



# NI 43-101 Technical Report

**Selkirk Nickel Project, North East District, Republic of Botswana**

## **Premium Resources Ltd.**

Prepared by:

**SLR Consulting (Canada) Ltd.**

SLR Project No.: 233.065166.00001

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## 1.0 Summary

### 1.1 Executive Summary

SLR Consulting (Canada) Ltd. (SLR) was retained by Premium Resources Ltd. (PREM) to prepare an independent Technical Report on the Selkirk nickel-copper-platinum group elements (Ni-Cu-PGE) Project (the Selkirk Nickel Project or the Project), located in Botswana. The purpose of this Technical Report is to document PREM's initial Mineral Resource estimate and the technical information available on the Project as of November 1, 2024 for public disclosure. This Technical Report conforms to National Instrument 43-101 - *Standards of Disclosure for Mineral Projects* (NI 43-101). SLR's Qualified Person (QP) visited the property on May 14, 2024.

PREM is a Toronto based exploration and development company previously named Premium Nickel Resources Ltd. (PNRL) and prior to that, North American Nickel Inc. PNRL changed its name to PREM on November 18, 2024. PREM's common shares trade on the TSX Venture Exchange (TSXV:PREM) in Canada and the OTCQX Best Market (OTCQX:PNRLF) in the USA. Its exploration activities focus on nickel, with several exploration projects in Botswana, Greenland, and Canada.

The Selkirk Nickel Project, including related infrastructure, was acquired by Premium Nickel Group Proprietary Limited (PNGPL) in an asset purchase agreement with the Liquidator of Tati Nickel Mining Company (TNMC). Prior to this acquisition, TNMC was jointly owned by BCL Limited (BCL, 85%) and the Government of Botswana (15%). On May 27, 2022, PNGPL was awarded the Mining Licence over the Selkirk Project, and the acquisition was finalized on August 22, 2022.

PNGPL is an indirect subsidiary of PREM, being a wholly owned subsidiary of Premium Nickel Resources Selkirk Group (Barbados) Limited, which is in turn wholly owned by Premium Nickel Resources International Limited, a direct wholly owned subsidiary of PREM. PREM began trading on the OTCQX Best Market (OTCQX:PNRLF) in the USA in January 2023.

TNMC operated the historical Selkirk Mine as a small underground nickel-copper mine from 1989 to 2002, extracting massive sulphide material from the shallow dipping, semi-elliptical, high-grade core within the Selkirk gabbro from near surface to a depth of approximately 100 m. A total of 1.0 million tonnes (Mt) at grades of 2.6% Ni and 1.5% Cu were mined and shipped directly to the BCL smelter during this time. The mine ceased operations after exhausting the massive sulphide material and undertaking partial pillar extraction.

The Project is currently conceptualized as an open pit capturing the lower grade Ni-Cu-PGE mineralization present within the Selkirk gabbro host.

At the time of liquidation, a number of economic studies had been completed for the Project, including a Feasibility Study (FS) on the open pit concept at the Selkirk Project by WorleyParsons Limited (WorleyParsons) in 2016. The FS included Mineral Resource and Mineral Reserve estimates prepared in accordance with the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (SAMREC Code). These estimates are considered to be historical in nature and should not be relied on. A QP has not completed work to classify the historical estimates as current and PREM is not treating the historical estimate as current Mineral Resources or Mineral Reserves.

Exploration work completed by the PREM Project team to date has consisted of the sourcing and digitization of existing historical information, confirming collar location information on selected historical holes, re-logging selected drill core, sampling mineralized drill core found



untouched on surface, re-sampling of historical drill core, and submitting a number of samples for proof-of-concept metallurgical testing. PREM has also initiated an internal study into the feasibility of the open pit concept and is exploring conceptually with limited test information several different processing options.

## 1.1.1 Conclusions

### 1.1.1.1 Geology and Mineral Resources

- Inferred Mineral Resources are estimated to total 44.2 Mt at grades of 0.24% Ni, 0.30% Cu, 0.55 g/t Pd, and 0.12 g/t Pt, containing 108,000 tonnes (t) of nickel, 132,000 t of copper, 775,000 ounces (oz) palladium, and 174,000 oz platinum.
- The Project is conceptualized as an open pit capturing low grade Ni-Cu-PGE mineralization surrounding and down plunge of the mined-out high-grade mineralization core within the Selkirk gabbro.
- There is good understanding of the geology and the nature of nickel and copper mineralization at the Project. With the exception of PREM assays of historical drill core, the available drill hole data is historical and inconsistently analyzed for cobalt, PGE, and gold, and consequently this mineralization is less well understood.
- Despite numerous feasibility studies existing on the Project, the historical, disparate, and incomplete nature of information and data signify that a comprehensive data verification work program is required. PREM has progressed the data verification work through a significant re-sampling program involving 17 drill holes spanning the deposit extents.
- There are no drilling, sampling or recovery factors identified that could materially impact the accuracy and reliability of the results. At the same time, considerable data compilation and verification efforts are required to improve confidence in the drilling database, including re-entry of original survey information and downhole re-surveying, re-sampling, and twinning of a selection of drill holes to validate existing locations and results in the database.
- Results of the quality assurance and quality control (QA/QC) programs supporting the historical drilling show reasonable correlation and performance of nickel and copper analysis and poor precision and repeatability of gold and PGEs. A re-sampling program of 17 drill holes was undertaken by PREM. These results showed good performance of all analytes against reference material, as well as good correlation with nickel and copper. Only intermediate correlation of historical and re-sampled PGEs was observed, and this correlation is somewhat expected considering the poor performance of historical QA/QC results. A low bias was also observed in the PGE results, indicating that continued re-sampling of historical core may improve the deposit PGE grades.
- The extent to which silicate nickel forms part of the total nickel content reported at Selkirk has been investigated and preliminarily found to be less than 5%.

### 1.1.1.2 Mineral Processing

- Further test work on representative samples is required to confirm metallurgical inputs for the optimal flowsheet. The selected parameters reflect an estimate of performance for low-grade (cut-off level) material, for purposes of resource selectivity, and will undervalue average or better-grade material.



- Based on the results from preliminary studies and historical data analyses, the proposed treatment process for Selkirk material considers flotation of two concentrate products (copper and nickel). At the time of writing of this Technical Report, no information was provided by PREM to include pre-concentration as a treatment step.
- While preliminary flotation test results indicated that copper-nickel separation is achievable, further representative sampling and testing is required to demonstrate that the target grades of copper and nickel in two concentrates can be consistently met.
- Some of the underlying assumptions in the generic metallurgical model previously relied on by PREM for metal recovery calculations were based on the test results generated from 2021 SGS composite samples (head assays: 0.55% - 0.66% Cu and 0.44% - 0.77% Ni) that graded significantly higher than the current average life of mine (LOM) grades.
- Flowsheets Metallurgical Consulting Inc. (FMCI) reviewed previous SGS test data generated from four tenor samples that were more representative of the cut-off grades of historical mineral resources of the Selkirk deposit to produce bulk concentrate and modelled the separation of copper and nickel concentrates using MS Excel. In the absence of metallurgical testing, the preliminary FMCI model assumptions and results were used for metallurgical recovery estimation for copper and nickel concentrate production. FMCI modelling may not be indicative of the expected metallurgical performance for two concentrates.
- To the best of SLR's knowledge, pre-concentration techniques such as X-ray Transmission (XRT) sorting have not been used to prepare any Selkirk materials for flotation testing to date.
- The metallurgical and analytical data have been collected in a manner that is suitable to be used conceptually for Mineral Resources estimation, however, further testing is recommended to confirm the characteristics of the Selkirk final copper and nickel concentrate products.

## 1.1.2 Recommendations

### 1.1.2.1 Geology and Mineral Resources

- 1 The QPs have reviewed and agree with PREM's Phase 1 proposed exploration budget (Table 1-1). The Phase 2 budget will be prepared based on the Phase 1 results.
  - a) Phase 1 includes a Preliminary Economic Assessment of the Selkirk deposit.
  - b) Phase 1 also involves the continuation of exploration on the Prospecting Licences and Mining Licence, including soil sampling, surface and downhole geophysics, and diamond drilling.
  - c) Phase 2 is contingent upon the results of Phase 1 and would involve an updated Mineral Resource estimate and a Pre-feasibility Study, including re-sampling of additional historical drill core (20 holes), seven infill holes, and three holes that twin historic holes.
- 2 To enhance confidence in the historical data, several steps are recommended:
  - a) For drill holes assayed between late 2007 and mid-2008, investigate and potentially re-analyze these drill holes with the purpose of replacing historical data that have the



- poorest QA/QC performance in the drill hole dataset, reducing data gaps and potentially improving global PGE grades.
- b) For PGEs, address precision issues through analysis of the second half of split drill core in an external laboratory, and by twinning existing drill holes.
  - c) Consolidate verified historical results within an industry standard data management system, with columns identifying operator, year, source, and treatment during estimation.
  - d) On a small selection of holes, verify position data through re-entry of original survey information and downhole re-surveying.
  - e) Verify the location, orientation, and extents of the historical mining shapes.
  - f) Confirm density in overburden, oxide, and transition weathering units. Review core photos to improve the modelled boundary dividing oxide and transition weathering units.
- 3 Continue studies to understand the extent to which silicate nickel forms part of the total nickel content reported at Selkirk.

### 1.1.2.2 Mineral Processing

- 1 Complete additional metallurgical testing using samples from fresh drill core that are spatially representative of the deposit to confirm the metallurgical recoveries projected following pre-concentration and two concentrate flotation.
- 2 Complete waste rejection studies to determine the potential upgrade of mill feed.

**Table 1-1: Proposed Budget for Phase 1 Exploration Work**

Item	Cost (C\$000)
Metallurgical Test Work <ul style="list-style-type: none"> <li>• Diamond drilling, logging and sampling of 9 HQ sized drill holes</li> <li>• Submitting 3,800 samples to laboratory for base metals, PGEs + Au.</li> <li>• Geologists and geotechnic support staff, core transport</li> <li>• Field supplies, core shed supplies, sample shipping</li> </ul>	1,000
Metallurgical Test Work Flotation and pre-concentration studies	600
Preliminary Economic Assessment	650
General site and administration costs	100
Exploration Work <ul style="list-style-type: none"> <li>• Soil geochemistry</li> <li>• Surface geophysics</li> </ul> Diamond drilling	150
<b>Subtotal</b>	<b>2,500</b>
Contingency (5%)	125
<b>Total Phase 1</b>	<b>2,625</b>



## 1.2 Technical Summary

### 1.2.1 Property Description

The Project is located in the northeast of Botswana approximately 28 km southeast of the city of Francistown and 450 km northeast of the national capital Gaborone.

The Project is accessed year-round via paved and gravel roads from Gaborone and Francistown. Project infrastructure includes relict surface infrastructure supporting the historical underground mine, and the original decline. The Project area is quite flat and, beyond the mine footprint, is covered in grassland with dispersed and clusters of trees typical of a tree savanna biome.

### 1.2.2 Land Tenure

The property consists of a single mining licence covering an area of 1,458 ha (14.58 km<sup>2</sup>) and four prospecting licences covering a total of 12,670 ha (126.7 km<sup>2</sup>). The mining licence, 2022/7L, is centred approximately at 21°19'13" S and 27°44'17" E and is held by PNGPL, a subsidiary of PREM. The mining licence was renewed for ten years commencing on May 27, 2022, ending on May 26, 2032. The four prospecting licences (PL050/2010, PL051/2010, PL210/2010, and PL071/2011) are valid for a period of two years effective from October 1, 2022.

### 1.2.3 History

Anglo American Corporation of South Africa (AAC) established the presence of nickel and copper occurrences at the sites of the ancient copper workings in the area in 1929. Significant exploration started in the mid-1960s by the Tati Territory Exploration Company (TTE). The first exploration campaigns included soil sampling, trench sampling, ground geophysics, and diamond drilling. At least four exploration and mining companies have worked on the Project since the 1960s and extensive work has been done to characterize the economic potential of the property.

The Selkirk underground mine was operated from 1989 to 2002 by TNMC, a company created specifically to exploit the deposit. More than 1.0 Mt of material grading 2.6% Ni and 1.6% Cu was extracted from a semi-elliptical deposit of massive sulphide up to 20 m thick. Since 2003, extensive exploration has been completed to characterize the lower-grade/higher-tonnage halo of disseminated sulphides both surrounding and down plunge (south) of the mined-out high-grade mineralization. Exploration and conceptual studies were conducted by Lion Ore Mining Pty Ltd (Lion Ore) and subsequently by Norilsk Nickel Group of Companies (Norilsk Nickel) through their ownership in TNMC. BCL Limited, through its acquired interest in TNMC, was planning to start production at Selkirk in 2017.

### 1.2.4 Geological Setting, Mineralization, and Deposit

The Project lies within the Tati granite-greenstone belt of the Zimbabwe Craton. The mineralized body of the Selkirk deposit is hosted within the Selkirk Formation (>1 km thick) which consists mainly of dacitic and rhyolitic volcanoclastic rocks and minor amounts of mafic volcanic rocks, quartzites, and quartz sericite schists. The Selkirk Formation hosts the Phoenix, Selkirk, and Tekwane metagabbroic intrusions and the Sikukwe metaperidotite intrusion. The area around the Project hosts intrusive magmatic Ni-Cu-PGE sulphide deposits, namely the Phoenix deposit, as well as the Tekwane and Cinderella exploration prospects.



Two styles of mineralization are found at Selkirk: (1) massive sulphides (largely mined-out), located within the metagabbro intrusion, as well as small, massive sulphide accumulations at the base of the taxitic metagabbro intrusive, and (2) matrix and disseminated sulphides as a halo surrounding and down-dip of the mined-out massive sulphide body. The disseminated zone that once included the mined-out sulphide lens, lies 50 m to 100 m above the basal contact of the footwall quartz diorite and mimics the footwall contact. Currently available drilling suggests that the shallow, previously mined, massive sulphide lens was synformal in shape and measured up to 70 m to 90 m wide, averaged 20 m thick, and had a plunge extent of 200 m.

The disseminated sulphide mineralization surrounding the massive sulphides averages 100 m to 150 m thick, dips steeply west and plunges shallowly to the southwest at 25°. It is defined from surface over a distance of 900 m and remains open at depth. Mineralization consists of pentlandite, pyrrhotite, chalcopyrite, and pyrite. At least three generations of dykes crosscut the mineralized metagabbro. Numerous faults traversing the deposit have been described in surface and underground mapping, none of which present significant displacement at the deposit scale. The Selkirk metagabbro host has been attributed an age of 2.7 Ga.

### 1.2.5 Exploration

Exploration work completed by the PREM Project team to date has consisted of the sourcing and digitization of existing historical information, confirming collar location information on selected historical holes, re-logging selected drill core, sampling mineralized drill core found unsampled on surface, sampling underground drifts, and submitting a number of samples for proof-of-concept metallurgical testing. PREM has also initiated an internal study into the feasibility of the open pit concept and is exploring conceptually with limiting test information several different processing options.

### 1.2.6 Sample Preparation, Analyses, and Security

Historical drill hole data were prepared and analyzed at the Phoenix Mine Laboratory. At the time of preparation and analysis, TNMC owned both the Phoenix Mine and Selkirk and the laboratory was not independent of the operator. From 2011, the Phoenix Mine Laboratory held accreditation with the South African National Accreditation System (SANAS), and with the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 17025 for chemical analyses. At the Phoenix Mine Laboratory, nickel and copper were analyzed by X-ray fluorescence (XRF) and Pt, Pd, and Au were analyzed using a 50 g fire assay.

Unsampled intervals of drill core from a total of five historic drill holes from 2016 completed by the former operator of the Selkirk Mine, TNMC, were cut, sampled, and sent for analysis at ALS in Johannesburg, South Africa. In addition, seventeen historical drill holes representing a cross-section of holes spatially and temporally were re-sampled using half core.

Analyses for nickel, copper, and cobalt were completed using a peroxide fusion preparation and inductively coupled plasma atomic emission spectrometry (ICP-AES) finish (ME-ICP81). Analyses for platinum, palladium, and gold were by fire assay (30 g nominal sample weight) with an ICP-AES finish (PGM-ICP23). All historical core is stored on site in a locked facility.

### 1.2.7 Mineral Processing and Metallurgical Testing

PREM intends to use flotation to produce separate copper and nickel concentrates. Metallurgical study programs were carried out by SGS in Lakefield, Ontario in 2021 and 2023 for separate copper and nickel concentrate production at a conceptual level. The conceptual



process flowsheet developed by SGS includes the key unit operations of crushing, grinding, and flotation.

FMCI reviewed previous SGS data produced from four tenor samples that were representative of the cut-off grades of historical mineral resources of the Selkirk deposit. According to FCMI, the Gipro flowsheet tested delivered the highest nickel recovery to bulk rougher concentrate and thus, FCMI modelled the separation of copper and nickel concentrates using MS Excel. In the absence of metallurgical testing, the preliminary FCMI model assumptions and results were used for metallurgical recovery estimation for copper and nickel concentrates.

### **1.2.8 Data Verification**

Data verification has been conducted in the form of historical drill collar location confirmation, a review of historical QA/QC results, and a re-assay program representing 17% of the total historical database.

### **1.2.9 Mineral Resource Estimates**

An initial Mineral Resource estimate (MRE) for the Selkirk deposit was prepared by SLR using available drill hole data as of November 1, 2024. Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves dated May 10, 2014 (CIM (2014) definitions) were followed for Mineral Resource classification.

The MRE was prepared using results from 283 historical drill holes completed between 2003 and 2016, five 2016 drill holes sampled by PREM in 2021, and 17 historical holes re-sampled by PREM in 2024. Mineral Resource domain and block modelling work was completed using Seequent's Leapfrog Geo and Edge software. The MRE is defined by a mineralized domain, modelled as a mineralized body within the Selkirk gabbro and targeting an economic threshold of US\$20/t.

Where drill core was re-sampled by PREM, these analytical results were used in place of original historical assays. Unsampled copper and nickel values were replaced with 0 values, and unsampled palladium and platinum values were ignored, reflecting the inconsistent sampling of PGEs at the Project.

Uncapped copper, nickel, platinum, and palladium assays were composited to two metres. Composite values were estimated into a sub-blocked model using a three-pass ordinary kriging (OK) approach. In addition to standard historical data and database validation techniques, wireframe and block model validation procedures including wireframe to block volume confirmation, statistical comparisons of composites with the estimate, and visual reviews in both three-dimensional (3D) and section view were also completed.

Material within underground workings, and within 5 m from them, was depleted. Inferred Mineral Resources represent areas with approximate drill hole spacings of up to 70 m inside the mineralized domain, and are limited to within an optimized pit shell.

Mineral Resources for the Selkirk deposit are presented in Table 1-2.



**Table 1-2: Inferred Selkirk Mineral Resource Estimate, November 1, 2024**

Class	Mass (Mt)	Average Value				Contained Metal			
		Cu (%)	Ni (%)	Pd (g/t)	Pt (g/t)	Cu (kt)	Ni (kt)	Pd (koz)	Pt (koz)
Inferred	44.2	0.30	0.24	0.55	0.12	132	108	775	174

Notes:

1. CIM (2014) definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at a net smelter return (NSR) value of US\$25/t.
3. Mineral Resources are estimated using a long-term prices of US\$10.50/lb Ni, US\$4.75/lb Cu, US\$1,450/oz Pt and US\$1,500/oz Pd, and a US\$:BWP exchange rate of 1.00:13.23.
4. Mineral Resources are estimated using nickel, copper, palladium, and platinum recoveries of 60%, 70%, 59%, and 59%, respectively, derived from metallurgical studies which consider a conceptual two concentrate scenario.
5. Bulk density has been estimated.
6. Mineral Resources are reported within an optimized pit shell.
7. There are no Mineral Reserves.
8. Totals may not add or multiply accurately due to rounding.

The QP is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the Mineral Resource estimate.



## 2.0 Introduction

SLR Consulting (Canada) Ltd. (SLR) was retained by Premium Resources Ltd. (PREM) to prepare an independent Technical Report on the Selkirk nickel-copper-cobalt-platinum group elements-gold (Ni-Cu-Co-PGE-Au) Project (the Selkirk Nickel Project or the Project), located in Botswana. The purpose of this Technical Report is to document PREM's initial Mineral Resource estimate and the technical information available on the Project as of November 1, 2024 for public disclosure. This Technical Report conforms to National Instrument 43-101 - *Standards of Disclosure for Mineral Projects* (NI 43-101).

PREM is a Toronto based exploration and development company previously named Premium Nickel Resources Ltd. (PNRL) and prior to that, North American Nickel Inc. PREM's common shares trade on the TSX Venture Exchange (TSXV) in Canada and the OTCQX Best Market (OTCQX:PNRLF) in the USA. Its exploration activities focus on nickel, with several exploration projects in Botswana, Greenland, and Canada.

The Selkirk Nickel Project, including related infrastructure, was acquired by Premium Nickel Group Proprietary Limited (PNGPL) in an asset purchase agreement with the Liquidator of Tati Nickel Mining Company (TNMC). Prior to this acquisition, TNMC was jointly owned by BCL Limited (BCL, 85%) and the Government of Botswana (15%). On May 27, 2022, PNGPL was awarded the Mining Licence over the Selkirk Project, and the acquisition was finalized August 22, 2022.

PNGPL is an indirect subsidiary of PREM, being a wholly owned subsidiary of Premium Nickel Resources Selkirk Group (Barbados) Limited, which is in turn wholly owned by Premium Nickel Resources International Limited, a direct wholly owned subsidiary of PREM. PREM began trading on the OTCQX Best Market (OTCQX:PNRLF) in the USA in January 2023.

TNMC operated the historical Selkirk Mine as a small underground nickel-copper mine from 1989 to 2002, extracting massive sulphide material from the shallow dipping, semi-elliptical, high-grade core of the Selkirk gabbro from near surface to a depth of approximately 100 m. A total of 1.0 million tonnes (Mt) at grades of 2.6% Ni and 1.5% Cu were mined and shipped directly to the BCL smelter during this time. The mine ceased operations after exhausting the massive sulphide material and undertaking partial pillar extraction.

The Project is currently conceptualized as an open pit capturing the lower grade nickel-copper-cobalt-platinum group elements-gold (Ni-Cu-PGE) mineralization present within the Selkirk gabbro host.

At the time of liquidation, a number of economic studies had been completed for the Project, including a Feasibility Study (FS) on the open pit concept at the Selkirk Project by WorleyParsons Limited (WorleyParsons) in 2016. The FS included Mineral Resource and Mineral Reserve estimates prepared in accordance with the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (SAMREC Code). These estimates are considered to be historical in nature and should not be relied on. An SLR Qualified Person (QP) has not completed work to classify the historical estimates as current and PREM is not treating the historical estimate as current Mineral Resources or Mineral Reserves.

Exploration work completed by the PREM Project team to date has consisted of the sourcing and digitization of existing historical information, confirming collar location information on selected historical holes, re-logging selected drill core, sampling mineralized drill core found unsampled on surface, re-sampling of historical drill core, and submitting a number of samples for proof-of-concept metallurgical testing. PREM has also initiated an internal study into the



feasibility of the open pit concept and is exploring conceptually with limited test information several different processing options.

## 2.1 Site Visits

A site visit was undertaken on May 14, 2024 by Valerie Wilson, M.Sc., P.Geo, SLR Principal Resource Geologist, who is acting as a QP for this report. While at site, Ms. Wilson visited the gossanous outcrop at surface, observed existing infrastructure, including the Selkirk underground ramp, reviewed core from several different drill holes and compared these against printed assay sheets, observed the core library, visited historical waste and ore piles on surface, and visited several surface drill hole collar locations.

## 2.2 Sources of Information

During the site visit and during the preparation of this Technical Report, discussions were held online and onsite with personnel from PREM:

- Sharon Taylor, P.Geo., Vice President, Exploration, PREM
- Gerry Katchen, P.Geo., Exploration Manager, PREM

A previous Technical Report on the Project was filed in Canada in 2023 (G Mining Services Inc. 2023). A Technical Report Summary (TRS) on the Selkirk deposit, with an effective date of May 31, 2024, was also filed by PNRL on June 28, 2024 (SLR 2024 with United States Securities and Exchange Commission’s (SEC), per SEC S-K 1300 regulations. These previous reports did not include a Mineral Resource estimate.

This Technical Report was prepared by Valerie Wilson, M.Sc., P. Geo., and Brenna J.Y. Scholey, P.Eng., with assistance from Chelsea Hamilton, P.Eng., Yenlai Chee, M.Sc., Kimantha Gokul, Pr.Sci.Nat., and Maria Campos, G.I.T. The QPs for this Technical Report and their responsibilities are indicated in Table 2-1.

**Table 2-1: Qualified Persons and Responsibilities**

QP, Designation	Responsible for
Valerie Wilson, M.Sc., P.Geo.	Overall preparation and all sections except Section 13 and subsections related to mineral processing including 1.1.1.2, 1.1.2.2, 1.2.7, 25.2, and 26.2
Brenna J.Y. Scholey, P.Eng.	Section 13 and subsections 1.1.1.2, 1.1.2.2, 1.2.7, 25.2, and 26.2

The documentation reviewed, and other sources of information, are listed at the end of this Technical Report in Section 27 References.



## 2.3 List of Abbreviations

Units of measurement used in this Technical Report conform to the metric system. All currency in this Technical Report is US dollars (US\$) unless otherwise noted.

μ	micron	kVA	kilovolt-amperes
μg	microgram	kW	kilowatt
a	annum	kWh	kilowatt-hour
A	ampere	L	litre
bbl	barrels	lb	pound
Btu	British thermal units	L/s	litres per second
BWP	Botswana Pula	m	metre
°C	degree Celsius	M	mega (million); molar
C\$	Canadian dollars	m <sup>2</sup>	square metre
cal	calorie	m <sup>3</sup>	cubic metre
cfm	cubic feet per minute	MASL	metres above sea level
cm	centimetre	m <sup>3</sup> /h	cubic metres per hour
cm <sup>2</sup>	square centimetre	mi	mile
d	day	min	minute
dia	diameter	μm	micrometre
dmt	dry metric tonne	mm	millimetre
dwt	dead-weight ton	mph	miles per hour
°F	degree Fahrenheit	MVA	megavolt-amperes
ft	foot	MW	megawatt
ft <sup>2</sup>	square foot	MWh	megawatt-hour
ft <sup>3</sup>	cubic foot	oz	Troy ounce (31.1035g)
ft/s	foot per second	oz/st, opt	ounce per short ton
g	gram	ppb	part per billion
G	giga (billion)	ppm	part per million
Gal	Imperial gallon	psia	pound per square inch absolute
g/L	gram per litre	psig	pound per square inch gauge
Gpm	Imperial gallons per minute	RL	relative elevation
g/t	gram per tonne	s	second
gr/ft <sup>3</sup>	grain per cubic foot	st	short ton
gr/m <sup>3</sup>	grain per cubic metre	stpa	short ton per year
ha	hectare	stpd	short ton per day
hp	horsepower	t	metric tonne
hr	hour	tpa	metric tonne per year
Hz	hertz	tpd	metric tonne per day
in.	inch	US\$	United States dollar
in <sup>2</sup>	square inch	USg	United States gallon
J	joule	USgpm	US gallon per minute
k	kilo (thousand)	V	volt
kcal	kilocalorie	W	watt
kg	kilogram	wmt	wet metric tonne
km	kilometre	wt%	weight percent
km <sup>2</sup>	square kilometre	yd <sup>3</sup>	cubic yard
km/h	kilometre per hour	yr	year
kPa	kilopascal		



### 3.0 Reliance on Other Experts

This Technical Report has been prepared by SLR for PREM. The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to SLR at the time of preparation of this Technical Report.
- Assumptions, conditions, and qualifications as set forth in this Technical Report.

For the purpose of this Technical Report, SLR has relied on ownership information provided by PREM in a legal opinion by Bookbinder Business Law (BBL) dated May 30, 2024, entitled “Opinion: Premium Nickel Group Proprietary Limited”, and this opinion is relied on in Section 4 and the Summary of this Technical Report. SLR has not researched property title or mineral rights for the Selkirk Nickel Project and expresses no opinion as to the ownership status of the property.

Except for the purposes legislated under provincial securities laws, any use of this Technical Report by any third party is at that party’s sole risk.



## 4.0 Property Description and Location

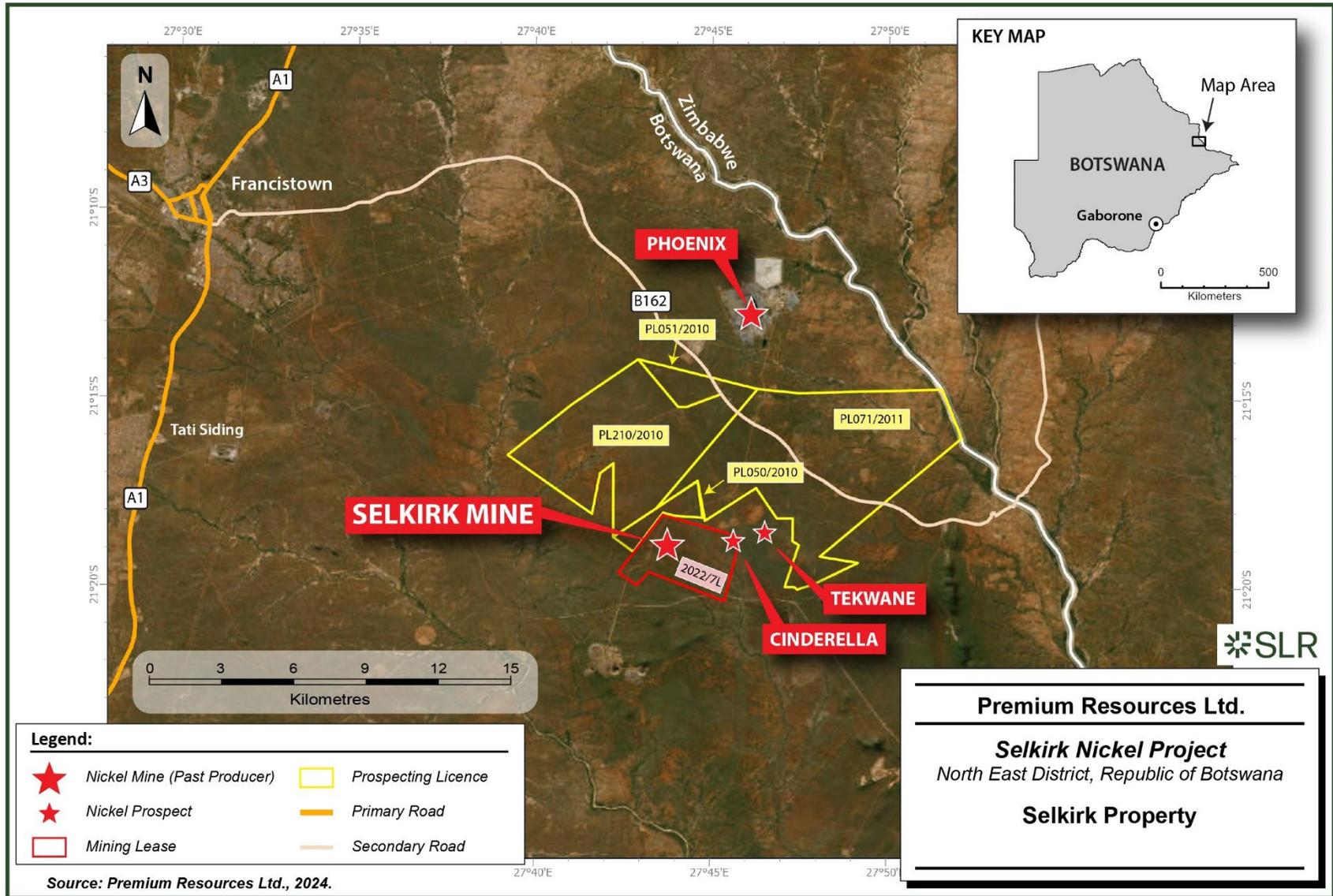
### 4.1 Location

The Project consists of a single mining licence (ML) covering an area of 1,458 ha (14.58 km<sup>2</sup>) and four prospecting licences (PL) covering a total area of 12,670 ha (126.7 km<sup>2</sup>). The Project is located approximately 28 km southeast of the city of Francistown, and 450 km northeast of the national capital Gaborone. The mining licence, 2022/7L (the Selkirk Mining Licence), is centred approximately at 21°19'13" S and 27°44'17" E and is presented in Figure 4-1.

This mining licence gives PNGPL the right to mine copper and nickel ores and associated minerals contained in these mined ores for a period of ten years commencing on May 27, 2022 and ending on May 26, 2032. It also provides the right to carry out care and maintenance and exploration work from both surface and underground. The four PLs, PL050/2010, PL051/2010, PL210/2010 and PL071/2011, gave PNGPL the exclusive right to prospect for base metals for a period of two years, effective October 1, 2022. PREM is confident that the renewal of these licenses will be approved making the new expiration date September 30, 2026.



**Figure 4-1: Selkirk Property**



## 4.2 Land Tenure

The original mining licence over the historical Selkirk Mine, 88/2, had been granted to TNMC on November 29, 1988, and later amended to include the Phoenix Mine. It was granted for an initial period of 25 years, renewed on November 28, 2013 for a period of 11 years, and the current renewal application is under review. The new mining licence, 2022/7L, was granted to PNGPL, a subsidiary of PRNL, on May 27, 2022, is limited to the Selkirk deposit and the surrounding areas and expires on May 26, 2032.

The terms and conditions for the renewal of the mining licence are framed by the relevant subsections of Section 42 of the Mines Act (the Act) and indicate that:

- 1 The Minister shall grant an application for renewal if satisfied that:
  - a) the applicant is not in default;
  - b) development of the mining area has proceeded with reasonable diligence;
  - c) the proposed program of mining operations will ensure the most efficient and beneficial use of the mineral resources in the mining area.
- 2 The Minister shall not reject an application on the ground referred to in:
  - a) Subsection (4)(a), unless the applicant has been given details of the default and has failed to remedy the same within three months of such notification;
  - b) Subsection (4)(b), unless the applicant has been given reasonable opportunity to make written representations thereon to the Minister; or
  - c) Subsection (4)(c), unless the applicant has been so notified and has failed to propose amendments to his proposed program of mining operations satisfactory to the Minister within three months of such notification.
- 3 Subject to the provisions of this Act, the period of renewal of a mining licence shall be such period, not exceeding 25 years, as is reasonably required to carry out the mining program.
- 4 On the renewal of a mining licence, the Minister shall append thereto the program of mining operations to be carried out in the period of renewal.

In order to maintain the mining licence in good order, the holder must make annual payments on its anniversary date in accordance with Section 71 of the Act, and monthly royalty payments according to Section 66 of the Act, if appropriate, in each case to the Government of Botswana. The royalties payable are percentages of the gross market value of mineral or mineral products as follows: precious stones (10%), precious metals (5%), and other minerals or mineral products (3%). The term gross market value is defined in the Act as the sale value receivable at the mine gate in an arms-length transaction without discounts, commissions, or deductions for the mineral or mineral product on disposal. No annual payments are required until the mine is in production.

The four prospecting licences were transferred to PNGPL effective October 1, 2022, and gave PNGPL the exclusive right to explore for base metals for a period of two years. Upon issuance of the licence and each anniversary thereof, a charge equal to Botswana Pula (BWP) 5.00 (C\$0.51) multiplied by the number of square kilometres, subject to a minimum of BWP 1,000.00 (C\$101.60), is payable to the office of the Director of Mines. PNGPL has applied for renewal of the prospecting licences for another two years. PREM is confident that these licenses will be approved making the new expiration date September 30, 2026.



The terms and conditions for the renewal of the prospecting licences are framed by the relevant sub-sections of Section 17 of the Act and indicate that:

- 1 The holder of a prospecting licence may, at any time not later than three months before the expiry of such licence, apply to the Minister by completing Form I set out in the First Schedule for renewal thereof stating the period for which the renewal is sought and submitting together with the application-
  - a) a report on prospecting operations so far carried out and the direct costs incurred thereby; and
  - b) a proposed program of prospecting operations to be carried out during the period of renewal and the estimated cost thereof.
- 2 Subject to this Act, the applicant shall be entitled to the grant of no more than two renewals thereof, each for the period applied for, which periods shall not in either case exceed two years, provided that:
  - a) the applicant is not in default; and
  - b) the proposed program of prospecting operations is adequate.
- 3 Before rejecting an application for renewal under subsection 3(a), the Minister shall give notice of the default to the applicant and shall call upon the applicant to remedy such default within a reasonable time.
- 4 Before rejecting an application for renewal under (3)(b), the Minister shall give the applicant opportunity to make satisfactory amendments to the proposed program of prospecting operations.
- 5 Notwithstanding the provisions of subsection (3), the Minister may renew a prospecting licence for a period or periods in excess of the periods specified in that subsection where a discovery has been made and evaluation work has not, despite proper efforts, been completed.

Table 4-1 shows the details of each PL as well as ML 2022/7L.



**Table 4-1: Selkirk Property Tenure**

Description	Area (km <sup>2</sup> )	Issue Date	Expiry Date	Annual Fee (BWP)	Annual Fee (C\$)	Annual Exploration Expenditure			
						Year 1 (BWP)	Year 1 (CAD)	Year 2 (BWP)	Year 2 (CAD)
ML 2022/7L	14.58	May 27, 2022	May 26, 2032	No Fee	No Fee				
PL050/2010	4.1	Oct. 1, 2022	Under Renewal	1,000.00	100.35	600,000	14,049	2,000,000	125,438
PL051/2010	4.4	Oct. 1, 2022	Under Renewal	1,000.00	100.35	500,000	50,175	2,000,000	200,700
PL210/2010	46.8	Oct. 1, 2022	Under Renewal	1,000.00	100.35	1,000,000	100,350	1,000,000	100,350
PL071/2011	71.4	Oct. 1, 2022	Under Renewal	1,000.00	100.35	2,000,000	200,700	4,000,000	401,400
<b>Total</b>	<b>141.28</b>					<b>4,100,000</b>	<b>411,435</b>	<b>9,000,000</b>	<b>827,888</b>

Note. \*Exchange Rate 1 BWP = 0.100350 CAD



### 4.3 Mineral Rights

In Botswana, mining activities are regulated under the Act, which is administered by the Ministry of Mineral Resources, Green Technology and Energy Security (MMGE). The Act regulates the issuance of exploration and mining licences as well as harmonizing mining activities and environmental impacts. The Act entails:

- Introduction of the retention licence which allows exploration companies that have confirmed the discovery of a mineral deposit to retain rights over a period of three years, renewable once for a period of no more than three (3) years.
- Issuing of a prospecting licence for up to 1,000 km<sup>2</sup> for an initial period of three years and renewed for two (2) periods of two (2) years each.
- The abolition of the Government of Botswana's right to free equity participation. The legislation allows for the Government of Botswana to acquire up to 15% in new mining ventures on commercial terms.
- Royalty schedules have been revised, with rates reduced from 5% to 3% for all minerals except precious stones and precious metals, which remain at 10% and 5%, respectively.
- The granting, renewal, and automatic transfer of licences has been made more automatic and predictable.
- Introduction of new mining taxation, which includes:
  - A generalized tax regime that applies to all minerals except diamonds, with corporate income tax of 25%.
  - Immediate 100% capital write off in the year that the investment is made, with unlimited carry forward of losses.
  - Introduction of a variable rate income tax formula.

The Act further stipulates that the holder of the mineral concession shall:

- Conduct operations in a manner that will preserve the natural environment.
- Where unavoidable, promptly treat pollution and contamination of the environment. In the event of an emergency or extraordinary circumstances requiring immediate action, the holder of a mineral concession shall forthwith notify the Director of Mines and shall take all immediate action in accordance with the reasonable directions of the Director of Mines.
- Prepare and submit an Environmental Impact Assessment (EIA) report as part of the mining licence application or renewal.
- Restore the land substantially to the condition in which it was prior to the commencement of operations during and at the end of operations.
- Make adequate ongoing financial provision for compliance with environmental obligations as stipulated by the Act.

Any abstraction of water in Botswana is regulated through the Water Act of 1967.



## 4.4 Surface Rights

The Project area is subject to freehold land, with the Selkirk Mining Licence situated on portions of Farms 73NQ and 75NQ. A lease rental agreement, 201-NQ, between TNMC and Nkobiwa Emmanuel Keeng Selebe, the owner of Farm 73NQ, was signed on April 2, 1998, with an effective date of October 1, 1988. This agreement remains effective for the lifetime of the mining licence, including renewals. The area covers only a small portion (52,008 ha) of the mining licence and PNGPL will need to expand the surface rights area to develop an open pit mine. If the landowner and PNGPL cannot come to a mutual agreement, then the Office of the Director of Mines will determine the fair value of the annual rental fee in accordance with the Mines and Minerals Act, specifically:

- Section 62 (1) (iii):
  - An arbitrator appointed in pursuance of this subsection may, on application by any interested party, apportion any rent payable under this subsection between the owner and any lawful occupier; and
- Section 62 (2):
  - In assessing any rent payable under the provisions of this section, an arbitrator shall determine the matter in relation to values at the time of arbitration current in the area in which the mining licence or retention licence or minerals permit is situated for land of a similar nature to the land concerned but without taking into account any enhanced value due to the presence of minerals.

## 4.5 Royalties and Encumbrances

PNGPL has signed a royalty agreement and contingent compensation agreement with the Liquidator. A 2% net smelter return (NSR) exists on the sale of concentrates (or any other economic mineral resource material produced and sold) subject to specific rights of purchase by the purchaser and the Government of Botswana:

- A reduction to a 1% NSR for a payment of US\$20 million on or before the two-year anniversary date of the first shipment.
- A general first right of purchase shared between the purchaser and the Government of Botswana.

There is also a contingent compensation agreement whereby PNGPL would pay additional compensation to the Government of Botswana if and when it discovers additional resources over and above the base case scenario of 15.9 Mt:

- New resource discovery up until the end of the seven-year mine life of the base case resource of 15.9 Mt (minimum grade of 2.5% Ni equivalent (NiEq) at Decision to Mine)
  - 25 Mt < new deposit > 50 Mt US\$0.50 per tonne
  - 50 Mt < new deposit > 75 Mt US\$0.20 additional per incremental tonne
  - 75 Mt < new deposit > 100 Mt US\$0.30 additional per incremental tonne
  - New deposit > 100 Mt US\$0.40 additional per incremental tonne
- The payment of contingent compensation shall be made from operating cash flow of the mine(s) once in operation and subject to adequate liquidity.



## 4.6 Other Significant Factors and Risks

The QP is not aware of any environmental liabilities on the property. PREM has all required permits to conduct the proposed work on the property. The QP is not aware of any other significant factors and risks that may affect access, title, or the right or ability to perform the proposed work program on the property.



## 5.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Selkirk deposit is located in the North East District of Botswana, approximately 30 km southeast of Francistown, the country's northernmost city. The Property extends across the farms 73NQ and 75NQ approximately 20 km from the Zimbabwean border, near Matsiloje village. The Tati River lies to the south of this area. Francistown, in close proximity to the west, being the main centre in the area with a burgeoning and industrious young population of around 120,000, provides a good source of labour and a growing skills base. The rural farming population has very low density and lives generally in cattle posts situated close to sources of groundwater, generally near the main rivers which have a more or less constant supply of groundwater in their sandy beds.

### 5.1 Accessibility

The railway line and Highway A1 from Bulawayo to Gaborone pass through Francistown, 30 km to the northwest of Selkirk. From Francistown, site access is made via an all-weather tarred surface road to Matsiloje that passes 7 km north of the Selkirk deposit, with the main access to Selkirk being a well-maintained and graded unsurfaced road.

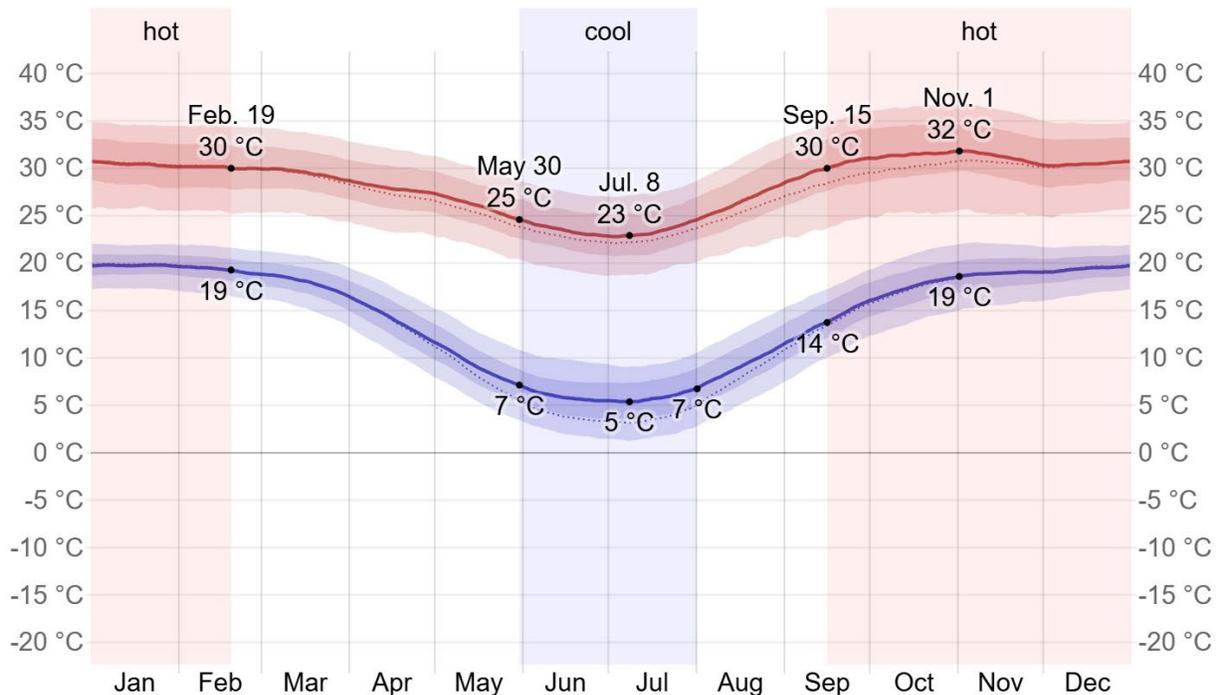
All forms of transportation are readily available and accessible to the population, mainly light and medium vehicles, mini-bus type taxis, and larger public bus transportation. Francistown has a tarred airstrip and International Airport with customs clearing.

### 5.2 Climate

The climate is tropical, with hot, wet summers and mild, dry winters (Figure 5-1). Most of the rainfall occurs during the period from October to April, usually in the form of scattered thundershowers, with massive surface run-off. The average rainfall is approximately 460 mm per annum as recorded at Francistown Airport.



**Figure 5-1: Average Annual Temperatures at Francistown Airport**



Source: Weatherspark.com, 2024.

\*Notes: The daily average high (red line) and low (blue line) temperature, with 25<sup>th</sup> to 75<sup>th</sup> and 10<sup>th</sup> to 90<sup>th</sup> percentile bands. The thin dotted lines are the corresponding average perceived temperatures.

Due to the climate, most greenfield exploration field work is carried out during the winter period when the rivers and streams are practically dry and vegetation less dense. However, where good access infrastructure exists at brownfield sites such as Selkirk, work can continue all year round.

### 5.3 Local Resources

No specific deficiencies in the general labour resource have been identified as the former mining company TNMC had engaged in the training and development of local Botswana skills from the growing and youthful population of Francistown and other regional communities such as Matseloje and Matshelagabedi. With the exception of highly specialized technical experts required during the construction phase, PREM believes that there is a local skills base with sufficient capacity to cater for its further needs with regard to the Project and its general organizational development requirements.

### 5.4 Infrastructure, Power, Water, and Supply

The area is in a rural district and the available infrastructure is minimal. However, the sufficient availability of strategic services, i.e., bulk electrical power and bulk water supplies, and the related delivery infrastructure has most recently been studied in 2016 as part of a Bankable Feasibility Study (BFS) undertaken by WorleyParsons under contract to BCL. WorleyParsons (2016) concluded that that an external water supply would be required to supply operations during the dry months of the year and this water was proposed to be sourced from existing



governmental water supply pipelines within the Francistown road reserve. Potable water can be sourced from a nearby borehole in the short term, and it may be possible to obtain potable water from a nearby Botswana military camp in the future.

In the 2016 BFS study, power was proposed to be supplied via the existing Botswana Power Corporation powerline, which runs along the Mopane access road to the Selkirk Mine infrastructure. However, in the 2016 study, power needs at Selkirk were limited to client and contractor offices, lighting and water management systems, which included pit dewatering. PNGPL's power needs will be greater because future processing will take place at Selkirk, as compared to BCL's plan to transport mineralization to the Phoenix concentrator for processing.

The current Project infrastructure includes relict surface infrastructure supporting the historical underground mine, and the original decline.

## **5.5 Physiography**

### **5.5.1 Topography**

The Project and the proposed infrastructural sites are located in a relatively flat area of Botswana, with a mean elevation of 980 m. Isolated hills, comprised of geological units less susceptible to weathering, outcrop the flat surface. The prevailing drainage pattern is dendritic, with irregular branching tributaries. The valleys of the streams and rivers are narrow (3-5 m wide) and gently sloped. The general slope of the area is eastwards towards the Ramokgwebane River. Various unnamed tributaries flow across the property.

### **5.5.2 Surface Water**

The Project falls within the greater Shashe/Tati River systems. All the main rivers considered in this Project are ephemeral, with irregular but rapid surface flows after heavy summer rainfall. Major surface water requirements are met from the Shashe Dam.

### **5.5.3 Groundwater**

A total of two aquifers are present in the Project area, namely the fractured granitoids and alluvial sands. Both aquifer types have limited storage capacity, are unconfirmed and are vulnerable to contamination. The alluvial aquifers are restricted to rivers such as the Ramokgwebane River. On the other hand, the fractured granitoid aquifers are controlled by the degree of fracturing and/or weathering. Both aquifer groups are typically shallow with up to 100 m thicknesses obtainable from fractured granitoids and 10 m from alluvial aquifers. Recharge to the groundwater regime is from rains and ephemeral surface flow. Overall, the groundwater potential in the area is limited, hence the fact that all major water requirements are met from the Shashe Dam.

### **5.5.4 Vegetation**

The type of vegetation cover is fairly uniform although the nature of the underlying strata and the amount of grazing does have some bearing on the richness of the vegetation cover. On the Botswana vegetation map, the whole area is described as being within a tree savanna type (specifically Mixed Mopane Bushveld). The vegetation therefore consists of trees and shrubs of several species, but Mopane and Acacia are the dominant species. The density of grass cover depends on the extent of grazing. At Selkirk it is mostly overgrazed with species diversity being relatively low.



### **5.5.5 Animals**

Large species of wild animals are almost non-existent, except where they have been reintroduced by game farmers. However, many of the smaller species of wildlife occur and birds are common. The area is predominantly utilized for livestock grazing. No flora or fauna red data species have, to date, been identified within the Selkirk lease area.



## 6.0 History

The following paragraphs regarding the history of the Project are largely extracted from a previous technical report prepared by G Mining Services Inc. (G Mining 2023), which in turn referenced Botepe (2013). Historical Mineral Resource estimates have only been mentioned if the original source document was available, and the information pertaining to estimation methodologies was sufficiently detailed for disclosure.

### 6.1 Prior and Current Ownership

The first record of mineral rights occurred in 1964 when Tati Territory Exploration Co. Ltd. (TTE) acquired mineral rights over a large area that included the Project.

The Government of Botswana granted a 25-year mining licence over the Selkirk and Phoenix deposits in November 1988 to TNMC, a new company comprised of Lexan Trading Inc. (51%) and Francistown Mining and Exploration Ltd. (49%). These two founding companies have changed ownership several times and Table 6-1 presents a summary of the ownership history of the Selkirk Project. The government acquired a 15% interest in TNMC in 1995, resulting in ownership of Lexan Trading Inc. (43.35%), Francistown Mining and Exploration Ltd. (41.65%), and the Government of Botswana (15%). BCL, through its wholly owned subsidiary BCL Investments (Pty) Ltd, acquired Lexan Trading Inc. and Francistown Mining and Exploration Ltd. in 2015.

**Table 6-1: History of Ownership at Selkirk**

Year	Company
1964	Tati Territory Exploration Co. Ltd (TTE) acquired the large Tati Concession.
1970	Anglo-American Corporation of South Africa (AAC) acquired the rights to prospect for a period of 15 months, ending June 5, 1971, under agreement with TTE.
1971	Concessions were returned to TTE after negotiations with AAC fail to extend the agreement.
1979	New prospecting licence granted to TTE; however, TTE failed to honour exploration expenditures.
1984	UK investment firm Morex through its local subsidiary Morex Botswana (Pty) Limited (together Morex) was granted a prospecting licence covering the Phoenix and Selkirk deposits.
1985	Morex founded Francistown Mining and Exploration Ltd in 1985.
1988	Morex transferred the prospecting licence to newly formed company TNMC, wholly owned by Morex.
1988	TNMC ownership changed to Lexan Trading Inc. (51%; Swiss trading affiliate of RTZ Corp identified as Centametal) and Francistown Mining and Exploration Ltd. (49%, Morex).
1989	AAC acquired 51% of TNMC.
1995	Government of Botswana acquired 15% of TNMC. Ownership of TNMC: AAC, 43.35%; Morex, 41.65%; Government of Botswana, 15%.
1996	LionOre Mining International Limited (LionOre) acquired 41.65% of TNMC.



Year	Company
	Ownership of TNMC is AAC, 43.35%; LionOre, 41.65%; Government of Botswana, 15%.
2002	LionOre purchased AAC's interest in TNMC. TNMC ownership is LionOre, 85%; Government of Botswana 15%.
2007	Norilsk Nickel acquired LionOre. TNMC ownership is Norilsk Nickel, 85%; Government of Botswana, 15%.
2015	BCL purchased Norilsk Nickel's interest in TNMC through its wholly owned subsidiary BCL investments (Pty) Ltd. TNMC ownership is 85% BCL, 15% Government of Botswana.
October 9, 2016	BCL and TNMC operations placed on care and maintenance, placed in provisional liquidation.
June 15, 2017	BCL placed into final liquidation.
May 27, 2022	PNGPL awarded the Mining Licence over the Selkirk deposit.
August 22, 2022	PREM completed the asset purchase agreement for the Selkirk Assets under its local subsidiary Premium Nickel Group Proprietary Limited (PNGPL)

## 6.2 Exploration and Development History

A detailed account of all exploration undertaken at Selkirk can be found in G Mining (2023).

The Phoenix and Selkirk sites are known for ancient copper workings and were also investigated for their gold potential after the rediscovery of gold in the area in 1866 (Marsh, 1979). AAC established the presence of nickel and copper occurrences at the sites of the ancient workings in 1929 through the commissioning of Messer's Brown and Tulloch to evaluate the mining potential of the area.

The first large scale systematic work was conducted from 1964 to 1969 by the TTE. Eighteen holes in 2,500 m were drilled during 1965 and 1966, but TEE was unable to determine the potential of mineralization within the geological setting. In the late 1960s, DeBeers and AAC conducted regional mapping, widely spaced soil sampling and commissioned Geoterrex Limited of Canada to fly an airborne magnetic and INPUT electromagnetic (EM) survey. AAC, through its local subsidiary, Sedge Botswana (Pty) Limited (Sedge), subsequently explored the Selkirk prospect from March 1970 to 1971 under a 15-month prospecting agreement negotiated with TTE. Detailed work included 1:500 scale geological outcrop mapping, soil sampling, trench sampling, ground geophysics, and diamond drilling. A total of 117 drill holes for 27,377.5 m were drilled and assay results were used for a mineral resource estimation. Mineralogical studies and metallurgical test work were completed and used as input within a subsequent economic study. Potential for additional reserves was identified at Phoenix, but AAC was unsuccessful at renegotiating the option agreement with TTE. All the drill core from this period of exploration was destroyed, apart from a few examples that were stored at the Geological Survey Department of Botswana in Lobatse.

The exploration agreement between AAC and TTE expired in 1971, and no significant exploration work was conducted until Morex was awarded a prospecting licence in 1984 over the Selkirk and Phoenix deposits. Morex approached Rio Tinto to conduct a preliminary study on the Selkirk and Phoenix deposits in August 1984. Two holes, one at Selkirk and one at Phoenix, were drilled to obtain samples for metallurgical test work. Rio Tinto presented several



options, including mining the high-grade massive sulphides and shipping the mined mineralization to the BCL smelter.

The Selkirk underground mine was commissioned in 1989 and extracted massive sulphide from a near surface, shallow dipping, and synformal shaped deposit of massive sulphide up to 20 m thick for direct smelting at BCL. The mine ceased operations in August 2002 after exhausting the massive sulphide. Partial pillar extraction occurred in 2013. Over 1.0 Mt of material grading 2.6% Ni and 1.6% Cu was extracted from the mine since 1989.

More recent exploration dates back to 2003 when TNMC conducted a Titan 24 geophysical survey over the Selkirk deposit. Results of this work, along with earlier Sedge work, indicated the presence of mineralization down plunge of the underground mine. This was followed by a series of diamond drill campaigns which defined a large body with thick intervals of disseminated sulphides extending in excess of 1,500 m down plunge to the southwest of the initial massive sulphide discovery.

Further exploration of Selkirk by LionOre included soil sampling, gravity, magnetic, and induced polarization (IP) surveys. The magnetic data was interpreted to be dominated by that of the trending Karoo dyke swarm and the gravity data provide an excellent tool for mapping the west-northwest regional geology of the Selkirk Mining Licence (Figure 6-1). From October 2007 to February 2008, an IP survey was conducted by Spectral Geophysics over the Selkirk Mining Licence (Figure 6-2). The survey was only 2/3 completed. Several chargeability anomalies were outlined by this geophysical campaign and indicated the presence of chargeable bodies at depth (Botepe, 2013).

Drilling of geophysical and geochemical targets followed by resource definition drilling took place from 2004 until 2007. It was during this time period that the first PGE analyses on core samples were routinely obtained. LionOre began to analyze selected drill core for PGEs in 2003. Before 2005, the analysis of PGE was undertaken only on drilling intervals that had a concentration of Ni > 0.15%, which created an incomplete dataset with a bias towards higher-grade PGE assays. After 2005, all new drill holes were analyzed for PGE content.

During LionOre's exploration campaign, the extension of mineralization down plunge of the massive sulphide zone as a broad envelope of consistent disseminated and sporadic massive pyrrhotite-chalcopyrite mineralization was defined within the metagabbro host. The deepest hole drilled by LionOre intersected massive sulphides at 1,200 m below surface, significantly deeper than targeted or explored by previous operators.

In June 2007, Norilsk Nickel acquired the Project from LionOre (LionOre, 2007). The new owners concentrated their efforts both on the future development of the Selkirk historical resource and exploration for new deposits, both on the Selkirk Mining Licence and on newly acquired prospecting licences. As part of this work, a drill hole validation exercise in 2008 compared results from old drill holes to new drill holes to determine if historic results could be included in the resource. It was concluded that the historic holes showed higher grades, and care had to be taken in data handling to avoid overestimation of resources. A random selection of 10% of pulps were sent to Genalysis laboratories, in Western Australia, to be assayed as check samples, against those assayed at the Tati Mine Laboratory.

Between May and September 2007, soil samples were collected over the entirety of the Selkirk Mining Licence (approximately 15 km<sup>2</sup>) using the recommendations from the soil orientation surveys carried out in 2006 and preferentially collected from the B horizon. A total of 4,972 samples were collected and assayed for pathfinder elements prepared at Genalysis Laboratory Services Pty, Ltd, South Africa, and analyzed at Genalysis Laboratory Services Pty, Ltd, Australia.



Results showed clear Ni and Cu anomalies over the Selkirk deposit and Cinderella (target 3) area (Figure 6-3 and Figure 6-4). The copper soil anomalies appear to show that the Selkirk and Cinderella systems are located along an easterly to northeasterly trending soil geochemical strike that can be followed in a northerly direction into the Ramokgwebane mafic intrusive complex.

From this work, several target areas were identified where anomalous concentrations of associated elements coincide. Three trenches totalling 2,858 m located east of the Selkirk deposit over regional soil geochemical anomalies were excavated in 2008 to test, revealing melanocratic to leucocratic metagabbros with iron staining (Mogotsi, 2008).

Much of the work between 2008 and 2015 focused on gathering data to support a BFS and consisted of additional metallurgical studies and geotechnical drilling. The Selkirk Tunnel Project started in May 2008 to evaluate the characteristics of the Selkirk mineralization and collect representative grab and bulk samples for metallurgical testing. A total of 522 tonnes of material were sent to Council for Mineral Technology (Mintek), in South Africa, for test work, and channel samples were analyzed to characterize material in the mine workings area. Geological mapping of the three faces was completed to document rock types, structural features, and mineralization types in the tunnel.

Concurrently with the BFS work, regional exploration continued. TNMC was granted five additional prospecting licences in 2010. Exploration advanced on all licences with complete soil geochemistry coverage and complete EM coverage by means of a versatile time-domain electromagnetic (VTEM) survey in 2012. A total of 2,526-line kilometres were flown over the TNMC lands (Han et al., 2012). Anomalous responses were interpreted, and 14 targets in four areas of interest were investigated in detail using Maxwell Plate Modelling, and a complete 3D magnetic inversion (Figure 6-5). Although two areas of interest were located near known mineralization (i.e., Selkirk and Phoenix historical mines), the VTEM and aeromagnetic survey helped identify two new potential sources of mineralization location east and northeast of the Selkirk Mine.

In 2012, a soil geochemical campaign over the PLs was completed (TNMC, 2012). A total of 6,392 soil samples were analyzed for litho-geochemistry, and interpretation of nickel and copper assay results defined six prospective areas over the exploration properties (Figure 6-6). Geological and structural mapping of the outcrops located near the Rooikoppie Shear Zone (RSZ) noted several northeast striking shear zones with parallel gossan outcrops. Five diamond drill holes, DRKP001 to DRKP005 were drilled to test the gossan and associated VTEM anomaly. Sulphides were intersected, but assay results showed no elevated nickel or copper values.

From 2014 to 2015, exploration for nickel mineralization on prospecting licences PL050/2010 (northwest corner of Selkirk Mine), PL051/2010 (southwest corner of Phoenix Mine), and PL071/2011 (southeast of Selkirk Mine) was undertaken. Remote sensing, geological and structural mapping, petrological analysis, as well as drilling were completed on the exploration licences (Thari, 2015).

From 2014 to 2016, follow-up work between Tekwane and Phoenix included a structural analysis and an IP survey. Two exploration drill holes were completed, with no major mineralization intersected. The recommendation from the 2015 Annual Report concluded that about half of the exploration rights of the PL071/2011 prospect should be surrendered and that exploration around the Tekwane and Rooikoppie mineralized zones should be kept a high priority for later exploration campaigns.



**Figure 6-1: Detailed Ground Magnetic and First Derivative Bouguer Anomaly Survey**

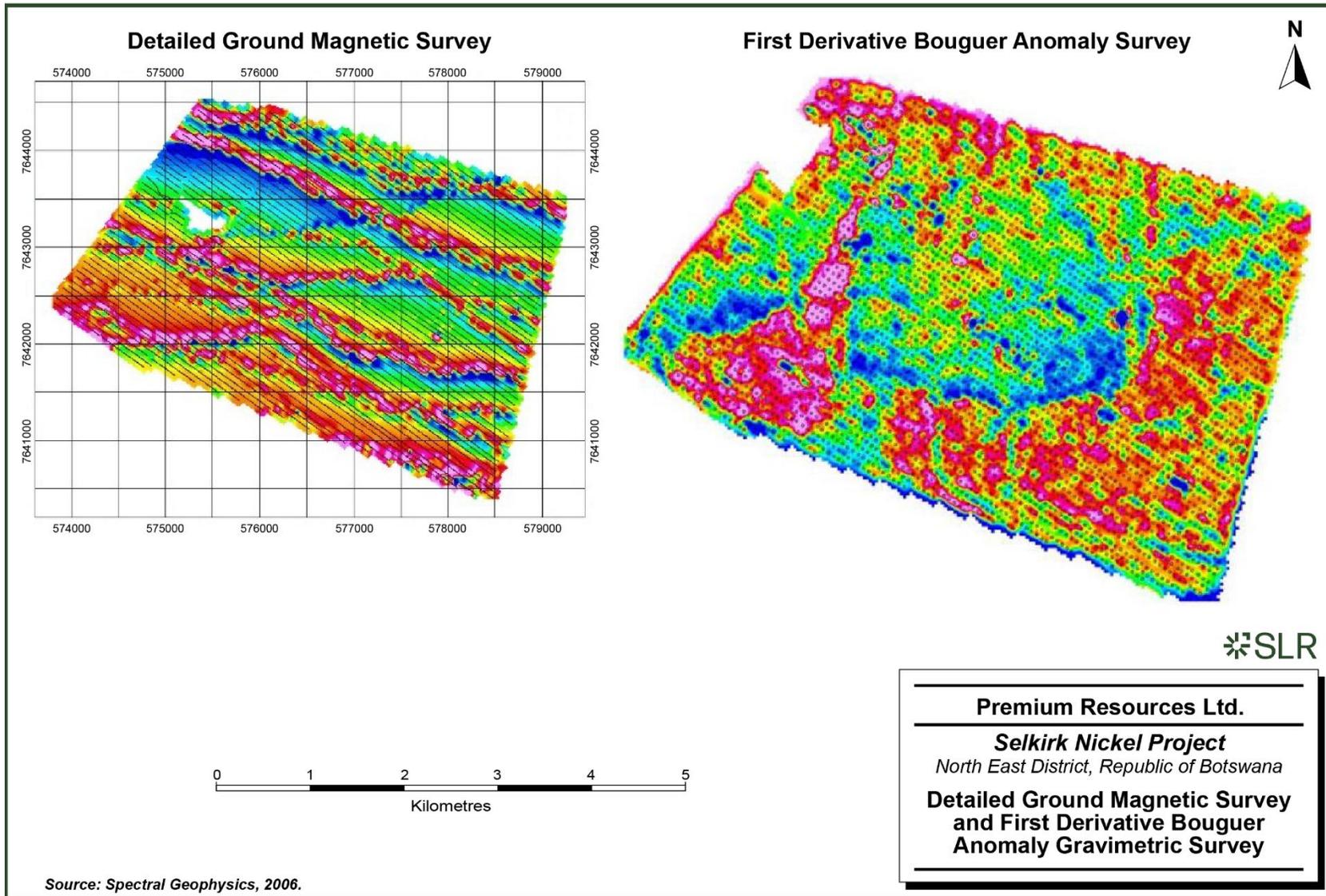
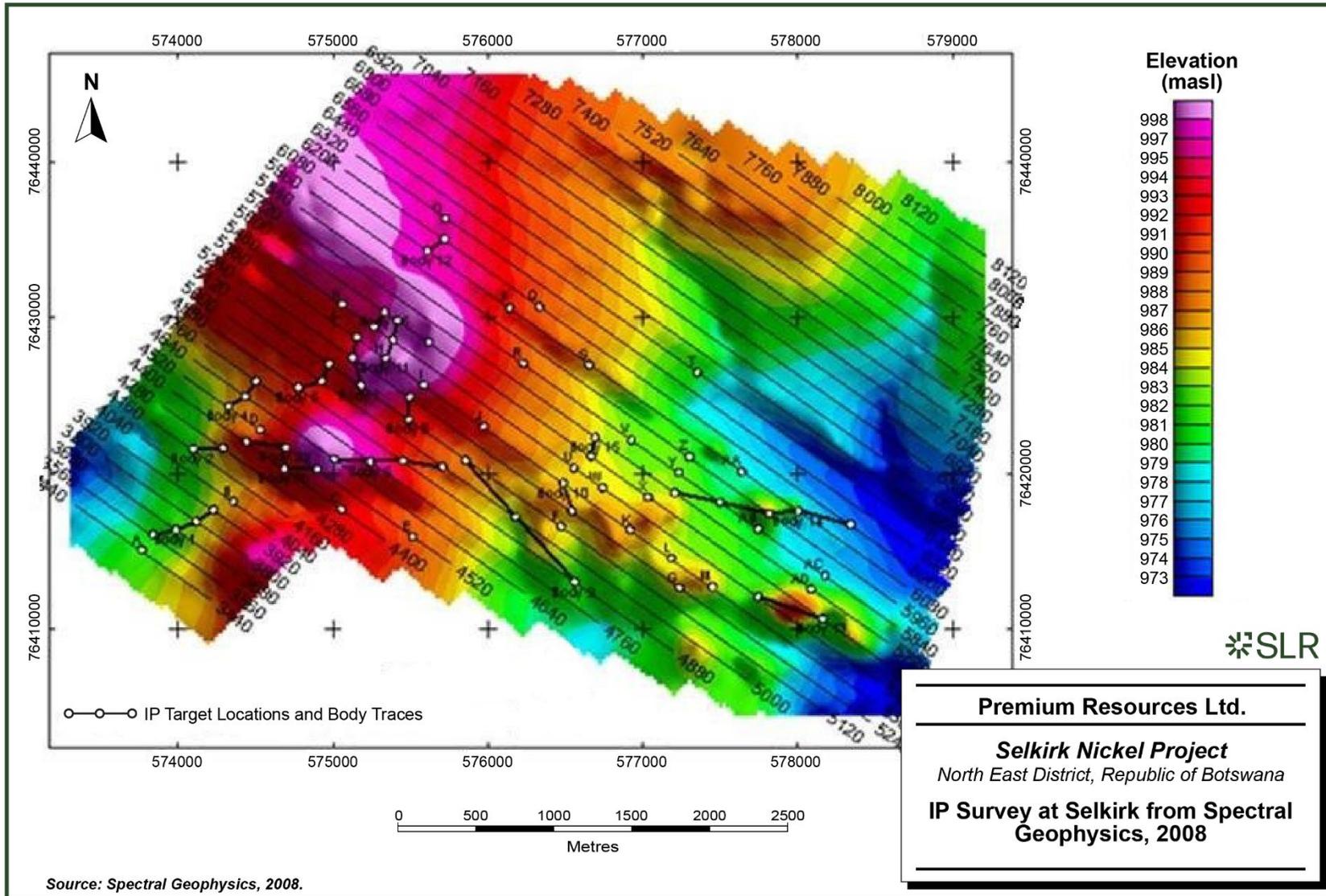


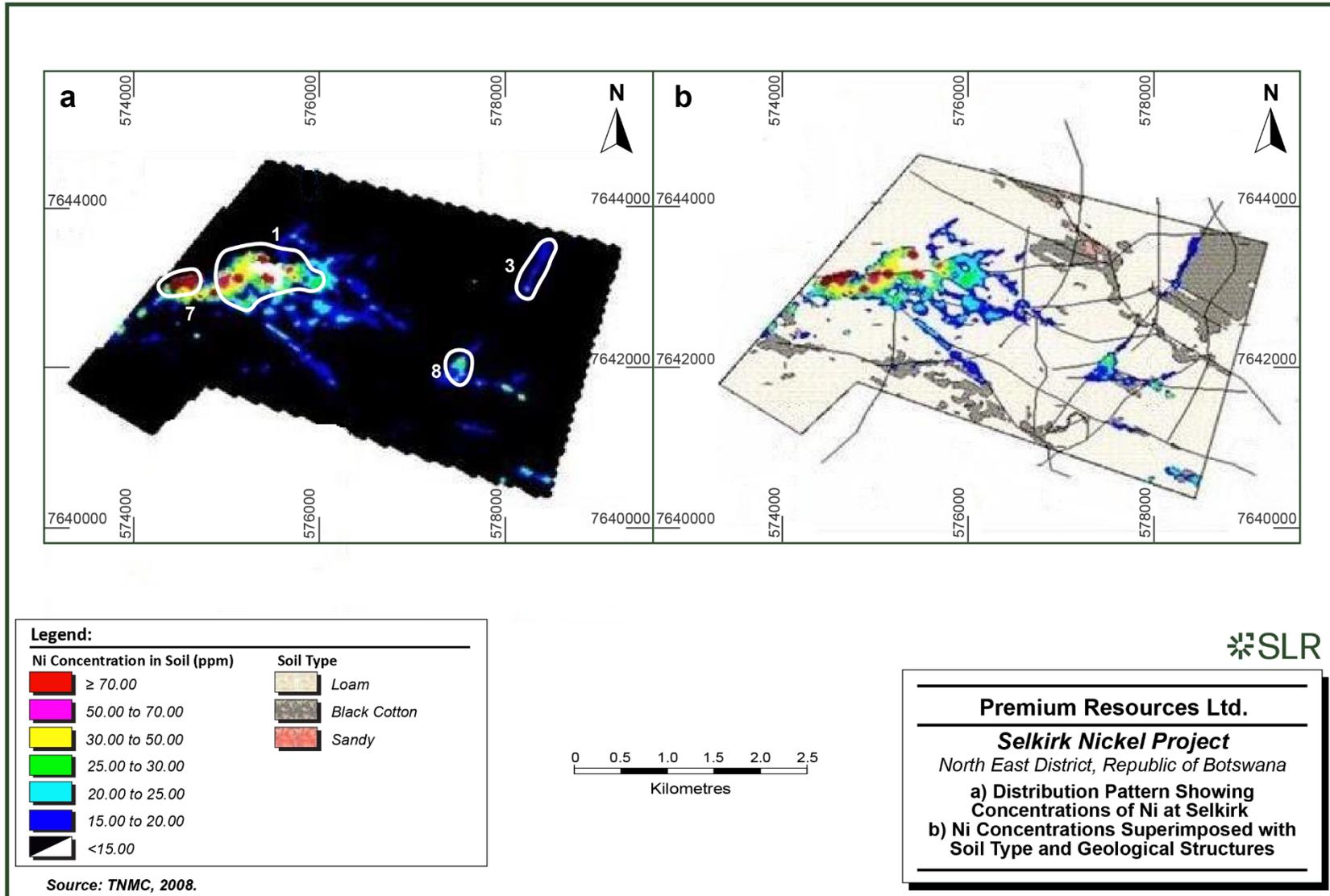
Figure 6-2: IP Survey at Selkirk from Spectral Geophysics, 2008



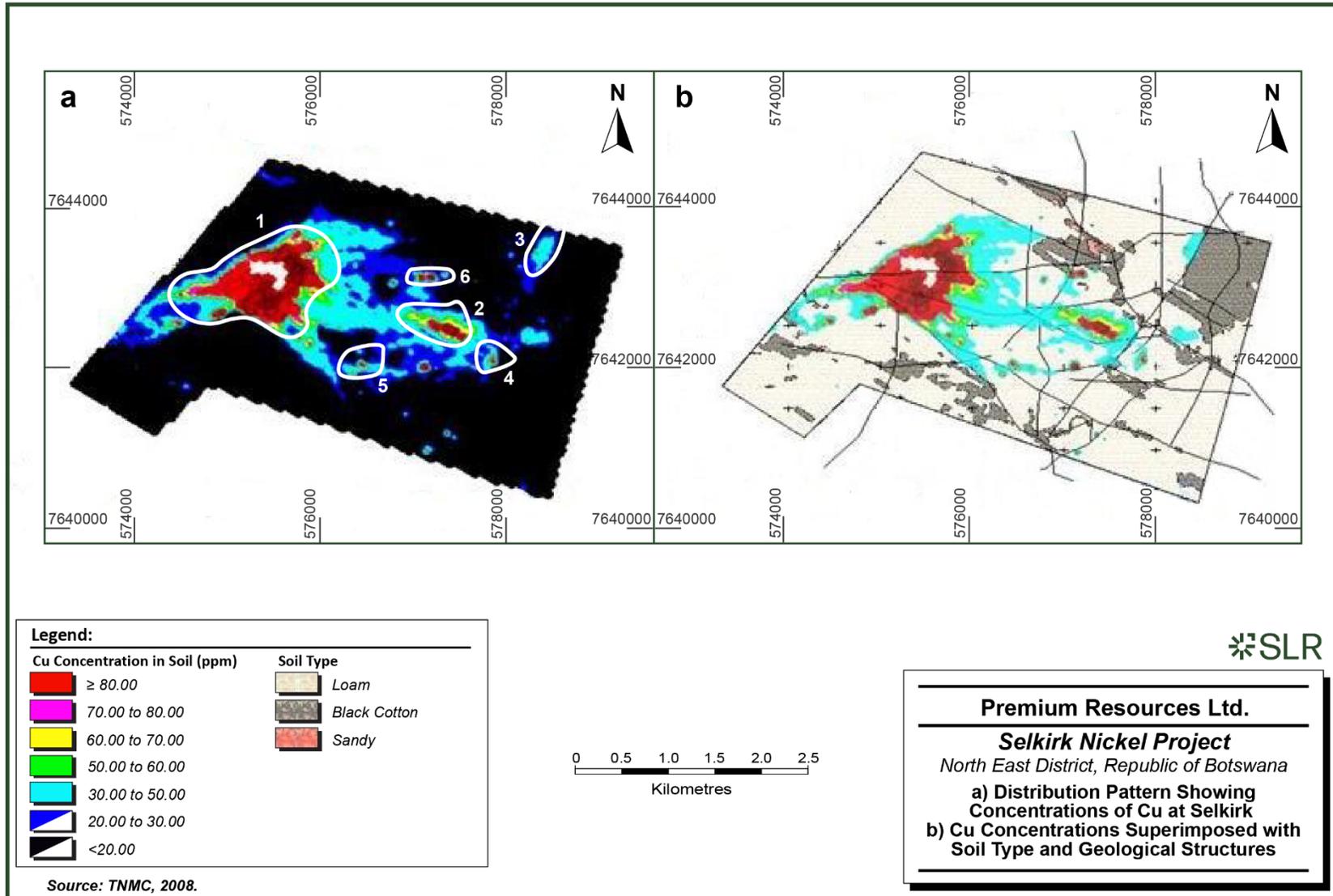
Source: Spectral Geophysics, 2008.



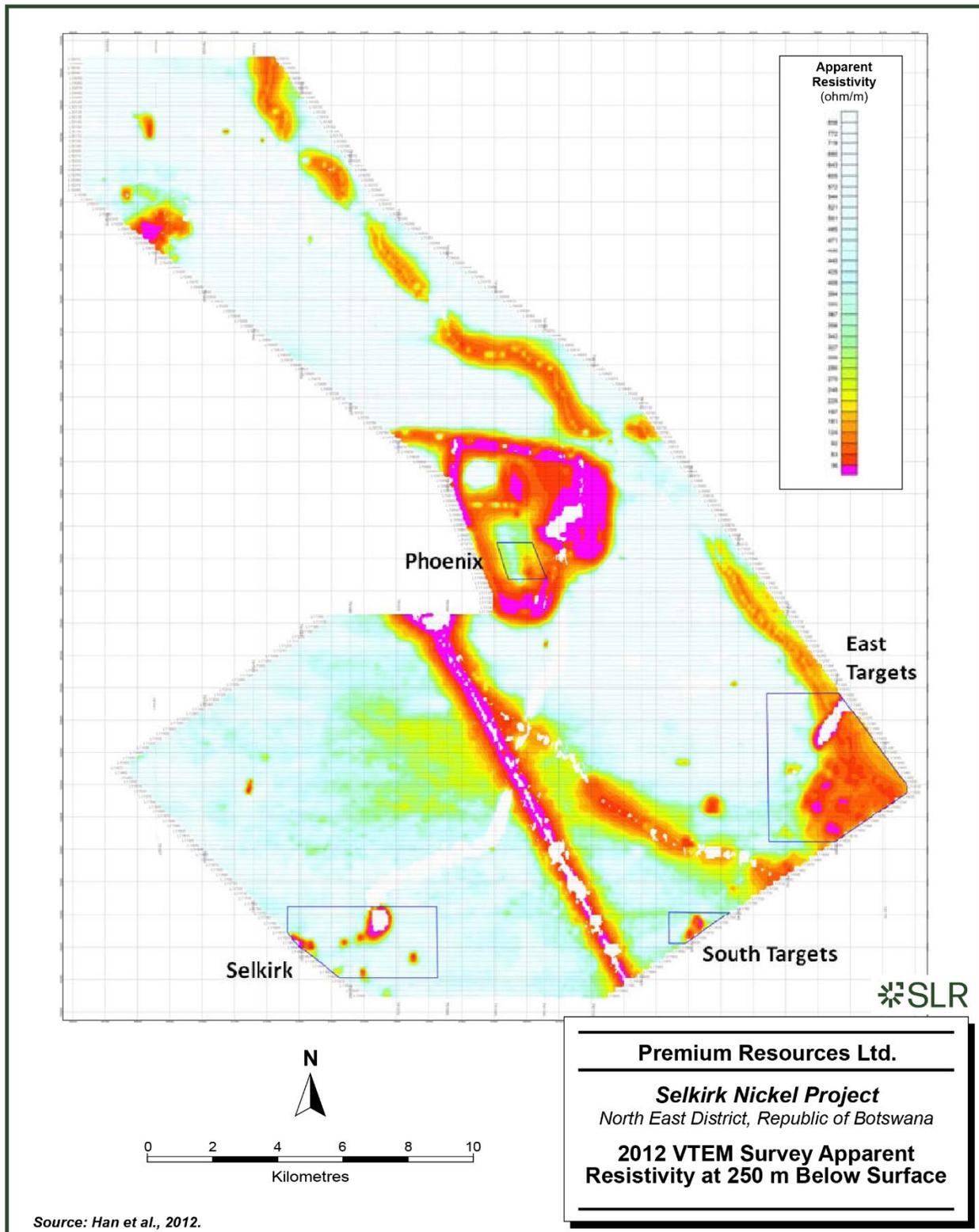
**Figure 6-3: a) Distribution Pattern Showing Concentrations of Ni at Selkirk  
 b) Ni Concentrations Superimposed with Soil Type and Geological Structures**



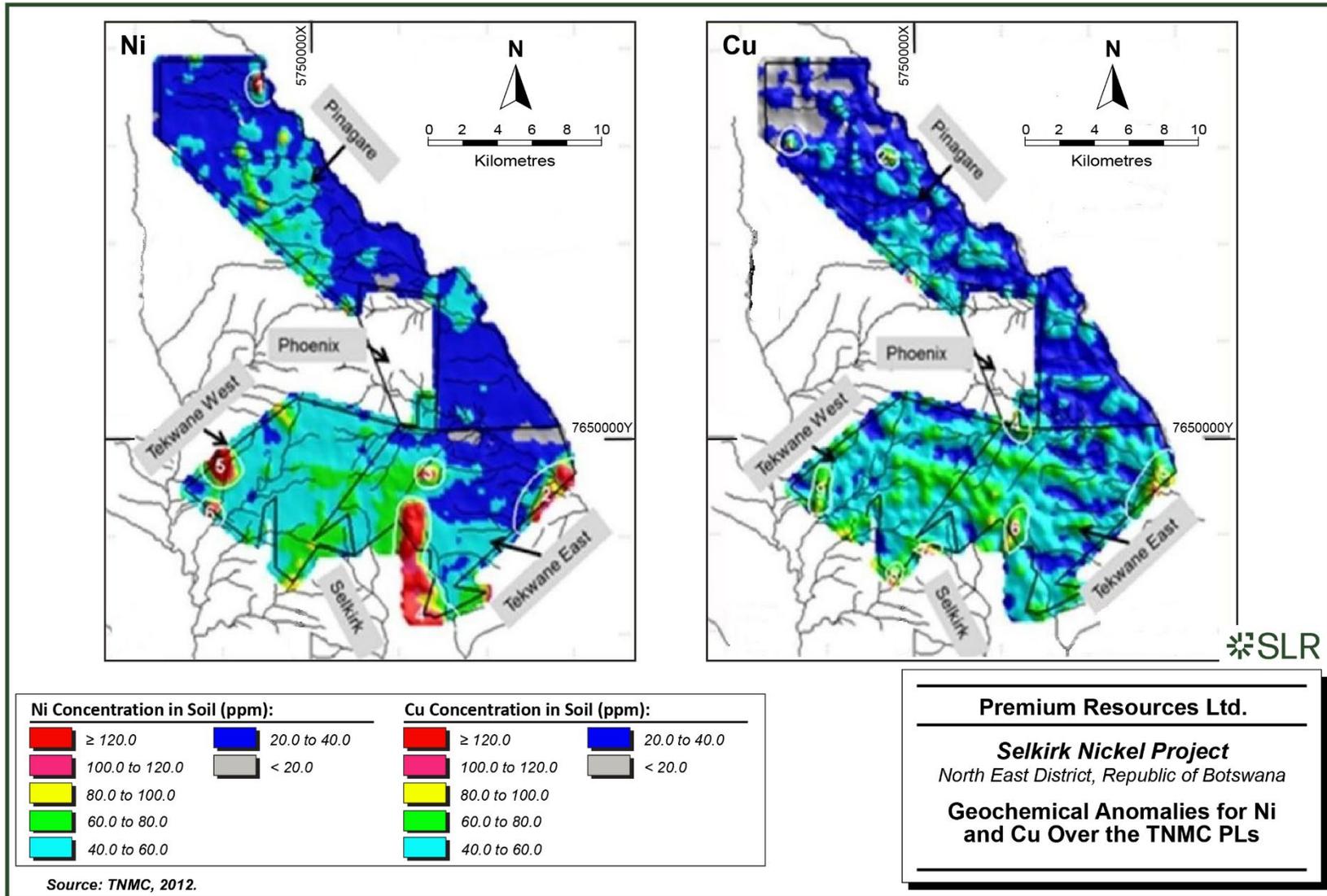
**Figure 6-4:** a) Distribution Pattern Showing Concentrations of Cu at Selkirk  
 b) Cu Concentrations Superimposed with Soil Type and Geological Structures



**Figure 6-5: Apparent Resistivity at 250 m Below Surface**



**Figure 6-6: Geochemical Anomalies for Ni and Cu over the TNMC PLs**



The Project was acquired by BCL in October 2014. No exploration was carried out on either the Selkirk Mining Licence or the prospecting licences. Drilling during 2015 and 2016 supported various aspects of the BFS. Seven holes, DSLK268 to 274, totalling 1,956.93 m, were drilled to collect metallurgical samples for the Mintek test work. Three holes, DSLK288 to 290, totalling 750 m, were holes drilled for water pump tests.

DSLK275 to 287, HQ (63.5 mm) sized holes, were located by PREM in the core storage area at the Phoenix Mine, unlogged and unsampled.

The Selkirk Mine itself has been under care and maintenance since 2002 and is generally inactive. Despite the mine having been idle for twenty years since production, the underground workings are accessible and safe to enter. A ventilation fan and dewatering pumps are occasionally in operation.

### 6.3 Historical Resource Estimates

The first historical mineral resource estimate on the Selkirk deposit was prepared by Sedge in 1971 (Hall 1971), with a high-grade historical resource estimate prepared using the same drill hole data in 1985 (MacMillan 1985). Since then, several Mineral Resource estimates (MRE) have been released under the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves dated December 11, 2005 (CIM (2005) definitions) in NI 43-101 and the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012). The most recent MRE was prepared under the SAMREC Code in 2016 by WorleyParsons.

Table 6-2 provides a summary of these historical mineral resource estimates, and some additional details of the estimation approach and input assumptions can be found in G Mining (2023).

**The mineral resource estimates reported herein should be considered as historical in nature, as insufficient data verification has been conducted by the QP to verify the tonnages and grades summarized in the compilation below. Only historical mineral resource estimates with supporting reports were included in the compilation, of which further details are provided in Table 6-2. It should be noted that it is not clear if historical resources were reported constrained (limited at depth by a conceptual pit shell) or unconstrained, which is not in accordance with current CIM Best Practice Guidelines (CIM 2019).**



**Table 6-2: Summary of Historical Mineral Resource Estimates at Selkirk**

Date	Company and Reference	Cut-off Grade	Tonnage	Grade	Classification	Comments
March 2007	LionOre (TMP, 2007)	0.1% Ni	230.6 Mt	0.24% Ni, 0.21% Cu	Indicated	Initial MRE at Selkirk in accordance with CIM (2005) definitions and NI 43-101
November 2007	Norilsk Nickel (TWP, 2007)	0.1% Ni	130.7 Mt	0.19% Ni, 0.22% Cu	Measured & Indicated	Geological interpretation more restricted leading to lower tonnages, and historical data (pre-2003) was discarded
November 2008	Anglo American plc (MinRED, 2008)	0.1% Ni	214.9 Mt	0.18% Ni, 0.21% Cu	Measured & Indicated	Produced by Anglo American plc (MinRED department) in conjunction with Norilsk Nickel and TNMC geologists.
			19.2 Mt	0.21 % Ni, 0.24 % Cu	Inferred	
January 2013	Norilsk Nickel, (Gipronickel Institute (Gipro), 2013)	0.1% Ni	128.4 Mt	0.21% Ni, 0.23% Cu	Measured & Indicated	Introduced sub-celling of block model, no major changes to geological model, recategorization of Indicated to Inferred
			123.8 Mt	0.17% Ni, 0.19% Cu	Inferred	
September 2016	BCL (WorleyParsons, 2016)	0.2% Ni	52.2 Mt	0.32% Ni, 0.31% Cu	Measured & Indicated	Modified classification, new geological model (0.20% Ni cut-off).
			24.0 Mt	0.24% Ni, 0.04% Cu	Inferred	

Source: G Mining 2023; modified from Botepe 2013



## 6.4 Past Production

The Selkirk underground mine was operated from 1989 to 2002 by TNMC, a company created specifically to exploit the deposit. More than 1.0 Mt of material grading 2.6% Ni and 1.6% Cu was extracted from a semi-elliptical deposit of massive sulphide up to 20 m thick to a depth of 100 m below surface.

## 6.5 History of Environmental Considerations

In 2008, an EIA was carried out to obtain authorization for a redevelopment of the Selkirk Mine. No redevelopment took place and, therefore, the authorization lapsed. Thereafter, TNMC proposed to construct and operate the Selkirk Open Pit Mine within the mine lease area. The Department of Environmental Affairs (DEA), after evaluation of the Project Brief, advised TNMC that an Environmental Management Plan (EMP) should be prepared to guide the implementation of the proposed project. TNMC contracted Sangwenu Engineering & Environmental Consultants to develop an EMP on their behalf.

In 2016, the EMP was compiled for the potential construction and operation of an open pit within the mine lease area. This open pit would extend the life of mine by about five years and would generate 5.0 Mt of end product per annum. The original intention was concentration at the nearby Phoenix mill and the end product would be treated by the BCL Smelter in Selebi Phikwe. In July 2016, the EMP submitted on behalf of TNMC was approved by the DEA in terms of Section 12(1) of the Environmental Assessment Act No. 10 of 2011, reference number DEA/BOD/F/EXT/MNE 030 (13). The DEA used the 2008 EIA as input to the 2016 EMP.

The 2016 authorization was valid for a period of two years, which lapsed in July 2018.

The 2016 EMP was transferred to PNGPL on May 23, 2023 and is valid for ten years under the same terms as the 2016 authorization. Any development not discussed and assessed in the 2016 Statement, or any modification, use of new technology, upgrade or expansion requires a brief to be submitted to the DEA for review. The EMP may be subject to renewal at the end of the ten year period.



## 7.0 Geological Setting and Mineralization

### 7.1 Regional Geology

The Project is located in the eastern part of Botswana, approximately 28 km southeast of city of Francistown (Figure 7-1). This area hosts several intrusive magmatic Ni-Cu-(PGE) sulphide deposits, including the past producing mines at Phoenix, Selebi Phikwe, and Selkirk.

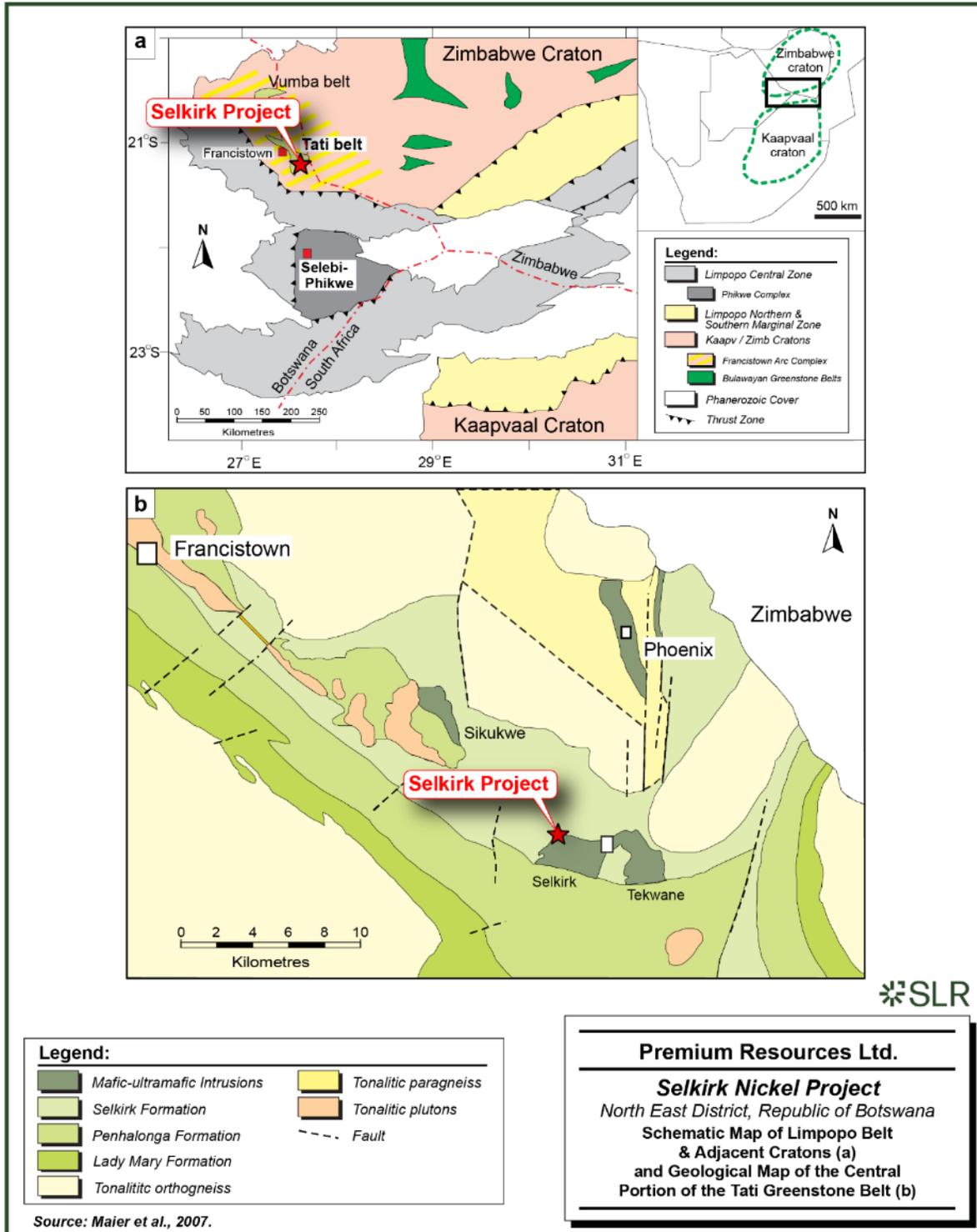
The eastern Botswana Ni-Cu-(PGE) deposits may be subdivided into two groups. The first group of deposits, hosted by the Phoenix, Selkirk, and Tekwane intrusions, occurs within and in the periphery of the Tati greenstone belt. The deposits were discovered in 1968 by TTE, based on mapping and stream sediment geochemistry. The second group of deposits, comprising Phikwe, Dikoloti, Lentswe and Phokoje, are hosted by the Selebi-Phikwe mafic-ultramafic intrusions that occur within gneisses of the Limpopo metamorphic belt approximately 200 km to the south of the Tati belt (Gordon 1973; Baldock et al. 1976). Most of these deposits were discovered by BCL (Bamangwato Concessions) between 1963 and 1966 using soil geochemistry (Maier et al. 2007).

The stratigraphy of the east Botswana mines and deposits consists of major metavolcanic and sedimentary groups. The main lithologies within the Tati greenstone belt consist of lower greenschist to lower amphibolite facies volcanic and sedimentary rocks intruded by granitoids of unknown age (Maier et al., 2007). The volcano-sedimentary succession has been subdivided into three formations: Lady Mary, Penhalonga, and Selkirk Formations that contain a progressively higher proportion of felsic volcanic rocks (Key 1976). At the base, the < 1,600 m Lady Mary Formation consists mainly of altered komatiite and komatiitic basalt and lesser amounts of quartzitic schist, limestone, and iron formation. The overlying > 10 km thick Penhalonga Formation consists of basaltic, andesitic, and rhyolitic volcanic and volcanoclastic rocks, as well as phyllites, black shales, limestones, and jaspilites. This is capped by the Selkirk Formation (> 1 km thick) which consists mainly of dacitic and rhyolitic volcanoclastic rocks and minor amounts of mafic volcanic rocks, quartzites, and quartz-sericite schists. The Selkirk Formation also hosts the Phoenix, Selkirk, and Tekwane metagabbro intrusions and the Sikukwe metaperidotite intrusion (Maier et al., 2007). Van Geffen (2004) dated a gabbro at the Phoenix Mine at  $2,703 \pm 30$  Ma, which places the Tati greenstone belt within the 2.7 Ga Francistown Arc Complex (Carney et al. 1994; McCourt et al. 2004).

Three main deformation events affected the stratigraphy and the emplacement of intrusive units as gabbro and granodiorite, which has implications in the local and regional controls on the Ni-Cu-PGEs mineralization. The first deformation event,  $D_1$  is associated with north-northwest to south-southeast oriented principal stress axes, is of brittle-ductile nature, and is evidenced by the occurrence of kilometre scale fold, faults, and shear zones. The second deformation event resulted from northeast-southwest oriented compressional stress and is recognizable by the presence of folded and asymmetric boudinaged quartz veins and faults that crosscut  $D_1$  structures. The third deformation created by the minimum northeast-southwest principal stress,  $D_3$  produced the fracture, stylolitic cleavages, extensional and columnar joints, which crosscut all the  $D_1$  and  $D_2$  structures (Dirks 2005).



**Figure 7-1: a) Schematic Map of Limpopo Belt and Adjacent Cratons Showing Studied Localities**  
**b) Geological Map of the Central Portion of the Tati Greenstone Belt Indicating Locality of Phoenix, Selkirk, and Tekwane Deposits**

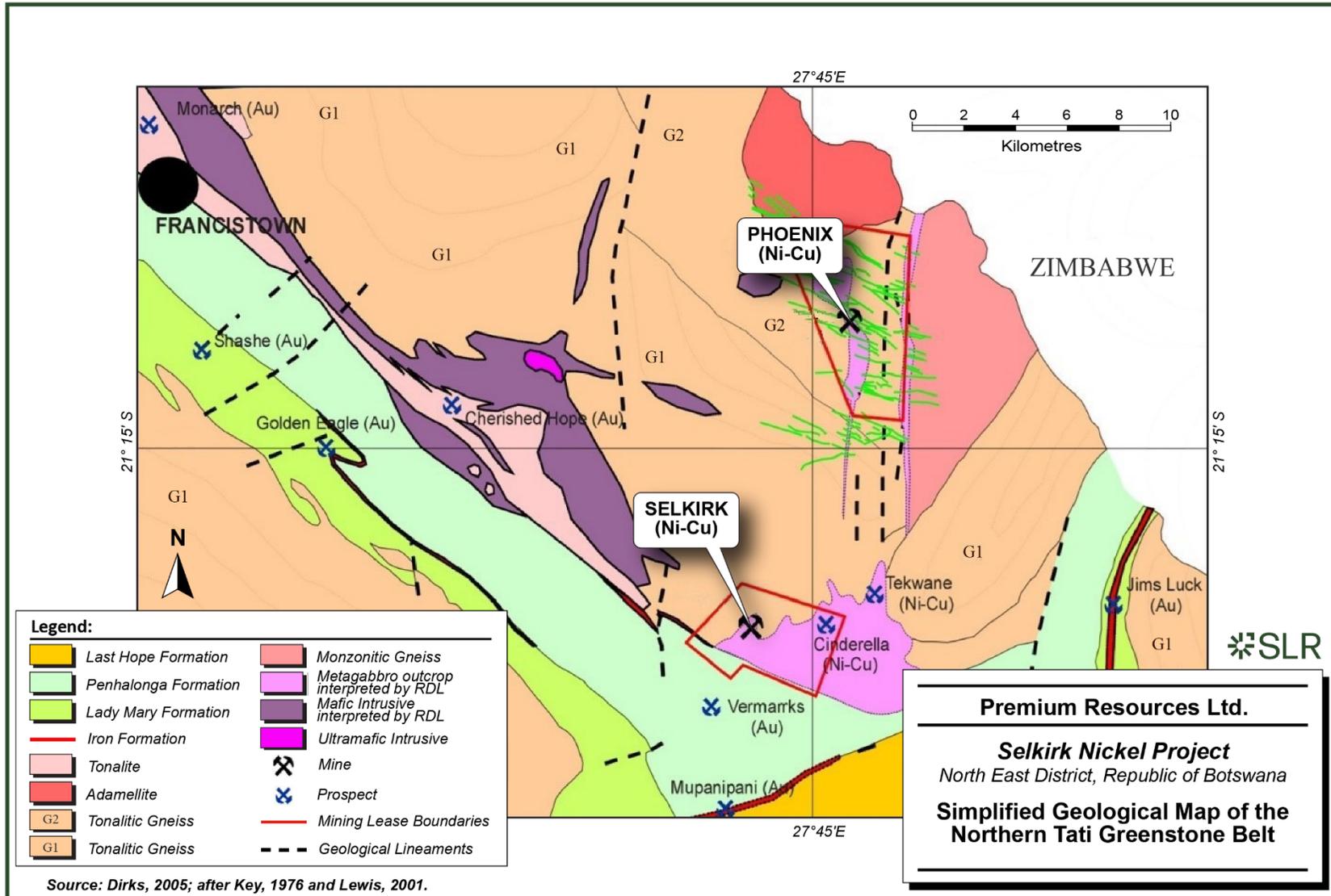


## 7.2 Local Geology

The Tati greenstone belt has a long mining history spanning as far back as ancient copper workings which exploited gossan outcrops of the present operations (Dirks 2005). Two deposits have been exploited by TNMC: one at Selkirk and the other being the Phoenix Mine, located 15 km to north (Figure 7-2). Other associated Ni-Cu prospects in the vicinity of the Project include the Tekwane and Cinderella exploration prospects.



**Figure 7-2: Simplified Geological Map of the Northern Tati Greenstone Belt**



### 7.3 Selkirk Deposit Geology

The geology of the Selkirk deposit is characterized by two types of metagabbro units, namely, taxitic and leucocratic porphyritic metagabbro (Maier et al. 2007). The taxitic metagabbro is characterized by Ni-Cu sulphide mineralization of low to high grade, whereas the leucocratic porphyritic gabbro is barren (Carney et al. 1994). Northwest trending Karoo-age dolerite dykes and south trending feldspar porphyries crosscut these metagabbro units. Alteration assemblages consist of epidote-chlorite, fuchsite, and saussurite (Dirks 2005).

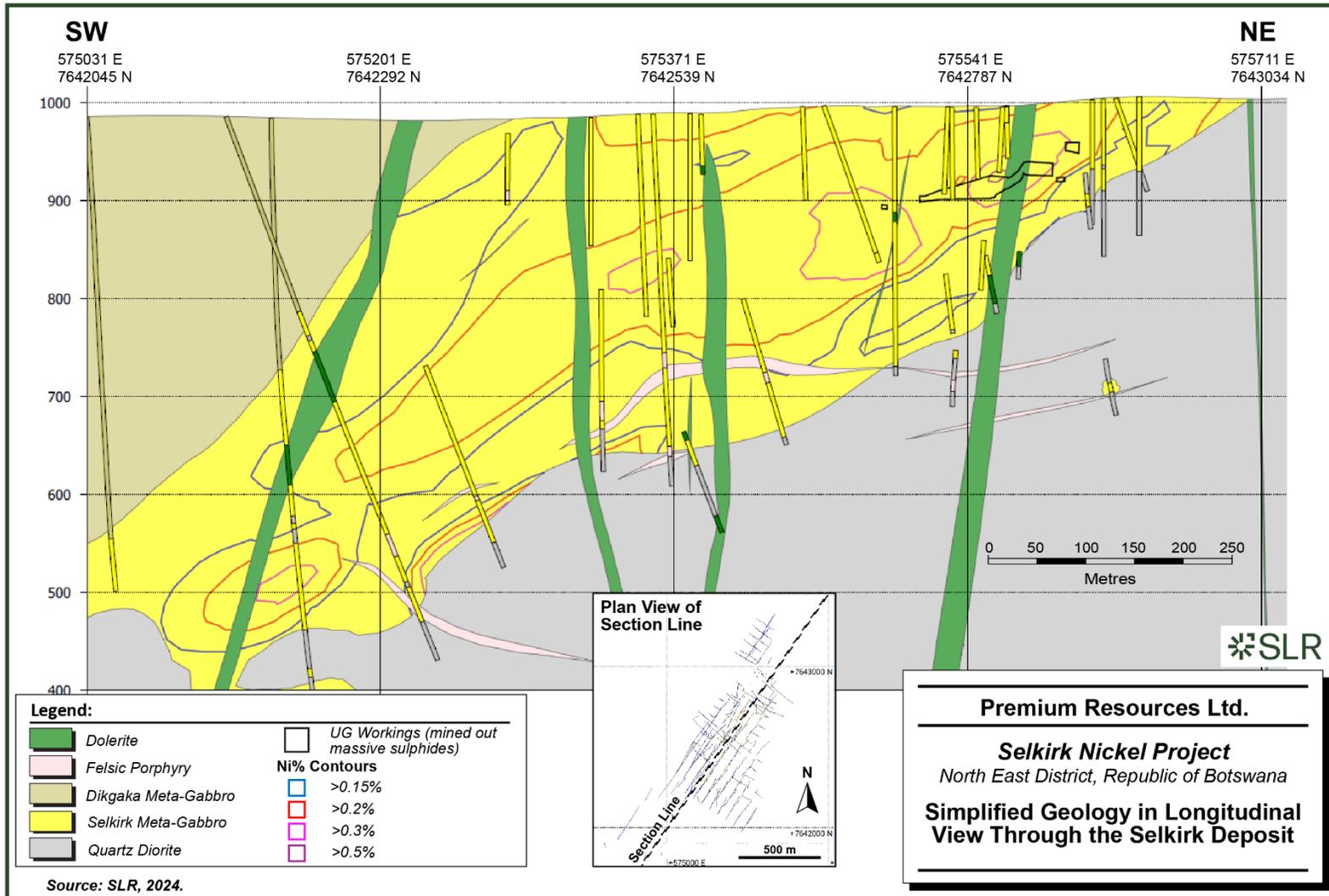
The general stratigraphy of the main lithological units of the Selkirk deposit is defined as follows (Figure 7-3):

- Dikgaka metagabbro (Ni-depleted metagabbro in the hanging wall).
- Selkirk metagabbro (taxitic contaminated and Ni-enriched metagabbro).
- Quartz-diorite (footwall basement).
- Penhalonga Formation (andesitic, mafic and ultramafic volcanics that were thrust over the former lithologies along a prominent northwest trending regional thrust zone at the northern border of the Tati greenstone belt) (not shown).

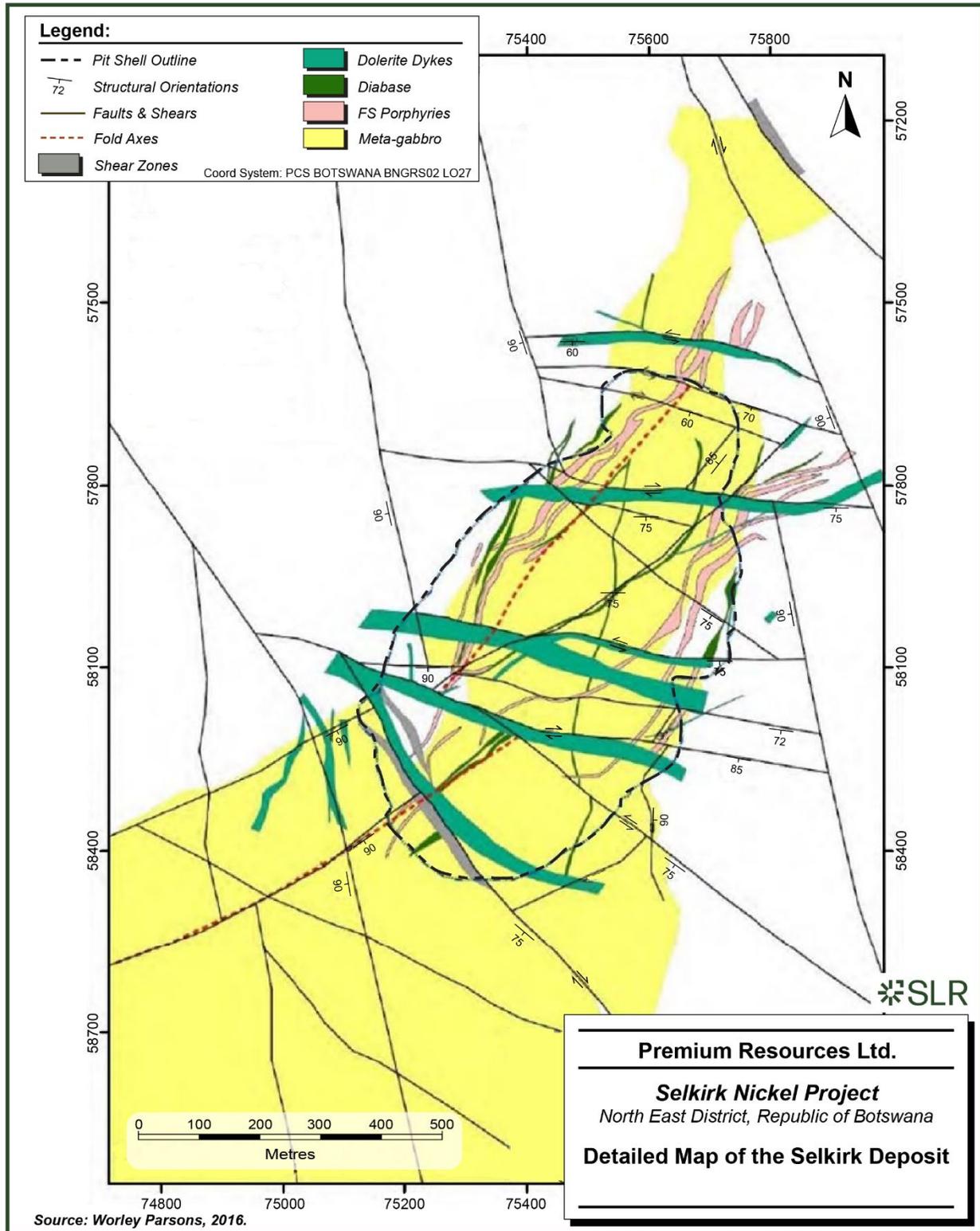
A structural geology study of the area in 2016 discovered numerous faults that have lateral and vertical displacement, resulting in the displacement and movement of bodies of mineralization (WorleyParsons 2016; Figure 7-4). The Selkirk deposit plunges at 25° to the southwest, with a gossanous outcrop located at surface above the underground mine stopes.



**Figure 7-3: Simplified Geology in Longitudinal View Through the Selkirk Deposit**



**Figure 7-4: Detailed Geological Map of the Selkirk Deposit**



## 7.4 Mineralization

Two distinct styles of mineralization can be found at Selkirk:

- 6 Massive-sulphide accumulations within the “keel” of the gabbro intrusion, and along the contacts with the surrounding volcano-sedimentary host rocks.
- 7 Matrix and disseminated sulphide accumulations as a halo and down dip of the massive sulphide mineralization.

Ni-Cu-PGE mineralization is hosted within pentlandite, pyrrhotite, chalcopyrite, and pyrite (Johnson 1986). PGE mineralization is primarily hosted within Kotulskite (Pd(Te,Bi)), Michenerite ((Pd,Pt)BiTe), and Merenskyite (Pd,Pt)(Te,Bi)<sub>2</sub> (SGS, 2024).

The intrusion once hosted a lens of massive sulphide measuring approximately 20 m thick and 200 m long that is mantled by a zone of disseminated sulphides that averages 120 m wide and ranges from approximately 100 m to 150 m thick (Figure 7-5).

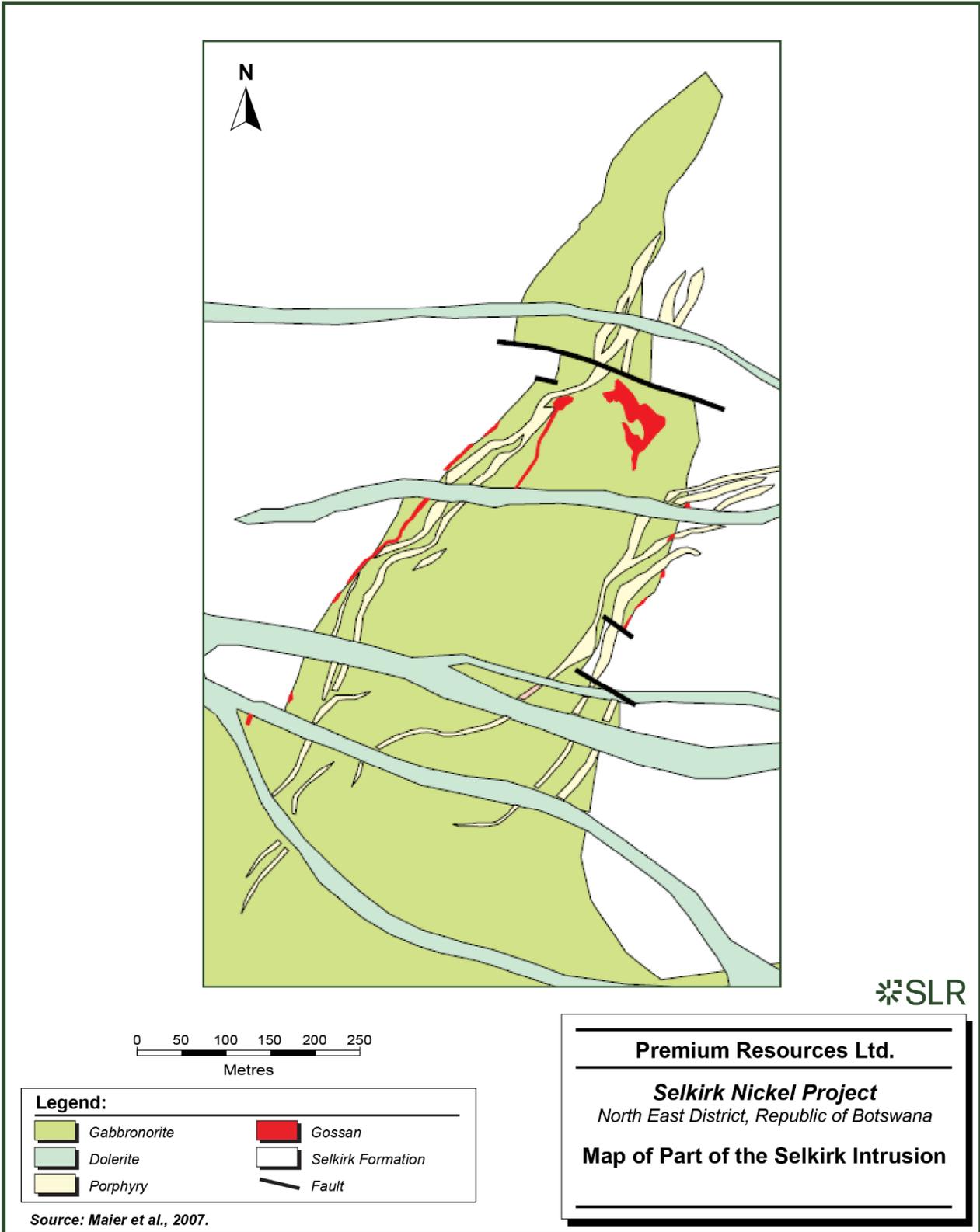
Pyrrhotite constitutes up to 90 vol.% of the massive mineralization. Pentlandite occurs as flame-like lamellae and granular aggregates in pyrrhotite. Chalcopyrite predominantly occurs in the disseminated sulphides. Magnetite locally constitutes up to 15% of the opaque fraction, occurring as subhedral grains that may be distinctly rounded. In some cases, pyrite may constitute approximately 5% of the sulphides, forming late-stage veins and euhedral or subhedral crystals. The massive sulphides may also contain distinctly rounded silicate inclusions reminiscent of *durchbewegung* textures (Vokes 1969).

Surface and underground geological mapping, as well as information obtained from historic and current drilling campaigns and surface geophysical surveys, have confirmed the synclinal nature of the massive sulphide body hosted within the surrounding disseminated sulphide halo in the metagabbro (Figure 7-6). The axis of this “syncline” appears to plunge at approximately 20° to 25° to the southwest, which was also confirmed by ground geophysical methods (EM, IP, and resistivity), as well as drilling.

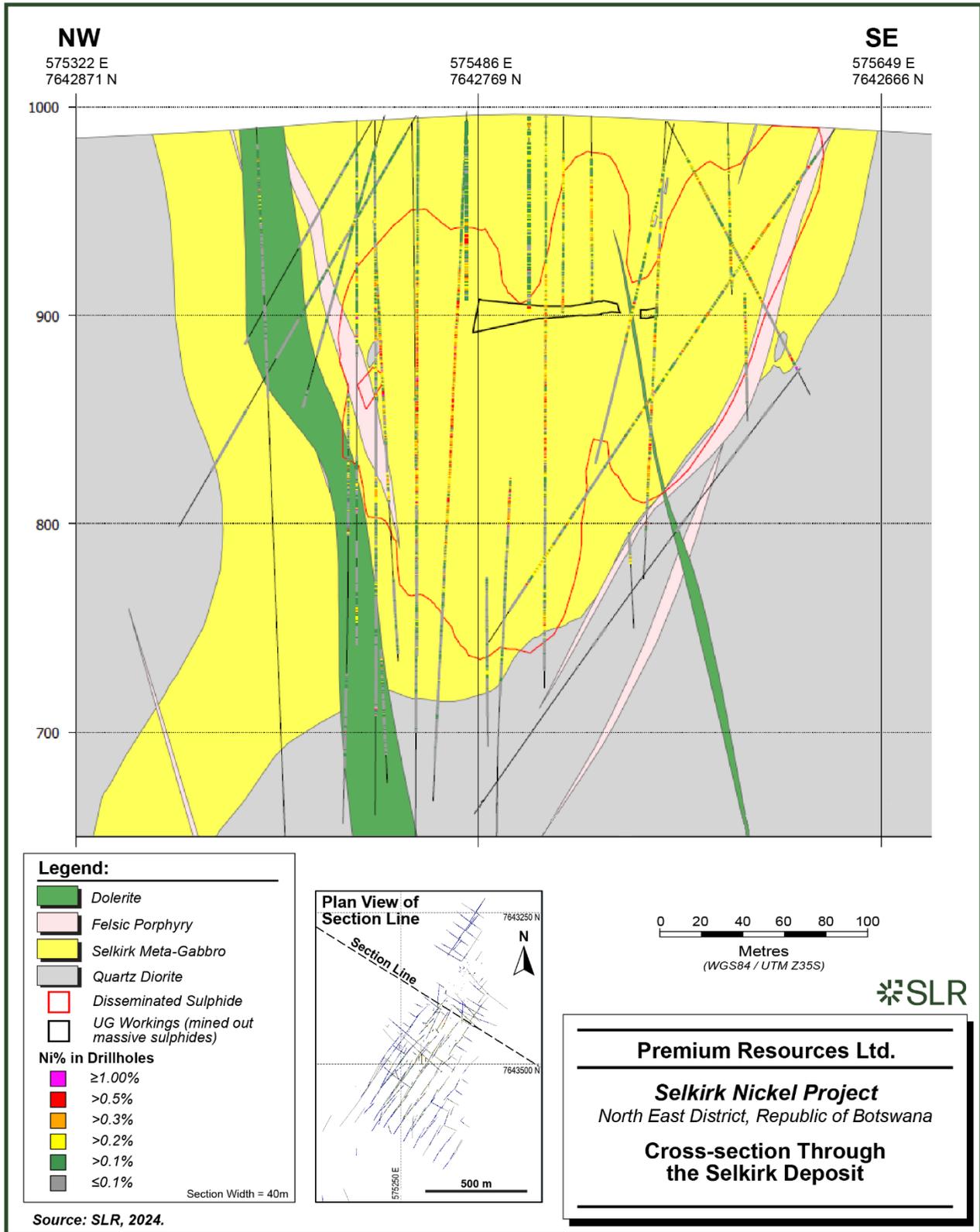
The disseminated sulphide continues down plunge to the southwest beyond the massive sulphide mineralization, and averages approximately 100 m to 150 m in thickness. Fieldwork and studies of the Selkirk drill core indicate that the Selkirk metagabbro is 2.7 Ga (Maier et al. 2007).



**Figure 7-5: Map of Part of the Selkirk Intrusion**



**Figure 7-6: Cross-section Through the Selkirk Deposit**



## 8.0 Deposit Types

The Ni-Cu-PGE sulphide deposits occur in cratons and orogenic belts worldwide (Arndt et al. 2005). Sulphide deposits are broadly classified into two types, hydrothermal and magmatic. The Selkirk deposit belongs to the magmatic type.

Magmatic Ni-Cu sulphide deposits form as the result of segregation and concentration of droplets of liquid sulphide from mafic or ultramafic magma, and the partitioning of chalcophile elements into these from the silicate melt. Sulphide saturation of a magma is not enough in itself to produce economic accumulations of metals. The appropriate physical environment is required so that the sulphide liquid mixes with enough magma to become adequately enriched in chalcophile metals, and then is concentrated in a restricted locality so that the resulting concentration is of economic grade (Naldrett et al. 2004).

Magmatic sulphide deposits are hosted by mafic and ultramafic units, i.e., komatiite, gabbro, gabbronorite, dunite, peridotite, pyroxenite, boninitic, and picritic rocks. Fundamental parameters for the formation of magmatic sulphide deposits include the ability of the mantle melt enriched in chalcophile elements (i.e., Ni, Cu, and PGEs) to interact with sulphur, and reaching sulphide saturation through progressive fractionation, or externally from sulphur rich contact wall rocks such as sediments (Barnes and Maier 1999; Li et al. 2002; Lu et al. 2019). The placement localities such as faults and basins concentrate the sulphide enriched melts, which result in different geometries such as tabular and massive magmatic sulphide bodies. The magmatic sulphide deposits are the most dominant Ni-Cu-PGE type, which include Kabanga in Tanzania, Norilsk Talnakh in Russia, Pechanga in China, Voisey's Bay in Canada, Mount Keith in Western Australia, Bushveld Complex in South Africa, Great Dyke in Zimbabwe, and Selebi Phikwe in Botswana (Barnes and Lightfoot 2005).

The capacity of a magma to form an economic Ni-Cu-(PGE) deposit is controlled mainly by 1) the abundances of metals in the magma; 2) the sulphide saturation state of the magma; and 3) the capacity of the magma to interact with its surroundings. In practice, the ability of magma to interact with wall rocks depends on the nature of the wall rocks, the mode of emplacement, and the composition, temperature, viscosity, and volatile content of the magma itself (Arndt et al. 2005; Leshner et al. 2001).



## 9.0 Exploration

Limited exploration has been conducted by or on behalf of PREM. To date, exploration on the Selkirk Mining Licence by the current operator has included the sourcing and digitization of existing historical information, confirmation and re-surveying of 320 drill hole collar locations, channel sampling underground, and undertaking targeted sampling and re-sampling campaigns of historical drilling.

Work on the Prospecting Licences included data compilation, transfer of core from the Phoenix site, target generation, field prospecting, two surface EM surveys, DGPS of drill hole collars, and sampling of two mineralized intervals of 2012 drill holes DRKP001 and DRKP002.

### 9.1 Underground Exploration

PREM geologists examined underground workings and confirmed continuous visible sulphides along an exploration drift extending 144 m across the interpreted primary sulphide horizon, in a southwestern direction from the previous mining operations. PREM collected and submitted twenty 10 kg grab samples from this exploration drift for assay to determine the variability in the grade of the mineralization. Results are presented in Table 9-1.

**Table 9-1: Assay Results from Underground Drift at Selkirk**

SAMPLE ID	Ni (%)	Cu (%)	Co (%)	Pt (g/t)	Pd (g/t)	Au (g/t)	mE	mN	Elevation (m)
TD00826	0.323	0.411	0.004	0.124	0.494	0.035	575413.3	7642664.3	897.4
TD00827	0.177	0.307	0.001	0.071	0.348	0.03	575418.0	7642666.0	897.4
TD00828	0.608	0.536	0.036	0.219	1.045	0.107	575422.7	7642667.7	897.3
TD00829	2.34	0.201	0.132	0.568	2.44	0.011	575427.4	7642669.5	897.2
TD00831	0.379	0.255	0.02	0.169	0.631	0.031	575432.1	7642671.2	897.2
TD00832	0.578	1.55	0.03	0.186	0.888	0.052	575436.8	7642672.9	897.1
TD00833	0.564	0.675	0.03	0.131	0.874	0.067	575441.5	7642674.6	897.0
TD00834	0.485	0.35	0.024	0.127	0.658	0.045	575446.2	7642676.3	897.0
TD00835	0.354	0.547	0.018	0.138	0.57	0.03	575450.9	7642678.1	896.9
TD00836	0.638	0.306	0.032	0.213	0.857	0.03	575455.6	7642679.8	896.9
TD00838	0.341	0.557	0.017	0.131	0.626	0.085	575460.3	7642681.5	896.8
TD00839	0.393	0.349	0.022	0.108	0.559	0.022	575465.0	7642683.2	896.7
TD00840	0.333	0.292	0.015	0.068	0.503	0.036	575469.7	7642684.9	896.7
TD00841	0.223	0.295	0.01	0.061	0.381	0.027	575474.4	7642686.7	896.6
TD00842	0.726	1.435	0.034	0.241	0.92	0.029	575479.0	7642688.4	896.5
TD00844	0.369	0.273	0.015	0.278	0.961	0.06	575483.7	7642690.1	896.5
TD00845	0.377	0.476	0.016	0.17	0.684	0.066	575488.4	7642691.8	896.4
TD00846	0.295	0.857	0.011	0.131	0.611	0.099	575493.1	7642693.6	896.4
TD00847	0.071	0.099	0.001	0.028	0.205	0.023	575497.8	7642695.3	896.3



<b>SAMPLE ID</b>	<b>Ni (%)</b>	<b>Cu (%)</b>	<b>Co (%)</b>	<b>Pt (g/t)</b>	<b>Pd (g/t)</b>	<b>Au (g/t)</b>	<b>mE</b>	<b>mN</b>	<b>Elevation (m)</b>
TD00848	0.274	0.193	0.014	0.126	0.542	0.025	575502.5	7642697.0	896.2
<b>Average</b>	<b>0.492</b>	<b>0.498</b>	<b>0.024</b>	<b>0.164</b>	<b>0.740</b>	<b>0.046</b>			

## 9.2 Regional Exploration

The acquisition of the PLs adjacent to the Selkirk Mining Licence in 2010 and 2011 and their subsequent exploration was carried out by TNMC between 2011 and 2014 when it was controlled by Norilsk Nickel. The exploration work is described in Section 6.2.

The area is prospective for Ni-Cu-Co-Au-PGE mineralization, having underlying geology similar to that of the nearby past producing mines: Selkirk, located immediately south of the PLs, and Phoenix, located to the north, as well as Ni-Cu deposits Tekwane and Cinderella.

PREM's work on the PLs has included data compilation, transfer of core from the Phoenix site, target generation, field prospecting, two surface EM surveys, DGPS of drill hole collars, and sampling of two mineralized intervals from 2012 drill holes DRKP001 and DRKP002.

The most prospective target identified to date is Rookoppie, a strong VTEM anomaly coincident with both the presence of gossan and elevated soil geochemistry. Five holes, DRKP001 to DRKP005 targeted the gossan and VTEM anomaly in 2012, intersecting two distinct mineralized horizons. With the purpose of confirming that the anomalies were adequately tested, a surface EM survey was completed and the drill hole collar locations were recorded using a DGPS. The results indicated that the two parallel conductors had been intersected near surface and have significant down dip and strike extents. The drill core was sparsely sampled, and additional sampling was completed in DRKP001 and DKRP002. Assays results returned no significant Ni-Cu-PGEs.

Continued exploration work to evaluate weaker VTEM anomalies and soil anomalies, in particular the area immediately adjacent to the Selkirk deposit and the corridor between the Tekwane Deposit and the past producing Phoenix Mine is recommended



## 10.0 Drilling

The following paragraphs are summarized from G Mining (2023), which in turn were largely taken from Botepe (2013). No drilling has been undertaken by current operator PREM.

### 10.1 Summary

Drilling at Selkirk began in 1965 and ended in 2016, with a total of 536 holes drilled. The drilling campaigns completed by previous operators are summarized in Table 10-1 and shown in Figure 10-1.

**Table 10-1: History of Drilling Campaigns at the Selkirk Deposit**

Company	Years	Description	# Holes	Metres
TTE <sup>1</sup>	1965-1967	Core not available	18	2,394
Sedge	1970-1971	Exploration and Resource Drilling, core destroyed	117	27,378
Morex <sup>1</sup>	1984	Metallurgical hole	1	66
Morex <sup>1</sup>	1987	Geological confirmation & Metallurgical test work	2	254
TNMC	2003	Pre-Collar RC holes to the DSLK001-010	9	273
TNMC	2003	Scout drilling (exploration)	11	5,202
TNMC	2005-2008	Delineation drilling	189	51,489
TNMC	2007	Data Verification drilling (hole twinning)	32	7,637
TNMC	2007	Geotechnical	24	2,935
TNMC	2007	Regional Exploration	9	4,333
TNMC	2016	HQ metallurgical holes	11	2,952
TNMC	2016	HQ hydro holes	4	1,000
TNMC	2016	Geotechnical	2	561
TNMC	2016	Sterilization holes	11	2,044
TNMC	2008	UG Drilled at the exploration drift	13	457
TNMC	1998-2006	UG Delineation and Crown Pillar Drilling	83	2,726
<b>Total</b>	<b>Total Diamond and RC Holes</b>		<b>536</b>	<b>111,700</b>
TNMC <sup>1</sup>	2003	Auger drilling (0.4 m Depth)	25	10
TNMC	2008	UG Channel Samples along wall of Exploration drift	98	177
Notes:				
1. Holes excluded from database.				

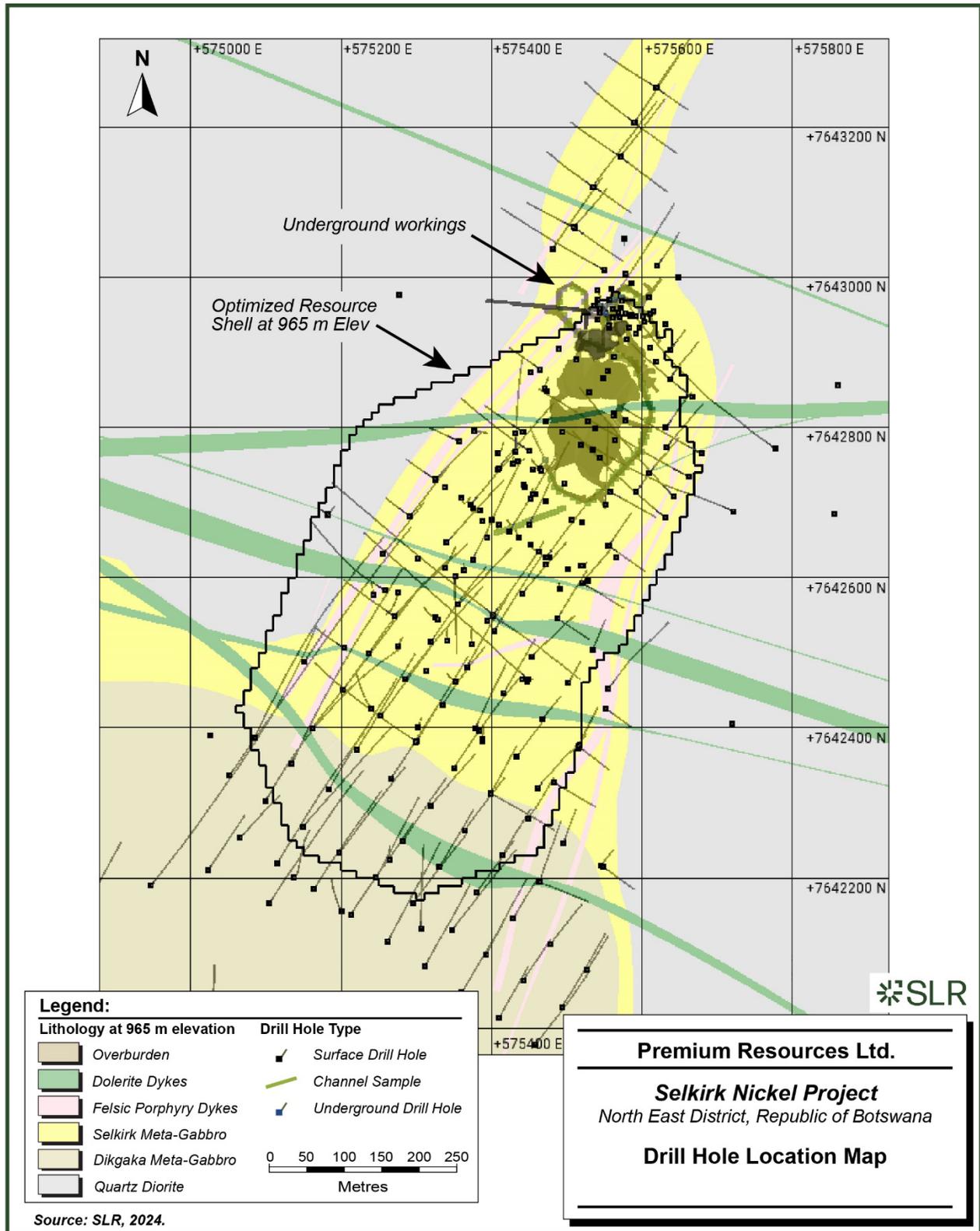
Details on each drilling campaign are scarce, however, ongoing work on the compilation of the drilling database will likely result in greater confidence in the various drilling campaigns and the pertaining data.



Figure 10-1 shows the drill holes and channel data currently digitized in the drilling database, with the underground workings, lithology, and the current optimized pit shell at 965 m elevation shown for context.



**Figure 10-1: Drill Hole Location Map**



## 10.2 Historical Drilling

The first drilling campaign at Selkirk was carried out by TTE in 1968. Eighteen diamond drill holes totalling 2,394 m were drilled (Malan 1968), however, these drill holes are not present in the current database.

Since 1970, 518 diamond drill holes (both surface and underground) have been completed at Selkirk for a total of 109,307 m, including 12 holes for metallurgical purposes, four holes for hydrogeology studies, and eleven holes for condemnation purposes. Nine “DSLK-” holes were drilled with RC pre-collars in 2003, assumed to be a cost-saving measure.

The majority of the drilling was aimed at delineating the main deposit along strike and down dip, with a few holes targeting areas away from the deposit.

In addition, 98 underground channel samples were taken along the wall of the underground workings, and 25 shallow auger holes were completed for soil sampling.

A summary of significant historical intercepts beyond the existing Selkirk Mine workings are included in Table 10-2.

**Table 10-2: Summary of Significant Historical Intercepts at Selkirk**

Hole ID	From (m)	To (m)	Length (m)	Cu (%)	Ni (%)	Co (%)	Au (g/t)	Pt (g/t)	Pd (g/t)
DSLK012	77.90	210.79	132.89	0.51	0.39	-	-	-	-
DSLK018	77.35	127.56	50.21	0.31	0.30	-	-	-	-
DSLK018	153.49	202.33	48.84	0.31	0.27	-	-	-	-
DSLK040	112.91	152.36	39.45	0.52	0.40	-	-	-	-
DSLK042	73.78	222.23	148.45	0.51	0.40	-	-	-	-
DSLK048	69.78	118.97	49.19	0.33	0.26	-	-	-	-
DSLK062	60.94	114.07	53.13	0.36	0.27	-	-	-	-
DSLK075	125.50	213.91	88.41	0.36	0.28	-	-	-	-
DSLK076	166.79	220.95	54.16	0.42	0.32	-	-	-	-
DSLK077	92.73	99.30	6.57	6.56	1.57	-	-	-	-
DSLK079	112.14	195.68	83.54	0.52	0.39	-	-	-	-
DSLK081	160.58	224.32	63.74	0.36	0.27	-	-	-	-
DSLK086	135.75	235.21	99.46	0.36	0.34	-	-	-	-
DSLK093	79.15	196.38	117.23	0.53	0.40	-	-	-	-
DSLK099	14.00	83.62	69.62	0.38	0.32	-	-	-	-
DSLK145	228.50	339.78	111.28	0.38	0.31	-	-	-	-
DSLK210	39.00	122.76	83.76	0.29	0.24	-	0.05	0.12	0.56
DSLK211	84.52	199.78	115.26	0.66	0.42	-	0.08	0.18	0.90
DSLK212	83.69	211.69	128.00	0.48	0.34	-	0.08	0.15	0.72
DSLK219	13.63	26.29	12.66	0.29	0.25	-	0.08	0.10	0.48



Hole ID	From (m)	To (m)	Length (m)	Cu (%)	Ni (%)	Co (%)	Au (g/t)	Pt (g/t)	Pd (g/t)
DSLK219	45.15	54.82	9.67	0.32	0.22	-	0.05	0.13	0.56
DSLK219	78.90	93.36	14.46	0.64	0.36	-	0.07	0.15	0.61
DSLK226	231.17	264.34	33.17	0.47	0.40	-	0.07	0.15	0.81
DSLK240	127.29	207.05	79.76	0.29	0.22	-	0.07	0.13	0.62
DSLK240	215.63	233.16	17.53	0.46	0.30	-	0.10	0.14	0.80
DSLK253	144.59	164.78	20.19	0.30	0.23	-	0.07	0.15	0.68
DSLK253	195.60	221.84	26.24	0.46	0.34	-	0.07	0.16	0.86
DSLK261	75.00	226.00	151.00	0.43	0.35	-	0.10	0.16	0.75
DSLK269	117.00	231.00	114.00	0.39	0.33	-	0.00	0.14	0.71
DSLK274	125.00	193.00	68.00	0.34	0.32	-	-	-	-
DSLK276	70.00	224.00	154.00	0.39	0.36	-	0.00	0.16	0.76

## 10.3 Historical Surface Drilling and Core Handling Procedures

### 10.3.1 RC Drilling

RC drilling was used to pre-collar diamond drill holes in 2003. Where sampled, the sample size was one metre, collected in a bag attached to the cyclone and split using a series of riffle splitters to produce two 100 g samples, one for submission to the laboratory and the other as a duplicate reference material. Splitting equipment included a 50/50 Jones riffle and three tier stack of riffle splitters. The sample submitted to the laboratory underwent crushing to 6 mm and milling to 75 µm until an 18 g subsample was extracted for X-ray fluorescence (XRF) and a 50 g subsample was extracted for fire assay for PGEs and Au if the minimum grade threshold for Ni was met.

RC drilling was discontinued at site due to concerns surrounding the sampling method and recovery.

### 10.3.2 Diamond Drilling

Diamond drilling was employed for exploration and resource delineation in the Selkirk deposit. Drilling primarily used NQ (47.6 mm) size core, however, PQ (85 mm) and HQ sized core were used for pre-collaring in unconsolidated sediments, geotechnical studies, and for the collection of metallurgical samples.

#### 10.3.2.1 Collar Surveying and Downhole Surveying

Pre-drill collar positions were located by mine surveyors based on a drill plan issued by exploration geologists, and actual positions were surveyed after drilling using a real time kinematic (RTK) approach.

Downhole surveys were carried out using the Gyro survey tool. This tool was best suited as it remains unaffected by the influence of magnetic rocks.



Core orientation was carried out in most holes using the Ezy-mark system, and later the Ace tool provided by the drilling contractor.

From October 13 to 17, 2022, PNGPL contracted Drysdale and Associates of Francistown, Botswana, to conduct a re-survey campaign of all available drill collars on the Project. Leica GS12 and Leica GS10 GPS Units were used, all with current Leica Blue Certificates. Coordinates were provided in WGS84, UTM zone 35 South, with geoidal heights. Three monuments were located to calibrate the positing, all of which gave precisions with < 50 mm error. Approximately 320 drill holes were re-surveyed.

### 10.3.2.2 Core Logging

Core was metre-marked and logged by the geologist prior to sampling. Detailed logging described and separated all lithological units greater than 40 cm and these were logged as 'Main' units. Samples taken in 'Main' units were split along lithological boundaries and boundaries defined by percentage of visible sulphide minerals.

### 10.3.2.3 Core Sampling

Samples were marked by geologists for cutting and sampling, and sample lengths set at a minimum of 0.1 m for massive mineralization to 1.0 m for disseminated, low-grade mineralization, with approximately 88% of all samples within the database sampled at or below 1.0 m. This produced samples with weights between 250 g for massive mineralization (0.1 m length and 4.69 g/cm<sup>3</sup> rock density) and 2.4 kg for disseminated, low-grade mineralization (1.0 m and 3.01 g/cm<sup>3</sup> density). Once appropriately labelled, the samples were sent to the laboratory for assay.

Quality control procedures used were as follows:

- All core was transported to the Phoenix Mine Site, located 15 km north of Selkirk, for logging and sampling and returned to Selkirk for storage.
- Core was logged by trained geologists and samples were selected at the time that the drill hole core was logged.
- Most sample intervals conformed to a minimum of 0.1 m and a maximum of 1.0 m. Sampling took the geological host rock into consideration.
- A continuous saw cut line was made along the drill core.
- Core was cut using a diamond saw, with half of the core sent for analyses and the remaining half returned to the core box for reference purposes.
- A 0.2 m waste sample was taken of the material bounding the mineralized intersections.
- Specific gravity measurements were carried out on all the half drill hole core samples submitted to the laboratory, prior to the crushing stage of sample preparation.
- Samples were dispatched to the laboratory at the Phoenix Mine as a batch of 50 samples of which two of the samples were blank samples, and two were certified reference pulp samples (SARM-7 and GBM396-1).

## 10.4 Drilling Campaigns at Selkirk

The QP is of the opinion that the drilling procedures used historically generally align with industry best practice in place at the time, and that the spatial outline of the drilling allows for



interpretation of the geological features. The QP is of the opinion that there are no drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results.

At the same time, considerable data compilation and verification efforts are required to improve confidence in the drilling database, including re-entry of original survey information, as well as downhole re-surveying, resampling, and twinning of a selection of drill holes to validate existing locations and results in the database.

## **10.5 Geotechnical Logging**

As part of the 2016 BCL BFS, 96 drill holes were re-logged for structure and a three-dimensional structural model was created in support of pit design and a conceptual strategy for mining around the underground excavations. A geotechnical investigation for ore transport and infrastructure design was also prepared. This work included geotechnical logging of boreholes, point load testing, data capture, and rock mass classification and is detailed in WorleyParsons (2016).



## 11.0 Sample Preparation, Analyses, and Security

### 11.1 Sample Preparation, Analyses and Security

#### 11.1.1 Historical Work

The following sections describe drill hole sample preparation, analysis and security undertaken by former operator TNMC, under ownership of LionOre (2006), Norilsk Nickel (2007-2013), and BCL (2016).

Drill core samples were prepared and analyzed at the Phoenix Mine Laboratory. At the time of preparation and analysis, TNMC owned both the Phoenix Mine and Selkirk and the laboratory was not independent of the operator. From 2011, the Phoenix Mine Laboratory held accreditation with the South African National Accreditation System (SANAS), and with the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 17025 for chemical analyses.

##### 11.1.1.1 Sample Preparation

Drill core samples were delivered to the Phoenix Mine Laboratory where they were dried and crushed twice to reach the less than 6 mm size, upon which a 100 g split (duplicate) was taken for milling. The type of splitter used is unknown. This subsample was milled to 80% passing 75 µm. The remaining sample was kept as a duplicate pulp in special sealed envelopes. Both pulp and crushed sample duplicates were returned to the exploration department for storage, and later used within the quality assurance and quality control (QA/QC) program. Results from the laboratory were posted electronically through the LIMS / GBiS system against each sample as per the sample number into a working file where they were validated against lithological logging data; then they were imported into the GBiS database for storage.

##### 11.1.1.2 Sample Analysis

The following sample analysis was undertaken at the Phoenix Mine Laboratory:

- Ni and Cu: XRF
- Pt, Pd, Au: 50 g fire assay

##### 11.1.1.3 Bulk Density Determinations

All diamond drill hole half core samples were analyzed for bulk density using a spring balance on site at Selkirk. The bulk density data was initially captured on paper hard copy, following which it was input into an MS Excel spreadsheet.

The calibration of the spring balance was checked daily prior to any sample analyses. Bulk density data that returned outside of a specific range (2.00 g/cm<sup>3</sup> to 5.00 g/cm<sup>3</sup>) were subsequently investigated and either corrected or discarded from the final dataset.

##### 11.1.1.4 Sample Security

Diamond drill core is stored on site at Selkirk, which is a secure site. Digitally, historical data is disparate and, in some cases, incomplete and while steps are being undertaken by the current operator, a comprehensive data validation work program is required.



## 11.1.2 Current Work

Unsampled intervals of drill core from a total of five historic drill holes from 2016 completed by the former operator of the Selkirk Mine, TNMC, were cut, sampled, and sent for analysis at ALS in Johannesburg, South Africa. Quarter-core was obtained in 2021 using the Phikwe core processing facility. Samples ranged in length from 1.0 m to 1.5 m. Selected results are presented in Table 11-1. In addition, seventeen historical drill holes representing a cross section of holes spatially and temporally were re-sampled using half core. Core was processed at the Selebi North processing facility in 2023.

Analyses for Ni, Cu, and Co were completed using a peroxide fusion preparation and inductively coupled plasma atomic emission spectrometry (ICP-AES) finish (ME-ICP81). Analyses for Pt, Pd, and Au were by fire assay (30 g nominal sample weight) with an ICP-AES finish (PGM-ICP23).

**Table 11-1: Selected Assay Results from Unsampled Historic Drill Core at Selkirk**

Hole ID	From (m)	To (m)	Length (m)	Ni (%)	Cu (%)	Co (%)	Pt (g/t)	Pd (g/t)	Au (g/t)
DSLK277	13.54	93.73	80.19	0.20	0.17	0.01	0.117	0.512	0.037
Incl.	164.73	207.73	43.0	0.29	0.28	0.01	0.144	0.673	0.065
Incl.	164.73	187.73	25.0	0.32	0.32	0.01	0.172	0.764	0.068
and	198.73	207.30	8.57	0.37	0.35	0.02	0.151	0.791	0.089
DSLK278	74.15	213.67	139.52	0.46	0.54	0.03	0.210	0.888	0.093
Incl.	126.67	150.67	24.0	0.64	0.64	0.03	0.289	1.139	0.116
and	171.67	175.67	4.0	0.90	0.58	0.05	0.373	1.664	0.096
and	193.67	201.67	8.0	0.62	1.00	0.03	0.318	1.183	0.193
DSLK281	115	229.16	114.16	0.38	0.40	<0.01	0.141	0.612	0.056
Incl.	120	160.21	40.21	0.40	0.36	<0.01	0.134	0.595	0.067
and	172.44	191.73	19.29	0.54	0.61	<0.01	0.197	0.862	0.060
and	193.67	201.67	8.0	0.62	1.00	0.03	0.318	1.183	0.193
DSLK282	56.85	63.85	7.0	0.21	0.26	<0.01	0.080	0.376	0.041
DSLK283	85.16	110.78	25.62	0.25	0.28	0.01	0.125	0.594	0.046
	94.57	110.78	16.21	0.27	0.31	0.01	0.142	0.665	0.051

## 11.2 Quality Assurance and Quality Control

Quality Assurance (QA) is necessary to demonstrate that the assay data has precision and accuracy within generally accepted limits for the sampling and analytical methods used in order to have confidence in the resource estimation. Quality control (QC) consists of procedures used to ensure that an adequate level of quality is maintained in the process of sampling, preparing, and assaying the drill core samples. In general, QA/QC programs are designed to prevent or detect contamination and allow analytical precision and accuracy to be quantified. In addition, a QA/QC program can disclose the overall sampling – assaying variability of the sampling method itself.



## 11.2.1 Historical Practices and Results

### 11.2.1.1 QA/QC Protocols

Blank samples and certified reference material (CRM) samples have been inserted regularly at a rate of one per 20 samples within a batch not exceeding 200 samples. CRM samples were chosen based on anticipated nickel content of the proximal mineralized core sample. All QA/QC sample insertions maintain consecutive numerical order. A pulp silica blank was also inserted every 20 samples. All CRMs are certified for nickel and copper and are matrix matched.

QA/QC sample results are reviewed upon receipt by the corporate geology team.

SLR was provided with the QA/QC database dated March 1, 2016, including 19,770 control samples inserted within drill hole samples from DSLK001 to DSLK268 shipped to the Phoenix Mine Laboratory. Additionally, separate QA/QC datasets were derived from five recent surface drill holes (162 control samples), nine underground drill holes (175 control samples), and channels (24 control samples). These datasets encompass blanks, CRMs, pulp duplicates, and check assays analyzed by ALS Global (ALS) in Johannesburg, South Africa. ALS laboratories are certified to ISO/IEC 17025 and ISO 9001 and are independent of PREM.

The following section provides an overview of the QA/QC compilation and discusses the results obtained for nickel, copper, gold, palladium, and platinum.

### 11.2.1.2 QA/QC Results

The following sections describe results collected by historical operator BCL, and analyzed and presented by the QP.

#### Blank

The regular submission of blank material is used to assess contamination during sample preparation and to identify sample numbering errors. The QA/QC protocol accepts results returning up to 10 times the detection limit as a pass, i.e., 0.01% for Ni and Cu, and 0.01 g/t for Au, Pt, and Pd. A total of 5,693 blank samples were sent for analysis of nickel and copper, and 1,894 of these samples were also analyzed for Au and PGEs (Pd and Pt).

The analysis of blank samples sent to the Phoenix Mine Laboratory, spanning from DSLK001 to DSLK268, reveals low error rates for Ni (0.7%) and Cu (0.6%) (Table 11-2). However, sample contamination issues were observed toward the end of 2006, persisting until late 2007 (see Figure 11-1). Blank assays exhibit higher failure rates for Au (4.0%), Pt (6.5%), and Pd (14%). The observed variability suggests potential issues related to contamination, instrument calibration, precision, or data entry, particularly concerning the PGEs.

All ALS blank assays yielded results below the threshold limit for nickel and copper, with few or no samples showing failures for gold, palladium, and platinum.

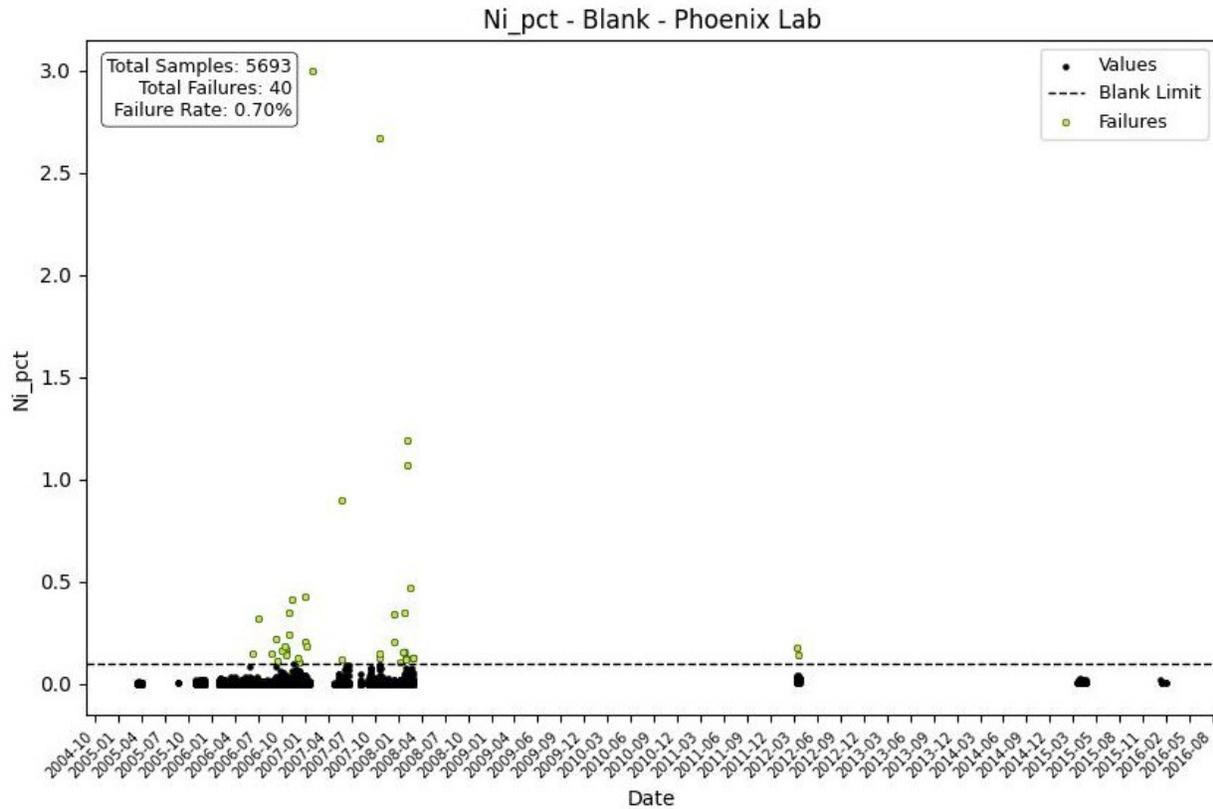
**Table 11-2: Summary of the QA/QC on Blanks**

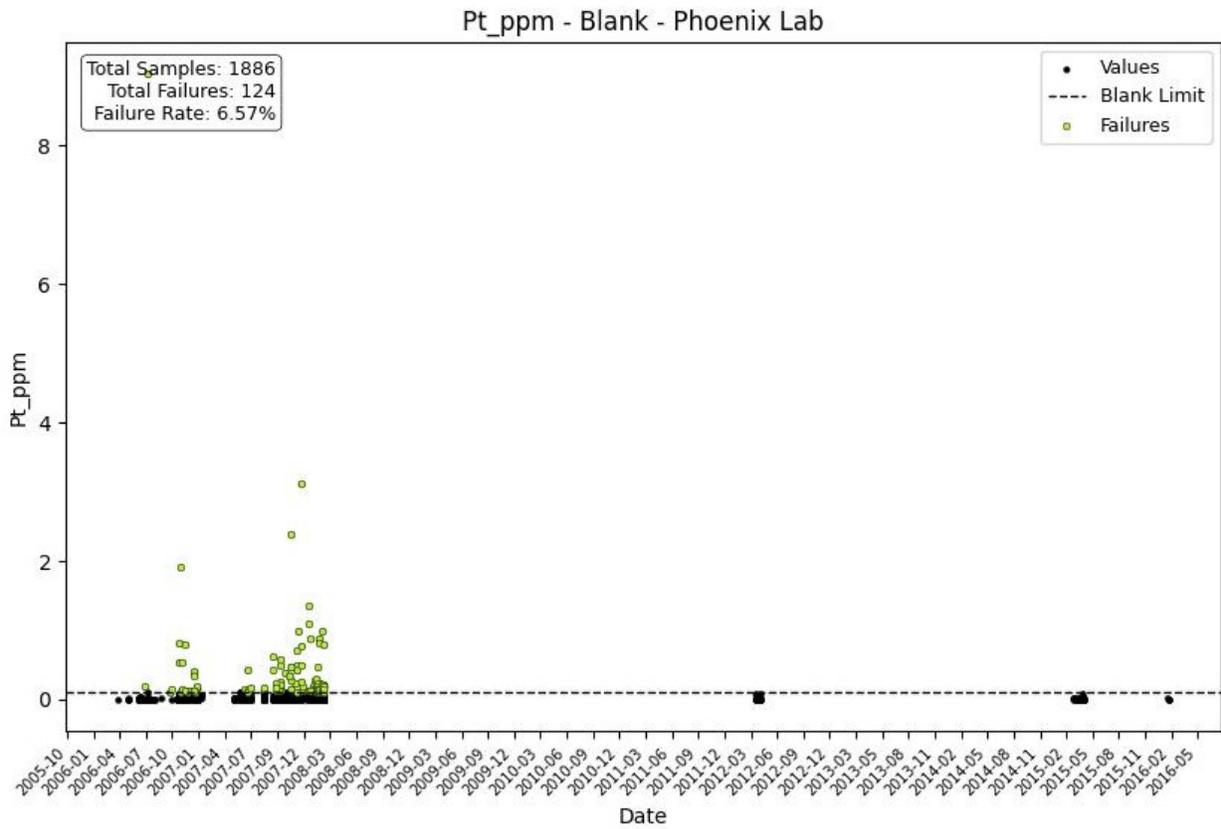
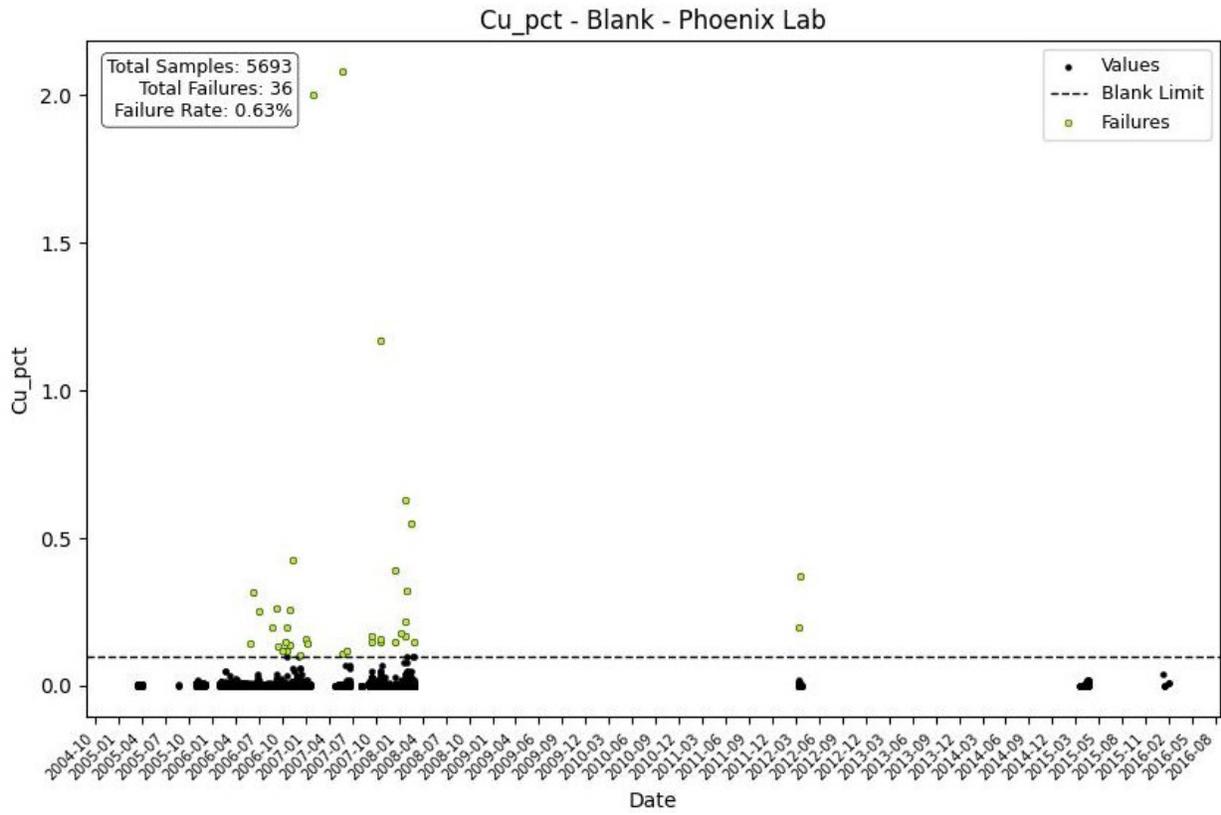
	Ni (%)	Cu (%)	Pt (g/t)	Pd (g/t)	Au (g/t)
Mean	0.01	0.00	0.04	0.12	0.03
Minimum	0	0	0	0	0
Maximum	0.42	2.08	9.04	11.20	1.14

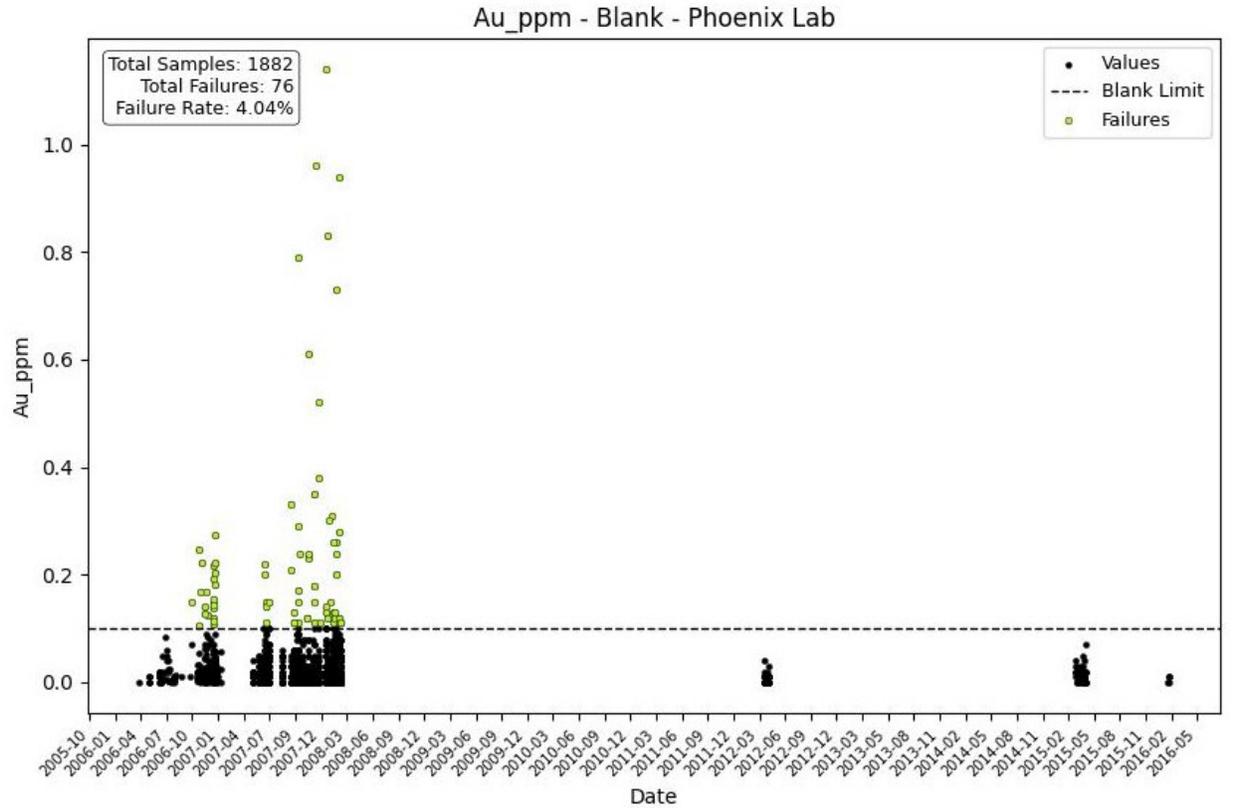
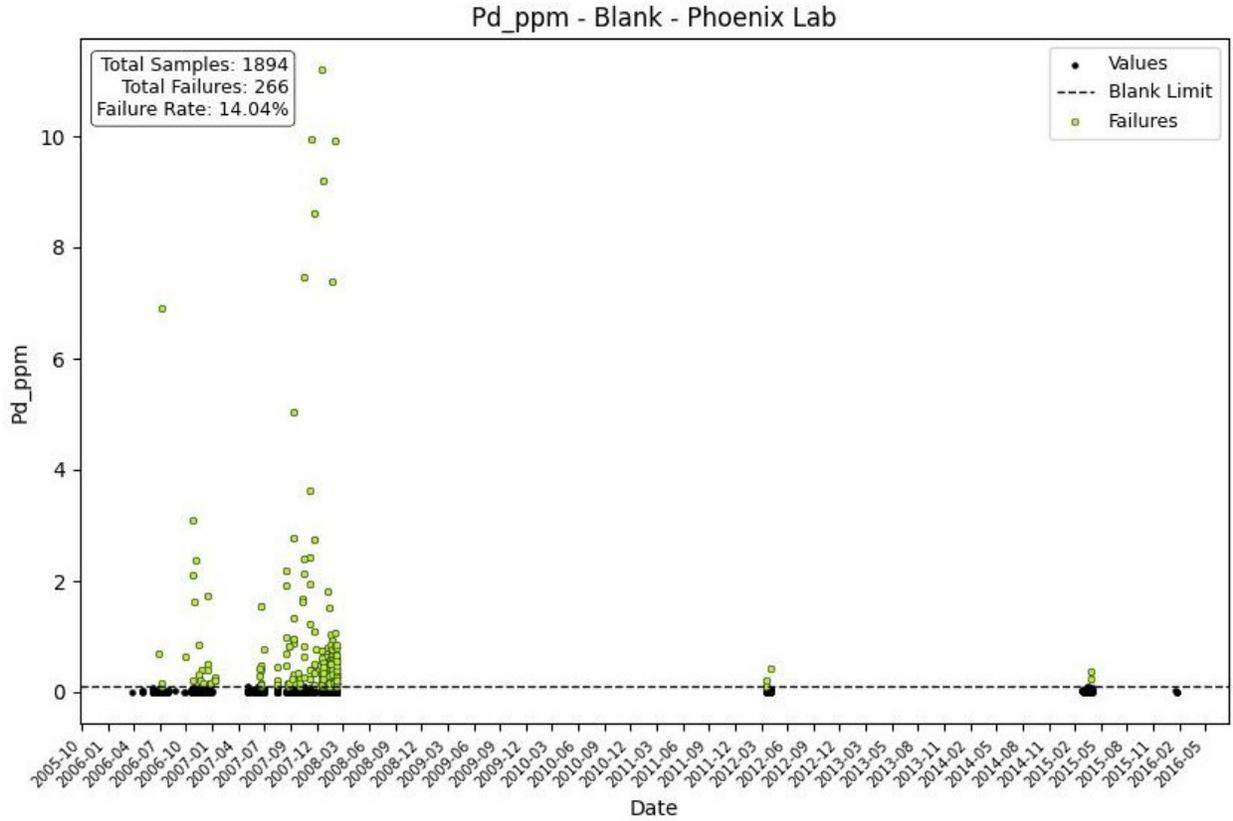


	Ni (%)	Cu (%)	Pt (g/t)	Pd (g/t)	Au (g/t)
Count	5,697	5,693	1,886	1,894	1,882
Fail Count	17	38	126	262	78
% Fail	0.7%	0.6%	6.5%	14%	4.0%

**Figure 11-1: Selkirk Blank Assays (2004-2016) at Phoenix Mine Laboratory**







### Certified Reference Materials

Results of the regular submission of CRMs (standards) are used to identify potential issues with specific sample batches and long-term biases associated with the primary assay laboratory. SLR reviewed the results from nine different standards used between 2005 and 2023, certified for Ni and Cu, with four additionally certified for Pt and Pd.

A total of 11,987 standards were inserted into streams of drilling samples and shipped to the Phoenix Mine Laboratory, whereas 251 standards were inserted into sample streams for ALS, covering five of the most recent drill holes. Failures for standards data are considered by PREM to be values falling outside of three standard deviations ( $\pm 3SD$ ) from the expected value.

Results listed in Figure 11-3 and plotted in Figure 11-2 (GBM399-1) and Figure 11-3 (GBM396-1) demonstrate the overall good performance for copper and nickel. However, a substantial number of failures occurred in standard GBM396-1 between 2006 and 2008. Further investigation is necessary, as these analyses likely stem from a labelling error or standards mix-up, rather than indicating laboratory failure.

**Table 11-3: Summary of Selkirk Ni-Cu CRM Results at the Phoenix Mine Laboratory**

	GBM396-1		GBM999-1		GBM398-5		GBM397-8		SARM 73	
	Ni	Cu	Ni	Cu	Ni	Cu	Ni	Cu	Ni	Cu
Expected Value (%)	0.214	0.287	1.173	0.044	0.194	0.122	0.132	0.144	0.215	0.102
Mean (%)	0.22	0.30	1.16	0.04	0.17	0.13	0.15	0.15	0.22	0.11
SD (%)	0.03	0.04	0.12	0.03	0.03	0.03	0.03	0.01	0.01	0.02
Count	1,570	1,570	1,571	1,571	160	160	1,402	1,402	489	489
Fail Number	29	38	17	3	4	10	8	10	2	5
Failures (%)	2.0	2.6	1.1	0.2	2.5	6.3	0.6	0.7	0.4	1.2
Bias %	5.0	4.4	-1.1	1.4	-10.5	9.6	10.7	3.3	3.5	5.6



**Figure 11-2: GBM399-1 Control Chart for Ni and Cu at the Phoenix Mine Laboratory**

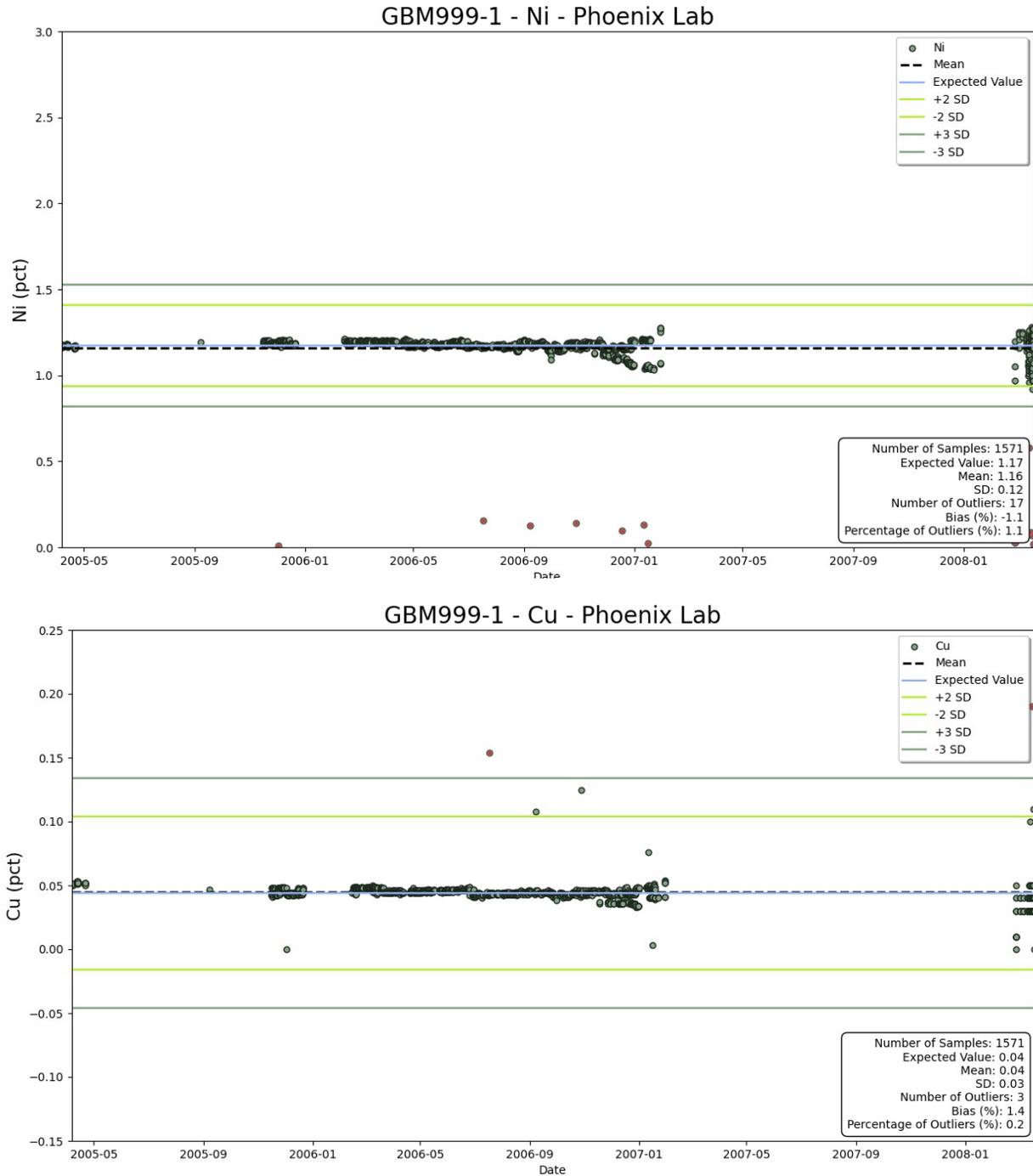
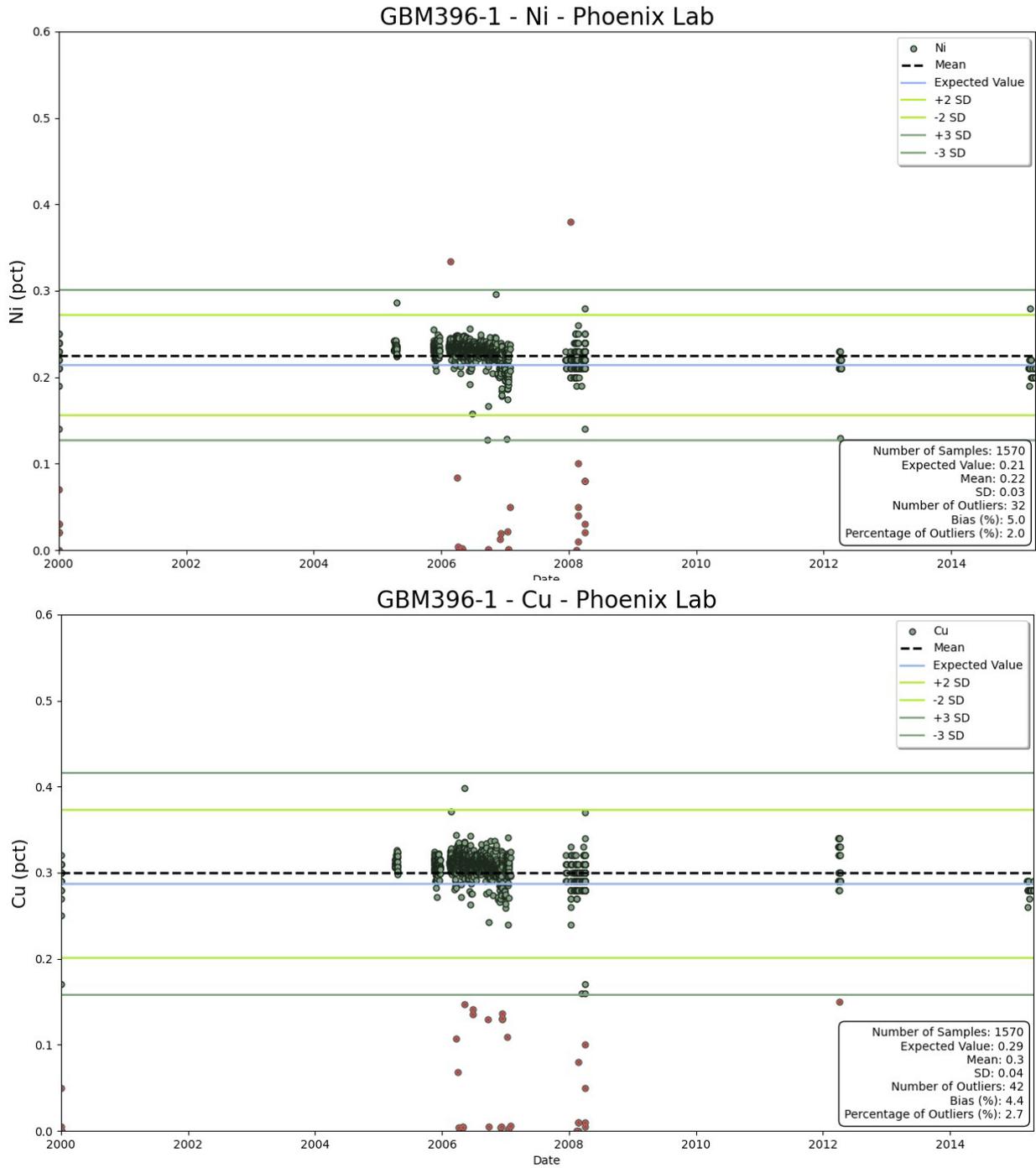


Figure 11-3: GBM396-1 Control Chart for Ni and Cu at the Phoenix Mine Laboratory



Approximately 40% of the drill holes at Selkirk underwent PGE analysis, starting in 2006. Among the standards containing PGE data, significant negative biases were detected for standards AMIS0061 and AMIS007 analyzed by the Phoenix Mine Laboratory, and some mislabelling is observed as well. To enhance confidence in the drilling database, PREM conducted a drill core re-sampling process, which covered most of the recent drilling campaigns including Ni, Cu, and PGE assays. Results are shown in Table 11-4 and Figure 11-4 (AMIS007).

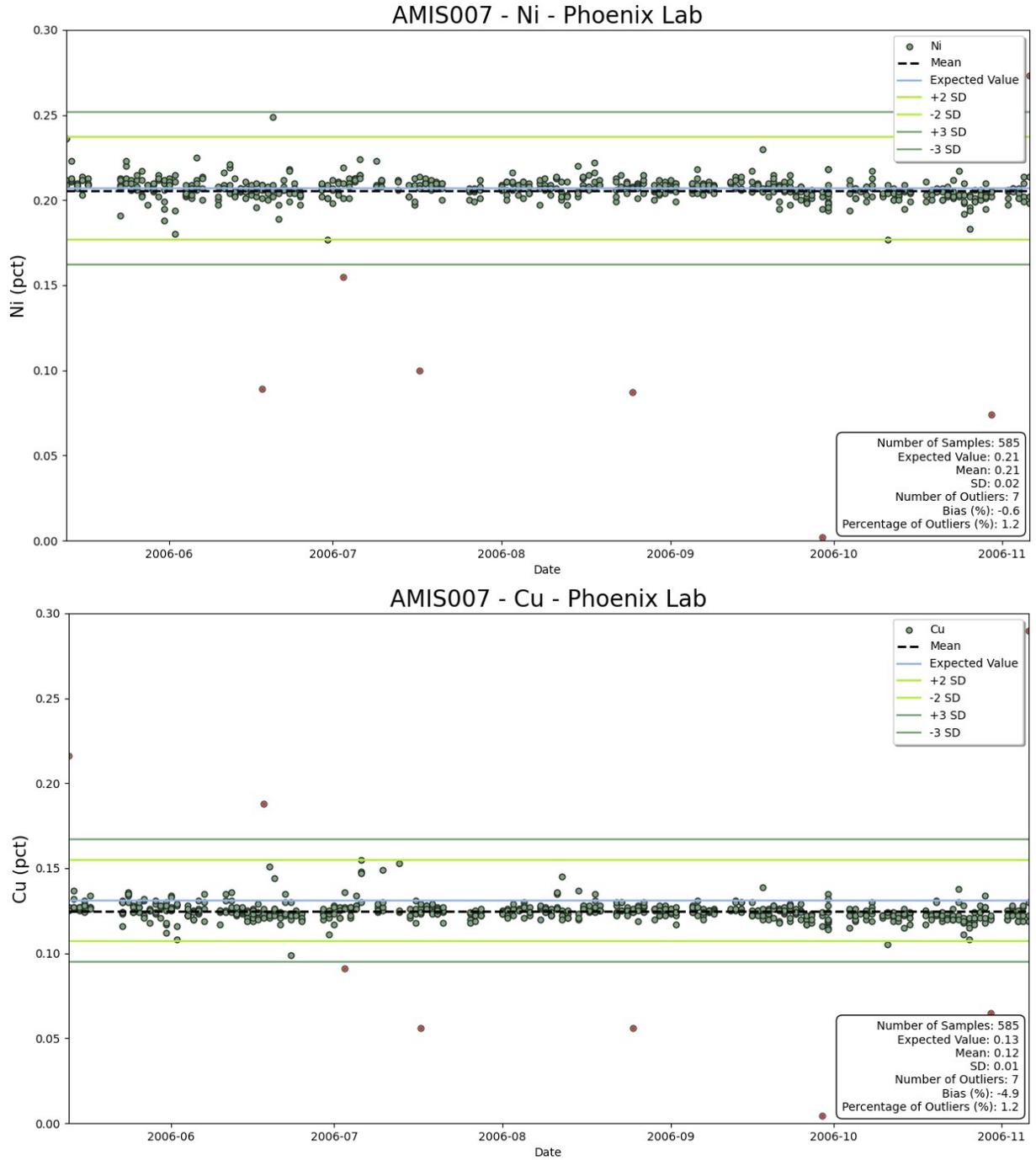
**Table 11-4: Summary of the Selkirk Ni-Cu-Pt-Pd CRM Results at the Phoenix Mine Laboratory**

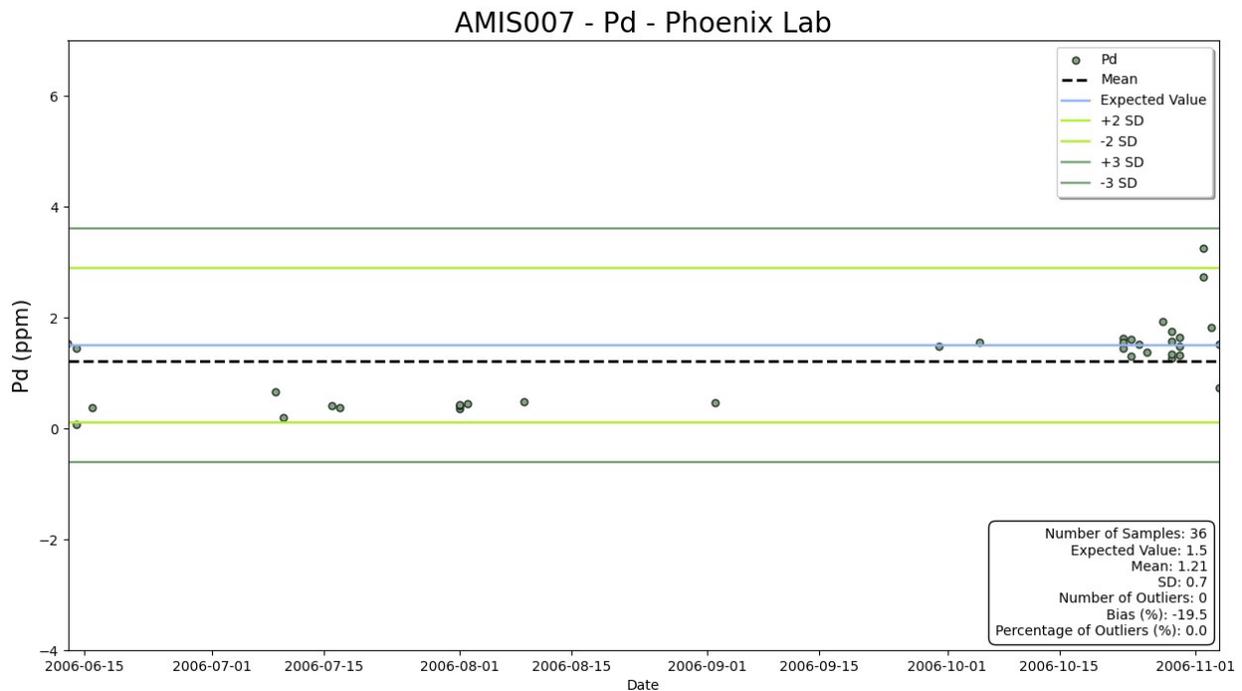
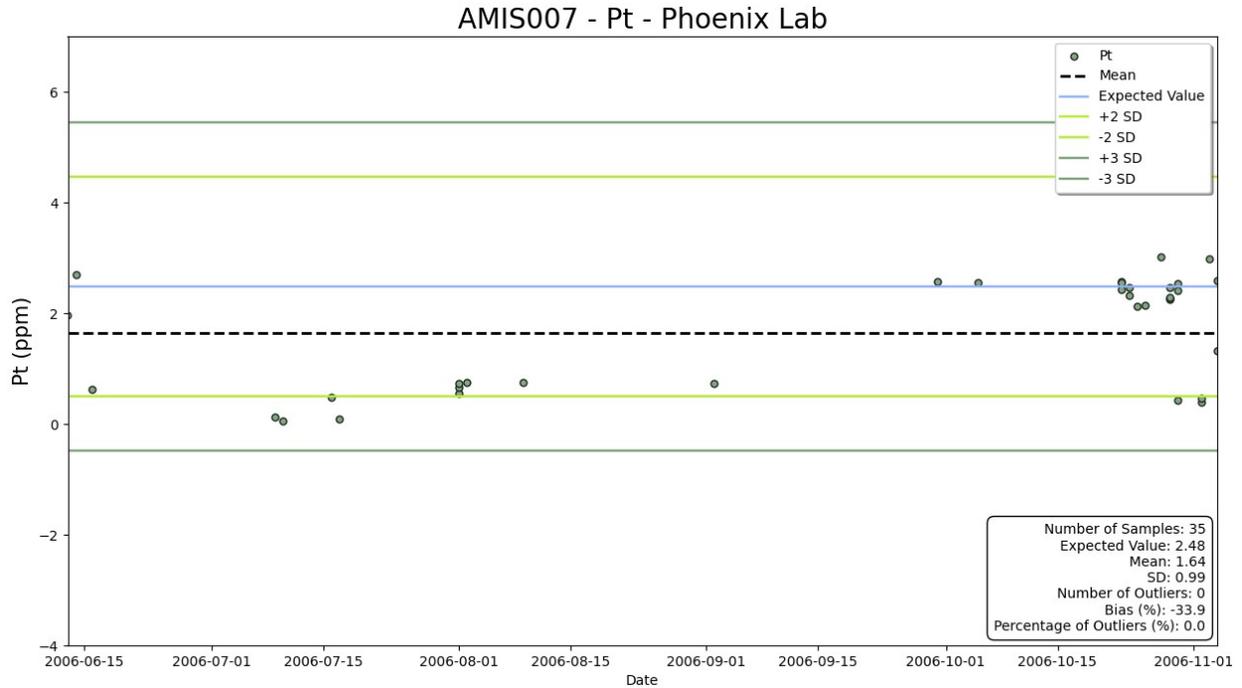
	AMIS0329				AMIS0093			
	% Ni	% Cu	g/t Pt	g/t Pd	% Ni	% Cu	g/t Pt	g/t Pd
Expected Value	0.214	0.142	0.27	0.55	0.271	0.271	0.11	0.47
Mean	0.20	0.14	0.21	0.48	0.26	0.31	0.10	0.46
SD	0.00	0.01	0.04	0.07	0.01	0.02	0.02	0.08
Count	3	3	2	2	56	56	56	56
Fail Number	3	0	0	0	0	9	2	1
Fail %	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8
Bias %	-6.5	0.9	-24.1	-12.7	-3.5	15.0	-5.8	-2.3

	AMIS0061				AMIS007			
	% Ni	% Cu	g/t Pt	g/t Pd	% Ni	% Cu	g/t Pt	g/t Pd
Expected Value	3.585	1.33	0.46	3.53	0.207	0.131	2.48	1.5
Mean	2.92	0.95	0.36	2.71	0.21	0.12	1.64	1.21
SD	0.48	0.17	0.19	1.44	0.01	0.01	1.00	0.71
Count	32	32	32	32	585	585	35	36
Fail Number	2	5	0	0	7	8	0	0
Fail %	0.0	0.0	0.0	0.0	1.2	1.2	0.0	0.0
Bias %	-18.6	-28.3	-22.6	-23.3	-0.6	-4.9	-33.9	-19.5



**Figure 11-4: AMIS007 Control Chart for Ni, Cu, Pt and Pd at the Phoenix Mine Laboratory**





## 11.2.2 Current Work

### 11.2.2.1 PREM Sampling Program

Between 2021 and 2023, a total of 56 standards were introduced by PREM during the re-sampling campaigns. QA/QC samples consisting of certified blanks and matrix-matched Ni-Cu standards were inserted into the sample stream at a rate of one in every 20 regular samples,



supporting the sampling of five drill holes found by PREM onsite to have been drilled in 2016 and not sampled.

### Standards

Notably, failures were minimal, and ALS demonstrated good accuracy for Ni, Cu, PGE, and Au, with biases ranging from -5.2% to 4.3% (Table 11-5). However, due to the limited number of samples, the QP was not able to observe emerging trends. These 56 standards cover only five drill holes, and additional re-sampling campaigns were deemed necessary for comprehensive findings.

**Table 11-5: Summary of the Selkirk Ni-Cu-Pt-Pd CRM Results at ALS**

	AMIS0061				AMIS0060				
	% Ni	% Cu	g/t Pt	g/t Pd	% Ni	% Cu	g/t Au	g/t Pt	g/t Pd
Expected Value	3.59	1.33	0.46	3.53	0.32	0.33	0.06	0.19	0.73
Mean	3.46	1.26	0.47	3.62	0.32	0.34	0.06	0.20	0.74
SD	0.23	0.10	0.02	0.16	0.02	0.02	0.01	0.01	0.03
Count	23	23	23	23	33	33	31	31	31
Fail Number	1	1	0	0	0	0	2	0	0
Fail %	4.3	4.3	0.0	0.0	0.0	0.0	6.5	0.0	0.0
Bias %	-3.6	-5.2	2.7	2.6	0.9	2.4	0.9	4.3	1.3

### Pulp Duplicates

Pulp duplicates were inserted at every tenth sample. The same pulp as the original sample was used for the pulp duplicate samples. The results were plotted against original samples to check for precision in sample repeatability. General industry practice for base metals is for results of approximately 90% of pulp duplicates to be within  $\pm 10\%$  precision.

For Ni analysis, approximately 90% of the duplicate samples had a relative difference of less than 10% compared to the original samples, with a correlation coefficient of 0.97, indicating good repeatability. In the case of Cu pulp duplicates, approximately 86% of the duplicates fell within the 10% precision threshold, with a correlation coefficient of 0.94, also suggesting strong repeatability.

For Pt, Pd, and Au, the repeatability was significantly lower. The correlation coefficients for these elements were significantly low, particularly for Pt and Au. Detailed statistics for duplicate versus original samples across all elements are summarized in Table 11-6 and scatter plots for all elements are shown in Figure 11-5.

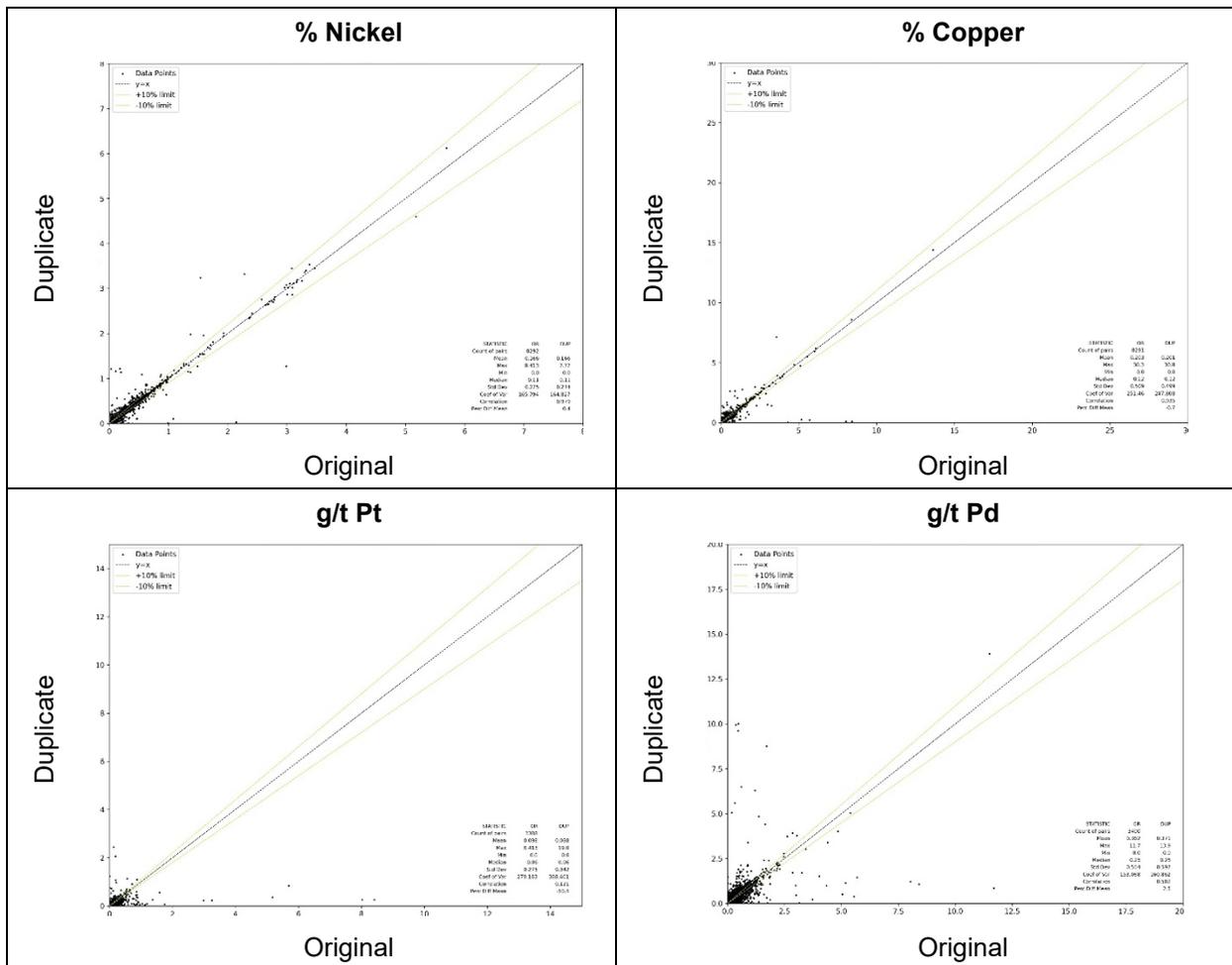
**Table 11-6: Duplicate vs. Original Statistics for All Elements**

		% Ni	% Cu	g/t Pt	g/t Pd	g/t Au
	No. Duplicate Pairs	8,292	8,291	3,388	3,400	3,399
	% Below 10%	90%	86%	48%	57%	41%
	R squared	0.979	0.935	0.121	0.582	0.115
Original	Min	0.0	0.0	0.0	0.0	0.0



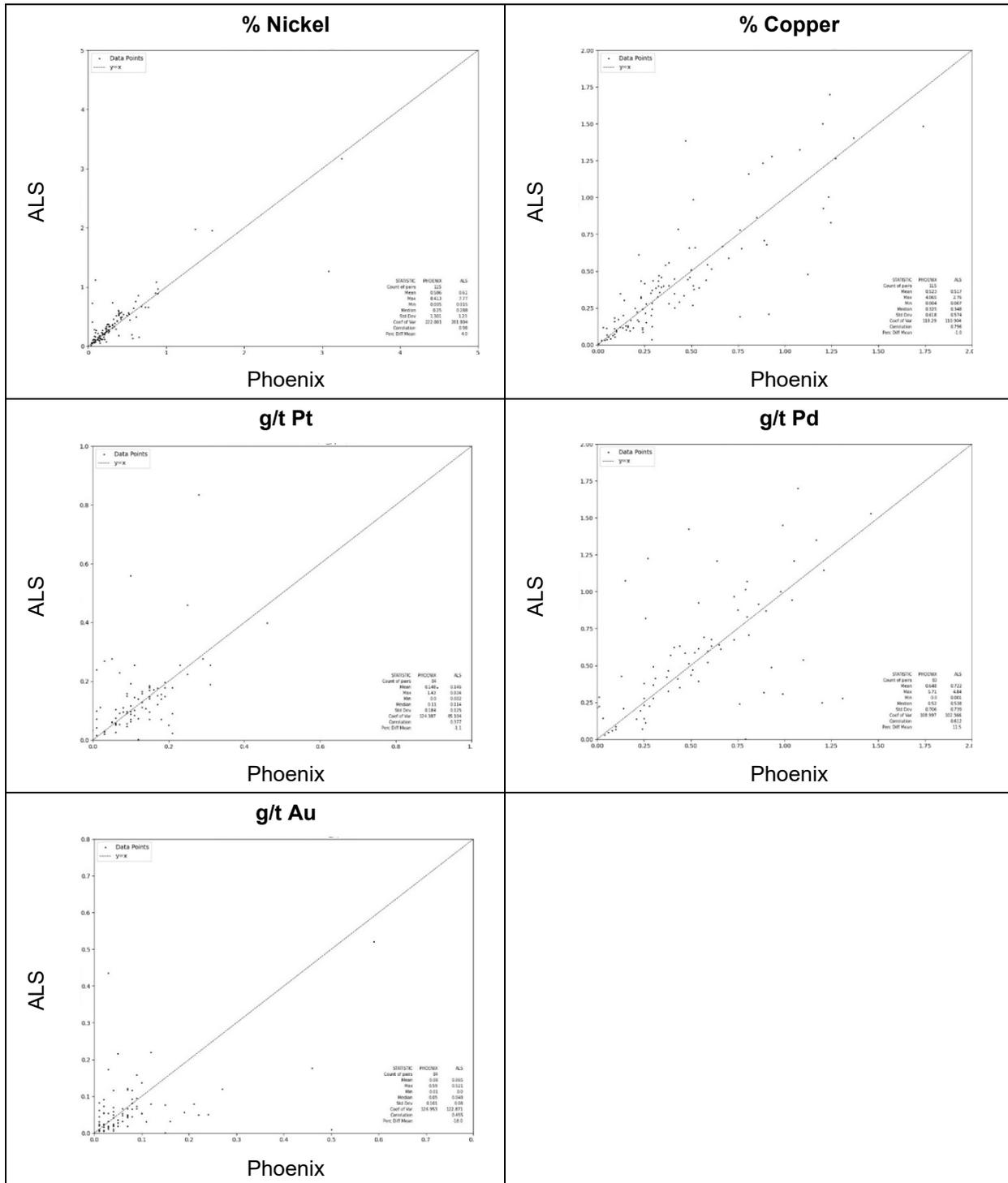
		% Ni	% Cu	g/t Pt	g/t Pd	g/t Au
Dup	Min	0.0	0.0	0.0	0.0	0.0
Original	Max	8.41	30.3	8.41	11.7	8.4
Dup	Max	7.77	30.8	19.0	13.9	5.4
Original	Average	0.17	0.2	0.10	0.36	0.06
Dup	Average	0.17	0.2	0.09	0.37	0.05

Figure 11-5: Scatter Plots of Pulp Duplicate Samples





**Figure 11-6: Check Assay Scatter Plots for Ni, Cu, Pt, Pd, and Au: Phoenix Mine Laboratory vs. ALS**



**11.2.2.4 Expanded Re-assay Program**

Expanding on the initial data verification work completed by G-Mining and SLR, a total of seventeen drill holes were selected from the remaining core fractions, and 3,699 samples were



re-assayed for copper, nickel, gold, PGEs (Pd, Pt), and cobalt by ALS. The re-assay program included 163 blanks, 153 standards, and 327 coarse duplicates to ensure the quality of the new assay results, accounting for approximately 17% of the total samples re-assayed. A very small number of re-sample results were received in late October and are not included in the MRE or the re-assay analysis. They are not expected to alter the findings of this work.

### Control Samples

SLR conducted a thorough cross-check and confirmed that the original certificate values were accurately reflected in the new assay table, with no discrepancies noted. The control samples were evaluated to ensure the new assays were free of contamination or significant bias that could affect the re-assay results. The following conclusions were drawn from the QC checks:

- **Blanks:** Reviewed following ten times the detection limit; no samples exceeded the threshold limit, indicating no contamination during preparation or analysis for all elements.
- **Standards:** The standards CFRM-102, CRFM-101, and CRFM-100 showed good performance by ALS, with biases below 5% and a controlled number of outliers. PREM continuously monitored emerging biases and failures, requesting laboratory reruns when standards significantly exceeded the pass/failure criteria: 'EV  $\pm$  3SD' along with affected shoulder samples.
- **Coarse Duplicates:** Displayed good correlations and statistically similar results between pairs, ensuring proper procedures were followed during laboratory preparation for all elements.
- **Pulp Duplicates:** A set of 93 pulp duplicates were selected and prepared to be sent to an umpire laboratory, with results pending at the time of review.

### Comparison of Re-assay and Original Results

The comparison between re-assayed drill holes and original drill hole results yielded the following insights (Table 11-7 and Figure 11-7):

- **Nickel and Copper:** The data exhibits a strong positive correlation, with coefficients consistently exceeding 0.82.
- **Platinum and Palladium:** Correlation analysis indicates moderate relationships, with values ranging from 0.5 to 0.7.
- **Palladium Re-assay Analysis:** A focused review of palladium re-assay results shows a minor difference of approximately 2% compared to original assays for samples within the 0.1 ppm to 1.2 ppm Pd range. For samples exceeding this range, the mean variation increases, reaching up to 15%.
- **Platinum Re-assay Analysis:** Similarly, for platinum, the re-assayed mean deviates by approximately 4.9% from the original assays for samples in the 0.03 ppm to 0.2 ppm Pt range. Beyond this range, the variation is approximately 7%.
- **Gold Re-assay Analysis** returned a poor correlation of 0.2.

The re-assayed samples corroborate the initial findings for nickel and copper, confirming a strong correlation where the original quality controls exhibited satisfactory performance for these elements. The moderate correlations observed for PGEs imply that the primary assays, which were previously identified to have suspect QA/QC outcomes (Section 11.2.1) should be



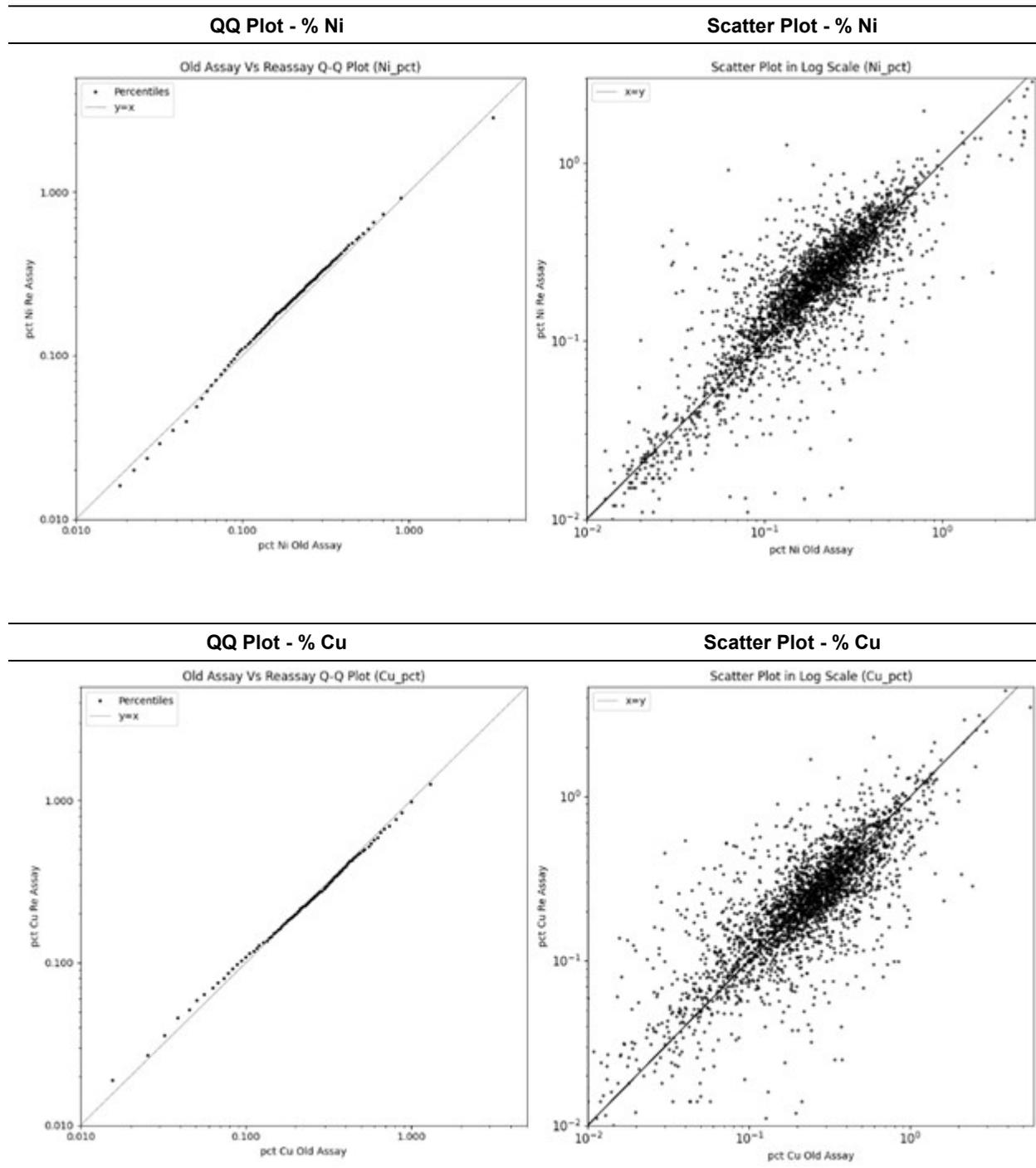
substituted with these re-assayed values. In addition, analytical results from PREM re-sampling showed higher PGE values compared to historical results.

**Table 11-7: Comparison Statistics for Cu, Ni, Pt, Pd, and Au: Original vs. Re-assays**

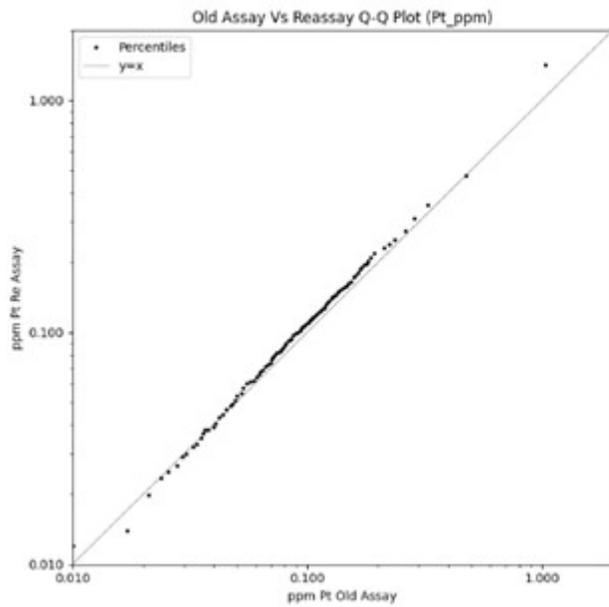
Element	Cu (%)	Ni (%)	Pt (g/t)	Pd (g/t)	Au (g/t)
Count of pairs	2978	2997	950	964	943
<b>Mean_or</b>	<b>0.292</b>	<b>0.233</b>	<b>0.105</b>	<b>0.470</b>	<b>0.065</b>
<b>Mean_dp</b>	<b>0.287</b>	<b>0.246</b>	<b>0.114</b>	<b>0.494</b>	<b>0.051</b>
Max_or	5.572	3.217	1.033	8.412	1.33
Max_dp	4.44	2.87	1.416	8.939	0.969
Min_or	0	0.001	0.001	0	0.003
Min_dp	0.001	0.001	0.002	0	0
Median_or	0.234	0.19	0.087	0.383	0.047
Median_dp	0.232	0.209	0.097	0.394	0.036
Q3_or	0.372	0.289	0.132	0.592	0.074
Q3_dp	0.366	0.316	0.145	0.615	0.056
Std_or	0.288	0.235	0.087	0.483	0.087
Std_dp	0.272	0.203	0.099	0.506	0.069
CoefVar_or	98.84	100.724	82.674	102.858	132.926
CoefVar_dp	94.883	82.28	86.168	102.341	134.644
<b>Correlation</b>	<b>0.814</b>	<b>0.822</b>	<b>0.595</b>	<b>0.739</b>	<b>0.198</b>
Notes:					
1. Or: Original assay					
2. Dp: Duplicate assay					
3. Units where applicable.					



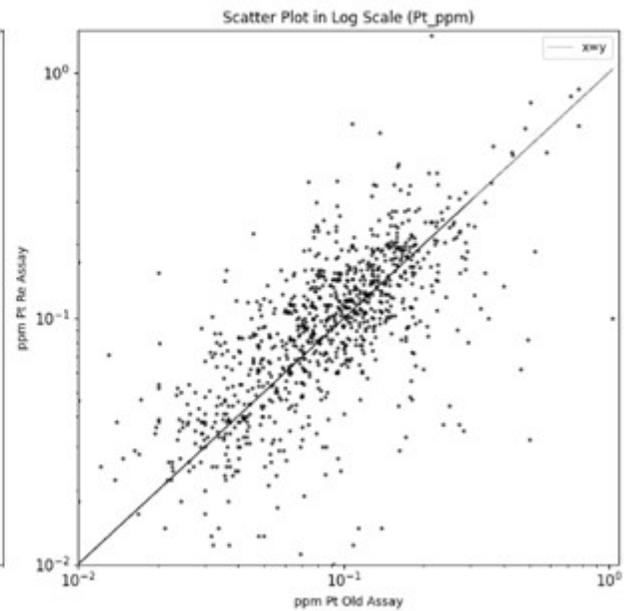
**Figure 11-7: Comparison Q-Q Plots and Scatter Plots for Ni, Cu, Pt, and Pd: Original vs. Re-assays.**



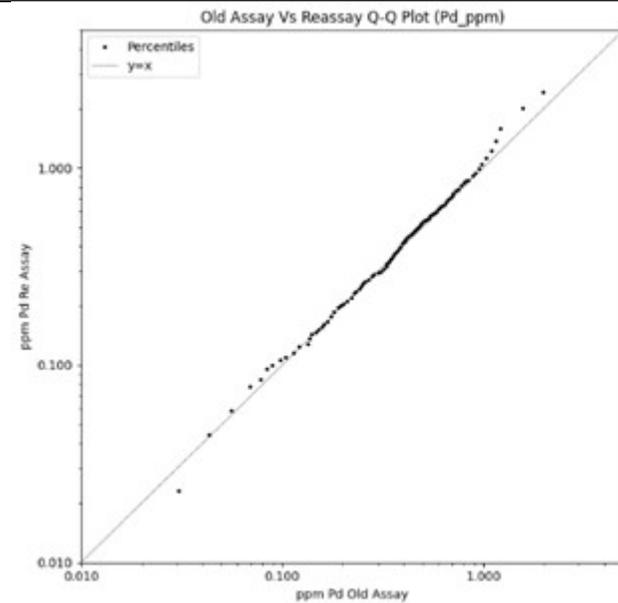
**QQ Plot – g/t Pt**



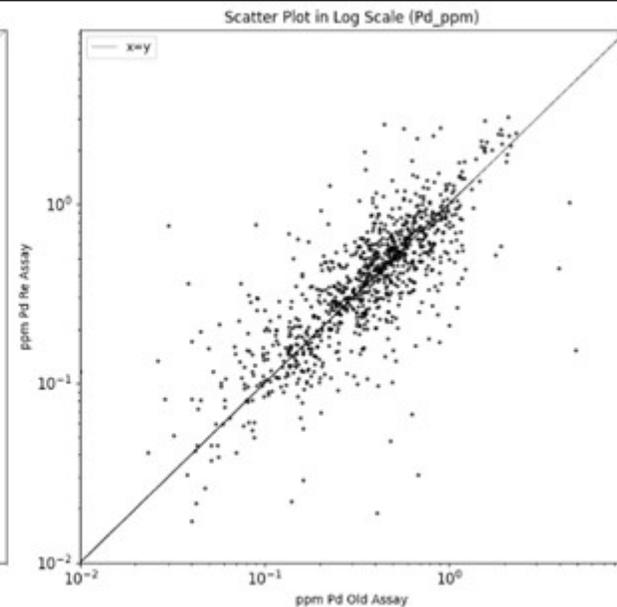
**Scatter Plot – g/t Pt**



**QQ Plot – g/t Pd**



**Scatter Plot – g/t Pd**



### 11.3 Silicate Nickel Investigation

The proportion of nickel at Selkirk reporting from silicates was investigated in three holes by Gipronickel Institute in 2012 through analysis of 23 samples ranging in total nickel grades of 0.18% to 1.08% (G-Mining 2023). Assuming all non-sulphide nickel is silicate nickel, the small sample set indicated that, on average, 9% of the total nickel was from silicates, with a total range of silicate nickel of 0% to 22%. There seemed to be some correlation between higher

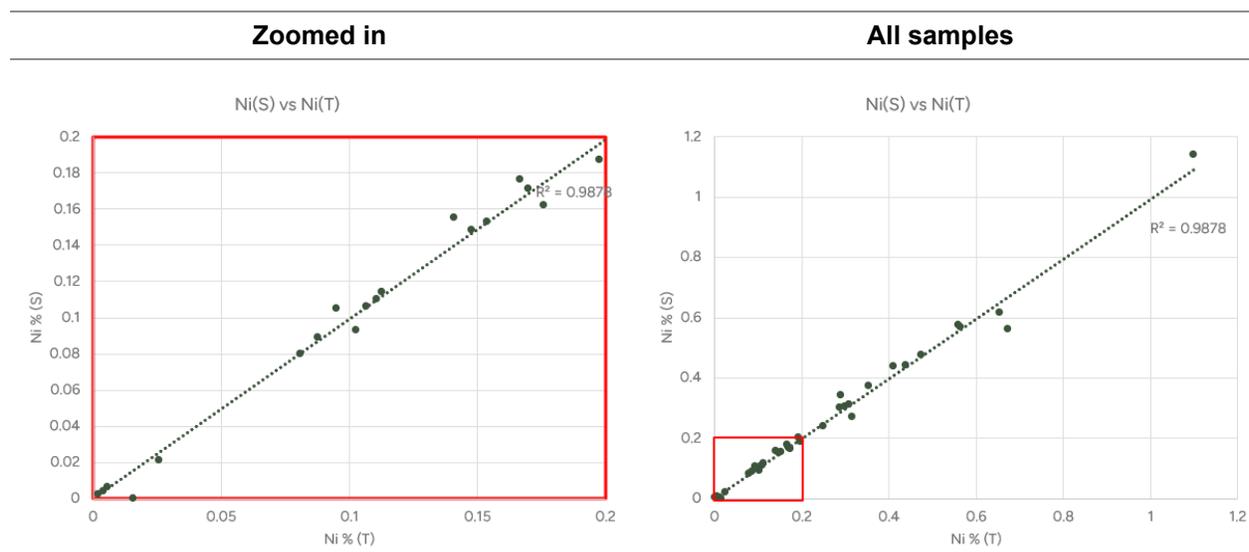


silicate nickel proportion and lower nickel grades, however, the sample set was too small to be conclusive.

In 2021, SGS analyzed for nickel in sulphide as part of metallurgical studies. The two composite samples (LG: 0.44% NiT; HG: 0.77% NiT) reported silicate nickel to form 6% and 3% of the total nickel, respectively (G-Mining 2023).

In 2024, as part of the re-sampling program, PREM submitted 36 samples for sulphide nickel (Ni% (S) or NiS) analysis to be compared alongside total nickel values (Ni % (T) or NiT). The data, in Figure 11-8, show good correlation between the sulphide and total nickel values, though some samples reported NiS values higher than NiT. Considering the samples with NiT  $\geq$  0.1% and NiT > NiS, results suggest that the extent to which silicate nickel informs the NiT value is 5%, with a total range of silicate nickel of 0% to 17%; however, this finding is limited to a smaller sample set of twelve, and results continue to be inconclusive. As metallurgical testing progresses at the Project, SLR recommends that PREM continue to explore the impact of silicate nickel in the nickel analytical results at the Project.

**Figure 11-8: Scatter Plots Comparing Total and Sulphide Nickel**



## 11.4 QP Comments

### 11.4.1 Sample Preparation, Analyses, and Security

In the QP's opinion, the sample preparation and analytical procedures of most drill holes for nickel, copper, palladium, and platinum are acceptable to support an Inferred Mineral Resource estimate.

Diamond drill core is stored on site at Selkirk, which is a secure site, in the QP's opinion.

Digitally, historical data is disparate and, in some cases, incomplete and while steps are being undertaken by the current operator, a comprehensive data validation work program is required.

### 11.4.2 QA/QC

Based on the QP's review of QA/QC results, copper and nickel have shown acceptable performance at the Phoenix Mine Laboratory.



Significant accuracy and precision issues were identified at the Phoenix Mine Laboratory for the precious metals (Pt, Pd, Au). Most standards returned values significantly lower than their certified values, suggesting accuracy issues and potential cases of mislabelling or standard mix-ups.

To enhance confidence in the data, PREM conducted a re-assay program on the remaining split drill core from seventeen historical drill holes, analyzing them for nickel, copper, palladium, and platinum. These samples, along with quality control samples, were shipped to ALS for analysis, yielding the following results:

- The re-assay QA/QC program demonstrated robust quality control across various checks. No contamination was detected, and the standards showed consistent performance with minimal biases. Duplicate samples confirmed the reliability of the procedures.
- The re-assayed samples confirm the initial findings for nickel and copper, showing strong correlations and satisfactory quality controls.
- For PGEs, the moderate correlations and optimal re-assay QA/QC results suggest that the re-assayed values should replace the original assays due to previously identified QA/QC issues. A low bias was observed in samples analyzed at the Phoenix Mine laboratory.

#### **11.4.3 Silicate Nickel**

- Considering the PREM samples with  $NiT \geq 0.1\%$  and  $NiT > NiS$ , results suggest that the extent to which silicate nickel informs the NiT value is 5%, with a total range of silicate nickel of 0% to 17%. This finding is limited to a small sample set of twelve, and results continue to be inconclusive.
- As metallurgical testing progresses at the Project, SLR recommends that PREM continue to explore the impact of silicate nickel in the nickel analytical results at the Project.



## 12.0 Data Verification

### 12.1 SLR Site Verification Procedures

A site visit to the Project was conducted by an SLR Principal Resource Geologist and an SLR Associate Resource Geologist on May 14, 2024.

While on site, the QP visited the core storage facility, reviewed core spatially representative of the Selkirk gabbro, and carried out a site tour, visiting the gossanous outcrop, the Selkirk ramp, ore and waste piles on surface relict of the historical underground development, and office buildings.

No active drilling was being carried out during the site visit. PREM is yet to conduct a drilling campaign at Selkirk.

#### 12.1.1 Confirmation of Mineralized Intercepts

While on site, the QP reviewed drill core from mineralized intercepts and its immediately adjacent core against paper copies of the analytical results:

Nickel and copper analytical results were observed to pair with visible sulphides and observed to correlate with presence of chalcopyrite (Cu) and pyrrhotite and pentlandite (Ni).

At the core storage facility, many drill hole numbers were noted and accounted as present within the Selkirk database.

#### 12.1.2 Verification of Collar Coordinates

Drill hole coordinates are tabulated below (Table 12-1) and show the historic coordinates taken using a differential GPS survey, carried out by Drysdale and Associates, compared to the GPS coordinates from the 2024 site visit taken using a handheld Garmin Etrex 10 GPS (accurate to within 15 m). The check GPS positions compare well with the Drysdale DGPS Survey positions.

**Table 12-1: Verification of Collar Coordinates**

Hole ID	DGPS Easting	DGPS Northing	DGPS Elevation	Site Visit GPS Easting	Site Visit GPS Northing	Site Visit GPS Elevation
DSLK018	575402.31	7642550.65	988.07	575399	7642546	984
DSLK051	575403.47	7642529.04	987.46	575401	7642523	996
DSLK081	575355.13	7642563.89	988.56	575351	7642559	998
DSLK240	575373.69	7642511.22	988.21	575373	7642508	996

#### 12.1.3 Verification of Analytical Data

An initial validation was conducted on the historical data comprising the assay file with 95,476 samples. Out of these, 17 original ALS certificates matched the DSLK drill holes, resulting in a total of 1,902 assay samples. Additionally, 20 channel samples were located and compared to their original ALS certificates. In total, 1,922 samples were compared against available certificates by the QP, accounting for 2% of the total number of samples.



During the validation, drill holes DSLK008 to DSLK010, DSLK278, and DSLK281 to DSLK283, along with 20 channels (PNR-21-CHIP001 to PNR-21-CHIP020), were validated for Ni, Cu, Co, Au, Pt, and Pd. No discrepancies were found during the comparison process. However, sample ID duplications were detected in different drill holes with different grades. The QP recommends adding a suffix to distinguish between duplicate sample IDs to prevent future grade discrepancies.

A second analytical data validation was performed on the re-assay program from seventeen drill holes. The original certificate values were accurately reflected in the new assay table, with no discrepancies noted. This resulted in 3,056 assays being compared against their original certificates from ALS for the elements Ni, Cu, Co, Au, Pt, and Pd.

The QP is of the opinion that although no discrepancies were detected during the cross-check process, the limited number of certificates available during the initial review was supplemented by the re-assay program. This program not only confirmed the initial grades of Cu and Ni and complemented the PGE grades but also increased the materiality support information of the drill holes up to 5%, based on the overall rate of review between the initial and second analytical databases.

## **12.2 SLR Data Verification Conclusions and Recommendations**

The PREM Project team continues to collect, compile, review, and validate technical data relevant for the Project. The QP is of the opinion that the historical drill hole database and current re-sampling work is suitable to support Inferred Mineral Resource estimation work. The QP recommends that PREM continue its validation program and work towards a comprehensive and validated drill hole database and support information as they progress and advance the deposit.



## 13.0 Mineral Processing and Metallurgical Testing

The Selkirk Mine was commissioned in 1989 with massive sulphide material being trucked directly to the BCL furnace for smelting with no upgrading at a concentrator. Mining ceased in 2002 when the massive sulphides were exhausted, leaving behind a deposit described as being highly disseminated. The main objective of the metallurgical test work since 2005 has been to optimize the processing of the disseminated mineralization.

Although it was deemed possible to produce separate nickel and copper concentrates, the nickel concentrate was low grade, hence most studies focused on the production of a bulk nickel-copper concentrate that would meet the specifications of the BCL smelter in Phikwe. Historical testing tracked PGE content but did not focus on the optimization of PGE recoveries.

The BCL Smelter in Phikwe is no longer operational and, in 2021, prior to acquiring the Selkirk Project, PREM conducted a metallurgical test program to assess if marketable separate copper and nickel concentrates could be produced at acceptable recovery levels.

Historical metallurgical testing and the 2021 PREM test work was covered extensively by G Mining in its 2023 report.

In 2023, additional investigations were undertaken by PREM that were not covered by G Mining, including study programs undertaken by different agencies to investigate various conceptual process options for the Project, including:

- Ore Sorting Test Work - Stark Resources GmbH (Stark) in Schleswig-Holstein, Germany studied pre-concentration methods to upgrade the Selkirk material (Stark 2024).
- Flotation Test Work - SGS Natural Resources (SGS) in Lakefield, Ontario, Canada tested samples from the Selkirk deposit with the following objectives (SGS, 2024):
  - Evaluate the established flowsheet on Selkirk tenor variability samples which were representative of the cut-off grades of historical mineral resources. Four tenor samples (MG\_HT, LG\_HT, MG\_LT, and MG\_MT) from the Selkirk deposit were used for this purpose.
  - Explore options to improve nickel recovery and to generate concentrates for downstream hydrometallurgical testing, however, PREM is not currently considering hydrometallurgical processing options for the Selkirk Project. The remaining composite samples from the 2021 SGS test program were used for testing, including the Selkirk LG Comp and MG Comp composite samples.
- DRA Projects (PTY) Ltd. (DRA) was engaged by PREM to prepare a Front End Solutions (FES) conceptual study for the Selkirk Project, including various process options for concentrate production and processing (DRA 2023).
- Based on the results from these preliminary studies and historical data analyses, PREM conceptualized a treatment process that included ore sorting and flotation of a bulk concentrate product for sale and estimated the copper and nickel recoveries.

In 2024, PREM contracted Flowsheets Metallurgical Consulting Inc. (FMCI) to review previous SGS data generated from four tenor samples (MG\_HT, LG\_HT, MG\_LT, and MG\_MT) from the Selkirk deposit which used the Gipro process flowsheet to produce a bulk concentrate (FMCI 2024). FMCI stated that this flowsheet had delivered the highest nickel recovery in previous testing and thus, modelled the separation of copper and nickel concentrates using MS Excel.



The report sections below briefly describe the work undertaken for the Project in support of the current conceptual treatment process and simulations to produce two concentrates.

### 13.1 Pre-concentration Test Work

Stark in Schleswig-Holstein, Germany conducted some preliminary amenability test work for PREM on pre-concentration methods (Stark 2024). X-ray Transmission (XRT) sorting technology was evaluated to determine the effectiveness on Selkirk feed samples and to identify whether different lithologies could be detected. Test work focused on separating the minerals from waste materials. The following information is largely taken from a report prepared by Stark.

Samples of Selkirk material were sent to Stark’s facilities in South Africa by PREM. Stark did not provide any information describing how the Selkirk samples were originally collected by PREM or the sample locations. After breaking the larger rock samples with a hammer and chisel, a Stark geologist hand-selected rock samples based on the lithologies represented in terms of mineralogy and size. Different rocks were glued onto a test sheet, packaged, and sent to the test facility at RWTH Aachen University in Germany. At the test facility, static scans were taken of the different lithology samples to determine whether the sorting algorithm could distinguish the different lithologies based on PREM data. Figure 13-1 shows the test sheets and the scanning unit.

**Figure 13-1: Scanning Unit and Test Sheets Mounted with Selkirk Materials**



The laboratory scale sensor showed that the average densities of all lithologies were distinct, except for some particles in the low grade disseminated material and the footwall waste which had similar densities.

Testing with an industrial scale sensor confirmed the results obtained with the lab scale sensor and the results are shown in Table 13-1. Among the five lithologies tested, none had significant overlapping densities. The industrial sensor was able to classify 98.8% of the rock particles correctly as either product or waste.

**Table 13-1: Summary of the XRT Scan Results**

Column Number	Lithology Description	Lithology Classification (Product/Waste)	Product	Waste	Indicated Separation Efficiency (%)
1	Low Grade Disseminated	Product	18	0	100
2	Massive Sulphide	Product	18	0	100
3	Hanging Wall Waste	Waste	0	18	100
4	Footwall Waste	Waste	1	17	94
5	Disseminated	Product	18	0	100
<b>Total</b>					<b>98.8</b>

Overall, the XRT scanning results demonstrated the efficacy of the technology in classifying the Selkirk samples as product or waste based on the atomic density profiles of the rocks scanned. Based on the preliminary test work results, Stark recommended additional work on comminution analysis and modelling, bulk sorting test campaign with larger samples, and economic modelling of the flowsheet options.

No grades of products are available.

## 13.2 2023 SGS Test Work Program

The main objectives of the 2023 SGS test work program for the Selkirk samples were as follows:

- Evaluate the established flowsheet on Selkirk tenor variability samples which were representative of cut-off grades of historical mineral resources.
- Explore options to improve nickel recovery and to produce copper and nickel concentrates for hydrometallurgical testing through 10 kg locked cycle tests (LCT).

Information in this section has largely been extracted from the 2024 SGS Report.

### 13.2.1 Selkirk Variability Samples

#### 13.2.1.1 Sample Selection and Preparation

A summary of the as-received samples and weights are presented in Table 13-2. The four tenor samples are referred to by their acronyms. For example, MG\_HT represents a sample with moderate grade and high tenor; LG\_HT is low grade and high tenor.



**Table 13-2: As Received Selkirk Samples and Weights**

Sample ID	Hole ID	Level, m		New Sample ID	Client Mass kg (dry)	SGS Mass kg (dry)	Ni Tenor
		From	To				
MG_HT	DSLK277	52.73	77.73	TD00879 to TD00903	50.7	50.2	6.4 to 11.5
		77.73	93.73	TD00956 to TD00971	29.2	29.0	5.4 to 8.7
LG_HT	DSLK277	97.73	125.73	TD00904 to TD00931	55.4	54.8	5.2 to 11.9
		131.73	144.73	TD00972 to TD00984	26.3	25.9	5.0 to 7.3
MG_LT	DSLK281	223.28	248.49	TD00932 to TD00955	52.8	52.0	2.2 to 3.7
		93.98	115.00	TD01000 to TD01220	46.5	46.3	3.2 to 3.9
MG_MT	DSLK283	30.49	57.56	TD00854 to TD00878	56.5	56.5	4.6 to 9.0
		57.56	73.56	TD00985 to TD00999	33.4	33.3	3.3 to 7.1

The four tenor samples were prepared for comminution and flotation test work. Each sample was crushed to a nominal 1 in. (25 mm) size and 30 kg of sample were stored for comminution work; the remaining sample was stage crushed to – 10 mesh (1.7 mm) then rotary split into 2 kg test charges. Approximately 100 g to 200 g was split out and pulverized for assaying.

For the comminution work, 5 kg were used for the Abrasion Index test and the remaining sample was stage crushed to minus 0.5 in. (12.7 mm). A 15 kg subsample was submitted for Bond Rod Mill grindability testing and a 10 kg sample was stage crushed to minus 6 mesh (3.35 mm) for Bond Ball Mill grindability testing.

Selkirk samples HG Comp and LG Comp from the previous test campaign (2021 SGS Project #18559-01) were also stage crushed to minus 10 mesh, homogenized, and split into 10 kg test charges. Equal quantities of HG Comp and LG Comp were blended to create the MG Comp sample for testing.

### 13.2.1.2 Feed Characterization

A summary of feed assays and hardness characteristics of the four tenor samples is provided in Table 13-3. The head grades varied from 0.11% Cu to 0.22% Cu and 0.15% Ni to 0.23% Ni. The proportion of nickel present as sulphide was approximately 91% for MG\_LT and approximately 84% for the other three samples. Comminution testing revealed the tenor samples to be hard to vary hard and low to medium abrasiveness.



**Table 13-3: Head Assay and Hardness of Selkirk Tenor Samples**

	Analysis	Unit	MG_HT	LG_HT	MG_LT	MG_MT
Chemical Analysis	Cu	%	0.19	0.11	0.22	0.20
	Ni	%	0.23	0.15	0.21	0.21
	Ni(s)	%	0.19	0.13	0.19	0.17
	Au	g/t	0.02	0.02	0.03	< 0.02
	Pt	g/t	0.09	0.05	0.09	0.09
	Pd	g/t	0.39	0.29	0.34	0.44
	Fe	%	6.77	0.29	8.6	7.34
	S	%	1.12	0.88	2.44	1.41
	Co	g/t	103	90	134	108
	Si	%	19.9	20.0	19.1	21.1
	Ai	%	9.55	9.71	9.22	8.71
	Mg	%	6.59	6.57	5.78	5.97
Comminution	Ai		0.33	0.24	0.20	0.30
	RWI	kWh/t	21.5	21.6	20.3	22.0
	BWI	kWh/t	19.3	19.5	17.7	19.4
Note: 1. Ai – Abrasion Index, RWI – Bond Rod Mill Work Index, BWI – Bond Ball Mill Work Index.						

A subsample from each of the four tenor samples was submitted for mineralogy investigation at a grind size of 80% passing 87 µm to 100 µm. The major sulphide minerals were identified as chalcopyrite (Cp), pentlandite (Pn), and pyrrhotite (Po), with trace amounts of pyrite. The grain sizes of chalcopyrite and pentlandite were very fine, approximately 10 µm - 15 µm. For the sulphide nickel, about 91% to 95% of the nickel was present in pentlandite, and the remaining (4% to 9%) was very fine nickel (solid solution) hosted in pyrrhotite. At the grind size submitted for mineralogy, the liberation of chalcopyrite was good, with approximately 76% to 82% free and liberated. The liberation of pentlandite was reasonable for MG\_MT, with 64% free and liberated, but poor for the other three tenor samples (MG\_HT, LG\_HT, and MG\_LT), with 24% to 47% free and liberated material. The use of fine regrinding would generally improve the pentlandite liberation, but it remained poor for LG\_HT and MG\_LT samples even at a grind size of minus 20 µm, with 41% and 52% free and liberated material, respectively.

### 13.2.1.3 Flotation

The main objectives of the flotation test program were to:

- Further optimize the flowsheet to improve nickel recovery
- Evaluate the established flowsheet on Selkirk tenor variability samples
- Generate large quantities of copper and nickel concentrates for smelter evaluation and downstream hydrometallurgical testing.



The Selkirk LG Comp sample was the main sample used for nickel recovery improvement test work, the four Selkirk tenor samples were used for flowsheet evaluation, and the Selkirk MG Comp sample was used for generating copper and nickel concentrates.

The conventional flowsheet, which was developed in the previous phase of the project, involved recovery of most of the copper and nickel minerals (chalcopyrite and pentlandite) in a Cu/Ni rougher stage, while minimizing the recovery of pyrrhotite. Pyrrhotite is then recovered as a separate rougher concentrate, along with any remaining pentlandite in the Cu/Ni rougher tails. The Cu/Ni rougher concentrate and Po rougher concentrate are then re-ground and cleaned separately. Separation of copper and nickel is then performed on the Cu/Ni cleaner concentrate to produce a copper concentrate and nickel concentrate.

All flotation tests were performed using laboratory Denver flotation cell applying industry standard flotation practices. The primary collector used in the program was potassium amyl xanthate (PAX), and other collectors, including MaxGold 900 and NP-12 promoter were tested. Lime was used as the pH modifier and MIBC was used as the frother, but in cases where insufficient froth was produced, W31 was utilized instead. Sodium sulphite ( $\text{Na}_2\text{SO}_3$ ), diethylenetriamine (DETA), carboxymethyl cellulose (CMC), and sodium silicate were used as gangue depressants.

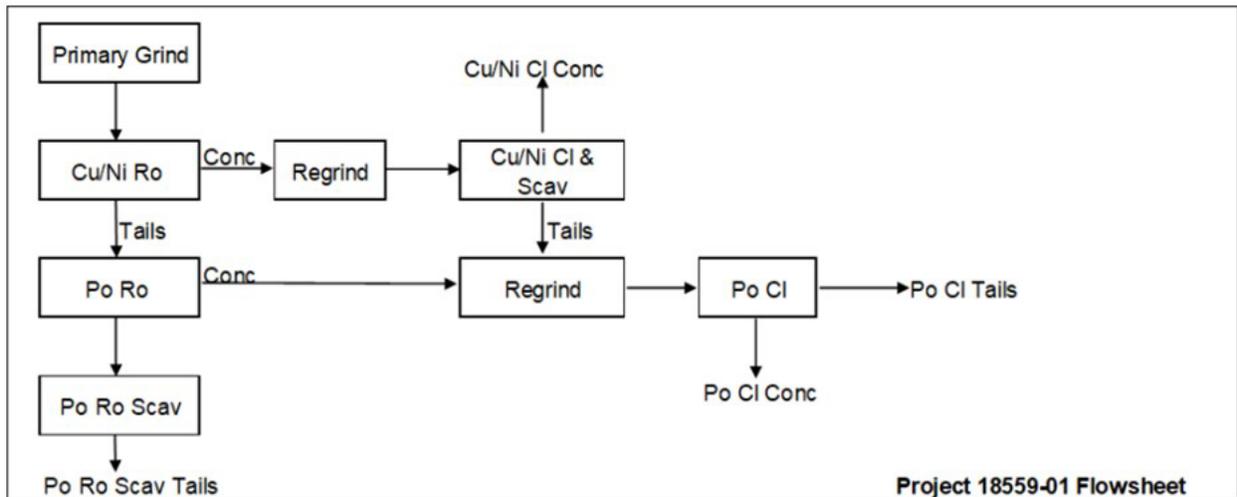
All test products were filtered, dried, weighed and submitted for assays.

Figure 13-2 shows the two flotation flowsheets that were evaluated for the four tenor samples. The flowsheet developed in the previous phase of the project (2021 SGS Project #18559-01) involved recoveries of separate Cu/Ni rougher concentrate and Po rougher concentrate and their respective regrind fractions. When using this flowsheet, nickel recovery was reasonable for sample MG\_MT at 63%, but poor for the other three tenor samples (22% to 43%). Table 13-4 shows the grades and recoveries in the combined Cu/Ni concentrate achieved in locked cycle tests performed with the tenor samples.

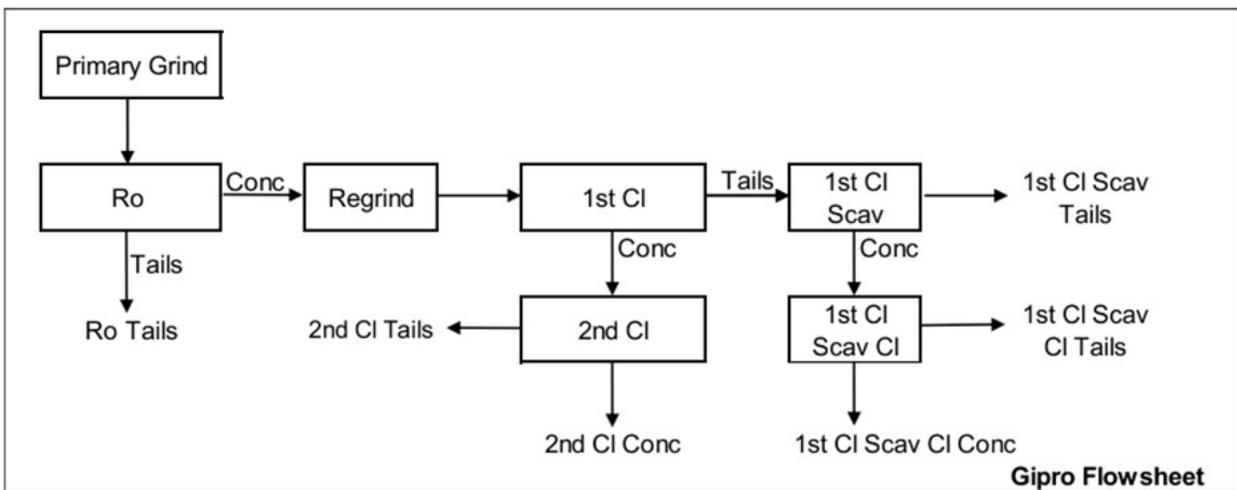
Figure 13-3 shows the Gipro flowsheet which simplified the previous flowsheet (Figure 13-2) to production of a single bulk rougher concentrate, followed by regrinding, cleaning, and scavenging. As shown in Table 13-5, the Gipro flowsheet achieved significant improvement in the recoveries. The copper recoveries improved from 72%-86% to 86%-89%, and the nickel recoveries improved from 22%-63% to 63%-72%. The concentrate grades were slightly lower, with 4.7% to 7.2% Cu, 4.1% to 6.4% Ni, or 9.2% to 13.6% Cu+Ni.



**Figure 13-2: 2021 SGS Project 18559-01 Flowsheet**



**Figure 13-3: Gipro Flowsheet**



**Table 13-4: Summary of Results for Flotation of Selkirk Tenor Samples Using 2021 SGS Project 18559-01 Flowsheet**

Sample ID	Test ID	Product	Wt %	Assays (% or g/t)							% Distribution					
				Cu	Ni	Cu+Ni	S	Pt*	Pd*	Au*	Cu	Ni	S	Pt	Pd	Au
MG_MT	LCT-1	Comb. Cu/Ni Conc.	2.06	7.91	6.27	14.2	23.6	2.3	13.5	1.0	86.3	63.3	33.4	55.1	64.5	46.0
MG_HT	LCT-2	Comb. Cu/Ni Conc.	1.67	8.56	5.83	14.4	25.1	2.3	15.0	1.2	76.4	43.2	37.9	30.7	49.4	40.6
MG_LT	LCT-3	Comb. Cu/Ni Conc.	1.42	11.7	3.47	15.2	26.7	1.4	13.3	1.3	72.7	22.3	14.7	21.5	50.1	39.4
LG_HT	LCT-4	Comb. Cu/Ni Conc.	0.99	9.14	4.16	13.3	22.7	1.6	14.7	1.1	74.7	24.9	24.7	22.1	45.4	29.2

Note: (\*) indicates Pt, Pd, Au assays of Cu/Ni 1<sup>st</sup> Cl Conc.

**Table 13-5: Summary of Results for Flotation of Selkirk Tenor Samples Using Gipro Flowsheet**

Sample ID	Test ID	Product	Wt %	Assays (% or g/t)							% Distribution					
				Cu	Ni	Cu+Ni	S	Pt	Pd	Au	Cu	Ni	S	Pt	Pd	Au
MG_MT	F19	1 <sup>st</sup> Cl & Scav Conc.	2.65	6.57	5.91	12.5	30.0	2.34	11.9	1.50	88.9	70.9	51.9	71.4	74.6	65.7
	F24	1 <sup>st</sup> Cl & Scav Conc.	2.87	5.92	5.34	11.3	30.0	-	-	-	89.2	75.3	61.3	-	-	-
	F25	1 <sup>st</sup> Cl & Scav Conc.	1.96	9.18	7.79	17.0	30.1	-	-	-	88.5	68.3	38.4	-	-	-
	Avg.	1 <sup>st</sup> Cl & Scav Conc.	2.49	7.22	6.35	13.6	30.0	2.34	11.9	1.50	88.8	71.5	50.6	71.4	74.6	65.7
MG_HT	F23	1 <sup>st</sup> Cl & Scav Conc.	2.30	6.89	6.32	13.2	30.0	2.65	12.2	2.27	85.7	62.9	58.2	53.8	62.2	69.2
MG_LT	F22	1 <sup>st</sup> Cl & Scav Conc.	3.91	5.20	4.05	9.25	3206	1.34	7.07	0.79	87.0	68.8	50.4	55.2	74.5	59.2
LG_HT	F21	1 <sup>st</sup> Cl & Scav Conc.	2.20	4.73	4.67	9.40	29.1	1.83	8.91	1.22	89.0	66.0	70.2	61.2	67.4	56.1



### 13.2.2 Nickel Recovery Improvement Test Work

The mineralogical analysis of the Po 1<sup>st</sup> Cleaner Tails in the previous test program showed that the main pentlandite losses were due to liberated fines. Alternative flowsheets were evaluated to try and minimize fines generation or improve the flotation efficiency of slimes, such as coarser regrinding, high intensity conditioning, and the use of a stronger collector (NP-12). None of these ideas showed notable improvement on the nickel recovery.

### 13.2.3 Concentrate Production Test Work

#### 13.2.3.1 Locked Cycle Testing

In 2023, six locked cycle tests (LCT-1 to LCT-6) were completed on Selkirk composite samples and these are shown in Table 13-6. Separate copper and nickel concentrates were generated from the Selkirk MG Comp sample by performing locked cycle tests using approximately 10 kg test charges.

The information in this section was largely taken from the recent SGS report (SGS 2024).

**Table 13-6: Summary of LCT Tests**

Test ID	Sample ID	Test Description	Sample Charges
LCT-1	MG_MT	Bulk Cu/Ni LCT	6 x 2 kg
LCT-2	MG_HT	Bulk Cu/Ni LCT	7 x 2 kg
LCT-3	MG_LT	Bulk Cu/Ni LCT	6 x 2 kg
LCT-4	LG_HT	Bulk Cu/Ni LCT	6 x 2 kg
LCT-5	MG Comp	Bulk Cu/Ni LCT	10 x 9.85 g
LCT-6	MG Comp	Cu-Ni Sep LCT	6 x 640 g

The flowsheet for LCT-1 to LCT-4 is shown in Figure 13-4 and only bulk Cu/Ni cleaner concentrates were generated and no Cu-Ni separation testing was conducted. The flowsheets for LCT-5 and LCT-6 are shown in Figure 13-5 and Figure 13-6, respectively.

The projected mass balance results for LCT-1, LCT-2, LCT-3, and LCT-4 are shown in Table 13-7, Table 13-8, Table 13-9, and Table 13-10, respectively.

The combined Cu/Ni 1<sup>st</sup> Cleaner Concentrate and Po 3<sup>rd</sup> Cleaner Concentrate of LCT-1 of MG\_MT sample graded approximately 14% Cu+Ni, at 86% copper recovery and 63% nickel recovery. The combined concentrate of LCT-2 on MG\_HT sample graded approximately 14% Cu+Ni with 76% copper recovery and 43% nickel recovery. The LCT-1 and LCT-2 copper and nickel recoveries were similar to the batch tests but at slightly lower concentrate grades.

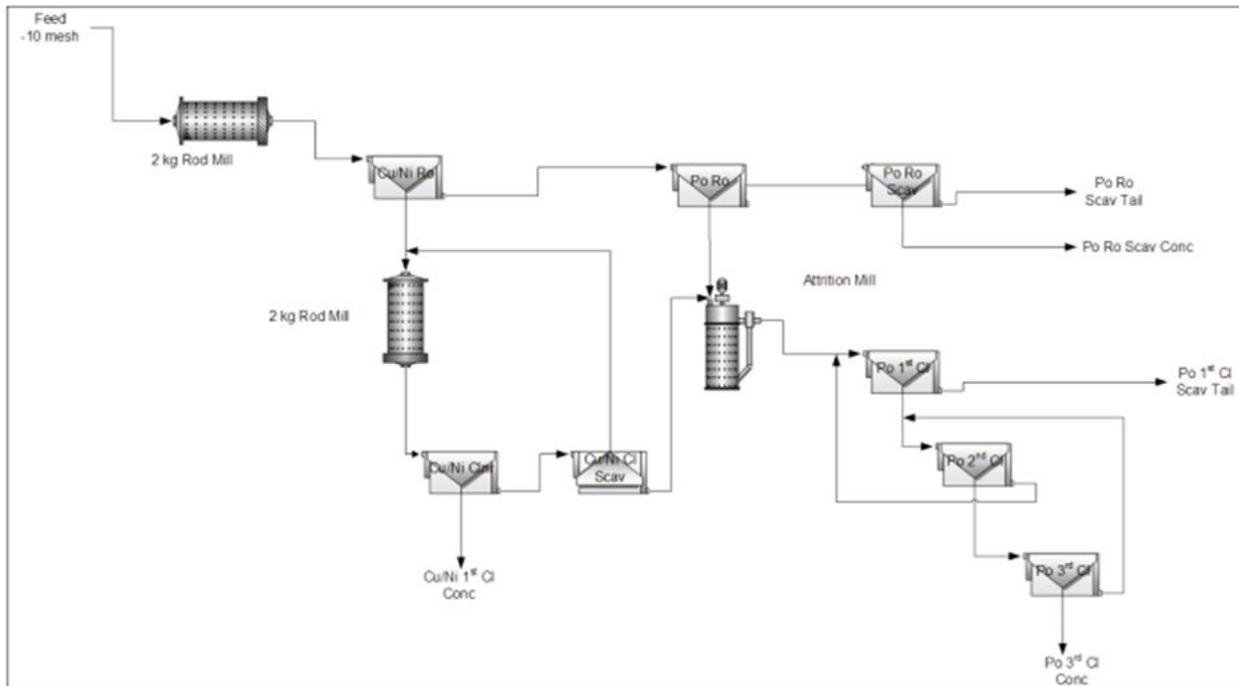
The combined Cu/Ni 1<sup>st</sup> Cleaner concentrate and Po 3<sup>rd</sup> Cleaner Concentrate of LCT-3 on MG\_LT graded approximately 15% Cu+Ni, at 73% copper recovery and only 22% nickel recovery. The combined concentrate of LCT-4 on LG\_HT graded approximately 13% Cu+Ni at 75% copper recovery and 25% nickel recovery. The respective LCT combined concentrate grade of MH\_LT and LG\_HT were slightly higher than the batch test, but at lower recoveries.

As shown in Table 13-11 and Table 13-12, the results were positive for LCT-5 and LCT-6 for the MG Comp sample with higher head grades for copper and nickel. High grade copper



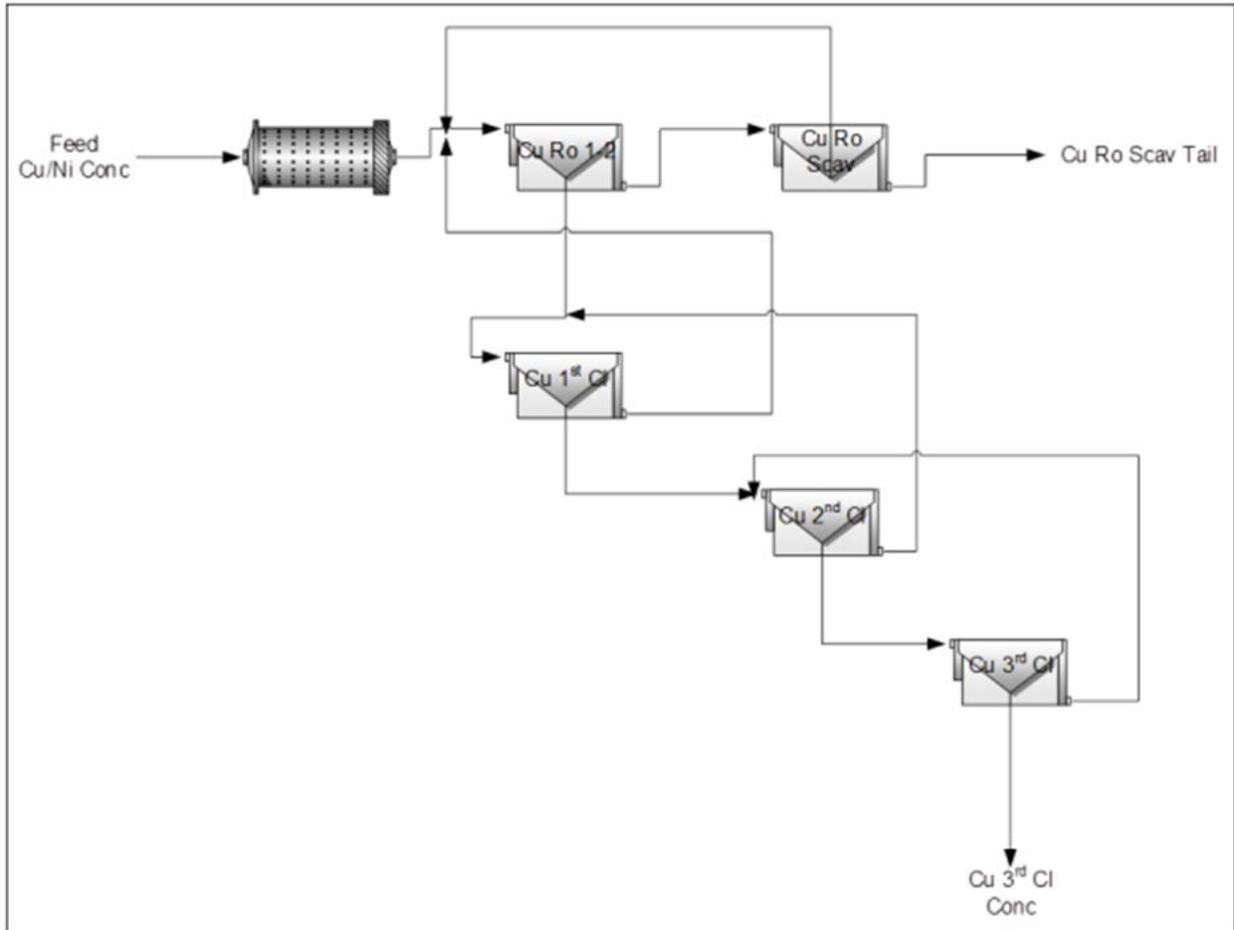
concentrate with low nickel content was produced from the Selkirk composite, at a grade of 29.7% Cu and 0.44% Ni and copper recovery of 73%. Selkirk MG Comp generated a nickel concentrate with 10.4% Ni at nickel recovery of 60%. The PGE (Pt, Pd, and Au) in the Selkirk MG Comp were distributed between the nickel concentrate and copper concentrate and the overall recovery to both concentrates was reasonable (57% for platinum, 73% for palladium, and 73% for gold).

**Figure 13-4: Flowsheet of LCT-1 to LCT-4**





**Figure 13-6: Flowsheet of LCT-6**



**Table 13-7: LCT-1 (MG\_MT) Metallurgical Projections (C-F)**

Product	Wt %	Assays (% g/t)										% Distribution									
		Cu	Ni	S	Pt	Pd	Au	Cp	Pn	Po	Gn	Cu	Ni	S	Pt	Pd	Au	Cp	Pn	Po	Gn
Cu/Ni 1 <sup>st</sup> Cl Conc.	1.9	8.55	6.58	23.7	2.25	13.5	1.02	25.1	17.7	25.9	31.4	84.8	60.3	30.5	55.1	64.5	46.0	84.8	75.3	16.0	0.6
Po 3 <sup>rd</sup> Cl Conc.	0.2	1.51	3.21	22.9				4.43	8.08	50.7	36.8	1.5	2.9	2.9				1.5	3.4	3.1	0.1
Comb. Cu/Ni Conc.	2.1	7.91	6.27	23.6				23.2	16.8	28.1	31.9	86.3	63.3	33.4	55.1	64.5	46.0	86.3	78.7	19.1	0.7
Po 1 <sup>st</sup> Cl Tails	5.1	0.13	0.43	8.24	0.22	0.62	0.06	0.37	0.82	21.1	77.7	3.4	10.7	28.8	14.8	8.0	7.2	3.4	9.5	35.4	4.1
Po Ro Scav Conc.	2.4	0.07	0.41	12.7	0.21	0.65	0.06	0.21	0.62	33.5	65.7	0.9	4.8	20.6	6.4	3.9	3.4	0.9	3.3	25.1	1.6
Po Ro Scav Tail	90.5	0.02	0.05	0.27	0.02	0.10	<0.02	0.06	0.04	0.65	99.3	9.4	21.3	17.1	23.7	23.6	43.4	9.4	8.4	19.4	93.6
Head (Calculated)	100	0.19	0.20	1.45	0.08	0.39	0.04	0.55	0.44	3.03	96.0	100	100	100	100	100	100	100	100	100	100
Head (Direct)		0.20	0.21	1.41	0.09	0.44	<0.02	0.59	0.46	2.87	96.1										

Note:  
 1. Chalcopyrite (Cp), Pentlandite (Pn), Pyrrhotite (Po), Galena (Gn).



**Table 13-8: LCT-2 (MG\_HT) Metallurgical Projections (D-G)**

Product	Wt %	Assays (% g/t)										% Distribution									
		Cu	Ni	S	Pt	Pd	Au	Cp	Pn	Po	Gn	Cu	Ni	S	Pt	Pd	Au	Cp	Pn	Po	Gn
Cu/Ni 1 <sup>st</sup> Cl Conc.	1.4	9.85	6.10	26.3	2.26	15.0	1.16	28.9	16.3	30.6	24.2	72.9	37.4	32.9	30.7	49.4	40.6	72.9	46.6	20.5	0.3
Po 3 <sup>rd</sup> Cl Conc.	0.3	2.31	4.55	19.4				6.78	12.0	35.7	45.5	3.5	5.8	5.0				3.5	7.1	5.0	0.1
Comb. Cu/Ni Conc.	1.7	8.56	5.83	25.1				25.1	15.6	31.5	27.9	76.4	43.2	37.9	30.7	49.4	40.6	76.4	53.7	25.5	0.5
Po 1 <sup>st</sup> Cl Tails	3.4	0.36	1.07	5.87	0.49	1.42	0.11	1.07	2.66	12.5	83.7	6.7	16.2	18.2	16.5	11.5	9.7	6.7	18.9	20.8	3.0
Po Ro Scav Conc.	1.3	0.14	0.68	5.69	0.54	1.10	0.07	0.40	1.60	13.6	84.4	0.9	3.8	6.5	6.8	3.3	2.2	0.9	4.2	8.3	1.1
Po Ro Scav Tail	93.6	0.03	0.09	0.44	0.05	0.16	0.02	0.09	0.12	1.00	98.8	15.9	36.7	37.4	46.1	35.7	47.5	15.9	23.3	45.3	95.5
Head (Calculated)	100	0.19	0.22	1.10	0.10	0.42	0.04	0.55	0.48	2.06	96.9	100	100	100	100	100	100	100	100	100	100
Head (Direct)		0.19	0.23	1.12	0.09	0.44	<0.02	0.56	0.50	2.08	96.9										
Note: 1. Chalcopyrite (Cp), Pentlandite (Pn), Pyrrhotite (Po), Galena (Gn).																					



**Table 13-9: LCT-3 (MG\_LT) Metallurgical Projections (C-F)**

Product	Wt %	Assays (% g/t)										% Distribution									
		Cu	Ni	S	Pt	Pd	Au	Cp	Pn	Po	Gn	Cu	Ni	S	Pt	Pd	Au	Cp	Pn	Po	Gn
Cu/Ni 1 <sup>st</sup> Cl Conc.	1.3	12.3	3.29	26.4	1.39	13.3	1.34	36.2	8.60	30.7	24.6	68.4	19.0	13.0	21.5	50.1	39.4	68.4	23.1	6.6	0.3
Po 3 <sup>rd</sup> Cl Conc.	0.1	6.69	5.00	29.3				19.6	13.0	49.8	17.6	4.3	3.4	1.7				4.3	4.1	1.2	0.0
Comb. Cu/Ni Conc.	1.4	11.7	3.47	26.7				34.4	9.06	32.6	23.8	72.7	22.3	14.7	21.5	50.1	39.4	72.7	27.2	7.8	0.4
Po 1 <sup>st</sup> Cl Tails	5.2	0.72	1.69	20.8	0.41	1.17	0.13	2.12	3.93	50.6	43.3	16.5	40.1	42.0	25.8	18.1	15.2	16.5	43.4	44.6	2.4
Po Ro Scav Conc.	2.2	0.10	1.18	21.3	0.32	0.97	0.07	0.29	2.47	55.0	42.3	0.9	11.7	18.0	8.4	6.2	3.3	0.9	11.4	20.2	1.0
Po Ro Scav Tail	91.2	0.02	0.06	0.72	0.04	0.10	0.02	0.07	0.09	1.78	98.0	9.9	25.9	25.4	44.3	25.6	42.0	9.9	18.0	27.5	96.2
Head (Calculated)	100	0.23	0.22	2.58	0.08	0.34	0.04	0.67	0.47	5.93	92.9	100	100	100	100	100	100	100	100	100	100
Head (Direct)		0.22	0.21	2.44	0.09*	0.34	0.03	0.65	0.45	5.59	93.3										
Note: 1. Chalcopyrite (Cp), Pentlandite (Pn), Pyrrhotite (Po), Galena (Gn).																					



**Table 13-10: LCT-4 (LG\_HT) Metallurgical Projections (C-F)**

Product	Wt %	Assays (% , g/t)										% Distribution									
		Cu	Ni	S	Pt	Pd	Au	Cp	Pn	Po	Gn	Cu	Ni	S	Pt	Pd	Au	Cp	Pn	Po	Gn
Cu/Ni 1 <sup>st</sup> Cl Conc.	0.9	9.73	3.76	22.2	1.63	14.7	1.12	28.5	10.0	25.3	36.2	69.9	19.8	21.3	22.1	45.4	29.2	69.9	24.8	12.1	0.3
Po 3 <sup>rd</sup> Cl Conc.	0.1	4.83	7.00	25.7				14.2	18.7	40.4	26.8	4.8	5.1	3.4				4.8	6.4	2.7	0.0
Comb. Cu/Ni Conc.	1.0	9.14	4.16	22.7				26.8	11.0	27.2	35.0	74.7	24.9	24.7	22.1	45.4	29.2	74.7	31.2	14.8	0.4
Po 1 <sup>st</sup> Cl Tails	3.9	0.47	1.71	12.0	0.49	1.51	0.11	1.38	4.28	27.4	66.9	15.0	40.1	51.3	29.4	20.7	12.8	15.0	47.4	58.3	2.6
Po Ro Scav Conc.	1.0	0.06	0.59	5.3	0.27	1.03	0.06	0.19	1.38	12.9	85.5	0.5	3.7	6.1	4.4	3.8	1.8	0.5	4.1	7.4	0.9
Po Ro Scav Tail	94.1	0.01	0.06	0.17	0.03	0.09	0.02	0.04	0.06	0.38	99.5	9.8	31.4	18.0	44.2	30.1	56.3	9.8	17.3	19.5	96.1
Head (Calculated)	100	0.12	0.17	0.90	0.06	0.28	0.03	0.35	0.35	1.81	97.5	100	100	100	100	100	100	100	100	100	100
Head (Direct)		0.11	0.15	0.88	0.05	0.29	0.02	0.32	0.31	1.81	97.6										
Note:																					
1. Chalcopyrite (Cp), Pentlandite (Pn), Pyrrhotite (Po), Galena (Gn).																					



**Table 13-11: 10 kg LCT Results Summary**

Sample ID	Test ID	Product	Wt %	Assays (% or g/t)							% Distribution					
				Cu	Ni	Cu+Ni	S	Pt	Pd	Au	Cu	Ni	S	Pt	Pd	Au
MG Comp	LCT-5, LCT-6	Comb. Ni Conc.	3.28	1.88	10.4	12.2	34.4	2.55	4.67	1.05	11.6	60.0	15.7	37.8	16.1	38.9
		Cu 3 <sup>rd</sup> Cl Conc.	1.23	29.7	0.44	30.1	35.1	3.49	43.9	2.47	72.6	1.0	6.1	19.4	56.8	34.3
		Ni Conc. + Cu Conc.	4.51	9.45	7.66	17.1	34.6	2.81	15.4	1.44	84.2	61.0	21.7	57.1	73.0	73.2
		Head	1a00	0.58	0.56	1.14	7.5	0.26	1.07	0.10						

**Table 13-12: Summary of Concentrates Produced for Hydrometallurgical Testing**

Sample ID	Test ID	Product	Weight (kg)	% Distribution					
				Cu	Ni	S	Pt	Pd	Au
MG Comp	LCT-5, LCT-6	Cu Conc.	1.0	29.3	0.52	34.6	3.77	41.8	2.70
		Ni Conc.	3.1	2.27	9.43	33.3	2.17	4.72	1.17
MG_MT	F24, F25	Bulk Cu/Ni Conc.	0.1	7.43	6.46	30.1	2.78	13.9	1.15



## 13.3 Metal Recovery Estimation

### 13.3.1 PREM

PREM’s consulting metallurgist simulated metal recoveries for bulk concentrate based on historical analysis of select SGS test data on separate copper and nickel concentrates in an updated generic metallurgical model and the results are shown in Figure 13-7 (PREM 2024). The 2021 data was augmented with the Gipronickel data to create the following formulas for the metal recoveries for the bulk concentrate:

- Copper recovery (%) =  $14.04 \times \ln(\%Cu \text{ in Feed}) + 94.7 - (\%Ni \text{ in Ni Concentrate}) \times 0.8$
- Ni recovery (%) =  $6.2 \times \ln(\%Ni \text{ in Feed}) + 70.2 - (\%Ni \text{ in Ni Concentrate} - 10) \times 2.3$
- Co recovery (%) =  $\% \text{ Mass Pull} \times (\%Co \text{ in Bulk Concentrate} / \%Co \text{ in Feed})$
- Pt recovery (%) =  $55 - (\%Ni \text{ in Ni Concentrate} - 10) \times 2.3$
- Pd recovery (%) =  $70 - (\%Ni \text{ in Ni Concentrate} - 10) \times 1.5$
- Au recovery (%) =  $70 - (\%Ni \text{ in Ni Concentrate} - 10) \times 1$

SLR was unable to follow the logic of how PREM derived these formulas and determined the factors used in the individual formulas created for Pt, Pd, and Au recovery. As stated previously, the grade of the 2021 SGS composite samples (on which the PREM generic model is based) is significantly higher than the average LOM grades. Also, SLR has not been able to verify all the 2021 SGS data that may have been used as the basis for the PREM generic metallurgical model.

**Figure 13-7: PREM Generic Model**

Updated Generic Model														
	tonnes	wt%	Assay						Distribution, %					
			%Cu	%Ni	%Co	ppm Pt	ppm Pd	ppm Au	Cu	Ni	Co	Pt	Pd	Au
Feed	5,000,000	100	0.20	0.21	0.012	0.09	0.44	0.02	100.0	100.0	100.0	100.0	100.0	100.0
Bulk Conc	138990	2.78	5.4	5.27	0.33	2.08	12.0	0.40	75.3	69.7	78.4	64.2	76.0	74.0
Cu Conc	19414	0.39	31.0	0.70	0.04	1.93	49.1	1.63	60.2	1.4	1.3	8.3	43.3	42.2
Ni Conc	119577	2.39	1.26	6.0	0.38	2.10	6.01	0.20	15.1	68.3	76.9	55.9	32.7	31.8
Tails	4861010	97.22	0.05	0.07	0.003	0.03	0.11	0.00	24.7	30.3	21.6	35.8	24.0	26.0
Input into highlighted Cells.														

Source: PREM

### 13.3.2 DRA

DRA reviewed the 2023 SGS results and created a new recovery model based on the flotation results achieved in historic and 2023 test campaigns. This data prepared by DRA has been reproduced by SLR in Table 13-13 (DRA, 2023). DRA determined the relationships between metal upgrade ratios and % mass pull in flotation for copper and nickel in bulk concentrate. Figure 13-8 shows the nickel upgrade ratio (UGR) vs. % mass pull (MP) and the copper UGR vs. MP (DRA, 2023). A correlation between copper and nickel metal UGR to final product and mass pull was applied to produce a head grade – recovery curve for copper and nickel. Based on a specific Ni concentrate grade target, the associated upgrade ratio was calculated by applying the ROM grade. Once the required upgrade ratio is known the expected mass pull is calculated by applying a power curve to the data presented in Figure 13-8. The associated metal recovery is further calculated from mass pull and concentrate grade.

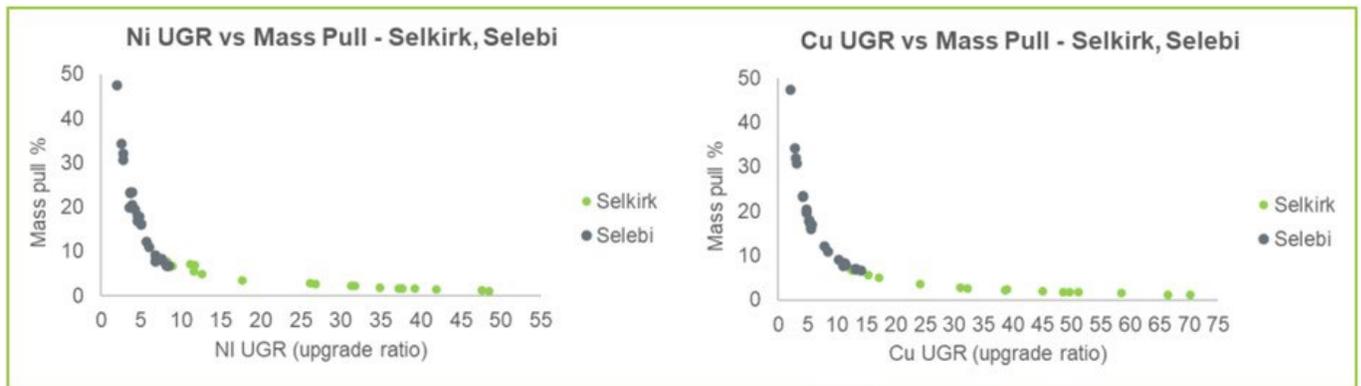


According to DRA, the recovery models applied were based on a combination of the following data:

- 2016 BFS recovery modelling by Worley Parsons (specifically for PGE metals) (Worley Parsons, 2016)
- 2023 SGS tests F24, F25, F19 data for nickel and copper modelling (SGS, 2024)

SLR notes that the formulas derived in Figure 13-8 and Figure 13-9 were not provided by DRA or Worley Parsons.

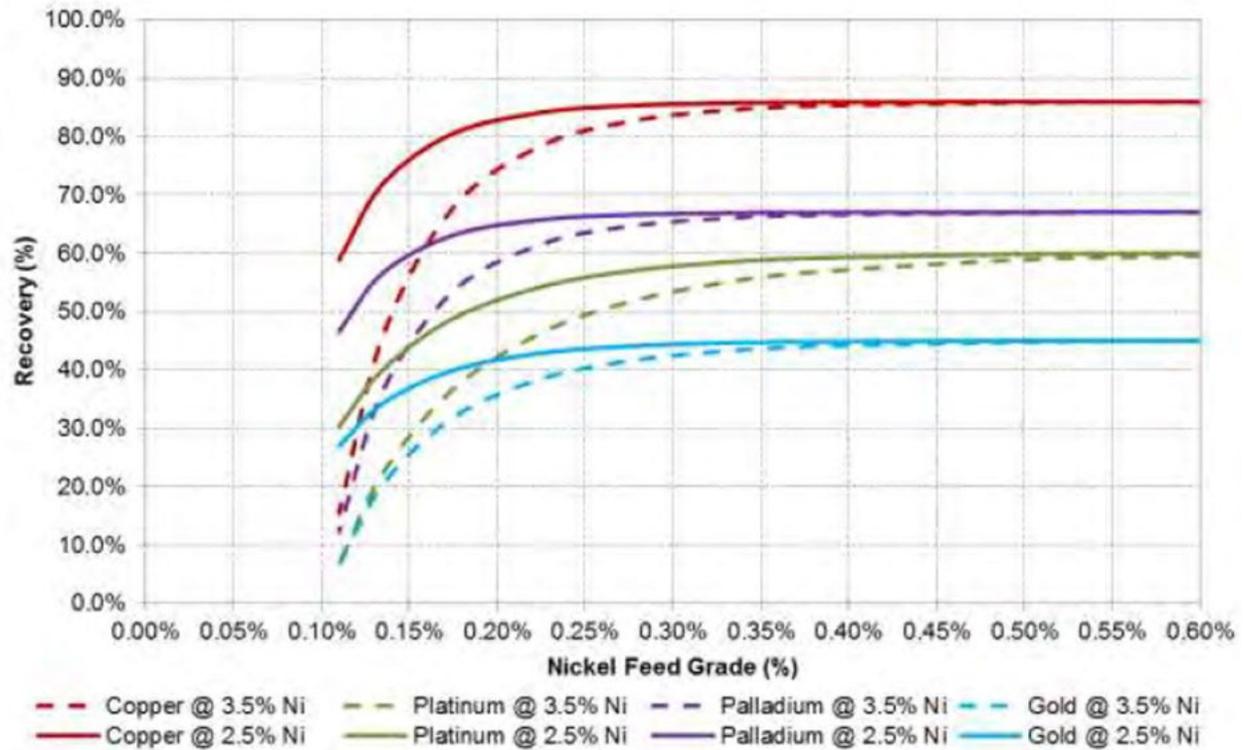
**Figure 13-8: Nickel and Copper Upgrade Ratio as a Function of Mass Pull**



Source: DRA



**Figure 13-9: Metal Recovery Over Nickel Feed Grade Range**



Source: Worley Parsons

PREM’s generic metallurgical model that was originally developed based on 2021 SGS test data was updated with 2023 SGS test F19 data (DRA, 2023). This data originally prepared by PREM has been reproduced by SLR in Figure 13-10. DRA states that the calculations are similar to its results shown in Table 13-13 for bulk concentrates, as the mass constitutes approximately 3% of the original feed. However, the grade of the 2021 SGS composite samples (on which the PREM generic model is based) is significantly higher than the average life of mine (LOM) grades, prompting the additional test work of lower grade samples by SGS in 2023.

Based on the set of recovery curves produced by DRA for Ni, Cu, Pt, Pd, and Au correlating with a target of 3.00% Ni in flotation concentrate, metallurgical recoveries of 79.9% Cu, 75.1% Ni, 53.4% Pt, 63.9% Ptd, and 38.6% Au were estimated (DRA, 2023).



**Figure 13-10: PREM Generic Model Updated with Selkirk 2023 Flotation Test (F19) Feed Data**

<i>MO model</i>								
Test F19		2.5	0.21	0.2		0.09	0.44	0.015
	tonnes	wt%	Assay					
			%Cu	%Ni	%Co	ppm Pt	ppm Pd	ppm Au
Feed	4,000,000	100	0.20	0.21	0.012	0.09	0.44	0.015
Bulk Conc	111,192	2.78	5.4	5.27	0.33	2.08	12.0	0.40
Cu Conc	15,531	0.39	31.0	0.70	0.04	1.93	49.1	1.63
Ni Conc	95,661	2.39	1.26	6.0	0.38	2.10	6.01	0.20
Tails	3,888,808	97.22	0.05	0.07	0.003	0.03	0.11	0.00
			Distribution, %					
			Cu	Ni	Co	Pt	Pd	Au
Feed			100.0	100.0	100.0	100.0	100.0	100.0
Bulk Conc			75.3	69.7	78.4	64.2	76.0	74.0
Cu Conc			60.2	1.4	1.3	8.3	43.3	42.2
Ni Conc			15.1	68.3	76.9	55.9	32.7	31.8
Tails			24.7	30.3	21.6	35.8	24.0	26.0

Source: PREM



**Table 13-13: Select SGS Flotation Test Results for the Production of Selkirk Bulk Cu+Ni Concentrates**

Test	Nickel					Copper					Cu+Ni Head Grade (%)	Cu+Ni Conc Grade (%)	Cu+Ni UGR
	Head Grade (%)	Conc Grade (%)	UGR	%Mass Pull (MP)	Recovery (%)	Head Grade (%)	Conc Grade (%)	UGR	%Mass Pull (MP)	Recovery (%)			
Selkirk 2023 F24	0.20	8.00	39.25	1.69	66.46	0.19	9.76	51.20	1.69	86.70	0.39	17.76	45.03
	0.20	6.48	31.81	2.28	72.42	0.19	7.42	38.93	2.28	88.63	0.39	13.90	35.25
	0.20	5.34	26.21	2.87	75.28	0.19	5.92	31.04	2.87	89.16	0.39	11.26	28.54
	0.20	2.38	11.70	6.99	81.75	0.19	2.46	12.91	6.99	90.24	0.39	4.84	12.28
Selkirk 2023 F25	0.22	9.37	41.92	1.47	61.47	0.20	11.90	58.48	1.47	85.75	0.43	21.27	49.81
	0.22	8.44	37.74	1.77	66.88	0.20	10.11	49.69	1.77	88.05	0.43	18.55	43.44
	0.22	7.79	34.85	1.96	68.34	0.20	9.18	45.11	1.96	88.46	0.43	16.97	39.74
	0.22	2.60	11.65	6.79	79.15	0.20	2.72	13.37	6.79	90.84	0.43	5.32	12.47
Selkirk 2023 F19	0.22	10.70	48.54	1.12	54.37	0.20	14.30	70.27	1.12	81.88	0.42	25.00	60.09
	0.22	10.51	47.66	1.23	58.48	0.20	13.52	66.42	1.23	84.79	0.42	24.02	57.74
	0.22	8.21	37.23	1.71	63.65	0.20	9.89	48.58	1.71	86.42	0.42	18.09	43.49
	0.22	6.89	31.27	2.19	68.56	0.20	7.87	38.70	2.19	88.27	0.42	14.77	35.49
	0.22	5.91	26.81	2.65	70.92	0.20	6.57	32.31	2.65	88.92	0.42	122.48	30.01
	0.22	2.47	11.19	7.05	78.91	0.20	2.51	12.34	7.05	90.50	0.42	4.98	11.96
Selkirk 2021 LCT-4+5	0.44	7.80	17.73	3.57	63.20	0.49	11.85	24.18	3.57	86.20	0.93	19.65	21.13
Selkirk 2021 F36 MG Comp	0.43	5.42	12.60	4.96	62.50	0.51	8.73	17.12	4.96	84.90	0.94	14.15	15.06
	0.43	5.01	11.65	5.62	65.50	0.51	7.79	15.28	5.62	85.90	0.94	12.80	13.62
Selkirk 2021 F38 HG Comp	0.73	6.53	8.95	6.70	59.90	0.66	8.33	12.62	6.70	84.50	1.39	14.86	10.69
	0.73	6.01	8.23	7.79	64.10	0.66	7.32	11.10	7.79	86.40	1.39	13.33	9.59

Note: Upgrade ratio (UGR).



### 13.3.3 FMCI

FMCI reviewed previous SGS test data generated from four tenor samples (MG\_HT, LG\_HT, MG\_LT, and MG\_MT) from the Selkirk deposit which used the Gipro process flowsheet to produce a bulk concentrate (FMCI 2024). FMCI stated that this flowsheet had delivered the highest nickel recovery in previous testing and thus, modelled the separation of copper and nickel concentrates using MS Excel.

FCMI's grade assumptions and preliminary model results are reproduced by SLR in Figure 13-11. The losses to tails are higher than what was predicted previously under the PREM Updated Generic Model. FCMI's model and supporting calculations were not provided to SLR for review.

**Figure 13-11: FMCI Model Results**

Stream	Annual Tonnes		Assays				Recoveries			
	Mass %	Mass	Cu	Ni	Pt	Pd	Cu	Ni	Pt	Pd
Feed	100	5000000	0.18	0.21	0.08	0.37	100%	100%	100%	100%
Bulk Conc	2.29	114250	5.97	5.56	2.04	10.02	74.7%	62.0%	58.3%	62.7%
Cu Conc	0.43	21269	30.72	0.50	3.73	42.44	71.6%	1.0%	19.8%	49.5%
Ni Conc	1.86	92981	0.37	6.78	1.68	2.74	3.8%	61.5%	39.0%	13.9%
Tail	97.72	4885750	0.05	0.08	0.03	0.53	25.3%	38.0%	41.7%	37.3%

Source: FMCI 2024

## 13.4 Conceptual Mineral Processing

The conceptual mineral processing that PREM is currently considering involves pre-concentration of Selkirk feed materials via XRT particle sorting technology followed by flotation to produce two concentrates. The QP notes that an overall process flowsheet combining these individual steps has not been developed or tested by PREM or by any parties (Stark, SGS, or DRA) to date and thus, the metallurgical recoveries that have been estimated for the purposes of Mineral Resource estimation exclude any pre-concentration.

Based on average Selkirk feed grade assumptions in Section 14.0 and preliminary FCMI model assumptions of 6.8% Ni in nickel concentrate and 30.0% Cu in copper concentrate, recoveries of 70% Cu, 1% Ni, 20% Pt, and 45% Pd to copper concentrate and recoveries of 3.8% Cu, 60% Ni, 39% Pt, and 14% Pd to nickel concentrate were estimated. These metal recoveries reflect PREM's analyses of historical SGS test data and relationships obtained to produce separate copper and nickel concentrates, with an additional deduction for refining, smelting, transportation costs, and smelter penalties. Currently, Fe and MgO are the only deleterious elements that have been identified by PREM for the application of smelter penalties and this requires further confirmation via metallurgical testing in the production of two concentrates.

## 13.5 Conclusions and Summary

Based on the results from preliminary studies and historical data analyses, PREM has conceptualized a treatment process for Selkirk material that considers flotation of separate copper and nickel concentrates. At the time of writing of this Technical Report, no information was provided by PREM to include pre-concentration as a treatment step.

While preliminary flotation test results indicated that copper-nickel separation is achievable, further representative sampling and testing is required to demonstrate that the target grades of



copper and nickel in bulk concentrate can be consistently met. Initially, the copper and nickel grades of bulk concentrate were simulated by PREM based on the manipulation of select SGS test results representing separately produced copper and nickel concentrates and thus, may not be indicative of the expected metallurgical performance for bulk concentrates. Furthermore, some of the underlying assumptions in the generic metallurgical model previously relied on by PREM for metal recovery calculations were based on the test results generated from 2021 SGS composite samples (head assays: 0.55% - 0.66% Cu and 0.44% - 0.77% Ni) that graded significantly higher than the current average LOM grades.

Variability samples that were more representative of the mineral resources were tested using the Gipro flowsheet for bulk concentrate production. Modelling performed by PREM's consulting metallurgists to simulate the production of two concentrates provided preliminary results for Cu-Ni separation. Pre-concentration techniques such as XRT sorting have not been used to prepare any Selkirk materials for flotation testing to date.

The SLR QP is of the opinion that the metallurgical data verification of key parameters from separate copper and nickel concentrate production by PREM's consulting metallurgists indicated that the data are adequate to support the metallurgical interpretations. The SLR QP concludes that the metallurgical and analytical data were collected in a manner that is suitable to be used conceptually for Mineral Resources estimation, but further testing is recommended to confirm the characteristics of the Selkirk final copper and nickel concentrate products.



## 14.0 Mineral Resource Estimates

### 14.1 Summary

An initial Mineral Resource estimate for the Selkirk deposit was prepared by SLR using available drill hole data as of November 1, 2024. Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves dated May 10, 2014 (CIM (2014) definitions) were followed for Mineral Resource classification.

The MRE was prepared using results from 283 historical drill holes completed between 2003 and 2016, five historical 2016 drill holes sampled by PREM in 2021, and 17 historical holes re-sampled by PREM in 2024. Mineral Resource domain and block modelling work was completed using Seequent's Leapfrog Geo and Edge software. The MRE is defined within a single domain, modelled as a mineralized body within the Selkirk gabbro, and targeting an economic threshold of US\$20/t.

Where drill core was re-sampled by PREM, these analytical results were used in place of original historical assays. Unsourced or missing copper and nickel values were replaced with 0 values, and unsourced or missing palladium and platinum values were ignored, reflecting the inconsistent sampling of PGEs at the Project. Uncapped copper, nickel, platinum, and palladium assays were composited to two metres which were in turn estimated into a sub-blocked model using a three-pass ordinary kriging (OK) approach.

In addition to standard historical data and database validation techniques, wireframe and block model validation procedures including wireframe to block volume confirmation, statistical comparisons of composites with the estimate, and visual reviews in both 3D and section view were also completed.

Material within underground workings, and within 5 m from them, was depleted. Inferred Mineral Resources represent areas with approximate drill hole spacings of up to 70 m and are constrained within an optimized pit shell.

Mineral Resources for Selkirk are presented in Table 14-1. A longitudinal section, showing the NSR block values calculated from estimated copper, nickel, palladium, and platinum values and limited to within the optimized pit shell, is shown in Figure 14-1.

**Table 14-1: Inferred Selkirk Mineral Resource Estimate, November 1, 2024**

Mass (Mt)	Average Value				Contained Metal			
	Cu (%)	Ni (%)	Pd (g/t)	Pt (g/t)	Cu (kt)	Ni (kt)	Pd (koz)	Pt (koz)
44.2	0.30	0.24	0.55	0.12	132	108	775	174

Notes:

1. CIM (2014) definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at a net smelter return (NSR) value of US\$25/t.
3. Mineral Resources are estimated using a long-term prices of US\$10.50/lb Ni, US\$4.75/lb Cu, US\$1,450/oz Pt and US\$1,500/oz Pd, and a US\$:BWP exchange rate of 1.00:13.23.
4. Mineral Resources are estimated using nickel, copper, palladium, and platinum recoveries of 60%, 70%, 59%, and 59%, respectively, derived from metallurgical studies which consider a conceptual two concentrate scenario.
5. Bulk density has been estimated.
6. Mineral Resources are reported within an optimized pit shell.

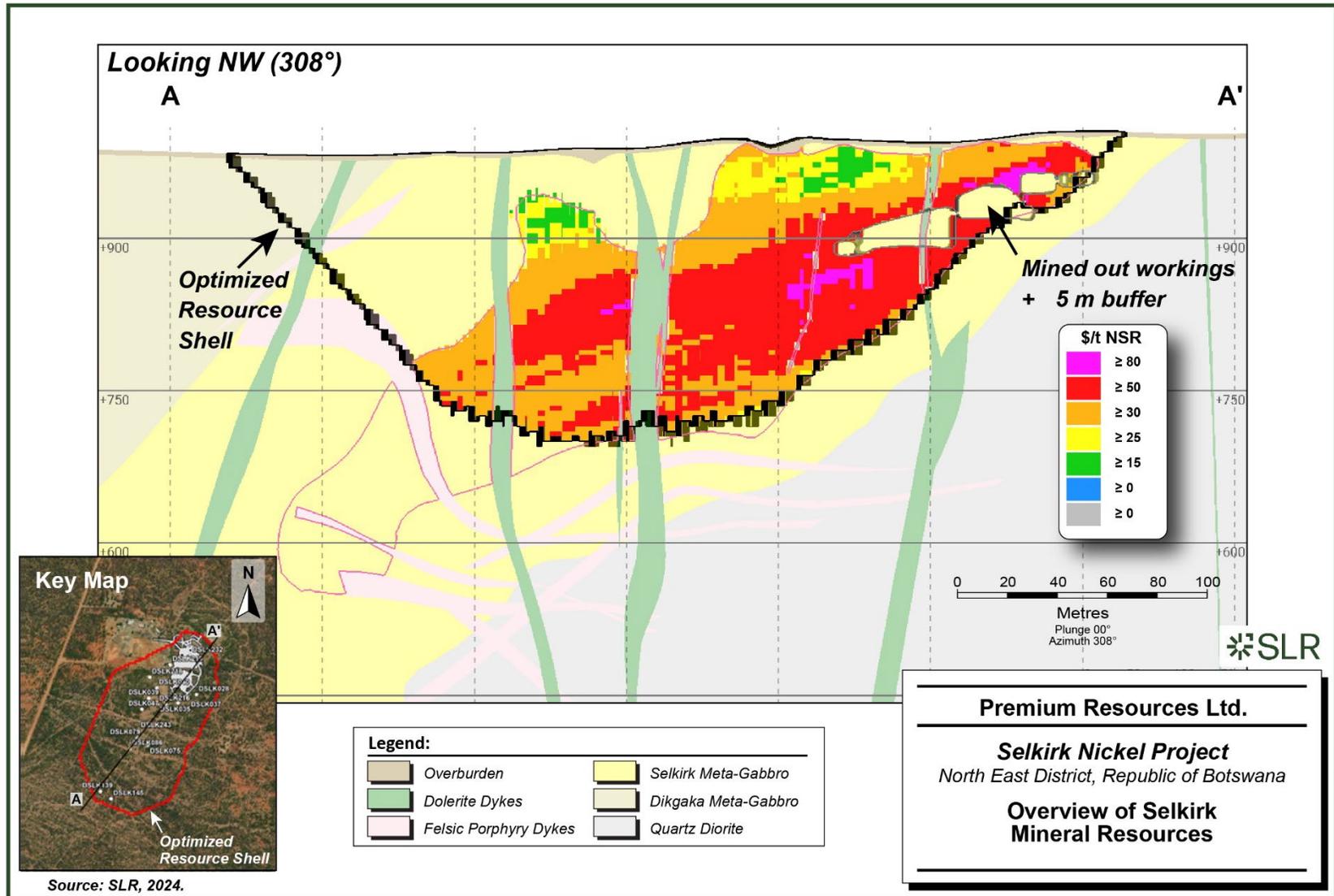


- |   |
|---|
| <ol style="list-style-type: none"><li>7. There are no Mineral Reserves.</li><li>8. Totals may not add or multiply accurately due to rounding.</li></ol> |
|---|

The QP is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the Mineral Resource estimate.



Figure 14-1: Overview of Selkirk Mineral Resources



## 14.2 Mineral Resource Cut-off Value

A cut-off NSR value of US\$25/t was developed for the Selkirk deposit and reflects assumed mining costs of a conventional open pit and production of a two-concentrate product. Metal prices are based on long-term forecasts from banks, financial institutions, and other sources. The metal prices and other input parameters used in development of a unit NSR value for each block are provided in Table 14-2.

SLR notes that further test work on representative samples is required to confirm metallurgical inputs for the optimal flowsheet. The selected parameters reflect an estimate of performance for low-grade (cut-off level) material, for purposes of resource selectivity, and will undervalue average or better-grade material.

It is also noted that the head grades used in the NSR calculation were based on an early estimation of the average grades contained within a 0.2% Ni grade shell, and that resulting grades in the resource estimate were slightly lower, though the difference negligibly affects the Revenue per Metal Unit factors.

**Table 14-2: Parameters Used to Calculate the NSR Cut-off – Selkirk**

Item	Unit	Ni Concentrate	Cu Concentrate	Value
Mining Rate	dry tpd			5,000
Processing Rate	dry tpd			5,000
<b>Head Grades</b>				
Cu	%			0.38
Ni	%			0.30
Pd	g/t			0.62
Pt	g/t			0.14
<b>Metallurgical Recovery</b>				
Cu	%	3.8	70	70
Ni	%	60	1	60
Pd	%	39	20	59
Pt	%	14	45	59
<b>Metal Prices</b>				
Cu	US\$/lb			4.75
Ni	US\$/lb			10.50
Pd	US\$/oz			1,500
Pt	US\$/oz			1,450
<b>Revenue per Metal Unit</b>				
Cu	US\$/%			53.913
Ni	US\$/%			55.605



Item	Unit	Ni Concentrate	Cu Concentrate	Value
Pd	US\$/g/t			22.948
Pt	US\$/g/t			14.891
<b>Payability</b>				
Cu	%	-	96.5	
Ni	%	72	-	
Pd	%	69.5	90	
Pt	%	51.5	68.3	
Transport	US\$/wet metric tonne			150
Treatment	US\$/dry metric tonne			220
<b>Refining Cost</b>				
Cu	US\$/lb			0.45
Ni	US\$/lb			0.96
Pd	US\$/lb			50
Pt	US\$/lb			50
<b>Royalty (NSR)</b>	%			2.0
<b>Operating Cost</b>				
Mining Cost	US\$/t mined			3.00
Processing Cost	US\$/t milled			23.00
G&A	US\$/t milled			1.20
Total	US\$/t mined			27.2
<b>Break-Even NSR Cut-off</b>	<b>US\$/t</b>			<b>27.2</b>
<b>Discard NSR Cut-off</b>	<b>US\$/t</b>			<b>24.2<sup>1</sup></b>
Notes				
1. A rounded value of US\$25/t was used to estimate the Mineral Resources.				

### 14.3 Resource Database

The drill hole database is maintained separately in a series of mining software (Datamine, DHLogger), and Microsoft Excel file types. The database for Selkirk was provided to SLR in Microsoft Excel files and consists of surface and underground diamond drilling, as well as underground channel samples. The data was imported into Seequent's Leapfrog Geo version 2024.1.1 for wireframe building, statistical analysis, block modelling, and resource estimation.

Surface and underground drilling is spaced from 20 m to 100 m apart. The MRE was prepared using results from 232 surface and 10 underground historical drill holes drilled between 2003 and 2016, five 2016 drill holes sampled by PREM in 2021, and 17 historical drill holes re-sampled by PREM in 2024.

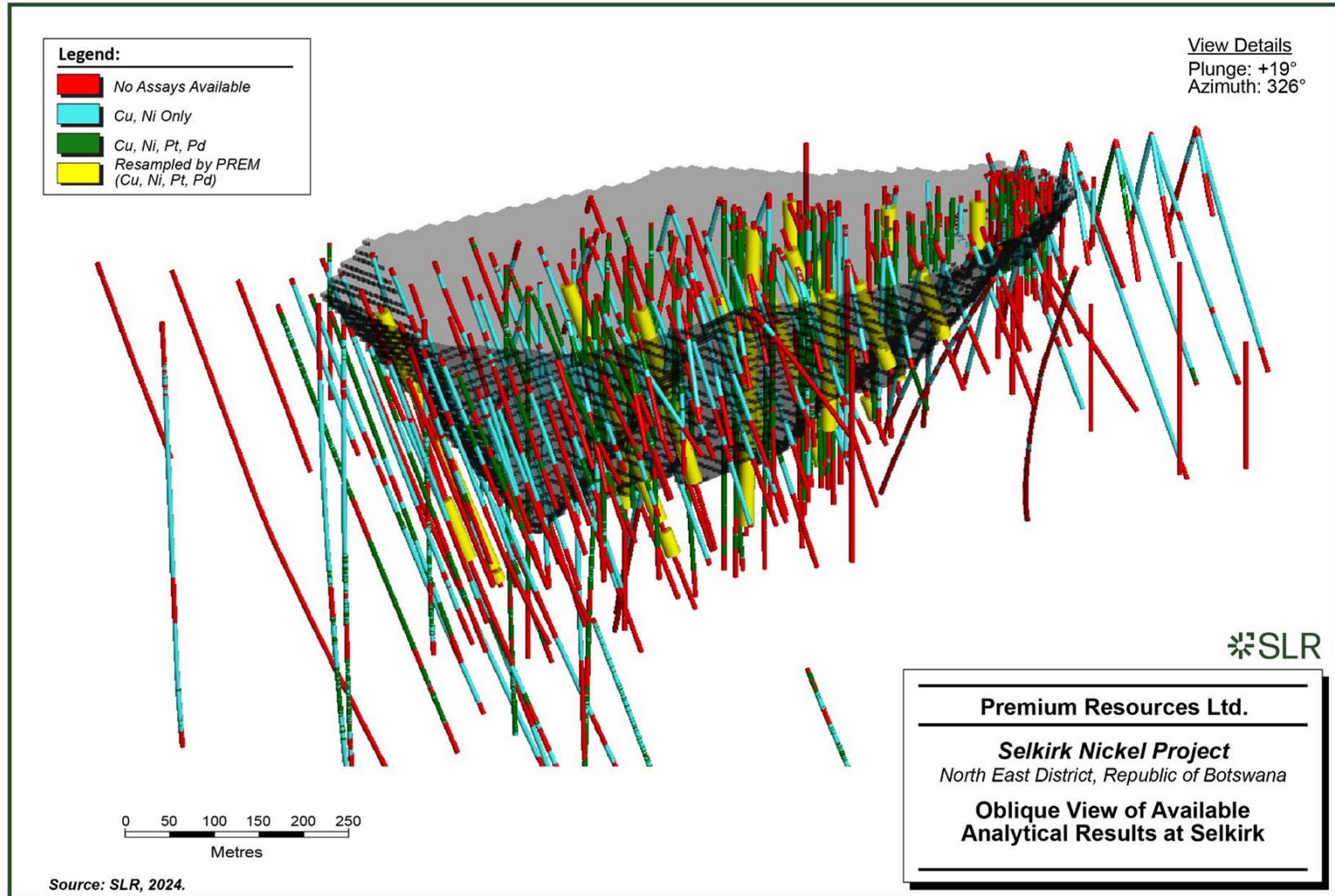


Due to poor confidence in the sampling approach and results, four drill holes, eleven channel samples, and four underground samples were ignored in the Mineral Resource database. While used to support interpretation, no channel samples were used in grade estimation.

For the purposes of modelling, a calculated NSR value was added by SLR into the drill hole database using the revenue factors in Table 14-2. This NSR value was used to guide mineralization modelling. Absent values of Pt and Pd were ignored in the NSR calculation; absent Cu and Ni values were assigned a grade of 0%. There may be opportunities, particularly near surface, to improve the NSR value through re-analysis of historical drill core to include a larger suite of Pt and Pd analytical results. An oblique view of available analytical results at Selkirk is presented in Figure 14-2.



Figure 14-2: Oblique View of Available Analytical Results at Selkirk



## 14.4 Geological Interpretation

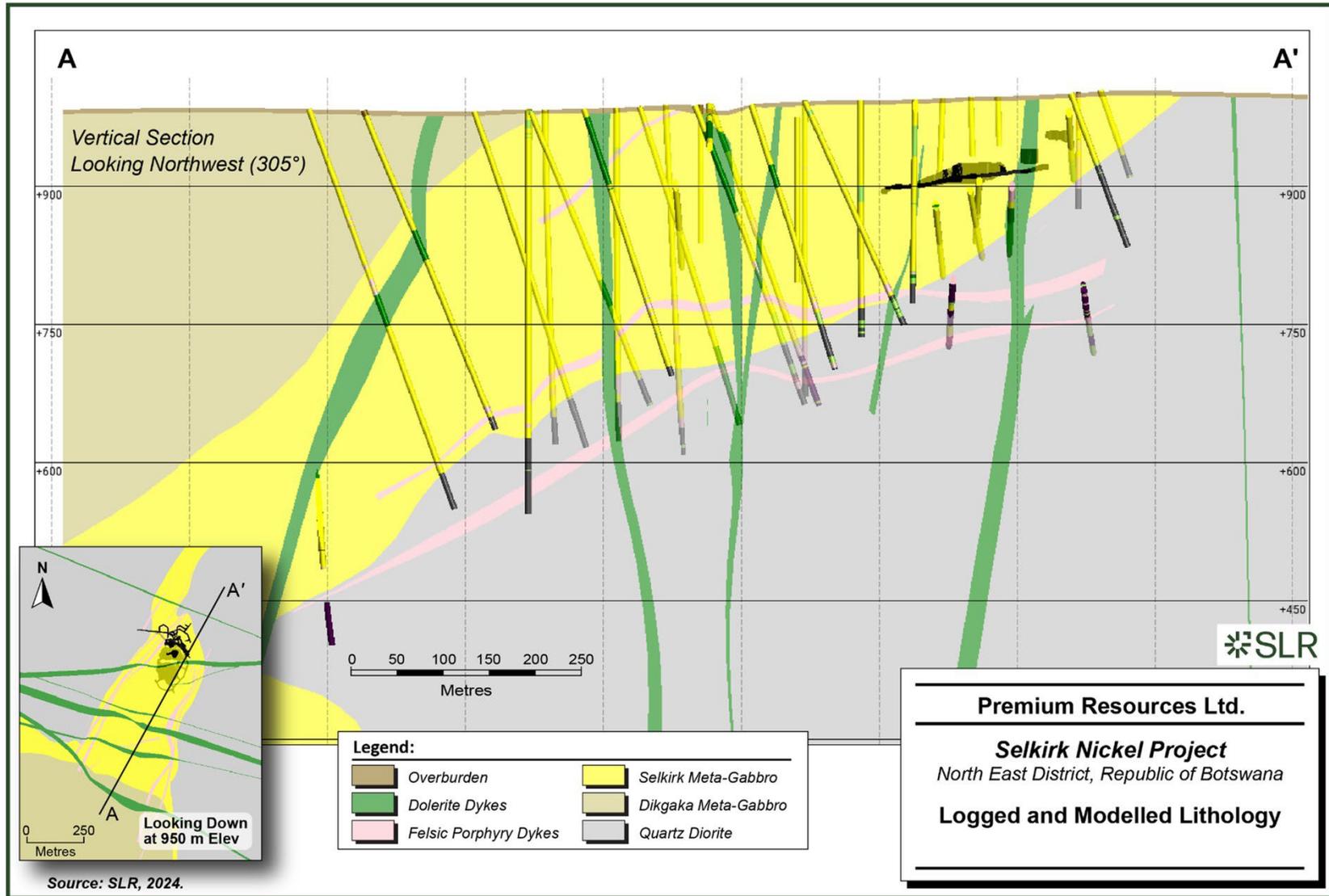
A geological model representing the host unit (Selkirk gabbro), the Dikgaka gabbro, as well as overburden and crosscutting dyke units were modelled in Leapfrog as hosted within the quartz diorite country rock. Small mafic dykes, typically less than two metres thick, were not modelled. A comparison of logged and modelled lithology at Selkirk is shown in Figure 14-3.

Overburden was inconsistently logged at Selkirk, and a review of selected drill core photos revealed a consistent rubbly, oxidized unit, typically for the first five metres. The surface was therefore built as an offset surface from topography (which in turn was built from collar locations), snapped to the top sample submitted for analysis, or the logged overburden, where present. All other units were based on logged lithology, with generalizations in some areas to allow for smooth surface building, as is typical.

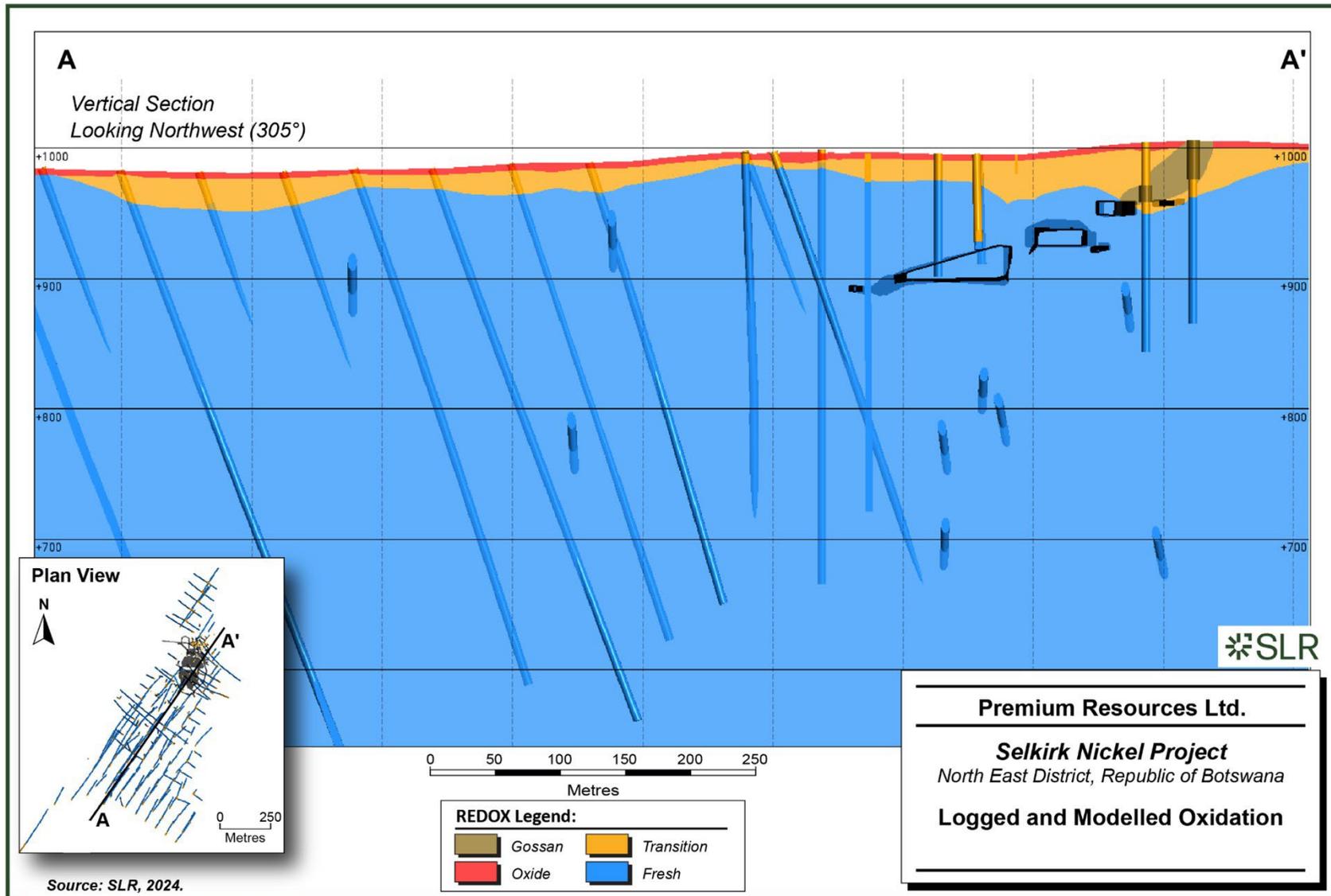
A weathering model, representing oxidized, transitional, and fresh material, was modelled alongside a small gossan unit representing the material up-dip of the underground workings, and informed by logging. A redox column in the lithology database was provided by PREM and used to support the modelling work, however, the logging did not distinguish between true oxide material and transition material and a verification of logging against core photos revealed that the base of the logging best represented the boundary between transitional and fresh material, with core, logged as “redox” often showing as highly competent material, with iron staining. In addition, density measurements in redox material were similar to fresh material. To account for this inconsistency, the lithology model overburden unit was used in the redox model to represent oxide material, and the logging was used to represent the transitional/fresh boundary. Gossan, as a lithology unit, is logged, and the modelled unit represents a cohesive shape above the underground workings, as shown in Figure 14-4, sometimes incorporating material not explicitly designated as gossan. An improvement to the redox model would be to use core photos where available to distinguish between oxide and transition material, and to re-take representative density measurements in the weathered units.



**Figure 14-3: Logged and Modelled Lithology**



**Figure 14-4: Logged and Modelled Oxidation**



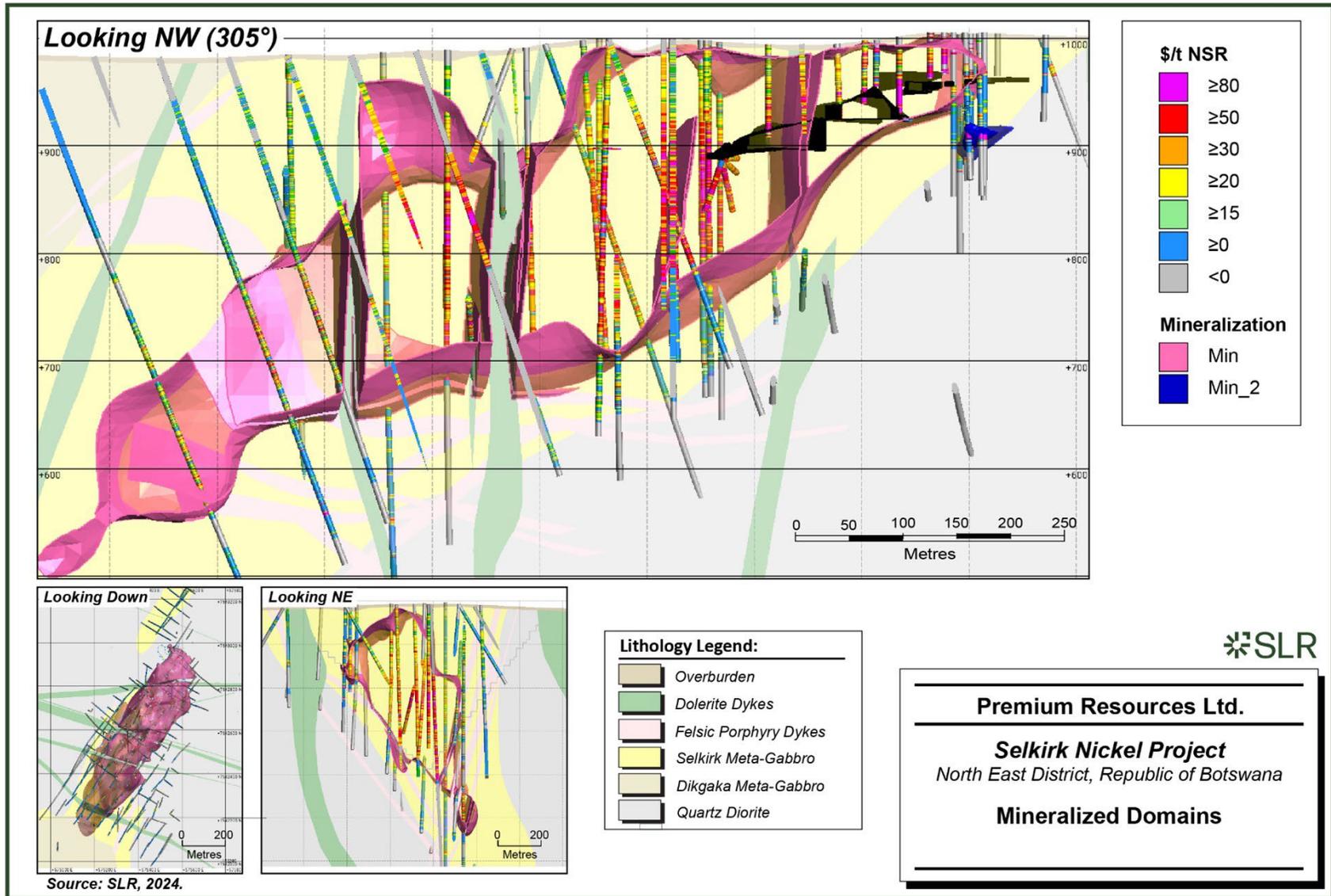
## 14.5 Mineralization Interpretation

The MRE is defined by the mineralized (MIN) domain, which was constructed at a targeted cut-off of 20/t NSR and limited to within the Selkirk gabbro. Samples below the cut-off were included in some areas to maintain the shape and continuity and of the domain. Domain extension was defined at a limit of the closer of 50% of the local drill hole spacing or 50% of the distance to an excluded drill hole.

The MIN domain dips at approximately 74°/294° (dip/dip azimuth) and from approximately 10 m to 500 m vertical distance below the surface. The MIN domain ranges in width from approximately 50 m to 250 m, and the domain extends down dip just over 1,000 m. A small, mineralized domain, MIN\_2, was also modelled at the base of the Selkirk gabbro, at approximately 55 m below the historical mine workings. The MIN\_2 domain was not captured in the final resource shell during optimization. The final mineralized domains are presented alongside lithology and calculated NSR values in intercepting drill holes in Figure 14-5.



Figure 14-5: Mineralized Domains

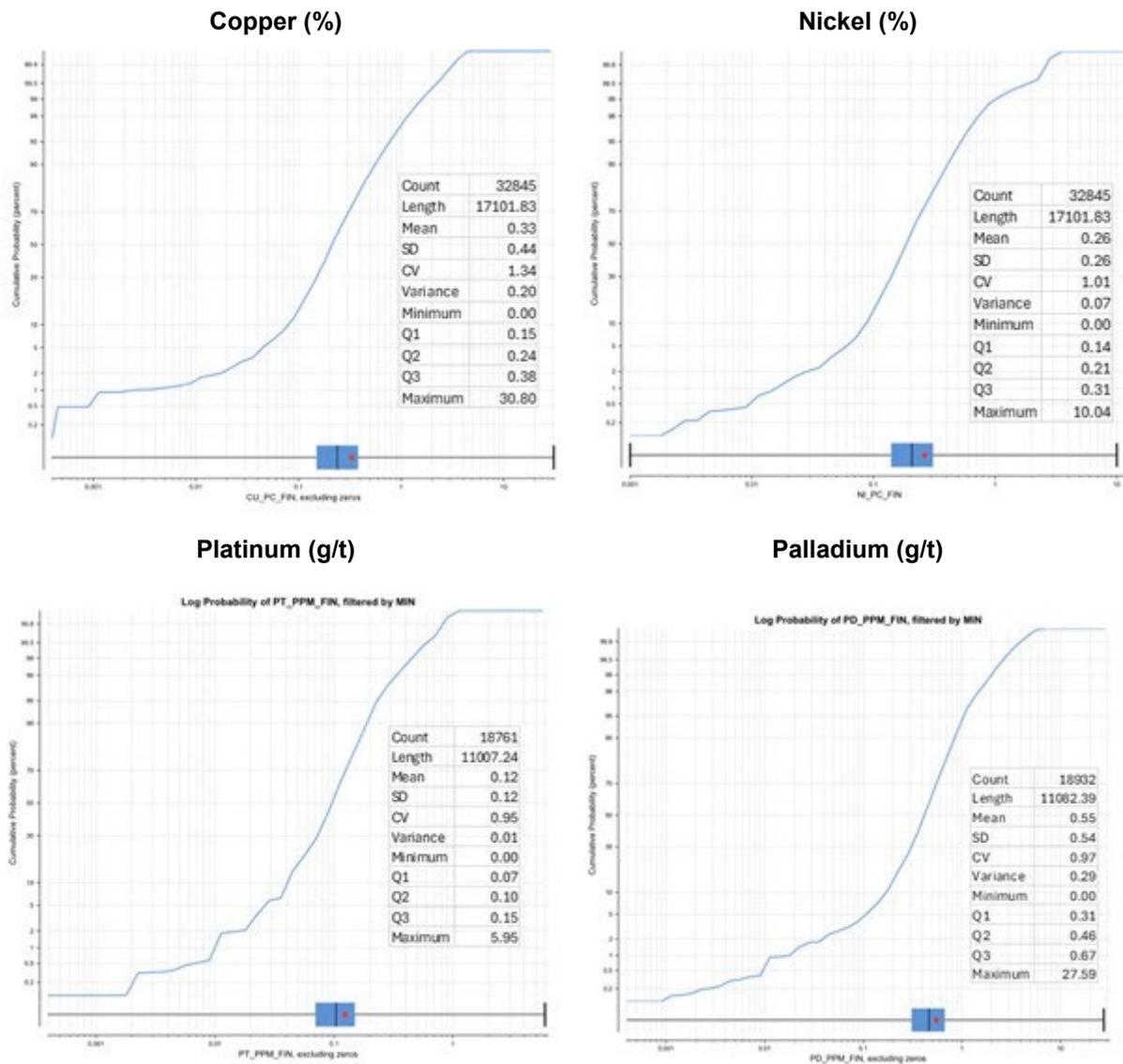


## 14.6 Resource Assays

### 14.6.1 Capping and Grade Restriction

Based on a statistical, spatial, and geostatistical review of outlier values, neither capping, nor a distance-based restriction during interpolation, was applied to the copper, nickel, platinum, or palladium values. Probability plots for all estimated elements within the MIN domain are presented in Figure 14-6.

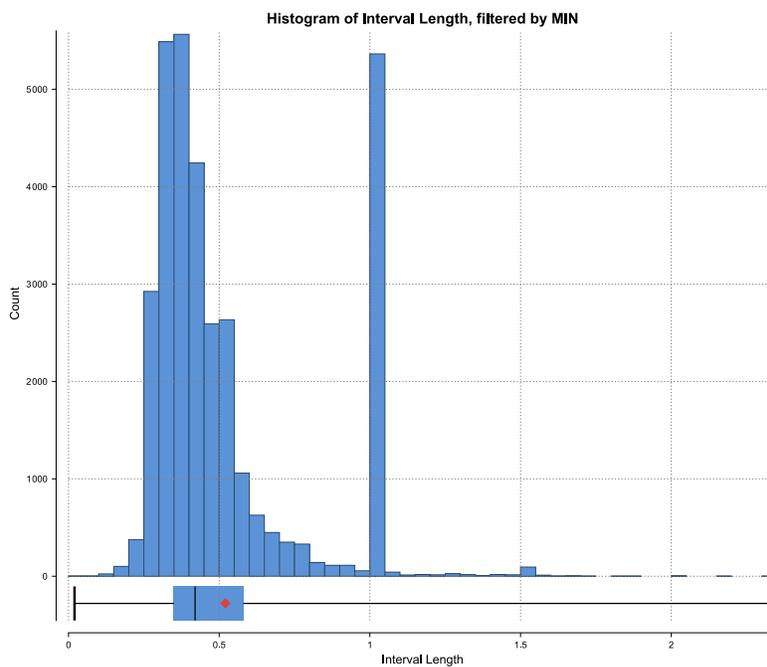
**Figure 14-6: Probability Plots of Assays within the MIN Domain**



### 14.6.2 Compositing

A histogram of assays lengths within the MIN domain is presented in Figure 14-7, showing that most samples are one metre or less, with several very small assay lengths less than 0.5 m. Uncapped assay values were composited to two metre intercepts within the MIN and MIN\_2 domains. The MIN\_2 domain was not captured in the final resource shell during optimization. Where absent, copper and nickel were assigned a value of 0%; platinum and palladium missing values were ignored during compositing. Copper, nickel, platinum, and palladium assay statistics by domain, before and after compositing, are summarized in Table 14-3.

**Figure 14-7: Histogram of Interval Lengths within the Mineralized Domains – Selebi North**



**Table 14-3: Raw and Composited Values of Estimated Variables Cu, Ni, Pd, and Pt**

Domain / Assay	Grade Unit	Assay						2 m composites					
		Count	Length	Mean	CV	Minimum	Maximum	Count	Length	Mean	CV	Minimum	Maximum
<b>MIN</b>													
Cu	%	32,554	16,993	0.33	1.19	0.00	13.42	8,882	17,614	0.32	0.92	0.00	6.26
Ni	%	32,554	16,993	0.26	0.97	0.00	10.04	8,882	17,614	0.25	0.80	0.00	3.16
Pd	g/t	18,666	10,982	0.55	0.97	0.00	27.59	5,715	11,355	0.56	0.70	0.00	11.50
Pt	g/t	18,500	10,909	0.12	0.95	0.00	5.95	5,713	11,351	0.12	0.66	0.00	2.44
<b>MIN_2</b>													
Cu	%	291	109	0.95	2.76	0.00	30.80	62	120	0.86	2.56	0.00	20.22
Ni	%	291	109	0.58	1.71	0.02	3.68	62	120	0.53	1.67	0.00	3.60
Pd	g/t	266	100	0.37	0.83	0.01	2.41	55	107	0.36	0.66	0.05	1.32
Pt	g/t	261	99	0.10	1.13	0.01	0.72	55	107	0.09	0.98	0.01	0.49
<b>WASTE (Selkirk Gabbro)</b>													
Cu	%	35,959	17,325	0.10	1.56	0.00	8.87	10,511	20,689	0.08	1.26	0	2.90
Ni	%	35,959	17,325	0.10	1.46	0.00	8.41	10,511	20,689	0.08	1.30	0	4.77
Pd	g/t	10,871	5,566	0.21	1.35	0.00	9.67	3,106	6,107	0.22	1.14	0	6.54
Pt	g/t	10,399	5,338	0.06	1.95	0.00	10.10	3,039	5,976	0.06	1.86	0	5.36
Notes:													
1. A small amount of length is generated during the compositing process – approximately 3% in the MIN domain, during the compositing exercise due to assignment of 0 grade values in missing intervals. The impact of length creation is higher in the waste and MIN_2 domains (up to 20%). The Waste and MIN_2 domains are not classified as Mineral Resources.													
2. In the MIN domain, Cu and Ni saw a 3% drop in grade during compositing. No change in grades for Pt or Pd.													
3. Mean values are presented as length weighted.													

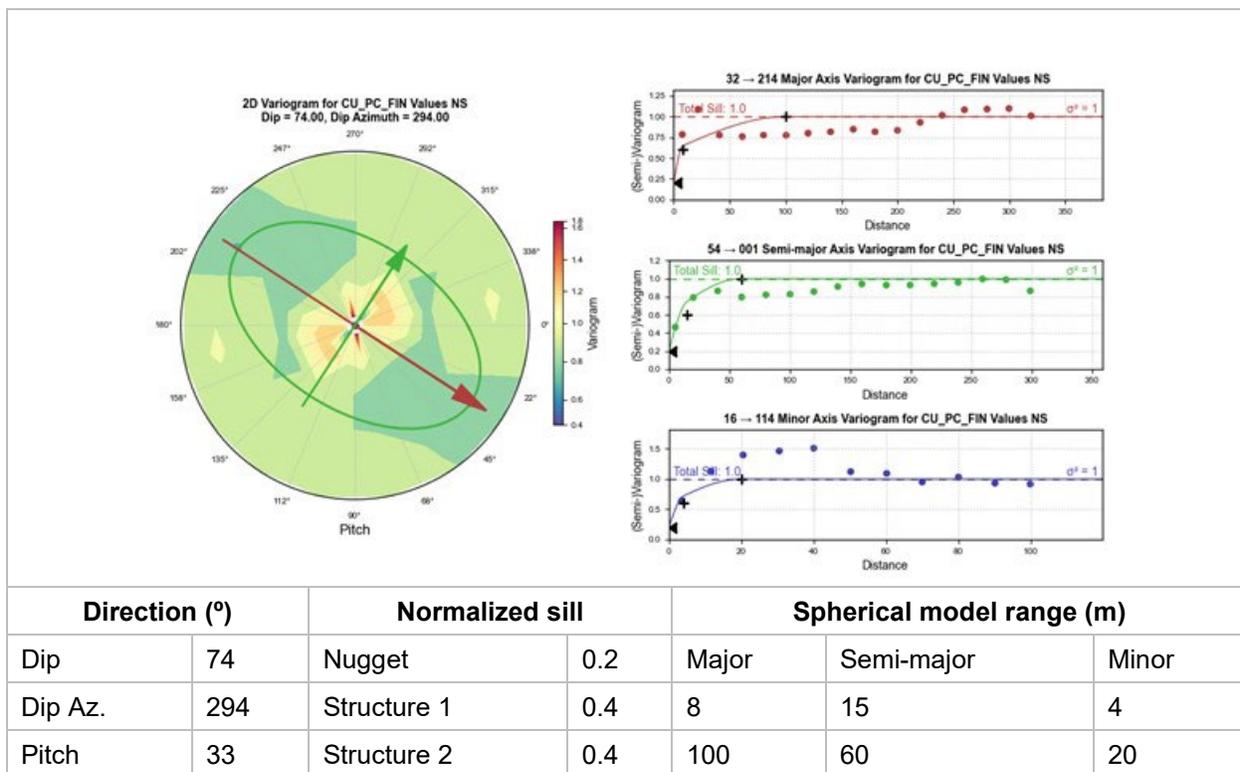


## 14.7 Variography

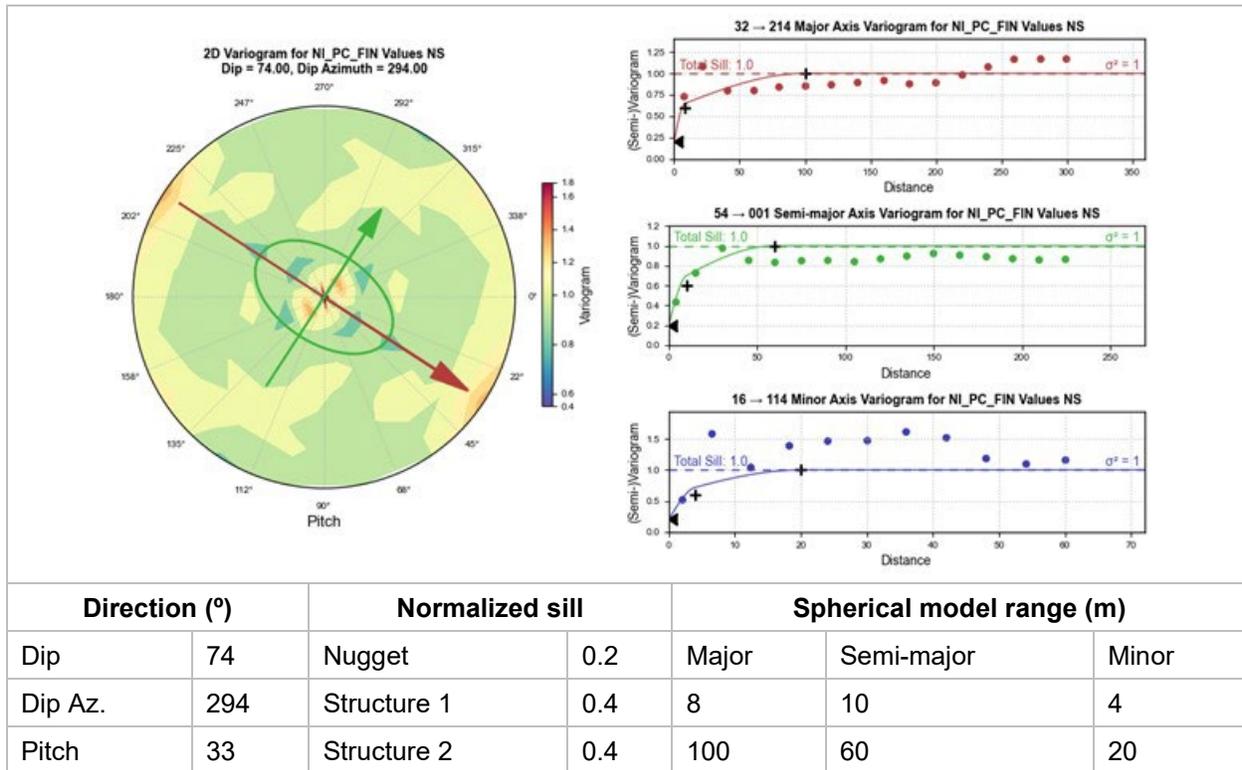
Experimental variograms were calculated and plotted for the MIN domain to assess the spatial continuity of the copper, nickel, platinum, and palladium grades inside the mineralized envelope and confirm observed trends. The variograms were based on the domain’s two metre composites. Variograms were calculated using Leapfrog Edge software. Resultant trends were confirmed against contoured values.

The copper, nickel, platinum, and palladium variograms for the MIN domain indicates that the continuity is highest towards the southeast, or downdip. The nugget effect is interpreted at a level of approximately 20% for all variables. The QP notes that most of the variance in the dataset (75% to 80% of the sill) is captured within the first 25 m for all elements with a slow rise to sill and maximum ranges of approximately 100 m and 250 m reached in the primary direction for copper and nickel. Variogram maps and experimental and model variogram results are presented in Figure 14-8 (copper), Figure 14-9 (nickel), and Figure 14-10 (palladium). Note that models were generated to a limit of 100 m, acknowledging the slow rise to sill visible in all experimental models.

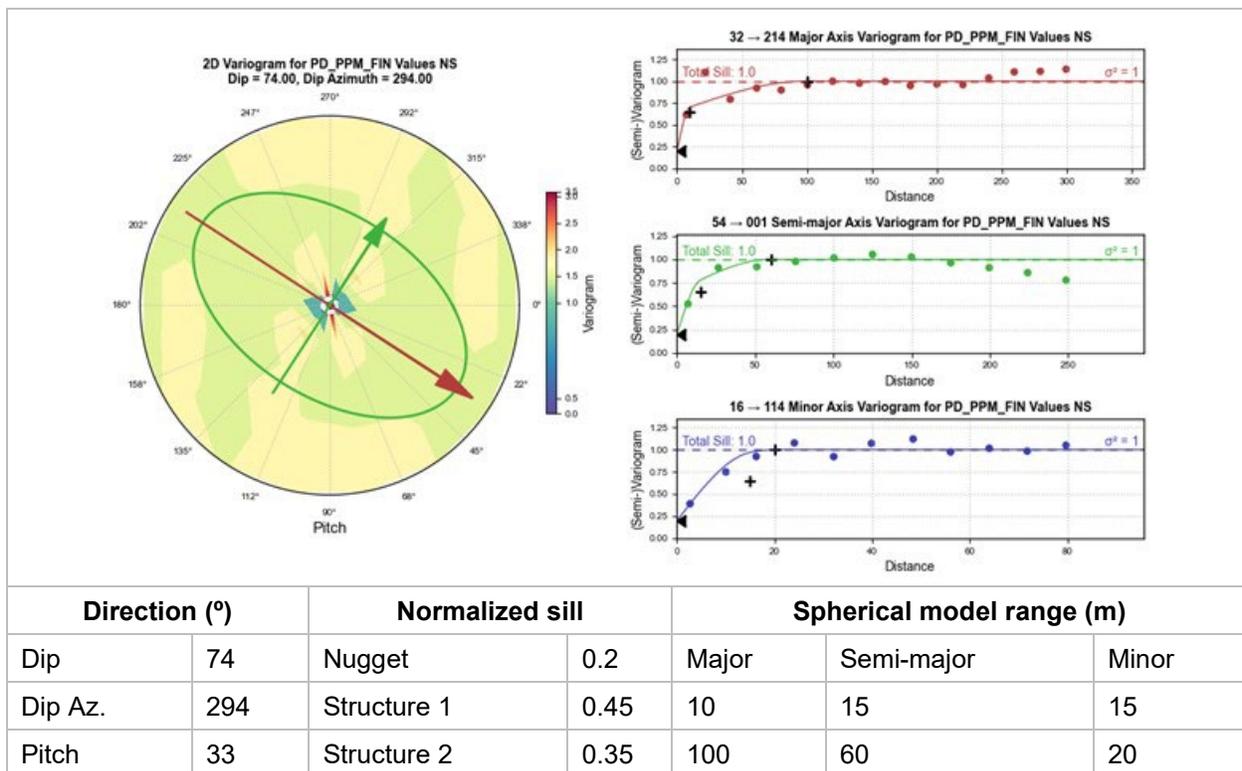
**Figure 14-8: Copper Variogram Map and Model Results for the MIN Domain**



**Figure 14-9: Nickel Variogram Map and Model Results for the MIN Domain**



**Figure 14-10: Palladium Variogram Map and Model Results for the MIN Domain**



## 14.8 Bulk Density

In the final block model, bulk density values were estimated or assigned as shown in Table 14-4.

Bulk density values were estimated into unweathered (fresh) volumes of the Selkirk gabbro; divided by mineralized and unmineralized (waste) units. All other lithologies within the fresh unit were assigned based on average measured values. Due to uncertainty in the measured density values of the oxide/overburden and transitional weathered units, and an assumption that historical sampling practices biased results to more competent core pieces within these weathered units, values were assigned based on typical values for similar projects. An improvement to the Project will be to confirm or update these values with further test work. Estimated density values range from 3.03 t/m<sup>3</sup> to 5.0 t/m<sup>3</sup> within mineralized domain and from 2.92 t/m<sup>3</sup> to 5.0 t/m<sup>3</sup> elsewhere.

**Table 14-4: Selected Bulk Density Statistics and Block Model Approach**

Modelled Domain			Bulk Density Measurements					Block Model	
Lithology	Redox	Min. <sup>1</sup>	Count	Length	Mean	Min.	Max.	Approach	Value
				(m)	(t/m <sup>3</sup> )	(t/m <sup>3</sup> )	(t/m <sup>3</sup> )		(t/m <sup>3</sup> )
Combined Lithologies	Oxidized		77	39.7	2.7	2.2	3.0	Assigned	2.2
	Gossan		827	345.5	3.0	2.0	5.0	Estimated	
	Transition		3,961	1,818.3	2.9	2.1	5.0	Assigned	2.5
Selkirk MG	Fresh	MIN	27,159	12,926.8	3.0	2.0	5.0	Estimated	
		MIN_2	291	108.9	3.1	2.5	4.6	Estimated	
		WASTE	31,475	14,893.1	2.9	2.0	5.0	Estimated	
Dikgaka MG	Fresh		4,095	3,104.1	2.9	2.0	5.0	Assigned	2.9
Felsic dykes	Fresh		4,589	2,775.9	2.8	2.1	5.0	Assigned	2.8
Dolerite dykes	Fresh		853	413.1	2.9	2.3	4.6	Assigned	2.9
Quartz diorite	Fresh		954	642.0	2.8	2.4	4.5	Assigned	2.8
Historical mine workings								Assigned	0.0
Notes:									
1. Mineralized									

## 14.9 Search Strategy and Estimation Parameters

Grade and density estimations were performed on parent blocks using hard boundaries and a three-pass OK estimation approach for the MIN and waste domains within the Selkirk gabbro using progressively larger interpolation passes and relaxed composite restrictions. Density for the gossan domain was estimated by a three-pass inverse distance squared (ID<sup>2</sup>) estimation, with progressively larger interpolation passes. Search ellipses for grade and density estimations



were designed to preserve the across-strike variability in the domains, were anisotropic for all domains and oriented to the southeast at (dip/azimuth/pitch): 74/294/33. Search ellipse dimensions, composite restrictions, and blocks estimated by each pass are detailed in Table 14-5.

**Table 14-5: Search Ellipse Dimensions**

Pass	Ellipse Dimensions (m)	Min. Composites.	Max. Composites	Drill Hole Limit	% Cu Blocks Estimated	% Pd Blocks Estimated
1	50/30/20	20	40	5	16	8
2	100/60/40	15	30	5	76	67
3	300/150/60	15	30	5	8	25

## 14.10 Block Model

Block model construction and estimation was completed in Seequent's Leapfrog Edge software. The block model extents and dimensions for Selkirk are presented in Table 14-6. The QP considers the block sizes appropriate for the deposit geometry and proposed mining methods.

**Table 14-6: Block Model Dimensions**

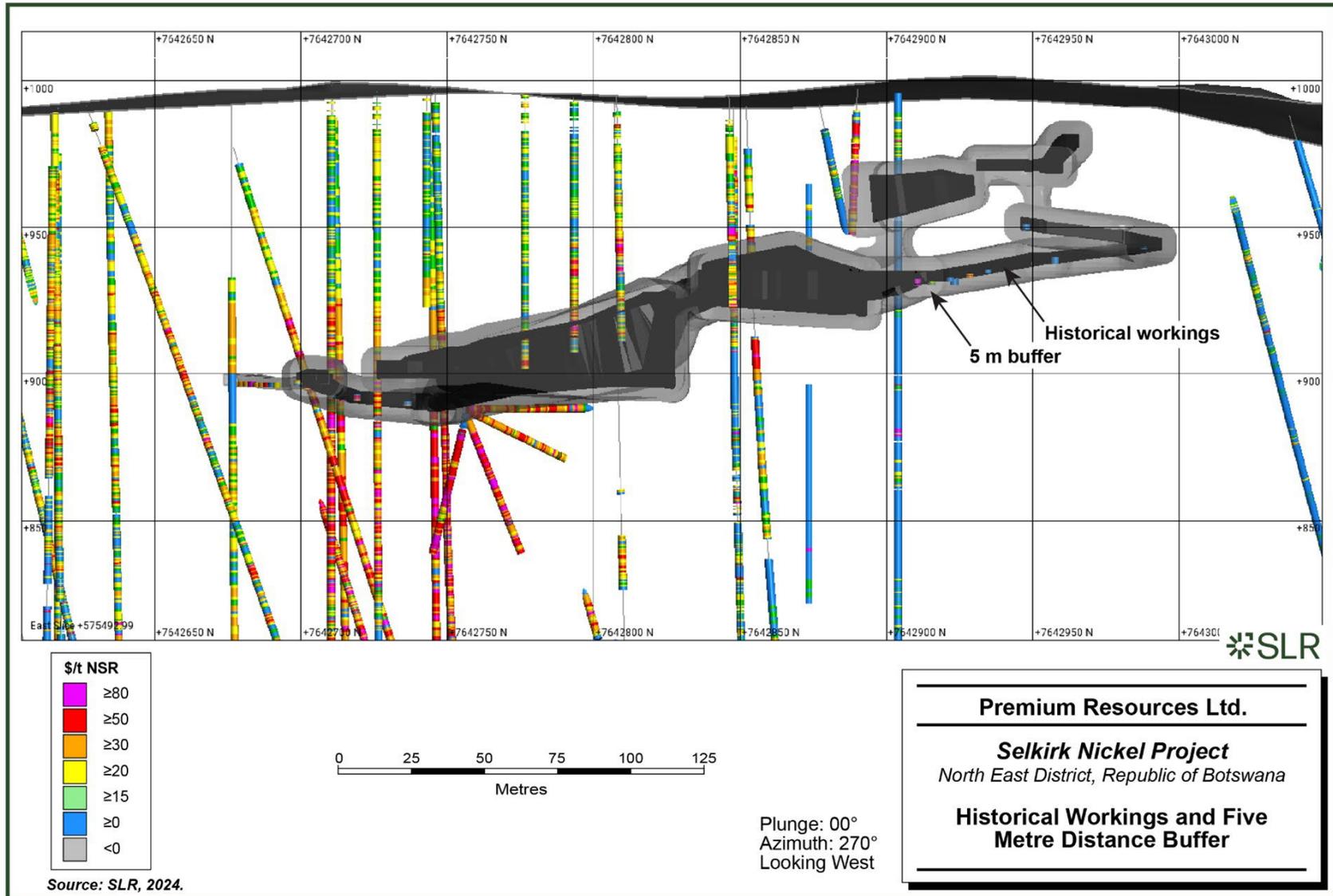
Extents	X	Y	Z
Base Point (m)	575,000	7,642,080	1,010
Boundary Size (m)	800	1,000	550
Dimensions	X	Y	Z
Original parent block size (m)	10	10	5
Original sub-block size (m)	5	5	2.5
Regularized block size (m)	10	10	5

## 14.11 Depletion

SLR was provided with depletion shapes representing historical underground mining. The shapes were not able to be validated against reported mine production figures and show penetration by and sampling of drill holes completed after excavation, highlighting a potential issue with the dimensions and/or location of the workings. To account for this uncertainty, SLR created a five metre distance buffer surrounding the workings within which depletion was assigned (no grades, no density). SLR understands PREM is exploring different options for confirming and adjusting the location and extents of the workings. SLR is of the opinion that with the five metre distance buffer, the depletion shapes are appropriate for use in an Inferred Mineral Resource. Depletion shapes and the distance buffer are shown Figure 14-11.



**Figure 14-11: Historical Workings and Five Metre Distance Buffer**



## 14.12 Classification and Pit Optimization

Definitions for resource categories used in this Technical Report are consistent with those defined by CIM (2014) and adopted by NI 43-101. In the CIM classification, a Mineral Resource is defined 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” (RPEEE). Mineral Resources are classified into Measured, Indicated, and Inferred categories. A Mineral Reserve is defined as the “economically mineable part of a Measured and/or Indicated Mineral Resource” demonstrated by studies at Pre-Feasibility or Feasibility level as appropriate. Mineral Reserves are classified into Proven and Probable categories.

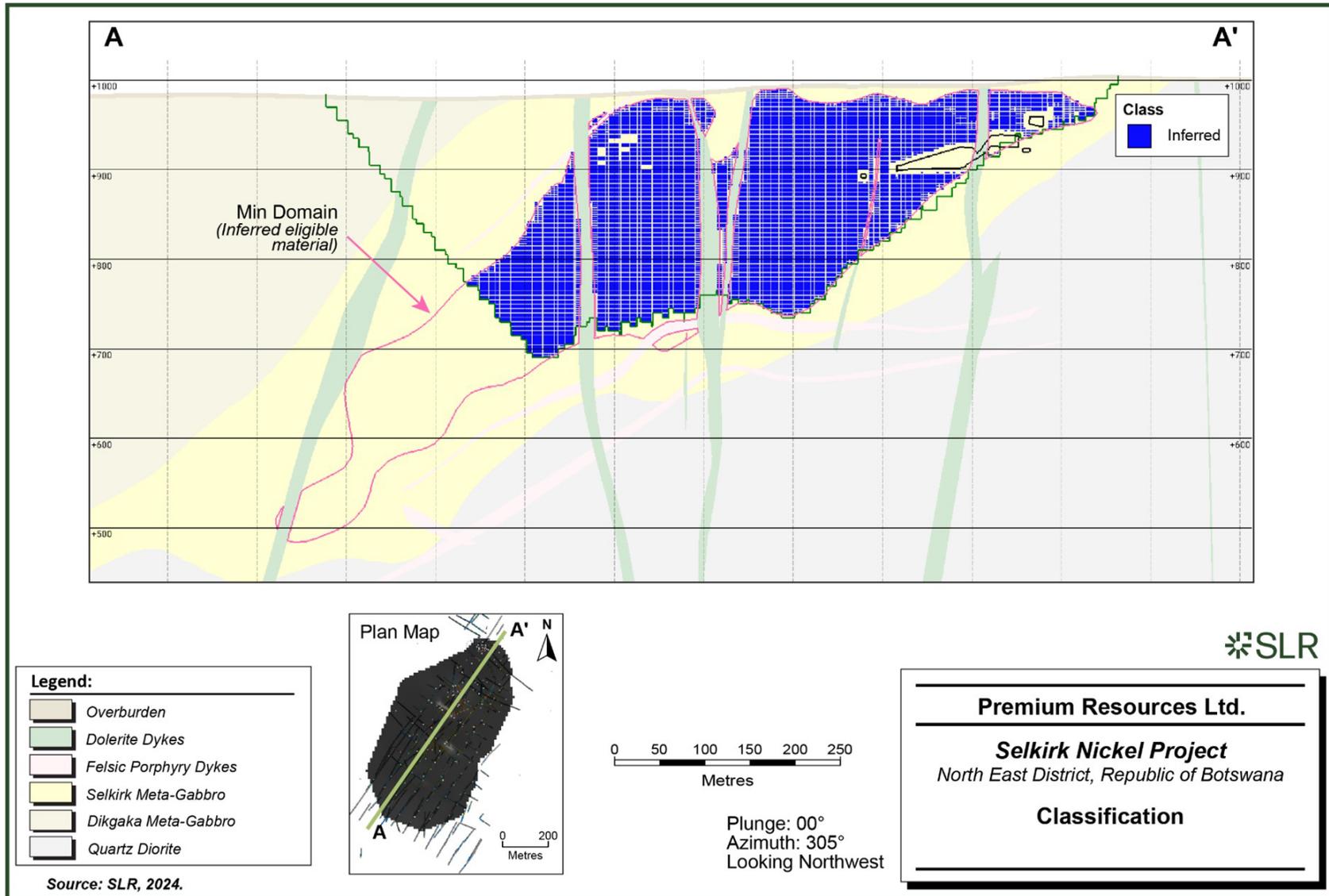
At Selkirk, a classification of Inferred has been assigned to the MIN domain where almost all blocks meet a drill hole spacing threshold of 70 m. Several areas within the MIN domain are drilled to tighter spacings, as close as 20 m near the top of the historical workings with much of the deposit defined at 60 m spacings. The close spaced drilling may support higher classifications; however, the combination of uncertainty in the historical depletion shapes, missing Pd and Pt analysis, and the historical nature of much of the database affects the confidence of the result and therefore Mineral Resources are limited to an Inferred class in this update. It is expected that with reduced reliance on historical analysis, a more complete analytical dataset for Pt and Pd, and additional verification tests including twin hole drilling, some areas could be converted to a class of Indicated.

Technical and economic considerations for the purposes of demonstrating RPEEE were accomplished by constraining results within an optimized pit shell developed with consideration to a \$25/t NSR value and cost and technical assumptions are defined in Section 14.2, Table 14-2.

Figure 14-12 shows a cross section of the classified blocks limited to within the optimized shell and above an NSR value of \$25/t.



**Figure 14-12: Classification**



### 14.13 Block Model Validation

Blocks were validated using industry standard techniques including:

- Visual inspection of composites versus block model grades in block model (Figure 14-13 to Figure 14-16).
- Visual inspection spot check calculation of re-blocking
- Statistical comparison between a Nearest Neighbour (NN) estimate, based of 5 m composites, and OK grades (Table 14-7)
- Comparison of OK and NN swath plots for copper, nickel, and palladium (Figure 14-18 to Figure 14-20)
- Visual review and comparison of original and re-blocked grades within the optimized pit shell
- Review of contact plots for all variables at the MIN domain boundary

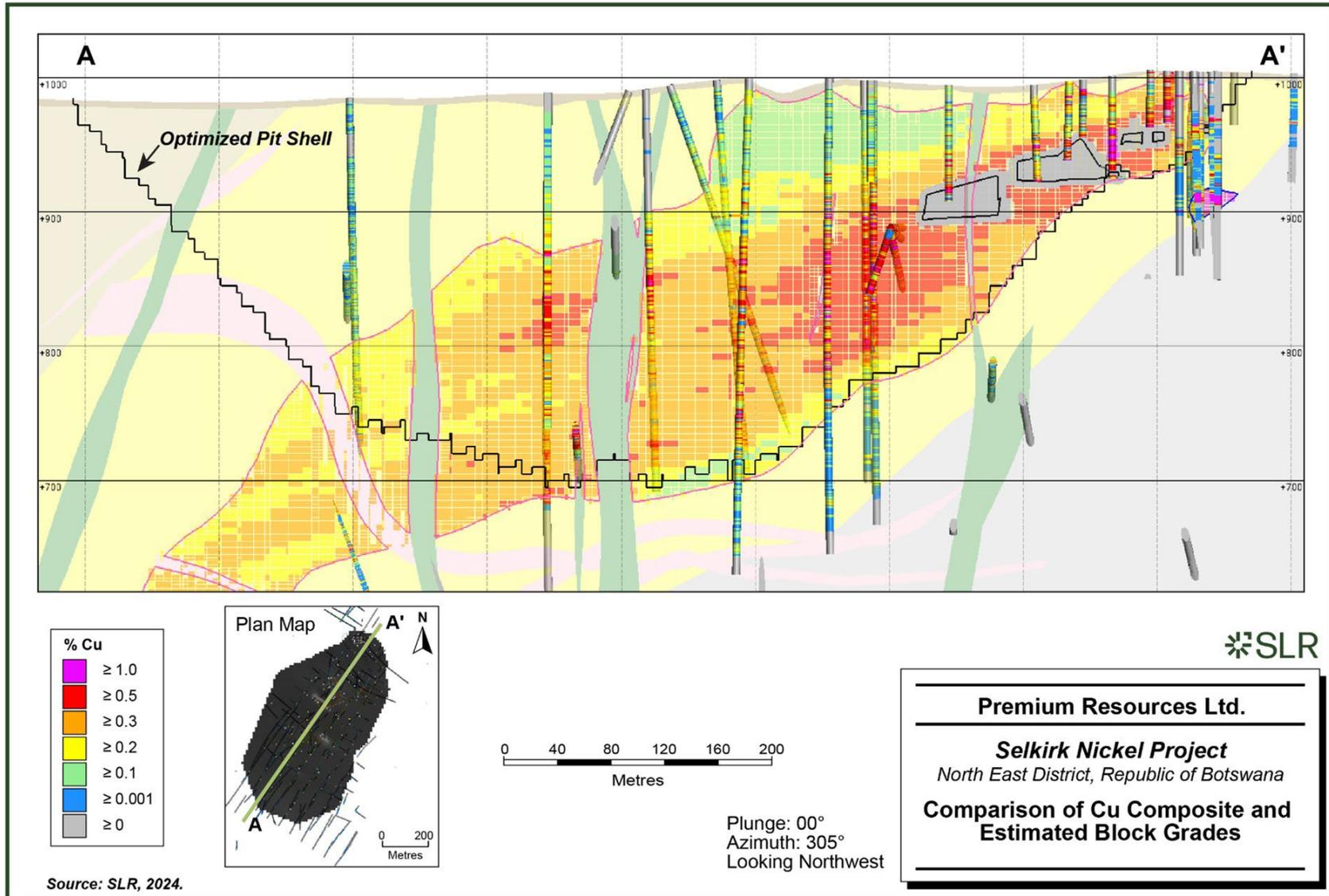
SLR observed that the block grades exhibited general accord with drilling and sampling and did not appear to smear significantly across sampled grades. Swath plots generally demonstrated good correlation, with block grades being somewhat smoothed relative to composite grades, as expected.

**Table 14-7: Statistical Comparison between NN and OK Grades in MIN Domain**

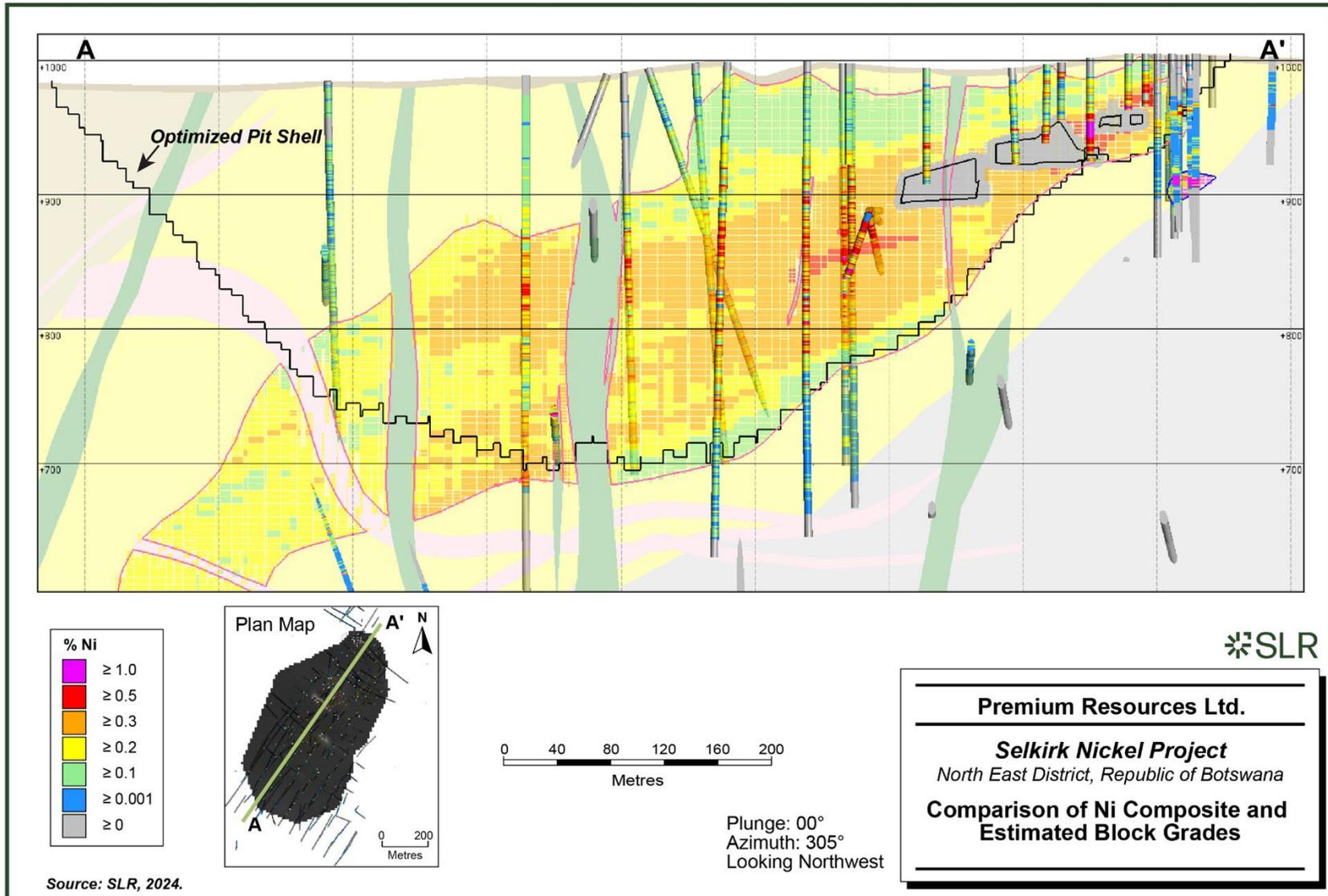
Variable	Unit	Mean Value		Maximum Value	
		NN	OK	NN	OK
Cu	%	0.29	0.28	3.77	1.84
Ni	%	0.24	0.23	3.02	1.43
Pd	g/t	0.53	0.52	6.14	2.00
Pt	g/t	0.12	0.12	1.28	0.56



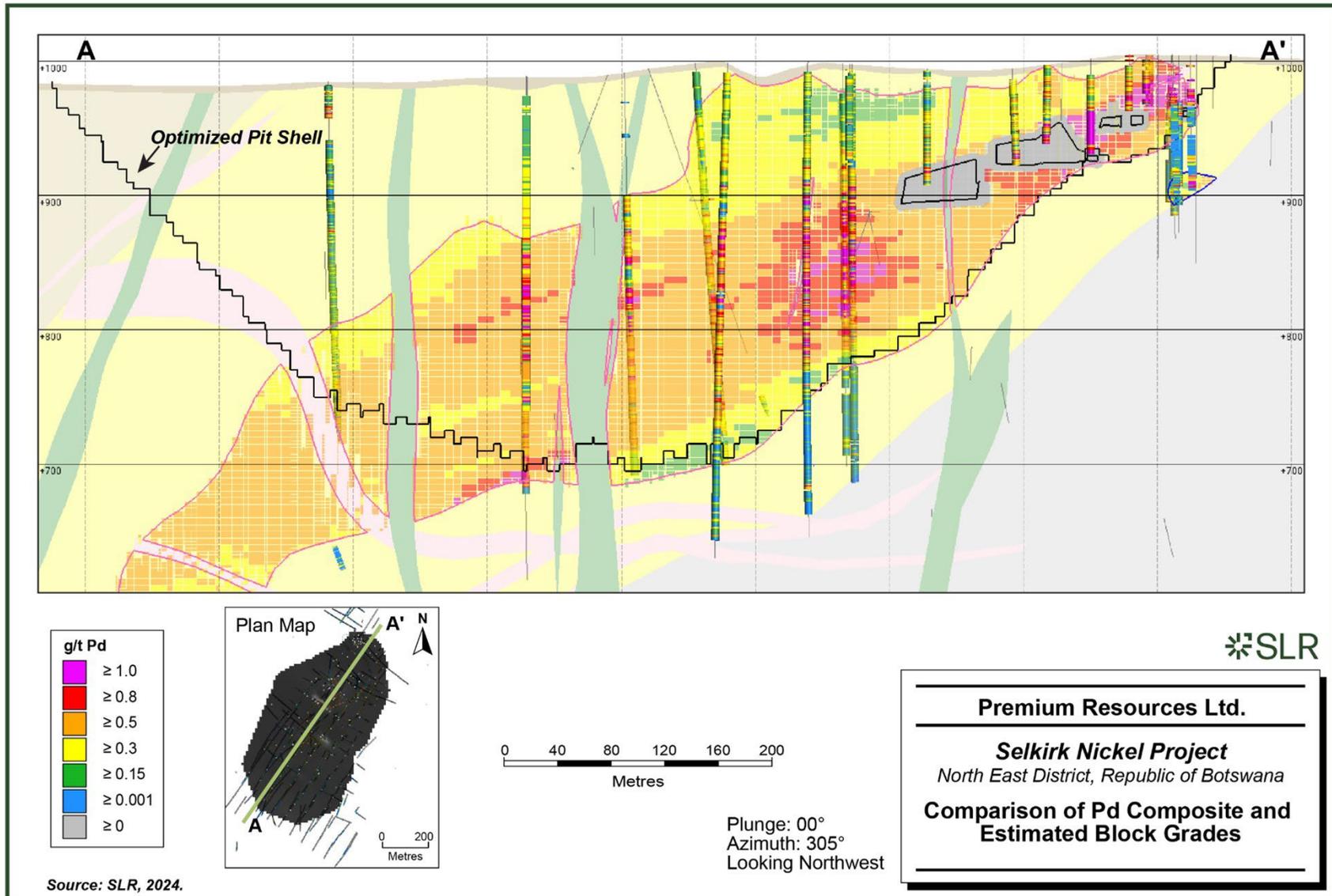
**Figure 14-13: Comparison of Cu Composite and Estimated Block Grades**



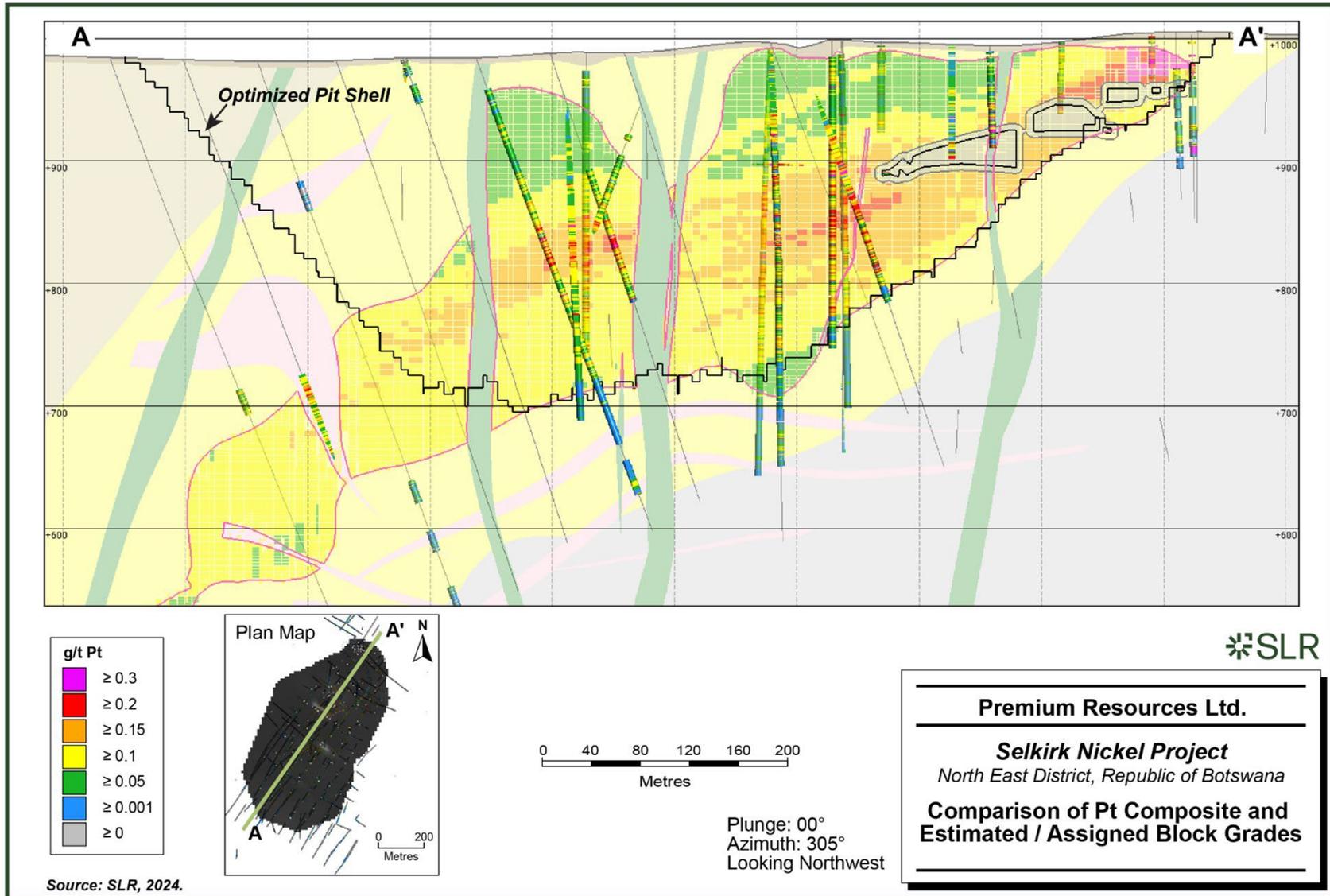
**Figure 14-14: Comparison of Ni Composite and Estimated Block Grades**



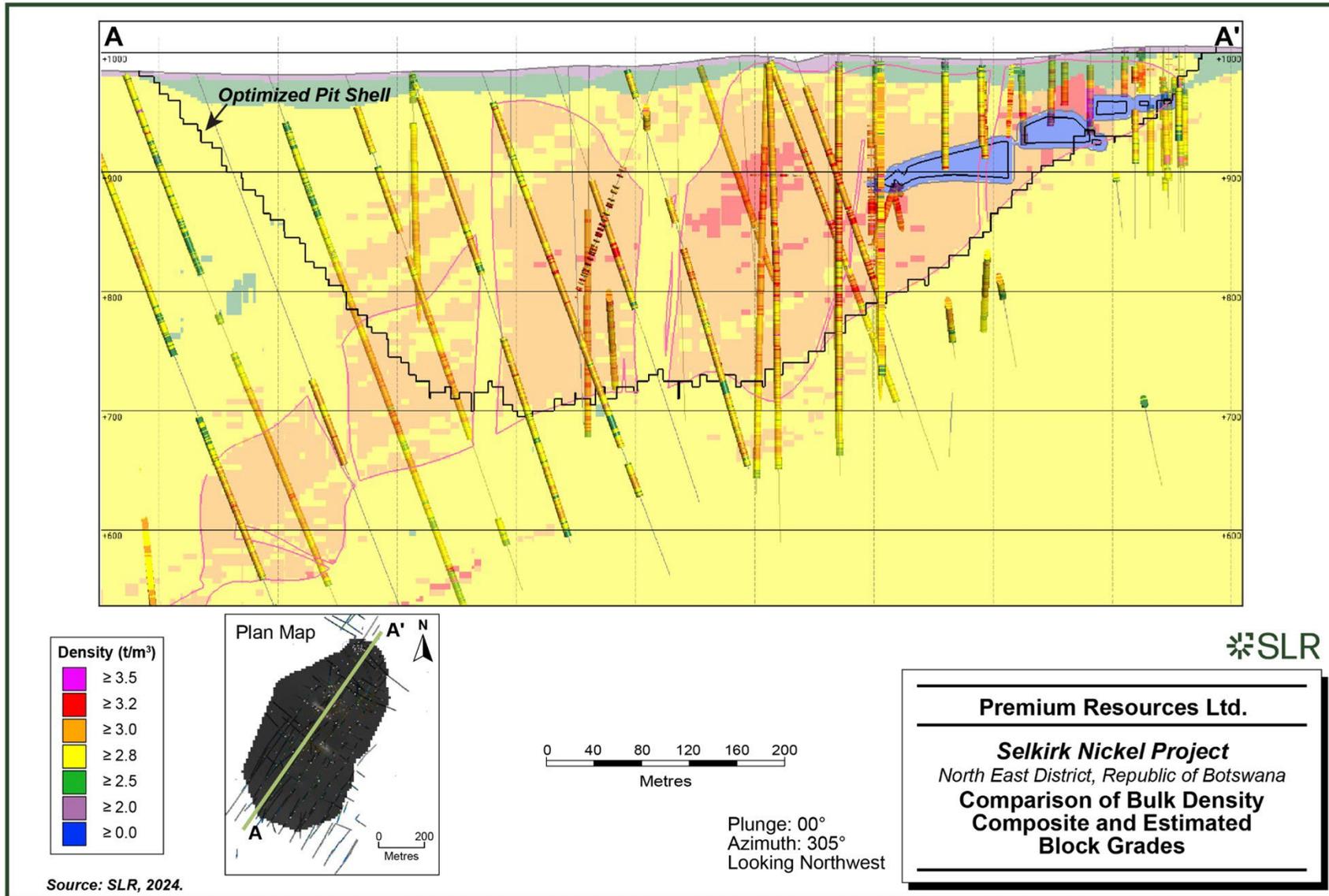
**Figure 14-15: Comparison of Pd Composite and Estimated Block Grades**



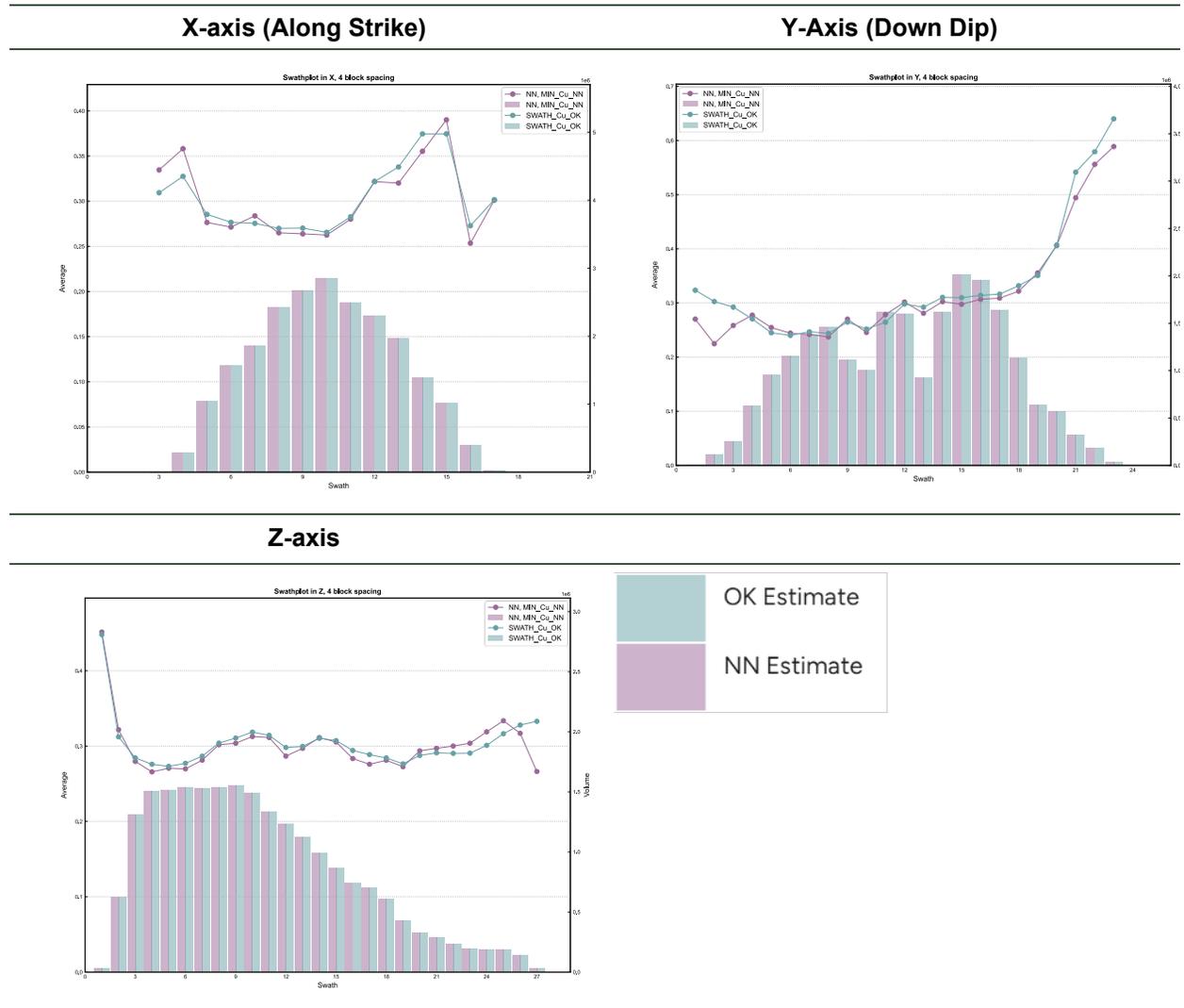
**Figure 14-16: Comparison of Pt Composite and Estimated Block Grades**



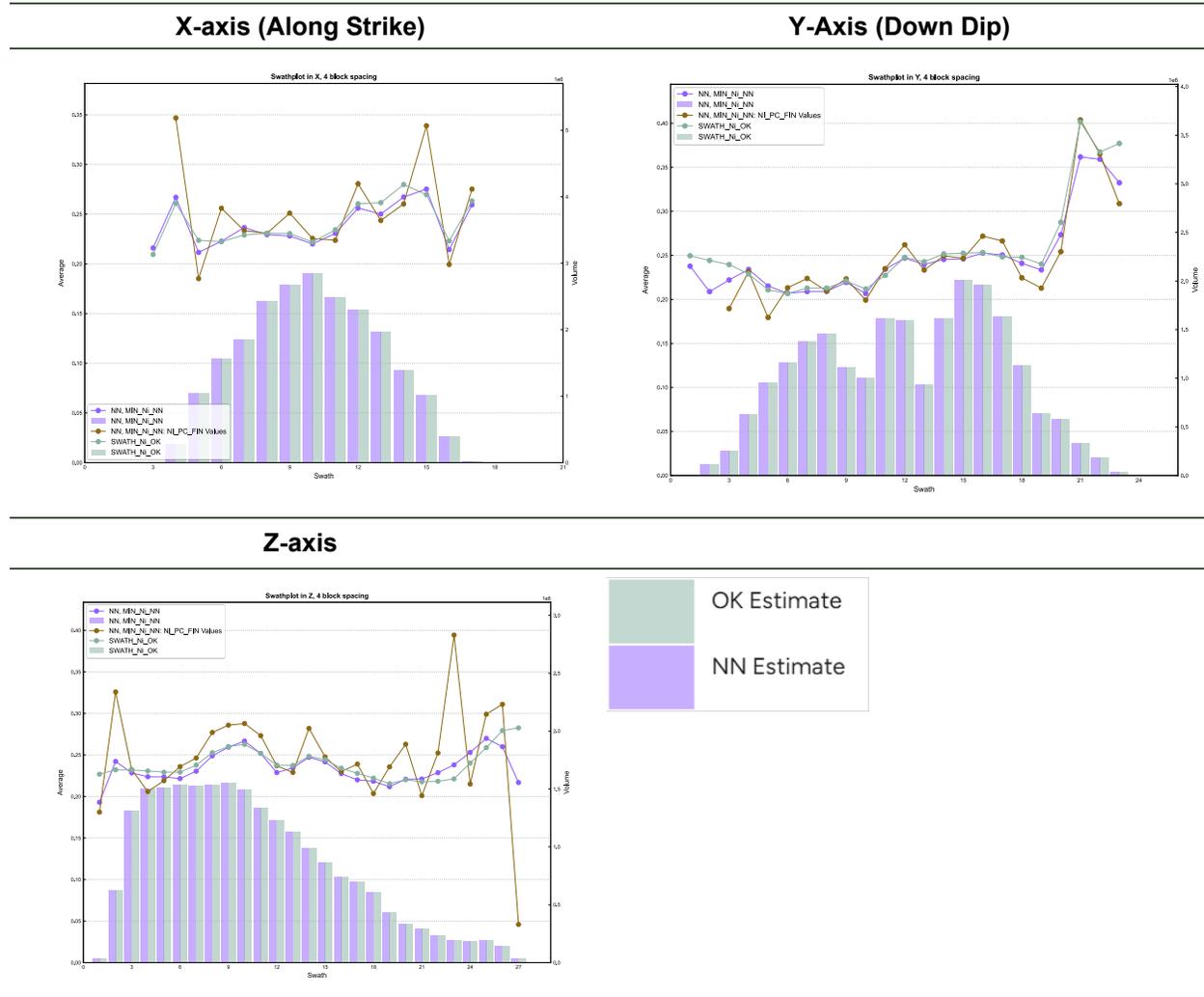
**Figure 14-17: Comparison of Bulk Density Composite and Estimated/Assigned Block Grades**



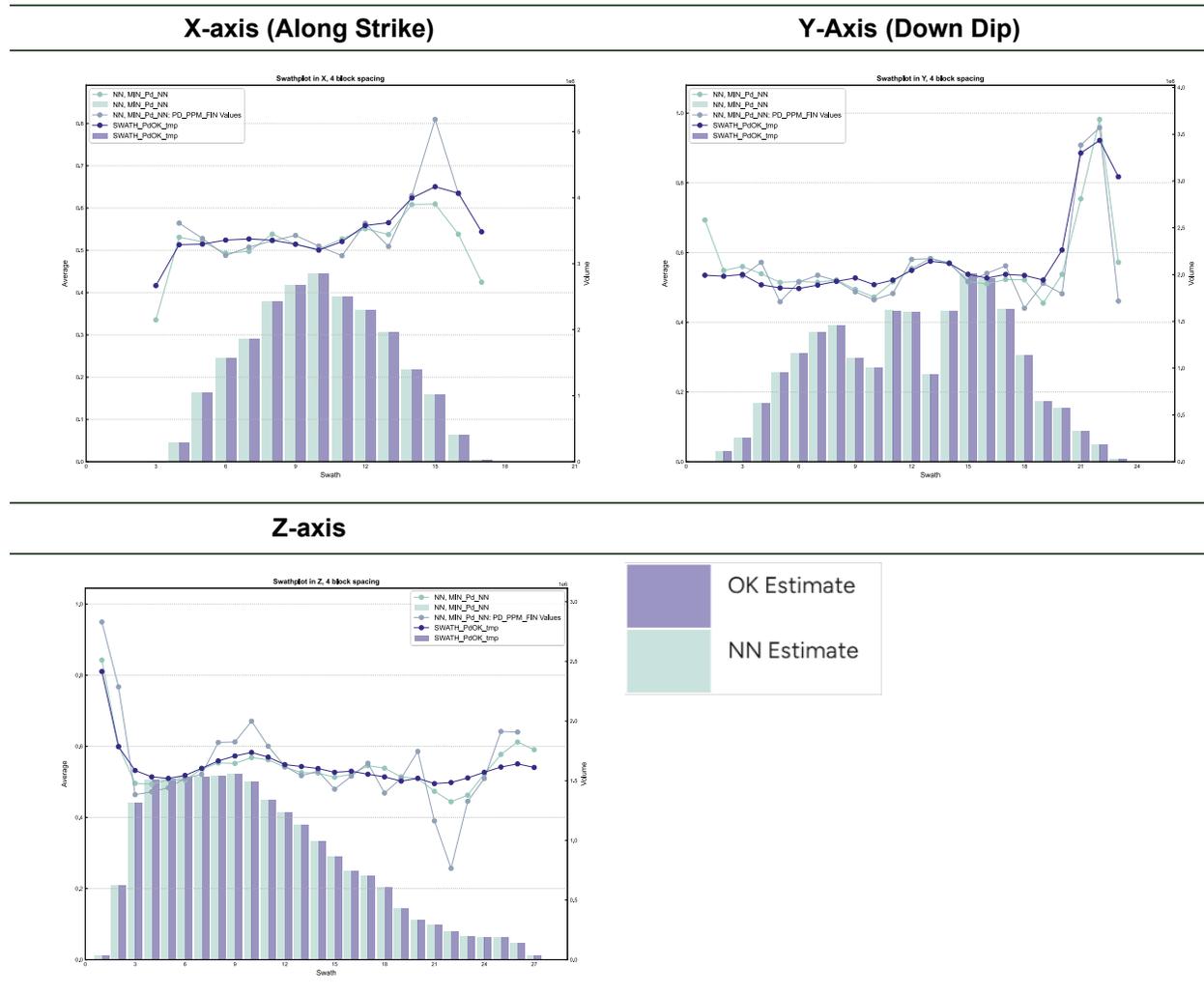
**Figure 14-18: Swath Plot of OK and NN Cu Estimates in MIN Domain**



**Figure 14-19: Swath Plot of OK and NN Ni Estimates in MIN Domain**



**Figure 14-20: Swath Plot of OK and NN Pd Estimates in MIN Domain**



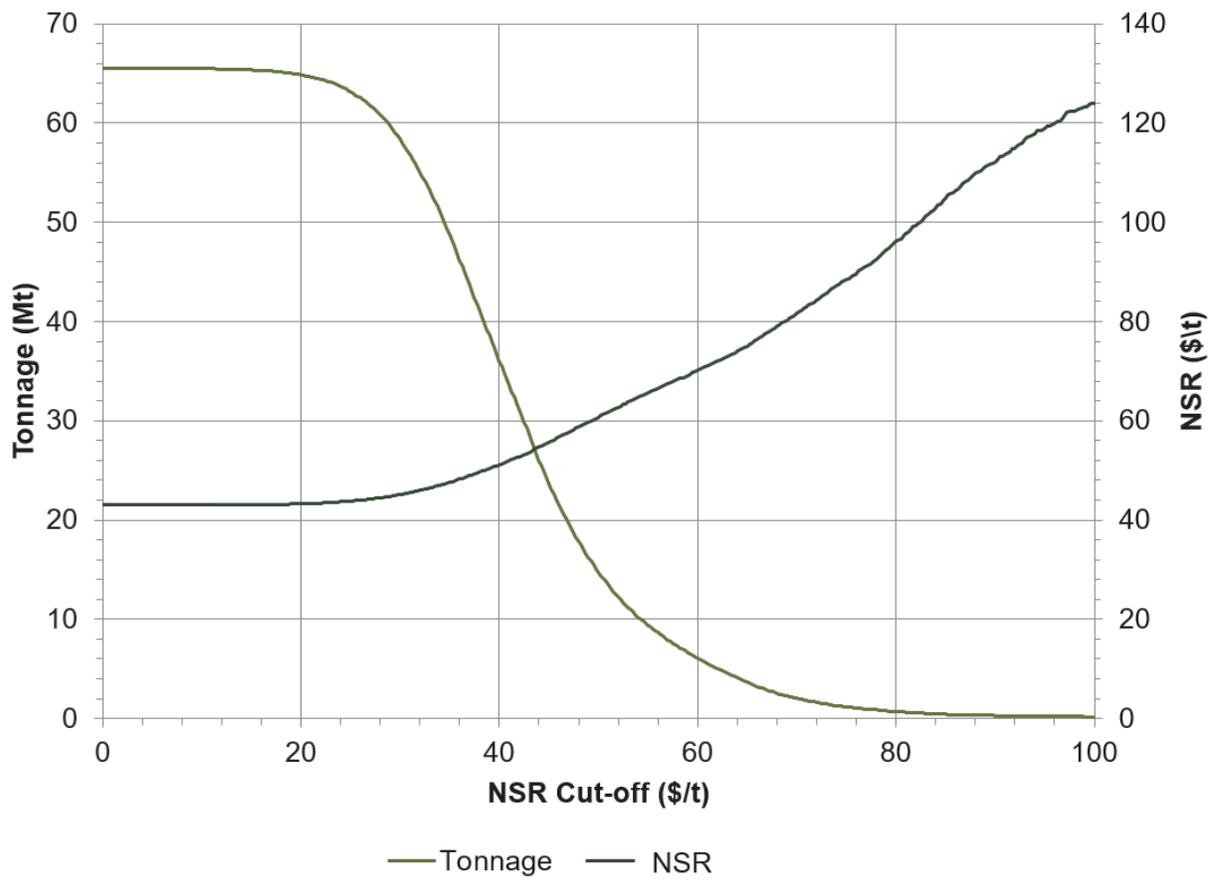
### 14.14 Sensitivity to Cut-off Value

SLR has estimated the Mineral Resources at an NSR cut-off value of US\$25/t, and most material within the MIN domain meets this value threshold. To assess the sensitivity of the Mineral Resources to potential variations in economic parameters, Inferred eligible blocks within the MIN domain were reported at NSR cut-off grades ranging from US\$0/t to US\$100/t, shown graphically in Figure 14-21.

Above NSR cut-off values of US\$30/t, the tonnage decreases rapidly with increasing cut-off values. While the grade tonnage curve is helpful for understanding grade variability, SLR recommends that a sensitivity test involving the creation of concentric optimized shells developed with varying price and cost assumptions be performed to deepen understanding of the sensitivity of the Mineral Resources at Selkirk.



**Figure 14-21: NSR Value – Tonnage Curve within the MIN domain**



## 15.0 Mineral Reserve Estimates

There are no Mineral Reserves estimated for the Project.



## 16.0 Mining Methods

This section is not applicable.



## 17.0 Recovery Methods

This section is not applicable.



## 18.0 Project Infrastructure

This section is not applicable.



## **19.0 Market Studies and Contracts**

This section is not applicable.



## **20.0 Environmental Studies, Permitting, and Social or Community Impact**

This section is not applicable.



## 21.0 Capital and Operating Costs

This section is not applicable.



## 22.0 Economic Analysis

This section is not applicable.



## 23.0 Adjacent Properties

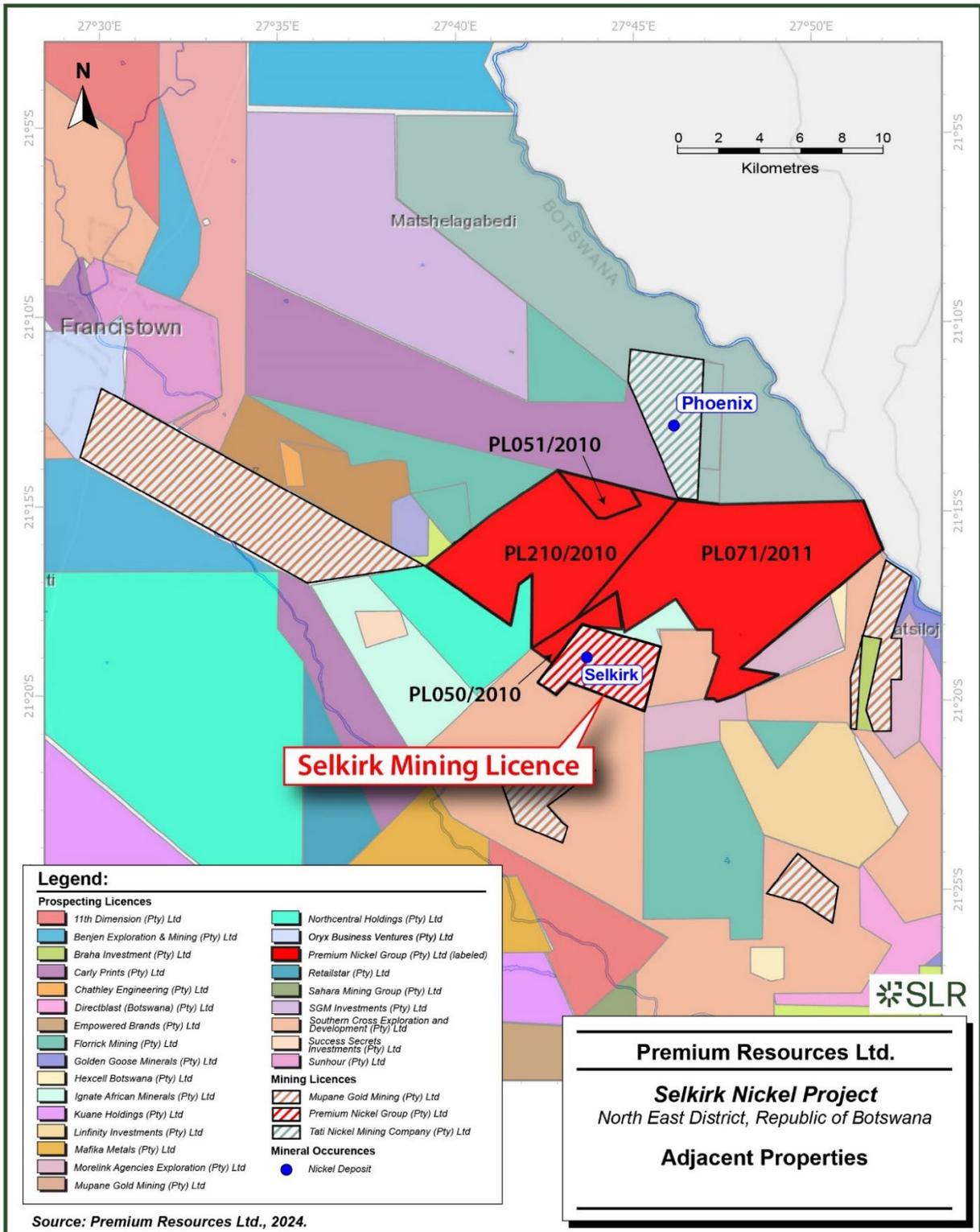
The Selkirk Mining Licence, located 15 km to the southwest of the Phoenix Mine, is surrounded by numerous exploration licence holders. The Hawks Mining Company Pty Ltd (Hawks Mining) Mupane gold mine, located 30 km southeast of Francistown and 6 km southwest of the Selkirk Mining Licence, was the only operating gold mine in Botswana when it ceased operations in March 2024. The Prospecting Licence (PL) directly to the south of the Selkirk Mining Licence are held by a private Australian company Southern Cross Exploration and Development (Pty) Ltd.

Figure 23-1 presents the various exploration licence holders surrounding the Selkirk Mining Licence.

The QP has not relied on information from adjacent properties for this Technical Report and has been unable to verify information regarding properties outside the Selkirk Property. Information in respect of adjacent properties is not necessarily indicative of the mineralization at the Selkirk Nickel Project that is the subject of this Technical Report.



**Figure 23-1: Map Showing Surrounding Claim Holders around the Selkirk Mining Licence and the Prospecting Licences**



## 24.0 Other Relevant Data and Information

No additional information or explanation is necessary to make this Technical Report understandable and not misleading.



## 25.0 Interpretation and Conclusions

### 25.1 Geology and Mineral Resources

- Inferred Mineral Resources are estimated to total 44.2 Mt at grades of 0.24% Ni, 0.30% Cu, 0.55 g/t Pd, and 0.12 g/t Pt, containing 108,000 t of nickel, 132,000 t of copper, 775,000 oz palladium, and 174,000 oz platinum.
- The Project is conceptualized as an open pit capturing low grade Ni-Cu-PGE mineralization surrounding and down plunge of the mined-out high-grade mineralization core within the Selkirk gabbro.
- There is good understanding of the geology and the nature of nickel and copper mineralization at the Project. With the exception of PREM assays of historical drill core, the available drill hole data is historical and inconsistently analyzed for cobalt, PGE, and gold, and consequently this mineralization is less well understood.
- Despite numerous feasibility studies existing on the Project, the historical, disparate, and incomplete nature of information and data signify that a comprehensive data verification work program is required. PREM has progressed the data verification work through a significant re-sampling program involving 17 drill holes spanning the deposit extents.
- There are no drilling, sampling or recovery factors identified that could materially impact the accuracy and reliability of the results. At the same time, considerable data compilation and verification efforts are required to improve confidence in the drilling database, including re-entry of original survey information and downhole re-surveying, re-sampling, and twinning of a selection of drill holes to validate existing locations and results in the database.
- Results of the QA/QC programs supporting the historical drilling show reasonable correlation and performance of nickel and copper analysis and poor precision and repeatability of gold and PGEs. A re-sampling program of 17 drill holes was undertaken by PREM. These results showed good performance of all analytes against reference material, as well as good correlation with nickel and copper. Only intermediate correlation of historical and re-sampled PGEs was observed, and this correlation is somewhat expected considering the poor performance of historical QA/QC results. A low bias was also observed in the PGE results, indicating that continued re-sampling of historical core may improve the deposit PGE grades.
- The extent to which silicate nickel forms part of the total nickel content reported at Selkirk has been investigated and preliminarily found to be less than 5%.

### 25.2 Mineral Processing

- Further test work on representative samples is required to confirm metallurgical inputs for the optimal flowsheet. The selected parameters reflect an estimate of performance for low-grade (cut-off level) material, for purposes of resource selectivity, and will undervalue average or better-grade material.
- Based on the results from preliminary studies and historical data analyses, the proposed treatment process for Selkirk material considers flotation of two concentrate products (copper and nickel). At the time of writing of this Technical Report, no information was provided by PREM to include pre-concentration as a treatment step.



- While preliminary flotation test results indicated that copper-nickel separation is achievable, further representative sampling and testing is required to demonstrate that the target grades of copper and nickel in two concentrates can be consistently met.
- Some of the underlying assumptions in the generic metallurgical model previously relied on by PREM for metal recovery calculations were based on the test results generated from 2021 SGS composite samples (head assays: 0.55% - 0.66% Cu and 0.44% - 0.77% Ni) that graded significantly higher than the current average LOM grades.
- FMCI reviewed previous SGS test data generated from four tenor samples that were more representative of the cut-off grades of historical mineral resources of the Selkirk deposit to produce bulk concentrate and modelled the separation of copper and nickel concentrates using MS Excel. In the absence of metallurgical testing, the preliminary FCMI model assumptions and results were used for metallurgical recovery estimation for copper and nickel concentrate production. FMCI modelling may not be indicative of the expected metallurgical performance for two concentrates.
- To the best of SLR's knowledge, pre-concentration techniques such as XRT sorting have not been used to prepare any Selkirk materials for flotation testing to date.
- The metallurgical and analytical data have been collected in a manner that is suitable to be used conceptually for Mineral Resources estimation, however, further testing is recommended to confirm the characteristics of the Selkirk final copper and nickel concentrate products.



## 26.0 Recommendations

### 26.1 Geology and Mineral Resources

- 1 The QPs have reviewed and agree with PREM's Phase 1 proposed exploration budget (Table 26-1). The Phase 2 budget will be prepared based on the Phase 1 results.
  - a) Phase 1 includes a Preliminary Economic Assessment of the Selkirk deposit.
  - b) Phase 1 also involves the continuation of exploration on the Prospecting Licences and Mining Licence, including soil sampling, surface and downhole geophysics, and diamond drilling.
  - c) Phase 2 is contingent upon the results of Phase 1 and would involve an updated Mineral Resource estimate and a Pre-feasibility Study, including re-sampling of additional historical drill core (20 holes), seven infill holes, and three holes that twin historic holes.
- 2 To enhance confidence in the historical data, several steps are recommended:
  - a) For drill holes assayed between late 2007 and mid-2008, investigate and potentially re-analyze these drill holes with the purpose of replacing historical data that have the poorest QA/QC performance in the drill hole dataset, reducing data gaps and potentially improving global PGE grades.
  - b) For PGEs, address precision issues through analysis of the second half of split drill core in an external laboratory, and by twinning existing drill holes.
  - c) Consolidate verified historical results within an industry standard data management system, with columns identifying operator, year, source, and treatment during estimation.
  - d) On a small selection of holes, verify position data through re-entry of original survey information and downhole re-surveying.
  - e) Verify the location, orientation, and extents of the historical mining shapes.
  - f) Confirm density in overburden, oxide, and transition weathering units. Review core photos to improve the modelled boundary dividing oxide and transition weathering units.
- 3 Continue studies to understand the extent to which silicate nickel forms part of the total nickel content reported at Selkirk.

### 26.2 Mineral Processing

- 1 Complete additional metallurgical testing using samples from fresh drill core that are spatially representative of the deposit to confirm the metallurgical recoveries projected following pre-concentration and two concentrate flotation.
- 2 Complete waste rejection studies to determine the potential upgrade of mill feed.



**Table 26-1: Proposed Budget for Phase 1 Exploration Work**

Item	Cost (C\$000)
Metallurgical Test Work <ul style="list-style-type: none"> <li>• Diamond drilling, logging and sampling of 9 HQ sized drill holes</li> <li>• Submitting 3,800 samples to laboratory for base metals, PGEs + Au.</li> <li>• Geologists and geotechnic support staff, core transport</li> <li>• Field supplies, core shed supplies, sample shipping</li> </ul>	1,000
Metallurgical Test Work Flotation and pre-concentration studies	600
Preliminary Economic Assessment	650
General site and administration costs	100
Exploration Work <ul style="list-style-type: none"> <li>• Soil geochemistry</li> <li>• Surface geophysics</li> </ul> Diamond drilling	150
<b>Subtotal</b>	<b>2,500</b>
Contingency (5%)	125
<b>Total Phase 1</b>	<b>2,625</b>



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## 28.0 Date and Signature Date

This report titled “NI 43-101 Technical Report for the Selkirk Nickel Project, North East District, Republic of Botswana” with an effective date of November 1, 2024 was prepared and signed by the following authors:

**(Signed & Sealed) Valerie Wilson**

Dated at Subiaco, WA, Australia  
January 8, 2025

Valerie Wilson, M.Sc., P.Geo.

**(Signed & Sealed) Brenna J.Y. Scholey**

Dated at Toronto, ON  
January 8, 2025

Brenna J.Y. Scholey



## 29.0 Certificate of Qualified Person

### 29.1 Valerie Wilson

I, Valerie Wilson, M.Sc., P.Geo., as an author of this report entitled “NI 43-101 Technical Report for the Selkirk Nickel Project, North East District, Republic of Botswana” with an effective date of November 1, 2024 prepared for Premium Resources Ltd., do hereby certify that:

1. I am a Principal Resource Geologist with SLR Consulting Australia Pty Ltd, of Level 1, 500 Hay Street, Subiaco, WA, Australia 6008.
2. I am a graduate of the Camborne School of Mines, University of Exeter, UK in 2010 with a Master of Science degree in Mining Geology and a graduate of the University of Victoria, BC in 2006 with a Bachelor of Science degree in Geoscience.
3. I am registered as a Professional Geologist in the Province of Ontario (Reg. #2113). I have worked as a geologist for a total of 17 years since graduation from my bachelor’s degree. My relevant experience for the purpose of the Technical Report is:
  - Exploration geologist on nickel projects in Canada, Norway, and Sweden.
  - Mineral Resource estimation work and reporting on numerous nickel and base metal mining and exploration projects around the world.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (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.
5. I visited the Selkirk Nickel Project on May 14, 2024.
6. I am responsible for overall preparation of the Technical Report, in particular all sections except Sections 1.1.1.2, 1.1.2.2, 1.2.7, 13, 25.2, and 26.2.
7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
8. I have had prior involvement with the property that is the subject of the Technical Report, including preparation of a Technical Report Summary in 2024 (S-K 1300), as well as providing sporadic technical support related to exploration and Mineral Resource estimation.
9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.
10. At the effective 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.

Dated this 8<sup>th</sup> day of January, 2025

**(Signed & Sealed) Valerie Wilson**

**Valerie Wilson, M.Sc., P.Geo.**



## 29.2 Brenna J.Y. Scholey

I, Brenna J.Y. Scholey, P.Eng., as an author of this report entitled “NI 43-101 Technical Report for the Selkirk Nickel Project, North East District, Republic of Botswana” with an effective date of November 1, 2024 prepared for Premium Resources Ltd., do hereby certify that:

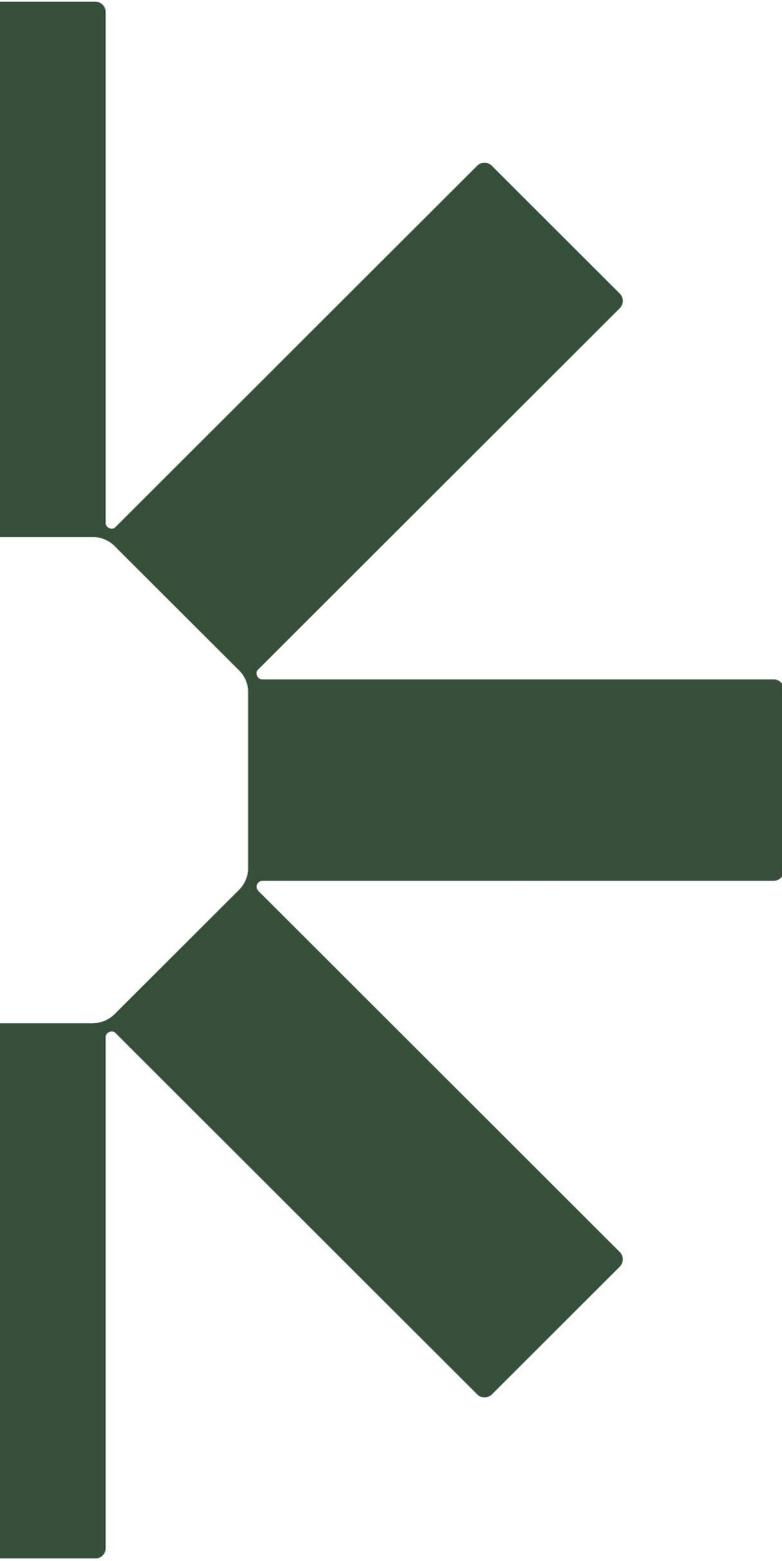
1. I am Principal Metallurgist with SLR Consulting (Canada) Ltd., of Suite 501, 55 University Ave., Toronto, ON M5J 2H7.
2. I am a graduate of The University of British Columbia in 1988 with a Bachelor of Science (Applied) degree in Metals and Materials Engineering.
3. I am registered as a Professional Engineer in the Provinces of Ontario (Reg.# 90503137) and British Columbia (Reg.# 122080). I have worked as a metallurgist for a total of 36 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Review and report as a metallurgical consultant on numerous mining operations and projects for due diligence and regulatory requirements.
  - Senior Metallurgist/Project Manager on numerous base metals and precious metals studies for an international mining company.
  - Management and operational experience at several Canadian and U.S. milling, smelting and refining operations treating various metals including copper, nickel, and precious metals.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (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.
5. I did not visit the Selkirk Nickel Project.
6. I am responsible for Sections 1.1.1.2, 1.1.2.2, 1.2.7, 13, 25.2, 26.2, and related references in Section 27 of the Technical Report.
7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
8. I have had prior involvement with the property that is the subject of the Technical Report, including preparation of a Technical Report Summary in 2024 (S-K 1300).
9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.
10. At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 8<sup>th</sup> day of January, 2025.

**(Signed & Sealed) Brenna J.Y. Scholey**

**Brenna J.Y. Scholey, P.Eng.**





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