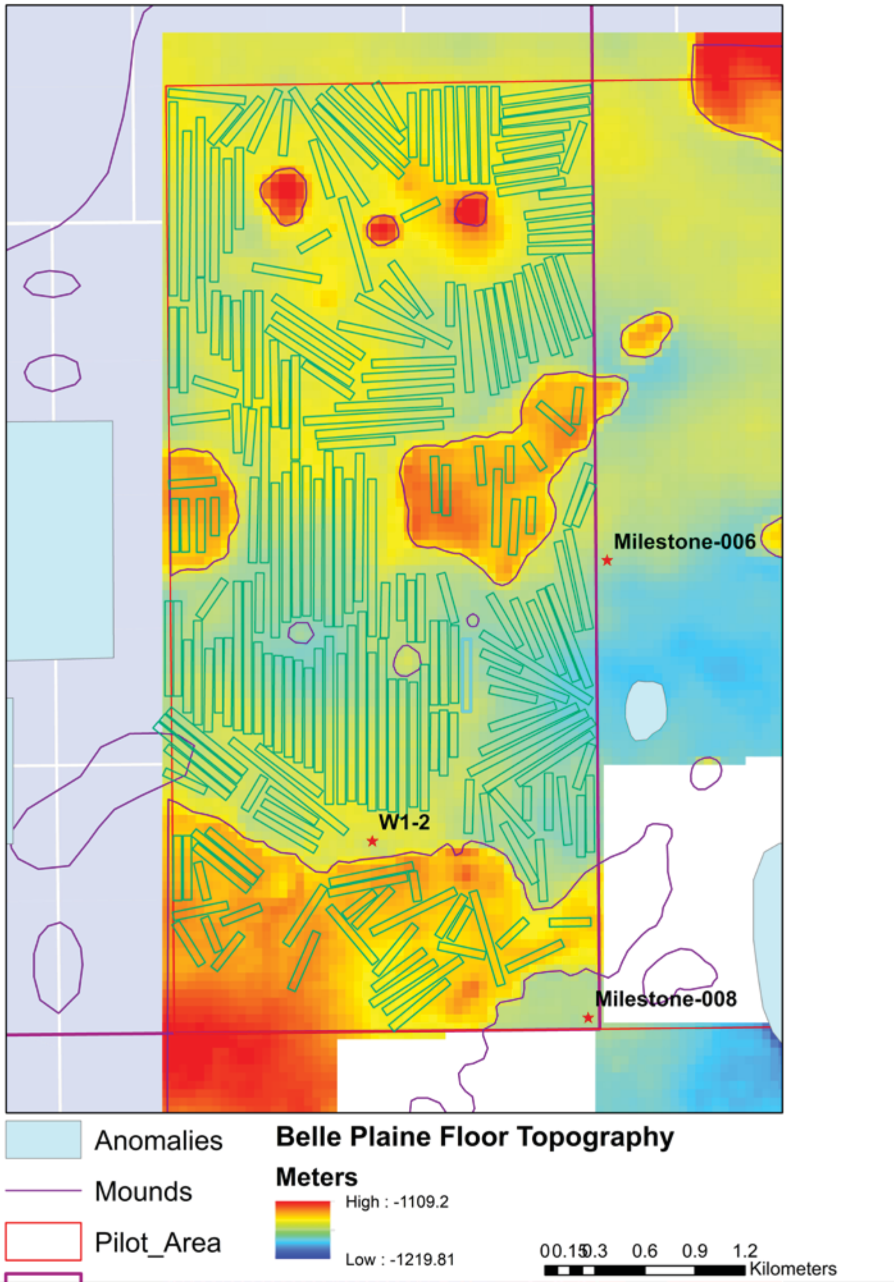

Figure 15-1. Total caverns within unitized area required to determine project reserves.

16. Mining Methods

The Milestone Project will extract potash from the Prairie Evaporite Formation using solution mining. The Phase I Project has drilled, connected and operated 3 horizontal solution mining caverns for a period of approximately 18 months from October 2019 – May 2021. The operation of the Phase I Plant is discussed below16.0. Operational data, in conjunction with modelling, laboratory tests and comparison with similar commercial operations detailed in Section 16.216.2, have been used to create the production plan in Section 16.3. This plan has been updated in order to optimise the solution mining operation.

16.1 Milestone Phase I Plant Operation

Western Potash successfully completed the drilling of 3 horizontal injection wells which intersected high grade potash in all wells, as demonstrated by the downhole logs and core assay of well W001-2 (given in Section 10). As shown in Figure 16-1Figure 16-1Figure 16-1, the directional drilling was able to target the bottom of the target potash bed. The project then drilled and successfully connected all 3 production wells.

The target geological horizon for Caverns 1 and 3 was the Belle Plaine (BP) Member with a true vertical depth of approximately 1,750 m below the surface, and Cavern 2 in the Esterhazy (EH) Member at a depth of approximately 1,770 m. In each cavern, the production well was designed to intersect with the injection well at the bottom of the potash seam with both wells cased approximately to the intersection point. The injection well was extended horizontally for approximately 850 m from the junction point. An injection tubular was inserted into the injection well and set to the far end of the injection well.

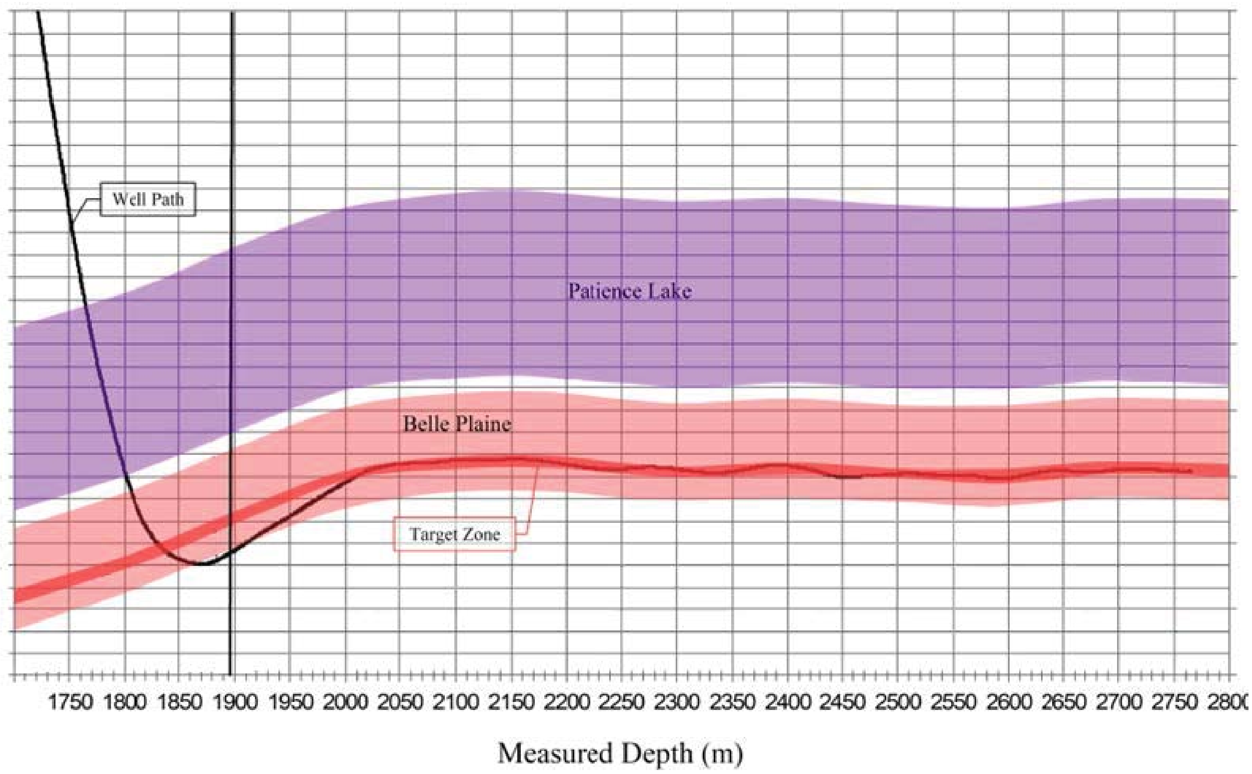

Figure 16-1. Downhole Log of Potash Bed and Drilled Path.

After the wells were completed, water from the crystallization pond was circulated into the injection well and back out the production well in all three caverns.

Solution mining continued during a period of approximately 18 months from October 2019 to May 2021. Initially, temporary equipment was used for cold mining from October 2019 to January 2020, and then predominantly permanent equipment was used for hot mining April 2020 to May 2021.

For cold mining, water was pumped from the Manville water well located near well M 009 approximately 10 kms to the southeast of the plant and wellfield. The water well supplied between 100 – 120 m^3/h into the crystallization pond then into the 3 caverns via the temporary injection pumps. The return brine from each cavern was sent back to the crystallization pond. Samples of inlet, outlet and combined pond salt concentrations, temperatures and specific gravity were measured, and according to the laboratory QA/QC procedures, minor species and other components were regularly checked at the SRC Laboratory in Saskatoon.

The objective of cold mining was to saturate the crystallization pond with sodium chloride (NaCl) in preparation for selective mining which continued until the pond concentration was approximately 210 g/l. During this time there is a gradual ramp up of the NaCl concentration. The cold mining phase was successful in saturating the pond with NaCl, such that the saturated brine will prevent upwards dissolution as discussed in Section 16.3. Subsequent pressurization of the cavern proved the integrity of the salt.

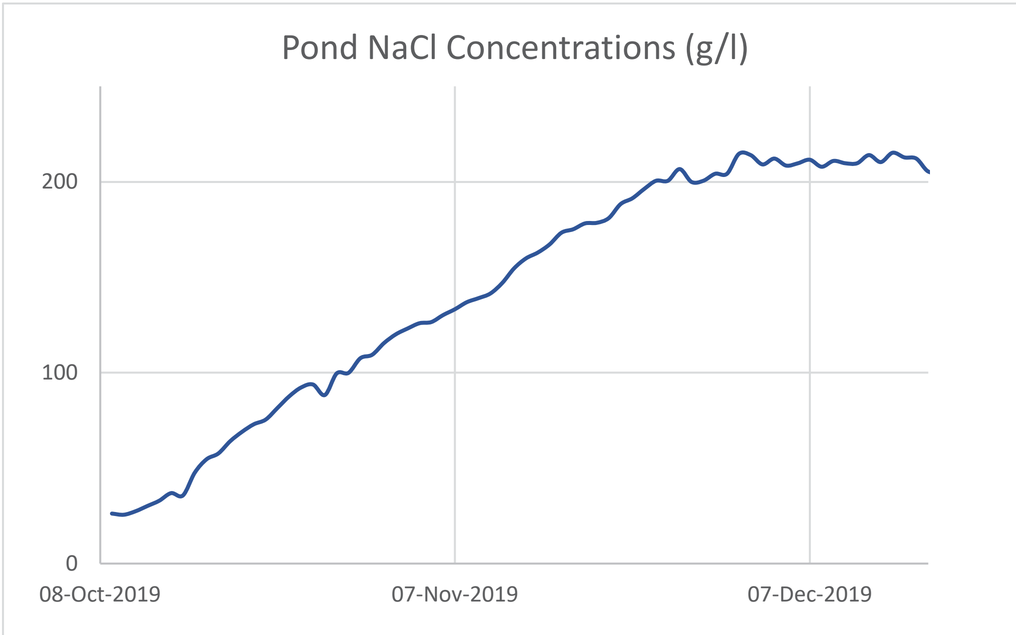

Figure 16-2. Accumulation of NaCl in the Crystallization Pond (g/l).

As the permanent brine heating system (submerged combustion direct gas fire heater – SubCom) and permanent brine pumping system were completed, hot mining commenced from April 2020 and continued through to May 2021. The permanent electrical systems, distributed control system and internal laboratory were also installed and commissioned. The crystallization pond suction pump and other minor pumps remained temporary systems. The hot mining results were used to develop an improved solution mining plan below.

Phase I cold and hot mining proved that horizontal caverns can be drilled and operated and provided valuable training on the procedures, equipment and data analysis required to operate the plant.

16.2 Selective Solution Mining

The Phase I mining method involves selective solution mining to preferentially leach potassium chloride (KCl) while leaving sodium chloride (NaCl) and insolubles in place underground. The injection well delivers a NaCl saturated brine at a temperature between 80 – 100°C, so that solvent temperature in the caverns is higher than the in-situ formation temperature. KCl crystal production is then achieved through cooling in the crystallization pond.

Methods of solution mining using horizontal wells has been proven in industry. Examples of producing operations employing selective solution mining methods with horizontal wells include the following:

- Intrepid Potash Inc., Moab, Utah performs secondary solution mining of sylvinite from a combination of horizontal wells on one level and a flooded conventional mine on another (Harvey et al. 2006). Since production by Intrepid commenced in 2004, approximately 1.4-Mt MOP have been produced using this technique.
- Natural Soda, Colorado, mines nahcolite (Day 1998; Daehling 2015).
- Eti Soda, Turkey mines trona (Demirkilic 2007).

Operations that employ selective solution mining using vertical wells include the following:

- Mosaic Potash, Belle Plaine, Saskatchewan, has mined sylvinite for over 50 years with the production from selective mining for the last 25 years (Case 2012).
- The Mosaic Company, Hersey, Michigan, mined sylvinite from 1989 until its closure in 2013 with production from selective mining for more than 10 years.
- Deusa International GmbH in Germany has mined carnallite since 1988 using primary and selective mining (Grueschow and Krumbein 1997; Zapke 1999).

Laboratory creep studies were performed by RESPEC in Rapid City, South Dakota. Laboratory dissolution studies using core have been performed by NG Consulting of Sondershausen, Germany and Agapito Associated Incorporated (AAI). The critical parameters for determining the rate of production (and hence the number of caverns required) is the rate of dissolution of the sylvite and the exposed surface area for that dissolution as detailed in Section 00.

After an extensive review of the Phase I operating data, a dissolution model developed by Canatech Management Services Inc. (Canatech) of Chilliwack, British Columbia was calibrated to Western Potash's full-scale operating data. The cavern dissolution rate was adjusted to operational results. The dissolution rate calculation accounted for the injection KCl concentration versus the saturation KCl concentration (the average concentration driving force in the cavern), operating temperature, injection flowrate, contact face angle and a number of empirically validated parameters. Canatech then used the dissolution rate and their proprietary model to determine the concentration (Figure 16-3Figure 16-3.) and thus production rate. The dissolution model, and dissolution rate were then used to develop a revised mining plan in an effort to enhance potash recovery.

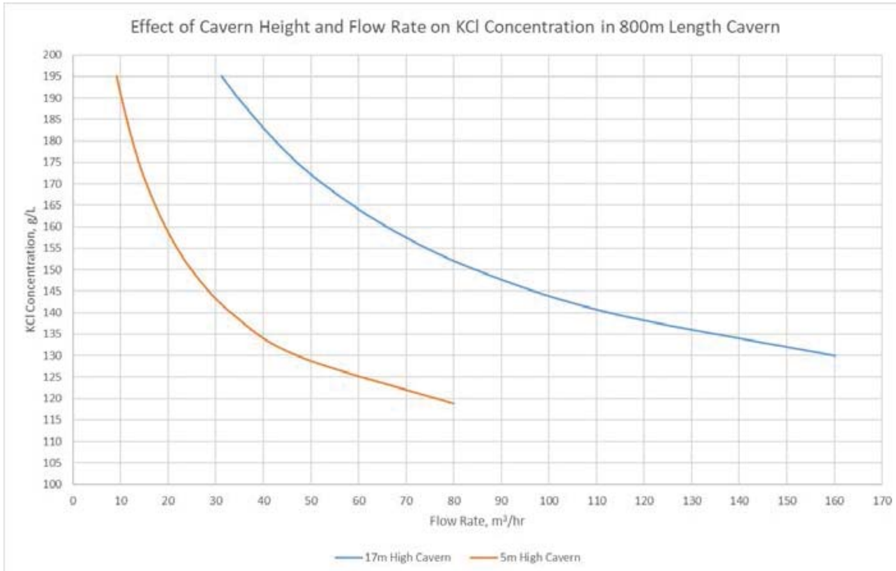

Figure 16-3. Model results for 5m (BP) and 17m (BP+PL) 800m caverns

16.3 Mining Plan

Western Potash used advanced directional drilling to ensure the injection and production wells are located within the desired potash bed. For Phase I caverns, caverns 1 and 3 will be expanded to access both the Belle Plaine and Patience Lake members. Cavern 2 will access the Esterhazy member only. Future caverns will be designed to access both the BP and PL members for the remainder of the 40 year mine life. A period of 6 - 12 months will be used to develop the initial cavern, which includes the time required for development and testing, along with imaging, to verify the correct cavern volume and shape are being created.

Solution mining production will commence once the target cavern size has been attained. Production will include pumping into up to 6 caverns at a time. This will be optimised based on KCl concentration to meet production targets. The total injection flow will be approximately 300 m^3/h (maximum of 320 m^3/h). During selective solution mining, solvent is injected through the injection pipe to reach the far end of the horizontal cavern where KCl is dissolved along the length and height of the cavern. The KCl-rich brine, about 165 g/L on average over the cavern life, flows back toward the recovery well.

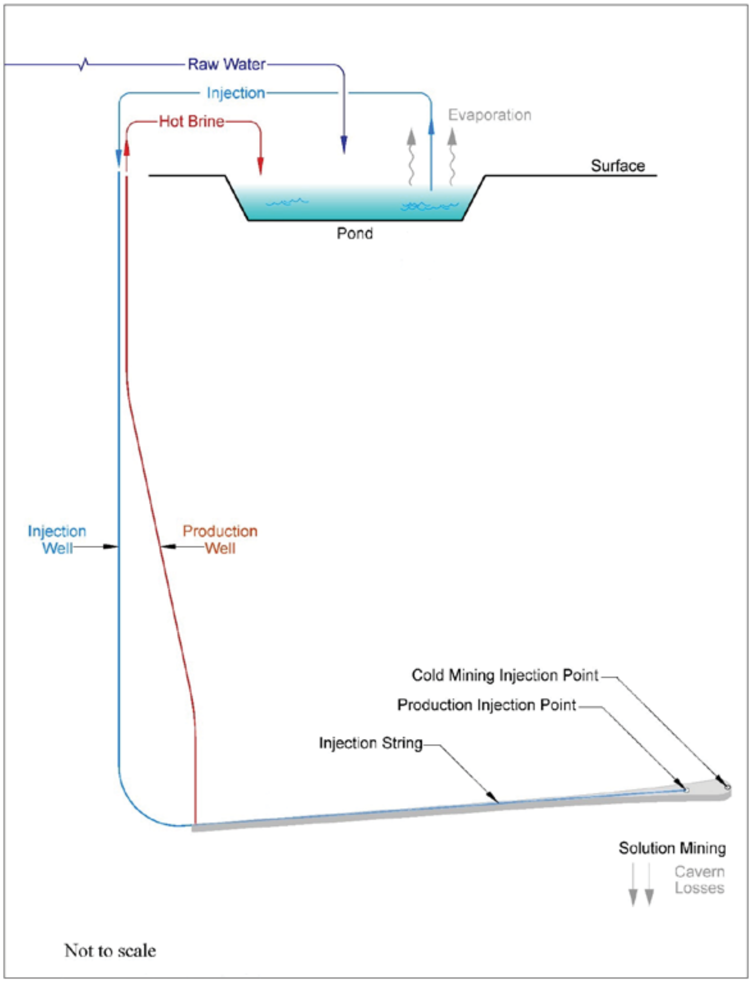

Figure 16-4. Brine and Water Circulation of the Cavern System

Vertical growth of the cavern will be limited by the salt bed immediately above the Patience Lake member since NaCl-rich brine will dissolve very little pure halite (NaCl) ore. The roof height and span along the cavern length will be continuously estimated based on the mass balance between injection and recovery with verification by downhole testing. The optional cost for an electric submersible pump (ESP) to be installed in the return well of each cavern has been included to ensure sufficient lift to overcome potential brine leakage to the Dawson Bay formation, although all indications are that the 2nd Red Bed is intact and competent in the exploration area.

The average mining life of each cavern is estimated to be approximately 6 years, although exact replacement will be determined from individual cavern production rates. At year 6, replacement caverns will be drilled and developed to be ready to continue production. Replacement will occur approximately every 6 years to continue production over the 40-year Phase I Project's life. The full drilling, development and piping costs have been included in the sustaining CAPEX, although typically older caverns can still be utilised to contribute to production targets. Eventual cavern abandonment has been included in the cavern closure costs.

A maximum 40 m roof span is estimated based on the extracted salt and is very conservative compared to spans of other solution mining operations. There is an additional 10 m salt pillar left between each cavern. The selective mining method will leave about 60% undissolved salt in the caverns which provides additional stability. A minimal amount of surface subsidence is expected over a very long period of time.

Utilizing the resource model, caverns were placed spatially as shown in Figure 16-5. The total width of each cavern and pillar is estimated to be 50 m, and the length is dependent on underground features, but averages around 800 m.

Future caverns will be designed to allow dual direction (reversible) flows for enhanced brine recovery. Well placement, geological variations and development imperfections could affect potash reserve in the current cavern plan. However, at this point of time, the exact impact on cavern life and recoverable resource estimates are unknown.

During production mining, a recovery brine temperature of 60 - 80°C at the wellhead is estimated by calculating the difference between the injection temperature and temperature losses due to conductivity in the wells and caverns and dissolution heat loss. Figure 6.1Figure 6-1 shows the concentrations of saturated KCl and NaCl as a function of temperature. KCl concentration increases proportionally with temperature increase, while NaCl concentration decreases slightly with temperature increase.

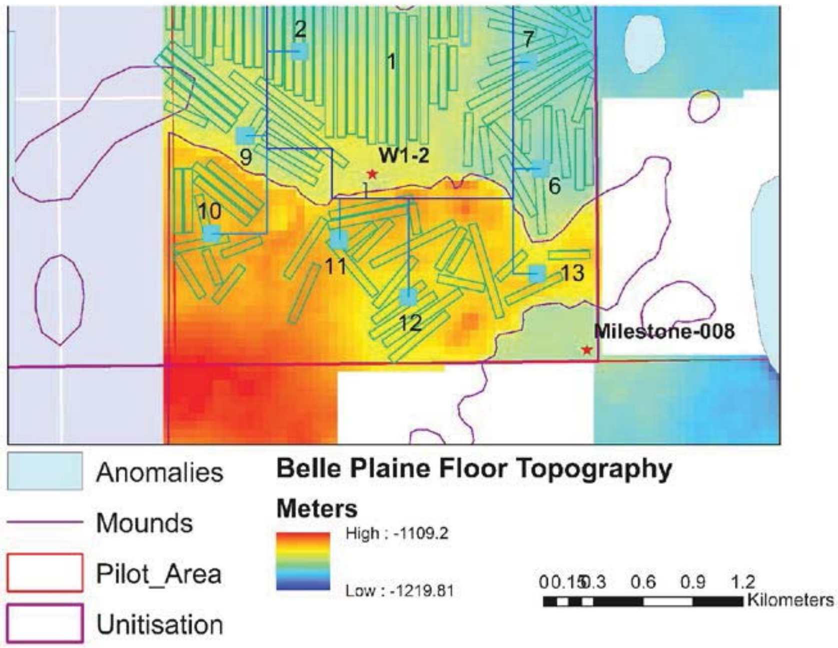

Figure 16-5. Cavern layout and piping (approximately 6 caverns at a time are required for 40 years of operation at 146,000 tpa)

17. Recovery Methods

17.1 Basic Parameters

A general site layout for the Processing Plant that represents the state of the site in the summer of 2021 is shown in Figure 17-1. The Kronau grid runs South to North on the right hand side, and the heavy haul road West to East along the bottom. The green pond on the left side of the figure is the crystallization pond. The Kronau grid road leads from the heavy haul road to the well pad with the pumphouse and eHouse at the southern end. The administration building is just off the Heavy Haul road, and to the North is the partially constructed process, compaction, loadout and storage buildings.

The processing plant is designed to produce 146,000 tonnes (t) of granular potash annually. The plant is scheduled to operate 7,500 hours per year and the wellfield has the capability to operate 8,000 hours per year. Normal operation of the wellfield to supply sufficient brine for the production of 146,000 tonnes would be 6,024 hours per year.

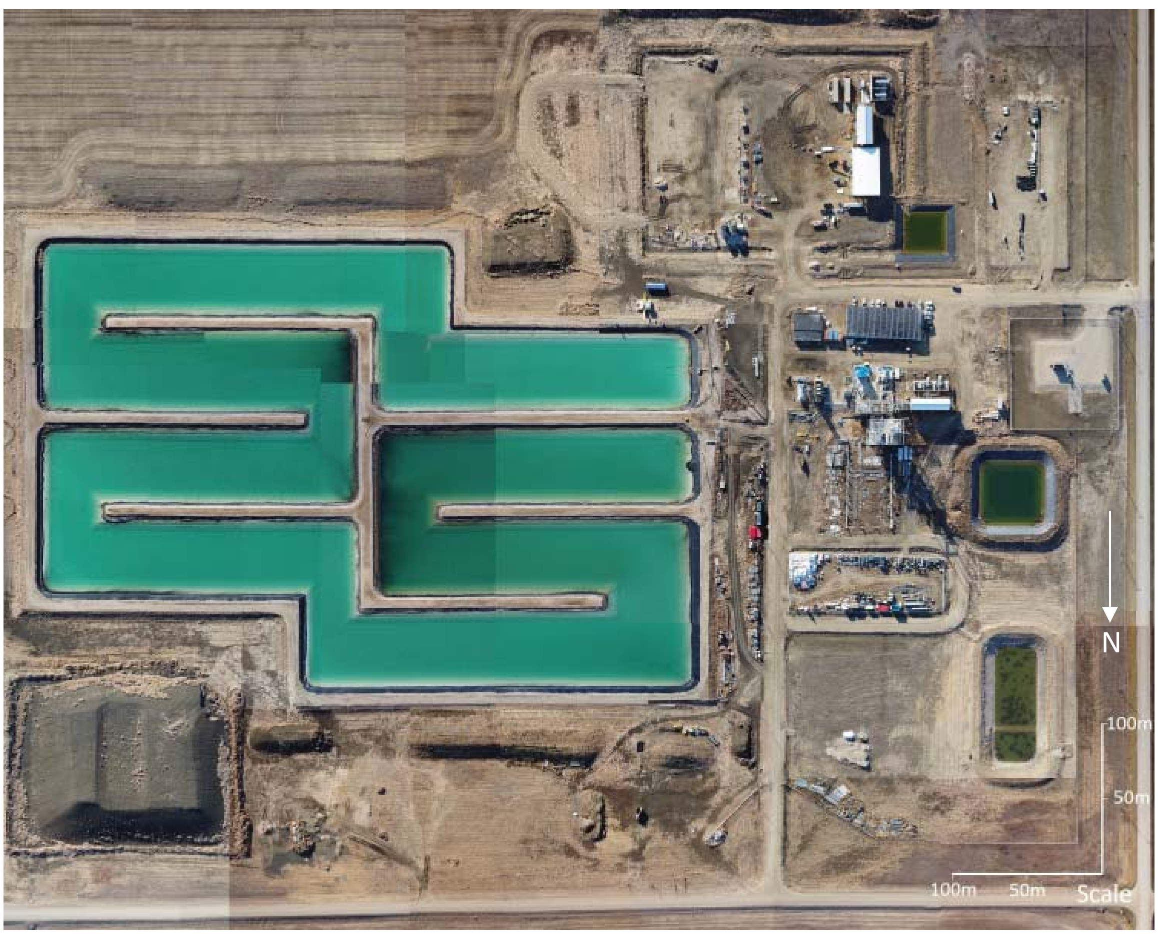

Figure 17-1. Phase I Project Site Layout (WPC 2021)

17.2 Process Description

A simplified sketch of the production flowsheet from the injection well to truck shipment of MOP from the site is presented in Figure 17-2. The various steps in the process are described below.

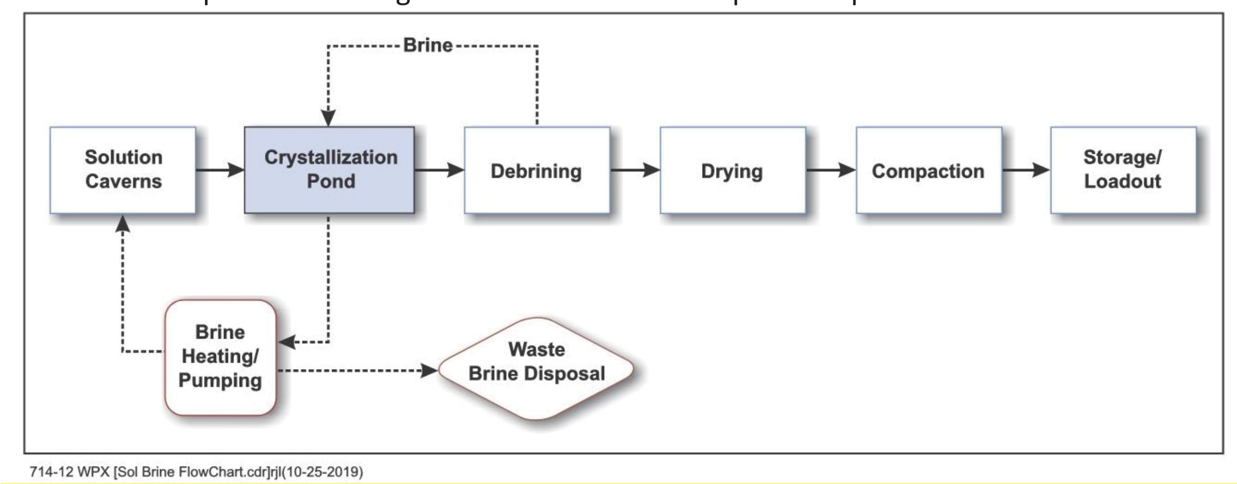

Figure 17-2. Process Block Diagram (WPC 2019)

First, an NaCl-saturated brine (solvent) from the cooling pond is heated to an injection temperature of up to 100°C and is injected through the wells into up to six solution mining caverns at a total rate of 300 m^3/h. The solution mining process is described in greater detail in Section 16.3 of this TR. The production brine returns to surface through a production well and is transported through a pipeline to the crystallization pond where the brine is allowed to cool close to ambient temperature.

KCl (MOP) is precipitated upon cooling in the ponds because KCl solubility decreases with falling temperature whereas that of NaCl remains almost constant. The crystallization pond brine, which has been depleted of a portion of the KCl, is re-heated up to 100°C and pumped back to the solution mining caverns, as solvent, in a closed loop that supplies the caverns through a central brine/solvent distribution system.

The Carnallite in the ore is readily dissolved while solution mining, resulting in $MgCl_2$ in the Cavern brine. The amount of $MgCl_2$ in the brine is controlled by purging a small stream of the crystallization pond return brine to a disposal well. The $MgCl_2$ purge brine is set to maintain a $MgCl_2$ content of the Cavern brine at up to 2.5 %w/w. The plant recovery of the KCl from the Cavern brine to product is expected to be 96.3%.

The potash precipitate is recovered using a dredge which pumps the slurry to the processing plant for de-brining. The slurry is de-brined through a hydrocyclone and centrifuge.

The dry process begins as the debrined centrifuge cake is dried in a rotary dryer and transferred to a single-stage compaction circuit. The compacted granular product is conveyed to the product storage building adjacent to the compaction plant. From there, the product is loaded into trucks for transport off site.

The process plant is a steel-clad building located at the plant site north of the administration building. The process plant is 25 m × 33 m and 15 m tall. The building is a shell overtop of the process equipment located inside, with no interior columns associated with the building. The building houses the major process equipment including:

- Hydrocyclone
- Centrifuge
- Product rotary dryer (with dust collection equipment)
- Water, slurry, brine and reagent pumps, and tanks
- Brine heat exchangers

The compaction building sits adjacent (north) to the process building; it is 15 m × 15 m and 35 m tall. The building houses the major compaction equipment:

- Material handling (drag conveyors, bucket elevators and chutes)
- Compactor and flake breaker
- Product screens
- Cage mill

The product storage and loadout building sits adjacent (north) to the compaction building; it is 52.5 m × 27 m and 12 m tall. The building houses the product discharge conveyor, product storage piles and the loadout feed hopper and belt conveyors.

17.3 Crystallization Pond

The 503 m × 225 m crystallization pond is located east of the process plant as shown in Figure 17-1. Brine enters the pond at the southwest corner and is recovered from the central-west side. Surface-run pipes connect the crystallization pond with the process plant. Design criteria for the crystallization pond are presented in Table 17-1.

Table 17.1. Crystallization Pond Design Details

Criteria	Unit	Quantity	Source/Comment
Pond Area	Ha	6	Active Surface Area
Number of Dredges		1	WPC
Pond Feed Brine Flow	m^3/h	300	
Average Pond Feed Brine Temperature	°C	47.9	
Pond Discharge Brine Flow Rate	m^3/h	309	
Average Pond Discharge Brine Temperature	°C	0.7	
Maximum Pond Discharge Brine Temperature	°C	10.9	

Criteria	Unit	Quantity	Source/Comment
Minimum Pond Discharge Brine Temperature	°C	-5.9	
Average Pond Discharge Brine KCl	g/l	83.0	
Maximum Pond Discharge Brine KCl	g/l	102.1	
Minimum Pond Discharge Brine KCl	g/l	70.4	
Pond Solids PSD-Passing 48 Mesh Tyler (295 µm)	%	50	At Dryer Discharge
Pond Solids PSD-Passing 100 mesh Tyler (147 µm)	%	7	At Dryer Discharge
Non-recoverable Inventory	tonnes	19,000	Pond Floor Cover
Total Brine Inventory	tonnes	225,000	
PSD = particle size distribution; µm = micrometer			

17.4 Debrining and Drying

Debrining of the slurry produced by the dredge consists of three steps:

- Primary solid/fluid separation using a hydrocyclone
- Major fluid removal using a screen bowl centrifuge
- Drying of solids in a rotary dryer

Cake from the centrifuge is transported to the rotary dryer for final fluid removal. Overflow from the hydrocyclone and centrate (fluid) from the centrifuge are recirculated to the crystallization pond. Design criteria for the debrining steps are presented in Table 17.2. Design criteria for the rotary dryer are presented in Table 17.3.

Table 17.2. Debrining Operations Design Criteria

Criterion	Unit	Quantity	Source/Comment
Dredge Slurry Flow	m^3/h	150.3	
Dredge Slurry Solids	%w/w	10	
Dredge Slurry Tank Volume	m^3	35	14.0 minutes
Hydrocyclone Underflow Solids	%w/w	40 – 50	
Hydrocyclone Overflow Solids	%w/w	3 – 5	
Centrifuge Cake Solids	%w/w	95.7	
Centrifuge Cake Moisture	%w/w	4.3	
Centrifuge Centrate Solids	%w/w	2.0	

Table 17.3. Rotary Dryer Design Criteria

Criteria	Unit	Quantity
Dryer Product Discharge Temperature	°C	>200
Residual Moisture in Product	%	0.05% target; 0.1% maximum

17.5 Compaction Plant

The compaction process upgrades unscreened dryer discharge into saleable granular grade potash product. Dryer discharge product and recycled fines and dust from the compaction circuit is fed to a feed bin that provides surge capacity between the dryer circuit and the compaction circuit.

From the feed bin, the MOP powder is fed by a force feeder system to a twin-roll compactor to form flake. Flake from the compactor is broken by a flake-breaker crusher and is then fed to a bi-level primary screen that separates oversize and undersize from the midsized product particles. Oversize from this screen is fed to the cage mill and recycled back to the primary screen. Undersize particles from this screen are recycled to compaction feed via the feed bin.

Midsized particles from the primary screen are fed to a polishing screen, where the midsize stream is the granular product. Oversize from this screen is fed to the cage mill and recycled back to the primary screen. Undersize particles from this screen are recycled to compaction feed via the feed bin.

Granular product from the polishing screen is weighed on a weigh belt and treated with an oil-amine-colorant dedusting reagent mixture in a mix box prior to being conveyed to product storage. Dust collection for the compaction circuit is provided by a baghouse and fan system to control and recover dust before exhausting air to atmosphere.

17.6 Major Mechanical Equipment

As briefly discussed in Subsection 17.2, the Processing and Compaction buildings contain the major mechanical equipment, which is defined as equipment of substantial cost or with a significant footprint. Table 17.4 lists the major mechanical equipment together with the suppliers.

Table 17.4. Major Mechanical Equipment

Description	Quantity	Supplier	Comments
Piston Injection Pumps	9	Westpower	High head pump for injection of fluid into caverns
Plate Heat Exchangers	2	Inproheat Industries Ltd	Plate and frame type
Submerged Combustion Brine Heater	1	Inproheat Industries Ltd	
Hydrocyclone	1	Weir Minerals	Centrifuge Feed Cyclone with underflow/overflow Launder
Product Centrifuge	1	Industrial Machine	Screen bowl style
Rotary Dryer	1	Heyl Patterson	Co-current rotary style
Compactor	1	Ludman Industries	Compactor Force Feeder with Flake Breaker
Dredge	1	Dredge Yard	Floating mobile dredge with excavation head and onboard slurry pump for crystal removal from pond, electrical power driven

Description	Quantity	Supplier	Comments
Material Handling		Continental Conveyor	Drag and screw conveyors, bucket elevators, and chutes.
Product Loadout		Tundra Process Solutions	Feed Hopper, Loadout Station

Requirements for water and energy for the plant are discussed in Section 18 of this TR.

17.7 Plant Status as of Summer 2021

The majority of the bulk material has been purchased and is on-site, including over 85% of the tagged equipment. The solution mining system including brine heating, brine injection and pumphouse has been completed, commissioned and is operational.

Figure 17-3. Process and Compaction Plant Structural Steel

In the process and compaction areas, the majority of structural steel and some rough set equipment is complete. Remaining construction includes final placement of all equipment and completion of mechanical, piping & chutework, electrical and instrument on the process and compaction plants. The storage and loadout building requires all areas except foundations to be constructed. Final site grading remains to be completed as well as modification for the loadout road and scales.

18. Project Infrastructure

The majority of the project infrastructure including the access roads, buildings and various utilities (including water supply, electrical power, natural gas and telecommunications) have been constructed and are in operation. The various components of the site infrastructure are described below.

18.1 Project Lifespan Methodology

The Phase I Plant design, specifications and purchased equipment was thoroughly reviewed by various engineering disciplines, in conjunction with the geological and mining plan review. The initial design life of the Phase I Plant was 12 years. Since there are adequate reserves within the unitized area it was decided to investigate extending the plant and mine life from 12 years to 40 years.

A structural engineering review of the process plant indicated that the structural and architectural design is sufficient for a 40-year operation. Due to the corrosive environment potash facilities typically operate within, a structural integrity program will be put in place to inspect, maintain, and refurbish the structural steel and other components throughout the facility's life.

An engineering review of the mechanical equipment and piping was completed. The findings of the review resulted in the development of a maintenance and reliability philosophy for the equipment. Each major piece of equipment was assigned a criticality ranking and critical spares and maintenance intervals were determined. The maintenance labour costs, and spares costs have been included in the OPEX based on the recommended maintenance intervals. As existing equipment is schedule to be replaced, equipment with equal or higher-grade specification will be selected to extend the operating life of the asset. As the mine field continues to develop, the existing injection well pumps will be upgraded with a different system of pump that provides some operational and maintenance advantages.

An electrical engineering review of the planned and existing electrical system was completed. The E-houses have been designed in a modular fashion, located outside the main plant and with their own HVAC systems. This design reduces the chance of introducing KCl dust into the electrical equipment. The electrical infrastructure has been designed to allow some additional equipment in the future. An electrical preventative maintenance and replacement plan will be implemented to ensure that the electrical system is properly maintained.

An instrumentation & controls review of the system design was completed. The distributed control system (DCS) and associated instrumentation will last for several years. Like any other electrical based system, the DCS hardware and software will need to be upgraded throughout the facilities 40 years of operation. The field instruments will be part of the facilities asset management program, and will be inspected, calibrated, and replaced as part of the ongoing preventative maintenance and replacement strategy.

Based on the review, it is the author's opinion that there are no material concerns with extending the plant life from 12 to 40 years. Equipment maintenance and upgrade costs throughout the 40 year life have been accounted for in the OPEX and Sustaining CAPEX.

18.2 Site Access

The processing plant and crystallization pond for the Phase I Project are located in the northwestern quarter of Section 20, Township 14, Range 17 West of the Second Meridian near the center of the Unitized Area as shown on Figure 4-2 in Section 4.

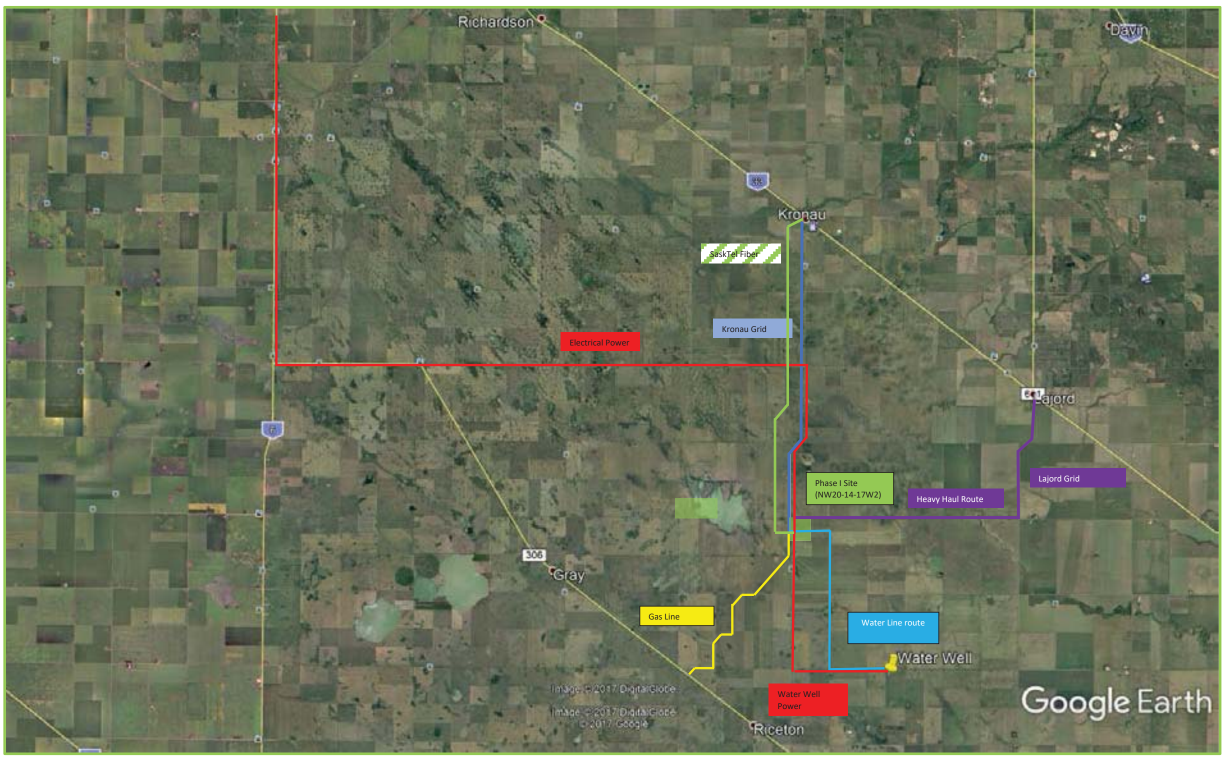

Figure 18-1. Site Infrastructure Map

Access to the Project site is along local grid roads off Highway 33. WPC has agreed to a project development agreement with the Regional Municipality (RM) of Lajord that:

- All heavy haul traffic (construction and operations) will use Hwy 33, south on the Lajord grid road and west on the Heavy Haul road to the project site.
- Light vehicle traffic can use the Kronau Grid.

The project has constructed a 9.6 km heavy haul road that connects the Lajord grid to the plant site.

18.3 Utilities

18.3.1 Natural Gas

The natural gas regulator station is located west of the plant site and the gas supply to the plant is through buried lines. The two primary uses for natural gas on the site are the brine heaters and the product dryer. Natural gas also provides make-up air heating for the process, compaction, and administration buildings.

Trans Gas completed a pipeline and SaskEnergy completed on-site facilities for natural gas supply to the site on November 2019. The connection is designed to provide a maximum hourly supply of 120 gigajoules per hour (GJ/h) and a maximum daily supply of 2,400 GJ/day at a pressure range of 897 to 1,103 kilopascal (kPa) (TransGas 2019). These facilities connect to the existing buried 250-mm-diameter TransGas natural gas pipeline from Regina to Weyburn that traverses the KLSA 008 Lease west of the proposed processing plant.

18.3.2 Power

At full capacity the Milestone Phase I Project will require an average annual electric power demand of 4.12 megawatts (MW) and a maximum future power demand of 5.0 MW. The project site is connected to the SaskPower 25 kV local grid via a 42.6 km long, overhead pole mounted, 3 phase 25 kV transmission line, coming from Regina towards the plant area along existing roads. The transmission line enters the process area via overhead lines, transitioning to underground within the site, and comprises two 25 kV/4.16 kV oil filled stepdown transformers, capacitor banks, and electrical rooms (containing the majority of the electrical equipment) which are installed and operational. From the electrical rooms, cabling enters the pumphouse which is operational, and process/compaction buildings for equipment motor supply (under construction).

18.3.3 Process Water Supply

Long term average process water (brackish water) requirements of approximately 60 m^3/h can be supplied from a WPC owned well that is located approximately 10 kms away from the plant site. WPC completed drilling and construction of the water well, which was screened across the Viking and Jolifou Formations and the Mannville Group between 670 m and 868 m depth in July 2018 (WaterMark 2018). An Approval to Commingle Production was received from the Ministry of Energy and Resources on 11 June 2018. The well can provide a sustainable flow rate of 100 m^3/h and a peak flow rate of 120 m^3/h. An annual allocation of 500,000 m^3/year (yr) was received from the Water Security Agency (2019). The measured hydraulic conductivity from a constant-rate pumping test was 2.6×10^{-4} cm/second (s), which is reasonable for a silty sand aquifer with clay interbeds.

An underground pipeline of 10.4 km is installed to supply water from the well to the plant site. A site raw water pond accepts the incoming water and has a two-day storage capacity. Water is transferred via underground piping to a distribution tank in the process plant. Above and underground piping is used to supply water to process users.

18.3.4 Surface Water Supply for Cavern Development

Cavern development requires an initial period of injection using freshwater at a flow rate of up to 100 m^3/h in each cavern while under development. This is required until the KCl grade in the produced brine is sufficient to be recycled for use as injection solvent. The weak produced brine is sent to the crystallization pond and subsequently the disposal well.

18.3.5 Waste Brine Disposal Well

The waste brine will be injected into the Deadwood Formation through a disposal well which will be located on the well pad south of the mining injection and production wells.

18.3.6 Other Utilities

A 250 m^3 water reserve for fire response was included in the design volume for the raw water pond.

An air compressor skid, located to the east of the process building has been installed and is operational, feeding an above-ground piping header/branches for delivery of dried instrument air to all instrument and process users.

18.4 Plant Buildings

The site Administration building is comprised of a 14 trailer complex, which includes offices, control room, laboratory, meeting rooms, kitchen and wash facilities and is complete and operational.

The well pad pumphouse is a pre-engineered, cladded steel building with a total rectangular footprint of 360 m^2 which has been erected.

For the remainder of the plant the structural steel for the process plant and compaction plant has been erected. The foundations for the loadout and storage buildings are complete. None of the building cladding has been complete at this time.

19. Market Studies and Contracts

WPC commissioned Argus Media, a global market research firm producing commodity price assessments, to provide a market report in Fall 2021. The market report (Argus Media, August 2021) summarized recent historical, current, and forecasted demand and supply of potash and provided market price forecasts. Argus is acknowledged as one of the leading market research firms within the global fertilizer industry, providing independent product and market research and forecasting. Their report is summarized in this section together with publicly available sources of information.

Potassium chloride (KCl), otherwise known as muriate of potash (MOP), is the most common form of potassium fertilizer produced and used in the agricultural sector, accounting for about 90% of potash consumption. The other types of potash fertilizers include potassium sulphate (SOP) and potassium nitrate (KNO_3).

Potassium is one of the three primary nutrients (along with nitrogen and phosphorus) essential for proper plant growth. Potassium is necessary to:

- Increase root growth and improve drought resistance
- Aid in photosynthesis and plant food formation
- Reduce respiration
- Enhance the movement of water, nutrients, and carbohydrates in plant tissue
- Increase protein content
- Help retard crop diseases
- Enhance taste and nutritional qualities
- Assure early flower and fruit stimulation and formation

If potassium is deficient or not supplied in adequate amounts, growth is stunted and yields are reduced. There are no substitutes for potassium as an essential plant nutrient.

19.1 Demand Forecast to 2025

Global potash consumption is forecasted to increase by 10% over the period 2021-2025. (Argus Media, November 2021). On a worldwide basis, 95% of potash consumption is for plant fertilizer (Williams-Stroud et al. 1994). Most of the remaining 5% is by the chemical industry in the form of potassium hydroxide. MOP is also used in oilfield drilling mud, the aluminum recycling industry, and the electroplating industry.

The amount of potassium consumed within the agricultural sector varies depending on the type of crop. Palm oil, sugar cane, fruits, and vegetables require higher application rates than other crops; however, cereal crops such as maize, rice, and wheat, as well as soy beans, account for a higher percentage of fertilizer usage because they are cultivated on such a large scale.

Market demand and other fundamental market changes drive shifts in the type of crops produced. For example, an increase in market prices for potassium-intensive crops such as soy beans or maize will have a direct impact on potash demand. Interest in biofuels (ethanol and biodiesel) as an alternative to fossil fuels has led to increased production of corn, sugar, and palm oil in the USA, Malaysia, and Indonesia. Higher prices for agricultural products provide an incentive for farmers to maximize their yields and increase their ability to pay for fertilizers. High prices for agricultural products has enabled Brazil (21%) and the United States (20%) to become the largest importers of potash in the world.

The other factor affecting demand is socioeconomic change within key potash markets, particularly Asia. Overall, Asia accounts for about 41% of potash demand, with India (6%) and China (22%) included among the four largest importers in the world. Rapid economic growth and the resulting increased urbanization have reduced the arable land available for agriculture. With higher per capita incomes, there has been a transition from subsistence diets to those containing more staple grains and protein-rich (meat) foods. Within India alone, potash demand is expected to increase by 24% by 2025 without considering any increase in crop production (Argus Media, November 2021). Table 19.1 shows the forecasted increase in worldwide potash consumption between 2021 and 2025. The annual increase in potash consumption indicated in Table 19.1 is about 2.5%. (Argus Media, November 2021).

Table 19.1. World Potash Consumption forecast 2021 to 2025 in Mt MOP (Argus Media, November 2021)

Region	**2021**	**2022**	**2023**	**2024**	**2025**
Grand Total	69,947	72,171	73,902	75,459	77,113
Africa Total	1,653	1,695	1,729	1,763	1,816
Australasia Total	760	777	795	812	828
Central & Eastern Europe Total	2,963	3,067	3,102	3,139	3,176
Latin America & Caribbean Total	14,594	14,788	15,265	15,855	16,447
Middle East Total	1,029	1,053	1,074	1,096	1,119
North America Total	12,459	12,321	12,433	12,552	12,668
Northeast Asia Total	16,606	17,518	17,854	18,193	18,493
Russia & Central Asia Total	2,398	2,430	2,454	2,468	2,481
South Asia Total	5,251	5,745	6,209	6,383	6,671
Southeast Asia Total	7,019	7,176	7,346	7,519	7,695
Western Europe Total	5,214	5,602	5,640	5,679	5,718

19.2 Supply Forecast to 2027

Potash production is concentrated in only a few distinct regions—North America, Russia, Belarus, Uzbekistan, Europe, South America, and the Middle East—and reached 69.1 Mt in 2020. Collectively, the four leading producing countries (Canada, Russia, Belarus, and China) account for approximately 80% of the global potash trade.

The potash industry in North America comprises 15 mines with a total capacity of 33 Mtpa. Eleven are in Canada and four in the USA. Currently, all potash production in Canada is in Saskatchewan by three companies—Nutrien, Mosaic, and K+S. Mosaic's Esterhazy K1 and K2 shafts were closed prematurely in 2021 due to increased brine inflow. The Esterhazy production loss will be replaced by resumed production at Colonsay while K3 ramps up to full capacity in Q2 2022. Canada is the world's largest supplier, producing 32.0 Mt of MOP out of a global production of 65.5 Mt in 2021 (Argus Media, November 2021).

New capacity will increase global potash capacity from 87 Mt to 106 Mt between 2020 and 2025. Nutrien has increased production at Vanscoy and has 5 Mt of brownfield expansion under consideration. BHP has approved investment in the Jansen project, with a capacity of 4.3 Mt and expected production commencement in 2027. Additional firm capacity increases come from Russia and Belarus totalling 9.1 Mt between 2021 and 2024. (Argus Media, November 2021)

19.3 Potash Price Forecast

The potash market is controlled by a small number of sellers and hence, the industry depends largely on published information for pricing. The pricing of the export arm of the Canadian producers, Canpotex, used to be the benchmark price for potash (freight on board [FOB] Vancouver); however, this changed in the mid-1990s when Russia, Belarus, and Uzbekistan began to ship large quantities to deep-sea markets, competing with Canpotex and other exporters on a delivered basis. Since then, prices with freight included (cost and freight, CFR) have become the industry benchmarks. Given that the ability to calculate an FOB price (delivered basis less ocean freight) is predicated on freight rates that vary widely depending on the destination, most price forecasts include a weighted average freight rate in calculating netbacks.

Prices for potash rose to unprecedented levels in the late-2000s, such that the estimated average Canpotex netback rose from $US105/t in 2003 to $US498/t in 2008. Contract prices in the first half of 2012 to China were purportedly at US$470/t. After Uralkali announced in July 2013 that they were no longer selling through the Belarusian Potash Company, jointly owned with Belaruskali, and planned to increase their output, the price FOB Vancouver fell from 2012 levels reaching a low of $206.50/t in 2016. The price rose in August 2017 to $215.50/t where it stayed until February 2019 when it began to rise moderately until falling in 2020 due to the COVID-19 pandemic. Since 2020, supply tightness and agricultural demand driven by high crop prices have increased prices significantly. Granular MOP US Cornbelt bulk prices are currently (November 2021) US$441/tonne.

Bulk MOP prices FOB Vancouver and US Cornbelt through 2025 as forecast by Argus Media (November 2021) are presented in Table 19-2.

Table 19.2. Estimated Bulk MOP Prices FOB Vancouver (Standard MOP) and US Cornbelt (Granular MOP) through 2025

Year	Standard MOP Vancouver FOB (bulk) nominal $/tonne	Granular MOP US Cornbelt FOT (bulk) nominal $/tonne
2021	381	441
2022	581	640
2023	385	446
2024	370	432
2025	364	428

The forecasted realized net price to Western Potash at mine gate for local sales at US Cornbelt, after deducting transportation and sales/handling costs, is $US415/tonne beginning in 2025.

19.4 Potential Markets

The target market for the Phase I Project is North America, specifically the US Midwest. Annual demand in the US in 2021 amounted to 10.0 Mt of K_2O (Argus Media, November, 2021). Potash can be readily shipped into the US by rail or truck.

The Canadian market forecast pricing was not available at the time of this report. It is believed that the Canadian market can be a future opportunity that is characterized by lower transportation costs and therefore potentially higher mine gate pricing.

The product sold in the US Midwest, Cornbelt, and Canadian markets is granular MOP.

19.5 By-Products Market

No by-products have been defined at the time of writing this technical report.

19.6 Marketing and Sales Contracts

On 25 September 2019, WPC announced that it had signed an offtake agreement with Archer Daniels Midland (ADM) for 100% of its Phase I Plant production of 146 ktpa. With global headquarters in Chicago and North American headquarters in Decatur, Illinois, ADM is one of the world's largest agricultural processors and food ingredient providers, with approximately 40,000 employees serving customers in nearly 200 countries. To ensure confidentiality, the financial model does not include the commercial terms of the offtake agreement.

20. Environmental Studies, Permitting, and Social or Community Impact

20.1 Environmental Permitting

Based on responses to its survey of Federal departments in 2012, the Canadian Environmental Assessment Agency determined that in the absence of a Federal trigger, the *Canadian Environmental Assessment Act* (Department of Justice Canada 2012) does not apply for the Milestone Project.

The Milestone Project is considered a "Development" as defined in the Province of Saskatchewan's *Environmental Assessment Act* and therefore was subject to an Environmental Impact Assessment (EIA). WPC previously developed plans for a 2.8-Mtpa primary and secondary solution mining project located 1.6 km west of the current Phase I Project. A comprehensive Environmental Impact Statement (EIS) was completed and submitted to the SMoE in early 2013 (Golder Associates Ltd. 2012). The Ministry provided a Ministerial Approval for the project in April 2013.

The regulatory requirements and EIS results for construction and operation of the original project were described in Section 20 of the 2013 Technical Report that summarized the FS (Hardy et. al. 2013) and were subsequently summarized in Section 20.3 of the 2015 Technical Report (Hambley et al. 2015). The Phase I Project represented a change to the original EIS as approved by the Ministry that prompted submission of a Project Description (WPC 2015b) to the Ministry on 22 July 2015. The Project Description described the Phase I Project using the Selective Solution Mining methodology. The new methodology required review under Saskatchewan's *Environmental Assessment Act* because the change did not conform to the terms or conditions contained in the 2013 Ministerial Approval.

The Minister of Environment reviewed the proposed change and concluded that the proposed change would not result in significant environmental impacts different from those identified in the original EIS. The Minister was therefore satisfied that the requirements of the Act were met as described in the July 2015 Project Description. Notice of the approved change was provided by the Ministry on 10 September 2015.

A second change to the Phase I Project included 1) moving the project location to the northwest quarter of 20-14-17W2 and 2) elimination of mechanical potash recovery methods and using only a crystallization pond for potash recovery. This change prompted a second Project Description (WPC 2017) submitted to the Ministry on 17 March 2017. The Minister of Environment reviewed the proposed change and concluded that the Project would not result in significant environmental impacts different from those identified in the original EIS. The Minister was therefore satisfied that the requirements of the Act were met as described in the March 2017 Project Description. Notice of the approved change was provided by the Ministry on 6 June 2017.

After approval of the March 2017 Project Description, WPC progressed towards licensing and permitting activities that would allow construction and operation of the Phase I Project.

20.2 Local Government, Public, First Nations, Métis and Regulatory Engagement

As part of the regulatory process, WPC and the Rural Municipality (RM) of Lajord jointly prepared a "Development Agreement." The Development Agreement outlines several terms and conditions that WPC must meet as part of the construction and operation of the Phase I Project. The original Development Agreement was signed in May 2015, and later amended in February 2019 to reflect the updated Phase I operations. The main terms and conditions of the Development Agreement relate to road use and maintenance, compliance with regulatory requirements, and indemnification of the RM of Lajord.

As reported in the 2015 TR (Hambley et al. 2015), extensive work has been completed to engage the Public, First Nations, Metis and Regulatory Agencies. The engagement activities are summarized in the EIS (Golder Associates Ltd. 2012) and WPC's (2015b; 2017) Project Descriptions.

WPC continues to engage the local community through newsletters, community sponsorships information sessions and site visits.

20.3 Environmental Site Assessment

A comprehensive third-party Phase I Environmental Site Assessment (ESA) was completed for the plant site by Clifton Associates, Ltd. of Regina, Saskatchewan. The ESA conforms to Canadian Standards Association (CSA) guidelines for the performance and completion of ESAs (CSA 2012). Based on the results of the ESA, WPC is unaware of any historical environmental contamination associated with the project site. AAI has reviewed the databases and has confirmed that there are no records of spills on the project site and no hazardous waste storage facilities on the project site.

20.4 Construction and Operating Permitting

Following Environmental Assessment approval, proponents are required to acquire construction and operating permits from several regulatory agencies in Saskatchewan.

At the Municipal level, the RM of Lajord requires an application to construct buildings in the RM. WPC has initiated the application process in a phased approach. Applications have been submitted for building pilings and concrete (grade beam and slab) works. The RM has issued several permits for the piling and concrete construction, as well as building permits for the Phase I buildings, including the site administration office complex.

As reported in the 2015 TR (Hambley et al. 2015), construction and operating approvals are required for certain parts of the operation. The majority of environmental project permitting requirements for potash developments in Saskatchewan fall mainly under the authority of the Saskatchewan *Environmental Protection Act* (EMPA) (SMoE 2002). Specifically, the *Mineral Industry Environmental Protection Regulations* ("The Regulations") (SMoE 1996) specify that permits are required for certain activities during construction, operations, and closure phases of a mining project.

An approval to construct a "Pollutant Control Facility" is required under Section 6 of the *Mineral Industry Environmental Protection Regulations* (SMoE 1996). A person who wishes to construct, install, alter, extend, operate or temporarily close a pollutant control facility or decommission and reclaim a mining site shall meet the requirements of and obtain the approvals outlined in Sections 5 and 6 (construction) and Sections 7–10 (operation) of *Mineral Industry Environmental Protection Regulations*.

The majority of the construction permits have been issued by the Ministry of Environment for the Phase I Development including civil earthworks, the crystallization pond, building containment, process for the process plant, reagent storage, and equipment. With approvals from the Ministry of Energy and Resources for wells and drilling. Additional permits will be obtained prior to restart of construction.

Approval to Operate a Pollutant Control Facility was issued September 2019 and amended and renewed to include Hot Mining April 2020 and again updated in April 2021. As part of this approval to operate there are monthly, annual and 5-yearly reporting commitments, including inspection, testing and performance reports as detailed in the approvals and require the D&R plan below.

The Saskatchewan Water Security Agency (WSA) issues all permits and approvals for the construction and operation of water-related facilities. WPC has acquired approval from WSA for the construction and operation of the Phase I water well which was constructed in July 2018, and the water conveyance pipeline from the water well to the Phase I site. In addition, WSA has issued an allocation permit to WPC for groundwater withdrawal and use. The current allocation allows 500,000 m^3/yr.

Utilities for the Phase I development were constructed by the respective utility companies in Saskatchewan—SaskEnergy/TransGas for natural gas, SaskPower for electricity, and SaskTel for fiber optic. All utility permitting was completed by the respective utility providers.

20.5 Decommissioning and Reclamation

Saskatchewan mining operators are required to provide a conceptual Decommissioning & Reclamation Plan (D&R Plan) to SMoE. The D&R plan is a *requirement of the Operating Approval* and is described in Section 12 of the *Mineral Industry Environmental Protection Regulations*.

WPC has prepared a D&R plan for the Phase I Project based on facilities on site as of the end of August 2019, which covered the civil works, wells and well-pads and infrastructure, and was updated in April 2021 to include pump house, process plant e-houses and associated equipment and material. The D&R Plan will be updated periodically to reflect the construction progress at the site. A requirement of the D&R Plan is to provide the Government of Saskatchewan with a Financial Assurance bond to cover the estimated costs of the D&R Plan. This Financial Assurance is used to decommission and reclaim the site in the event WPC cannot meet its long-term decommissioning and reclamation obligations. All mineral operations in Saskatchewan are required to provide an approved D&R Plan and associated financial assurance. The D&R bond is current until December 31, 2021 and will be updated accordingly.

20.6 Project Impacts and Mitigation

Potential environmental impacts resulting from the Phase I Project are documented in WPC's (2015b; 2017) Project Description submissions to SMoE. Extensive environmental and socio-economic baseline information and analysis have been provided in the EIS (Golder Associates Ltd. 2012).

21. Capital and Operating Costs

21.1 Capital Cost Estimate

The total CAPEX for the Phase I Project using a crystallization pond is estimated to be $CAD149.5M with an accuracy in the range of -10/+20%, which corresponds to AACE International Class 3.

The CAPEX quoted above consists of actual costs incurred to date of approximately $CAD116.2M and an estimate to complete of approximately $CAD33.2M. Actual costs were provided by WPC. The information provided by WPC was not audited.

The scope of work remaining to be completed was based on onsite visual inspections by March.

All process, mechanical, electrical and instrumentation equipment and bulk materials have been purchased. It is assumed that the remaining plant and other site construction will be performed by a single general contractor under the supervision of a construction management contractor. Labour costs were based on actual hourly labour rates provided by the contractor that performed the majority of the work to date.

Owner’s costs were provided by WPC. EPCM and third-party consultant costs were estimated by March.

Table 21.1 summarizes the CAPEX by direct and indirect capital costs and actual and estimated costs to complete.

Table 21.2 summarizes the CAPEX by direct and indirect capital costs and by previous estimated cost and current estimated cost.

Table 21.1. Breakdown of Capital Costs by Actual and Estimate to Complete (March 2021)

Description	**Actual Cost To-date** (k$CAD)	**Estimate to Complete Cost** (k$CAD)	**Total Cost** (k$CAD)
General	562	-	562
Mining	22,593	1,006	23,600
Site General	5,193	304	5,498
Process	27,478	12,977	40,454
Brine/Brine Injection	599	5,802	6,401
Utilities	20,989	339	21,329
Admin Building	576	2	578
Off-site Facilities	11,864	-	11,864
Total Direct Field Costs	89,855	20,431	110,286
Indirect Field Costs	6,990	6,270	13,260
Non-field Costs	8,246	398	8,644
Owner's Costs	5,613	1,196	6,809
PST	5,040	1,698	6,737
Contingency	500	3,214	3,714
TOTAL CAPEX	116,243	33,207	149,451

Table 21.2. Breakdown of Capital Costs for Previous and Current Estimate (March 2021)

Description	**Previous Total Estimated Cost** (k$CAD)	**Current Total Estimated Cost** (k$CAD)	**Variance** (k$CAD)
General		562	(562)
Mining	33,087	28,398	4,689
Site General	8,309	5,498	2,811
Process	37,591	40,454	(2,863)
Brine/Brine Injection		6,401	(6,401)
Utilities	16,021	16,531	(510)
Admin Building	493	578	(85)
Off-site Facilities	11,593	11,864	(271)
Total Direct Field Costs	107,094	110,286	(3,192)
Indirect Field Costs	2,745	13,260	(10,515)
Non-field Costs	9,891	8,644	1,247
Owner's Costs	4,635	6,809	(2,174)
PST	4,354	6,737	(2,383)
Contingency		3,713	(3,713)
TOTAL CAPEX	128,719	149,451	(20,732)

21.1 Operating Cost Estimate

The total annual OPEX for the Phase I Project with a crystallization pond was estimated at $CAD13.25M per year (excluding logistics and royalties) or $CAD90.60/t MOP for 146,000 tpa. Hourly unit costs were converted to annual costs assuming 7,800 operating hours per year. OPEX consists of both fixed costs that are independent of production capacity and variable costs that are dependent on production rates.

Fixed OPEX are the costs associated with nominal capacity, including labor and maintenance supplies. Annual maintenance material costs were estimated as 1.0% of the direct capital cost.

Variable OPEX are dependent on production rates and include power, energy, wellfield consumables, diesel and propane fuel, and reagents. The power consumption estimate was based on an assumed electrical load of 4.3 MW at a cost of $0.0690 per kilowatt-hour (kW-h).

Natural gas consumption was based on assumed energy loads for the brine heating system and rotary product dryer. It is assumed that the brine heating system will operate for 6,024 hours per year at an average consumption rate of 78.5GJ/h. The process plant is assumed to operate for 7,440 per year at an average consumption rate of 11.63GJ/h. An assumed natural gas price of $CAD3.917/GJ was used as the basis for natural gas costs. Natural gas for building heating is assumed to be minimal and was excluded. Any significant changes in natural gas price will directly affect OPEX as natural gas cost is a significant portion of OPEX.

The significant reagents are water-treatment chemicals, lab chemicals and dedusting oil, and anti-caking agents applied to the finished product before shipping to prevent degradation during transportation. Wellfield OPEX include allowances for directly paid personnel, power, and maintenance material.

Workovers, which consist of operations where the wellhead is removed to conduct interventions such as perforating, submersible pump installation, casing cutting, or tubing replacement and then later replaced before production operations are resumed, were included as Sustaining CAPEX improvements.

The estimated annual OPEX are summarized in Table 21.3. Note that Sustaining CAPEX costs are excluded from the OPEX and are instead covered within the project cash flow, which is discussed in Section 22.

The increase in OPEX when compared to the previous report is in the areas of labour, maintenance and repairs, natural gas and reagents. The increases are due to escalation of prices in the period leading up to this report as well as WPC’s experience with operating the three preliminary caverns for 18 months.

Table 21.3. Operating Cost Breakdown

Cost Category	($CAD)	($CAD/t)
Labour	4,852,093	33.23
Maintenance & Repairs	962,496	6.43
Power	2,545,933	17.44
Natural Gas	3,388,661	23.21
Reagents	604,221	4.14
Diesel Fuel	137,100	0.94
Consumables	285,464	1.96
Wellfield Operation	475,503	3.26
Site OPEX	13,251,470	90.60

Excludes Capitalized Development

22. Economic Analysis

The results of the economic analysis discussed in this section represent forward-looking information as defined under Canadian securities law. The results depend on inputs that are subject to known and unknown risks, uncertainties, and other factors that may cause actual results to differ materially from those presented here. Such risks include commodity price, exchange rate, and availability of port capacity, rail, water, and project financing.

22.1 Inputs to the Financial Model

22.1.1 Basic Inputs

An after-tax economic analysis was performed for the Phase I Project, assuming a 40 year mine life with the first six caverns mined out and replaced by six new caverns in Year 7 and every 6 years following. The economic analysis considered the following parameters:

- Annual production capacity of 146,000 t granular MOP
- Potash price of US$415/t net price at mine gate after transportation to the US Cornbelt
- CAPEX of $CAD149.5M, including $116.2M already completed and $33.2M remaining to be completed
- OPEX of $CAD90.60/t MOP (excluding G&A, sustaining capital, logistics, and royalties)
- CAD/US exchange rate of 1.27
- Accuracy = -10/+20%
- Operating mine life of 40 years commencing in 2022
- Sustaining capital of $CAD235.6M over the life of the mine for cavern development and related infrastructure.
- Decommissioning and reclamation costs of $CAD48.1M.
- Taxes and royalties included

22.1.2 Taxes and Royalties

Four taxes were included in the cash flow. In addition to corporate income tax, WPC is subject to three specific resource taxes. (Note that all references to specific fees in this subsection are in Canadian dollars.) Saskatchewan's general tax rate on corporate taxable income is 12%. Under the Potash Production Tax Schedule of the Saskatchewan *Mineral Taxation Act*, 1983 (Saskatchewan Ministry of Energy and Resources 2021) and the Potash Production Tax Regulations (Saskatchewan Ministry of Energy and Resources 2017), there are three taxes that apply to the Milestone Project:

- Base Payment Production Tax
- Profit Tax
- Royalties

The Base Payment is a monthly payment based on estimated sales for the year, with a minimum rate of $CAD11.00/t and a maximum rate of $CAD12.33/t sold of K_2O depending on potash grade.

The Profit Tax is a progressive payment based on net profit from mine operation, with the rate of tax based on per tonne profit, net of base payments, corporate allowance (currently 2%), corporate office incentive, depreciation allowance (120% on new capital expenditures in excess of 90% of a company's 2002 capital expenditures depreciated at a rate of 35%), loss carry-forward (to a maximum of 5 years), research and development tax credit (40% of approved expenditure), and royalties. The profit tax rate payable in 2021 is 15% on profit up to $CAD71.36/t of K_2O and 35% for profit over $CAD71.36/t of K_2O. The tonnes subject to the profit tax are 35% of the producer's sales in the year.

Royalties payable to the province of Saskatchewan under *The Subsurface Mineral Royalty Regulations* (Saskatchewan Ministry of Energy and Resources 2017) are 3% of the sale value (US$ FOB mine gate) based on the average price realized from sales during the year. Royalty rates in respect of production from Freehold subsurface mineral leases will reflect the same level as those paid for production from Crown lands.

Mining activities are also subject to the federal goods and services tax (GST) and provincial sales tax (PST), less applicable allowances, credits, and deductions. Saskatchewan applies a 3% resource surcharge based on the value of fiscal-year resource sales, including potash, oil, natural gas, uranium and coal, for companies with gross assets of $CAD100M or more (as determined by its balance sheet for income tax purposes) and a positive taxable paid-up capital balance. In the case of potash, the value of resource sales (gross revenue) is determined by Section 5 of The Potash Production Tax Regulations (Saskatchewan Ministry of Energy and Resources 2017).

22.2 Cash Flow and Financial Valuation Analysis

The Milestone Project was evaluated using a nominal discounted cash flow (DCF) analysis. Revenues and costs were not inflated. Cash outflows such as capital, operating costs, taxes, and royalties were subtracted from the inflows to arrive at the annual cash flow projections. Annual net cash flow (NCF) projections were discounted back to the project valuation date using an assumed nominal discount rate of 8%. The discounted present values of the cash flows were summed to arrive at the Project's NPV. The cash flows for the first 12-years production life of the Phase I Project are summarized in Table 22.1. The cash flows for the full production life of the Phase I Project are included in Appendix A.

Table 22.1. Annual Cash Flows for the Phase I Project (2021 to 2035)

	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14
	2021	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Revenue															
Sale Price $USD/tonne		648	435	419	415	415	415	415	415	415	415	415	415	415	415
Exchange Rate		1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27
Sale Price $CAD/tonne		823	552	532	527	527	527	527	527	527	527	527	527	527	527
Tonnes Sold		-	113,568	146,003	146,003	146,003	146,003	146,003	146,003	146,003	146,003	146,003	146,003	146,003	146,003
Gross revenue	**-**	**-**	**62,682,949**	**77,729,661**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**
Operational Expenditure															
Site Opex		(4,902,569)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)
G & A OpEx		(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)
Annual Repairs & Maintenance OpEx		-	(906,543)	(906,543)	(906,543)	(920,566)	(906,543)	(1,011,543)	(911,543)	(911,543)	(925,566)	(1,061,543)	(911,543)	(1,016,543)	(916,543)
Closure Costs		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		**(6,104,469)**	**(14,397,417)**	**(14,397,417)**	**(14,397,417)**	**(14,411,440)**	**(14,397,417)**	**(14,502,417)**	**(14,402,417)**	**(14,402,417)**	**(14,416,440)**	**(14,552,417)**	**(14,402,417)**	**(14,507,417)**	**(14,407,417)**
Royalty and Potash Tax															
Royalty and resource surcharge		-	(3,760,977)	(4,663,780)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)
Potash Production Tax		-	(789,150)	(1,014,531)	(3,054,574)	(8,831,382)	(10,692,060)	(11,953,158)	(10,087,269)	(11,356,537)	(11,681,852)	(12,413,205)	(13,035,424)	(13,451,570)	(10,874,398)
Total		**-**	**(4,550,127)**	**(5,678,311)**	**(7,669,402)**	**(13,446,210)**	**(15,306,888)**	**(16,567,986)**	**(14,702,097)**	**(15,971,364)**	**(16,296,680)**	**(17,028,033)**	**(17,650,252)**	**(18,066,398)**	**(15,489,226)**
Operating Cashflows		**(6,104,469)**	**43,735,405**	**57,653,934**	**54,846,977**	**49,056,147**	**47,209,492**	**45,843,394**	**47,809,283**	**46,540,015**	**46,200,677**	**45,333,346**	**44,861,128**	**44,339,982**	**47,017,154**
Capital Expenditure															
Initial Capital Expenditure	(116,243,441)	(33,207,195)													
Sustaining CAPEX	-	(1,998,169)	(14,425,188)	(5,902,379)	(2,180,841)	(508,395)	(22,000)	(25,933,174)	(1,988,429)	(6,829,247)	(1,778,820)	(220,374)	(257,000)	(27,738,133)	(685,541)
Total	**(116,243,441)**	**(35,205,364)**	**(14,425,188)**	**(5,902,379)**	**(2,180,841)**	**(508,395)**	**(22,000)**	**(25,933,174)**	**(1,988,429)**	**(6,829,247)**	**(1,778,820)**	**(220,374)**	**(257,000)**	**(27,738,133)**	**(685,541)**
Pre-tax Project Cashflow	**(116,243,441)**	**(41,309,833)**	**29,310,218**	**51,751,555**	**52,666,137**	**48,547,752**	**47,187,492**	**19,910,220**	**45,820,853**	**39,710,769**	**44,421,857**	**45,112,973**	**44,604,128**	**16,601,849**	**46,331,613**
Income tax	-	-	-	-	-	(2,880,397)	(9,159,731)	(7,770,773)	(9,480,164)	(9,589,277)	(10,226,797)	(10,663,314)	(10,936,136)	(8,906,379)	(10,451,298)
After-tax Project Cashflow	**(116,243,441)**	**(41,309,833)**	**29,310,218**	**51,751,555**	**52,666,137**	**45,667,355**	**38,027,761**	**12,139,447**	**36,340,689**	**30,121,492**	**34,195,060**	**34,449,659**	**33,667,992**	**7,695,470**	**35,880,315**

The studies for the Phase I Project yielded a positive economic analysis with an after-tax NPV (at an 8% discount rate) of $CAD197.7M and an IRR of 20.4%.

Table 22.2. Pre and Post Tax Base Case Economic Results

	Pre-Tax*	Post-Tax
NPV	$273,292,614	$197,667,136
IRR	22.7%	20.4%

There is no certainty that the Project economics will be realized.
**Pre-tax amounts include the Saskatchewan Potash Production Tax and do not include corporate income taxes. The Saskatchewan Potash Production Tax calculated for the project does not include the 40% R&D incentive tax announced by the Government of Saskatchewan on December 7, 2020.*

22.3 Sensitivity Analysis and Risks

A sensitivity analysis was performed on the economic analysis taking into account variations in operational factors such as the potash price, exchange rate, discount rate, OPEX, and CAPEX (including sustaining capital). Analysis shows that the Phase I Project is most sensitive to changes in potash price and exchange rate, as this directly affects the revenue stream. A significant change in potash price or exchange rate will impact the project economics accordingly. The project is less sensitive to changes in capital expenditure (including sustaining CAPEX) than to changes in potash price with operating cost being least sensitive. The sensitivity to changes in CAPEX is due to the remaining up-front capital investment required and sustaining CAPEX costs. Sensitivity of NPV to various discount rates recognizes the impact of project risk, potential financing decisions, and fundamental interest rate direction. Table 22.3 and Table 22.4 presents the key economic sensitivities of the Phase I Project. Because the analysis is based on a cash flow estimate, actual financial results may vary from these predictions.

Table 22.3. Investment Return Sensitivity to Key Factors

Key Factor Sensitivity Analysis	Post Tax	
	NPV8	IRR
Base Case	$197,667,136	20.4%
Price +20%	$278,227,186	24.7%
Price -20%	$115,088,172	15.5%
Exchange Rate +5%	$217,770,455	21.5%
Exchange Rate -5%	$177,519,399	19.2%
CAPEX (including Sustaining CAPEX) +10%	$183,395,237	18.6%
CAPEX (including Sustaining CAPEX) -10%	$211,859,749	22.4%
OPEX +10%	$188,899,448	19.8%
OPEX -10%	$206,415,310	20.9%

Table 22.4. Discount Rate Sensitivity Analysis

Discount Rate Sensitivity Analysis	Post Tax
	NPV
10%	$135,723,869
8% (Base Case)	$197,667,136
6%	$288,462,752

23. Adjacent Properties

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Lease KLSA 008 is bordered to the south by unpermitted land, to the east by Lease KL 262 (formerly Permit KP 405) held by CanPacific Potash, a joint venture between North Atlantic Potash Inc. (a subsidiary of JSC Acron) and Rio Tinto; to the north by Permit KPSA 001 held by K+S Potash Canada, Permit KP 353 held by BHP Billiton Diamonds Inc. and Lease KL 227 (formerly Permit KP 336) held by Mosaic Potash (and prior to 2018 by Vale) as the Kronau Project; and to the west by unpermitted land. From 2008 to 2018, previous permit holders Vale and Kennecott drilled more than 20 drillholes that penetrate the Prairie Evaporite Formation on Lease KL 227. From 2011 to 2018, Rio Tinto and its successor joint-venture company CanPacific Potash, drilled 14 holes on Lease KL 263. Information on the potash thicknesses and grades encountered in the Mosaic and CanPacific holes and on the results of any studies on those properties is confidential. The locations of the adjacent permits are shown on Figure 23-1.

The plant site of the Belle Plaine solution mine operated by Mosaic is approximately 70 km northwest of the estimated center point of KLSA 008. This mine has been in operation since the early 1960s and currently produces 3.0 Mtpa of KCl (Mosaic 2018). Mosaic announced plans to expand its production capacity at Belle Plaine by 1.5 Mtpa sometime after 2018 (Mosaic 2012); however, because of the current low demand and low price, Mosaic has instituted layoffs at Colonsay to focus on its K3 Esterhazy project and expansion at Belle Plaine has not been mentioned recently.

The Legacy solution mine of K+S Potash Canada Ltd. (K+S) is located immediately north of Mosaic's Belle Plaine Mine and approximately 90 km northwest of the center point of KLSA 008. The Legacy Mine is expected to produce 1.6 Mt in 2019 (Argus Media 2019).

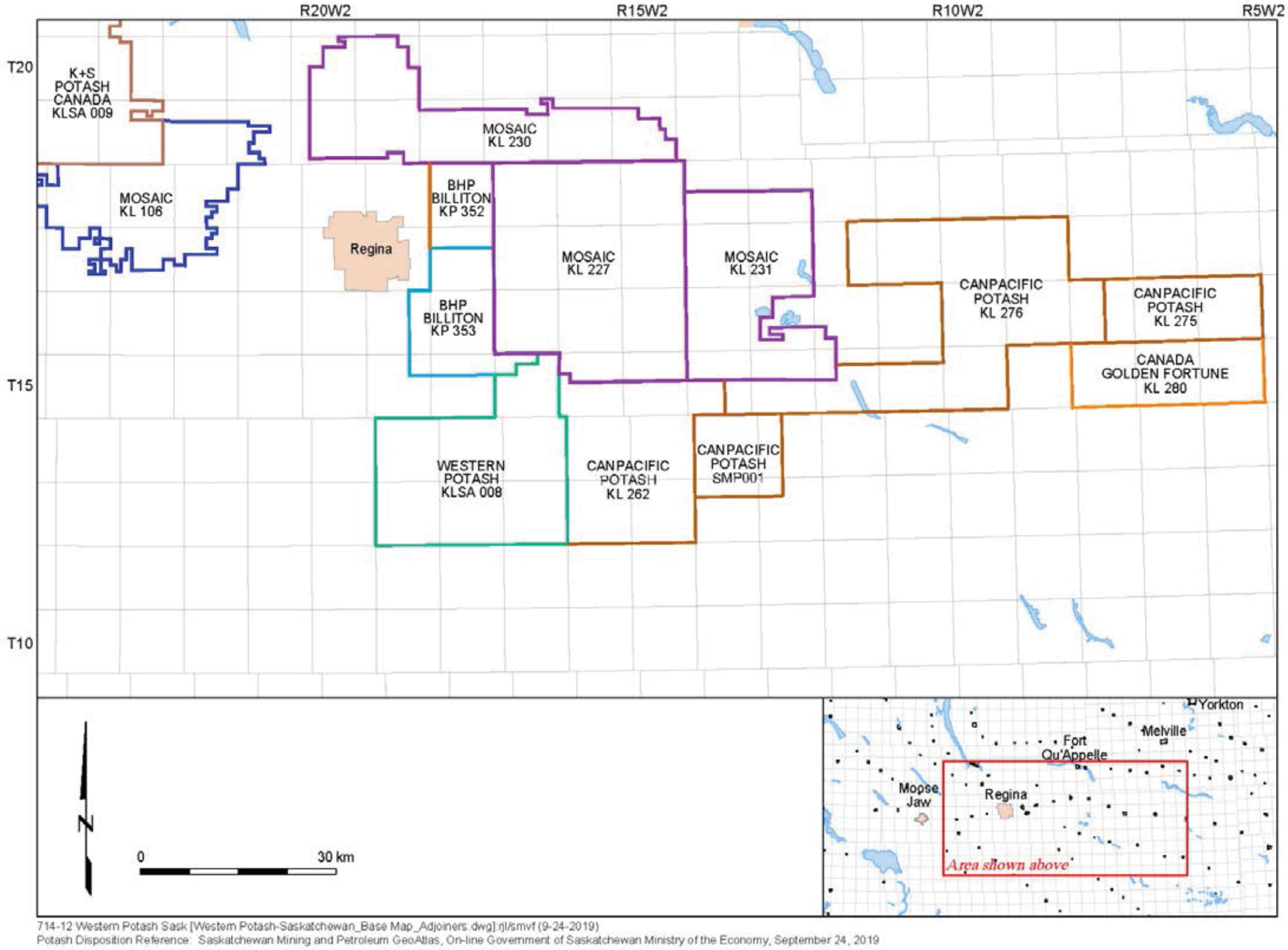

Figure 23-1. Adjacent Properties

24. Other Relevant Data and Information

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24.1 Potash Grade

Potash (MOP) is commonly marketed for fertilizer as K60, which is defined as potash with 60% K_2O content. Pure KCl contains 63% K_2O (or K63) so that to be sold as K60, MOP must have a KCl content equal to or greater than 95%. This product is known as “fertilizer grade.” The remaining 5% content of K60 is NaCl and other impurities. Resources can be specified as tonnes KCl or tonnes K60. To convert tonnes KCl to tonnes K60, multiply by 1.0526.

Potash producers may opt to produce potash that is purer than K60, especially if their processing plants have evaporator/crystallizer units. In many markets, a coarser product known as “granular product” is preferred. Granular is marketed as K60, which contains 60% K_2O or 95% KCl. To convert from any K_2O content to %KCl, divide by 0.6317.

In comparing plant capacity with the resources to estimate the life of mine, the resource tonnes must be divided by the plant capacity in tonnes of KCl per year.

24.2 Risk Register

A risk register was developed as a joint effort between WPC, AAI, and SNCL based on a risk register list prepared by AMEC Foster Wheeler. This risk register document is a live document and updated monthly after review at the monthly Project Meeting.

At the end of the review, 51 risks had been identified and assessed for probability and impact ratings. The rating scales for probability and impact levels are presented in Table 24.1 and Table 24.2, respectively. Based on the product of the probability and impact ratings, risks were classified into five categories, as defined in Table 24.3. Only risks that were categorized as medium or higher were further investigated, as low risk items were deemed to be acceptable.

Table 24.1. Probability Level Definitions

Probability Level	Subjective Description	Probability of Occurrence
1	Improbable	<10%
2	Unlikely to happen	25%
3	It could happen	50%
4	Highly likely	75%
5	Highly probable	>90%

Table 24.2. Impact Definitions

Issue	Impact Level				
	1	2	3	4	5
Cost ($CAD)	Negligible (<50 k)	Low ($50-$500 k)	Moderate ($500-$5M)	High ($5M-30M)	Extreme (>$30M)
Performance	Little or no consequence	Minor incident, easily and predictable remediated	Moderate event	Significant event, addressed with great effort	Major uncontrolled event, costly remediation
Schedule	No project delay	Project delayed but not extensively	Delay is a concern but no impact to overall project viability	Delay creates serious project viability concerns	Project delayed indefinitely
Safety and Health	First aid case, no significant injuries or lost time	Medical treatment, no permanent disabilities	Lost time injury with potential for permanent injury	Single fatality or permanent disability	Many fatalities or long term disabilities where the company is found responsible
Reputation	Minor of no inconvenience to the community in affected area	Public disturbance in affected community	Limited local media attention and/or public disturbance in affected area	National headlines, serious community relations impact	International headlines, disastrous community relations
Permitting Compliance	No impact on process but regulator could require action, monitored by company management	Process continues but regulator required action, non-compliance monitored by 3rd party	Process continues but regulator required cation, violation of regulations, reportable incident, legal issues	Regulatory approval withdrawn for significant period, violation of regulations, legal issues with fines	Regulatory approval withdrawn indefinitely, violation of regulations, legal issues with fines
Environment	Negligible or very minor local and short-term effect	Minor local short-term impact, damage is reversible	Local short-term effect with no potential widespread impact, damage is reversible	High local impact with potential for widespread impact, extensive but reversible damage	Extreme regional and long term effect or potential widespread impact, damage is irreversible

Table 24.3. Risk Categories

Compound Risk Score (probability x impact)	Quantitative Risk Level
0 to 5	Very Low
6 to 10	Low
11 to 15	Medium
16 to20	High
21 to 25	Very High

The results of the risk assessment and mitigations were as follows:

- One item was identified as a very high risk at the beginning, regarding supply of water to the site. The risk was removed from the risk register when WPC successfully drilled a water well with a great result in the quantity and quality of the water.
- Six items were classified as high risk.
- There were eleven medium risks. Four of them are closed and seven items remain classified as a medium risk.

The risks and their mitigations are presented in Table 24.4.

Table 24.4. Risk Register

Risk Description	Classification	Proposed Strategies/Actions	Status
Risk of not being able to secure adequate water supply for cavern development because if no nearby surface water supply and cost of developing groundwater. This may lead to additional costs to develop the closest nearby water supply	Very High	The trade-off study evaluated three water options Regina, Wascana Creek and local wells. A well has been drilled in Section 34, Township 13, range 17 West of the Second Meridian and the pipeline connecting it to the site is under construction. The well is screened across the Viking Formation and Mannville Group.	Closed
Risk of lower that anticipated potash recovery rates and/or higher than anticipated NaCL concentrations in the produced brine chemistry because of trouble controlling injection brine chemistry or temperature. This could lead to reduced potash recovery	High	Mitigation strategy. Ongoing solubility testing is designated to provide data on the solubility rate and brine concentration. These (This?) data will be input into the cavern mining model to allow optimization of the location of the injection points and the duration between moves of the injection points. The flow rate can be adjusted downward to achieve the desired brine concentration. This	Acceptable

Risk Description	Classification	Proposed Strategies/Actions	Status
		could lead to a reduction in potash production; an additional well can be constructed to maintain the desired potash production.	
Risk of higher than anticipated OPEX and CAPEX because of expectations developed regarding OPEX and CAPEX based on Novopro's Scoping Study. Higher than anticipated OPEX or CAPEX may lead to delays in decisions to build the project	High	SNCL has notified WPC of all changes to the December 2016 CAPEX estimate as they have been found. Key quantities are being evaluated on an ongoing basis to help identify trends.	Acceptable
Difficulty maintaining flow in caverns because of underground conditions. This can affect production plan and cavern life	High	If life of a cavern is reduced, drilling of an additional withdrawal points is included to mitigate the risk. Details of additional mitigations procedures are required (directional flow, fresh water flushing, moving casing). In the extreme case extra horizontal wells might need to be drilled.	Not Desirable
Risk that road bans restrict truck transport of product so that CN unable product offsite.	High	The RM of Lajord typically has a six week road ban in the spring each year. WPC will not be able to ship product during that time, but will still be able to access the site. As such WPC has designed the process such that the mining side operates year round, but the processing side and the loadout portion will have a six-week maintenance shutdown each spring. WPC will still be able to mine potash from the wells and build up a bed of potash in the pond, but will not harvest or ship product during that six week window	Very Low
Risk that WPC may experience difficulties in shipping product off site and reaching desired markets because there is currently no rail service to the site and given the low volumes (146 ktpa), there would be logistical problems for storage at a port.	Medium	Using smaller shipping containers rather than bulk loading into ships allows for much more flexibility in shipping -- smaller loads of potash can be sent overseas without having to wait for a full ship and paying high storage rates at the port.	Closed

Risk Description	Classification	Proposed Strategies/Actions	Status
Need to build a large water pond on site to be ready for filling by spring 2017. If the pond is not complete in time, then the project will be delayed one year.	Medium	This is no longer an issue because a well in the Mannville was selected for the water source; a large storage pond is not needed	Closed
Risk that drilling costs increase because of an increase in wells resulting in and increase in CAPEX	Medium	To select a rich experienced drilling management contractor to help WPC for technical review of the proposals and manage the drilling better. Selection of directional driller is key to save the cost and improve the quality	Acceptable
Risk that recovery brine has lower KCl concentration that expected. This can affect production rate.	Medium	It is duplicate with one high risk	Closed
Risk that drilling cannot follow the potash bed resulting in a large section of the horizontal well being at mid-height of the target bed. This will sterilize resource.	Medium	Have the drilling contractor use the best available technology to monitor gamma emissions near the drill bit while drilling (MWD) to estimate the potash content at the drilling horizon. This allows the drill operation to position the drill at the base of the potash bed.	Acceptable
Risk that CN goes on strike resulting in a plant shutdown.	Medium	CN no longer in project scope for shipment.	Closed
Risk that a road maintenance agreement will need to be in place to account for the 25-30 trucks per day coming to the site, therefore increasing the OPEX.	Medium	Work with the RM early to develop a maintenance program.	Acceptable
Risk that the brine lines to/from the wellfield have a small leak resulting in an environmental spill.	Medium	Prekrete has been specified as the lining material for brine pipelines.	Very Low Risk
Risk that second-stage heat exchanger plugs because of crystallization, resulting in mining shut down.	Medium	Consider changing brine heading technology process to lower this risk.	Acceptable
In-situ grade lower or variability higher than indicated from exploration drilling. This can cause variable brine grade which results in lower production.	Medium	Confirm with horizontal drill logging; establish cold and hot mining early in project execution.	Not Desirable
Cavern development time longer than expected because brine grade does not increase as expected, resulting in a delay in production startup.	Medium	Establish cold and hot mining early in project execution.	Not Desirable

25. Interpretation and Conclusions

25.1 Mineral Resource Estimates

The Measured, Indicated, and Inferred Mineral Resources have been classified based on the volume of potash in a cylinder centered on each available cored and assayed drillhole with the following ROI used for classification:

- Measured - 800 m
- Indicated - 2,500 m
- Inferred - 6,000 m

Further deductions for unseen/unknown anomalies were made. Deductions for Measured and Indicated were reduced based on the results of the 3D seismic within the unitized area.

- Measured – 5%
- Indicated – 9%
- Inferred – 25%

The areas around M 001, M 002, and M 002A, M003 through M 009, and W 001-2 are classified as Measured and Indicated Mineral Resources. The areas beyond the ROI for Indicated Resources are classified as Inferred Mineral Resources. *Measured and Indicated Mineral Resources are inclusive of Proven and Probable Mineral Reserves.*

To estimate the potential extent, grade, and tonnage of the potash Mineral Resource, the following assumptions were employed:

- K_2O cut off grade of 15%
- No carnallite cut-off
- No insoluble cut-off
- No thickness cut-off

The Phase I Project is based on Mineral Resources in the Patience Lake, Belle Plaine, and Esterhazy Members within lease KLSA 008.

- A Measured Resource of 87.2 MMT grading 20.9% K_2O
- An Indicated Resource of 483.9 MMT grading 21.0% K_2O
- An Inferred Resource of 553.1 MMT grading 21.5%% K_2O

Measured, Indicated, and Inferred Mineral Resources are not discounted by modifying factors to account for losses associated with the brine leakage, brine remaining in the cavern, or plant and transport losses.

No additional resource definition work is necessary to support the current mine plan.

25.2 Mineral Reserves

Based on the favorable economics for the Phase I Project, Proven and Probable Mineral Reserves have been declared for the Unitized Area, which consists of horizontal caverns sited in the Belle Plaine and Patience Lake Members of the Prairie Evaporite. The Proven and Probable Mineral Reserves are as follows.

- Proven Mineral Reserves of 11.67 MMT of KCl
- Probable Mineral Reserves of 19.48 MMT of KCl

These reserves represent 6 caverns operating at one time over a 40 year mine life. Reserves account for extraction ratios, unknown anomalies (5% for proven and 9% for probable), and cavern (90%) and plant (95%) recoveries.

Total reserves within the unitized area represent a potential mine life exceeding 200 years at the planned production rate of 146,000 tpa.

25.3 Project Economics

The actual CAPEX allocated to the Phase I Project to date is $116.24M and a further $33.21M is needed to complete the Project and bring the plant into production, resulting in a total Phase I Project CAPEX of $149.45M (including a 12.5% contingency on the remaining CAPEX). This estimate adopts the AACE (Association for the Advancement of Cost Engineering) International Class 3 standard.

The total annual OPEX for the Phase I Project, based on operational data from the pilot phase, is estimated at $CAD13.25M per year (excluding G&A, logistics and royalties) or $CAD90.60/t MOP for 146,000 tpa. Sustaining CAPEX consists mainly of expanding the wellfield (drilling, piping and infrastructure) and planned equipment maintenance. Sustaining CAPEX includes approximately $32M every six years to expand the wellfield for ongoing production.

Assuming a nominal discount rate of 8%, the economic analysis yields an after-tax project Net Present Value (NPV) of $CAD197.7M, with an Internal Rate of Return (IRR) of 20.4%, based on the assumption of 100% equity investment and potash price of $US415/t ($CAD527/t) FOB mine gate. This price is the net price to Western Potash for local sales at US Cornbelt after deducting forecasted freight costs from the mine. Costs are given in Canadian dollars ($CAD) and prices are given in United States dollars ($US), with an assumed exchange rate of $US 1 = $CAD 1.27. Inflation has not been applied to the potash price or future costs with the noted potash price assumed to apply from 2025 to the end of project life.

26. Recommendations

The recommendation is to continue the Milestone Project execution including:

- Complete the construction of Mechanical Piping, Electrical, and Instrumentation (MPEI) to complete the Phase I facility.

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28. Date and Signature

The effective date of this TR is 23 December 2021. This TR has been dated, signed, and sealed by the undersigned this 23rd day of December 2021.

Respectfully submitted,

"SIGNED AND SEALED"

Louis Fourie, P. Geo.

"SIGNED AND SEALED"

Geoffrey A. Wilkie P.ENG.

"SIGNED AND SEALED"

Jack Nagy P.ENG.

"SIGNED AND SEALED"

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"SIGNED AND SEALED"

Kyle Krushelniski, P.ENG.

28.1 Statement of Certification by Author

I, Louis Fourie, P. Geo., as coauthor of the Technical Report NI 43-101 Technical Report Summarizing Detailed Engineering Design, Milestone Phase I Project, (Subsurface Mineral Lease KLSA 008), Saskatchewan.

Effective Date: 17 December 2021 (the Technical Report) do hereby certify that:

1. I reside at 607 Albert Avenue, Saskatoon, SK, S7N 1G6, Canada.

2. I am Principal of Terra Modelling Services Inc., a firm specializing in geological modelling and mineral resource estimation.

3. I am a graduate of the (University of Johannesburg with a B.Sc. (Hons) in Geology (1996) and a B.Sc. in Geology and Mathematics (1995).

4. I am a Professional Geoscientist licensed by Association of Professional Geoscientists of Saskatchewan (Membership Number 22198). Terra Modelling Services is authorized to practice in Saskatchewan by the Association of Professional Geoscientists of Saskatchewan (Certificate Number 32894).

5. I have practised my profession as a geoscientist since 1996. My experience with potash and related mineral deposits includes:
   a. Modelling the Holbrook Potash Deposit and Estimating the Resource for the same for a Technical Report, as well estimating the Resource used for the PEA of the same.
   b. Modelling the potash deposit and Estimating the Resource of Yancoal Canada Resources' main property in Saskatchewan, as well as Estimating the Resource for use in the Prefeasibility of the same.
   c. Due diligence, modelling and resource estimation of potash and other evaporite deposits, as well as phosphate deposits for a variety of clients (including NI43-303, JORC and independent reviews) in Canada, Spain, the United States, Brazil, Morocco, Mauritania, Republic of the Congo and elsewhere.
   d. Advising clients during the development of their projects, especially at the Exploration Stage, both in potash and other commodities.
   e. Partaking in an underground drilling program and modelling of the same at Agrium's Vanscoy Operations
   f. Technical Reporting, including PEA and Feasibility Studies, of the Gensource Vanguard Project, Saskatchewan
   g. Due diligence review of the Khemisset Potash Deposit, Morocco, with Worley Parsons Canada, for OCP.

6. I have read the definition of "qualified person" set out in the National Instrument 43101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

7. I visited the Milestone Project in October 2021. I have also viewed core pertaining to this project at the Core and Sample Repositories, Subsurface Laboratory, Saskatchewan Geological Survey, Regina, Saskatchewan.

8. I am asserting sole authorship over Sections 14, and am jointly responsible for Sections 7, 8, 10, and 12.

9. I am independent of Western Potash Corp. as described in Section 1.5 of NI 43-101.

10. I have read NI 43-101, Form 43-101F1 and the technical report and have prepared the relevant sections of the technical report in compliance with the standards as pertaining to NI 43-101, Form 43-101F1 and generally accepted Canadian mining industry practice.

11. As of the date of the technical report, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

12. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Report.

13. I also consent to the use of extracts from, or summary of, the Technical Report for use by Western Potash Corporation for disclosure documents. such as news releases. prospectus, AIF, etc.

Dated this 23rd day of December 2021.

"SIGNED AND SEALED"

____

Louis Fourie, P. Geo.

28.2 Statement of Certification by Author

I, Jack Nagy, P.Eng. do hereby certify that:

1. I am a consulting process engineer with Nagy Process Consulting Inc. at its office located at Box 865, Kipling, Saskatchewan and co-author of the report titled "NI 43-101 Technical Report Summarizing Detailed Engineering Design, Milestone Phase I Project, (Subsurface Mineral Lease KLSA 008), Saskatchewan" dated 30 November 2021 and effective as of 23 December 2021 (the "Technical Report"). I am solely responsible for Sections 17, and jointly responsible for Sections 1, 13, 15, 24, 25, and 26 of this Technical Report.

2. I am a member in good standing of the Association of Professional Engineers and Geoscientists of Saskatchewan, being registered as a Professional Engineer (No. 05065) since 1982.

3. I have practiced my profession as a chemical engineer since May 1975. I have been practicing as a consulting engineer since July 2015.

4. I am a graduate of the Faculty of Engineering at University of Saskatchewan and earned a Bachelor of Science degree in Chemical Engineering in May 1975.

5. As a process engineer, I have been involved since 1981 with operation and design of processing plants for potash production in Saskatchewan, Russia, and Jordan.

6. As a result of my experience and qualifications, I am a *Qualified Person a*s defined in National Instrument 43-101.

7. I have no involvement with Subsurface Mineral Lease KLSA 008 or Western Potash Corp. beyond my involvement with the preparation and writing of the Technical Reports. I am independent of the issuer according to the definition of independence presented in Section 1.5 of National Instrument 43-101.

8. I have visited the project site on October 13, 2021.

9. As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, those sections or parts of the Technical Report for which I was responsible contain all scientific and technical information that is required to be disclosed to make those sections or parts of the Technical Report not misleading.

10. I have read National Instrument 43-101 and Form 43-101 F1. This report has been prepared in compliance with these documents to the best of my understanding.

11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their web sites accessible by the public, of the Technical Report.

Dated this 23rd day of December 2021.

"SIGNED AND SEALED"

____
Jack Nagy P.Eng. (Saskatchewan)

28.3 Statement of Certification by Author

I, Geoffrey Wilkie, P.Eng. do hereby certify that:

1. I am a consulting process engineer with CanCost Consulting Inc. at its office located at 1410 13th St. E., Saskatoon, Saskatchewan and co-author of the report titled “NI 43-101 Technical Report Summarizing Detailed Engineering Design, Milestone Phase I Project, (Subsurface Mineral Lease KLSA 008), Saskatchewan” dated 30 November 2021 and effective as of 23 December 2021 (the “Technical Report”). I am solely responsible for Sections 21 and 22 of this Technical Report.

2. I am a member in good standing of the Association of Professional Engineers and Geoscientists of Saskatchewan, being registered as a Professional Engineer (No. 11116) since 1998.

3. I have practiced my profession as a civil engineer since December 1986. I have been practicing as a cost engineering consultant since January 2018.

4. I am a graduate of the Faculty of Engineering at University of British Columbia and earned a Bachelor of Applied Science degree in Civil Engineering in December 1986.

5. As a civil engineer, I have been involved since 1998 with design and estimation of processing plants for potash production in Saskatchewan.

6. As a result of my experience and qualifications, I am a *Qualified Person a*s defined in National Instrument 43-101.

7. I have no involvement with Subsurface Mineral Lease KLSA 008 or Western Potash Corp. beyond my involvement with the preparation and writing of the Technical Reports. I am independent of the issuer according to the definition of independence presented in Section 1.5 of National Instrument 43-101.

8. I have visited the project site on October 13, 2021.

9. As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, those sections or parts of the Technical Report for which I was responsible contain all scientific and technical information that is required to be disclosed to make those sections or parts of the Technical Report not misleading.

10. I have read National Instrument 43-101 and Form 43-101 F1. This report has been prepared in compliance with these documents to the best of my understanding.

11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their web sites accessible by the public, of the Technical Report.

Dated this 23rd day of December 2021.

"SIGNED AND SEALED"

____
Geoffrey Wilkie P.Eng. (Saskatchewan)

28.4 Statement of Certification by Author

I, Latasha McMullen, P.Eng. do hereby certify that:

1. I am the Solution Mining Engineer with Western Potash located at PO Box 246, Kronau, Saskatchewan, Canada, S0G 2T0, co-author of the report titled "NI 43-101 Technical Report Summarizing Detailed Engineering Design, Milestone Phase I Project, (Subsurface Mineral Lease KLSA 008), Saskatchewan" dated 30 November 2021 and effective as of 23 December 2021 (the "Technical Report"). I am responsible for Section 16, and jointly responsible for Sections 10, 13, 18 and 20 of this Technical Report.

2. I am not certifying as an independent qualified person, but in relation to the portion of the project that is in operation (crystallization pond, solution mining and project infrastructure).

3. I joined Western Potash in January 2019 and have been involved the Solution Mining drilling, operation and production.

4. I am a member in good standing of the Professional Engineer (member 15646)

5. I am a graduate of The University of Regina with a Bachelor of Applied Science in Industrial Systems Engineering on May 2008.

6. I have practiced my profession as a solution mining engineer since August 2008.

7. As a solution mining engineer, I have been involved since 2008 with solution mining at three Canadian projects and operations.

8. As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101.

9. As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, those sections or parts of the Technical Report for which I was responsible contain all scientific and technical information that is required to be disclosed to make those sections or parts of the Technical Report not misleading.

10. I have read National Instrument 43-101 and Form 43-101 F1. This report has been prepared in compliance with these documents to the best of my understanding.

11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including

electronic publication in the public company files on their web sites accessible by the public, of the Technical Report.

Dated this 23rd day of December 2021.

"SIGNED AND SEALED"

____
Latasha McMullen P.Eng. (Saskatchewan)

28.0 Statement of Certification by Author

I, Kyle Krushelniski, P.Eng., PMP. do hereby certify that:

1. I am a Senior Project Manager with March Consulting Inc. at its office located at 200 201 21st Street E, Saskatoon Saskatchewan and co-author of the report titled “NI 43-101 Technical Report Summarizing Detailed Engineering Design, Milestone Phase I Project, (Subsurface Mineral Lease KLSA 008), Saskatchewan” dated 25 October 2019 and effective as of 23 December 2021 (the “Technical Report”). I am solely responsible for Sections 2 and 3 and jointly responsible for Sections 1, 7, 13, 15, 18, 25, and 26 of this Technical Report.

2. I am a member in good standing of the Association of Professional Engineers and Geoscientists of Saskatchewan, being registered as a Professional Engineer (No. 09583) since 1999.

3. I have practiced my profession as an Agriculture and Bioresource engineer since May 1996. I have been practicing as a consulting engineer since 2010.

4. I am a graduate of the Faculty of Engineering at University of Saskatchewan and earned a Bachelor of Science degree in Agriculture and Bioresource Engineering in April 1996.

5. As a project engineer, I have been involved since 2006 with studies and design of industrial mining projects including potash production in Saskatchewan.

6. As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101.

7. I have no involvement with Subsurface Mineral Lease KLSA 008 or Western Potash Corp. beyond my involvement with the preparation and writing of the Technical Reports. I am independent of the issuer according to the definition of independence presented in Section 1.5 of National Instrument 43-101.

9. As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, those sections or parts of the Technical Report for which I was responsible contain all scientific and technical information that is required to be disclosed to make those sections or parts of the Technical Report not misleading.

10. I have read National Instrument 43-101 and Form 43-101 F1. This report has been prepared in compliance with these documents to the best of my understanding.

11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic

publication in the public company files on their web sites accessible by the public, of the Technical Report.

Dated this 23rd day of December 2021.

"SIGNED AND SEALED"

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Kyle Krushelniski P.Eng., PMP.

28.6 Statement of Certification by Author

I, Karri Howlett, CFA. do hereby certify that:

1. I am a consulting financial analyst with Karri Howlett Consulting Inc. at its office located at 1028th 10th St. E., Saskatoon, Saskatchewan. I am solely responsible for Section 19 and jointly responsible for Section 22 of this Technical Report.

2. I am a member in good standing of the Chartered Financial Analyst Institute.

3. I have practiced my profession as a financial analyst since September 2003.

4. I am a graduate of the College of Commerce from the University of Saskatchewan in 1997.

5. As a financial analyst, I have been involved since 2011 with financial modeling and due diligence for potash projects.

6. I have no involvement with Subsurface Mineral Lease KLSA 008 or Western Potash Corp. beyond my involvement with the preparation and writing of the Technical Reports.

7. As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, those sections or parts of the Technical Report for which I was responsible contain all financial information that is required to be disclosed to make those sections or parts of the Technical Report not misleading.

8. I have read National Instrument 43-101 and Form 43-101 F1. This report has been prepared in compliance with these documents to the best of my understanding.

9. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their web sites accessible by the public, of the Technical Report.

Dated this 23rd day of December 2021.

"SIGNED AND SEALED"

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Karri Howlett, CFA

APPENDIX A

40 YEAR PROJECT CASHFLOW

40 Year Cashflow	Yr -1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
	2021	**2022**	**2023**	**2024**	**2025**	**2026**
Revenue						
Sale Price $USD/tonne		648	435	419	415	415
Exchange Rate		1.27	1.27	1.27	1.27	1.27
Sale Price $CAD/tonne		823	552	532	527	527
Tonnes Sold		-	113,568	146,003	146,003	146,003
Gross revenue	**-**	**-**	**62,682,949**	**77,729,661**	**76,913,796**	**76,913,796**
Operational Expenditure						
Site Opex		(4,902,569)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)
G & A OpEx		(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)
Annual Repairs & Maintenance OpEx		-	(906,543)	(906,543)	(906,543)	(920,566)
Closure Costs		-	-	-	-	-
Total		**(6,104,469)**	**(14,397,417)**	**(14,397,417)**	**(14,397,417)**	**(14,411,440)**
Royalty and Potash Tax						
Royalty and resource surcharge		-	(3,760,977)	(4,663,780)	(4,614,828)	(4,614,828)
Potash Production Tax		-	(789,150)	(1,014,531)	(3,054,574)	(8,831,382)
Total		**-**	**(4,550,127)**	**(5,678,311)**	**(7,669,402)**	**(13,446,210)**
Operating Cashflows		**(6,104,469)**	**43,735,405**	**57,653,934**	**54,846,977**	**49,056,147**
Capital Expenditure						
Initial Capital Expenditure	(116,243,441)	(33,207,195)				
Sustaining CAPEX	-	(1,998,169)	(14,425,188)	(5,902,379)	(2,180,841)	(508,395)
Total	**(116,243,441)**	**(35,205,364)**	**(14,425,188)**	**(5,902,379)**	**(2,180,841)**	**(508,395)**
Pre-tax Project Cashflow	**(116,243,441)**	**(41,309,833)**	**29,310,218**	**51,751,555**	**52,666,137**	**48,547,752**
Income tax	-	-	-	-	-	(2,880,397)
After-tax Project Cashflow	**(116,243,441)**	**(41,309,833)**	**29,310,218**	**51,751,555**	**52,666,137**	**45,667,355**

PPT: Potash Production Tax levied by Saskatchewan Government

40 Year Cashflow	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12
	2027	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
Revenue							
Sale Price $USD/tonne	415	415	415	415	415	415	415
Exchange Rate	1.27	1.27	1.27	1.27	1.27	1.27	1.27
Sale Price $CAD/tonne	527	527	527	527	527	527	527
Tonnes Sold	146,003	146,003	146,003	146,003	146,003	146,003	146,003
Gross revenue	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**
Operational Expenditure							
Site Opex	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)
G & A OpEx	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)
Annual Repairs & Maintenance OpEx	(906,543)	(1,011,543)	(911,543)	(911,543)	(925,566)	(1,061,543)	(911,543)
Closure Costs	-	-	-	-	-	-	-
Total	**(14,397,417)**	**(14,502,417)**	**(14,402,417)**	**(14,402,417)**	**(14,416,440)**	**(14,552,417)**	**(14,402,417)**
Royalty and Potash Tax							
Royalty and resource surcharge	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)
Potash Production Tax	(10,692,060)	(11,953,158)	(10,087,269)	(11,356,537)	(11,681,852)	(12,413,205)	(13,035,424)
Total	**(15,306,888)**	**(16,567,986)**	**(14,702,097)**	**(15,971,364)**	**(16,296,680)**	**(17,028,033)**	**(17,650,252)**
Operating Cashflows	**47,209,492**	**45,843,394**	**47,809,283**	**46,540,015**	**46,200,677**	**45,333,346**	**44,861,128**
Capital Expenditure							
Initial Capital Expenditure							
Sustaining CAPEX	(22,000)	(25,933,174)	(1,988,429)	(6,829,247)	(1,778,820)	(220,374)	(257,000)
Total	**(22,000)**	**(25,933,174)**	**(1,988,429)**	**(6,829,247)**	**(1,778,820)**	**(220,374)**	**(257,000)**
Pre-tax Project Cashflow	**47,187,492**	**19,910,220**	**45,820,853**	**39,710,769**	**44,421,857**	**45,112,973**	**44,604,128**
Income tax	(9,159,731)	(7,770,773)	(9,480,164)	(9,589,277)	(10,226,797)	(10,663,314)	(10,936,136)
After-tax Project Cashflow	**38,027,761**	**12,139,447**	**36,340,689**	**30,121,492**	**34,195,060**	**34,449,659**	**33,667,992**

PPT: Potash Production Tax levied by Saskatchewan Government

40 Year Cashflow	Yr 13	Yr 14	Yr 15	Yr 16	Yr 17	Yr 18	Yr 19
	2034	2035	2036	2037	2038	2039	2040
Revenue							
Sale Price $USD/tonne	415	415	415	415	415	415	415
Exchange Rate	1.27	1.27	1.27	1.27	1.27	1.27	1.27
Sale Price $CAD/tonne	527	527	527	527	527	527	527
Tonnes Sold	146,003	146,003	146,003	146,003	146,003	146,003	146,003
Gross revenue	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**
Operational Expenditure							
Site Opex	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)
G & A OpEx	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)
Annual Repairs & Maintenance OpEx	(1,016,543)	(916,543)	(930,566)	(1,066,543)	(916,543)	(916,543)	(1,021,543)
Closure Costs	-	-	-	-	-	-	-
Total	**(14,507,417)**	**(14,407,417)**	**(14,421,440)**	**(14,557,417)**	**(14,407,417)**	**(14,407,417)**	**(14,512,417)**
Royalty and Potash Tax							
Royalty and resource surcharge	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)
Potash Production Tax	(13,451,570)	(10,874,398)	(12,002,149)	(12,232,896)	(12,743,515)	(13,228,192)	(13,600,611)
Total	**(18,066,398)**	**(15,489,226)**	**(16,616,977)**	**(16,847,723)**	**(17,358,342)**	**(17,843,019)**	**(18,215,439)**
Operating Cashflows	**44,339,982**	**47,017,154**	**45,875,379**	**45,508,656**	**45,148,037**	**44,663,360**	**44,185,941**
Capital Expenditure							
Initial Capital Expenditure							
Sustaining CAPEX	(27,738,133)	(685,541)	(5,537,358)	(1,907,820)	(577,851)	(22,000)	(24,336,195)
Total	**(27,738,133)**	**(685,541)**	**(5,537,358)**	**(1,907,820)**	**(577,851)**	**(22,000)**	**(24,336,195)**
Pre-tax Project Cashflow	**16,601,849**	**46,331,613**	**40,338,021**	**43,600,836**	**44,570,186**	**44,641,360**	**19,849,746**
Income tax	(8,906,379)	(10,451,298)	(10,348,165)	(10,720,808)	(10,995,130)	(11,197,823)	(9,361,310)
After-tax Project Cashflow	**7,695,470**	**35,880,315**	**29,989,856**	**32,880,028**	**33,575,056**	**33,443,537**	**10,488,437**

PPT: Potash Production Tax levied by Saskatchewan Government

40 Year Cashflow	Yr 20	Yr 21	Yr 22	Yr 23	Yr 24	Yr 25	Yr 26
	2041	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**
Revenue							
Sale Price $USD/tonne	415	415	415	415	415	415	415
Exchange Rate	1.27	1.27	1.27	1.27	1.27	1.27	1.27
Sale Price $CAD/tonne	527	527	527	527	527	527	527
Tonnes Sold	146,003	146,003	146,003	146,003	146,003	146,003	146,003
Gross revenue	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**
Operational Expenditure							
Site Opex	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)
G & A OpEx	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)
Annual Repairs & Maintenance OpEx	(935,566)	(1,071,543)	(921,543)	(921,543)	(921,543)	(1,040,566)	(1,076,543)
Closure Costs	-	-	-	-	-	-	-
Total	**(14,426,440)**	**(14,562,417)**	**(14,412,417)**	**(14,412,417)**	**(14,412,417)**	**(14,531,440)**	**(14,567,417)**
Royalty and Potash Tax							
Royalty and resource surcharge	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)
Potash Production Tax	(11,321,935)	(12,283,342)	(12,401,118)	(12,799,594)	(13,308,977)	(13,651,470)	(11,186,555)
Total	**(15,936,763)**	**(16,898,170)**	**(17,015,946)**	**(17,414,422)**	**(17,923,805)**	**(18,266,298)**	**(15,801,382)**
Operating Cashflows	**46,550,594**	**45,453,210**	**45,485,434**	**45,086,958**	**44,577,575**	**44,116,058**	**46,544,997**
Capital Expenditure							
Initial Capital Expenditure							
Sustaining CAPEX	(760,541)	(5,537,358)	(2,568,816)	(143,374)	(33,000)	(25,948,882)	(835,541)
Total	**(760,541)**	**(5,537,358)**	**(2,568,816)**	**(143,374)**	**(33,000)**	**(25,948,882)**	**(835,541)**
Pre-tax Project Cashflow	**45,790,053**	**39,915,852**	**42,916,618**	**44,943,584**	**44,544,575**	**18,167,176**	**45,709,456**
Income tax	(10,671,008)	(10,510,624)	(10,788,715)	(11,094,510)	(11,255,285)	(9,272,442)	(10,648,890)
After-tax Project Cashflow	**35,119,045**	**29,405,227**	**32,127,903**	**33,849,074**	**33,289,290**	**8,894,735**	**35,060,566**

PPT: Potash Production Tax levied by Saskatchewan Government

40 Year Cashflow	Yr 27	Yr 28	Yr 29	Yr 30	Yr 31	Yr 32	Yr 33
	2048	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
Revenue							
Sale Price $USD/tonne	415	415	415	415	415	415	415
Exchange Rate	1.27	1.27	1.27	1.27	1.27	1.27	1.27
Sale Price $CAD/tonne	527	527	527	527	527	527	527
Tonnes Sold	146,003	146,003	146,003	146,003	146,003	146,003	146,003
Gross revenue	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**
Operational Expenditure							
Site Opex	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)
G & A OpEx	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)
Annual Repairs & Maintenance OpEx	(926,543)	(926,543)	(926,543)	(940,566)	(1,181,543)	(931,543)	(931,543)
Closure Costs	-	-	-	-	-	-	-
Total	**(14,417,417)**	**(14,417,417)**	**(14,417,417)**	**(14,431,440)**	**(14,672,417)**	**(14,422,417)**	**(14,422,417)**
Royalty and Potash Tax							
Royalty and resource surcharge	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)
Potash Production Tax	(12,173,050)	(12,342,022)	(12,838,396)	(13,333,682)	(13,666,700)	(11,183,049)	(12,152,967)
Total	**(16,787,878)**	**(16,956,850)**	**(17,453,224)**	**(17,948,510)**	**(18,281,528)**	**(15,797,877)**	**(16,767,795)**
Operating Cashflows	**45,708,502**	**45,539,530**	**45,043,156**	**44,533,846**	**43,959,852**	**46,693,503**	**45,723,585**
Capital Expenditure							
Initial Capital Expenditure							
Sustaining CAPEX	(5,560,358)	(1,815,820)	(143,374)	(22,000)	(25,937,763)	(1,153,018)	(5,537,358)
Total	**(5,560,358)**	**(1,815,820)**	**(143,374)**	**(22,000)**	**(25,937,763)**	**(1,153,018)**	**(5,537,358)**
Pre-tax Project Cashflow	**40,148,144**	**43,723,710**	**44,899,782**	**44,511,846**	**18,022,089**	**45,540,485**	**40,186,227**
Income tax	(10,497,471)	(10,835,611)	(11,105,691)	(11,264,666)	(9,280,466)	(10,632,617)	(10,492,703)
After-tax Project Cashflow	**29,650,673**	**32,888,099**	**33,794,091**	**33,247,180**	**8,741,623**	**34,907,868**	**29,693,524**

PPT: Potash Production Tax levied by Saskatchewan Government

40 Year Cashflow	Yr 34	Yr 35	Yr 36	Yr 37	Yr 38	Yr 39	Yr 40
	2055	2056	2057	2058	2059	2060	2061
Revenue							
Sale Price $USD/tonne	415	415	415	415	415	415	415
Exchange Rate	1.27	1.27	1.27	1.27	1.27	1.27	1.27
Sale Price $CAD/tonne	527	527	527	527	527	527	527
Tonnes Sold	146,003	146,003	146,003	146,003	146,003	146,003	146,003
Gross revenue	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**	**76,913,796**
Operational Expenditure							
Site Opex	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)	(12,288,974)
G & A OpEx	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)	(1,201,900)
Annual Repairs & Maintenance OpEx	(931,543)	(945,566)	(1,081,543)	(1,036,543)	(936,543)	(936,543)	(950,566)
Closure Costs	-	-	-	-	-	-	-
Total	**(14,422,417)**	**(14,436,440)**	**(14,572,417)**	**(14,527,417)**	**(14,427,417)**	**(14,427,417)**	**(14,441,440)**
Royalty and Potash Tax							
Royalty and resource surcharge	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)	(4,614,828)
Potash Production Tax	(12,330,826)	(12,834,422)	(13,329,136)	(13,645,373)	(11,096,971)	(12,144,757)	(12,324,974)
Total	**(16,945,654)**	**(17,449,250)**	**(17,943,963)**	**(18,260,200)**	**(15,711,799)**	**(16,759,585)**	**(16,939,802)**
Operating Cashflows	**45,545,725**	**45,028,107**	**44,397,416**	**44,126,179**	**46,774,581**	**45,726,795**	**45,532,555**
Capital Expenditure							
Initial Capital Expenditure							
Sustaining CAPEX	(1,778,820)	(143,374)	(59,000)	(26,782,329)	(685,541)	(5,537,358)	(1,756,820)
Total	**(1,778,820)**	**(143,374)**	**(59,000)**	**(26,782,329)**	**(685,541)**	**(5,537,358)**	**(1,756,820)**
Pre-tax Project Cashflow	**43,766,905**	**44,884,733**	**44,338,416**	**17,343,850**	**46,089,040**	**40,189,437**	**43,775,735**
Income tax	(10,834,497)	(11,103,869)	(11,260,870)	(9,214,298)	(10,643,375)	(10,486,181)	(10,831,742)
After-tax Project Cashflow	**32,932,409**	**33,780,864**	**33,077,546**	**8,129,552**	**35,445,665**	**29,703,255**	**32,943,992**

PPT: Potash Production Tax levied by Saskatchewan Government

40 Year Cashflow	Yr 41	Yr 42
	2062	**2063**
Revenue		
Sale Price $USD/tonne	415	415
Exchange Rate	1.27	1.27
Sale Price $CAD/tonne	527	527
Tonnes Sold	54,334	-
Gross revenue	**28,622,846**	**-**
Operational Expenditure		
Site Opex	-	-
G & A OpEx	-	-
Annual Repairs & Maintenance OpEx	-	-
Closure Costs	(24,056,603)	(24,056,603)
Total	**(24,056,603)**	**(24,056,603)**
Royalty and Potash Tax		
Royalty and resource surcharge	-	-
Potash Production Tax	(377,550)	-
Total	**(377,550)**	**-**
Operating Cashflows	**4,188,694**	**(24,056,603)**
Capital Expenditure		
Initial Capital Expenditure		
Sustaining CAPEX	-	-
Total	**-**	**-**
Pre-tax Project Cashflow	**4,188,694**	**(24,056,603)**
Income tax	(155,016)	-
After-tax Project Cashflow	**4,033,678**	**(24,056,603)**

PPT: Potash Production Tax levied by Saskatchewan Government