Technical Report on the Thunder Bay North Project, Ontario, Canada Report for NI 43-101

Clean Air Metals Inc.

SLR Project No: 233.03646.R0000

Effective Date:
May 1, 2023

Signature Date:
June 19, 2023

Prepared by:
SLR Consulting (Canada) Ltd.

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FINAL

Distribution: 1 copy – Clean Air Metals Inc.
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1.0 SUMMARY

1.1 Executive Summary

SLR Consulting (Canada) Ltd. (SLR) was retained by Clean Air Metals Inc. (Clean Air or the Company) to prepare an independent Technical Report on the Thunder Bay North Project (TBN Project or the Project), located in Northwest Ontario, Canada. The purpose of this Technical Report is to support the disclosure of an updated Mineral Resource estimates for the Current and Escape platinum group element-nickel-copper (PGE-Ni-Cu) deposits located on the TBN Project. This Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects. SLR visited the TBN Project on October 13 and 14, 2022.

Clean Air is a Thunder Bay headquartered company publicly listed on the Toronto Venture Exchange (TSXV) under the symbol AIR. The Company is focussed on platinum and palladium exploration and the TBN Project is its primary asset. The TBN Project is 100% owned by Clean Air and is at the exploration stage.

Both the Current and Escape deposits are undeveloped orthomagmatic sulphide PGE-Ni-Cu deposits envisioned to be mined using underground techniques. Current is the larger of the two deposits and hosts mineralization from where it subcrops beneath Current Lake plunging moderately along an approximate 5 km strike length to 1,050 m below surface. It is open at depth. The Escape deposit has a drill-defined strike length of approximately 4.6 km, is modelled to 580 m below surface, and is open down plunge with an additional 2,300 m of magnetically interpreted extension. Two other intrusions within the claim boundary, Lone Island Lake and 025 Intrusion, have been identified at the Project as prospective for PGEs and are at an earlier stage of exploration.

A summary of the TBN Project Mineral Resources, effective May 1, 2023, is provided in Table 1-1 and includes the Current and Escape deposits. 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 Resources. Indicated Mineral Resources at the Property are estimated to total 14.033 million tonnes (Mt) grading 2.7 g/t 2PGE (Pt + Pd), 0.41% Cu, and 0.25% Ni and containing 589.7 koz Pt, 619.7 koz Pd, 57.5 kt Cu and 34.3 kt of Ni. Inferred Mineral Resources are estimated to total 2.272 Mt grading 1.6 g/t 2PGE, 0.31% Cu, and 0.19% Ni and containing 59.4 koz Pt, 58.0 koz Pd, 7.1 kt Cu, and 4.3 kt Ni.

Mineral Resources were prepared by SLR and the Qualified Person (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.

Table 1-1: Summary of Mineral Resources – May 1, 2023
Clean Air Metals Inc. – Thunder Bay North Project

Classification / Deposit	Density (t/m³)	Tonnes (000 t)	Grades							Contained Metal						
			Pt (g/t)	Pd (g/t)	Au (g/t)	Ag (g/t)	Cu (%)	Ni (%)	2PGE (g/t)	Pt (000 oz)	Pd (000 oz)	Au (000 oz)	Ag (000 oz)	Cu (000 t)	Ni (000 t)	2PGE (000 oz)
Current Deposit																
Indicated	2.94	8,223	1.40	1.31	0.09	1.98	0.33	0.22	2.7	370.9	346.4	23.5	522.9	27.0	17.7	717.3
Inferred	2.95	1,641	0.87	0.79	0.07	1.91	0.32	0.20	1.7	45.8	41.9	3.7	100.9	5.3	3.2	87.7
Escape Deposit																
Indicated	3.11	5,810	1.17	1.46	0.11	3.32	0.52	0.28	2.6	218.8	273.3	20.8	620.0	30.4	16.5	492.1
Inferred	3.01	631	0.67	0.80	0.06	1.67	0.29	0.17	1.5	13.5	16.2	1.2	34.0	1.8	1.1	29.7
Total																
Indicated		14,033	1.31	1.37	0.10	2.53	0.41	0.25	2.7	589.7	619.7	44.3	1,142.9	57.5	34.3	1,209.4
Inferred		2,272	0.81	0.79	0.07	1.84	0.31	0.19	1.6	59.4	58.0	4.8	134.8	7.1	4.3	117.4

Notes:

1. CIM (2014) definitions were followed for Mineral Resources.
2. The Mineral Resources have been reported within underground reporting shapes generated using Deswik Stope Optimizer (DSO) using a net smelter return (NSR) cut-off value of US$48/t.
3. Material below the lakes and within 20 m of the bottom of the overburden has been excluded from the Mineral Resource statement.
4. The NSR used for reporting is based on the following:
   a. Long term metal prices of US$1,500/oz Pd, US$1,450/oz Pt, US$1,800/oz Au, US$24/oz Ag, US$4.25/lb Cu, and US$10/lb Ni.
   b. Net metallurgical recoveries of 86% Pd, 82% Pt, 50% Au, 40% Ag, 83% Cu, and 46% Ni.
5. Bulk densities were interpolated into blocks and averages range between 2.94 t/m^3 and 3.11 t/m^3.
6. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
7. Numbers may not add up due to rounding.
8. 2PGE = Pt + Pd

1.1.1 Conclusions

SLR offers the following conclusions:

1.1.1.1 Geology and Mineral Resources

- There is good potential to increase the Mineral Resource base at the Project and additional exploration and technical studies are warranted.
- There is a good understanding of the geology and the nature of the mineralization at both the Current and Escape deposits. The deposits are both orthomagmatic sulphide PGE-Ni-Cu deposits with individual morphologies and mineralization styles. Both Current and Escape are envisioned to be mined using underground techniques.
- The drill hole database is suitable to support Mineral Resource estimation and further exploration work.
- Mineral Resources for both deposits have been updated from the previous Mineral Resource estimates completed by Nordmin in 2021. The current estimate includes 50 additional infill drill holes completed in 2022. Changes to the Mineral Resources can be summarized as follows:
    - At Current, the addition of 11 drill holes and re-estimation has resulted in a 21% and 69% decrease of Indicated and Inferred Mineral Resource tonnages, respectively. The main changes can be attributed to the Mineral Resource estimation methodology.
    - At Escape, the addition of 39 drill holes and re-estimation has resulted in a 40% increase and 77% decrease of Indicated and Inferred Mineral Resource tonnages, respectively. The main changes can be attributed to additional drilling and the subsequent conversion of Inferred to Indicated Mineral Resources.
- Indicated Mineral Resources at the Property are estimated to total 14.033 million tonnes (Mt) grading 2.7 g/t 2PGE (Pt + Pd), 0.41% Cu, and 0.25% Ni and containing 589.7 koz Pt, 619.7 koz Pd, 57.5 kt Cu and 34.3 kt of Ni.
- Inferred Mineral Resources are estimated to total 2.272 Mt grading 1.6 g/t 2PGE, 0.31% Cu, and 0.19% Ni and containing 59.4 koz Pt, 58.0 koz Pd, 7.1 kt Cu, and 4.3 kt Ni.
- The current Mineral Resource estimate for TBN completed by SLR follows a conventional approach, is inline with CIM (2019) best practices, and has been sufficiently validated. SLR is of the opinion that it is suitable to support ongoing studies for advancement of the Project.

1.1.1.2 Mineral Processing

Based on the metallurgical testwork completed on composite samples from the Current and Escape deposits to date, the following conclusions are drawn:

- Chemical and mineralogical characterization of composite samples indicate that the copper is present as chalcopyrite, whereas nickel is present as nickel sulphide, but also contained in silicates. Major gangue minerals include serpentine, chlorite, and amphibole.
- Testwork conducted on the master composite that was produced from coarse assay reject material in the Blue Coast Phase 1 testwork indicated that a sequential flowsheet and a moderate

grind size P_{80} of 65 µm is suitable to achieve separate copper rougher and nickel rougher concentrates.

- A copper concentrate achieving high recovery and good grade can be achieved with a conventional chalcopyrite flowsheet including a moderate regrind and two stages of cleaning. The copper concentrate also yields partial recovery of platinum, palladium, gold, and silver.
- Flotation testwork on the Var1 composite revealed that a high grade nickel concentrate, >10% Ni, can be produced using a fine regrind, a selective nickel flotation collector, and moderate dosages of DETA to depress iron sulphides. Overall nickel recoveries to a selective concentrate, however, are poor due to oxide nickel contained in silicates as well as sulphide nickel closely associated with iron sulphides.
- PGEs in the deposit were found to be closely associated with the sulphide minerals. A portion of the contained palladium is associated with chalcopyrite and was found to upgrade to the copper concentrate. Both platinum and palladium are associated with nickel and iron sulphides (pyrite, pyrrhotite). High PGE recoveries can be achieved with either a Cu/Bulk or Bulk only flotation flowsheet.
- CMC has been demonstrated to be effective at controlling the recovery of floatable gangue to the final concentrate.
- The use of aged, assay reject material for flotation testwork was found to negatively affect test performance including flotation selectivity and final concentrate grade.

1.1.1.3 Environment

- No environmental or social issues have been identified to date that would limit the extraction of the Mineral Resource.
- Environmental baseline studies are underway and will continue as the project progresses.
- Applications for permits required to continue exploration activities past August 2023 have been submitted to regulators.
- Community engagement is continuing and the appropriate agreements for exploration activities with local First Nations communities are in place.

1.1.2 Recommendations

1.1.2.1 Geology and Mineral Resources

SLR has reviewed and agrees with Clean Air's proposed exploration budget. Phase I of the recommended work program will include internal technical studies to evaluate Project options and prioritize further work, permitting and environmental studies, community and social engagement, and drill testing of the down dip extension of the Escape deposit (Table 1-2). While both Current and Escape deposits are prospective at depth and down plunge, the shallower target for Mineral Resource extension at Escape potentially allows for a higher return on investment in the near term. A Phase II program, contingent upon the results of Phase I, would include additional extension and infill drilling at both the Escape and Current Deposits, an update to the Mineral Resource estimate, and a Preliminary Economic Assessment (PEA).

Table 1-2: Proposed Budget – Phase I
Clean Air Metals Inc. – Thunder Bay North Project

Item	Cost (C$ 000)
Technical Studies	400
Permitting and Environmental Studies	400
Community Engagement and Studies	15
Drilling – Escape (6,000 m)	1,620
Subtotal	**2,435**
Contingency	500
Total	**2,935**

Notes:

1. Drilling costs are estimated to be $270/m including salaries and associated sample preparation and analysis fees.

1.1.2.2 Mineral Processing

1. Complete additional metallurgical test work with the goal of establishing the optimal process flowsheet that balances process plant recoveries with smelter off-take terms. The additional test work should be completed on representative zone and domain composites for the Current and Escape deposits, prepared using core material, and should include the following:
    - Mineralogical characterization including bulk modals, association, liberation, and PGE mineralization.
    - Optimization of the flotation flowsheet, including primary grind size, collector addition, and depressant addition.
    - Locked cycle testing.
    - Additional hardness characterization including semi-autogenous grinding (SAG) mill comminution (SMC), Bond ball mill work index (BBWi), and Bond rod mill work index (BRWi) characterization. SMC and BBWi test work should be completed on up to eight variability composites.
2. Complete thickening and filtration testing on representative concentrate samples.
3. On representative tailings samples, complete dewatering test work and environmental characterization, including acid base accounting (ABA) and toxicity characteristic leaching procedure (TCLP) testing.

1.1.2.3 Environment

1. Continue baseline data collection and analysis activities as project planning evolves to support future environmental permits and approvals.
2. Develop a list of required environmental permits and approvals and timelines to obtain these permits.

- Develop a closure concept as project planning continues. Outline the key closure commitments for the Project.
- Continue engagement activities with local Indigenous Rights-Holder communities, with the aim of establishing suitable Agreements for potentially impacted communities if and as needed.

1.2 Technical Summary

1.2.1 Property Description and Location

The TBN Project is situated approximately 50 km northeast of the city of Thunder Bay, within the Thunder Bay Mining Division, Ontario, Canada. The Project centres at approximately latitude 48°45' N and longitude 88°56'W. The Project is accessible from provincial Highway 527 via intermittently maintained forest access roads.

The Project is located on lands covered by the 1850 Robinson-Superior Treaty (the Treaty). Several First Nation communities are included within the Treaty territory including those directly identified as having traditional territory where members hold and exercise rights to the area. These communities are Fort William First Nation, Red Rock Indian Band, and Biinjitiwaabik Zaaging Anishinaabek (BZA: Rocky Bay First Nation), together Participating First Nations, with whom Clean Air signed a Memorandum of Agreement (MOA) effective January 8, 2021, and an Exploration Agreement (EA) on April 14, 2022.

Kiashke Zaaging Anishinaabek (KZA: Gull Bay First Nation) has been identified by the Ontario Government during the Exploration Permitting process to have Treaty rights in the Project area and potential impacts to those Treaty rights by exploration activities. The Metís Nation of Ontario and the Red Sky Metís Independent Nation were also identified by the Ministry of Mines during the Exploration Permitting process as having potential impacts on Treaty rights in the Project area. Clean Air has initialized consultations with the above communities.

1.2.2 Land Tenure

The Project encompasses approximately 331 km^2 of Crown land covered by 344 individual Ontario Mining claims.

Clean Air, formerly Regency Gold Corp. (Regency), acquired the Project through an option agreement with Benton Resources Inc. (Benton) on May 14, 2020 (the Benton Option). Regency formally changed its name to Clean Air Inc. in February 2020 after the reverse takeover of the Regency Board of Directors by the Clean Air management team. The Benton Option included the right to purchase 100% of Panoramic Resources Inc.'s (Panoramic) TBN Property and 100% of Rio Tinto Exploration Company's (RTEC or Rio Tinto) Escape Lake Project.

A number of royalty agreements cover the Project. A portion of the Current deposit has an existing 3% net smelter return (NSR) royalty to Drs. Graham Wilson and Gerald Harper, the prospectors that discovered the original platinum group elements (PGE)-copper-nickel boulder occurrence. A 1% NSR royalty is payable to RTEC on the Escape deposit. Benton also applied a 0.5% NSR on all Escape claims as well as a 0.5% NSR on the previous Panoramic claims which do not already have a pre-existing royalty encumbrance.

Clean Air entered into an additional royalty agreement with Triple Flag Precious Metals Corp. (Triple Flag) as announced on December 15, 2022. Royalties payable to Triple Flag include 2.5% NSR on the Escape deposit and 2.5% NSR on the TBN Project.

1.2.3 Existing Infrastructure

The Project area is within an active forest management area (Black Spruce forest) which has supported active forest operations prior to the discovery of the Current and Escape deposits. As a result, it has an extensive network of forest access roads with supporting infrastructure of culverts and bridges providing access across the Project area. Highway 527 (Armstrong highway) transects the western portion of the Property.

The East-West Tie line, a 230 kV powerline between Thunder Bay and Wawa that is owned by Nextbridge crosses the southeast corner of the Project area, approaching approximately 6 km to the southeast of the proposed site for mine infrastructure for the Current deposit. The Greenwich Renewable Energy Project occurs within the Property area along the eastern side. The wind farm, operated by Enbridge, comprises 43 turbines rated at 2,300 kW with cumulative nominal output of 98,900 kW. Power is sold to Ontario Power Authority under a 20 year contract which commenced in 2011.

Exploration and mineral development infrastructure on the Project is limited. Two Land Use Permits (LUP) have been issued for establishment of temporary buildings or structures. One LUP hosted the former exploration camp(s) that consisted of mobile trailers. Currently, no structures are present on the LUP. The second LUP contains an exploration core storage yard which currently contains in excess of 150,000 m of drill core in a combination of core racks and palletized core storage.

There is an aggregate quarry within the Project area, which was established by Ministry of Transportation (MTO) adjacent to Highway 527 for use on highway resurfacing. The aggregate permit transferred to Panoramic PGMs at the completion of the highway project is in a state of care and maintenance.

1.2.4 History

Initial exploration in the region was for uranium and was concentrated in the area of the Christianson uranium showing, approximately 5 km east of Current Lake. RTEC acquired the area that contained the Christianson uranium showing and additional ground in 1976.

The area was explored for diamonds by Dr. Graham Wilson and Dr. Gerald Harper et al. between 1993 and 2000. This early exploration work led to the discovery of mineralized ultramafic (peridotite) boulders containing elevated grades of platinum, palladium, copper, and nickel along the western shoreline of Current Lake. The mineralized boulders and surrounding area were staked in at that time by Wilson and Harper. Pacific North West Capital Corporation optioned the property in 2001 from the prospectors and drilled a series of holes from the western side of Current Lake. They did not identify the source of the mineralized boulders and they did not conclude the option.

In 2005, Magma Metals (Canada) Limited (Magma), of Perth, Australia, optioned the claims comprising the Current Property. At that stage, the Project comprised 26 contiguous mining claims. In 2006, the three Beaver Lake claims were optioned, and in 2007 an additional option on the CasRon property was acquired. Multiple exploration programs were initiated over the current TBN Project area, including prospecting, geological mapping, geochemistry, petrography, geophysics, and diamond drilling.

Kennecott staked the Escape 15-unit claim in 2006.

Magma continued to expand the Project area and by 2009, the Project area had increased to approximately 406 km^2. Magma was taken over by Panoramic in June 2012 and the property package was transferred to Panoramic PGMs, then a wholly owned subsidiary of Panoramic. Regional periphery projects were allowed to lapse from 2012 to 2018, but the main Project area stayed consistent at approximately 298 km^2.

An Earn-In to Joint Venture Agreement (JV) was signed between RTEC and Panoramic in mid-2014. RTEC acquired all assets of Kennecott in 2015 including the 15-unit Escape claim. RTEC executed a series of exploration programs but, ultimately, did not attain the expenditure thresholds for the JV and 100% of the property was retained by Panoramic PGMs.

Amalgamation of the Project as currently defined was initiated in 2019. Benton optioned RTEC's claims in the Thunder Bay North area on October 9, 2019. The claims consisted of the Escape claim and a series of claims along the northern margin of the TBN Project area. Benton, with RTEC's permission, assigned its interest in the Escape claims to Clean Air in the Benton option agreement dated May 14, 2020. Under additional terms of the same Benton Option, Clean Air also acquired a 100% interest in Panoramic PGMs.

1.2.5 Geology and Mineralization

The Project is located within the Quetico Terrane (Subprovince) of the Superior Province of the Canadian Precambrian Shield. The Quetico Terrane is interpreted as a fore-arc accretionary prism deposited during and after peak volcanic activity within the adjacent Wawa, Wabigoon, and Abitibi Terranes between 2,698 and 2,688 million years ago. The terrane is approximately 70 km wide and forms a linear strip of moderately to strongly metamorphosed and deformed clastic metasedimentary rocks and their melt derivatives.

PGE-rich copper-nickel sulphide mineralization at the Project is hosted in conduit-like intrusions that are part of the Thunder Bay North Intrusive Complex. Within the complex, most of the presently known mineralization is hosted by variably felspathic lherzolite, wehrlite, and olivine melagabbro within the Current and Escape intrusions. Additionally, disseminated platinum-palladium-copper-nickel mineralization has been observed within the Lone Island Lake (LIL) and 025 intrusions.

The Current Intrusion (chonolith), hosting the Current deposit, is approximately 40 m to 1.3 km wide at a strike length of approximately 5.0 km. The mineralized rocks within the Current Intrusion consist of olivine bearing to olivine rich, fine-grained plagioclase rich two-pyroxene peridotite (at the margins of the intrusion) that grades into plagioclase bearing to plagioclase poor (feldspathic), two-pyroxene peridotite at the core of the intrusion. Several zones of mineralization identified at Current include Upper Current, Lower Current, Bridge, Beaver, Cloud, and 437/SEA zones. The sulphide mineralogy includes pyrrhotite, pentlandite, chalcopyrite, pyrite, and rare cubanite. Small massive sulphide pods are of limited occurrence.

The Escape Intrusion (chonolith), hosting the Escape deposit, has a strike length of approximately 4.3 km, with a shallow plunge to the southeast. Similar to Current, mineralization is hosted within the olivine cumulate lithologies and is found along the strike extent of the chonolith. Mineralization within Escape is dominantly stratabound occurring within the middle to upper portions of the olivine cumulate stratigraphy. Four zones of mineralization identified at Escape include Steepledge, Escape North, Escape South, and the High Grade Zone (HGZ). The sulphide mineralization mostly consists of disseminated to net-textured pyrrhotite and chalcopyrite.

Mineralization discovered within the property is classified as orthomagmatic. Orthomagmatic deposits are the product of direct segregation, accumulation, or crystallization of an immiscible phase (sulphide commonly) from a silicate magma. These types of deposits are commonly polymetallic containing a diverse suite of chalcophile elements including nickel, copper, PGE, and cobalt, which are commonly found in orthomagmatic deposits along with the precious metals gold and silver. All of these elements are identified within the mineralization at the Current and Escape deposits.

1.2.6 Exploration Status

Exploration by Clean Air from May 2020 to April 2023 had two objectives: (i) to improve the understanding of the deposit geology and Mineral Resources at the Current and Escape deposits, and (ii) to explore the depth potential of the intrusions and areas that historically were not considered prospective.

Infill diamond drilling was carried out on the Current and Escape deposits by Clean Air. A total of 87 drill holes for approximately 16,700 m were completed between 2020 and 2022 on the Current deposit focusing mainly on infill drilling in areas with poor continuity of mineralization and, to a lesser extent, collecting material for metallurgical testing. Including drilling by previous operators, a total of 818 drill holes totalling 179,629 m have been completed at the Current deposit.

A total of 266 holes (105,086 m) have been completed at the Escape deposit including 168 drill holes (74,400 m) by Clean Air (2020-2022). Drilling by Clean Air was focussed in areas supported by borehole electromagnetic (BHEM) and surface pulse electromagnetic (SPEM) surveys but characterized by low drill hole density.

A magnetotelluric (MT) survey program and follow-up geophysics and drilling were carried out to explore the depth extensions of the Current and Escape intrusions. As a result, a number of potential targets were identified down plunge of both the Current and Escape intrusions, as well as other areas and intrusions at the Project.

1.2.7 Mineral Resources

SLR completed a Mineral Resource estimate for the Clean Air TBN Project (Table 1-1). The Mineral Resource estimate was completed by Sean Horan, P.Geo., SLR's QP. The QP is of the opinion that the estimate is suitable to support disclosure of Mineral Resources for the Project and for inclusion in future studies.

The Project includes two deposits, Current and Escape. Mineral Resources for both deposits have been updated from the previous Mineral Resource estimates completed by Nordmin Engineering Ltd. in 2021. The current estimate includes additional 50 infill drill holes completed in 2022, with 11 holes for the Current deposit and 39 holes for the Escape deposit. Block models were created for the two deposits to support the estimate.

The block models were completed using wireframes generated in Leapfrog Geo, filled with blocks measuring 5.0 m on easting and northing, and 2.5 m high. Samples were composited to two metre long intervals. No grade capping was applied to samples prior to compositing. The estimates used ordinary kriging (OK) for block grade interpolation. Grade estimates were validated using a number of validation techniques including visual inspection, global bias checks, and swath plots. CIM (2014) definitions were used for Mineral Resource classification.

Mineral Resources were reported within underground reporting shapes based on an NSR cut-off value of US$48/t. A crown pillar allowance of 20 m from the bottom of the overburden below the lakes and the underground reporting shapes used ensure that the Mineral Resources meet the NI 43-101 requirement of Reasonable Prospects for Eventual Economic Extraction (RPEEE).

1.2.8 Environmental, Permitting and Social Considerations

Environmental baseline data has been collected on the property since 2008. Previous owners Panoramic and Magma completed a series of environmental studies and collection of baseline environmental data at the property from 2008 to 2013. In 2020, baseline environmental data collection resumed with completion of a number of additional environmental baseline studies including terrestrial and aquatic biology, metals leaching and acid rock drainage (ML-ARD), hydrology, hydrogeology, meteorology, sediment assessment, and surface water sampling.

Clean Air currently has no environmental permits. A number of early exploration permits within the Project area include line cutting, geophysics, and exploration drilling permits in the area covering the Current deposit. These permits expire on August 31, 2023, and a new early exploration permit covering the two resource areas (Current and Escape) was submitted to the Ministry of Mines on May 9, 2023. This permit will cover diamond drilling and associated BHEM surveying.

Clean Air has excellent relationships with the First Nation communities in the Project area. Clean Air has signed a MOA followed by an Exploration Agreement (EA) with Fort William First Nation, Red Rock Indian Band, and Biinjitiwaabik Zaaging Anishinaabek (the Participating First Nations). These agreements provide a framework for a mutually beneficial relationship for the Project where Clean Air and the Participating First Nations identify:

- Potential impacts of the Project on the Participating First Nations interests and rights
- Appropriate measures to mitigate and avoid any adverse effects
- Opportunities to enhance positive impacts and benefits

It is anticipated that the Project will create many jobs and directly benefit the economy of the Participating First Nations, other Indigenous Nations within the Robinson Superior Treaty of 1850, the Metís Nation of Ontario, Region 2, the Red Sky Metís Independent Nation, the city of Thunder Bay, and the region.

2.0 INTRODUCTION

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2.1 Sources of Information

The SLR Qualified Persons (QP) for this Technical Report are Tudorel Ciuculescu, M.Sc., P.Geo., Consultant Geologist, and Sean Horan, P.Geo., Technical Manager Geology. The QP for the metallurgically sections is Lyn Jones, P.Eng., Manager, Process Engineering, of Blue Coast Research (Blue Coast).

A site visit was carried out by Mr. Tudorel Ciuculescu on October 13 and 14, 2022. During the site visit, Mr. Ciuculescu examined drill holes and mineralized surface exposures, reviewed interpreted plans and sections, core logging, sampling, quality assurance and quality control (QA/QC), and modelling procedures, discussed the geological setting of the deposit, as well as the geological interpretations and mineralization control with the site geology staff. The QP reviewed some collar coordinates with a handheld GPS device.

Discussions were held with personnel from Clean Air, including:

- Geoff Heggie, PhD., P.Geo., Vice President Exploration
- Erik Scheel, M.Sc., P.Geo., Senior Geologist

- Andrey Zagoskin, M.Sc., P.Geo., Database and GIS Manager
- Mike Garbutt, P. Eng., MBA, Chief Operating Officer
- Jim Gallagher, P.Eng., Executive Chair and Interim CEO
- Kris Tuuttila, P.Geo., Director of Permitting, Sustainability and Community Relations

Mr. Horan is responsible for overall preparation of the Technical Report, in particular, Sections 2, 3, 4, 5, 6 ,7, 8, 9, 10, 11, 12, 14, and 20, and contributed to Sections 1, 25, 26, and 27. Mr. Ciuculescu is responsible for Sections 2, 3, 4, 5, 6 ,7, 8, 9, 10, 11, 12, 14, and 20 and contributed to Sections 1, 25, 26, and 27. Mr. Jones is responsible for Section 13 and contributed to Sections 1, 25, 26, and 27.

Mr. Horan, Mr. Ciuculescu, and Mr. Jones are independent QPs as defined in NI 43-101.

The documentation reviewed, and other sources of information, are listed at the end of this report in Section 27.0 References.

2.2 List of Abbreviations

Units of measurement used in this Technical Report conform to the metric system. All currency in this Technical Report is Canadian dollars (C$) 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
°C	degree Celsius	m	metre
C$	Canadian dollars	M	mega (million); molar
cal	calorie	m^2	square metre
cfm	cubic feet per minute	m^3	cubic metre
cm	centimetre	MASL	metres above sea level
cm^2	square centimetre	m^3/h	cubic metres per hour
d	day	mi	mile
dia	diameter	min	minute
dmt	dry metric tonne	μm	micrometre
dwt	dead-weight ton	mm	millimetre
°F	degree Fahrenheit	mph	miles per hour
ft	foot	MVA	megavolt-amperes
ft^2	square foot	MW	megawatt
ft^3	cubic foot	MWh	megawatt-hour
ft/s	foot per second	oz	Troy ounce (31.1035g)
g	gram	oz/st, opt	ounce per short ton
G	giga (billion)	ppb	part per billion
Gal	Imperial gallon	ppm	part per million
g/L	gram per litre	psia	pound per square inch absolute
Gpm	Imperial gallons per minute	psig	pound per square inch gauge
g/t	gram per tonne	RL	relative elevation
gr/ft^3	grain per cubic foot	s	second
gr/m^3	grain per cubic metre	st	short ton
ha	hectare	stpa	short ton per year
hp	horsepower	stpd	short ton per day
hr	hour	t	metric tonne
Hz	hertz	tpa	metric tonne per year
in.	inch	tpd	metric tonne per day
in^2	square inch	US$	United States dollar
J	joule	USg	United States gallon
k	kilo (thousand)	USgpm	US gallon per minute
kcal	kilocalorie	V	volt
kg	kilogram	W	watt
km	kilometre	wmt	wet metric tonne
km^2	square kilometre	wt%	weight percent
km/h	kilometre per hour	yd^3	cubic yard
kPa	kilopascal	yr	year

3.0 RELIANCE ON OTHER EXPERTS

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

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

For the purpose of this Technical Report, SLR has relied on ownership information provided by Clean Air. SLR has not searched property title or mineral rights for the TBN Project. SLR made spot checks of the status of the TBN project claims on the Mining Lands Administration System (https://www.ontario.ca/page/mining-lands-administration-system), confirming active status.

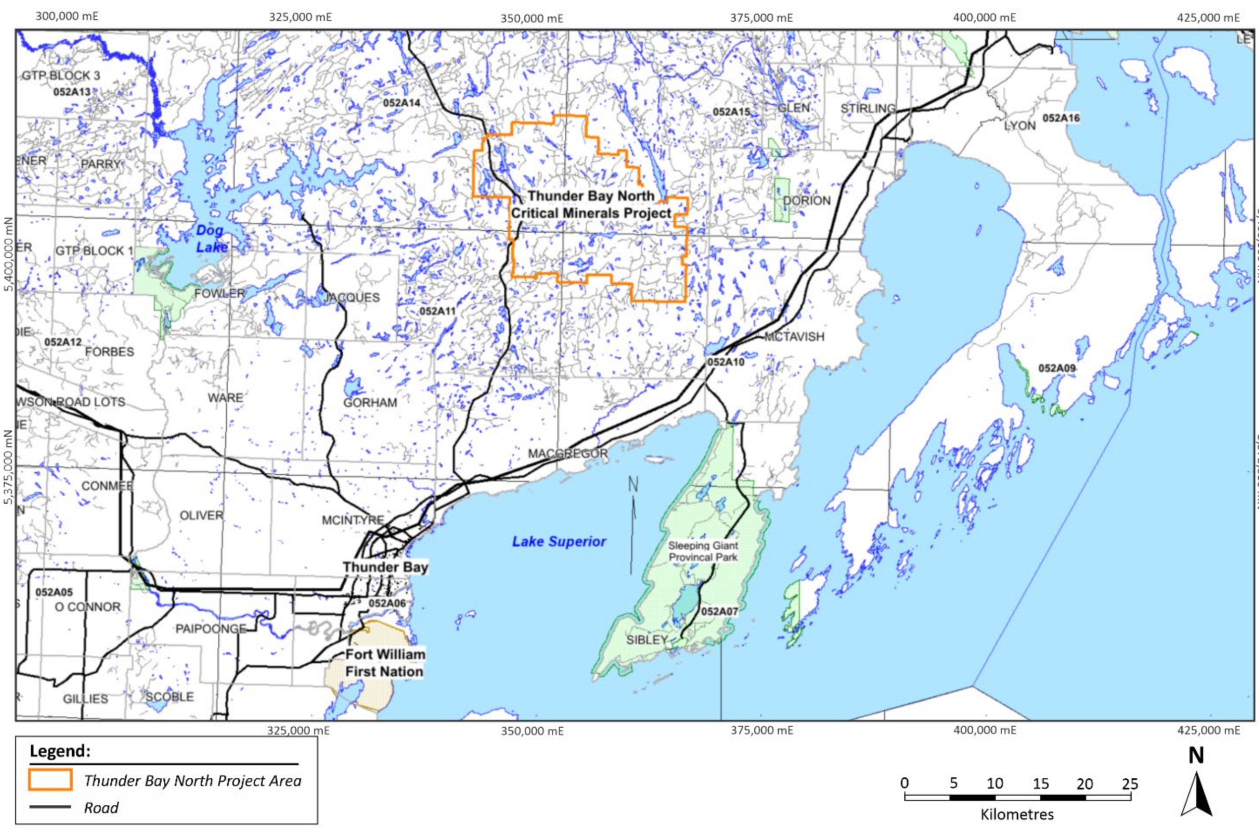
SLR has relied on Clean Air for guidance on applicable taxes, royalties, and other government levies or interests, applicable to revenue or income from the TBN Project.

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 TBN Project is situated approximately 50 km northeast of the city of Thunder Bay, within the Thunder Bay Mining Division, Ontario, Canada (Figure 4-1). The Project centres at approximately latitude 48°45' N and longitude 88°56'W and occurs at the junction of four NTS sheets (52A15: Greenwich Lake, 52A10: Loon, 52A11: Onion Lake, and 52A14: East Bay).



Source: SLR, 2023.

Figure 4-1: Property Location Map

4.2 Land Tenure

The Project is located on lands covered by the 1850 Robinson-Superior Treaty (the Treaty). Several First Nation communities are included within the Treaty territory, including those directly identified as having traditional territory where members hold and exercise rights to the area. These communities are Fort William First Nation, Red Rock Indian Band, and Biinjitiwaabik Zaaging Anishinaabek (BZA: Rocky Bay First Nation). These three communities are Cooperating Participants with whom Clean Air signed a Memorandum of Agreement (MOA) effective January 8, 2021, and an Exploration Agreement (EA) on April 14, 2022.

Kiashke Zaaging Anishinaabek (KZA: Gull Bay First Nation) has been identified by the Ontario Government during the Exploration Permitting process to have Treaty rights in the Project area and potential impacts to those Treaty rights by exploration activities. Clean Air has initialized consultation with the community through Chief and Council.

The Metís Nation of Ontario (MNO) and Red Sky Metís Independent Nation were also identified by the Ministry of Mines during the Exploration Permitting process as having potential impacts on Treaty rights in the Project area. Clean Air is consulting with both Metís Nations.

Clean Air, formerly Regency Gold Corp. (Regency), acquired the Project through an option agreement with Benton Resources Inc. (Benton) on May 14, 2020 (the Benton Option). Regency formally changed its name to Clean Air Inc. in February 2020 after the reverse takeover of the Regency Board of Directors by the Clean Air management team. The Benton Option included the right to purchase 100% of Panoramic Resources Inc.'s (Panoramic) Thunder Bay North (TBN) Property and 100% of Rio Tinto Exploration Company's (RTEC or Rio Tinto) Escape Lake Project. The Escape claims were held by Benton until the full vesting of the Benton Option, which occurred on December 19, 2022. The 'Escape option' claims were transferred to Panoramic PGMs (Limited) Canada (Panoramic PGMs) on January 12, 2023.

All TBN claims are held by Panoramic PGMs, a company setup by Panoramic Resources (Australia) to hold their Canadian assets. Clean Air Metals purchased/acquired Panoramic PGMs through the property option/purchase with Benton Resources. Final payment and execution of the agreement was completed in 2021 and as such Panoramic PGMs (Canada) is a wholly owned subsidiary of Clean Air Metals.

The Project encompasses approximately 331 km^2 of Crown land covered by Ontario Mining claims. Figure 4-2 shows the current Project land tenure, which has evolved from a 98 km^2 claim block covering just the Current Property area in 2007 to the current amalgamated TBN Project.

Panoramic PGMs holds 344 claims for a total area of 33,137 ha. A complete listing of the active claims is included in Section 30.0 Appendix 1 and are summarized in Table 4-1. The claims have not been legally surveyed. The government of Ontario requires expenditures of $400 per year per unit, prior to expiry. Expenditures have been met and all claims are currently in good standing.

Table 4-1: Summary of Land Tenure
Clean Air Metals Inc. – Thunder Bay North Project

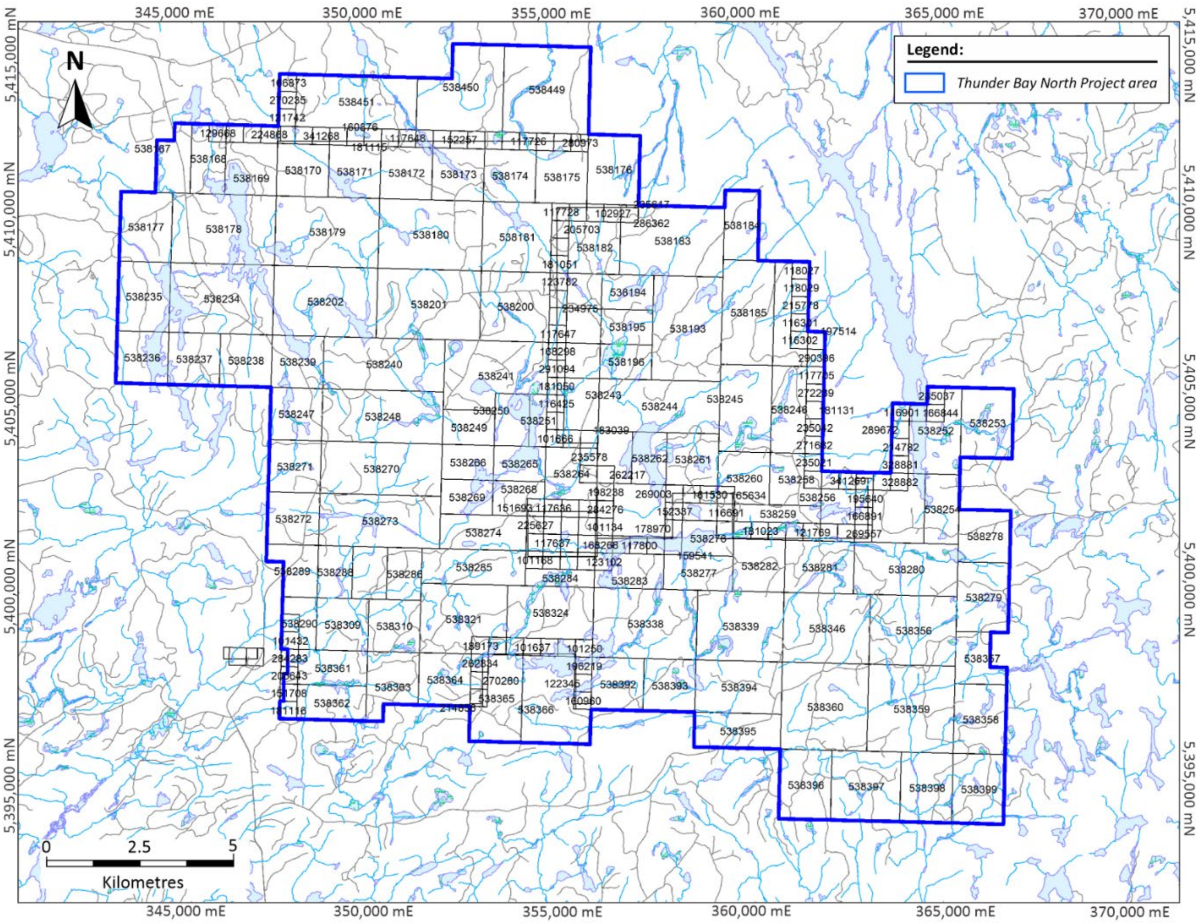
Claim Type	No. Claims	Area (ha)	Expiry Date Range (MM/DD/YY)
Single Cell Mining Claim	41	861	1-Oct-23 to 7-Oct-27
Boundary Cell Mining Claim	189	3,969	1-Oct-23 to 5-Jul-29
Multi-cell Mining Claim	114	28,307	1-Oct-23 to 5-Jul-30
Total	**344**	**33,137**	**7-Oct-23 5-Jul-29**

Notes:

1. All claims are held by Panoramic PGMS (Canada) Limited, a wholly owned subsidiary of Clean Air Metals.

Clean Air has initiated the claim to lease process for the conversion of Ontario Mining Claims to 21 year mining leases in preparation of mine development within the Project area for the extraction of minerals from the leased area and sale of minerals once extracted. Planned lease area encompasses 51.5 km^2 with a total perimeter of 45.1 km.

Clean Air/Panoramic PGMs does not hold any of the surface rights in the Project area and small holdings of private property with surface rights are present within the Project area. These occur as remote cabins/camps on the larger lakes. Two cabins are present on each of Current and Escape Lakes and one cabin, on Fitzpatrick and Steepledge Lakes. Hicks Lake, located in the northwest portion of the Project area adjacent to Highway 527, hosts 42 cabin lots along the eastern shore of the northern portion of the lake. All these holdings are only surface rights, with mineral rights held by Clean Air.



Source: Clean Air Metals Inc., 2023.

Figure 4-2: Thunder Bay North – Claim Map

4.3 Underlying Agreements

Prior to entering into an agreement with Clean Air (formerly Regency), Benton entered into a three-year, C$6 million option agreement with RTEC for the Escape and Escape North properties (the RTEC Option). Under this agreement, RTEC will retain a 1% net smelter return (NSR) royalty on the properties optioned to Benton.

Benton paid RTEC C$3 million on signing of the option agreement on October 9, 2019, and was obligated to pay an additional C$3 million in equal installments each October 8 of 2020, 2021, and 2022, or as a lump sum remaining balance at any time. Clean Air assumed Benton's financial obligation under the RTEC option agreement by entering into a subsequent option agreement with Benton (the Benton Option) which closed on May 14, 2020.

Clean Air made the first anniversary payment of $1 million to RTEC on or about October 1, 2020. The second anniversary payment of $1 million to RTEC was completed on October 12, 2021. Clean Air opted for an accelerated payment option and completed the third and final $1 million installment to RTEC on November 10, 2021.

Through the Benton Option, Regency (now Clean Air) also entered directly into a formal binding share purchase agreement with Panoramic, of Australia, dated January 6, 2020 (the Pan Agreement). Under the Pan Agreement, Clean Air acquired a 100% ownership interest in the Panoramic subsidiary, Panoramic PGMs, that holds certain mining claims covering the Current deposit area of the Project, subject to a registered security interest by Panoramic (Figure 4-3).

Terms of the purchase included an aggregate payment of C$9 million to Panoramic over a three-year period, including a C$4.5 million down payment on closing, which was completed on May 14, 2020. An additional C$4.5 million was to be paid in equal installments by each May 13 of 2021, 2022, and 2023, or as a lump sum remaining balance at any time. Clean Air has completed all three installment payments to Panoramic, with the final project payment of $1.5 million made on December 19, 2022, and perfected the Benton Option. Panoramic retains no royalty on the Project.

4.4 Royalties

A number of royalty agreements cover the Project. The royalty agreements are described chronologically.

A portion of the Current deposit has an existing 3% NSR royalty to Drs. Graham Wilson and Gerald Harper, the prospectors that discovered the original platinum group elements (PGE)-copper-nickel boulder occurrence. The 3% NSR occurs on the northeast portion of the Property and includes the Current Zone as well as another block at the southern extent of the Property. The royalty includes a prepayment (advance royalty) totalling C$50,000 paid annually and divided equally between the prospectors. The original terms of the option agreement with the prospectors and Magma Metals (Canada) Limited (predecessor to Panoramic and Clean Air) included an option to reduce the royalty to 2% NSR on payment of C$1 million at any time. Clean Air also enjoys a Right of First Refusal period of 60 days to match any commercial offer to purchase and retire the remaining royalty.

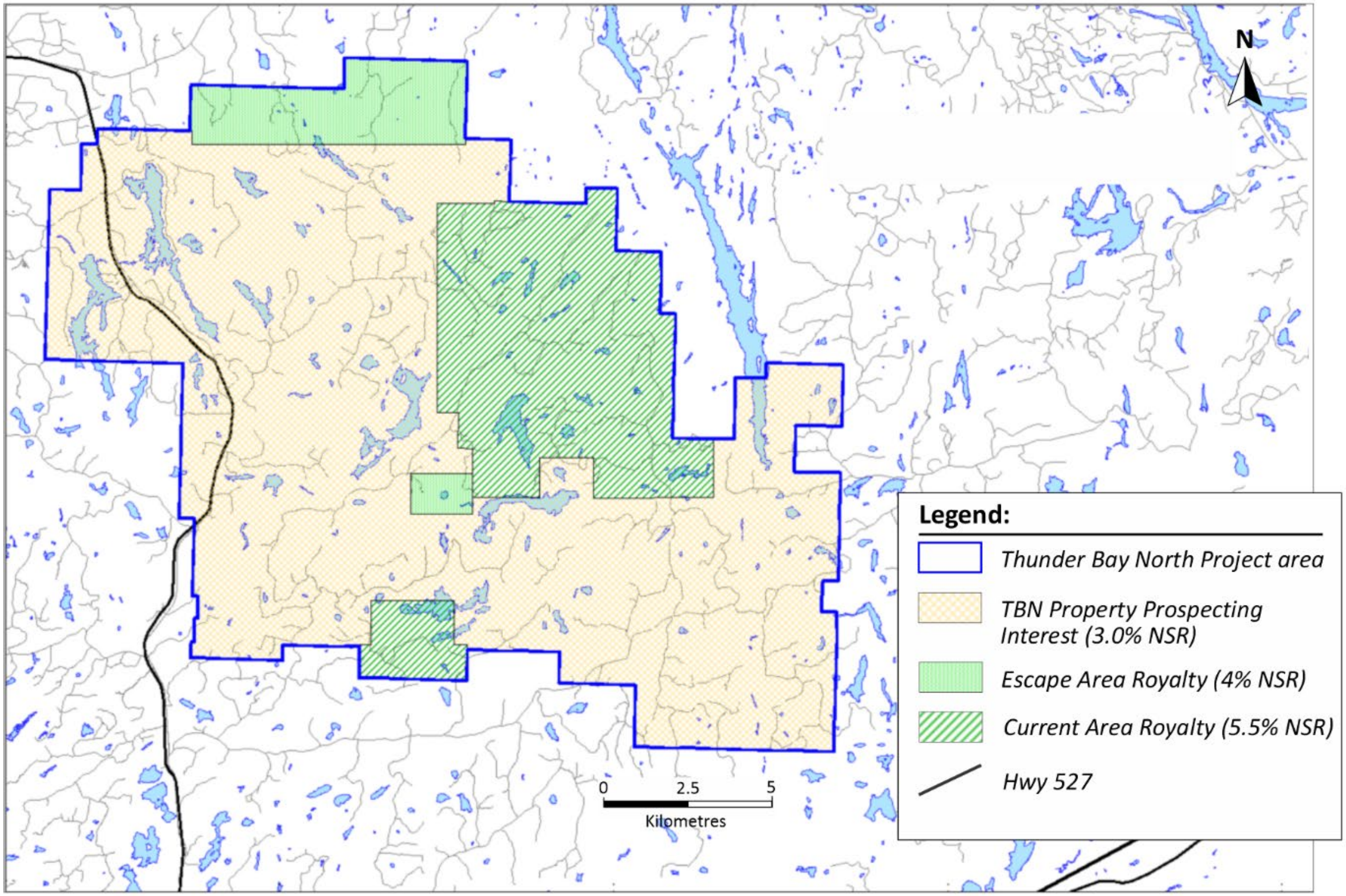
The claims optioned from Benton (Benton Option), specifically the historical Rio Tinto claim covering a portion of the Escape deposit, have a 1% NSR royalty payable to RTEC. Benton also applied a 0.5% NSR on all Escape claims as well as a 0.5% NSR on the previous Panoramic claims which do not already have a pre-existing royalty encumbrance (Figure 4-3).

Clean Air entered into an additional royalty agreement with Triple Flag Precious Metals Corp. (Triple Flag) as announced on December 15, 2022. The agreement totals C$15 million, divided into two tranches. The first tranche (C$10 million) was issued on the effective date and covers the royalty applied to the Panoramic PGMs claims (Current deposit). The second tranche (C$5 million) is applied to the Benton Option (historical Rio Tinto claim) and will be paid within 90 days from the effective date, allowing time for RTEC to assess the sale of its 1% NSR to Clean Air for C$2 million under certain conditions termed Put Option #1. At the expiry of Put Option #1, the Triple Flag Royalty instrument will be posted on title of the Escape deposit claims. A second option was granted to Rio Tinto (Put Option #2) whereby RTEC has the right to sell its 1% NSR to Clean Air for C$3.5 million valid from June 30, 2024, until 60 days after filing of a Feasibility Study on the Escape deposit on SEDAR. The Triple Flag Royalty (2.5% NSR) applied across the

TBN Project includes an option to buydown to 1.5% NSR for C$10.5 million within 36 months of the effective date.

Table 4-2: Summary of Royalties on the Thunder Bay North Project
Clean Air Metals Inc. – Thunder Bay North Project

Area	Total Royalty	Royalty owners		
Current deposit	5.5% NSR	3.0% NSR Harper & Wilson	2.5% NSR Triple Flag	
Escape deposit	4.0% NSR	1.0% NSR Rio Tinto	2.5% NSR Triple Flag	0.5% NSR Benton
TBN Project area	3.0% NSR		2.5% NSR Triple Flag	0.5% NSR Benton



Source: SLR, 2023.

Figure 4-3: TBN Project Royalty Map

4.5 Permits

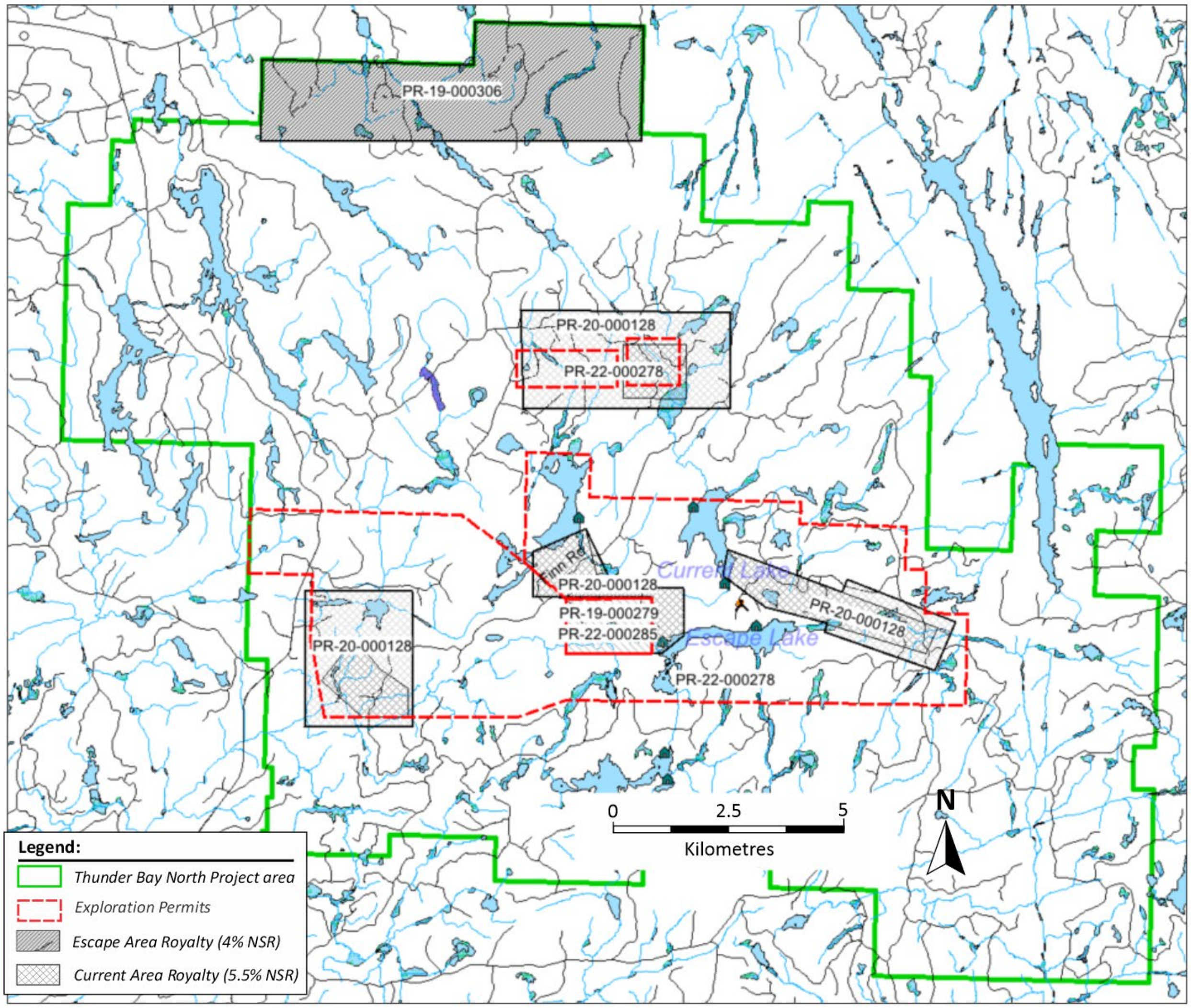
Active permits that cover the Project have been issued by two Ministries of the Ontario Government. There are three valid Ministry of Natural Resources and Forestry (MNRF) permits on the Project within the Greenwich Lake NTS area. Two land use permits (LUPs) are present. Permit LUP1246-1001585 covers the exploration camp site with installed septic leach bed and permit LUP1246-1001584 covers the fenced core storage facility located proximal to the Current deposit. An aggregate quarry permit (#625837) has also been issued by MNRF to Panoramic PGMs, which covers an aggregate quarry off Highway 527 utilized previously by Ministry of Transportation (MTO) to generate aggregate for highway resurfacing.

The Ontario Mining Act requires the Ministry of Mines (previously Ministry of Northern Development, Mines, Natural Resources and Forestry: MNDMNRF) to issue exploration permits or plans for exploration on Crown lands. The nominal processing periods are 50 days for a permit and 30 days for a plan while the documents are reviewed by MNDMNRF and presented to the Indigenous communities whose traditional lands will be impacted by the work.

Five exploration permits have been issued for the Project through applications by Benton or Panoramic PGMs (Table 4-3 and Figure 4-4). Applications for additional exploration permits are currently under review by Ministry of Mines with consultation with four first nation communities (Fort William First Nation, Red Rock Indian Band, Biinjitiwaabik Zaaging Anishinaabek (BZA: Rocky Bay First Nation), and Kiashke Zaaging Anishinaabek (KZA) - Gull Bay First Nation) and two Metis groups (Métis Nation of Ontario and Red Sky Métis Independent Nation).

Table 4-3: Summary of Exploration Permits Issued by Ministry of Mines for the Thunder Bay North Project
Clean Air Metals Inc. – Thunder Bay North Project

Company	Permit #	Start	Expiry	Area
Benton Resources Inc.	PR-19-000306			North TBN
Benton Resources Inc.	PR-19-000279	January 12, 2020	January 12, 2023	Escape deposit
Panoramic PGMs (Canada) Ltd	PR-20-000128	October 23, 2020	October 23, 2023	Current deposit
Benton Resources Inc.	PR-22-000285	March 3, 2023	August 31, 2023	Escape deposit
Panoramic PGMs (Canada) Ltd.	PR-22-000278	March 3, 2023	August 31, 2023	Current deposit and TBN Project area



Source: SLR, 2023.

Figure 4-4: Exploration Permits within the Project Area

The Project is located in the province of Ontario, which has a well-established permitting process for mine construction and development. This process is coordinated between the municipal, provincial, and federal regulatory agencies. As is the case for similar mine developments in Canada, the Project is subject to federal and provincial Environmental Assessment process. Due to the complexity and size of such projects, various federal, and provincial agencies have jurisdiction to provide authorizations or permits that enable Project construction to proceed.

Federal agencies that have significant regulatory involvement include the Canadian Environmental Assessment Agency, Environment and Climate Change Canada, Natural Resources Canada, and Fisheries and Oceans Canada.

On the Ontario provincial agency side, the Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF), Ministry of Environment and Climate Change, and the MTO each have key project development permit responsibilities.

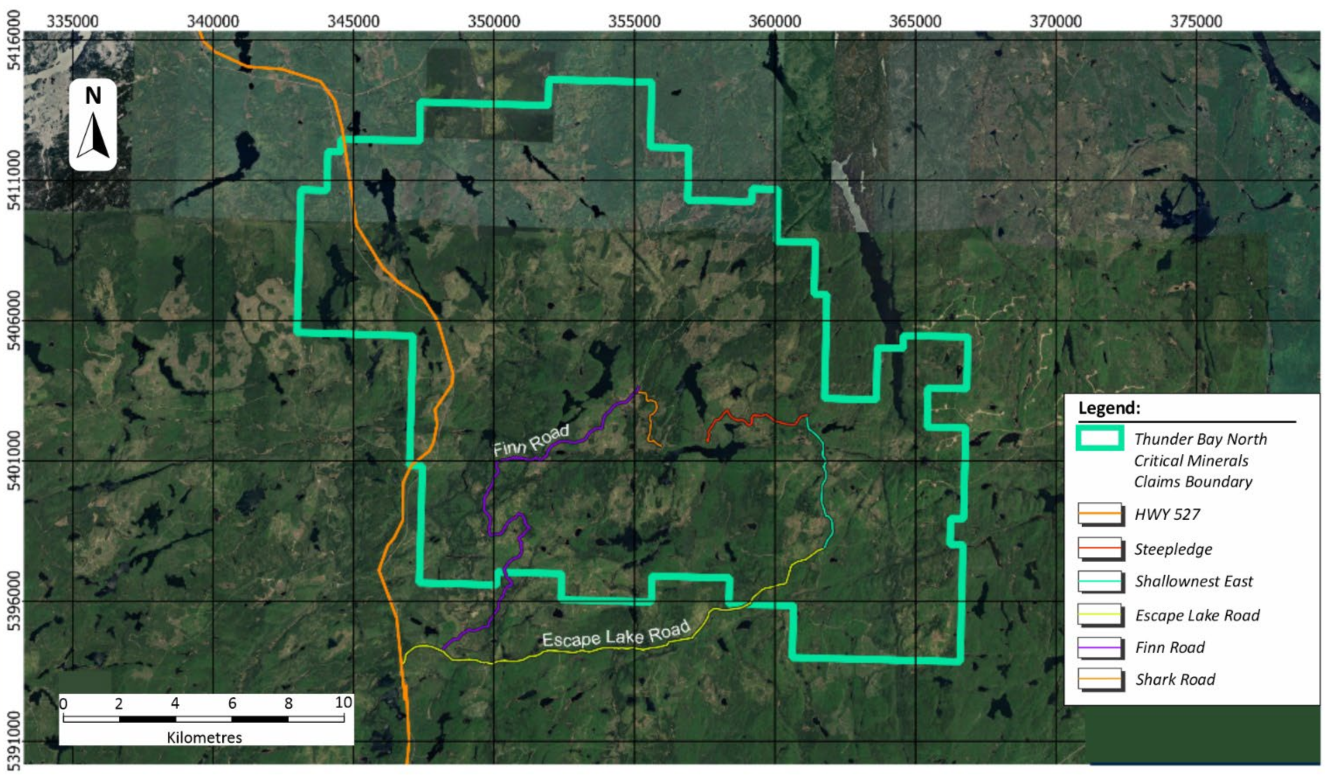
4.6 Environmental Considerations

There are no known environmental liabilities associated with the Property. Permits are required if, during the course of exploration, waterways are affected. No other significant factors or risks exist which may affect access, title, or the right, or ability to perform work on the Property.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Accessibility

The Project is located approximately 50 km northeast of Thunder Bay, Ontario, and is accessible off of provincial Highway 527 through the use of a series of intermittently maintained forest access roads. Highway 527 (Armstrong highway) branches from the Trans-Canada Highway (Highway 11/17), a short distance east of the city of Thunder Bay. The forest access roads comprise Escape Lake, Finn, and Shallownest East roads and are intermittently maintained by local logging contractors and Clean Air if there are activities in the area. The intermittently maintained roads are currently in good condition allowing for all classes of vehicles (passenger to transport) to access. Road access to the deposit areas is summarized below and shown in Figure 5-1.



Source: SLR, 2023.

Figure 5-1: Road Access

Access to the Current deposit from Thunder Bay is as follows:

- 10 km east of Thunder Bay along Highway 11/17 to Highway 527;
- 22.7 km north on Highway 527 to the Escape Lake forest access road (right);

- 17.2 km east on the Escape Lake road to the Shallownest East forest access road (left);
- 5.3 km north on the Shallownest East road to the Steepledge forest access road that branches to the west (left);
- 3.5 km west along the Steepledge road to a road junction; and
- 0.65 km south to the immediate vicinity of the Current deposit (immediately above the Beaver Lake West/Bridge Zone).

Access to the Escape deposit from the junction of Highway 527 and the Escape Lake Road is as follows:

- 1.8 km east along the Escape Lake road to the Finn road (left);
- 16.9 km north along the Finn road to the Shark road (right);
- 2.4 km south along the Shark road to a recent drill access trail leading approximately 500 m west to the vicinity of the Escape South high grade zone (HGZ).

Access to the northern portion of the TBN Property area is achieved via Shallownest West forest access road approximately 13 km north of the Escape Lake road turnoff. The Dorion Cut-off forest access road is located approximately 23 km north of Escape Lake road and generally trends east-west. It is located north of the Project claim boundary but subsidiary roads off of this road can access the northern reaches of the property.

5.2 Climate

The climate of Thunder Bay is continental with a temperate marine influence from the close proximity of Lake Superior. Temperatures generally range from winter lows of about -30°C to summer highs of about 30°C. Average winter temperature lows are in the range of -15°C to -20°C, and average summer high temperatures are in the range of 18°C to 22°C.

Frozen ground conditions are found on the Project site typically from late October to early May each year. Snowfall in the area typically follows the same pattern.

Annual precipitation is approximately 70 cm with 55 cm to 60 cm of rain and 200 cm to 300 cm of snow annually. Average winter snow depths in the region are approximately 100 cm to 150 cm.

The prevailing wind direction at the Project area is from the northwest with the strongest averages within the winter period in the 20 km/h to 29 km/h range.

5.3 Local Resources

The city of Thunder Bay is located approximately 50 km to the southwest of the Project area with road access connecting the two. Thunder Bay is the seat of the Thunder Bay District in Ontario and the most populous municipality in Northwestern Ontario. Thunder Bay hosts a population of approximately 108,800 based on 2021 Canadian census. Surrounding municipalities, townships, and First Nation community have lower population densities but contribute approximately 14,000 to the greater metropolitan area.

Thunder Bay has maintained its legacy of a transportation hub on the western end of Lake Superior from the early 17th century fur trading days to the present with grain, lumber, potash, and coal actively being moved through the port via the Great Lakes and St. Lawrence Seaway. Thunder Bay has an international airport with daily flights to larger Canadian cities centres east and west, supplied by both national and local carriers. At the time of writing, no scheduled flights were available to United States destinations. The land border crossing with the United States (Minnesota state) is at the Pigeon River crossing, approximately 50 km to the south of Thunder Bay via Highway 61. Duluth, Minnesota is the closest metropolitan city in the USA. Thunder Bay is located on the CP Rail mainline. The CN mainline is located approximately 300 km north at the community of Armstrong with the junction of the mainline and Highway 527.

As the largest city in the district, Thunder Bay hosts a number of provincial and federal government offices and services. The Thunder Bay Regional Hospital provides local medical services and receives emergency care patients from the surrounding areas via Air Orange. The city host two advanced education facilities, Lakehead University and Confederation College, that have a range of programs available, with many of the highly qualified personnel remaining in the area after completion of the programs. As a regional hub, Thunder Bay industry and commercial enterprises support a number of remote First Nation communities and mines in the region. Impala Canada Ltd's Lac des Iles palladium mine is located approximately 130 km north of Thunder Bay. Barrick Gold Corporation's Hemlo gold mine occurs to the east. New Gold Inc.'s Rainy River operation is located west of Fort Francis, and Newmont Corporation operates its Musselwhite gold mine approximately 500 km north-northwest of Thunder Bay as a fly-in-fly-out operation. A number of mineral projects and mine developments are progressing in the area, including Ring of Fire Metals' Eagles Nest nickel-copper-PGE deposit, Generation Mining Limited's Marathon palladium-copper deposit, Equinox Gold Corp.'s Greenstone Gold Project undergoing construction in Geraldton, and Goldshore Resources Inc.'s Moss Lake Gold Project at Kashabowie. All of these projects support the sustainability of sufficient skilled mining labour in Thunder Bay and surrounding communities.

5.4 Infrastructure

The Project area is within an active forest management area (Black Spruce forest) and has supported active forest operations prior to the discovery of the Current and Escape deposits. Forest operations have harvested wood for dimensional lumber, pulp and paper, hog fuel, and some localized areas for cord wood for home heating. As a result of these operations, an extensive network of forest access roads with supporting infrastructure of culverts and bridges exists providing access to the Project area. Highway 527 (Armstrong highway) transects the western portion of the Property. A power corridor providing residential power to a series of lakes with cottage developments around them runs adjacent to the highway, ending at Hicks Lake approximately 50 km north of Highway 11/17.

In 2021, the East-West Tie line, a 230 kV powerline owned by Nextbridge was completed providing power transmission between Thunder Bay and Wawa. This transmission line crosses the southeast corner of the Project area. At the closest point, the transmission line is approximately 6 km to the southeast of the proposed site for mine infrastructure for the Current deposit.

The Greenwich Renewable Energy Project occurs within the Property area along the eastern side. The wind farm is operated by Enbridge, was commissioned in 2011, and comprises 43 turbines (Siemens SWT-2-3-101) rated at 2,300 kW with cumulative nominal output of 98,900 kW. Power is sold to Ontario Power Authority under a 20 year contract which commenced in 2011.

Exploration and mineral development infrastructure on the Project is limited. Two Land Use Permits (LUP) have been issued for establishment of temporary buildings or structures. One LUP hosted the former exploration camp(s) that consisted of mobile trailers. Currently, no structures are present on the LUP. The second LUP contains an exploration core storage yard which currently contains in excess of 150,000 m of drill core in a combination of core racks and palletized core storage. Core racks measure 16 ft x 16 ft with the majority having metal roofs for better weather protection. A third infrastructure development present in the Project area is an aggregate quarry adjacent to Highway 527, north of Escape Lake Road. The quarry was established by MTO for use on highway resurfacing. The aggregate permit transferred to Panoramic PGMs at the completion of the highway project is in a state of care and maintenance.

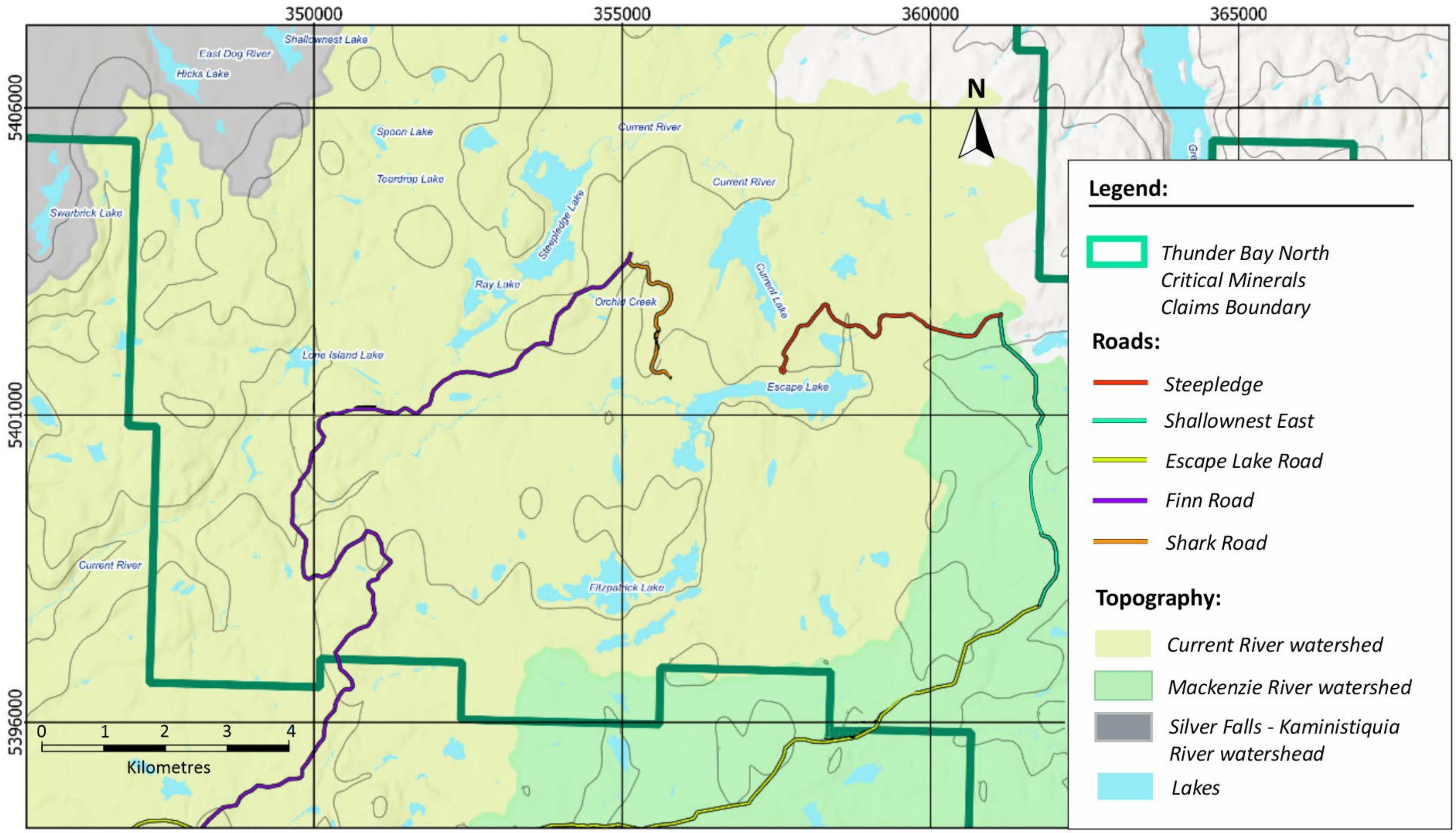
The land holdings are sufficient to allow for exploration and development. The potential surface rights holdings, which can be triggered when the claims go to lease, are sufficient for development of infrastructure to sustain a mining operation.

5.5 Physiography

Project area elevations vary by approximately 40 m, from 470 MASL to 510 MASL, averaging approximately 485 MASL. The area is characterized by low relief (less than 20 m) with a mixture of muskeg and mature spruce forests. The claims are covered by typical northern boreal forest comprising spruce and jack pine.

Outcrop is locally rare. Glacial overburden depth is generally shallow, rarely exceeds 20 m, and primarily consists of ablation till, minor basal till, and moderate expanses of outwash sand and gravel.

Swamps, marshes, small streams, and small to moderate size lakes are common. Lakes within the Project area include Escape Lake (approximately 310 acres), Current Lake (233 acres), Beaver Lake (28 acres), Maple Leaf Lake (28 acres), Lone Island Lake (46 acres), Ray Lake (115 acres), and Steepledge Lake (290 acres). Drainage is provided by the numerous, usually unnamed streams that lead to the Current, Wolf, and MacKenzie rivers, located to the northwest, northeast and the southeast, respectively. The northwest portion of the claim block drains to Hicks Lake and eventually into the East Dog River. All rivers drain into Lake Superior, which is situated approximately 25 km to the south of the centre of the Project.



Source: Clean Air Metals Inc., 2023.

Figure 5-2: Waterbodies within the Property Outline

Area lakes are generally considered to be poor quality recreational fisheries, with species such as northern pike and suckers predominantly. Walleye, although present in Current Lake, are not known to be targeted by local sportsman due to their low abundance and small size. There is some recreational fishing for walleye known to occur in Steepledge Lake and for brook trout in lower stretches of the Current River.

Primary vegetation comprises boreal forest of black spruce, jack pine, trembling aspen, and white birch. Large swathes of the Project area have been clear-cut logged between approximately 2008 and present. Active forest harvesting remains ongoing under the Black Spruce Forest Management Plan. The forested areas are regenerating after tree replanting programs performed by the logging companies or through natural revegetation.

The forest around the Project currently provides habitat for wildlife species that are common to mixed boreal forests in Ontario. Local fauna includes moose, wolf, black bear, marten, hare, and numerous species of birds.

6.0 HISTORY

6.1 Prior Ownership

Initial exploration in the region was for uranium and was concentrated in the area of the Christianson uranium showing, discovered in 1949 along the western shoreline of Greenwich Lake approximately 5 km east of Current Lake. RTEC acquired the area that contained the Christianson uranium showing and additional ground in 1976.

The area was explored for diamonds by Dr. Graham Wilson and Dr. Gerald Harper et al. between 1993 and 2000. This early exploration work led to the discovery of mineralized ultramafic (peridotite) boulders containing elevated grades of platinum, palladium, copper, and nickel along the western shoreline of Current Lake. The mineralized boulders and surrounding area were staked in at that time by Wilson and Harper. Pacific North West Capital Corporation optioned the property in 2001 from the prospectors and drilled a series of holes from the western side of Current Lake. They did not identify the source of the mineralized boulders and they did not conclude the option.

In 2005, Magma Metals (Canada) Limited (Magma), of Perth, Australia, optioned for the claims comprising the Current Property. At that stage, the Project comprised 26 contiguous mining claims. In 2006, the three Beaver Lake claims were optioned, and in 2007 an additional option on the CasRon property (claims TB1246796, TB4211637, and TB4211638) was acquired from prospectors Casimir Zimowski and Ron Pizzolato.

Kennecott staked the Escape claim (a single, pre-2018 15-unit claim) in 2006.

Magma continued to expand the Project area and in 2008 the property comprised approximately 98 km^2 under control via Ontario mining claims. By 2009, the Project area had expanded to approximately 406 km^2 and extended beyond the property outline now recognized. Magma was taken over by Panoramic in June 2012 and the property package was transferred to Panoramic PGMs, then a wholly owned subsidiary of Panoramic. The Project contracted slightly, with regional periphery projects being allowed to lapse. From 2012 to 2018, the Project area stayed consistent at approximately 298 km^2.

An Earn-In to Joint Venture Agreement (JV) was signed between RTEC and Panoramic in mid-2014. RTEC acquired all assets of Kennecott in 2015 including the 15-unit Escape claim. RTEC executed a series of exploration programs but, ultimately, did not attain the expenditure thresholds for the JV and 100% of the property was retained by Panoramic PGMs. With the modernization of the mining act and the transition from claim staking to map staking in 2018, the Project area boundaries were adjusted slightly to fit with the cell-based claim layout.

Amalgamation of the Project as currently defined was initiated in 2019. Benton optioned RTEC's claims in the Thunder Bay North area on October 9, 2019. The claims consisted of the Escape claim and a series of claims along the northern margin of the TBN Property area.

Regency, the public company shell and predecessor to Clean Air, completed a reverse takeover of the Board of Regency on February 12, 2020, and formally changed its name to Clean Air Metals Inc. on May 22, 2020, under symbol AIR: TSXV.

Benton, with RTEC's permission, assigned its interest in the Escape claims to Clean Air in the Benton option agreement dated May 14, 2020. Under additional terms of the same Benton Option, Clean Air also acquired a 100% interest in Panoramic PGMs by a share purchase agreement, subject to a security interest.

With the Benton Option, a series of staged payments to RTEC and Panoramic was required to perfect the agreement. The final payment was completed on December 19, 2022, vesting the option agreement and the Benton Escape claims were transferred to Panoramic PGMs, the wholly owned subsidiary of Clean Air, on January 12, 2023.

6.2 Exploration and Development History

Exploration in the Project area has been episodic as commonly seen in exploration projects. Exploration work in the area commenced in 1976 and was directed at uranium exploration around the Christianson Uranium showing along the shores of Greenwich Lake. No other exploration work is documented till after the completion of the airborne magnetic and electromagnetic survey of the Shebandowan Greenstone Belt released by Ontario Geological Survey in 1991. This survey was reprocessed and released again as a revised Geophysical Data Set GDS-1021 in 2003 with the historical data collected by Aerodat Limited utilizing a four-frequency electromagnetic system, high sensitivity cesium vapour magnetometer, and dual frequency very low frequency electromagnetic (VLF-EM) system. Nominal line spacing was 200m.

With the release of regional airborne magnetic data, prospectors Graham Wilson, Gerald Harper, and Francis Mann, from 1993 to 2000, carried out rock chip sampling, prospecting, petrographic, and geochemical research within the Onion Lake, Tartan Lake, and Greenwich Lakes area, following up on isolated magnetic features in search of kimberlite potential.

In 2001, while completing lake shore prospecting on Current Lake, Graham Wilson discovered mineralized peridotite boulders along the western shoreline of Current Lake that contained elevated base metals (Pt-Pd-Cu-Ni). This discovery marks the start of orthomagmatic nickel-copper-PGE exploration work in the Thunder Bay North area. Regionally, other orthomagmatic exploration work was already ongoing with the discovery of the Seagull intrusion located approximately 35 km to the north in 1998.

Upon the discovery of the western shoreline boulders and weak linear magnetic feature beneath Current Lake, Pacific North West Capital Corporation optioned the property in 2001 and completed ground magnetic and electromagnetic surveys in the same year. A six hole diamond drill program totalling 813 m was completed from the western side of Current Lake. The source of the mineralized boulders was not identified and the option was dropped. Harper and Wilson continued to work on the project and subsequently discovered the mineralized boulders on the eastern shore of Current Lake.

The discovery of the larger mineralized boulder field on the eastern shore of Current Lake drew attention of Magma, which optioned the 26 claim property from the prospectors in 2005. In 2006, the Beaver Lake claims were added to the original prospectors claim package and the property fell within the area of interest of the prospectors and was included within the option agreement NSR royalty area. Multiple exploration programs were initiated on the TBN Project. The property was expanded by Magma as described in section 6.1 to incorporate a number of identified regional targets. Magma was taken over by Panoramic in June 2012. Exploration within the Project area slowed down from 2012 to 2019, with Rio Tinto carrying out a number of smaller programs on its Escape claim and the larger TBN Property area via the JV with Panoramic. The area was revitalized through the work of Benton in 2019 when the option deal with Rio Tinto and Panoramic was concluded to bring the two companies' claims together and option the amalgamated property package to Clean Air. This deal marked the third stage of exploration on the Project. Historical exploration prior to Clean Air involvement in the Project is summarized in Table 6-1.

Table 6-1: Exploration History - 2005 to 2018
Clean Air Metals Inc. – Thunder Bay North Project

Year	Company	Activity
2006	Magma	Prospecting, Geological Mapping, Petrography
		Helicopter-borne Magnetic/Radiometric Survey
		Phase 1 Current Lake Diamond Drilling (Diamond Drilling), 6 holes (1,590 m)
2007	Magma	Helicopter-borne vertical time domain electromagnetic (VTEM) Survey
		Induced Polarization (IP)/Resistivity Survey
		Phase 2 Current Lake Diamond Drilling, 28 holes (3,078 m)
		Phase 1 Beaver Lake Diamond Drilling, 1 core hole, (500 m)
		Boat Magnetic Surveys
		Phase 2 Beaver Lake Diamond Drilling, 6 holes (2,014.5 m)
		Lone Island Lake Diamond Drilling, 1 hole (387 m)
		Borehole Pulse Electromagnetic (EM) Survey
2008	Magma	Drill Core Physical Property Tests
		Borehole Pulse EM Survey; Resistivity/IP Survey
		Phase 3 Current Lake Ice Diamond Drilling, 23 holes (1,834 m)
		Phase 3 Beaver Lake Diamond Drilling, 26 holes (8,008.5 m)
		Regional Airborne Magnetic Survey; TBNP Airborne Magnetic Survey
		Phase 4 Current Lake Barge Diamond Drilling, 67 holes (5,571m)
		Phase 4 Beaver Lake Diamond Drilling, 40 holes (13,089m)
		Boat Magnetic Surveys, Current, and Steepledge Lakes
		Petrography and Mineralogy studies; Petrology and Lithogeochemistry; Geological Mapping
		Reconnaissance Diamond Drilling, 7 holes (2,765 m); completed at South East Anomaly (SEA), Steepledge, and Lone Island Lake areas
		Structural Study
	RTEC	Phase I Escape Lake Drilling, 1 hole (500 m)
2009	Magma	Geological Mapping
		Test Heavy Mineral Concentrate (HMC) Geochemistry Survey
		Test Lake Sediment Geochemistry Survey
		Structural Study
		Lake Ice Magnetic Survey, Steepledge Lake
		EM Helicopter-borne VTEM surveys
		Fixed Loop Transient Electromagnetic (TEM) at Current Lake
		HT SQUID Fixed Loop TEM Survey
		Airborne Light Detection and Ranging (LIDAR) Survey (DTM)
		Triple Parameter Probe Survey
		Magnetometric Resistivity (MMR) Downhole Test Survey
		Geophysical Data Review

Year	Company	Activity
		Phase 5 Current Lake Ice Diamond Drilling, 86 holes, (6,726 m) Phase 5 Beaver Lake Diamond Drilling, 38 holes, (7,989 m) Phase 6 Beaver Lake Diamond Drilling, 45 holes (12,460 m) Phase 1 Steepledge Lake Barge Diamond Drilling, 32 holes, (6,212 m) Phase 2 Steepledge Lake Helicopter Diamond Drilling, 7 core holes, (2,217 m) Phase 7 Beaver Lake Diamond Drilling, 22 holes, (4,195 m) Borehole Pulse EM Surveys
2010	Magma	Lithogeochemistry Study Reconnaissance Mapping and Sampling Program, Hicks Lake Area Lake Sediment Geochemistry Survey HMC Geochemistry Survey Physical Properties and North Seeking Gyro Survey Moving Loop/Fixed Loop Ground EM Surveys Cesium Vapour Ground Magnetic Survey Borehole Physical Rock Properties Survey Borehole Pulse EM Surveys Borehole MMR Survey Gravity Ground Test Survey Cesium Vapour Ground Magnetic Survey Gravity Ground Survey Falcon Airborne Gravity Gradiometer Survey Borehole Pulse EM and 3-axis Magnetic Survey Gravity Anomaly Follow-up Diamond Drilling, 2 holes (2229m) UTEM Inductive Source Resistivity (ISR) Test Survey (Beaver Lake and SEA Areas) Phase 8 Beaver Lake Diamond Drilling, 128 holes, (30,519m) Phase 3 Steepledge Lake Diamond Drilling, 14 holes, (2,242m) Current Lake Follow-up Diamond Drilling, 4 holes, (661 m) Phase 3 Lone Island Lake Reconnaissance Diamond Drilling, 12 holes (4,249 m) Phase 9 Beaver Lake Diamond Drilling, 28 holes, (5,844 m) Phase 2 SEA Diamond Drilling, 5 holes, (1,429 m) Phase 10 Beaver Lake Diamond Drilling, 37 holes (8853m) Surface MMR test survey (15 holes, Beaver Lake area) Sulphide Fractionation Study
	RTEC	Phase II Escape Lake Drilling, 3 holes (1599 m)
2011	Magma	Dynamic Textures, Fabrics, and Geochemistry Study Reconnaissance Mapping and Sampling, Hicks Lake Area Reconnaissance geological mapping, Lone Island Lake Area Borehole Pulse EM and 3-axis Magnetic Survey (Beaver Lake and SEA Series Diamond Drilling holes) Cesium vapour ground magnetic survey, Shallownest Lake Grid

Year	Company	Activity
		Cesium vapour ground magnetic survey, Escape Lake Grid
		Ground Gravity Survey, Escape, and Beaver Lake grids
		Cesium vapour ground magnetic survey, northern Current Lake
		Borehole Pulse EM and 3-axis Magnetic Survey, Steepledge Lake
		Z-TEM Airborne Survey (629 line-km oriented at 0600, Current, Steepledge, and Lone Island lakes, and SEA areas)
		Borehole Pulse EM and 3-axis Magnetic Survey, Beaver Lake, and SEA areas
		Borehole Pulse EM and 3-axis Magnetic Survey, Beaver Lake
		3D Downhole IP Test Survey
		Borehole Pulse EM and 3-axis Magnetic Survey, Beaver Lake
		Phase 4 SEA Diamond Drilling, 5 holes (555 m)
		Phase 4 Lone Island Lake Recon, 2 holes (333 m)
		Escape Lake Diamond Drilling, 3 holes (601 m)
		Phase 7 Current Lake Diamond Drilling, 25 holes (2,380 m)
		Phase 11 Beaver Lake Diamond Drilling, 10 holes (2,943 m)
		Phase 4 Steepledge Winter Recon Diamond Drilling, 9 holes (3,296 m)
		Phase 12 Beaver Lake Diamond Drilling, 37 holes (14,475 m)
		Phase 13 Beaver Lake Diamond Drilling, 17 holes (10,866 m)
	RTEC	Phase III Escape Lake Drilling, 4 holes (2,443 m)
2012	Magma	Early Mid-continent Rift Corridor Reconnaissance Lakeshore Mapping and Sampling Program (Central and Northern Thunder Bay North Project)
		Soil Gas Hydrocarbon Test Survey over Bridge Zone Mineralization
		Airborne Magnetic Anomaly Field Check of marginal Thunder Bay North Claims
		Borehole Pulse EM and 3-axis Magnetic Survey, including SEA Area
		Phase 5 Lone Island Lake South Reconnaissance Drilling, 2 holes (519 m)
		Deep Z-TEM Diamond Drilling, 1 hole (1,122 m)
		Borehole Pulse EM and 3-axis Magnetic Survey
		Phase 5 Steepledge Winter Diamond Drilling, 2 holes (450 m)
		Ray Lake Diamond Drilling, 1 core hole (351m)
		Phase 14 Beaver Lake Diamond Drilling, 15 holes (12,220 m)
	RTEC	Phase IV Escape Lake Drilling, 4 holes (2,370 m)
2013	Panoramic	Reconnaissance geological mapping, Steepledge Lake, Lone Island Lake, Current Lake, and Hicks Lake areas
		Synoptic and Infill geological mapping, various locations in central part of property
		Soil Gas Hydrocarbon Geochemical Survey, Beaver Lake East, and SEA Intrusion Grid
		Soil Gas Hydrocarbon Geochemical Survey, Steepledge South Grid
		Soil Gas Hydrocarbon Geochemical Survey, Lone Island Lake South Grid
2014	Panoramic	Cesium vapour ground magnetic survey, Steepledge South Grid
		Cesium vapour ground magnetic survey, 025 Intrusion area
		Thunder Bay North Reconnaissance Geological Mapping Program

Year	Company	Activity
		Thunder Bay North South Reconnaissance and Synoptic Geological Mapping Program Prospecting of Late Magnetic Granitoid Stocks, Southeastern Thunder Bay North
2015	Panoramic	Thunder Bay North West Reconnaissance Geological Mapping Program Thunder Bay North Reconnaissance Geological Mapping Program, southeast Thunder Bay North, 025 Intrusion area
	RTEC	RTEC Phase V Escape Lake/Thunder Bay North Drilling, 5 holes (2738m)
2016	RTEC	RTEC Phase VI Escape Lake/Thunder Bay North Drilling, 11 holes (4288 m) RTEC Gravity Survey, 025 Intrusion RTEC Semi Airborne HeliSAM Survey, Thunder Bay North/Escape Lake
	Panoramic	Thunder Bay North Reconnaissance Geological Mapping, southeast Thunder Bay North, 025 Intrusion area
2017	Panoramic	Thunder Bay North Reconnaissance Geological Mapping, Hilltop, and 025 Intrusion areas
2018	Panoramic	Thunder Bay North Reconnaissance Geological Mapping, 025 Intrusion area

6.3 Historical Resource Estimates

Three historical Mineral Resource estimates were commissioned by previous owners over the Project. The initial Mineral Resource estimate for the Current deposit was prepared by SRK Consulting Ltd. and documented in a NI 43-101 Technical Report with an effective date of September 7, 2009 (SRK, 2009). It was based on drilling completed by Magma since 2007 and contemplated a combined open pit and underground scenario. The second Mineral Resource estimate was completed by AMEC and was an update of the SRK estimate based on additional drilling carried out by Magma to March 2011 (AMEC, 2011). The third, internal resource update was reported in a Magma February 23, 2012 Press Release that was issued after a takeover bid was made for Magma Metals Limited (and its Canadian subsidiary) by Panoramic. This resource (Magma, 2012) only focused on the Beaver East Zone which had not been defined at the time of the 2011 release of the AMEC Mineral Resource.

The QPs note that the above estimates are historical in nature and should not be relied upon. The QPs responsible for the preparation of this Technical Report have not done sufficient work to classify the historical estimates as current Mineral Resources or Mineral Reserves, and Clean Air is not treating any historical estimates as Mineral Resource estimates.

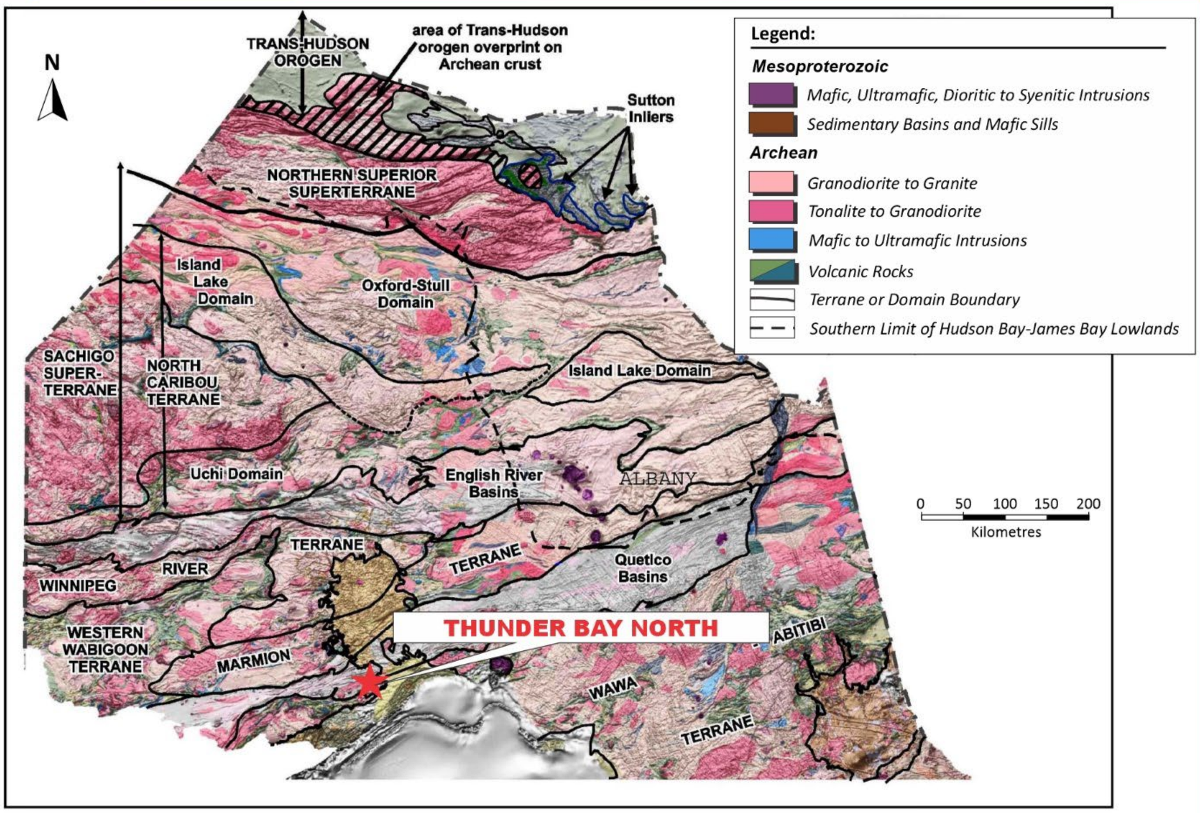
6.4 Past Production

There is no past production on the property.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

The Project is located within the Quetico Terrane (Subprovince) of the Superior Province of the Canadian Precambrian Shield (Figure 7-1). The Quetico Terrane is interpreted as a fore-arc accretionary prism deposited during and after peak volcanic activity within the adjacent Wawa, Wabigoon, and Abitibi Terranes between 2,698 and 2,688 million years ago. The terrane is approximately 70 km wide and forms a linear strip of moderately to strongly metamorphosed and deformed clastic metasedimentary rocks and their melt derivatives.



Source: After Scott et al., 2007.

Figure 7-1: Regional Geology

Sedimentary rocks that have been identified include turbiditic greywacke and siltstone with rare iron formation, pelite (mudstone), and conglomerate, which were deposited within a large, laterally extensive, submarine basin. Syn-depositional volcanic rocks are extremely rare. Intrusive rocks are common and interpreted to have been emplaced some five million years to 20 million years after the accumulation of the sedimentary pile. These comprise biotite–hornblende–magnetite granitoid bodies of mixed felsic and mafic composition with volumetrically minor ultramafic units; and one- and two-mica granitoids.

The Quetico Terrane rocks in the Lake Superior region are unconformably overlain by sediments of the 1,860 Ma, Paleoproterozoic Animikie Group. These rocks, in the Thunder Bay area, form a homoclinal metasedimentary sequence consisting of Gunflint Formation chemical sediments and argillites overlain by Rove Formation shales and greywackes. Within the Project area, no Animikie Group rocks have been identified. The onlapping of the Animikie Group basin with Archean basement approximates Highway 11/17, with notable outcrops along the highway between Thunder Bay and Nipigon.

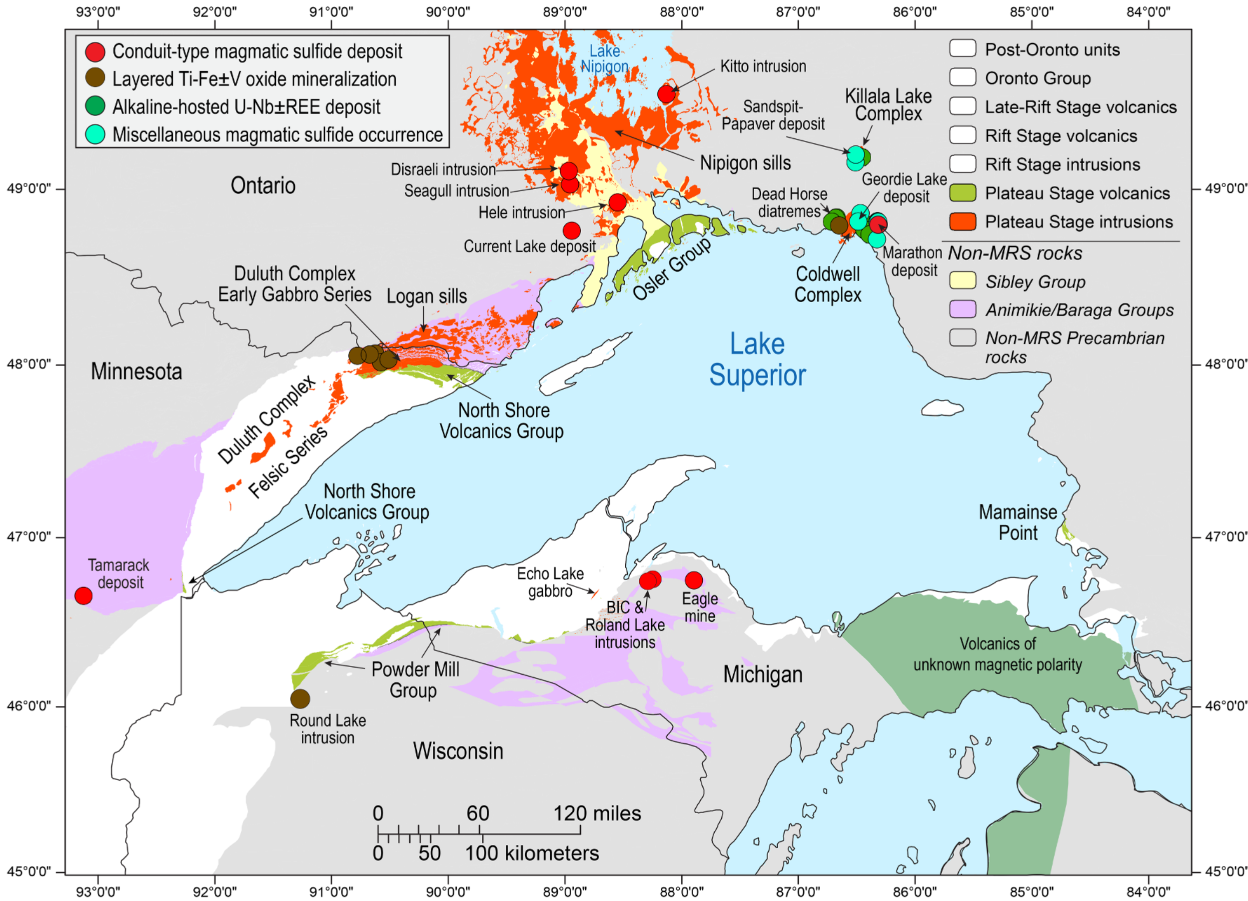
At about 1,590 Ma, the Mesoproterozoic Badwater Intrusion was emplaced, followed, at 1,537 Ma, by the extrusive/intrusion English Bay igneous complex. Both occur 100 km to 150 km to the north of the Thunder Bay North Project.

Metasedimentary rocks of the Sibley Group occur stratigraphically above the Animikie Group. The Sibley Group have an age date range of 1,670 Ma to 1,450 Ma and represent a shallowing up fluvial sequence. The sequence comprises localized basal conglomerates, quartz arenite, argillaceous dolomite, and mudstones. Within the sequence, rare evaporites are identified. Unconformable basement to the Sibley Group varies. North of Highway 11/17 Archean granite-greenstone terranes are present. South of highway 11/17 the Paleoproterozoic Animikie Group occurs in the footwall. Within the immediate Project area, no Sibley Group metasediments have been recognized. Sporadic outcrops begin to occur along the Dorion Cut-off road approximately 15km to the north of the chonoliths.

The final Proterozoic event was deposition of the Mesoproterozoic (1,140 Ma to 1,090 Ma) Keweenawan Supergroup, comprising a thick edifice of subaerial lava flows, local concentrations of intrusive rocks, and an upper sequence of sedimentary rocks that were deposited within normal, fault-bounded, and asymmetric grabens, developed within and marginal to the Midcontinent (Keweenawan) Rift (MCR).

The rift, now largely beneath Lake Superior, contains as much as 30 km of fill, with volcanic rocks comprising about two-thirds of the total (Miller and Nicholson, 2013, Woodruff et al., 2020). Geophysical data also suggest that a volume of magma nearly equivalent to that filling the rift underplated the crust (Miller and Nicholson, 2013). Considering the rift fill, the volume of underplated material, and the unknown amount of eroded material, the MCR is one of the world’s largest igneous provinces and is an important emerging Cu-Ni–PGE province (Woodruff et al., 2020).

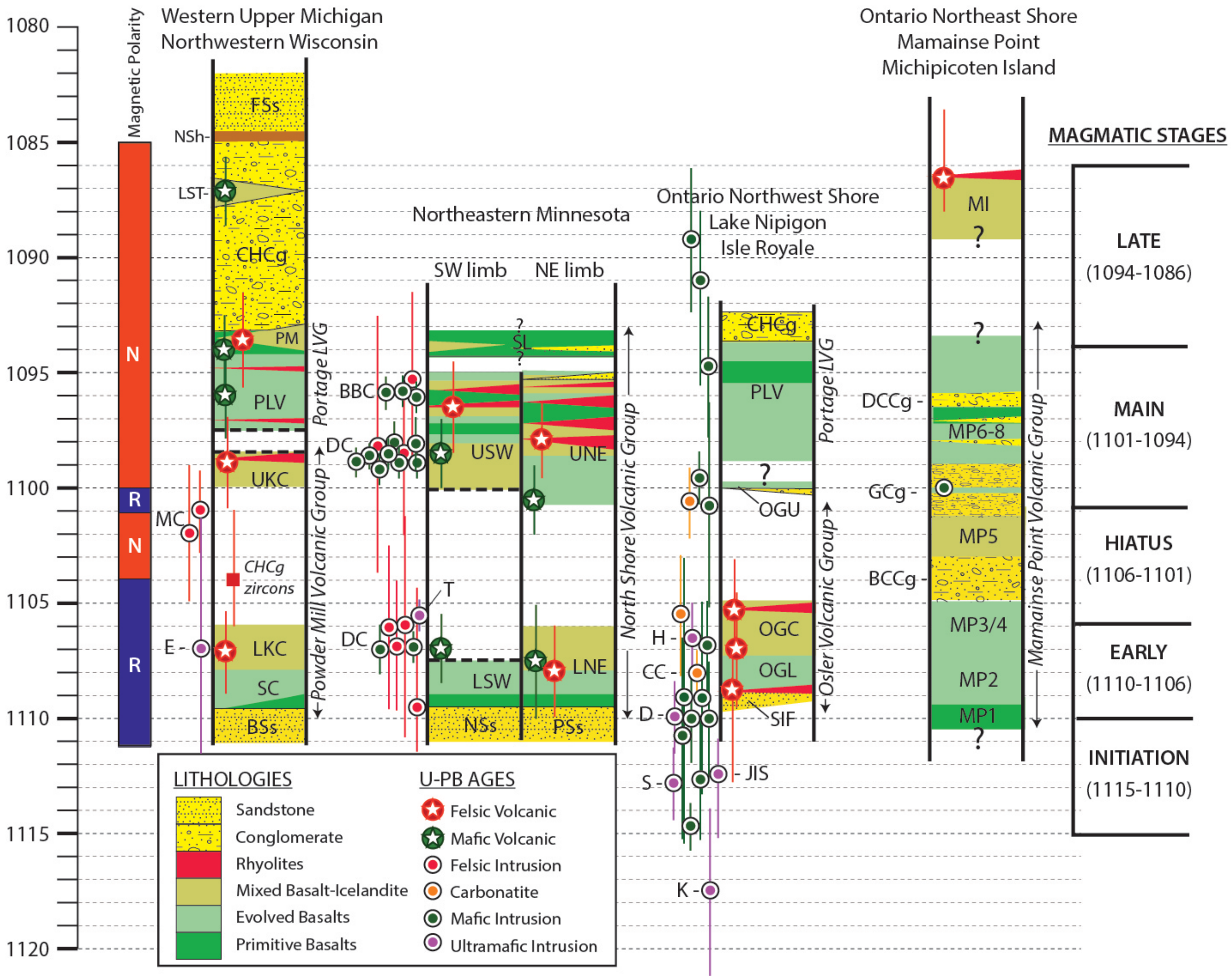
Distribution of plateau stage volcanics and intrusions around the Lake Superior Area is illustrated in Figure 7-2 and the chronostratigraphic column is shown in Figure 7-3.



Source: Modified from Woodruff et al. (2020). Initiation and Early Stage: Miller and Nicholson, 2013.

Note. Paleoproterozoic Animikie and Baraga Basin Groups and early Mesoproterozoic Sibley Group are older than the rocks of the MCR. MCR units that are not part of the Plateau Stage are shown as white areas. Precambrian rocks are shaded as grey. Plateau stage mineral deposits are classified and labelled.

Figure 7-2: Distribution of Plateau Stage Volcanics and Intrusions around the Lake Superior Area



Source: Based on Miller and Nicholson (2013) and references therein.

Note. Of interest are the mafic and ultramafic intrusions emplaced during the Initiation and Early phases. MC-Mellen Complex, E-Eagle, BBC-Beaver Bay Complex, DC-Duluth Complex, T-Tamarack, H-Hele, CC-Coldwell Complex, D-Disraeli, JIS-Jackfish Sill, S-Seagull, K-Kitto.

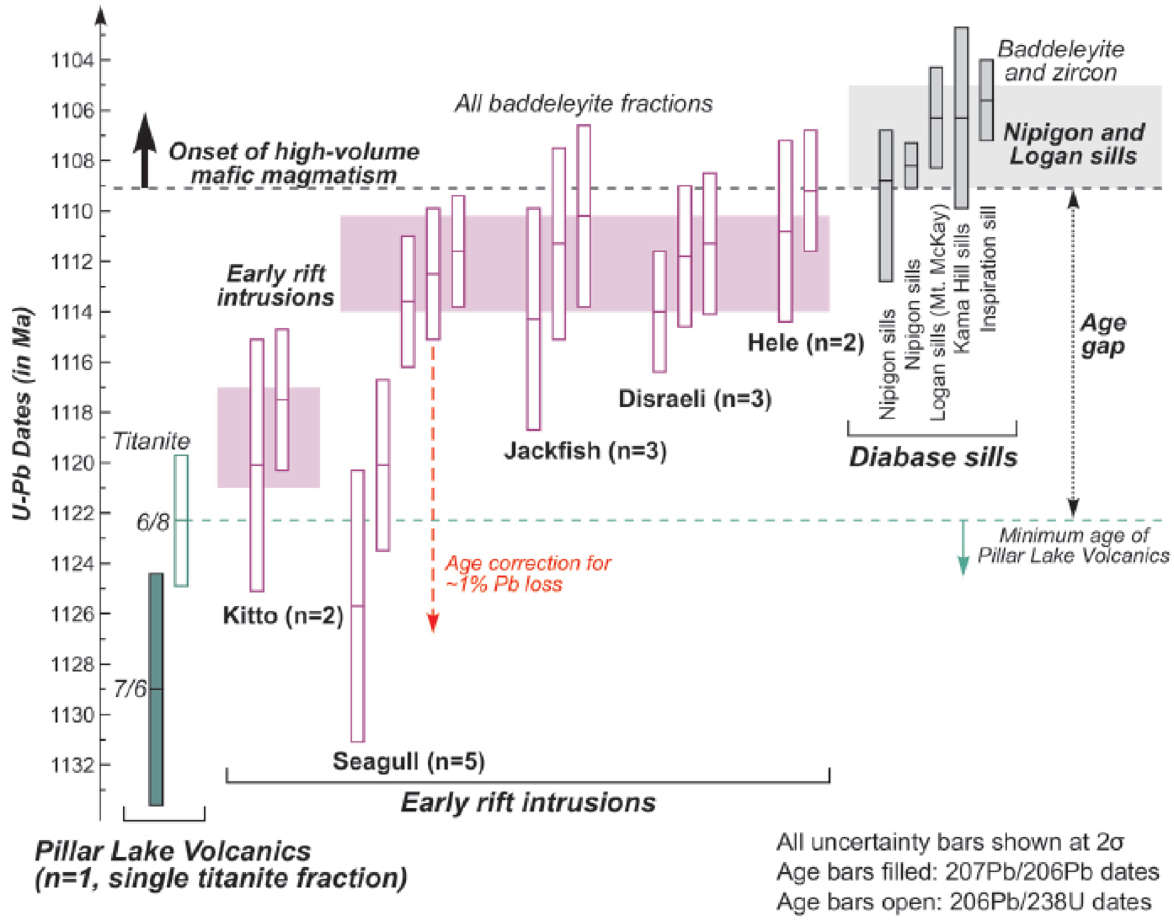
Figure 7-3: Chronostratigraphic Correlation of the Main Volcanic Sequences and Bounding Sedimentary Units of the Mid Continent Rift in the Lake Superior Area

North of Lake Superior, the MCR rocks are predominantly intrusive. Osler Group volcanics (OGL in Figure 7-3) are restricted to the islands south of Black Bay in Lake Superior where volcanics and associated metasedimentary units unconformably overlay basement units. Pillar Lake volcanics occur just south of the community of Armstrong and recent work by Hollings et al. (2021) identifies these as potential early rift volcanics in an aqueous to sub-aerial setting.

Intrusive rocks north of Lake Superior largely occur within the Nipigon Embayment. The Nipigon Embayment (Basin) has been interpreted as the failed arm of the MCR triple junction commonly observed in rift settings. The embayment extends north from Lake Superior to encompass Lake Nipigon. Intrusive MCR rocks found there are largely divided into four groups as described below:

- Early olivine bearing intrusions. Volumetrically minor these range in morphology from chonoliths to lopoliths. All exhibit an extensive fractionation sequence.
- Gabbroic sills. Voluminous, laterally extensive diabase sills and associated dykes. Although visually homogenous, a number of geochemical subdivisions have been made to further differentiate the units (Hollings et al., 2007; Cundari, 2012).
- Moderate to very large-size composite and layered mafic intrusions (Duluth Complex, Crystal Lake Gabbro).
- Alkaline complexes (Coldwell Complex)

Early olivine bearing intrusions are a minor volumetric component but of significant interest as they have high potential to host orthomagmatic mineralization. As currently constrained these intrusions display three types of morphology. The first morphology is type-example of chonolith (magma conduit) as typified by the Current and Escape intrusions. The Eagle, East Eagle, and, at a much larger scale, Tamarack intrusions are characterized by a chonolith morphology. The second morphology is lopolithic as observed in the Seagull, Bovine igneous complex (BIC) and Sunday Lake intrusions. These intrusions are volumetrically larger than the chonolith types and potentially have chonolith morphologies further down in the plumbing system. The third morphology is sill-like, whether this is the ultimate morphology or a function of exploration maturity remains to be seen. Sill-like intrusions are characterized by Hele, Kitto, Disraeli. Although variable in morphology, the early olivine bearing intrusions are ubiquitous with anomalous chalcophile element abundances and contain a fractionated crystallization sequence. Regional exploration work continues to discover new early olivine bearing intrusions. Recent discoveries include the Thunder, Saturday Night, and 025. Age determination on this suite of intrusions has been ongoing since the early 2000s with the identified importance of them as potential mineralization hosts. The Current chonolith has been precisely dated by the Geological Survey of Canada at 1106.6 ± 1.6 Ma using the U-Pb zircon dating method (Bleeker et al., 2020). This fits with the data available for other early olivine bearing intrusions as summarized in Figure 7-4.



Source: Modified from Hollings et al., 2021.

Figure 7-4: Comparison of Published U-Pd Dates for Early Rift Intrusions (Kitto, Seagull, Jackfish, Disraeli, Hele) and Older Pillar Lake Volcanics and Younger Gabbroic Sills (Nipigon, Logan)

Gabbroic sills form much of the mesa landscape around Thunder Bay, extending from the US border and Pigeon River Crossing to Nipigon-Rossport communities and along Highway 527 to Armstrong. The sills display limited internal fractionation and visually appear homogenous. Significant work has been carried out examining the geochemistry and chronology resulting in five geochemical/spatial families being identified (Nipigon, Logan, Shilabeer, Jackfish, and Pigeon River Sills) as summarized by Hollings et al. (2007) and Cundari (2012).

Moderate to large gabbroic composite layered intrusions are typified by the Duluth Complex occurring along the north shore of Lake Superior in Minnesota. The Duluth Complex consists of a large composite intrusion of primarily anorthosite, troctolite, and gabbro derived from periodic tapping of an evolving magma source. The complex formed from up to 40 separate sheet-like and cone-shaped sub-intrusions. Low to medium grade Cu-Ni sulphide mineralization that locally contains anomalous PGE concentrations were identified in the basal zones of the Partridge River and South Kawishiwi intrusions near the northwestern contact of the complex. At least nine deposits have been delineated in the basal 100 m to 300 m of both intrusions. Closer to Thunder Bay, the Crystal Lake gabbro has numerous similarities to the Duluth Complex and also hosts low grade Cu-Ni-PGE mineralization. At Crystal Lake, PGE-bearing sulphide Ni mineralization is associated with taxitic textures in a medium to coarse grained gabbro.

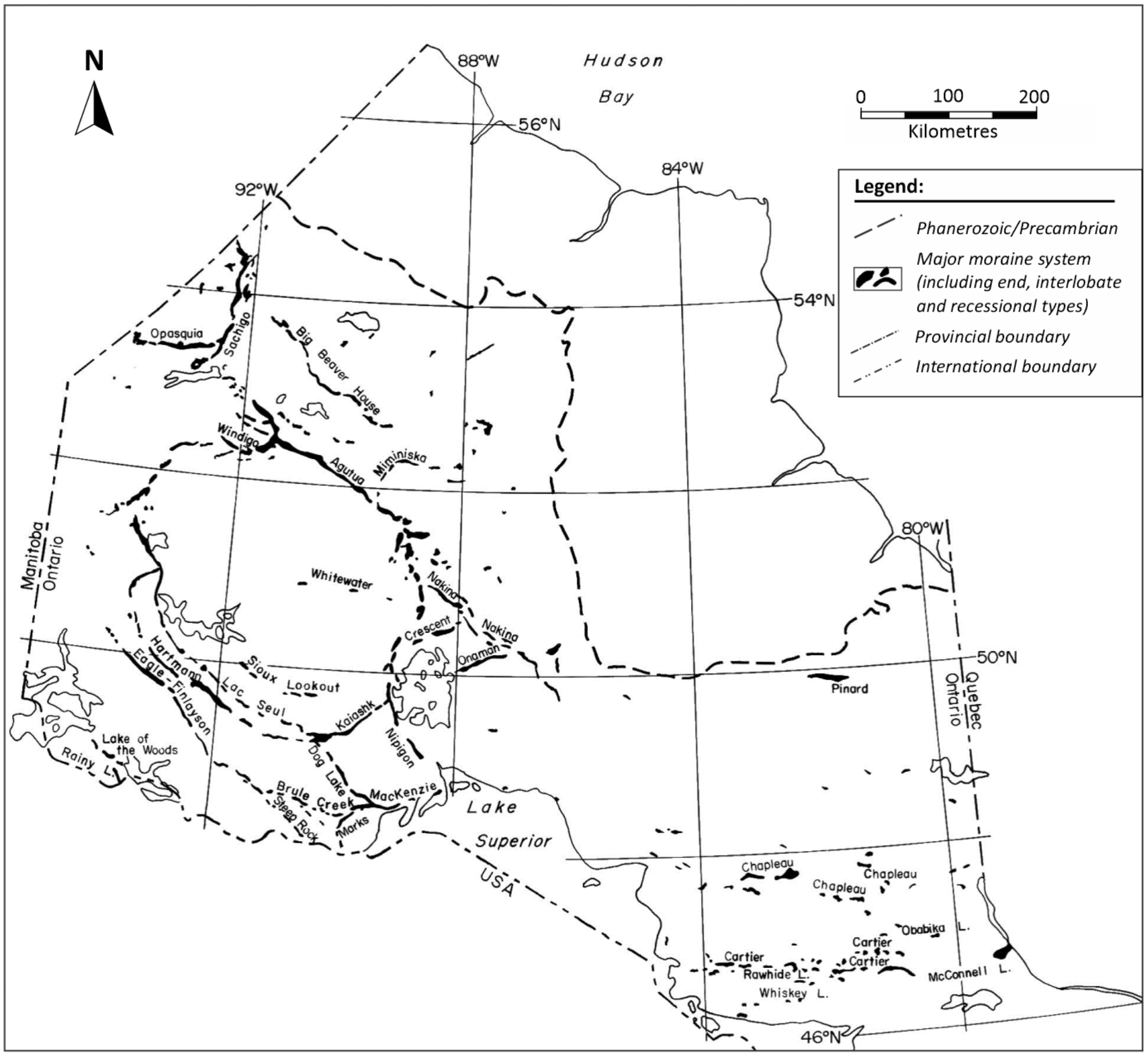
The fourth major grouping of MCR intrusive activity along the north shore of Lake Superior is the alkaline Coldwell Complex which hosts the Marathon Cu-Pd deposit in the Two Duck Lake Gabbro. The Coldwell Complex intrudes the Archean Schreiber-Hemlo greenstone belt. The alkaline complex has a diameter of approximately 25 km and surface area of 580 km^2 making it the largest alkaline intrusive complex in North America. Recent age determinations by Good et al. (2021) indicate a very narrow intrusive window from 1108 Ma for the early Coldwell metabasalt to 1105 Ma for the nepheline syenite and quartz syenite dykes. The Coldwell Complex comprises three superimposed intrusive centres. Centre I comprises the Eastern Gabbro, Western Gabbro, amphibole quartz syenite, iron-rich augite syenite, monzodiorite, and mafic volcanic and subvolcanic rocks. Centre II includes amphibole nepheline syenite and alkaline gabbro. Centre III contains quartz syenite and amphibole quartz syenite (Good et al, 2015). Nickel-copper-PGE exploration within the complex has focused on the Eastern Gabbro Suite, specifically the Two Duck Lake Gabbro. The Two Duck Lake Gabbro is a late intrusion in the Eastern suite and arcuate in shape extending for approximately 30 km along the eastern and northern boundaries of the complex.

The MCR is interpreted to be terminated by far field compressional tectonic possibly the result of the Grenville orogeny starting at 1080 Ma and completed by 1040 Ma (Bornhorst et al., 1994). This tectonic phase resulted in the inversion of the original graben with normal faults into reverse faults and the rotation of MCR stratigraphy back toward the rift axis by low degrees (approximately 5°) is regionally recognized within the Osler Group volcanics. The extent of this rotation further from the rift access is more difficult to constrain.

Post 1.1 Ga Midcontinent rifting, limited geological activity has occurred in the area. Five element veins as described by Franklin et al. (1986) are routinely found partially cross-cutting the gabbroic sills and interpreted to be late MCR. North of Lake Superior, there is no geological record covering the interleaving time to the Quaternary. Preservation of some of the interleaving stratigraphy is recognized at the Tamarack deposit in Minnesota. A paleo-lateritic weathering profile of the Paleoproterozic units is recognized (MacDonald, 2018). This weathering horizon is overlain by Cretaceous sediments. These sediments comprise fluvial conglomerates and sandstones overlain by transgressive tidal flats.

7.1.1 Quaternary

Glaciation events over the previous two million years in Northern Ontario have significantly influenced the current terrain and bedrock exposure. With the receding of the last glacial ice sheet (Wisconsian) along the north shore of Lake Superior at circa 10,000 years B.P., Pleistocene glacial deposits were formed and preserved. In Northwestern Ontario, moraines form significant features as shown in Figure 7-5, with Nipigon, Mackenzie, Dog Lake, and Brule Creek moraines all being present in the Thunder Bay area. Other glacial depositional landforms present widespread till that varies in thickness, localized eskers, kames, and outwash planes. Within the Project area, till covers the majority of the bedrock with less then 5% exposure. However, tills are generally thin at less than several metres.



Source: Sado and Carswell, 1987.

Figure 7-5: Distribution of Moraines in Northwestern Ontario

7.2 Local Geology

The conduit-like intrusion hosting PGE-rich Cu and Ni, sulphide mineralization at the Current deposit is the first of that type recognized in the province. The Current deposit is just one of at least five intrusions, or groups of intrusions, within the Thunder Bay North Intrusive Complex and is part of a network of magma conduits or chonoliths formed in association with the Keweenawan-age MCR. The Current deposit has been precisely dated by the Geological Survey of Canada at 1106.6 ± 1.6 Ma using the U-Pb zircon dating method (Bleeker et al., 2020).

Within the Project area, thin till covers the majority of the bedrock. Outcrop exposure is estimated at less than 5%. Given the cover, geophysical interpretation of airborne magnetics, gravity, and EM have filled in the gaps between the geological outcrop mapping and have increased the geological understanding of the area. Very rare outcrops of the Mesoproterozoic-age Keweenawan Supergroup are identified, with geophysical interpretation and subsurface drilling critical to exploration. The Project area is located within the Archean Quetico Terrane and locally comprises three rocks groups. These rock groups generally strike east-west in the Project area and follow the pattern of marginal metasedimentary schists of turbiditic origin, interior metasedimentary migmatite, and peraluminous leucogranite as described by Percival (1989). Within the Project area, the Quetico is subdivided into three geological/geophysical units: Northern Group, Central Group, and Southern Group as described by MacTavish (2022).

The Northern Group comprises an extensive east-west-trending band of variably magnetic, S-type granitoid intrusive rocks located immediately north of, and adjacent to, the Quetico Fault. The group is primarily composed of medium to well foliated, often gneissic, medium to coarse grained, locally very coarse grained hornblende granodiorite and sometimes tonalite. These rocks contain up to 20% bands, inclusions, screens, or xenoliths of paragneiss with highly variable widths and observed strike-lengths. (Figure 7-6 shows outcrop pictures with well-foliated to gneissic, almost banded, medium to coarse grained hornblende granodiorite with a screen of paragneiss located beneath the hammer (left), and several bands of paragneiss (right), from the Northern Group.

Figure 7-6: Outcrop Photographs – Northern Group

The Central Group is very different from the northern group and generally comprises variably foliated and fractured/jointed, locally massive (particularly in the north), medium to very coarse grained, locally pegmatitic hornblende granodiorite. Many outcrops contain diffuse zones, pods, veins, or dykes of pegmatite. The rocks of the group are never gneissic and apparently contain no paragneiss inclusions. These rocks are probably part of a distinct intrusion emplaced later than the gneissic granitoids to the north.

The northern portion of the Central Group is massive to moderately foliated with a number of relatively widely spaced, often orthogonal joints and/or fracture sets. There is usually only one readily observable foliation corresponding to the regional foliation trend of the Southern Superior Province, at between 100° and 120°. Figure 7-7 shows weakly to moderately foliated, weakly jointed, pink hornblende granodiorite located in the northern part of the Central Group.

Figure 7-7: Outcrop Photographs – Central Group

The Southern Group is composed of strongly deformed, strongly foliated to schistose, moderately to strongly fractured, fine to very fine grained Quetico metasedimentary rocks. The metasediments are often banded in appearance and are locally cross-cut by narrow, often boudinaged, mafic dykes and some folded aplite/felsite dykes. The fine clastic sedimentary protolith is identifiable as combinations of fine greywacke, siltstone, some pelitic siltstone, and localized bands and remnant laminae of pelite. The observed bands represent the remnants of original bedding (S_0), but other than the presence of a recognizable clastic sedimentary texture, there are no identifiable sedimentary features, such as graded bedding, crossbedding, soft-sediment deformation, or channel scours.

There is local evidence for isoclinal folding, disruption, and attenuation and it is possible that there has also been transposition. There are multiple planar structural features such as fracturing; foliation; schistosity; crenulation cleavage; axial planar cleavage; locally pervasive and discrete shearing; and some late, localized, small-scale faults. Pelite bands and laminae are often reduced to attenuated lozenges or disrupted and wispy laminae remnants. Strongly deformed quartz stringers and veinlets are common and sometimes are the only features that visibly record the deformation within some outcrops. Late, brittle, Proterozoic-age fractures and associated jig-saw fit breccias overprint most of the earlier deformation and sometimes host apparently undeformed, greyish quartz stringers and veinlets. Locally these fractures and breccias host black, undeformed or metamorphosed pseudotachylite veins up to one centimetre in width near the northern contact which coincides with the trace of the Quetico Fault. Figure 7-8 shows outcrop pictures of banded, deformed metasedimentary rocks outcrops (right), and strongly boudinaged remnant of a mafic dyke along the immediately adjacent remnant of a Z-folded aplite/felsite dyke (left).


Figure 7-8: Outcrop Photos of the Southern Group within the Quetico Terrane

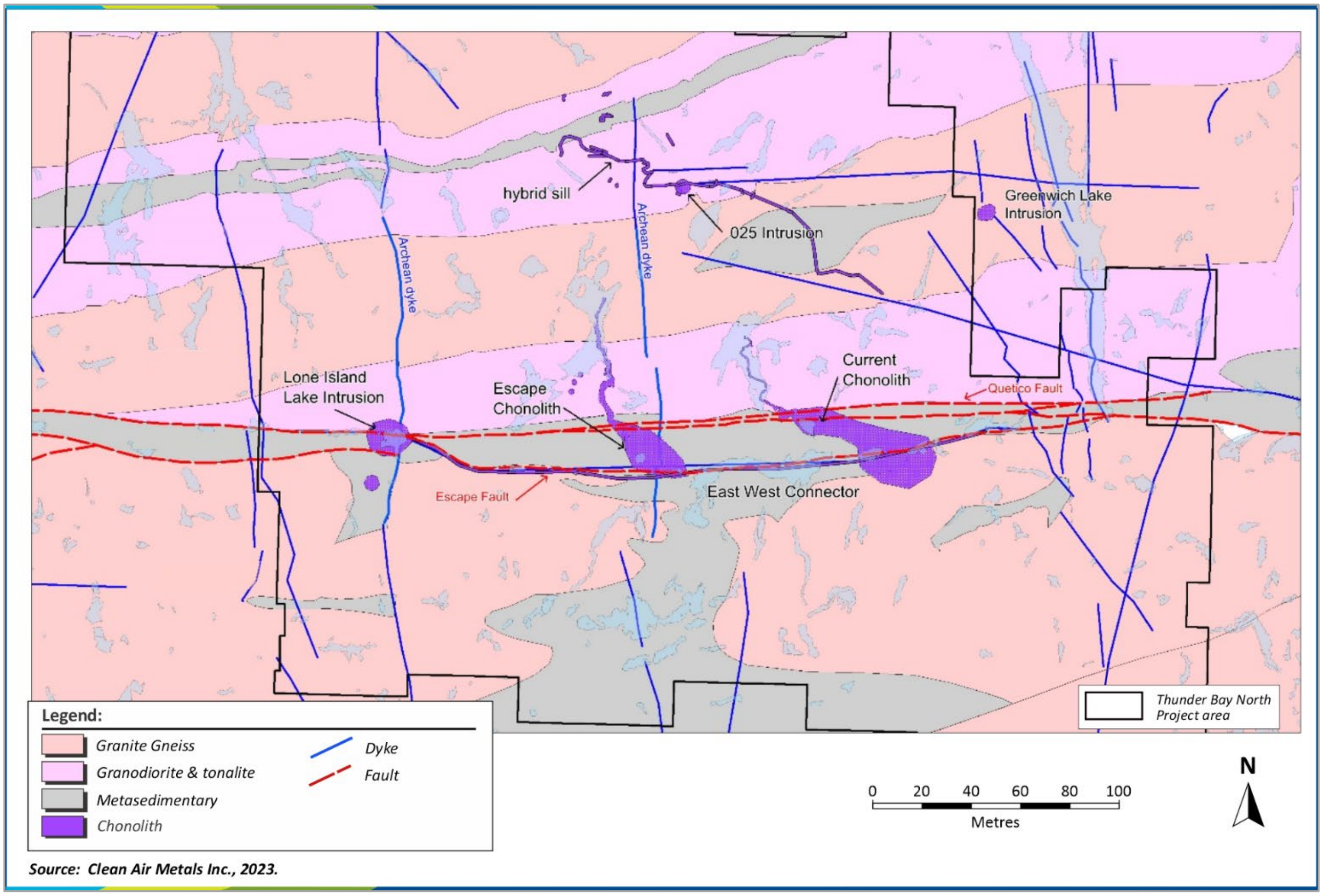
The Archean rocks are intruded by a series of north-south trending dykes which are readily apparent in the Ontario regional magnetic maps. Work completed on this swarm identifies them as belonging to the Marathon dykes with an emplacement age of 2120 Ma to 2070 Ma (Ernst and Bleeker, 2010) along the southern margin of the Superior Craton in conjunction with the Fort Frances swarm forming a single larger radiating event. These dyke swarms are postulated to be plume related centred south of Lake Superior and attributed to the break up of the Karelia-Kola, Hearne, and Wyoming cratons from the southern margin of the Superior Craton (Ernst and Bleeker, 2010). Locally, there is a spatial association between these north-south dykes and the younger intrusions of the Mesoproterozoic Keweenawan Supergroup. Within the Thunder Bay North Intrusive Complex, both the Escape and Lone Island Lake intrusions occur adjacent to north-south dykes. Outcrop mapping identifies these dykes as fine grained gabbro/diabase with chilled margins. Central portions of the dykes commonly contain coarse feldspar phenocrysts.

The Mesoproterozoic-age Keweenawan Supergroup (Midcontinent Rift) is very expansive along the north shore of Lake Superior. However, within the immediate project area there is very limited outcrop of rift rocks related to the Thunder Bay North Intrusive Complex. As such, much of the early interpretations were based on geophysics and later verified by diamond drilling. Significant areas are still interpreted off of geophysics as diamond drilling has not been completed in all areas.

The Thunder Bay North Intrusive Complex belongs to the early olivine bearing intrusive family of the Keweenawan Supergroup and was emplaced early in the rift history (1106.6 ±1.6 Ma: Bleeker et al., 2020). The TBN Complex comprises a complex series of small to medium sized intrusions, thin dykes, sills and mineralized chonoliths extending over an area of approximately 18 km by 5 km as defined by diamond drilling, and magnetic interpretation. Within the Thunder Bay North Intrusive Complex, a repeating pattern of intrusions is observed and divided into two hierarchical levels on the basis of inferred age and petrogenic relationships.

Level 1 intrusions (L1): are spaced along an east-west trend and comprise the intrusive bodies of South East Anomaly (SEA) Intrusion, Escape Intrusion, and Lone Island Lake (LIL) Intrusion. Intrusions as defined by magnetics are circular in shape and range in size from one to two kilometres in diameter. The L1 intrusions are emplaced within Quetico metasedimentary rocks and are delineated to depth by diamond drilling. The SEA and Escape intrusions contain grossly similar lithostratigraphy comprising basal peridotite and an upward igneous fractionation sequence through olivine gabbro, gabbro, oxide gabbro to gabbro, with a fractionated quartz syenite occurring at the top of the intrusions. LIL appears to differ slightly in that it is dominated by gabbro, without significant olivine cumulates identified to date by diamond drilling.

Level 2 intrusions (L2): are defined as subsidiary intrusions (chonoliths) emanating from L1 intrusive bodies. To date, L2 intrusions are identified to the north-northwest of the SEA Intrusion (Beaver Lake, Bridge Zone, and Current Lake areas) and the Escape chonolith. An L2 intrusion is not identified emanating from the LIL Intrusion.



Note. Thunder Bay North Intrusive Complex shown in purple with major intrusions labelled. Geophysically interpreted Archean dykes defined by blue lines. Significant structural discontinues in red with labels (Quetico, Escape).

Figure 7-9: Thunder Bay North Project Geology Map

Level 2 intrusions are characterized as chonoliths (intrusive igneous bodies with a nonspecific, irregular shape that does not fit into other categories of plutonic structure: sill, dyke or laccolith). The chonoliths identified are generally horizontal bodies, exhibiting moderate sinuosity, and variable cross-sectional morphology. Cross-sectional morphologies observed range from flat tabular (sill-like: Beaver Lake area) to equant and hour-glass shaped (Current Lake area). Chonoliths appear to both shallow and reduce in cross-sectional area northward. Linking features between L2 and L1 are moderately constrained, and appear to be a rapid plunge and deepening of the chonolith floor, whereas the top of the chonolith broadens outward and becomes the upper portion of the L1 intrusion.

The L2 intrusions are complex and dynamic systems, but exhibit similar rock types and zonal distributions between the chonoliths. Three distinct rock groups are identified within the L2 intrusions and are described below.

7.2.1 Group 1 (a/b)

Group 1 comprises two distinct magma compositions (Group 1a and 1b) as identified in thin sills, dykes, and breccia infill. At this time, it is unclear which predates the other. Group 1a is tentatively hypothesized to be the first magmatic phase associated with the Thunder Bay North Intrusive Complex. This group is identified as laterally continuous horizontal sills. Sills vary in thickness from less than 10 cm to greater than two metres and appear as fine grained gabbro which forms the 'wings' on the main mineralized chonolith in the Current Lake area and a narrow sill beneath the main intrusion in the Bridge and Beaver Lake Zone. Group 1b is identified as mafic (tholeiite-basalt to alkali-basalt). This mafic phase is identified as thin dykes, sills, and pillow formed intrusions within the fault breccia rocks overlying the chonoliths (as observed in the Bridge zone). Small one to five centimetre pillow buds are observed interstitial to breccia fragments. The mafic rocks are fine grained with well-defined aphanitic chill margins. This group is visually indistinguishable from Group 1a and division into two distinct phases is only possible with the use of geochemistry.

7.2.2 Group 3

The third magmatic group identified is locally termed "hybrid" as it is heterogenous in composition. Two main hybrid types are identified within the chonoliths; pink hybrid, and grey hybrid. Both hybrid rock types are characterized by fine to medium grained and generally homogenous texture with ubiquitous small (2 mm to 5 mm) round calcite ocelli throughout. Locally, both the pink and grey hybrid contain abundant silica inclusions, wall rock xenoliths (granite and Quetico metasedimentary rocks), and potential autoliths ranging in size from less than one to ten centimetres. Inclusions within the hybrid occur as angular to well rounded fragments with variable sphericity. Xenoliths and autoliths are easily explained by magmatic processes, while the origin of silica inclusions is less clear; a current hypothesis identifies these as quartz xenoliths. The angular morphology, undulose extinction, and reported molybdenite along a fracture in a silica inclusion strongly suggest a xenocrystic quartz vein origin, rather than immiscibility. Contacts with quartz xenoliths within the two hybrid rock types exhibit differing relationships at the microscope scale. Quartz xenoliths within the pink hybrid appear sharp and well defined, whereas contacts in the grey hybrid appear to have narrow reaction rims around the xenoliths indicating dis-equilibrium between the magma and quartz xenoliths.

Red hybrid is fine to medium grained and commonly brick red to pink in colour. Red hybrid is dominantly located at the top of the chonolith body with lesser along the bottom and sides. At the top of the chonolith, this hybrid forms a carapace and varies in thickness from non-existent to thickened sequences of greater than 10 m. Red hybrid is observed to extend upward into the overlying fault breccias and cross-cut the first phase mafic rocks. At the bottom of the chonolith, the red hybrid forms a sheet like body and extends horizontally outward from the main chonolith forming "wings". Pink hybrid is also periodically observed along the walls of the chonolith. Geochemically, the red hybrid rocks plot along the trend from gabbro to syenite to quartz syenite, or the observed igneous stratigraphic sequence above the ferro-gabbros in the SEA Intrusion.

Grey hybrid is fine to medium grained and medium to light grey in colour. Grey hybrid has a more restricted distribution and dominantly occurs between the marginal red hybrid and peridotite in the centre of the chonolith. In the lithogeochemical dataset, grey hybrid appears to have a lower abundance relative to red hybrid, however, this may be an artifact of the core logging and misclassification of grey hybrid as peridotite. Geochemically, the grey hybrid rocks are more fractionated than the peridotites, but follow along a gabbro to ferro-gabbro trend, similar to the observed igneous stratigraphic sequence below the ferro-gabbros in the SEA Intrusion.

7.2.3 Group 4

The fourth magmatic group identified is dominated by a mafic igneous fractionation sequence. The base of this group is dominated cumulate olivine with varying feldspar abundance, and ranges from peridotite, feldspathic peridotite, to olivine-gabbro. Olivine occurs as chadacrysts enclosed by pyroxene oikiocrysts. Feldspar occurs dominantly as interstitial crystals. Transitions between these olivine saturated rock types are gradational. Up stratigraphy, this group continues to display igneous fractionation with the presence of gabbro and oxide-gabbro with/or without thin pyroxenite units within the stratigraphy. Overall, the rocks are homogenous in texture and dark green to black in colour, fine to medium grained. Local coarsening of crystal size is observed in the Escape chonolith in the olivine gabbro and pyroxenite units. This fourth magmatic group is volumetrically dominant with distribution in the central portions of the intrusions which plunge shallowly southeast. In both chonoliths there is limited variability along the strike of the chonoliths. The rocks usually exhibit a magmatic foliation defined by elongated olivine and some vague rhythmic layering is recognized in Escape and the northern end of Current.

Orthomagmatic mineralization (platinum, palladium, copper, nickel, cobalt, silver, gold, rhodium) is hosted within the Group 4 rocks, specifically olivine bearing rocks. Mineralization is dominantly fine disseminated sulphide, usually occurring in the lower half of the chonolith. Narrow intersections of massive and semi-massive sulphides are identified along the basal contact, grading upward into disseminated mineralization. In both chonoliths (Current and Escape) mineralization is identified along the complete strike length. Mineralization is high tenor and PGE rich. Most of the presently known mineralization is hosted in both the Current and Escape intrusions. The mineralized portion of both the Current and Escape intrusions comprises active conduits of long-term magma flow and primarily consist of olivine bearing to olivine rich mafic to ultramafic intrusive rocks.

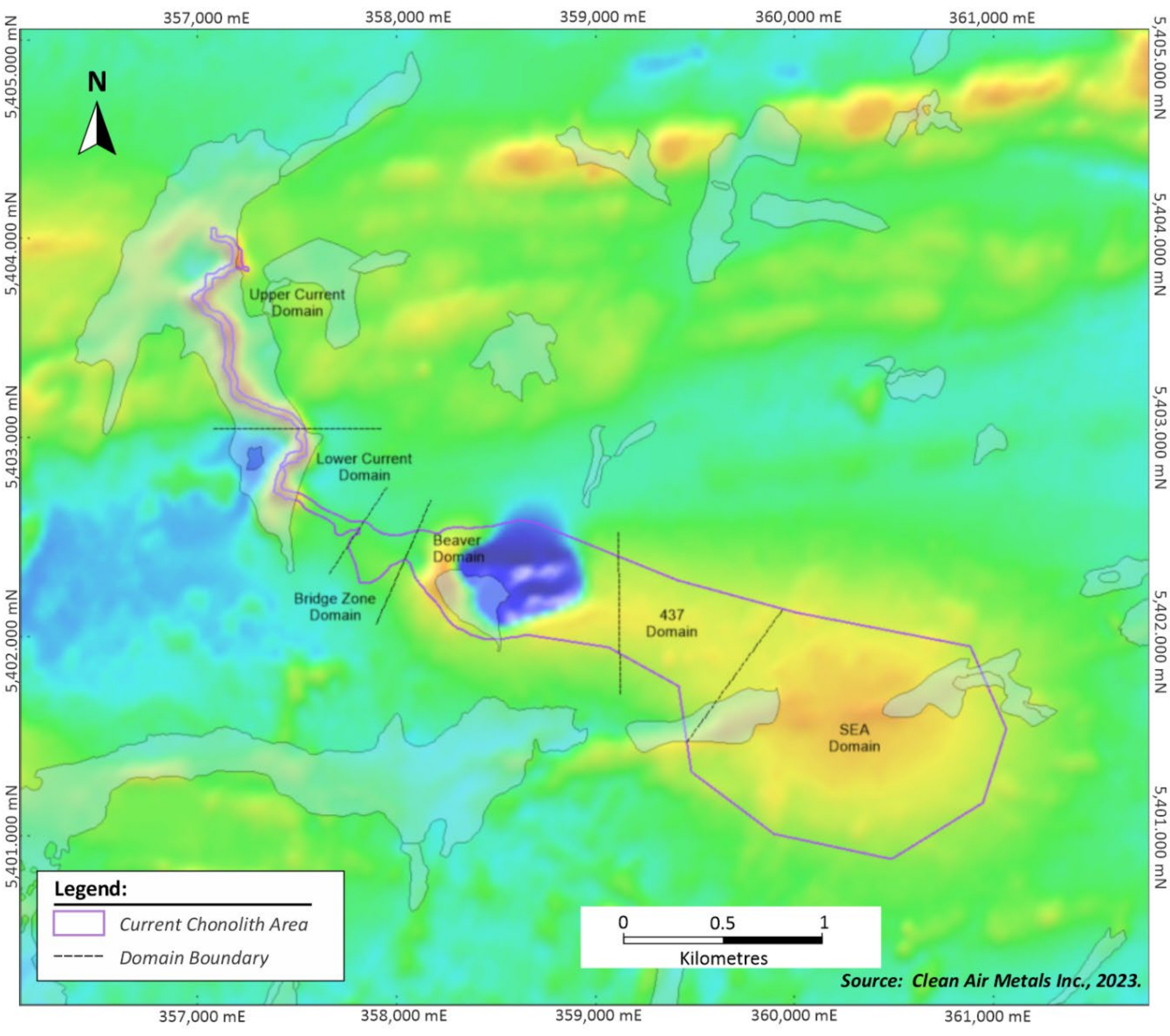
The contact between mafic to intermediate hybrid phases (Group 3) and olivine bearing melagabbro to lherzolite phases (Group 4), is typically sharp, but locally can be gradational over one to two metres.

Thin sills and dykes also form part of the Thunder Bay North Intrusive Complex and have a larger regional spread. The Current, Escape, and Lone Island Lake North and South intrusions are connected by a linear magnetic high feature (East-West connector: EWC). Exploration diamond drilling completed on this magnetic anomaly (EWC) identified a series of moderately-dipping gabbroic/dolerite sills and dykes within zones of tectonic breccias interpreted to be the Escape Lake Fault Zone, the southernmost part of the Quetico Fault system. A series of thin (<5 m) sub-horizontal sills are mapped in the field to approximately 3 km to the north of Current and Escape chonoliths centered around the 025-intrusion, which is a small isolated Pt-Pd mineralized olivine bearing intrusion. Additionally, small, isolated Thunder Bay North Intrusive Complex intrusions are identified immediately south of Steepledge Lake and the Greenwich Intrusion to the east and out of the Project area, and none of these appear to contain cumulate olivine.

7.3 Property Geology

7.3.1 Current Intrusion

The Current Intrusion (chonolith) is identified as a magnetic high feature with a distinct reversely polarized circular feature in the middle of it as shown in Figure 7-10. The intrusion is largely divided into three sections (SEA, Beaver Lake, and Current) and has a defined strike length of approximately 5 km. Additional subdivision of mineralized zones is described in the next section. The intrusion varies in width from approximately 1.3 km in the southern SEA portion to a width of approximately 40 m at the northern end of the Current zone, where is subcrops beneath Current Lake.



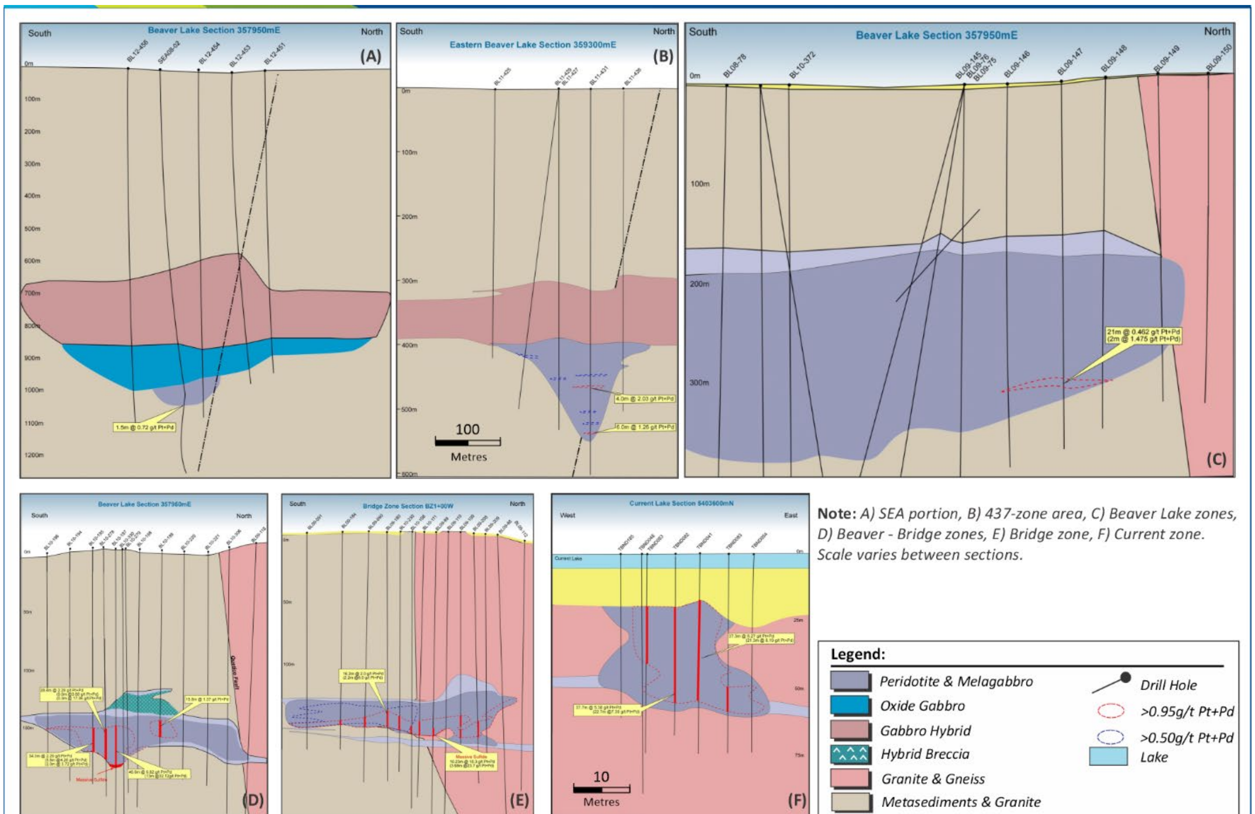
Note: *Interpreted surface projection of the chonolith is shown by purple outline. Existing lakes shown with blue shading.*

Figure 7-10: Total Magnetic Intensity Map of the Current Chonolith Area

The intrusion plunges shallowly to the southwest along the strike of the intrusion and the basal peridotite has been intersected at a depth of approximately 1,200 m within the SEA portion of the intrusion. The SEA portion of the intrusion hosts all the observed lithologies in an upward fractionating sequence, with mineralized olivine cumulates (peridotite) occurring at the base of the intrusion grading upwards into feldspathic peridotite-olivine gabbro and pyroxenite with a rapid transition to a narrow interval of oxide gabbro. Continued igneous fractionation is observed above with oxide-gabbro transitioning to gabbro with quartz-gabbro occurring proximal to the hanging wall contact. The balance of the intrusion (Beaver Lake zone and Current zone portions) appears to telescope these rock types and result in the close juxtaposition of the lowest olivine cumulates (peridotite) with the most fractionated quartz-gabbro (red hybrid) and thin interleaving gabbroic rocks (grey hybrid) within the chonolith portion (level 2 portion) of the intrusion.

It is postulated that sustained steady-state magma flow from the SEA Intrusion through the chonolith portion resulted in the effective mineral density segregation and separation of mineral phases (e.g., dense Fe-Mg phases including immiscible sulphide settled and lighter Al-Ca phases floated). This is a simplification, as there is evidence for multiple progressive flow paths within the accumulated olivine crystal mush pile as defined by the sinuous mineralized zones.

The intrusion morphology changes significantly along the strike of the intrusion. In the SEA portion, the intrusion largely has a lopolithic form (Figure 7-11A), with a minimum aggregate thickness of approximately 450 m. Moving up plunge, the intrusion morphology changes to a lopolith with deeply incised base in the 437-zone area (Figure 7-11B) and to a large tabular sill like morphology in the Beaver zone area (Figure 7-11C). The tabular morphology remains for the Bridge zone area with a number of morphology complexities as shown in Figure 7-11 (Figure 7-11D and E). Approximately where the intrusion goes beneath Current Lake, the morphology changes to an equant tube to hour-glass shape (Figure 7-11F) which is consistent for the remaining strike length to the north.



Source: SLR, 2023.

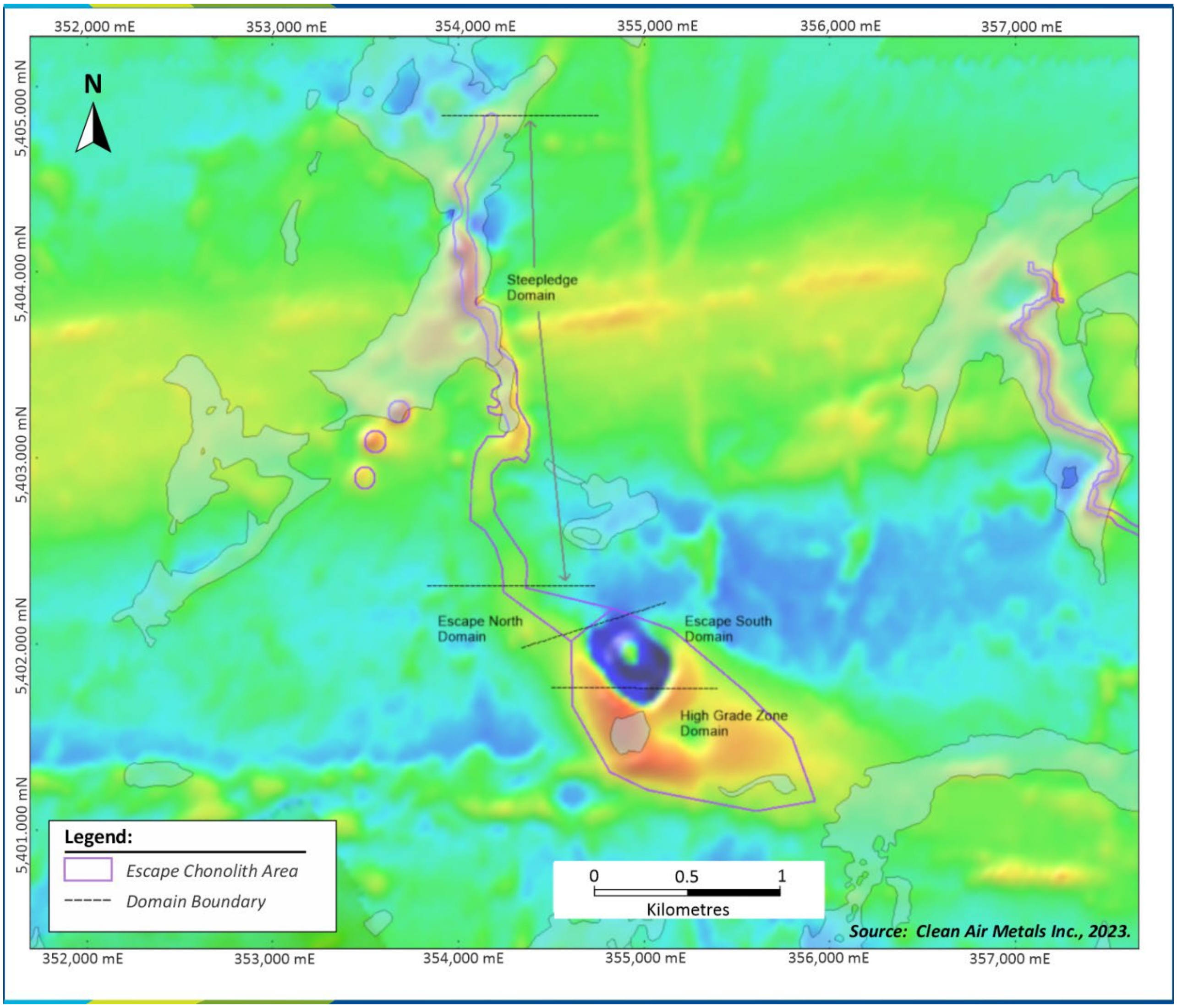
Figure 7-11: Idealized Cross-sections through the Current Intrusion

Within the Current Intrusion, the mineralized rocks consist of olivine bearing to olivine rich, fine grained plagioclase rich two-pyroxene peridotite (at the margins of the intrusion) that grades into plagioclase bearing to plagioclase poor (feldspathic), two-pyroxene peridotite (lherzolite containing both clinopyroxene and orthopyroxene) at the core of the intrusion. This plagioclase rich rock is referred to in Magma/Panoramic drill logs as olivine melagabbro and the term, even though describing a rock that is essentially a feldspar rich lherzolite, has been retained for continuity. All contacts between these two olivine rich rocks within the intrusion are gradational over metres to tens of metres.

7.3.2 Escape Intrusion

The Escape Intrusion (chonolith) shares several characteristics with the Current chonolith. As defined by diamond drilling, the intrusion has a strike length of approximately 4.3 km, as visible with the magnetic response, with a shallow plunge to the southeast. The gross igneous fractionation sequence is the same as that at Current, with better representation of olivine-gabbro and pyroxenite units throughout the strike of the intrusion, rather then restricted to the deeper portions as observed within the Current Intrusion. The Escape Intrusion, particularly within the Escape South and High Grade domains, displays distinct upper and lower portions. The lower part of the intrusion is similar to the Current Intrusion with magmatically foliated olivine cumulate lithologies ranging from melagabbro to peridotite and olivine pyroxenite commonly displaying some concentric zonation proximal to wall rock contacts. The upper part of the intrusion is a locally varitextured, locally rhythmically layered gabbro, olivine gabbro and hybrid rocks (grey and red) defining the top of the igneous stratigraphy.

Mineralogically, the Escape chonolith varies slightly from Current in that it only appears to have one pyroxene (clinopyroxene) in the crystallization sequence (Miller, 2020), whereas both orthopyroxene and clinopyroxene are identified within the Current deposit.



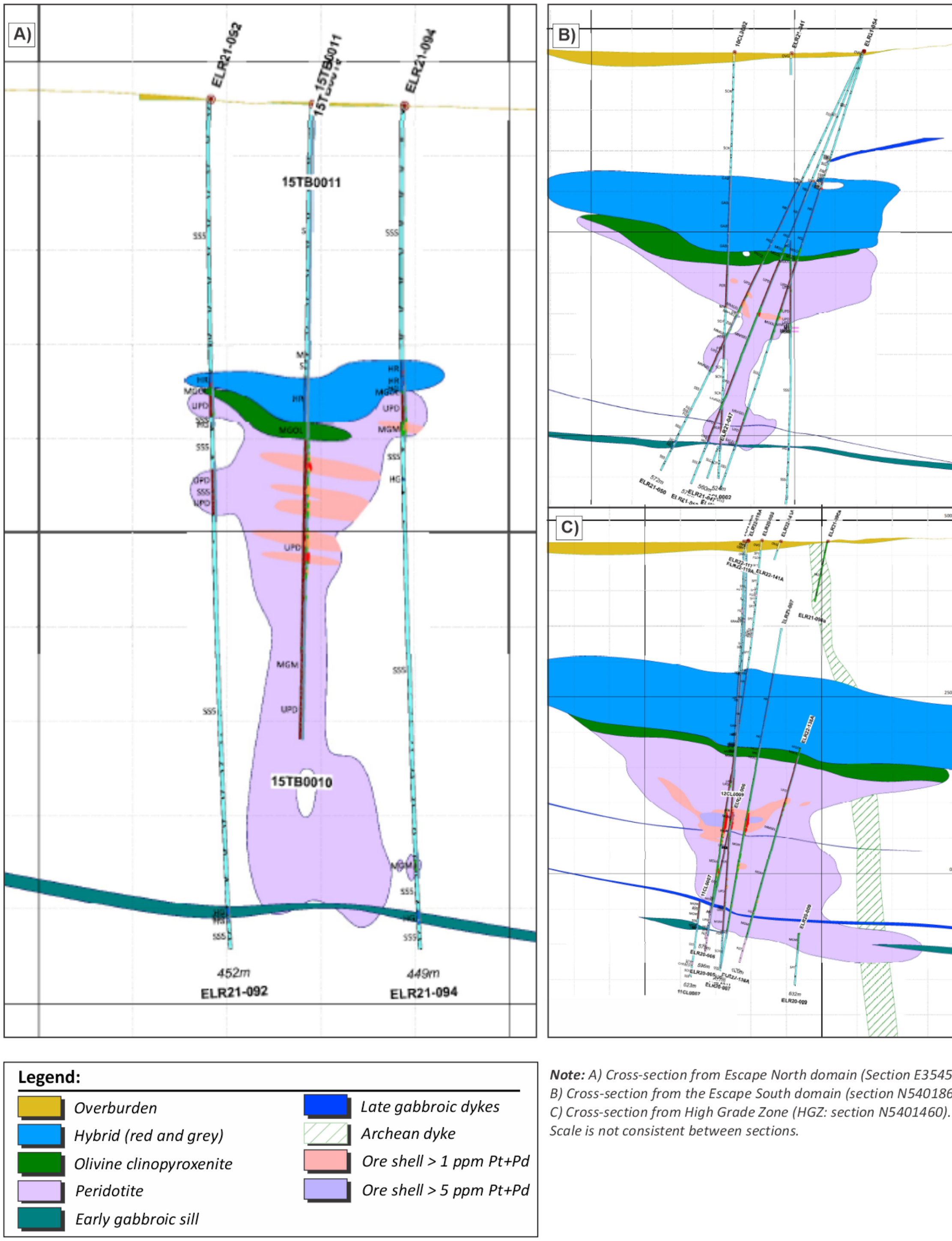
Note: Interpreted surface projection of the chonolith is shown by purple outline. Existing lakes shown with blue shading.

Figure 7-12: Total Magnetic Intensity Map of the Escape Chonolith Area

Morphologically, the Escape Intrusion is larger and more complex than the Current Intrusion. The Steepledge domain portion of the intrusion (beneath Steepledge Lake) has a tall hourglass shaped morphology, with multiple lobes off of a central bladed dyke, potentially reflecting the merging of two, possibly three conduits. Drilling is much sparser in this area leading to greater geological speculation. Following the intrusion down plunge to the Escape North domain, the strike of the chonolith radically changes to east-west with a narrow (less than 30 m) bladed dyke morphology. Entering the Escape South domain, the chonolith changes strike abruptly to be again north-south and the chonolith widens and takes on more of a small lopolithic to fluted form which continues to expand into the High Grade Zone (HGZ) domain. The intrusion remains open at depth to the southeast. Exploration drilling indicates the chonolith has penetrated through the Archean north-south dyke at a depth of approximately 900 m.

Within the Escape Intrusion, the olivine bearing to olivine rich phases are texturally different and are arranged in a more complex manner than similar phases within the Current Intrusion. In Escape, the upper portion of the olivine bearing phases consist of a fine grained olivine gabbro to olivine melagabbro which directly overlies, and is in sharp contact with, a medium grained feldspathic peridotite which, based on preliminary petrographic work, is suggested to be a wehrlite (a peridotite containing only clinopyroxene and no orthopyroxene). Fine grained olivine gabbro to melagabbro often underlies the medium grained peridotitic phase.

Similar to the Current chonolith, mineralization is hosted within the olivine cumulate lithologies and is found along the strike extent of the chonolith. In contrast, mineralization within Escape is dominantly stratabound occurring within the middle to upper portions of the olivine cumulate stratigraphy as shown in Figure 7-13. Further description of mineralization and mineralized zones is included below in section 7.4.



Note: *A) Cross-section from Escape North domain (Section E354575).*
B) Cross-section from the Escape South domain (section N5401860).
C) Cross-section from High Grade Zone (HGZ: section N5401460).
Scale is not consistent between sections.

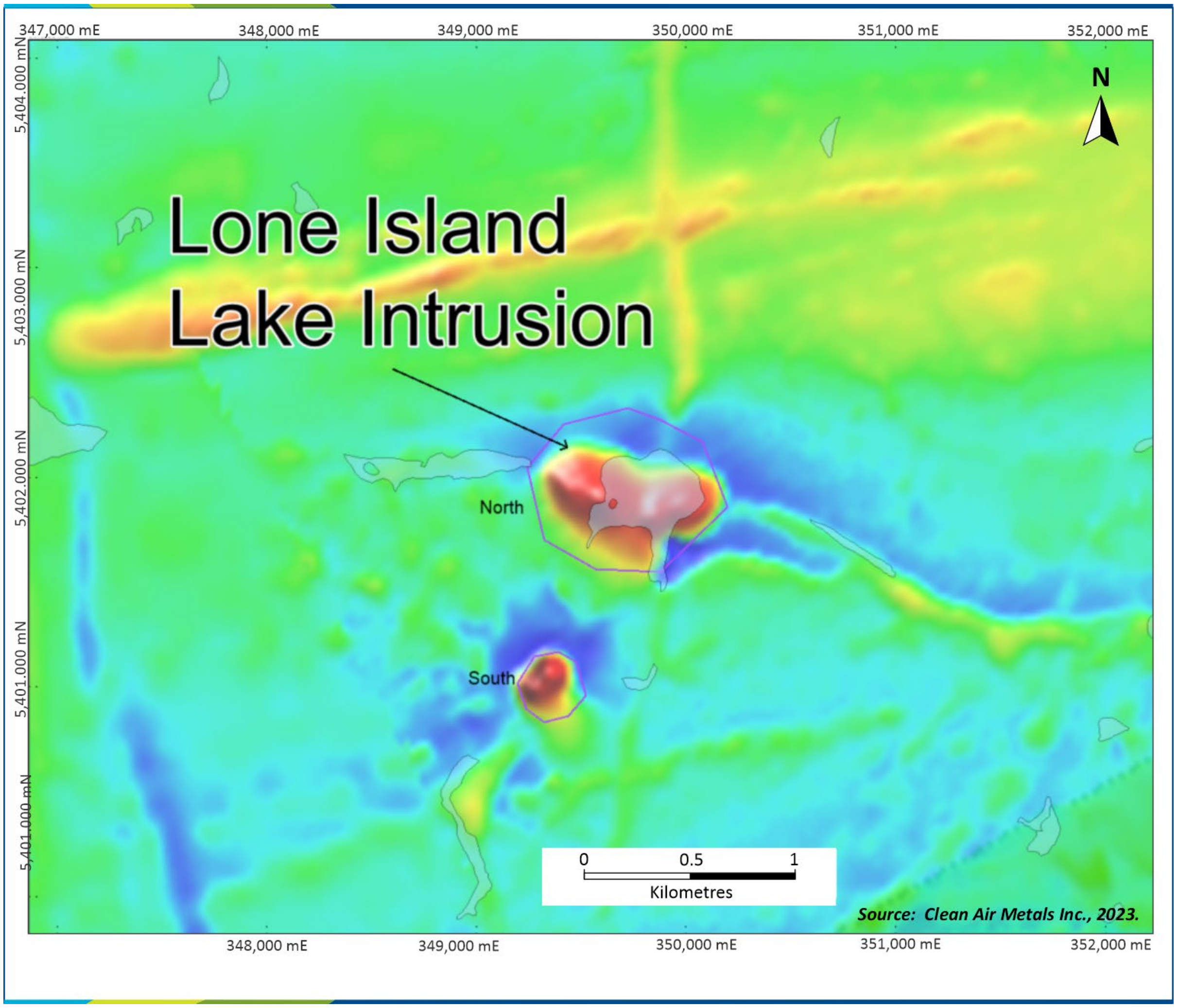
Source: Clean Air Metals Inc., 2023.

Figure 7-13: Escape Cross-sections

7.3.3 Lone Island Lake Intrusion

The LIL Intrusion occurs at the western end of the Thunder Bay North Intrusive Complex. The intrusion occurs at the junction of the east-west trending Quetico/Escape Fault system and a north-south trending Archean dyke, the same geological settings as Escape. The intrusion(s) are evident in the airborne magnetic data as two discrete magnetic highs respectively named LIL North and LIL South. Both features display probable magnetic dipole occurring on the north side of each magnetic high, but no clearly defined magnetic reversal. Both LIL North and LIL South have been exploration targets during various programs. Geological mapping and sampling identified gabbroic lithologies at surface of LIL South and anomalous PGE values in lithogeochemistry samples. LIL North does not outcrop. Both intrusions have been drill tested and are dominated by gabbroic lithologies. LIL North appears lopolithic in form with an interpreted thickness of up to 300 m. Archean Quetico metasedimentary rocks form both the hanging wall and footwall. The basal contact is commonly poorly preserved with limited recovery, hypothesized to be a fault. The igneous stratigraphy displays an overall upward fractionating sequence with most primitive rocks located proximal to the base. On the basis of lithogeochemistry, multiple (2-3) fractionation cycles are recognized, with the lower cycle containing a xenolith/autolith bearing interval present in multiple drill holes. Although a fractionation sequence is observed, the most primitive rocks (olivine cumulates) as observed at Escape and Current are not presently recognized within LIL North. Anomalous PGE are recognized within LIL North and are fine stratabound-reef type mineralization associated with changes in silicate mineralogy.

The morphology of LIL South is poorly constrained with three drill holes. The intrusion dips/plunges to the southeast and displays a maximum thickness of 94 m as observed in LIL12-10. A consistent igneous stratigraphy is observed between the three drill holes with gabbro, ferro gabbro to pyroxenite being observed. Anomalous PGE mineralization is recognized proximal to the basal contact as disseminated sulphide.

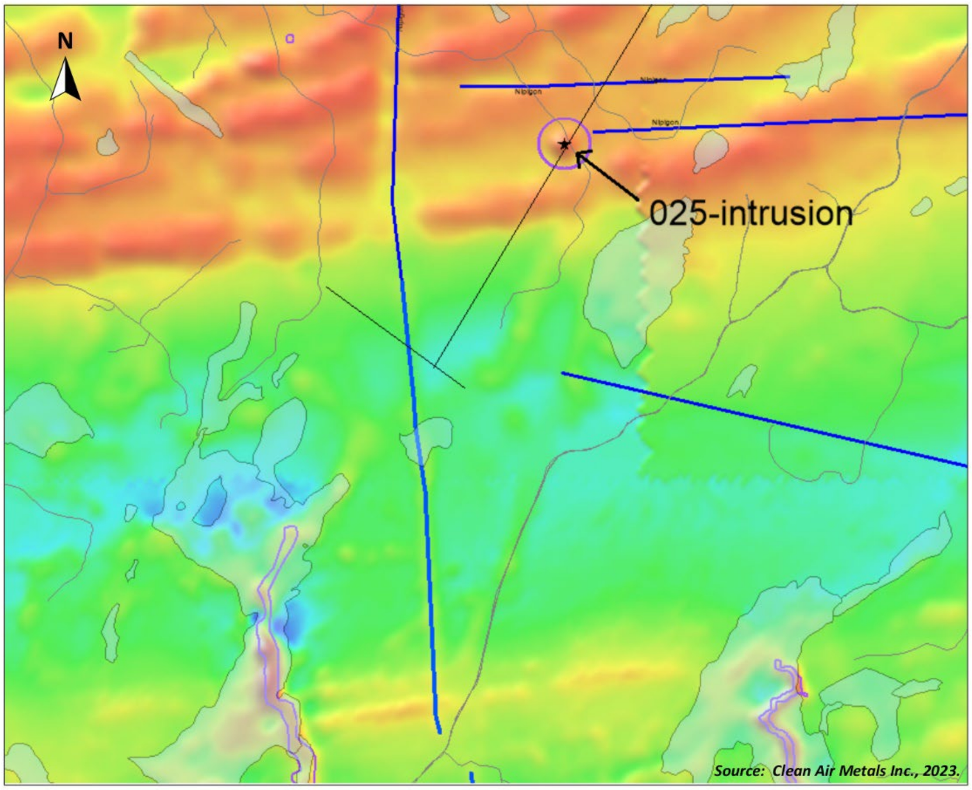


Note. Interpreted surface projection of the intrusion is shown by purple outline. Existing lakes shown with blue shading.

Figure 7-14: Total Magnetic Intensity Map of the Lone Island Lake Area

7.3.4 025 Intrusion

The 025 Intrusion is located three kilometres north-northwest of Current Lake, is the only mineralized intrusion within the Thunder Bay North Intrusive Complex that is not directly associated with the Quetico Fault Zone, and is the only intrusion within the complex where peridotite is exposed in outcrop. The 025-intrusion is evident in the total magnetic intensity map as a small isolated magnetic high. However, it is located in a magnetic domain that has overall higher magnetic response and was not identified prior to discovery by field mapping. Field mapping identified outcropping peridotite that grades upward to gabbro which forms a broad flat outcrop. Spatially associated but extending outward are narrow sills and dykes belonging to the Thunder Bay North Intrusive Complex family. The limited drilling completed identifies an intrusive body with an upward fractionation sequence from olivine cumulates at the base to gabbro top. Morphology of the intrusion is not constrained, but a dip/plunge to the east is inferred from two drill holes. Anomalous Pt+Pd values are hosted within the olivine cumulates proximal to the basal contact.



Note. Interpreted surface projection of the intrusion is shown by purple outline. Existing lakes shown with blue shading. Geophysical interpreted dykes shown by blue lines.

Figure 7-15: Total Magnetic Intensity Map of the Northern Ends of Current and Escape Chonoliths and the 025 Intrusion

7.4 Mineralization

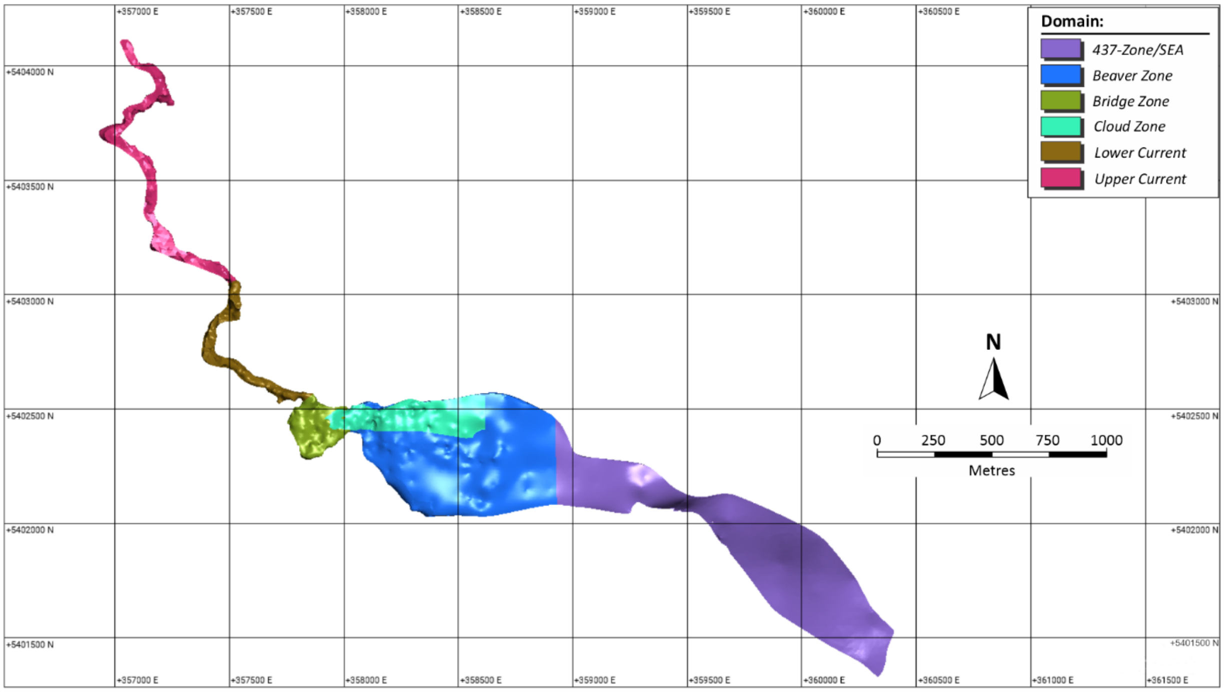
Mineralization discovered within the property and hosted within the Current and Escape chonoliths is classified as orthomagmatic. Orthomagmatic deposits are the product of direct segregation, accumulation, or crystallization of an immiscible phase (sulphide commonly) from a silicate magma. These types of deposits are commonly polymetallic containing a diverse suite of chalcophile elements. The following metals: nickel (Ni), copper (Cu), platinum group element (PGE) which comprise platinum (Pt), palladium (Pd), rhodium (Rh), ruthenium (Ru), iridium (Ir) and osmium (Os), and cobalt (Co) are commonly found in orthomagmatic deposits along with the precious metals gold (Au) and silver (Ag). All of these elements are identified within the mineralization at the Current and Escape deposits. Immiscible sulphide has acted as a collector phase for the chalcophile elements and all elements show strong inter-elemental correlations with sulphur. Within orthomagmatic deposits that have components of massive and semi-massive sulphide, a cooling/crystallization fractionation of the sulphide liquid into intermediate solid solution (ISS) and monosulphide solid solution (MSS) is commonly observed resulting in metal zonation (e.g., Cu-PGE rich vs. Ni rich areas). Within the mineralization at Current and Escape, this metal zonation is not significant.

The mineralization identified within the Project to date is considered to be somewhat atypical of orthomagmatic Cu-Ni sulphide deposits. The sub-class of deposits associated with rift and flood basalts and their associated magmatic conduits (Noril'sk type: Naldrett 2004) commonly contain Ni rich massive sulphide accumulations as observed at Voisey's Bay, Noril'sk, Eagle, and Tamarack. The Thunder Bay North Intrusive Complex is PGE and Cu enriched, with limited massive Ni-sulphide accumulations giving it an atypical flavour. There still remains the potential for large massive sulphide bodies within both the Current and Escape intrusions.

Within the Thunder Bay North Intrusive Complex, most of the presently known mineralization is hosted within the Current and Escape intrusions. In almost all cases, mineralization within both deposits and corresponding zones is hosted by variably felspathic lherzolite or wehrlite and olivine melagabbro. Additionally, disseminated Pt-Pd-Cu-Ni mineralization has also been observed within the LIL and 025 intrusions.

7.4.1 Current Deposit

The drill-defined length of the Current deposit is approximately 4.0 km with the chonolith remaining open at depth. The Current deposit has six well defined zones of mineralization that are contiguous along the plunge of the intrusion as shown in Figure 7-16**.** Other zones do exist within the intrusion and are discussed in this section; however, they are not part of the current Mineral Resource estimate.



Source: SLR, 2023.

Figure 7-16: Plan View of the Current Deposit Mineralized Zones

7.4.1.1 Upper Current

The Upper Current Zone, discovered in late 2006 by Magma, is hosted within a sub-horizontal to gently south-southeast plunging, narrow, oval to bell-shaped magmatic conduit (or chonolith), which is part of the Current Intrusion. The zone ranges from 30 m to 50 m in width and up to 70 m in height, mainly underlying Current Lake and sub-crops beneath the lake bottom till. The olivine melagabbro to feldspathic lherzolite comprising the conduit contains sulphide mineralization consisting of a few percent to locally greater than 25%, predominantly finely disseminated pyrrhotite, pentlandite, chalcopyrite, pyrite, and rare cubanite, and violarite that are interstitial to the silicate gangue. Rare narrow massive sulphide veinlets interpreted to be sub-vertical are periodically intersected. Mineralization within this zone is not evenly distributed along the plunge; rather, the mineralization appears to pinch and swell with no apparent geological control. It is postulated that primary fluid dynamics within the magma during deposition controlled the spatial distribution. This section of the chonolith is hosted within medium to coarse grained S-type granitoid rocks of Archean (Quetico) age.

7.4.1.2 Lower Current

The Lower Current Zone is contiguous with Upper Current and similar in many aspects. The chonolith is sub-horizontal and intrusion morphology is consistent along with the host rock and observed style of mineralization. The chonolith no longer sub-crops beneath the glacial overburden, but has Archean granite as the intrusion hanging wall. Mineralization is dominantly disseminated and continues to pinch and swell in spatial distribution. Empirically, fewer narrow sulphide veins are identified.

7.4.1.3 Bridge Zone

The Bridge Zone is contiguous with the Lower Current Zone. Morphologically, the intrusion has broadened out but is still hosted within the Archean granite. Mineralization is generally similar to that observed within the Current zones. However, mineralization begins to occur as disseminated arcuate bodies with several small, elongated, limited strike-extent net-textured to massive sulphide pods present locally along the basal footwall contact. This zone becomes increasingly bottom-loaded to the east where it joins with the Beaver Zone.

7.4.1.4 Beaver Zone

The Beaver Zone discovered in late 2007 occurs within the larger, tabular, Beaver portion of the intrusion. This zone is subdivided into the Beaver West Zone and Beaver East Zone.

The Beaver West Zone, discovered in late 2007 by Magma, is the eastern part of what AMEC called the Bridge Zone in its 2010 and 2011 reports. This zone has been identified as a sub-zone because it contains several different mineralization trends (at least two, possibly three) with directions differing greatly from the mineralized trends observed within other parts of the Current chonolith system. When examined closely, the mineralization within the Beaver West Zone forms an interlocking mesh partially contained within depressions within the floor of the intrusion. The azimuths of the two main trends are 110° to 120° and 045° to 055°. A possible third trend is at 030° to 040°.

This part of the Current deposit is mostly contained within the Quetico-age metasedimentary rocks located immediately south of the Quetico Fault. It is roughly triangular in shape and forms the transition zone between the Bridge and Beaver zones. It is characterized by a narrow southeast entrance and an even narrower northwest exit and is located immediately east of where the Bridge Zone tube transitions into a tabular body as it crosses over the Quetico Fault. The thickness of the intrusion hosting the Beaver West Zone is quite variable with an irregular floor hosting several thermally eroded depressions that sometimes host small, linear massive sulphide pools overlain by variable thicknesses of net-textured sulphides (greater than 25%) grading upward into finely disseminated sulphides. Sulphide mineralogy is similar to that of the Current and Bridge Zones and includes pyrrhotite, pentlandite, chalcopyrite, pyrite, and rare cubanite. The Beaver West Zone is probably the best mineralized portion of the mineralized Current intrusive system and is host to the greatest proportion of the massive sulphide concentrations intersected during drilling.

The Beaver East Zone comprises the southeasterly extension of the Beaver West Zone, past that portion of the system that was included within the 2010 AMEC historic Mineral Resource estimate. The intrusion in this area is up to 200 m thick and approximately 550 m in width. This zone exhibits the same shallow plunge and extends the Beaver Zone mineralization a further 630 m to the east-southeast. Mineralization is primarily developed in the basal portions of the intrusion (bottom-loaded) within variably feldspathic lherzolite. Mineralization is finely disseminated, ranging from a few percent to >25% sulphides, is interstitial to the cumulate silicate minerals, and primarily occurs within linear, thermally eroded depressions within the base of the Beaver portion of the Current Intrusion. The sulphide mineralogy is similar to that of the Current zones and includes pyrrhotite, pentlandite, chalcopyrite, pyrite, and rare cubanite. Rarely, small massive sulphide pods of limited strike-extent or thickness occur locally.

7.4.1.5 Cloud Zone

The Cloud Zone was discovered in 2008 and is a finely disseminated sulphide zone that occurs near the roof of the Beaver Zone of the Current Intrusion and transitions to the west into the upper part of the

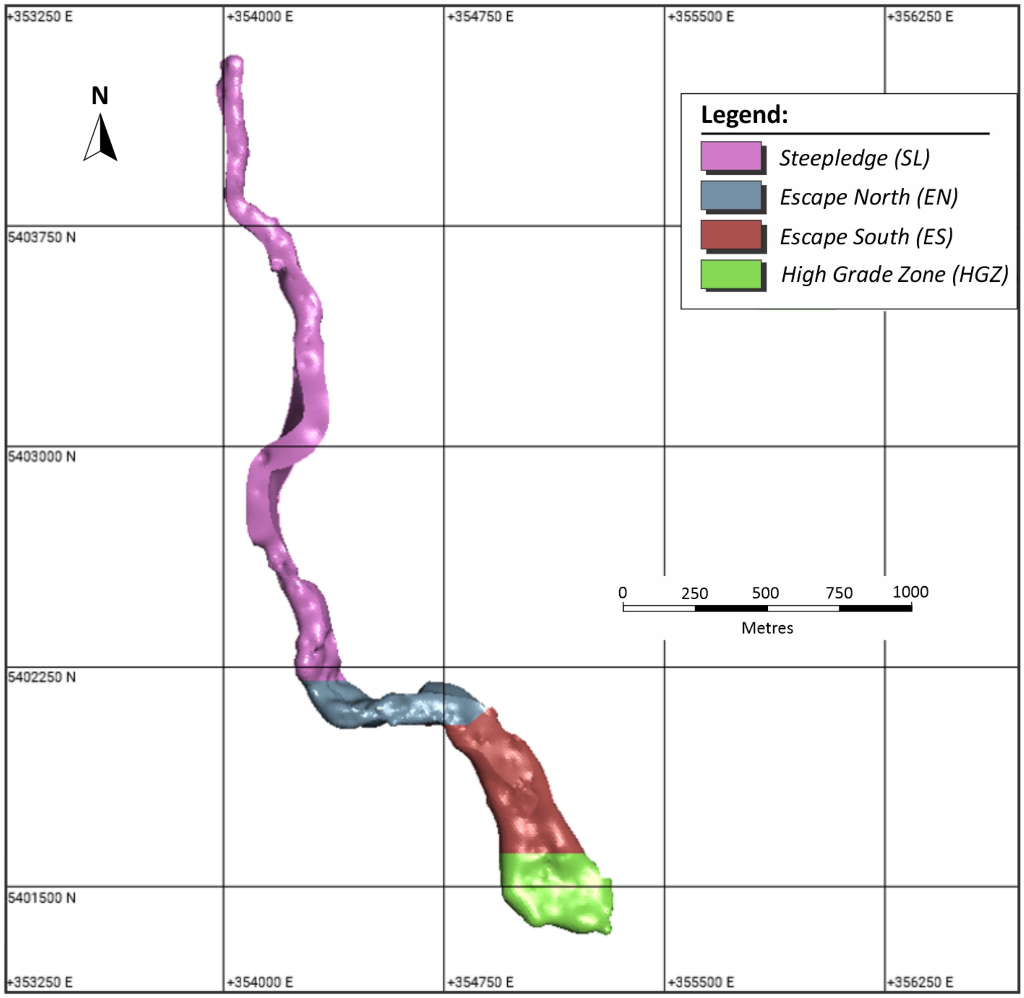
Beaver West Zone. It comprises a diffuse, irregular cloud of <1% very finely disseminated chalcopyrite and some pyrrhotite that is often very difficult to see visually. This zone is often so subtle that the sulphides comprising it cannot be distinguished in hand specimen until they tarnish after several weeks exposure to the air. The Cloud Zone may continue to the east and southeast from where it has been presently defined, however, there is insufficient drilling to confirm this suggestion.

7.4.1.6 437/SEA Zone

The 437-zone is hosted in the down plunge continuation of the Current chonolith beyond the Beaver Zone at a depth of approximately 650 m below surface. Discovered in 2011, the 437-zone is poorly defined at this point in time, and comprises narrow mineralized zones located approximately 300 m southeast of the Beaver East Zone. Mineralization ranges from a few percent to approximately 25% disseminated sulphide within at least one channelized setting within a homogenous peridotite. In this section of the Current Intrusion, the intrusion morphology has transitioned into steep-sided trough from the more open basal feature of the Beaver portion. Morphology changes in the intrusion continue down plunge. The SEA portion of the intrusion has a lopolithic morphology with a broad open basal contact. Peridotite is observed along the basal contact and varies in total thickness. Mineralization is identified as disseminated sulphide but in low abundance with the sparse drilling completed to date.

7.4.2 Escape Deposit

The Escape chonolith which hosts the Escape deposit has a drill-defined strike length of approximately 4.6 km (Figure 7-17) and is open down-plunge with an approximately 2.3 km magnetically interpreted, non drill tested extension. Mineralization within the Escape Intrusion occurs intermittently along the entire strike length and is subdivided into four zones as shown in Figure 7-17. The zones from north to south comprise Steepledge, Escape North, Escape South, and the HGZ.



Source: SLR, 2023.

Figure 7-17: Plan View of the Escape Deposit Mineralized Zones

7.4.2.1 Steepledge Zone

The northern portion of Steepledge Zone is located beneath the central and southern portions of Steepledge Lake and was discovered in 2008 by an ice drilling campaign drill testing the magnetic linear response similar to that drill tested beneath Current Lake. The southern portion of the Steepledge Zone was identified in 2010 and is located to the south of Steepledge Lake. Drilling testing has been sparse in the two areas due to low grade and poor continuity at the current level of drilling. Work completed identifies finely disseminated sulphides, ranging from a few percent as finely disseminated to locally finely stringered pyrrhotite and chalcopyrite, up to 10% to 15% sulphides. The northern portion contains mineralization over a strike length of approximately 200 m. The southern section of the Steepledge Zone contains a mineralization over approximately 300 m strike extent. On drill sections with multiple holes, the chonolith appears morphologically complex, with two to three potential lobes off of a bladed dyke or discreet sub-parallel chonolith intrusions that have merged together. Within this complex morphology, mineralization is strataform and observed in multiple levels within the intrusion.

7.4.2.2 Escape North Zone

The Escape North Zone (Ribbon Zone/boundary zone) was discovered by Rio Tinto in early 2008 and presently comprises approximately 350 m long, elongate, relatively narrow, sub-horizontal semi-continuous bands of strataform disseminated mineralization. The mineralization style is similar to the more diffuse portions of the Beaver Zone within the Current deposit. Mineralization mainly consists of finely disseminated chalcopyrite and pyrrhotite ranging from a few percent to approximately 10% and occurs interstitial to gangue minerals. Drilling completed define the intrusion to largely strike east-west with a vertical extent of greater than 250 m but very limited in width to less than 30 m in some sections. This zone is down plunge equivalent of Steepledge zones and up plunge from Escape South.

7.4.2.3 Escape South Zone

The Escape South Zone is spatially defined as a physical link between the Escape North Zone and the HGZ occurring to the south. The chonolith radically changes direction (from east-west in the Escape North) to generally northwest-southeast. With the change in orientation the morphology also changes to a 'T' shape with peridotite in the lower leg and fractionated lithologies located in the upper portion. The Escape South Zone is a very well mineralized with relatively flat-lying (sub-horizontal) strataform mineralization in the form of disseminated to heavily disseminated sulphides. Mineralization is concentrated along the central axis and lessens outward towards the flanking environments. Rare narrow intersections of massive sulphide are identified within this zone. The massive sulphides are interpreted to be density accumulations along the flank in hanging shelfs along the margin of the intrusion.

7.4.2.4 Escape High Grade Zone (HGZ)

The Escape HGZ comprises a 200 m long, 100 m wide, and 10 m to 90 m thick heavily disseminated to net-textured zone that is stratabound within the peridotite lithology. The mineralization has a complex morphology comprising of three components. The main component is plunge elongated sub-horizontal to plate shaped sulphide body that occupies the central portion of the intrusion. Mineralization mainly consists of heavily disseminated to net-textured pyrrhotite and chalcopyrite ranging from 15% at the margins of the zone up to about approximately 40% within the bulk of the zone. The mineralization thins (5 m to 15 m thick) towards the margins, becoming finely disseminated (3% to 15%) sulphides (pyrrhotite and chalcopyrite) that grade outward in all directions from a central, higher abundance sulphide core. Emanating from this sub-horizontal mineralization is the second component: a narrow "fin" shape (sail) which extends vertically up to 60 m high and tapers down along the plunge to the north into the Escape South Zone. The third component to the HGZ is a discontinuous lower "keel" shaped zone of mineralization below the sub-horizontal mineralization. This "keel" is situated over, but not at the base of, a pronounced, localized, steep-sided, thermally eroded depression in the floor of the intrusion. These three mineralized components of the HGZ represents the furthest south zone of identified mineralization in the Escape Intrusion that has been drill tested to date.

The HGZ contains moderate to high grade Pt-Pd-Cu-Ni mineralization and is hosted within a medium grained peridotite unit (variety wehrlite) which is generally in sharp contact with an overlying fine grained olivine melagabbro. The host peridotite is coarser grained and more texturally variable than the fine grained, relatively homogeneous lherzolite hosting the mainly disseminated mineralization in the Current Lake area.

7.4.3 Lone Island Lake North and South Intrusion

The LIL North and South intrusions are located to the west of Current and Escape along the same structural corridor (Quetico and Escape faults). LIL North has had more exploration work completed to date, however, mineralization identified has been finely disseminated, in three different settings. Anomalous chalcophile element abundances are observed proximal to the basal intrusive contact. Anomalous values are also spatially associated with a stratigraphic interval that contains gabbroic autoliths in the lower half of the intrusion. The third setting occurs in the upper half of the intrusion and appears to be a reef-type setting with a change in lithogeochemistry proximal to the mineralization. The lack of olivine bearing phases and the general S-undersaturated nature of the rocks comprising the intrusion suggest that this intrusion is not prospective at the current stratigraphic level.

Within LIL South, anomalous chalcophile element abundances have been identified as localized, finely disseminated pyrrhotite and chalcopyrite mineralization that is contact-proximal and is exposed at surface. However, no distinct mineralized zones have been identified by surface sampling or limited diamond drilling.

7.4.4 025 Intrusion

The 025 Intrusion is the only location within the Project where peridotite/olivine cumulate rocks are exposed in outcrop at surface. The fine grained peridotite comprising most of the multi-outcrop exposure is very similar in appearance to that observed in boulders and drill core at the Current Intrusion. The first of the three holes drilled in the vicinity of the exposed conduit by RTEC in 2015 targeted the centre of the exposure with a vertical hole and intersected low grade mineralization proximal to the basal contact. This mineralization consisted of approximately 1% finely disseminated pyrrhotite and chalcopyrite within fine grained peridotite. The low percentage of sulphides present within an interval that contained up to 0.617 g/t Pd, 0.533 g/t Pt, 2130 ppm Cu, and 2,110 ppm Ni suggests that the tenor of the sulphides was relatively high. Therefore, it remains an exploration target.

8.0 DEPOSIT TYPES

8.1 Orthomagmatic Sulphide Deposits

Orthomagmatic deposits, or magmatic ore deposits, are mineral deposits within igneous rocks or along their contacts in which ore minerals crystallized from a melt or were transported in a melt. A diverse range of metal deposits are classified as orthomagmatic, ranging from typical sulphide deposits hosting the chalcophile elements (Ni, Cu, PGE, Co, Au, Ag) to rare earth and large ion lithophile element deposits in pegmatites, to chromium, iron, titanium, phosphate associated with magmatic oxides in a diverse compositional range of intrusions. The following description is limited to orthomagmatic sulphide as only this type is relevant to the Project.

Orthomagmatic sulphide deposits occur in predominantly mafic to ultramafic igneous rocks, in both intrusive and extrusive phases and a diverse range of geological settings, including deformed greenstone belts, and calc-alkaline batholiths associated with convergent plate margins; ophiolite complexes that formed at constructive plate margins; intraplate magmatic provinces associated with flood basalt type magmatism; and passively rifted continental margins. The commonality between all these rock types and tectonic settings is the generation of a silicate magma that is sulphur undersaturated when it leaves the source area. Silicate magmas that are not S-undersaturated in the source will leave the highly chalcophile elements (PGE-Cu) in the source area sulphide restite.

Orthomagmatic sulphide deposits are polymetallic and host the chalcophile (Fe-Ni-Co) and highly chalcophile elements (Pt-Pd-Rh-Ru-Ir-Os) as immiscible sulphides act as the collector phase for these elements. Under normal adiabatic fractional crystallization, magmas do not generally attain sulphide saturation. Commonly, external factors are employed to force S-saturation within a silicate magma (Campbell and Naldrett, 1979). Within most ore deposit models, contamination by an external sulphur source (komatiites: Eastern Goldfields, flood basalts: Noril'sk, Raglan) is the controlling factor. Less frequently, a silicate contaminant is attributed to lead to sulphide saturation.

Once sulphide saturation is attained in a silicate magma, an immiscible sulphide liquid is generated and two phases will be present in the magma in addition to the crystalizing silicate and oxides phases. The chalcophile elements strongly partition into the immiscible sulphide phase progressively becoming enriched as mixing between the two immiscible phases continues. This mixing was empirically recognized by Campbell and Barnes (1984) and termed the R-factor as a ratio between sulphide/silicate magma. Nickel dominant systems commonly have lower R-factor values, Ni-Cu-PGE deposits have intermediary values, whereas PGE dominant deposits have extremely high R-factor values. R-Factor in conjunction with magma composition lead to the subdivision of orthomagmatic sulphide deposits into two mains groups: Cu-Ni dominant orthomagmatic sulphide deposits and PGE dominant orthomagmatic sulphide deposits.

Cu-Ni-(PGE) Dominant Orthomagmatic Sulphide Deposits

Cu-Ni dominant sulphide deposits are generally high sulphide percentage deposits with Ni and Cu usually as the main economic metals. Ni usually constitutes the main economic commodity with Cu as either a co-product or by-product, and with Co, the PGE, and Au as common by-products. This deposit subset can be subdivided into four subtypes:

- A meteorite-impact mafic melt sheet containing massive basal sulphide deposits (Sudbury, Ontario).

- Rift and continental flood basalt associated mafic sills, dyke-like bodies, and chonoliths (Noril'sk–Talnakh, Russia; Jinchuan, China; Duluth Complex, Minnesota; Eagle, Michigan; Voisey's Bay, Labrador; Current Lake, Ontario).
- Ultramafic (komatiite) and high MgO volcanic flows and related sill-like intrusions (Thompson, Manitoba; Raglan, Quebec; Kambalda and Agnew, Australia).
- Other mafic/ultramafic intrusions (Kotalahti, Finland; Råna, Norway; and Selebi-Phikwe, Botswana).

PGE Dominant Orthomagmatic Sulphide Deposits

PGE dominant, low sulphide deposits, with the PGEs associated with low percentages of disseminated Cu-Ni-Fe sulphides (<3%), usually occur within very large to medium sized, mafic/ultramafic layered intrusions. There are two main subtypes of PGE-dominant magmatic sulphide deposits associated with mafic/ultramafic intrusions:

- Reef-type stratiform PGE deposits which occur within well-layered mafic/ ultramafic intrusions (i.e., Bushveld Complex, South Africa; Stillwater Complex, Montana)
- Magmatic breccia/contact type deposits that occur in stock-like or layered mafic/ultramafic intrusions (Platreef in South Africa; Lac des Iles and River Valley, Ontario).

Sulphide saturation is common to both classes of deposit, but variations in the abundance of sulphide generated, the timing of saturation and the dynamics of the systems lead to variations. Sulphide-silicate magma interactions continue until the sulphide liquid is isolated from the magma either through gravitational settling or solidification of the silicate magma by crystallization. Gravitational settling of the denser immiscible sulphide liquid droplets through less dense silicate magma generates a range of mineralization textures from disseminated, blebby, net-textured, semi-massive and massive accumulations. Sulphides will settle downward until they hit a barrier that impedes their migration. These can be a solidification front in PGE reef settings, the footwall contact, or hanging ledge in channelized flows (chonoliths/lava flows), or the top of accumulated crystal pile. These primary accumulations of mineralization can form as individual sulphide bodies or as groups of sulphide bodies throughout a magmatic system.

Sulphide accumulations can be re-worked within a dynamic system resulting in transportation down stream. Upstream migration of sulphide (massive) has been hypothesized in systems that have vertical and sub-vertical components through 'back-flow'. Re-mobilization of sulphide (usually massive) can occur into adjacent wall rocks/structures either early in the accumulation with the formation of footwall veins as typified by Sudbury or post crystallization with structural displacements.

The Thunder Bay North Intrusive Complex comprising Current and Escape chonoliths and respective PGE-Cu-Ni deposits are part of the 1.1 Ga MCR interpreted to be the result of mantle plume impinging on the Archean plate causing intra-plate magmatism, similar to other rift-type and continental flood basalt settings (Noril'sk, Raglan). Parental magmas are hypothesized to be high MgO-basalts with olivine as a primary crystallizing phase and the effective accumulation of this phase resulting in the production of olivine rich lithologies. The two deposits are hosted in intrusions with no known extrusive component due to the present erosion level. Similar analogs for tectonic setting are Noril'sk-Talnach of Russia and the lower stratigraphy of the Raglan terrain in Northern Québec, although intrusions in both of these settings are emplaced within similar aged metasedimentary sequences rather than Archean rocks. Within the 1.1 Ga MCR, known Ni-Cu-PGE deposits of Eagle and East Eagle (Lundin Mining Corporation) and Tamarack (Talon Metals Corp.) are of the same type/family with some slight variations in host rock and metal tenors.

9.0 EXPLORATION

Clean Air commenced exploration on the Project on May 10, 2020, which was the first exploration by the Company on the property after the amalgamation of the Current and Escape projects from Panoramic and RTEC by Benton as described in Sections 4.0 and 6.0.

Exploration work from May 10, 2020, to April 30, 2023, can be largely divided into two objectives. The first objective was to continue improving the understanding of deposit geology and mineral resources at the two known deposits (Current and Escape). This work largely utilized diamond drilling and supporting borehole (BHEM) and surface pulse electromagnetic (SPEM) surveys to infill on the two deposits. In addition, review of historical drill core, reject re-analysis, mineralogy, petrology, and metallurgical testing along with academic research have advanced the understanding of the geology and deposit model.

The second objective of the exploration programs completed in 2020 to 2022 has been to target depth extensions of the intrusions and areas historically not considered to be prospective. A broad magnetotelluric (MT) survey over the two deposits and adjoining geological structures provided the foundation for the targeting work.

Work carried out by Clean Air between 2020 and 2023 is summarized in Table 9-1, with details provided in the following subsections and in Section 10.0.

Table 9-1: Clean Air Metals Exploration Summary
Clean Air Metals Inc. – Thunder Bay North Project

Year	Activity
2020	Escape deposit Phase I diamond drilling. 25 drill holes with cumulative 11,345 m.
	Escape deposit Phase II diamond drilling. 15 drill holes with cumulative 6,994 m
	Current deposit metallurgical sample diamond drilling. 4 drill holes with cumulative 795 m
	Current deposit MT-anomaly testing: 1 drill hole with final depth of 770 m
	BHEM was completed on 11 drill holes in the Escape deposit
	BHEM MMR was completed on nine drill holes in the Escape deposit
	MT survey Phase I: Current and Escape deposits totalling 110 stations
2021	Escape deposit Phase III diamond drilling. 86 drill holes with cumulative 38,026 m.
	Current deposit MT-anomaly testing: 2 drill holes with cumulative depth of 985 m
	Current deposit continuity drill testing: 33 drill holes with cumulative depth of 6,838 m
	BHEM was completed on 25 drill holes in the Escape deposit
	MT survey Phase II: Current and Escape deposits totalling 202 stations
	MT survey Phase IIb: Current and Escape deposits totalling 104 stations
	Surface pulse EM survey was completed over the northern portion of the Escape chonolith.
2022	Escape deposit diamond drilling. 45 drill holes with cumulative 17,625 m
	Escape high grade zone surface pulse EM
	TBN MT target validation surface pulse EM

Year	Activity
	Current deposit Bridge-Beaver zone surface pulse EM
	Current deposit continuity drill testing: 29 drill holes with cumulative depth of 5,000 m
	Current deposit metallurgical drilling: 8 drill holes with cumulative depth of 2,068 m

9.1 Targeting Orthomagmatic Sulphide Deposits

Primary targeting and ground selection for prospective MCR intrusions historically has been focused around airborne magnetic data and visual picking of potential intrusions to target. Unique to most of the early olivine bearing rift intrusions are associated circular magnetic polarity reversals occurring within a portion of the intrusion. At Current and Escape, these reversals were originally targeted as potential kimberlites and encouraged regional prospecting and mapping. Orthomagmatic mineralization in early MCR intrusions to date is restricted to olivine bearing rock units (peridotite, feldspathic peridotite, olivine gabbro) and targeting these rock types is critical. In regional areas with low background magnetic response (e.g., Quetico metasediments), detailed airborne magnetic surveys are able to delineate and trace the strike of the intrusions for drill testing. This is complicated by the variable magnetic response of the intrusions stratigraphy; peridotite is magnetic, however, overlying gabbro and specifically the oxide gabbro has a much higher magnetic susceptibility, effectively masking the response of underlying peridotite. This is best seen in the Escape Intrusion from the HGZ extending to the Escape North Zone. There is a broad magnetic response reflecting the upper fractionated igneous stratigraphy, while the underlying peridotite is narrow and has numerous changes in strike not reflected in the magnetic response. Electromagnetic geophysical methods (surface pulse electromagnetic: SPEM and borehole electromagnetic: BHEM) have routinely been employed to facilitate the targeting of conductive sulphides and produce excellent results when conductive material is present. A significant portion of the mineralization hosted within the Current and Escape deposits is disseminated sulphide and consequently does not have high connectively and is usually non-responsive or weakly responsive. The HGZ in the Escape deposit contrasts this and was readily identified from surface work to a depth of approximately 350 m and by multiple borehole surveys as a significant off hole anomaly. Both deposits as defined by diamond drilling have been the product of systematic diamond drilling and stepping out along the strike of the intrusions following peridotite (and mineralization) down plunge. Both intrusions are interpreted to be eroded away at their northern terminus, but remain open down plunge at depths greater than 750 m. Constraining the potential morphology of intrusions is a critical element of down plunge targeting. Unconstrained, constrained, and joint inversions of multiple geophysical datasets are showing some potential to understand sub-surface intrusion morphology with magnetic inversions forming the framework. At depths greater than 500 m, direct targeting of mineralization becomes challenging, with a limited number of tools to employ. Magnetotelluric (MT) systems have the capacity to identify resistivity contrasts at depths, with conductive sulphides providing an excellent opportunity to target. Preliminary results from MT surveying and 2D inversions has identified both discrete and linear anomalies spatially related to structures which control the emplacement and development of the intrusive complex.

9.2 Mineral Resource Delineation

Mineral Resource delineation drilling has occurred at both deposits. The majority of this work was completed on the Escape deposit which was at a lower exploration stage compared to Current. Infill and metallurgical sample drilling was completed on Current on a more limited extent. In conjunction with the drilling, BHEM was routinely utilized to generate an iterative targeting loop to trace the mineralization.

BHEM surveying was completed by Crone Geophysics and Exploration using their borehole pulse EM system. Data was processed and then modelled by a number of consulting geophysicists: Brian Bengert of B-Field Geophysics, Neil Hughes and Dan Card of EarthEX for follow-up drill target generation. Specific details of drilling completed on each deposit are provided in Section 10.

9.3 Current and Escape Deposit Characterization

9.3.1 Rhodium Assay Current and Escape Deposits

Rhodium, a platinum group element, is hosted within both deposits, but historically had not been routinely analyzed due to analytical cost. To better understand the abundance and distribution within the deposits, a re-sample and assay program was conducted on both deposits. The program comprised a number of components dependent upon material available:

- Assay sample reject material from historical diamond drilling on the Current deposit were pulled from storage and submitted to analysis.
- Mineralized pulps with >1g/t Pt+Pd from drill core samples taken from holes drilled in the Escape HGZ in 2020 were re-analyzed for their Rh content.
- Select mineralized intervals from the step-out drilling were analyzed as initial sample submissions.

9.3.2 Intrusion Petrology

A moderate understanding of the intrusion petrology is available for the Current intrusion by early work carried out by Graham Wilson on the discovery team. Additional inhouse work was carried out by Goodgame (2010) and academic research work by Kulinich-Rinta (2012) and Chaffee (2013) continued to build geologic understanding.

Limited work had been completed on the Escape deposit beyond preliminary work by D'Angelo (2013). A petrology study was completed by James Miller utilizing 31 samples from drill hole ELR20-004. Differences in mineralogy and intrusion stratigraphy were observed when compared to the Current intrusion. Of significance was the lack of orthopyroxene within the mafic and ultramafic rock types.

The bulk of the mineralization within both intrusions occurs within feldspathic peridotite (a rock that contains greater than 40% olivine, variable amounts of pyroxene, and up to 20% plagioclase feldspar); however, the peridotite within the Current Intrusion is a fine grained feldspathic lherzolite containing both orthopyroxene and clinopyroxene, whereas the peridotite at Escape Lake Intrusion is a medium grained feldspathic wehrlite containing only clinopyroxene as its pyroxene phase. Additionally, the Escape chonolith displays a much more consistent igneous stratigraphy along the strike of the chonolith, whereas only the SEA portion of the Current chonolith contains a more comprehensive igneous stratigraphy, the balance of the chonolith containing only the telescoped peridotite and red-hybrid rock types.

9.3.3 Synchrotron Cluster Results

A study utilizing synchrotron spectroscopy was carried out to aid in the characterization of the various mineralized zones comprising the Current and Escape deposits. This work was completed by Dr. Lisa Van Loon of LISA CAN Analytical Solutions Inc. and Dr. Neil Banerjee of Western University, Ontario. Dr. Van Loon and Dr. Banerjee describe synchrotron mineral cluster analysis as a multivariate analysis whose goal is to classify a suite of samples into different groups such that similar subjects are placed in the same group. A total of 94 samples were utilized; 79 were selected from the Current deposit and consisted of coarse rejects of core samples originally taken by Magma or Panoramic between 2007 and 2012, and 15 samples selected from the Escape South HGZ and were comprised of sample pulps of core samples taken during the Company's 2020 diamond drilling program. Preliminary cluster analysis was presented in November 2020 (Van Loon and Banerjee, 2020) with final report issued January 2021 (Van Loon and Banerjee, 2021). The cluster analysis is based on full X-ray diffractogram, with the samples partitioned into sets (cluster domains) based on similarity in patterns.

Eight domains were identified in the cluster analysis. Of those, three domains represented the majority of the samples analysed (Domain 1, 2, and 7) with the balance of the domains being defined by only one or two samples.

Domain 1 comprises 18 samples (19%). Silicate mineralogy identified was olivine, clinopyroxene, orthopyroxene, plagioclase feldspar, chlorite, biotite, talc, and chrysotile with minor lizardite. Sulphides comprised chalcopyrite, pentlandite, troilite, and magnetite as oxide.

Domain 2 comprises 59 samples (63%). Silicate mineralogy identified was olivine, clinopyroxene, orthopyroxene, plagioclase feldspar, calcite, chlorite, biotite, and talc. Sulphides comprised chalcopyrite, pentlandite, pyrite, troilite, and magnetite as oxide.

Domain 7 comprised 9 samples (10%). Silicate mineralogy identified was plagioclase and K-feldspar/orthoclase, calcite, quartz, chlorite, biotite, muscovite, and talc. Sulphides comprised chalcopyrite, pyrite, and magnetite as oxide.

9.3.4 Directed Academic Research Projects (2020-2023)

Clean Air engaged with Dr. P. Hollings from Lakehead University, located in Thunder Bay, who secured a Natural Science and Engineering Research Council of Canada grant of $300,000 with additional contribution of $150,000 from Clean Air to carry out research on the Project. Funding established a 3-year research program commencing in 2020 with a postdoctoral researcher, Master of Science (M.Sc.) candidates, and undergraduate Bachelor of Science thesis work.

Dr. M. Brzozowski (Postdoctoral Researcher) focused research on the Current deposit, the sulphide mineralization hosted within, and secondary alteration effects on the mineralization. The most recent work by Dr. Brzozowski was "Complex magmatic-hydromagmatic processes in conduit-type Ni-Cu-PGE sulphide deposits – an example from the 1.1 Ga Current deposit, Midcontinent Rift, Canada" presented at the 2023 International Platinum Symposium. Peer reviewed publication of his work is ongoing with a manuscript titled "Characterizing the supra- and subsolidus processes that generated the Current PGE-Cu-Ni deposit, Thunder Bay North Intrusive Complex, Canada: insights from trace elements and multiple S isotopes of base-metal sulphides" to Mineralium Deposita.

Three M.Sc. candidate researchers are actively carrying out projects on various aspects of the TBN Project.

Connor Caglioti has submitted his M.Sc. thesis titled "PGE-Cu-Ni Sulfide Mineralization of the Mesoproterozoic Escape intrusion, Northwestern Ontario", supervised by Dr. P. Hollings. The research utilizes whole rock geochemistry and sulphide mineral chemistry with sulphur-isotopes to generate a deposit model for the Escape deposit.

Khalid Yahia's M.Sc. research has compared the various intrusive bodies that comprise the Thunder Bay North Intrusive Complex to better understand potential variables for PGE-Cu-Ni prospectivity. Intrusions sampled included Current, Escape, Lone Island Lake, EWC, 025-intrusion, and Greenwich intrusion. A broad range of methods were utilized including whole rock geochemistry (trace elements), age determinations, and isotope analysis. Yahia has presented some results as posters at Institute on Lake

Superior Geology meeting, titled “Geochemistry and isotope composition of Midcontinent Rift-related intrusion of the Thunder Bay North Igneous Complex, northwestern Ontario, Canada”.

Andrea Paola Corredor Bravo has more recently started on the research project. Her project is focused on the Current intrusion and the effects of alteration on both silicate and sulphide mineralogy and the potential sources of hydrous fluids responsible for alteration.

Dr. James Mungall of Carleton University, located in Ottawa, Ontario, in conjunction with a postdoctoral fellow, Nico Kastek, initiated a research project in 2021 examining the intrusion contacts on the Current intrusion to better understand the mechanism for emplacement, intrusion propagation and contact alteration and metamorphic effects. No results have been published to date.

9.3.5 Paleomagnetic Research into Magnetic Reversals

The magnetic response of the early MCR mafic-ultramafic intrusions is distinct in that while most early-MCR-aged intrusions display normal polarity for the majority of the intrusion, they routinely have a small (approximately 500 m) circular magnetic feature that is strongly reversely-polarized. This characteristic has been used to target and prioritize magnetic features within the MCR. The cause of the reversely polarized portions of the intrusions is poorly understood. Geologically, there is no change in rock type across the feature. To better understand the petrogeophysical feature, two avenues of data collection were carried out. The Geological Survey of Canada carried out a series of ground magnetic surveys over the Escape intrusion, specifically, the reversely polarized portion in 2022 and 2023. To support the interpretation of the magnetic surveys, a suite of samples was sent to the Geological Survey’s Paleomagnetism and Petrophysics Laboratory for magnetic measurements of natural remanent magnetization and magnetic susceptibilities. Interpretation of the results from these studies are still ongoing.

9.4 Project Mineralization Targeting

The Current and Escape deposits were initially discovered in 2007. Since then, a number of exploration programs and techniques have been applied and directly targeted the deposits, resulting in the current Mineral Resource estimate which includes material to a depth of greater than 500 m below surface. Both intrusions remain open to depth as they both plunge to the southeast. Exploration work beyond this has been limited partly due to cost and fewer direct targeting geophysical methods to employ. Consequently, the exploration maturity of the intrusions at a shallow level is high, but decreases substantially at depth. Similarly, the Project covers approximately 320 km^2, but limited work has been done beyond the magnetically interpreted extents of the Escape and Current intrusions.

To target deeper and beyond the well-defined magnetic responses of the Current and Escape intrusions, a MT survey program and geophysical inversion programs were planned to provide foundational targeting work in the Project area.

9.4.1 Magnetotelluric Survey and Inversions

A 3-phase line cutting program comprising a 54 line-km grid was cut over the southern portions of the Current and Escape intrusions in 2020 and 2021 as control for a Quantec Geoscience (Quantec) MT survey (Figure 9-1). Audio magnetotelluric (AMT) measurements were completed over the TBN Project in a series of campaigns starting in 2020 and extending into 2021. Survey work was completed by Quantec using their SPARTAN MT survey. Phase 1 (CA01237S) field surveying was completed along six lines over Escape and Current chonoliths. Lines surveyed were comprised of L353320E, L354310E, L355020E, L357030E, L358730E, and L359470E. Phase 2 (CA01245S) was largely comprised of infill lines to tighten up the line spacing with six survey lines completed comprising 202 stations. The final phase (3: CA01273S) comprised 148 stations distributed on eight lines with a combination of new infill lines and extensions on existing lines. All phases of the MT survey totaled approximately 54 line-km comprising 460 MT-stations. Raw data was processed by Quantec and utilized to generate 2D inversion sections for lines from each successive phase. Initial MT anomalies were picked on the basis of lowest resistivity areas within the 2D inversions. Additional 2D inversion modelling was completed with the comprehensive data suite.

The survey clearly indicated that MT was an effective tool in identifying sub-surface resistivity. The MT survey and associated 2D inversions showed good spatial relationships between resistively lows and known mineralized chonoliths. Six low resistivity MT anomalies were identified from the inversion of Phase I and II datasets and shown and labelled as MT targets A through F in Figure 9-1. The areas of anomalism occur in the southern portion of the Property, largely within the interpreted Escape Lake fault or to the south of it. MT-resistivity low features appeared as both discrete anomalies and property scale features that are coincident with known geological structures (e.g., East-West-Connector feature/Escape fault). Faults are known to control the emplacement of the intrusions, which subsequently host mineralization. However, the 2^{nd} order relationship has the potential to result in false positive. MT targets that were modelled to have a depth extent of less then 800 m were identified for follow up surface pulse EM work to potentially refine a conductive target.

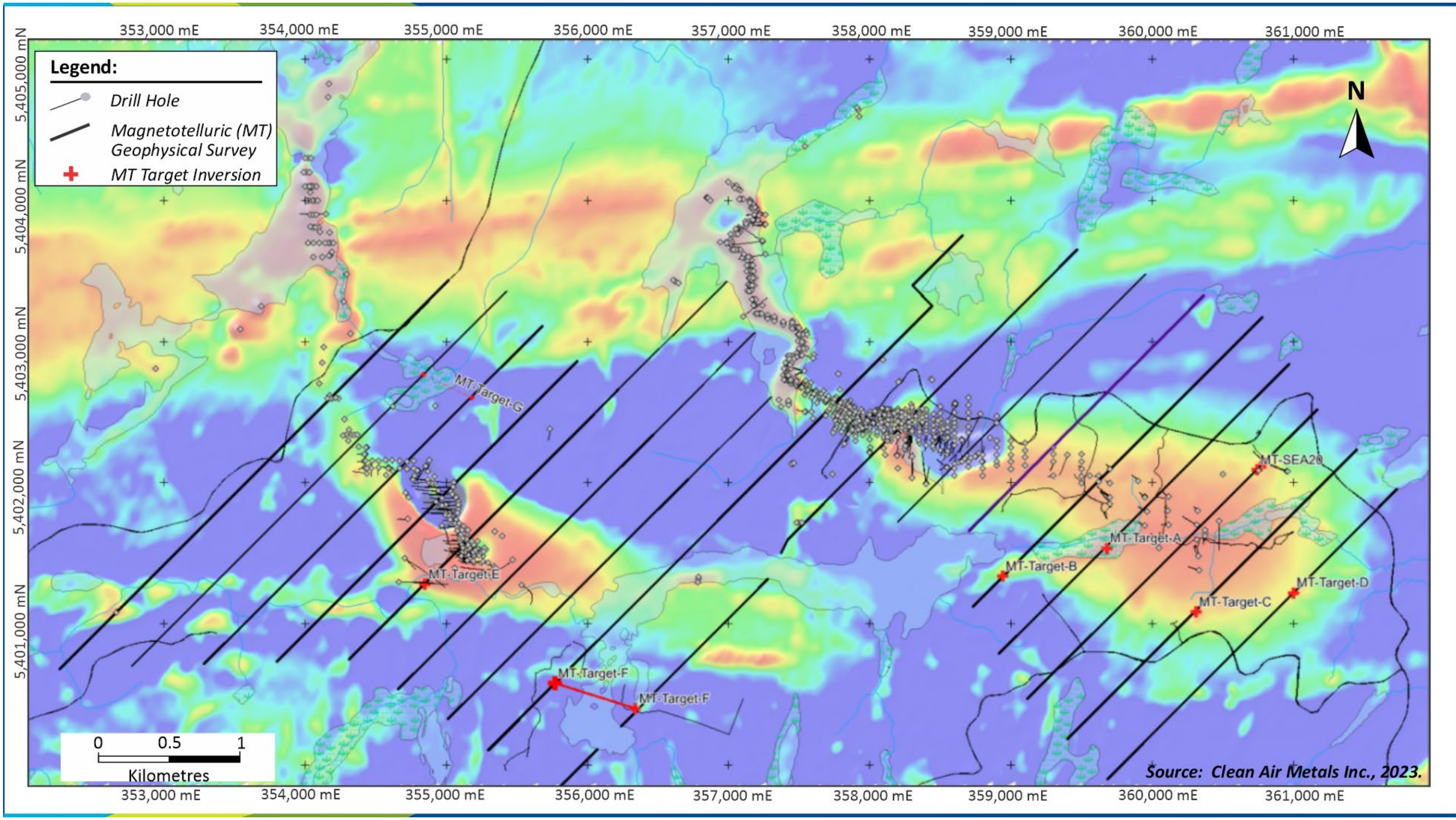


Figure 9-1: Total Magnetic Intensity of the Current and Escape Intrusions

9.4.2 Magnetotelluric Anomaly Follow-up Surface Pulse EM

A SPEM program was carried out to prioritize the MT-anomalies and potentially refine a conductive target with a modelled EM plate. During the winter of 2022, Crone Geophysics and Exploration (Crone) surveyed seven loops ranging from 800 m x 800 m up to 1,200 m x 1,200 m, depending on the interpreted depth to the resistivity low (Figure 9-2). Loops were designed to test for sub-horizontal conductor (within loop). Survey lines were spaced at approximately 180 m to 200 m. Raw data was collected by Crone and sent to EarthEX for data quality assurance and quality control (QA/QC) and interpretation.

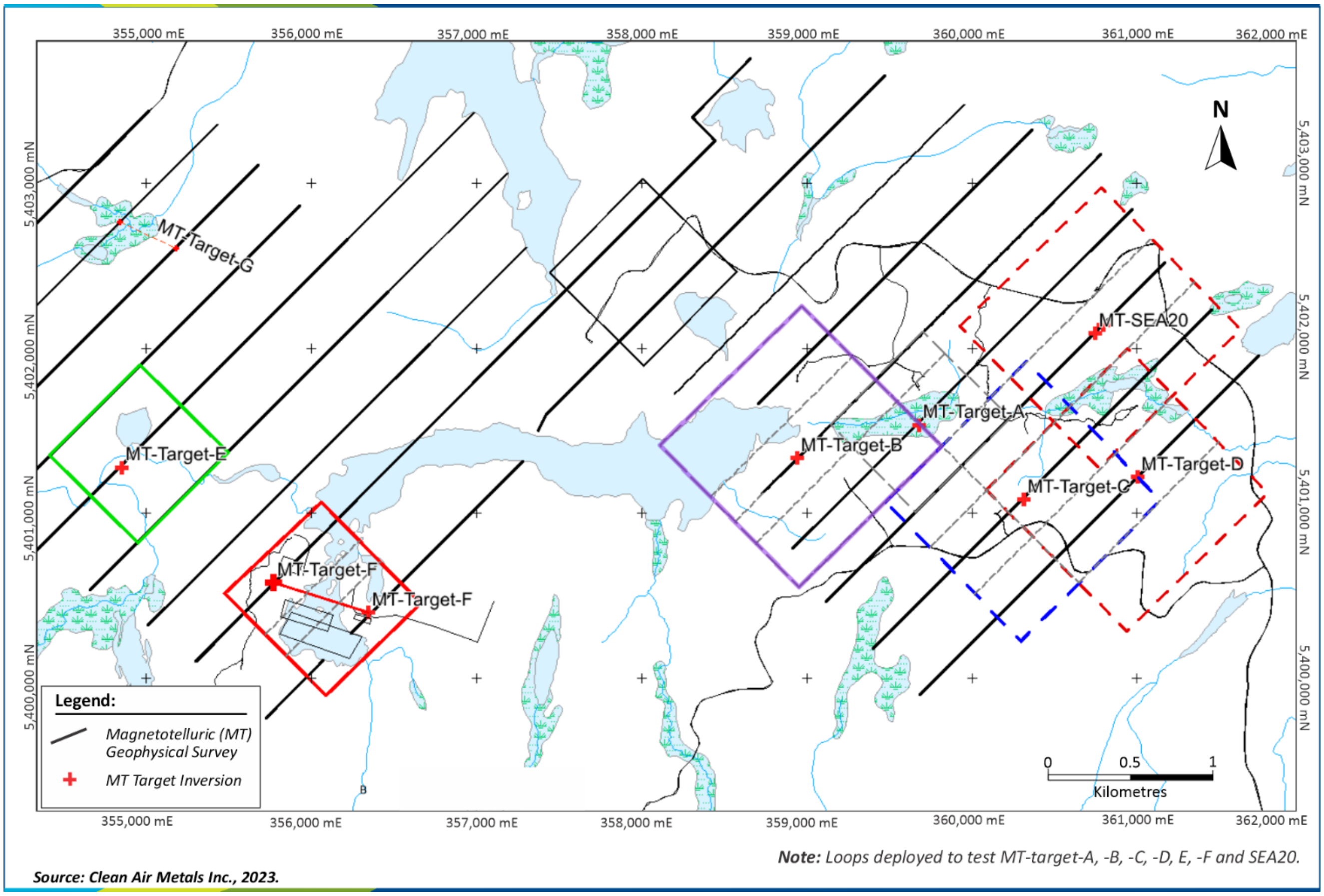


Figure 9-2: SPEM Loop Deployment for Testing MT Targets

An EM response was obtained within Loop-F (MT-target-F) and two Maxwell plates where modelled as sub-vertical plates that were spatially coincident with the MT resistivity low. The balance of the MT-targets did not have conductors that could be modelled. Anomalies were identified but interpreted to be weak conductors and of low conductance. Due to this, shallower MT-targets that are well within the search depth of surface EM were lowered in prospectivity. MT-targets at depth greater then 500 m had no change in prospectivity.

9.4.3 Magnetotelluric Anomaly Follow-up Diamond Drilling

Diamond drill testing of three MT-targets has been undertaken on the Project since the completion of the MT surveying, 2D inversions, and target selection.

Drill testing of MT target "SEA20" and "SEA21" proximal to the Current Intrusion was carried out with two drill holes CL20-001 (770 m) and CL21-002A (950.8 m). These holes were completed proximal to the historical SEA10-06 drill hole (1,965 m) which tested an airborne gravity gradiometer high, which was later attributed to be a regional result of a slight density contrast between granite and metasedimentary rocks. Historical drill hole SEA10-06 intersected multiple mafic sills/dykes at multiple stratigraphic levels, with the thickest mafic intrusion occurring at the same depth as the modelled MT-anomalies (BB-SEA20, -SEA21). In contrast to SEA10-06, neither of the 2020 or 2021 CL-series holes intersected mafic/ultramafic intrusions. BHEM survey completed on the drill holes did not produce either in-hole or off-hole response. The geological difference between adjacent drill holes was postulated to be reflecting a strong structural control and dyke emplacement rather than laterally continuous sills. The targeted MT resistivity low was not identified.

MT-Anomaly "E" proximal to the Escape Intrusion was targeted as a potential mineralized extension to the Escape intrusion hosted within the Escape Lake fault zone. MT-anomaly-E was tested with a series of drill holes ELR21-055A (572 m), ELR21-060A (458 m), ELR21-063A (524 m), and ELR21-066 (155 m). All drill holes intersected variably-sheared Archean metasedimentary rocks of the Quetico subprovince with minor Thunder Bay North intrusive complex sills and dykes identified. The targeted MT resistivity low was not identified. Exploration drilling completed was potentially sub-parallel to the target. A BHEM survey of the hole unfortunately did not detect any off-hole anomalies.

MT-Anomaly "F" located to the south of the Escape Lake fault was prioritized as a target as it had the lowest resistivity in the MT survey and follow up surface EM had identified steeply dipping weak conductors that were coincident with the MT-anomaly. The target was tested with a single drill hole (EL23-004) in the winter of 2023. The drill hole was completed to a depth of 716 m and intersected three distinct lithologies:

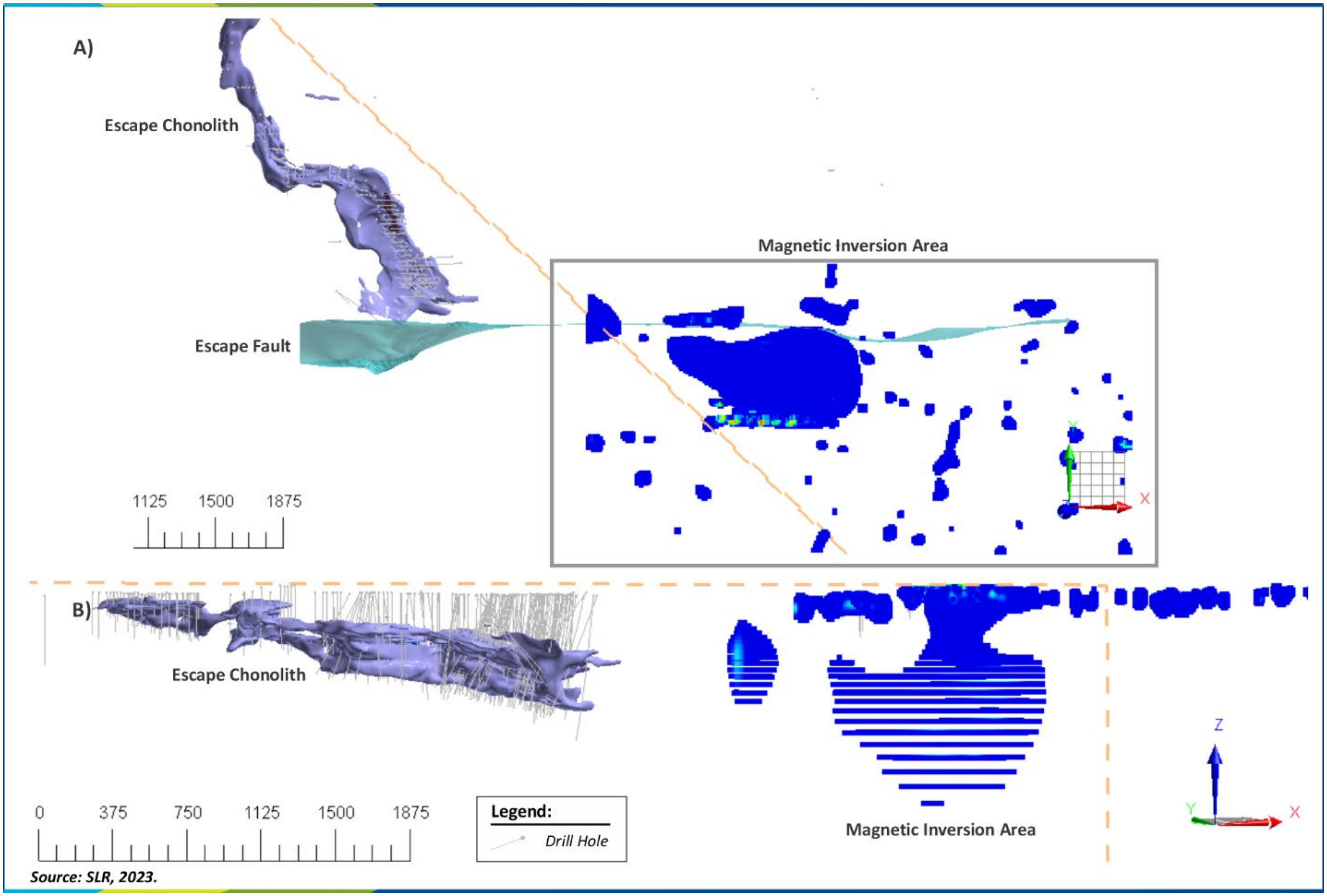
- Archean Metasedimentary rocks are light grey to grey in colour, fine grained, with a weak to moderate foliation, contain medium to coarse quartz fragments/veins, are weakly altered, and are weakly fractured. They are very similar to other sedimentary packages observed in both Escape and Current deposits.
- Granite/granitoid was a significant lithology in the drill hole. The granite displayed some variation in color and grain size, but is typically white/greyish in color and coarse grained, and typically contains both biotite and muscovite. Alteration varies throughout the unit and is typically spatially associated with the hybrid dykes. Like the metasediments, contacts in and out of the granite units are sharp and regular in shape.
- The third lithology, mafic intrusions (dykes/sills), although volumetrically minor have tectonic and emplacement implications. These intrusions varying in width from a couple centimeters to a few meters, are dark grey to black in color, very fine to fine grained, and have chilled upper and lower contacts that sometimes exhibit spherulites. The intrusions are non-mineralized mafic and interpreted to be MCR hybrid grey dykes, similar to hybrid dykes observed at both the Escape and Current deposits.

BHEM was completed on the drill hole by ClearView Geophysics utilizing two (800 m x 800 m) loops for both within and out loop surveying and two survey probes (fluxgate and Db/dt). Borehole surveys did not identify any off-hole conductors, but it did identify two broad weak in-hole responses in the upper and lower portions of the drill hole. The in-hole response in the lower portion of the drill hole is coincident with an interval of metasedimentary rocks, spatially correlates with the MT resistivity low, and occurs in the same dip plane as the modelled surface EM plates. The upper in hole response is enigmatic as it is hosted within non-distinct granite/granitoid. It is hypothesized that the MT-target F resistivity low is related to rock type and no further follow up on the specific target was warranted.

9.4.4 Geophysical Inversion

The process of magnetic interpretation and targeting has played a key role in the success of exploration programs on the TBN Project in the shallow subsurface search space (<500 m). To begin targeting deeper within the Project area, a small magnetic inversion case study was executed along the trend of the Escape chonolith and the intersection of the Escape fault. Two magnetic inversion models were completed by EarthEX utilizing data from a 2010 ground survey and a 2008 airborne magnetic survey data. The 2008 airborne survey was completed by UTS Geophysics utilizing a fixed wing PAC-750XL plane with three Geometrics G822A cesium vapour total field magnetometers in conjunction with a fluxgate three component vector magnetometer. The survey was carried out on 40 m spaced lines and a nominal sensor height of 30 m. Magnetic inversions were run as unconstrained and generated similar results (Figure 9-3), which identified a volume of material with high magnetic susceptibility at depth, along the plunge of the Escape intrusion.

The magnetic inversion model has an estimated top of approximately 650 m below surface, with a vertical extent of approximately 800 m and estimated width of 500 m; it is centred approximately 2,000 m east-southeast of the most eastern intersection of peridotite from the Escape drill program (ELR20-034). The entirety of this plunge potential is untested.



Note: (A) Plan View, (B) Section View Looking Northeast

Figure 9-3: Escape Chonolith, Interpreted Strike of the Escape Fault, and Magnetic Inversion Model of the 2008 Airborne Magnetic Data

9.5 Exploration Potential

Significant exploration potential remains within the Project area to make new discoveries adding to the mineral endowment of the intrusive complex. A discussion of the potential in decreasing prospectivity is detailed below:

1. Down plunge Escape Intrusion: The small case study magnetic inversion has potentially identified greater than 2 km of untested down plunge strike extension to the Escape deposit. The Escape deposit contributes a significant proportion of the contained metal to the TBN Project. The mineralization within the Escape intrusion occurs at multiple stratigraphic levels within the peridotite indicating multiple S-saturation events throughout the magmatic history of the chonolith. Within a dynamic chonolith system, mineralization can be segregated anywhere along the strike and in multiple locations, resulting in high prospectivity within the untested plunge. Expanding the magnetic inversion to include the Escape intrusion to show model continuity is warranted. Given the depth of the inversion model, surface EM techniques are probably not feasible to provide a conductive target. Wide spaced drilling along the spine of the magnetic inversion model followed up with borehole EM utilizing large loops will constrain both the magnetic stratigraphy and off-hole conductive potential.
2. Down plunge Current Intrusion: A moderate amount of reconnaissance exploration drilling has been completed in the 437-zone and SEA area of the Current intrusion and identified both peridotite and low grade orthomagmatic mineralization. Similar to Escape as described above, anywhere along the dynamic conduit there is high prospectivity to host mineralization. The base of the Current intrusion within the SEA portion is greater than 1,000 m below surface, beyond most direct detection geophysical systems. A strong structural control on intrusion emplacement and morphology and, as a consequence, mineralization distribution is recognized within both Current and Escape. Understanding and constraining intrusion morphology may be a critical step in developing a geological model to target mineralization. To that end, geophysical inversions and joint inversions of existing magnetic, MT, and Z-TEM datasets may provide insights to target. Acquisition, of new geophysical data that adds to morphology understanding is probably warranted, and systems employing seismic, passive seismic, or seismic refraction tomography should be trialed to assess merit to generate geology targets for further testing.
3. 025 Intrusion: Located to the north of Current and Escape intrusions, the 025 intrusion has outcropping olivine cumulates at surface coincident with a small magnetic feature. Two drill holes tested the intrusion with one returning anomalous orthomagmatic mineralization along the basal contact within peridotite. The morphology of the intrusion is not constrained, making follow up exploratory drilling challenging. Acquisition of high-resolution magnetic data over the intrusion and surrounding area to utilize in an inversion model may provide beneficial insights into potential plunge direction. No surface EM work has been carried out over the intrusion or potential down plunge area and is certainly warranted as an initial exploration program to generate drillable targets.
4. Untested MT-targets: a series of MT-resistivity low features were identified proximal to the SEA portion of the Current intrusion. These MT-targets appear to be spatially associated with arcuate magnetic features that ring the southern side of the SEA portion, potentially interpreted as ring-dykes emplaced concurrently to the chonolith. Surface EM work did not identify any conductive targets that would indicate connected sulphides. Blind intrusions hosting disseminated sulphide or poorly connected sulphide emplaced along or in a ring feature are the geological targets.

5. Steepledge portion of the Escape chonolith: This section of the Escape chonolith was drilled early in the discovery phase of the intrusive complex. To date mineralization hosted within appears low grade and discontinuous. However, the understanding of the dynamic systems, intrusion morphology, lithologies present, and styles of mineralization has increased substantially from this early work. Review of the drill core and re-interpretation of the drilled sections to identify any untested potential is warranted.
6. Thunder Bay Project area: Much of the TBN property has not had rigorous exploration carried out on it, largely due to poor outcrop exposure and variable background magnetic response that masks the MCR intrusion responses. A predictive model that utilizes property wide inversion block models of the airborne magnetic data and joint inversion of MT and Z-TEM datasets would be beneficial in targeting. These magnetic and conductivity block models can be integrated with a structural model to query for areas that would be most prospective for future exploration programs.

10.0 DRILLING

10.1 Thunder Bay North Diamond Drilling

Diamond drilling has been a critical exploration tool in the discovery and delineation of Mineral Resources within the Thunder Bay North Project. The original discovery was made on in situ frost heave boulders along the edge of the Current Lake, but no other outcropping mineralized rocks associated with either the Current or Escape deposits have been identified. Successive diamond drilling programs, as visually summarized in Figure 10-1, have greatly enriched the geological understanding of the two deposits.

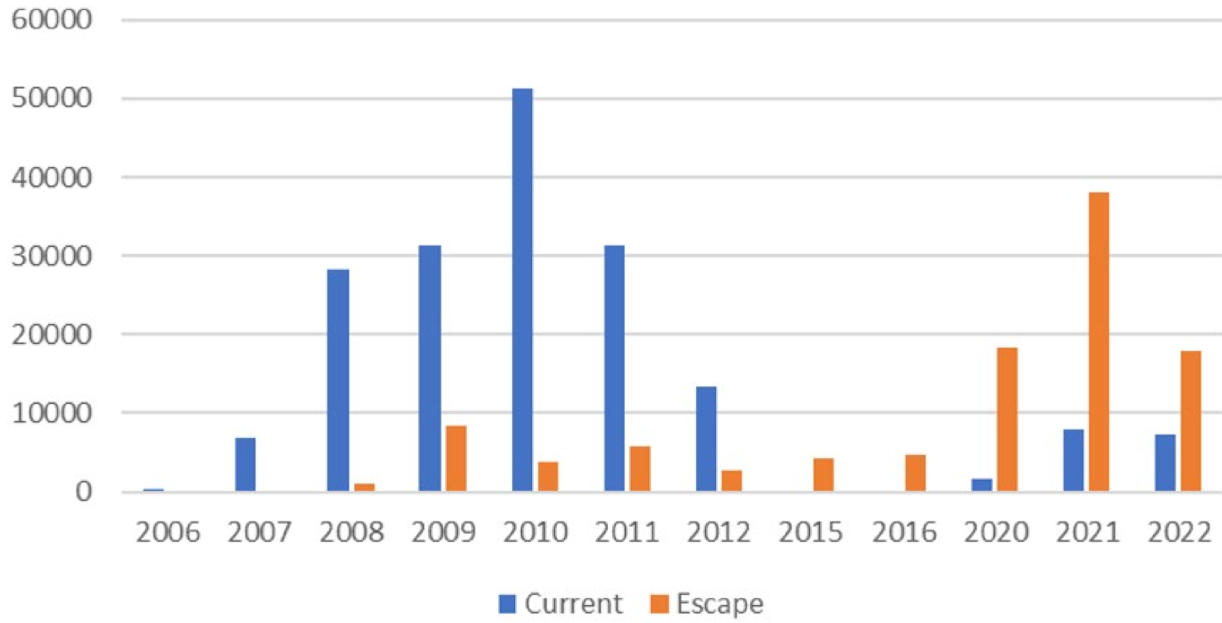


Figure 10-1: Diamond Drilling Meters Completed per Year for Current and Escape Deposits

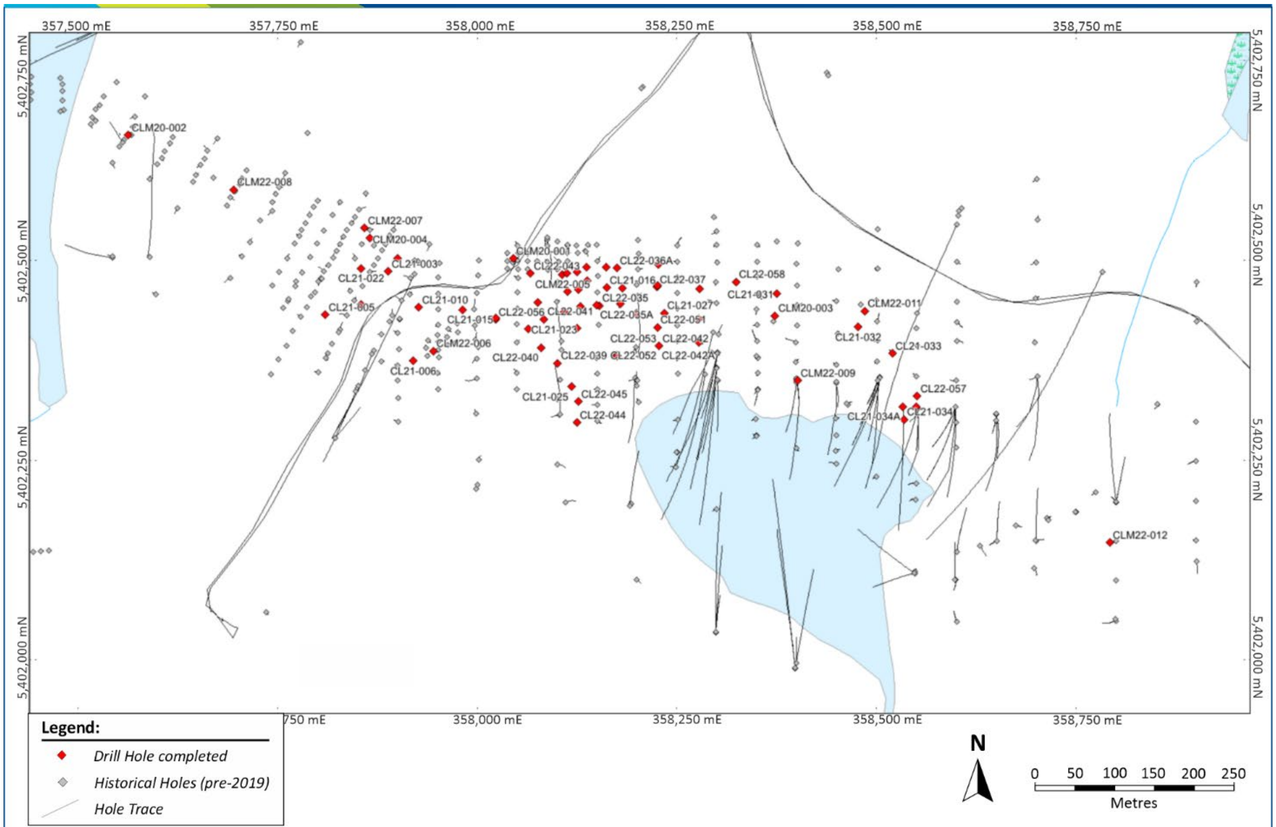
10.1.1 Current Deposit Drilling

The Current chonolith, hosting the Current deposit has undergone several diamond drill campaigns, as summarized in Section 6. Cumulative total of diamond drilling consists of 179,629 m of core from 818 NQ and HQ drill holes completed between 2006 and 2022. Table 10-1 provides a summary of the drill campaigns by year and operator and their location is shown in Figure 10-2.

Table 10-1: Current Deposit Drill Hole Summary
Clean Air Metals Inc. – Thunder Bay North Project

Year	Company	Hole Prefix	Number of Holes	Hole Diameter	Total Length (m)
2006	Magma Metals (Canada) Ltd.	TBND	2	NQ	375
2007	Magma Metals (Canada) Ltd.	BL07, TBND	39	NQ	6,806
2008	Magma Metals (Canada) Ltd.	BL08, TBND	167	NQ	28,337

2009	Magma Metals (Canada) Ltd.	BL09, TBND	191	NQ	31,425
2010	Magma Metals (Canada) Ltd.	BL10, TBND, SEA	210	NQ	51,193
2011	Magma Metals (Canada) Ltd.	BL11, TBND, SEA	102	NQ	31,297
2012	Magma Metals (Canada) Ltd.	BL12	19	NQ	13,327
2016	Rio Tinto Kennecott (RTX)	16TB	1	NQ	201
2020	Clean Air Metals Inc.	CLM20, CL20	5	HQ/NQ	1,561
2021	Clean Air Metals Inc.	CL21	35	NQ	7,816
2022	Clean Air Metals Inc.	CLM22, CL22	47	HQ/NQ	7,291
Total			**818**		**179,629**



Source: Clean Air Metals Inc., 2023.

Figure 10-2: Plan Map of the Bridge and Beaver Zones of the Current Intrusion

Active drill programs completed on the Current deposit by Clean Air have focused on collecting material for metallurgical testing (two campaigns) and infill drilling in areas identified as having poor mineral continuity, specifically in the Beaver Zone. A total of 62 infill holes for a cumulative total of 11,838 m of drilling were completed intermittently from July 13, 2021, to September 4, 2022. These holes comprised CL21-003 to CL21-034A and CL22-035 to CL22-058, including abandoned holes due to restarts.

Supporting BHEM geophysical surveys were not utilized during the infill program. A surface EM program was carried out by Crone Geophysics and Exploration over much of the Bridge and Beaver zones where accumulations of massive sulphide are known from drill intersections. The area had been surveyed previously in 2009 with surface EM, and it was hoped that improvements to sensor sensitivity and better signal to noise ratios with newer technology would allow for the identification of additional conductors not yet drill tested. No new targetable conductors were identified from the surveying. A broad low conductivity feature was identified in the hanging wall of the intrusion and attributed to alteration and pyrite sulphidation in the hanging wall.

10.1.1.1 Metallurgical Drilling

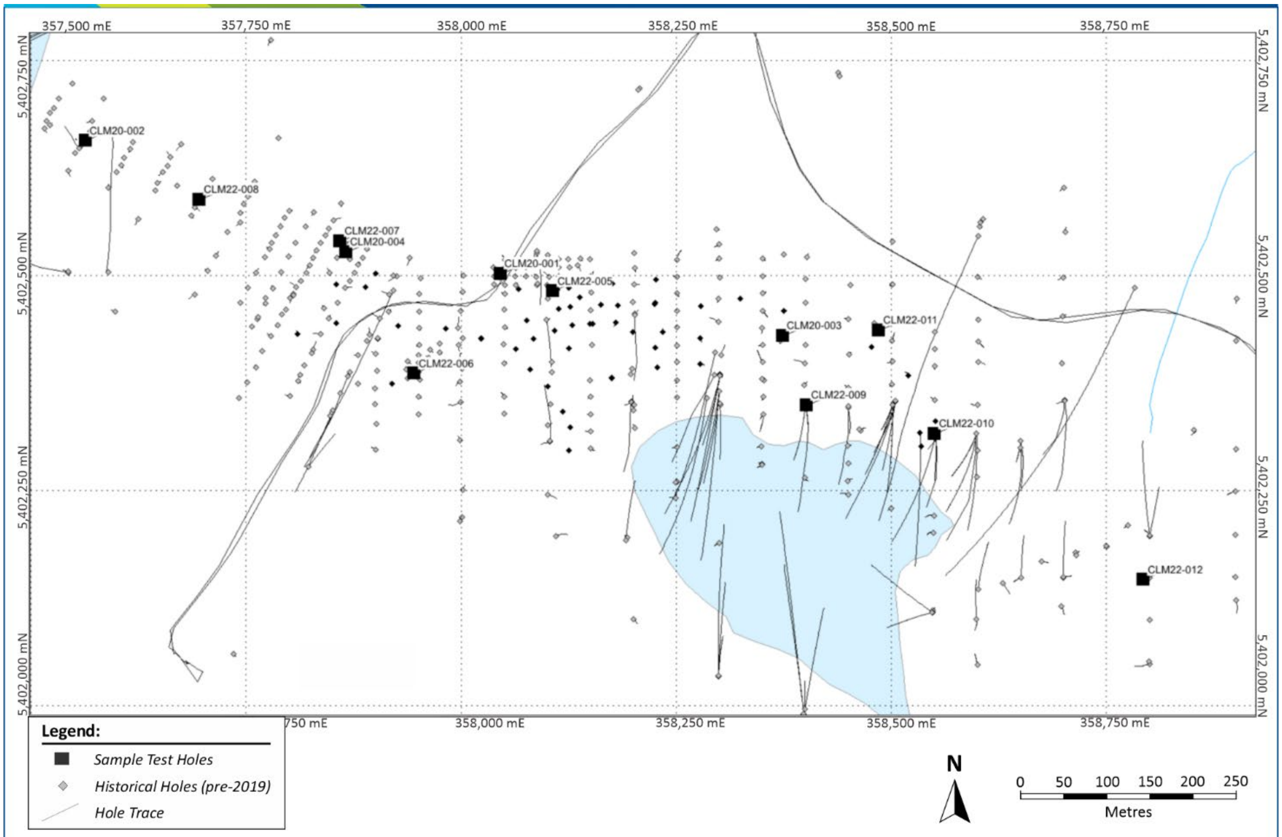
Metallurgical drilling was completed in two campaigns, supplying material to two test laboratories. Drilling was completed using HQ (63.5 mm) diameter core with material being shipped to the metallurgical laboratories.

The first round of metallurgical drilling included four drill holes for a total of 795 m (CLM20-001 to 004, inclusive) testing multiple mineralized zones within the Current deposit. These holes were drilled between December 6, 2020, and December 22, 2020. Sampling consisted of a 15 cm segment of full core collected every 3 m from the intrusive rocks of the conduit and a short distance into the country rocks of the hanging wall and footwall. Each of these 15 cm segments were cut in half, then a representative polished thin section was prepared from one of the halves for each segment. The polished thin sections were reviewed by Dr. Derek Wilton at the Memorial University of Newfoundland (MUN) using the Scanning Electron Microscopy (SEM) - Mineral Liberation Analysis (MLA) facility at the MUN Core Research Equipment and Instrument Training (CREAIT) Network laboratories. The other half of each segment was analyzed at ALS Geochemistry (ALS).

After the 15 cm samples were taken, the bulk of the core was cut in half with one-half wrapped in plastic wrap (to slow oxidation of sulphides) and shipped to Blue Coast Metallurgy and Research (Blue Coast) in Parksville, British Columbia, for metallurgical testing during Q1 2021. The remaining half was again cut in half with one-quarter sent to ALS for analysis and the other quarter retained by Clean Air.

The second round of metallurgical drilling comprised eight drill holes for a cumulative total of 2,068 m of drilling (CLM22-005 through CLM22-012). Drilling commenced on June 20, 2022, and was completed on August 4, 2022. Prior to shipping metallurgical sample material, a thin fillet was cut off for assay control, with the balance of mineralized rock sent to Base Metallurgical Laboratories Ltd. (BaseMet) in Kamloops, British Columbia.

Figure 10-3 illustrated the locations of the metallurgical sample test holes within the Current deposit.



Source: Clean Air Metals Inc., 2023.

Figure 10-3: Distribution of HQ Diameter Metallurgical Sample Test Holes from within the Current Deposit

10.1.2 Escape Deposit Drilling

Diamond drilling on the Escape chonolith, which defines the Escape deposit (including the Steepledge portion of the conduit under Steepledge Lake), consists of 105,086 m of core from 266 NQ drill holes completed between 2008 and 2022. Table 10-2 provides a summary of the drill campaigns by year and operator and drill hole locations are shown in Figure 10-4.

Table 10-2: Escape Deposit Drill Hole Summary
Clean Air Metals Inc. – Thunder Bay North Project

Year	Company	Hole Prefix	Number of Holes	Hole Diameter	Total Length (m)
2008	Magma Metals (Canada) Ltd., Rio Tinto Kennecott (RTX)	08CL, SL08	3	NQ	950
2009	Magma Metals (Canada) Ltd	SL09	39	NQ	8,406
2010	Magma Metals (Canada) Ltd., Rio Tinto Kennecott (RTX)	10CL, SL10	17	NQ	3,874
2011	Magma Metals (Canada) Ltd., Rio Tinto Kennecott (RTX)	11CL, SL11	13	NQ	5,738
2012	Magma Metals (Canada) Ltd., Rio Tinto Kennecott (RTX)	12CL, SL12	6	NQ	2,820
2015	Rio Tinto Kennecott (RTX)	15TB	8	NQ	4,307

Year	Company	Hole Prefix	Number of Holes	Hole Diameter	Total Length (m)
2016	Rio Tinto Kennecott (RTX)	16TB	12	NQ	4,601
2020	Clean Air Metals Inc.	ELR20	37	NQ	18,264
2021	Clean Air Metals Inc.	ELR21	86	NQ	38,141
2022	Clean Air Metals Inc.	ELR22	45	NQ	17,986
Total			**266**		**105,086**

A total of 171 Escape deposit holes (ELR20-001 to 034, ELR21-035 to -107, and ELR22-108 to -110 inclusive) for 73,990 m drilled were completed between May 10, 2020, and January 25, 2022, utilizing up to two drills. Initial drilling targeted the Escape HGZ in the southern portion of the intrusion. Drilling progressed to following the mineralized chonolith northward through the Escape South Zone located just north of the HGZ, into the Escape North Zone (boundary zone) and connected with the southernmost historical drill fence completed by Magma/Panoramic PGMs

These programs were the first holes drilled in the Escape Property since RTEC completed 11 holes (4,287 m) in early 2016. Most of the holes were spaced 50 m apart on 50 m spaced, east-west oriented drill fences. Several infill holes were drilled midway between the 50 m spaced fences in the HGZ to show continuity of mineralization. Localized infill drilling on the main drill fences was completed in a few areas of the HGZ to achieve an approximate 25 m spacing within the mineralization at depth. The enclosing Archean country rocks, usually Quetico-age metasedimentary rocks, were often variably fractured and portions of most of the holes drilled had to be cemented to stabilize the holes for later borehole geophysical surveys. This cementing greatly decreased overall production but was essential to completing the holes.

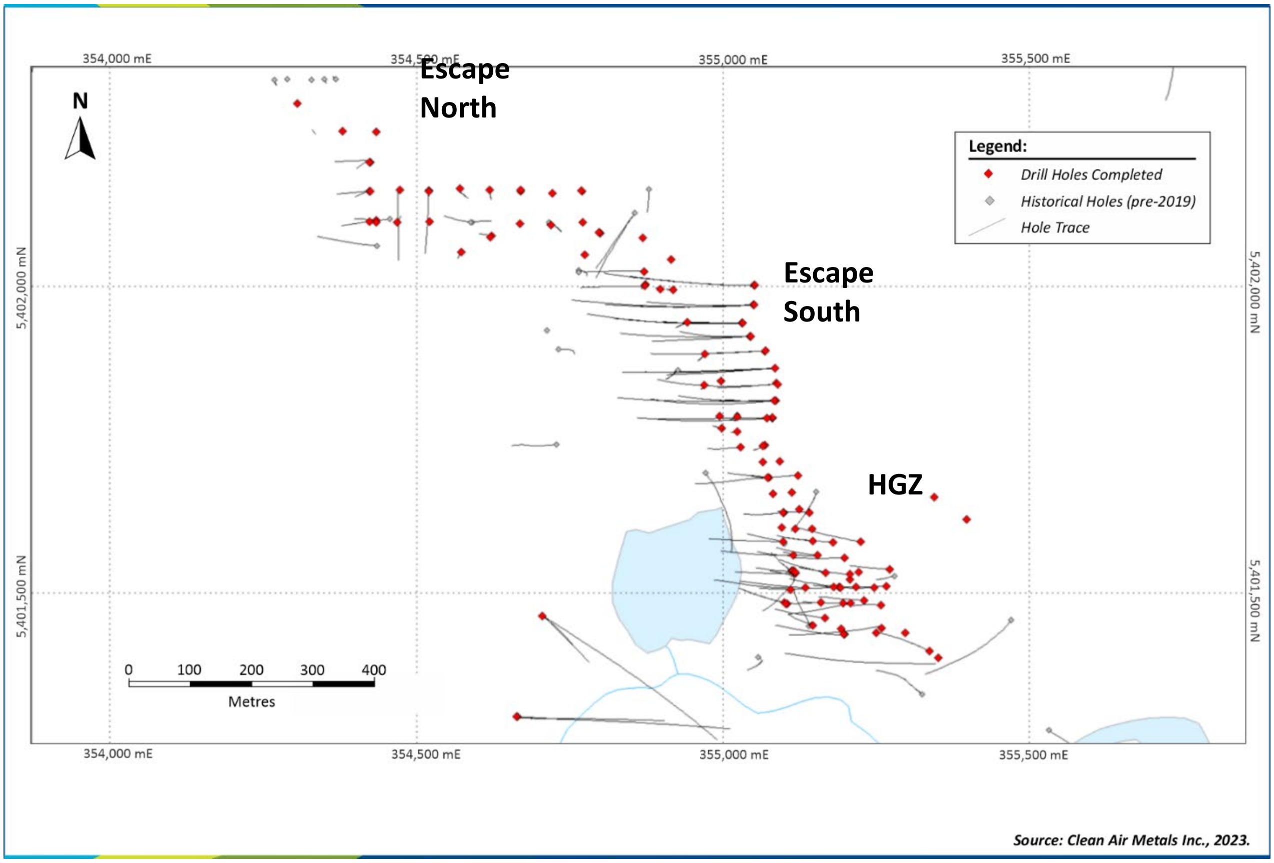


Figure 10-4: Plan Map of the High Grade Zone, Escape South and Escape North Mineralized Zones of the Escape Intrusion

Drilling on the Escape South and Escape North zones was also carried out using a step out and infill approach. Due to ground conditions and narrow intrusion width (narrow bladed dyke), a significant number of these drill holes were completed as inclined holes. Mineralization within these zones displays a progressive attenuation with lessening sulphide to the north along the plunge of the intrusion with the Escape North Zone comprising up to three narrow discontinuous stacked lenses of disseminated sulphide (1% to 3%).

The drilling on Escape identified the presence of massive sulphide in drill holes ELR21-041 (at 336.9 m interval of 0.7 m), ELR21-067 (at 312.08 m interval of 1.8 m), and ELR21-067 (at 432.24 m interval of 0.2 m). Although not volumetrically significant, the presence of these attest to the conduit's capacity to host additional massive sulphide accumulations within a dynamic flowthrough system. Two of the massive sulphide occurrences reside along the margins of the main mineralized trend and appear to be hosted within hanging wall rock shelves/ledges and show some remobilization into locally developed anatectic wall rock melt. Of additional interest is the intersection in ELR21-067 at 432.24 m, as other mineralization is very rare at this stratigraphic level. To develop a narrow interval of massive sulphide that is stranded, sulphur saturated magma must have been flowing, then replaced by subsequent unmineralized peridotite, supporting a hypothesis of multiple pulses of magma flowthrough with not all being sulphur-saturated.

The bowl shaped HGZ is largely closed off by diamond drilling as it thins outward. Below the HGZ, there is a keel of mineralization that extends downward. Based on the drilling, this appears to have limited spatial freedom to expand, but may indicate down plunge potential. Along this trend, drill hole ELR20-034 is the most eastern and deepest intersection of peridotite at a depth of 546 m (approximately 30 m thickness) which remains untested to the southeast. At the stratigraphic top of this intersection, a thin red hybrid with quartz xenoliths is present, a rock type which is ubiquitous at the top of the mineralized chonoliths.

10.2 Drill Methods

Core diamond drilling was utilized to advanced exploration for both deposits since 2006. Drill sizes included NQ (47.6 mm) and HQ (63.5 mm core diameter). HQ holes were drilled for geometallurgy sampling purposes only in 2020 and 2022.

Various drilling contractors and rig types were used during the history of exploration prior to Clean Air era, including Boart Longyear LM-55, LF-70, HC-150, along with DuraLite 5000 and a helicopter-portable Boyles 37. Since 2020, the only drilling contractor was Vital Drilling from Sudbury, with Longyear LF-70, Christensen CS-1000 and Zinex A5 skid-mounted drill rigs.

Drilling on the Project has largely been done utilizing skid-mounted drill rigs on ground. However, a significant portion of the early drilling between 2008 and 2010 was completed on lakes targeting the chonolith sections under Current and Escape lakes. This work was carried out on both ice (using skids) and water (with a barge mounted drill rig utilizing spuds to secure its location to the lake bottom). During all lake-based drilling, cuttings were collected and transported to land for permanent disposal in a cuttings sump. All holes completed on lakes were cemented upon completion and casings pulled.

10.3 Drill Hole Management Procedures

10.3.1 Drill Collar Setup

Procedures for locating drill setup collar locations on the Project have been variable with different operators. Drill sites prior to February 2008 were located in the field using a wide area augmentation system (WAAS)-enabled, hand-held global positioning system (GPS) instrument. From mid-February 2008 to 2012 all drill holes have been sited using a differential GPS (DGPS). Recent drill programs (2020 to present) have again been utilizing WAAS-enabled handheld GPS units for primary locating of drill collars for positioning the drill.

10.3.2 Drill Alignment

Once the drill has been set up by the drilling company on the active drill pad, a geologist is called to the site to begin the drill alignment procedure. The drilling company uses the pre-placed timber pickets to have a rough direction to align the drill. From 2010 to 2020 a Reflex APS tool was used for drill alignment. After 2020, Clean Air changed tools to the Reflex TN14 gyrocompass. The reason for the switch of tool was the increased accuracy of the TN14 gyrocompass. The TN14 gyrocompass has an initial calibration time of 10 to 15 minutes. This is done outside the drill on the ground approximately 5 m to 10 m from the drill. During this time the geologist asks the driller/foreman to shut down the drill and any heavy machinery to avoid any movement to the ground, which could potentially disturb the TN14 calibration. Once the calibration is complete the TN14 is brought into the drill and setup on the drill casing/rods. The TN14 is connected to a tablet that displays the drill's azimuth and dip. Instructions are then followed on the tablet on which direction the drill needs to be moved for azimuth and the tower tilted for a dip. The geologist then directs the driller to move the tower up/down to set the dip. Once the dip is set the driller/foreman will move the drill using a dozer to set the correct azimuth. When both dip and azimuth match proposed direction, the geologist gives approval to driller/foreman that drilling can begin.

10.3.3 Drill Management

Drill management and supervision was carried out by project and senior geologists who routinely checked on progress and quality of drilling while operations were being executed. Diamond drilling was carried out utilizing two 12-hr shifts for continuous operations. Core generated during each shift was securely wrapped and stored on site at the drill rig until the end of shift. If the drill rig was not road-accessible, core was transported to the nearest road by the drilling contractor via heavy equipment for land-based drill rigs, by helicopter for helicopter-supported programs, or by pontoon boat for barge drill programs. Exploration personnel then picked up the drill core and transported it to the logging facility by truck at the end of each shift. Routine inspections covering health and safety, fire, environmental, and site conditions were completed by geologists and geo-technicians.

10.3.4 Collar Survey and Borehole Survey

On completion of drilling, all final drill collar positions were sited using a differential global positioning system (DGPS) with sub metre accuracy. Two methodologies have been utilized to collect the data. From 2006 to 2022, DGPS collar positions were collected by a contract surveying firm JD Barnes, which usually utilized Total Station-type equipment. Since 2022, collar positions have been collected in-house, with a Trimble DA-2 RTX device capable of approximately one centimetre accuracy. Each survey file contains both horizontal and vertical error value for each site, which helps to assess the quality control. In the field, two control points (steel nails in the granite outcrop) were established by JD Barnes with the known coordinates to ensure ongoing continuity.

Dedicated down hole surveying has been completed on approximately 97% of the drill holes. Given the extended exploration history on the Project a range of different borehole survey tools have been utilized on the Project. In total, eight different systems have been utilized to obtain survey data.

- Reflex Gyro (RNSGYRO: Reflex North Seeking Gyro, 2020–2022): 125 drill holes from Escape and Current deposits.
- Reflex Gyro (2007–2012): 754 drill holes from Current, Escape deposit and TBN property. Complete downhole surveying tool capable of surveying in magnetic and non-magnetic rocks. Accuracy is ±0.3° Azimuth and ± 0.5° dip. The Gyro tool is initialized and aligned at the collar using an azimuthal positioning system (APS) which incorporates differential GPS. The dip of the casing is checked with an inclinometer accurate to ±1°. The down-hole gyro survey is conducted from the top of the hole to the bottom (in survey), a second survey is performed from the bottom of the hole upwards (out survey) with stations every 5 m. The In and Out surveys are compared for congruence with Reflex Gyrosmart® software.
- MultiMag (2008–2011: Rio Tinto): Seven drill holes in the Escape deposit. No description for this method is provided by Rio Tinto.
- MultiGyro (2012: Rio Tinto) Three drill holes in the Escape deposit. No description for this method is provided by Rio Tinto.
- Reflex Multishot (2015–2016: Rio Tinto) 15 drill holes in the Escape deposit. The Multishot tool is an electronic magnetic survey tool with onboard data storage.
- RAD tool (2007–2011: Crone): Nine holes in the Current deposit. Magnetic tool utilized during borehole EM surveys to collect positioning data. The RAD tool encompasses three component

accelerometers and three component magnetometers and is utilized to provide accurate dip and azimuth data for boreholes. The RAD tool is affected by localized magnetic rocks and will be erroneous in highly magnetic sections of drill holes.

- Reflex Maxibor II (MAXI2: 2007–2009): 29 drill holes from the Current deposit. Instrument is a non-magnetic multi-shot tool designed to be used in areas of magnetic rock. Survey typically started 10 m from end of hole with readings taken every three metres from starting point to the surface.
- Ranger (2011–2012): 23 drill holes from Thunder Bay North project, 19 from the Current chonolith. Ranger system is a magnetic survey tool measuring azimuth and inclination in Multi or single shot modes.
- Ideal (2007–2022) planned dip/Az for the drill hole. Other supporting survey data was not collected, due to low priority of the hole or hole blockage. 28 drill holes from the Project, and 19 holes are from either Escape or Current chonoliths.

With the continuing improvement in technology and precision of survey equipment, select holes have multiple methods utilized to survey. Additionally, all drill holes completed by other operators (e.g., Escape deposit: Rio Tinto/Kennecott: 2008-2016) were resurveyed in 2020 by Reflex North America (IMDEX Limited) utilizing the Sprint north seeking gyro. That was a successful exercise, however, some drill holes were blocked by the broken rock fragments. In all cases of duplicated survey data, the highest quality is ranked and prioritized in the database for use.

10.4 Core Management

10.4.1 Core Logging

Core generated is transported to the logging facility, there the core is unwrapped by exploration personnel and processed. Core logging facilities have changed during the evolution of the Project. Initial work was completed out of a warehouse in Thunder Bay (101 Fortune Street). As the Project increased in size a remote exploration camp was established between Current and Escape Lakes where the majority of core was processed. Recent core logging activities (2020 to present) have been carried out at the core shack facility opposite Mt. Baldy Road off of Highway 527 (Garden Lake Timber).

The Company's data collection from drill core can be broadly divided into two types: 1) geotechnical and 2) geological data collection.

1. Geotechnical core logging at the basic level comprises the following and is present for the majority of the drill holes:
   - Core recovery; the length of core recovered in each drill run.
   - Rock quality description (RQD): the number of non-mechanical breaks in an interval (commonly 3 m drill run) and the cumulative length of core > 10 cm within the drill run.

     Additional geotechnical data has recently been added to the data collection regime. However, the dataset is limited to date.
   - RMR (Rock Mass Rating) spacings of discontinuities, condition of discontinuities and orientation of discontinuities.
2. Geological data collection includes the recording of lithology, alteration, mineralization, and structure. Three physical parameters are collected at this time: magnetic susceptibility,

conductivity, and specific gravity (SG). Further description of the methodologies is included below. The current database has 101 unique lithology types with 41 lithological qualifier units, 69 lithological textures, and 61 lithological structures. The alteration database has 20 unique alteration codes. Chlorite, hematite, silica, and serpentine are the most common logged alteration types. There are 33 unique minerals recorded in the current database, including chalcopyrite, pentlandite, and malachite. Core logging and data collection has been digitally based since conception of the Project with a database continually maintained.

Systematic core photograph-capturing procedures have been established since 2009, with all of the images available on the company server for re-logging and other purposes. Utilization of IMAGO cloud-based capturing system for high resolution core photographs was established by January 2021.

10.4.2 Core Recovery and Mineralization Thickness

Core recovery is systematically collected during the active logging of drill core. Core recovery is measured as recovered length (cm) in a 300-cm (three metre) drill run. All drilling on the Project has been done using metric (3 m) drill rods. Overall core recovery is excellent. Lower core recovery is spatially restricted to areas of the intrusion's hanging wall. Within the Current chonolith, an area to the west side of Beaver Lake and extending beneath the lake has poor recovery. Similarly, at the Escape deposit, poor recovery and ground conditions are observed above the intrusion where the chonolith trends east-west. Various drilling methodologies have been employed to drill through these areas and range from use of muds and fluid thickeners, tri-cone drilling followed by cement and redrill to drilling-cement-drilling to ensure hole stability. None of these methods result in substantially better core recovery. Recovered material from the areas supports a hypothesis of in situ breccia of the hanging wall rocks (granite or metasediments) followed by partial injection of mafic magmas. This sometimes results in the cohesion of the rock mass into recoverable sections and geologically logged as intrusive breccia.

Both the Current and Escape chonoliths are sub-horizontal with a shallow plunge to the southeast. Neither have any evidence of significant faulting or deformation that would result in duplication of mineralized zones. Mineralization is dominated by disseminated sulphide with lesser net-textured and rare accumulations of massive sulphide along basal contacts amassed by gravitational settling. Mineralization would be best described as lenses with long axis generally paralleling the local strike/plunge of the intrusion. Given the horizontal position and lack of deformation the majority of the vertical drilling will result in true thickness of mineralization. Inclined drill holes are utilized when positioning for a vertical hole is not possible; these holes will produce an apparent mineralization thickness. Two areas where drilling orientation has the potential to bias interpretation are: 1) the narrow sulphide veinlets in the Upper Current zone, where these high grade veins appear to be sub-vertical and when intersected in vertical drill holes are at low angle extending for metres in length, and 2) the sail zone in the Escape deposit appears as a vertical mineralized feature extending up out of the high grade zone. Vertical drilling down the middle of this feature results in significant intervals of mineralization thickness. Inclined holes through the zone constrain the width extent.

10.5 Physical Parameter Data Collection

10.5.1 Magnetic Susceptibility

Magnetic susceptibility measurements are taken on all drill core. Two methods have been utilized on the Project. From 2007 to 2020, magnetic susceptibility measurements were collected as point data with a hand-held meter approximately every 1.5 m along the entire length of the core interval in peridotite. For areas of sediment or granite, the approximate measurement interval may be as much as three metres. An SM-30 magnetic susceptibility meter by ZH Instruments was utilized by Magma Metals/Panoramic and Terraplus KT10 by Kennecott/Rio Tinto. From 2020 onwards, magnetic susceptibility data were collected continuously using a handheld GDD MPP (Multi-Parameter Probe) device.

10.5.2 SG Measurements

Measurements of SG have been routine throughout the life of the Project resulting in 17,429 SG measurements for the Project, of these 11,528 are for the Current deposit and 5,901 are for the Escape deposit (Table 10-3). SG was measured using the water dispersion method. The samples were weighed in air, and then the uncoated sample was placed in a basket suspended in water and weighed again.

Table 10-3: Current and Escape Deposits Average SG Measurements for Common Rock Types
Clean Air Metals Inc. – Thunder Bay North Project

Rock Unit	Current Chonolith (g/cm^3)		Escape Chonolith (g/cm^3)	
	Average Density	Sample Count	Average Density	Sample Count
TBN complex 'hybrid' gabbro	2.73	825	2.74	690
TBN complex Oxide Gabbro	3.07	49	3.17	21
TBN complex olivine clinopyroxenite	3.02	74	3.02	140
TBN complex peridotites	2.94	8,303	3.02	2,880
TBN complex massive sulphides	4.16	14		
TBN complex lower gabbro sill	2.83	94	2.90	59
TBN complex late cross-cutting mafic dykes	2.88	11	2.89	41
TBN complex igneous sedimentary clast breccias	2.65	28	2.70	37
TBN complex undifferentiated gabbro	2.87	47	2.94	46
Quetico sedimentary clast breccias	2.75	2	2.71	4
Quetico Granitoids	2.63	427	2.64	243
Quetico metasediments	2.74	1,634	2.74	1,690
Quetico quartz veins	2.73	1	2.66	1
Archaean mafic dykes			2.95	45
Total	**2.89**	**11,528**	**2.89**	**5,901**

10.6 QP Opinion on Drilling

The SLR QPs are of the opinion that:

- Core logging completed by the Clean Air and previous operators meet industry standards for exploration on orthomagmatic sulphide deposits.
- Collar surveys and downhole surveys were performed using industry-standard instrumentation.

- Drill hole orientations are appropriate for the mineralized style.
- Collection of physical parameters, including density and magnetic susceptibility measurements are appropriate for the deposit and mineralization style.

There were no factors identified with the data collected from the drill programs that could significantly affect the Mineral Resource estimate.

11.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

11.1 Sample Preparation and Analysis

Between December 2006 and September 2007 all samples collected by Magma were sent to the Accurassay Laboratories facility (Accurassay) located in Thunder Bay, Ontario. Accurassay was a well-established and recognized assay and geochemical analytical services company and was independent of Magma. The Thunder Bay Accurassay analytical facility (since closed) held accreditation with the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 17025:2005 for competence in all relevant procedures and was independent of the operator. Accurassay was also used in 2006 to prepare a limited amount of standard reference material (SRM) based on local boulder material.

Between September 2007 and December 2020, all sample preparation and analysis of Magma (September 2007 to June 2012), Panoramic (June 2012 to December 2012), and the Company (after May 2020) were completed at the ALS Chemex (later ALS Geochemistry) preparation facility in Thunder Bay and then shipped to the ALS primary assay laboratory in Vancouver, British Columbia, for analysis. ALS is a well-established and recognized assay and geochemical analytical services company and is independent of Magma, Panoramic, and the Company. The Thunder Bay laboratory holds ISO/IEC-9000 accreditation for quality management; the Vancouver facility holds accreditation for both quality management (ISO/IEC-9000) and competence in laboratory testing (ISO/IEC-17025).

11.1.1 Clean Air Assay Sample Preparation and Analysis

The diamond drill core from the Escape and Current properties, as sampled by the Company in 2020 to 2022, under the direct supervision of Justin Johnson, P.Geo., May 10 to November 20, 2020, Adam Richardson, P. Geo., November 20 and December 23, 2020, and by Erik Scheel, P.Geo., January 2021 to current date, was cut in half with a purpose-designed Vancon diamond-bladed core saw (Figure 11-1). One-half of the cut core was placed in a pre-marked plastic sample bag, and the other half returned to the core box. Sample bags were sealed with zip ties to ensure sample integrity. All samples were taken directly from the Company core cutting facility to the ALS Thunder Bay Preparation Lab in a Company vehicle driven by a Company employee and given directly to an employee of the ALS lab to ensure an uninterrupted chain of custody.

Figure 11-1: Purpose-designed Vancon Diamond-bladed Core Saw with Pre-Marked Sample Bags

All samples taken during the 2020 to 2022 diamond drilling program were prepared at the ALS Preparation Lab in Thunder Bay, Ontario, and then shipped to and analyzed at the ALS primary laboratory in Vancouver. The samples were crushed and then pulverized at the Thunder Bay lab from split core to prepare a total sample of up to 250 g with 85% passing 75 µm. After sample pulp preparation was completed, the pulps were then shipped directly to the ALS primary analytical laboratory in Vancouver, British Columbia, and analyzed in the following manner:

- All samples were analyzed for Au, Pt, and Pd using fire assay (FA) with an inductively coupled plasma mass spectrometry (ICP-MS) finish (ALS method code: PGM-ICPMS23). Detection limits for this method are Au: 0.001 ppm to 1 ppm; Pt: 0.0005 ppm to 1 ppm; and Pd: 0.001 ppm to 1 ppm.
- Au, Pt, and Pd samples with grades above the optimal ICP-MS detection limits (as directly stated above) were re-analyzed using an optical emission spectroscopy method (ICP-OES; method code PGM-ICP27 “ore grade”). Detection limits for this method are Au: 0.03 ppm to 100 ppm; Pt: 0.03 ppm to 100 ppm; and Pd: 0.03 ppm to 100 ppm.
- All samples were analyzed for multi-elements and base metals using a multi-element atomic emission spectroscopy (ICP-AES; method code ME-ICP61) technique following four-acid digestion of the sample. This analytical method reports 33 elements, including Ag, chromium (Cr), Cu, Ni, and Co. Ore grades for Cu, Ni, and other elements were analyzed with the four acid overlimit methods ME-OG62 package. The detection limits for method for both packages are listed in Table 11-1 and Table 11-2.
- Commencing in late 2020, selected core samples were analyzed for Rh using the Rh-MS25 method. Prior to this, all samples containing greater than 1 g/t Pt+Pd were re-analyzed for Rh.

Table 11-1: ICP-AES Method Detection Limit Elements and Ranges in for ME-ICP61
Clean Air Metals Inc. – Thunder Bay North Project

Element	Range	Element	Range	Element	Range	Element	Range
Ag	0.05-100 (ppm)	Co	1-10,000 (ppm)	Mo	1-10,000 (ppm)	Sr	1-10,000 (ppm)
Al	0.01-50 (%)	Cr	1-10,000 (ppm)	Na	0.01-10 (%)	Th	2-10,000 (ppm)
As	5-10,000 (ppm)	Cu	1-10,000 (ppm)	Ni	1-10,000 (ppm)	Ti	0.01-10 (%)
Ba	10-10,000 (ppm)	Fe	0.01-50 (%)	P	10-10,000 (ppm)	Tl	10-10,000 (ppm)
Be	0.5-1,000 (ppm)	Ga	10-10,000 (ppm)	Pb	2-10,000 (ppm)	U	10-10,000 (ppm)
Bi	2-10,000 (ppm)	K	0.01-10 (%)	S	0.01-10 (%)	V	1-10,000 (ppm)
Ca	0.01-50 (%)	La	10-10,000 (ppm)	Sb	5-10,000 (ppm)	W	10-10,000 (ppm)
Cd	0.5-1,000 (ppm)	Mg	0.01-50 (%)	Sc	1-10,000 (ppm)	Zn	2-10,000 (ppm)
		Mn	5-10,000 (ppm)				

Table 11-2: ICP-AES Method Detection Limit Elements and Ranges in ppm for ME-OG62
Clean Air Metals Inc. – Thunder Bay North Project

Element	Range	Element	Range	Element	Range	Element	Range
Ag	1-1,500	Co	0.0005-30	Mg	0.001-50	Pb	0.001-20
As	0.001-30	Cr	0.002-30	Mn	0.001-60	S	0.01-50
Bi	0.001-30	Cu	0.001-50	Mo	0.001-10	Zn	0.001-30
Cd	0.001-30	Fe	0.01-100	Ni	0.001-30		

11.1.2 Historic Core Assay Sample Preparation and Analysis

Historic diamond drill core samples taken between December 2006 and December 2012 taken from the Current deposit were analyzed at two separate facilities:

11.1.2.1 Accurassay Laboratories

December 2006 and September 2007, the Current Property core sample preparation and analysis was completed in Thunder Bay by Accurassay Laboratories on Magma Current diamond drill holes TBND001 to TBND034. All samples were dried prior to any sample preparation. Once dry, samples were crushed to

90% passing -8 mesh, split into 250 g to 500 g subsamples using a Jones Riffler, and then pulverized to 90% passing -150 mesh using a ring and puck pulverizer. Prior to analysis, samples were homogenized. Silica cleaning was completed between each sample to prevent cross-contamination.

Sample analysis completed by Accurassay comprised:

- Method Code AL4APP: FA with atomic absorption (AA) finish for Au, Pt, Pd with detection limits of 5 ppb, 15 ppb, and 10 ppb, respectively.
- Method Code AL4CNC: Aqua regia digest with AA-finish for Cu, Ni, Co with detection limits of 1 ppm each.

All samples were taken directly from the Magma core cutting facility to the ALS Chemex Thunder Bay preparation lab by a Magma employee and given directly to an employee of the ALS Chemex lab to ensure uninterrupted chain of custody.

11.1.2.2 ALS Chemex

Between September 2007 to December 2012, all core samples were prepared at the ALS Chemex Preparation Laboratory located in Thunder Bay. All samples were bar coded on arrival at the lab for entry in the ALS Laboratory Information Management System (LIMS). This system provides complete chain of custody records for every stage in the sample preparation and analytical process from the moment that a sample arrives at the laboratory.

On receipt, the samples were weighed, dried at 110°C to 120°C, crushed using a jaw crusher to >50% passing 1 mm, riffle split to generate a 250 g sub-sample, and pulverized to >85% passing 75 µm.

Au, Pt, and Pd were analyzed using FA with an inductively coupled plasma mass spectrometry (ICP-MS) finish (method code: PGM-ICPMS23). Detection limits were Au: 0.001 ppm to 1 ppm; Pt: 0.0005 ppm to 1 ppm; and Pd: 0.001 ppm to 1 ppm. Samples that exhibited grades above the optimal ICP-MS detection limits were analyzed using an optical emission spectroscopy method (ICP-OES; method code PGM-ICP27 “ore grade”). Detection limits for this method are Au: 0.03 ppm to 100 ppm; Pt: 0.03 ppm to 100 ppm; and Pd: 0.03 ppm to 100 ppm.

Multi-element and base metals are analyzed using a multi-element atomic emission spectroscopy (ICP-AES; method code ME-ICP61) technique following four-acid digest of the sample. This analytical method reports 33 elements, including Ag, Cr, Cu, Ni, and Co.

All samples were taken directly from the Magma core cutting facility to the ALS Chemex Thunder Bay preparation lab by a Magma employee and given directly to an employee of the ALS Chemex lab to ensure uninterrupted chain of custody.

11.1.3 Specific Gravity Sampling

Specific gravity (SG) measurements were taken from representative core sample intervals. Core segments of 0.1 m to 0.2 m length were tested. SG was measured using the water dispersion method. The sample was weighed in air, and then the uncoated sample was placed in a basket suspended in water and weighed again (Figure 11-2). SG is calculated by using the weight in air versus the weight in water method (Archimedes), by applying the following formula:

$$Specific\ Gravity = \frac{Weight\ in\ Air}{(Weight\ in\ Air - Weight\ in\ Water)}$$

A total of 11,519 samples were measured for the Current deposit, and 5,901 for the Escape deposit.

Figure 11-2: Scale for SG Measurement

11.2 Sample Security

The Project core is stored in wooden core boxes and transported to the core logging shack. After being logged and sampled, the core boxes are stacked outside where they get tarped and strapped onto a flat bed. The flat bed ships the core to a secure core yard on a regular basis for permanent storage (Figure 11-3).

Figure 11-3: Secure Core Yard Storage

11.3 Quality Assurance and Quality Control

Quality assurance (QA) consists of evidence that the assay data has been prepared to a degree of precision and accuracy within generally accepted limits for the sampling and analytical methods to support its use in a resource estimate. Quality control (QC) consists of procedures used to ensure that an adequate level of quality is maintained in the process of collecting, preparing, and assaying the exploration drilling samples. In general, QA/QC programs are designed to prevent or detect contamination and allow assaying (analytical), precision (repeatability), and accuracy to be quantified. In addition, a QA/QC program can disclose the overall sampling-assaying variability of the sampling method itself.

11.3.1 Historical QA/QC: 2006 – 2020

QA/QC programs have been conducted at Current and Escape from the early exploration stages. Fine and coarse blank, field sample duplicate, and CRM samples have been inserted in the sample stream to monitor sample preparation contamination and to characterize the accuracy and precision of the assay methods used. Since 2010 pulp duplicate samples have been included in the suite of QA/QC samples submitted to monitor precision and accuracy of the sample results. Check assays have been submitted at variable intervals to secondary laboratories. The insertion rates varied from program to program, generally converging to the industry practice of a blank, a CRM, and a field sample duplicate for every 20 field samples. The sample length varied, with non mineralized intercepts sampled every two metres, and one-metre-long samples in mineralization. Assay laboratory coarse reject and pulp duplicate samples results were collected and used for QA/QC purposes.

SLR reviewed the historical QA/QC procedures, check sample insertion rates, blank and CRM performance, and correlation of duplicate samples. SLR reviewed the report and accompanying appendix presented by Nordmin (2022) and generally agrees with the observations made at the time.

From 2006 to 2020, a total of 1,888 blank samples were submitted for the Project, comprising 1,134 pulp and 754 coarse samples. SLR reviewed the graphs and noted occasional sample label swaps but no obvious grade smearing.

A total of 2,686 CRM samples from 31 unique material types were submitted. There are 13 CRM types used less than six times each, with low diagnostic significance. Counts for the remaining 18 CRM types vary from 15 to 371. With rare exception, general behaviour observed for CRMs was within expected limits.

The CRM AMIS00073 had high variability and a high number of outliers for Cu and Ni. Short-term accuracy issues were observed when CRM AMIS060 was initially submitted, with Ni results biased high, out-of-range, an error that was corrected once identified. AMIS0064 shows a consistent bias high for Pt, but excellent precision; however, AMIS0064 did not show a bias for Pd.

Overall, the CRMs show a small number of failures, with precision and accuracy occasionally affected by the grade of the element (lower precision and accuracy at very low grades), as expected. No samples showed any significant bias (except AMIS0064 for Pt). The results obtained for CRMs fall within the expected performance range, with occasional deviations that could be due to possible issues with a CRM batch rather than assay results.

SLR reviewed graphs compiled by Nordmin (2022) representing duplicate field and pulp samples at the Project. All results of economic elements showed acceptable precision. Some very low-grade elements, such as cobalt, showed poor precision, however, these results are not material to the Project. In general, very few field duplicate samples were taken in economic grade ranges and SLR recommends that future programs prioritize this to allow comprehensive analysis of natural variability and laboratory performance at important grade ranges.

Table 11-3 presents a summary of the QA/QC samples available for Current and Escape from 2006 to 2020. This includes samples submitted by Magma, Panorama, Rio Tinto, and those from the first year of ownership by Clean Air.

Table 11-3: Summary of 2006 - 2020 QA/QC Submissions
Clean Air Metals Inc. – Thunder Bay North Project

Deposit/ QA/QC Sample Category	Operator	Period	Count	Type Count
Current				
Blank	Magma	2006 - 2011	1,178	507 pulps, 671 coarse
	Panorama	2012	12	11 pulps, 1 coarse
	Rio Tinto	2016	2	2 coarse
	Clean Air	2020	13	7 pulp, 6 coarse
	Total		1,205	525 pulp, 680 coarse
CRM	Magma	2006 - 2011	1,774	25 CRMs
	Panorama	2012	18	3 CRMs
	Rio Tinto	2016	2	2 CRMs

Deposit/ QA/QC Sample Category	Operator	Period	Count	Type Count
	Clean Air	2020	13	6 CRMs
	Total		1,807	
Field Duplicate	Magma	2006 - 2011	993	
	Panorama	2012	33	
	Rio Tinto	2016	2	
	Clean Air	2020	0	
	Total		1,028	
Coarse Reject (laboratory)	Magma	2006 - 2011	1,321	
	Panorama	2012	32	
	Rio Tinto	2016	2	
	Clean Air	2020	6	
	Total		1,361	
Pulp Replicate (laboratory)	Magma	2006 - 2011	2,727	
	Panorama	2012	24	
	Rio Tinto	2016	6	
	Clean Air	2020	65	
	Total		2,822	
Pulp Replicate Secondary Laboratory	Magma	2006 - 2011	243	
	Panorama	2012	0	
	Rio Tinto	2016	0	
	Clean Air	2020	82	
	Total		325	
Escape				
Blank	Rio & Magma	2008 - 2016	548	516 pulps, 32 coarse
	Clean Air	2020	135	93 pulp, 42 coarse
	Total		683	609 pulps, 74 coarse
CRM	Rio & Magma	2008 - 2016	621	20 CRMs
	Clean Air	2020	258	9 CRMs
	Total		879	
Field Duplicate	Rio & Magma	2008 - 2016	272	
	Clean Air	2020	92	
	Total		364	

Deposit/ QA/QC Sample Category	Operator	Period	Count	Type Count
Coarse Reject (laboratory)	Rio & Magma	2008 - 2016	392	
	Clean Air	2020	52	
	Total		444	
Pulp Replicate (laboratory)	Rio & Magma	2008 - 2016	1,155	
	Clean Air	2020	369	
	Total		1,524	
Pulp Replicate Secondary Laboratory	Rio & Magma	2008 - 2016	18	
	Clean Air	2020	0	
	Total		18	

It is SLR QPs' opinion that the sample preparation and analytical procedures used for generating the historical assay data are consistent with the industry practices and that they are suitable to be used in mineral resource estimation.

11.3.2 Clean Air QA/QC: 2021 – 2022

11.3.2.1 Procedures

Clean Air's QA/QC procedures include the following:

- Blank standard sample (pulp and coarse material), inserted at the start of every batch to ensure no cross batch contamination.
- Certified Reference Materials (CRM) are prepared by a certified supplier as pulverised aliquots of material in individual sachets. CRM standards are inserted approximately every 20th sample to assess the accuracy of the digestion and analysis procedure of the laboratory. Grade class of the standard inserted was defined visually by the amount of sulphides in the ore, therefore there are more low-grade (LG) and medium-grade (MG) standards inserted than high-grade (HG) standards.
- Laboratory duplicates: a split of a second sample taken from an original sample every 20 samples. This split is carried out after pulverization to 105 microns.
- Field duplicates of diamond drill core are taken from every 20th drill core sample to assess the repeatability and variability of the mineralization inherent in the rock, and due to preparation and analytical procedures. For diamond drill core, the field duplicate sample was taken as a quarter of the core (half of the core for the corresponding routine sample).

Table 11-4 presents Clean Air's insertion rates for the QA/QC samples for 2021 to 2022.

Table 11-4: 2021-2022 CRM Insertion Rates by Clean Air
Clean Air Metals Inc. – Thunder Bay North Project

QC Type	Current		Escape	
	Count	Frequency	Count	Frequency
Standards	154	6%	551	5%
Blanks	131	5%	385	4%
Field Duplicates	47	2%	199	2%
Routine Samples	2,680	-	10,154	-

On receipt of results, the QA/QC sample results are assessed on a batch-by-batch basis. Sample batches in which CRM sample results fall outside specified tolerance ranges are flagged and investigated. The batch results are only accepted when all QA/QC samples fall within defined limits. Failure logs are available for each year, highlighting issues with the QA/QC samples, investigation results, and remediation actions taken.

Every QA/QC result fail has been reviewed and the further decision to mitigate the issue was made based on the nature of the fail. The most widespread fails noted were fire assay elements (Au, Pt, Pd) group fails for some specific standards. Usually, such cases have been explained by the laboratory as a lead spill during the preparation process. Every failed case in proximity to or within the ore zone has been re-assayed.

11.3.2.2 CRM Standards

Clean Air has submitted six different CRMs as part of its QA/QC process with a total of 665 CRM samples inserted between 2021 and 2022. Table 11-5 summarizes the CRM standards, certified for several elements (typically Cu, Ni, Co, Pt, Pd ± Au, Ag, Rh)

Several types of charts have been utilized for the routine analysis of the data:

- Assay run charts per element to identify potential swaps or mislabeling.
- Z-score plots per element allow to see the general performance of each standard per element over a long period of time.
- Box-and-whisker plots of z-score value to help with the visualization of the potential bias.
- Routine Shewhart charts with ±2 and 3 standard deviation bands to see individual performance of each element and standard.

Shewhart charts show that the majority of the results (85% to 95%) are falling within expected tolerance limits (Figure 11-4 to Figure 11-8). Bias is observed in Figure 11-4, representing results of Ni and Cu in OREAS681, however this is not material considering the very low expected grade (0.0273% Cu; 0.0503% Ni).

In general, most of the AMIS standards have demonstrated a slight positive bias (+3% to 5%) for Cu and Ni, whereas CCRMP HG SU-1b Cu-Ni standard fall -2% below the nominated value in average.

For example, OREAS 13b and 681 low grade standards demonstrate a slight positive bias (2% to 3% or around +1 SD) for Cu and Ni, which according to internal discussions and conversations with Lynda Bloom (Analytical Solutions Ltd.) can be related to the slight differences in each laboratory methods as to the order that acids are added, the strength of the acids, the temperature of the digestion, how long the samples are digested, etc. Sometimes the biggest differences may be caused by the ratio of the sample weight and the final volume. Several re-assays always show similar results both for the standard and surrounding routine samples.

At the same time, a high-grade Cu-Ni SU-1b (CCRMP standard from the Sudbury Copper Cliff ore) shows a slight negative bias (around -0.5 to -1 SD), which can be related to the different method used for the Cu-Ni overlimit values (OG-62 versus ME-ICP61).

OREAS 13b (Low grade Pt-Pd and Cu-Ni standard) demonstrates the highest scatter for Pt, Pd, and Au among all the other types. After re-assay, most of those failures are fixed and explained by the laboratory as sample or flux spills during re-assay investigation. Some of the outliers were not re-assayed as they were in barren holes or quite far from mineralized intervals. A possible explanation for the high scatter is that the CRM matrix is a mix from different sources (ore concentrates from different deposits).

Table 11-5: Clean Air– CRM List for Inserted Samples and Their Certified Values
Clean Air Metals Inc. – Thunder Bay North Project

Vendor	Standard ID	Matrix Descriptions	Grade Class (Pt+Pd)	Certified Value (ppm)								
				Ag	Au	Co	Cu	Ni	Pd	Pt	Rh	Ru
AMIS	AMIS0064	Merensky reef	MG	-	0.1	84	636	1452	0.58	1.24	0.06	0.12
	AMIS0093	Ni-Cu sulphide ore Phoenix deposit Botswana	LG	-	-	173	2958	2722	0.47	0.11	-	-
	AMIS 0499	PGM Platreef ore, Bushveld	HG		0.31		2472	3731	2.43	2.16	0.12	0.12
OREAS	OREAS 681	pyroxenite/gabbro-norite matrix	LG	0.12	0.05	51	264	503	0.24	0.53	0.03	0.06
	OREAS 13b	Merensky reef, gabbro-norite (disseminated sulphides)	LG	0.86	0.21	75	2327	2247	0.13	0.2	0.04	0.08
CCRMP	SU-1b	Copper Cliff Ni-Cu-Co Ore	HG Cu-Ni	-	-	-	11850	19530	0.79	0.49	-	-

Table 11-6: Inserted CRM Performance Table
Clean Air Metals Inc. – Thunder Bay North Project

Standard ID	Count	Pt Mean Value (g/t)	Pt Nominal Value (g/t)	Bias (%)	Pd Mean Value (g/t)	Pd Nominal Value (g/t)	Bias (%)	Cu Mean Value (g/t)	Cu Nominal Value (g/t)	Bias (%)	Ni Mean Value (g/t)	Ni Nominal Value (g/t)	Bias (%)	Co Mean Value (g/t)	Co Nominal Value (g/t)	Bias (%)
AMIS0064	5	1.19	1.24	-4%	0.58	0.58	0%	668	636	5%	1550	1452	7%	85	84	1%
AMIS0093	40	0.10	0.11	-5%	0.47	0.47	1%	3031	2958	2%	2844	2722	4%	173	173	0%
AMIS0499	72	2.14	2.16	-1%	2.51	2.43	3%	2517	2472	2%	3933	3731	5%	113	107	5%
OREAS 13b	274	0.19	0.20	-3%	0.13	0.13	-4%	2419	2327	4%	2377	2247	6%	77	75	3%
OREAS 681	246	0.53	0.53	1%	0.24	0.24	0%	273	264	4%	531	503	6%	52	51	2%
SU-1b	58	0.48	0.49	-3%	0.80	0.79	1%	11627	11850	-2%	18942	19530	-3%	660	672	-2%

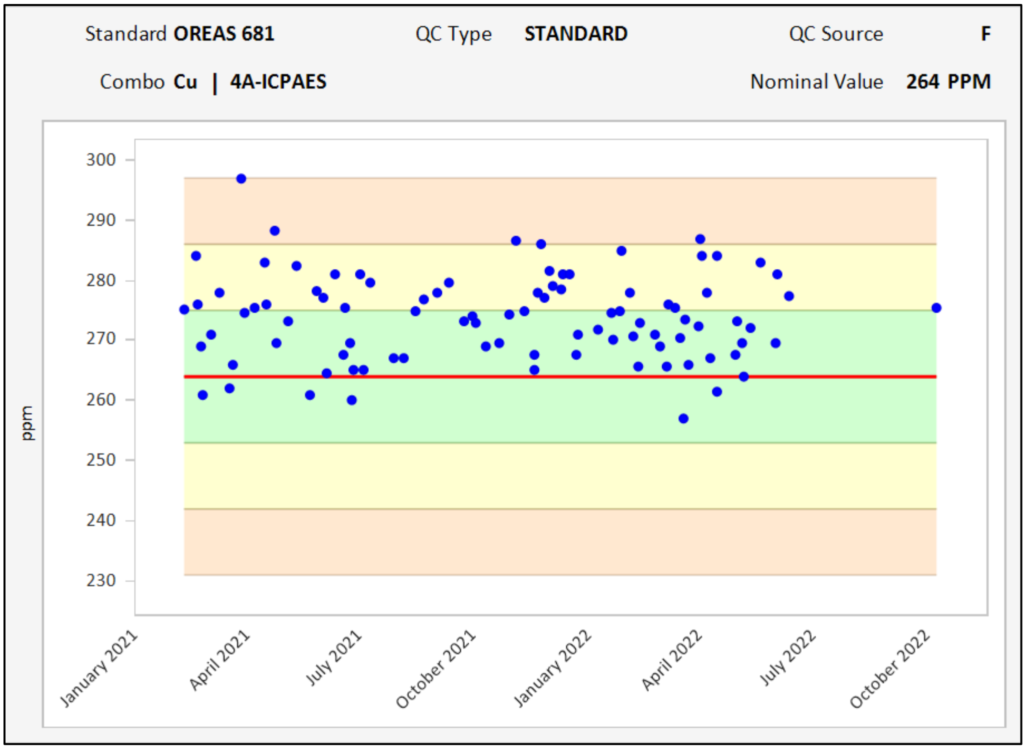


Figure 11-4: Shewhart Chart for Cu, OREAS 681 (HG Pt-Pd Standard)

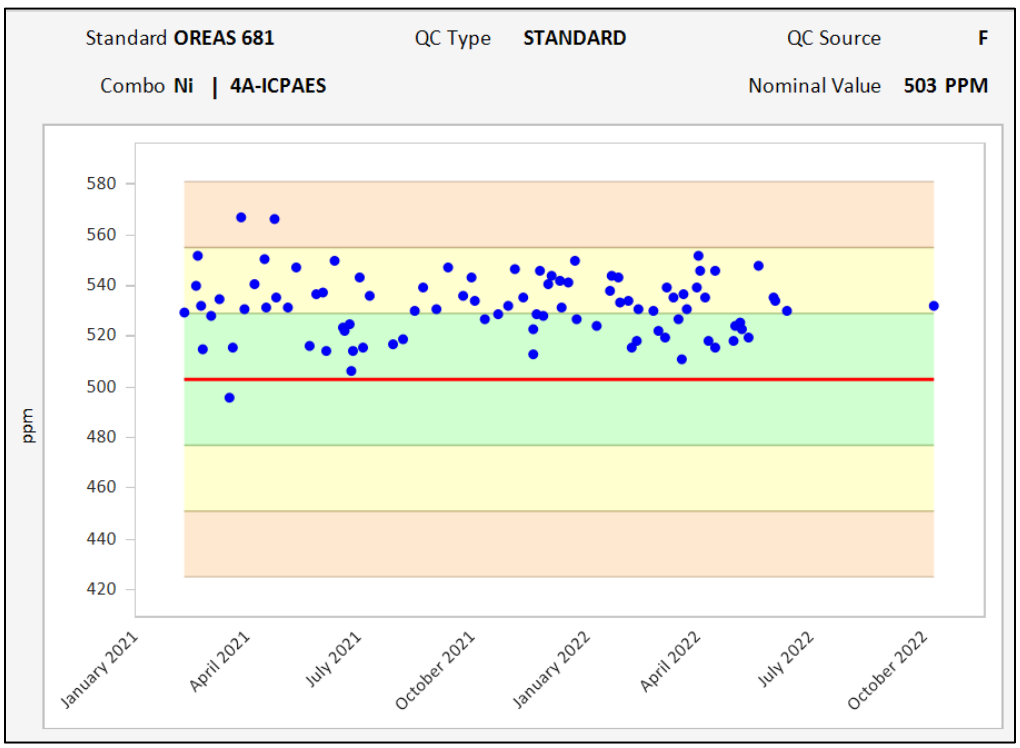


Figure 11-5: Shewhart Chart for Ni, OREAS 681 (HG Pt-Pd)

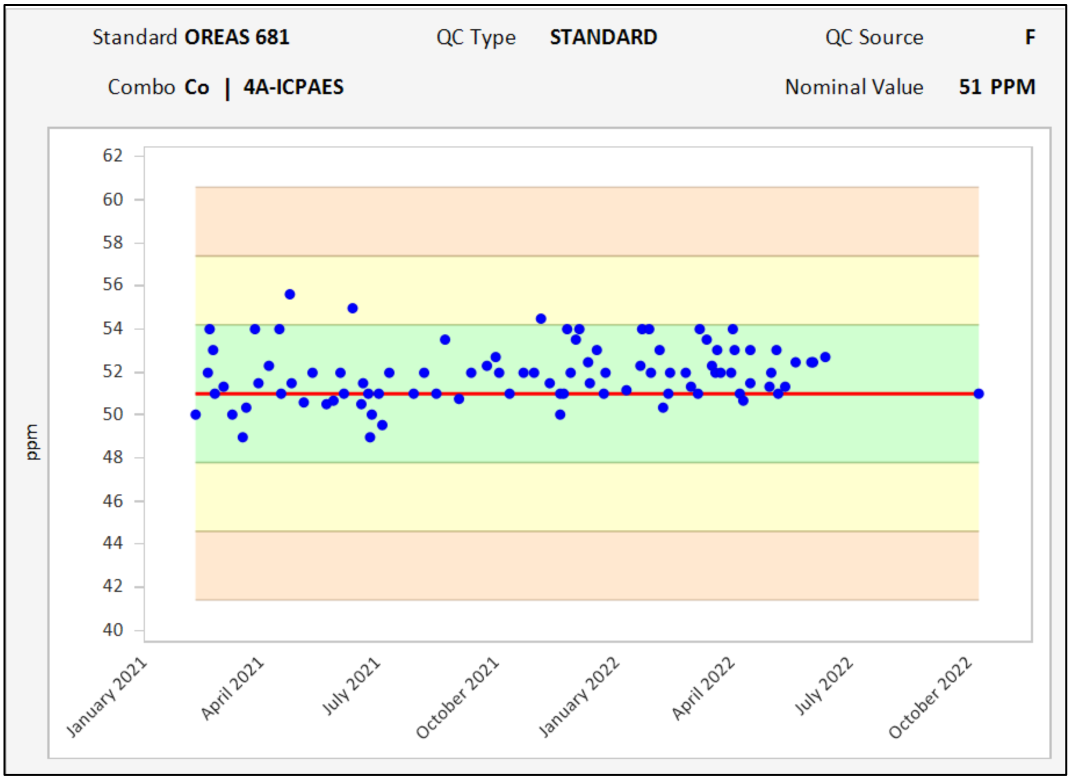


Figure 11-6: Shewhart Chart for Co, OREAS 681 (HG Pt-Pd)

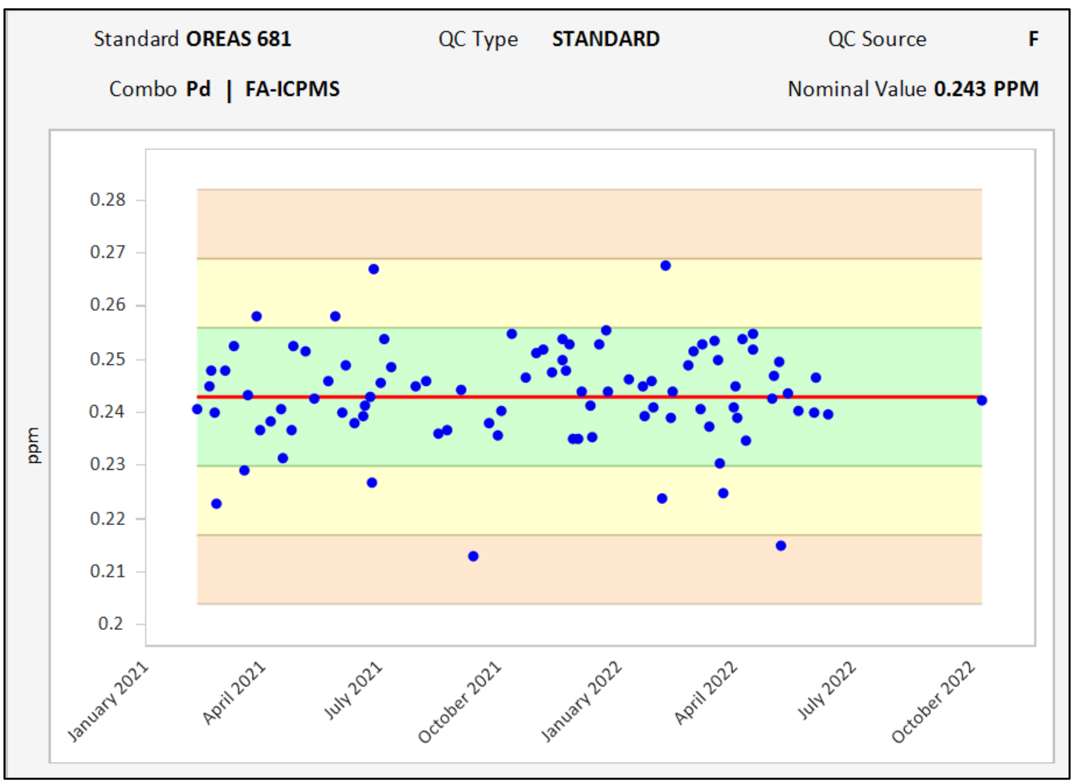


Figure 11-7: Shewhart Chart for Pd, OREAS 681 (HG Pt-Pd)

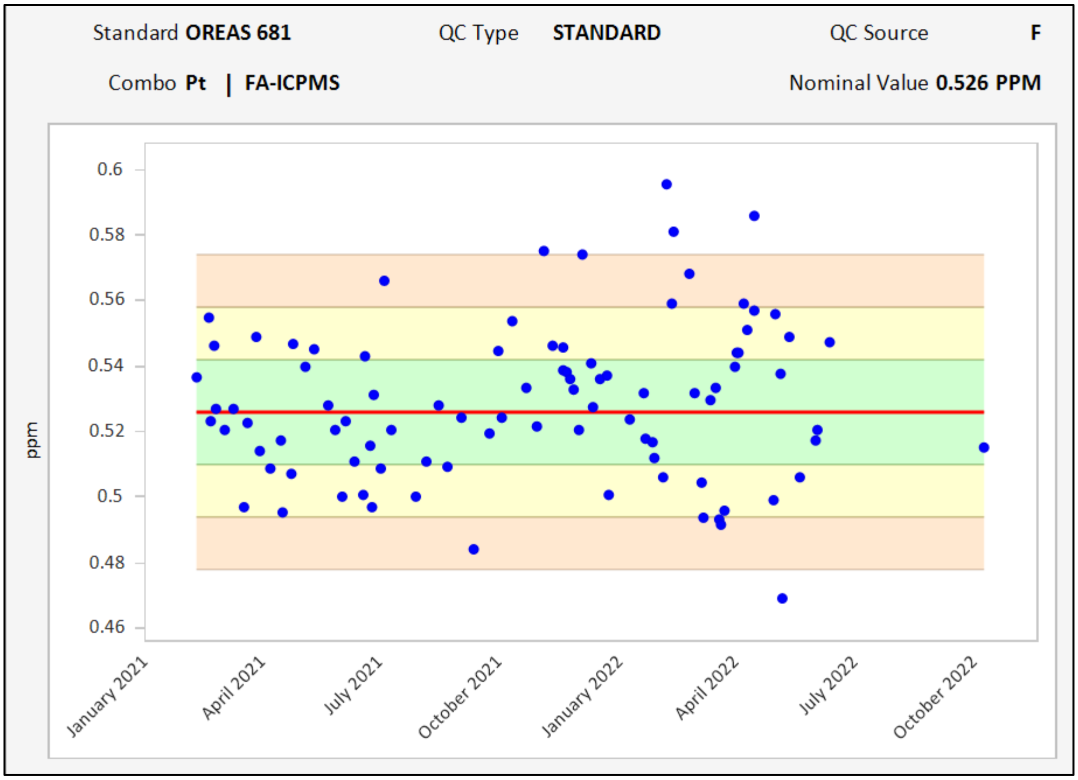


Figure 11-8: Shewhart Chart for Pt, OREAS 681 (HG Pt-Pd)

11.3.2.3 Blanks

The Company submitted 270 coarse and 232 pulp blanks during 2021 and 2022 as part of its QA/QC process. Five different types were used with their corresponding certified values listed in Table 11-7. The assay results of the blank samples are summarized in Table 11-8.

Table 11-7: Blank Sample Types and Certified Values
Clean Air Metals Inc. – Thunder Bay North Project

Standard ID	Matrix Descriptions	Grade Class (Pt+Pd)	Certified Values (ppm)				
			Ag	Au	Co	Cu	Ni
BL112	Pulp blank	BLANK	0.30	0.005	2	4	1
BL114	Pulp blank	BLANK	0.30	0.010	4	19	3
BL127	Pulp blank	BLANK	0.30	0.005	9	50	5
Marble	Coarse marble pebbles	BLANK	-	-	-	-	-
Granite	Barren core from hole BL12-442	BLANK	-	-	-	-	-

Table 11-8: Blanks Performance Table
Clean Air Metals Inc. – Thunder Bay North Project

		Pt (ppm)			Pd (ppm)			Cu (ppm)			Ni (ppm)			Co (ppm)		
Blank ID	**Count**	**Mean**	**Min**	**Max**	**Mean**	**Min**	**Max**	**Mean**	**Min**	**Max**	**Mean**	**Min**	**Max**	**Mean**	**Min**	**Max**
BL112	12	0.009	0.000	0.026	0.010	0.001	0.029	64	6	180	26	2	73	4	2	6
BL114	90	0.000	0.000	0.001	0.001	0.001	0.001	22	22	23	4	4	5	4	4	4
BL127	130	0.008	0.001	0.035	0.008	0.001	0.032	52	51	53	10	9	11	14	13	14
GRANITE	56	0.003	0.002	0.003	0.003	0.002	0.004	11	6	16	11	8	14	2	2	2
MARBLE	214	0.003	0.001	0.008	0.003	0.001	0.007	10	2	16	8	4	12	1	1	2

Coarse granite and marble blanks have performed well, with only a few samples directly in or immediately after the high grade zones with elevated Pt and Pd (up to 0.02 ppm), and Cu and Ni (up to 70 ppm to 90 ppm) values.

Pulp blanks have demonstrated good performance, except for a few elevated values right after the high grade mineralized intervals; the grades were still subeconomic for all of the elements with the highest NPV value (up to 150 ppm to 200 ppm for Cu and Ni and up to 0.1 ppm for Pt and Pd). During assay import and validation, several mislabeling issues were noticed and fixed in the database, specifically:

- BL112 on Cu: mislabeled portion of BL127 fixed in the database (D253340, D254450, D254470, D253340). For one sample, ID was mixed up in the laboratory with routine sample (D267588, ELR22-133, batch 22ELR-039)
- BL114 on Cu: mislabeled portion of BL127 fixed in the database (BL114 nominal value for Cu is 20 ppm, BL127 – 50 ppm; samples D254904, D253940, D268150, D266570, D254600)

The Company submitted 272 core duplicates and the laboratory submitted 158 coarse and 1,100 pulp laboratory duplicates as part of their QA/QC process. The Pt, Pd, Cu, Ni, Co, Ag, and Au field duplicates demonstrate good agreement (Figure 11-9 to Figure 11-14).

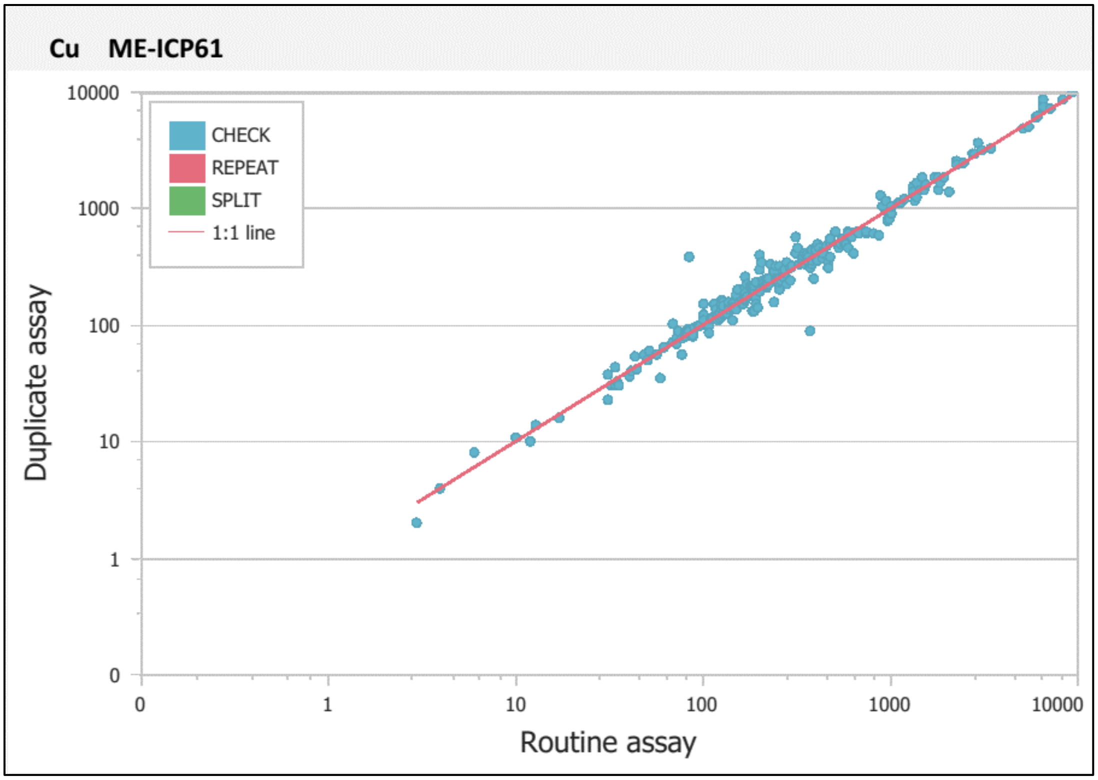


Figure 11-9: Field Duplicates, Cu (upper detection limit 10,000 ppm Cu)

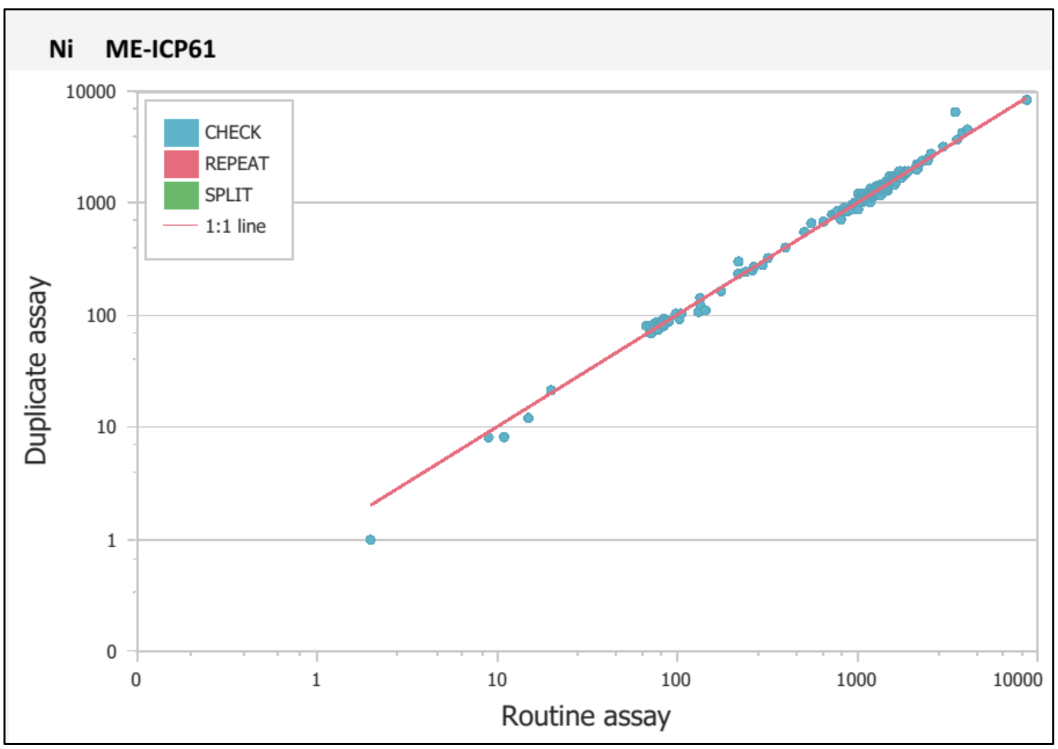


Figure 11-10: Field Duplicates, Ni

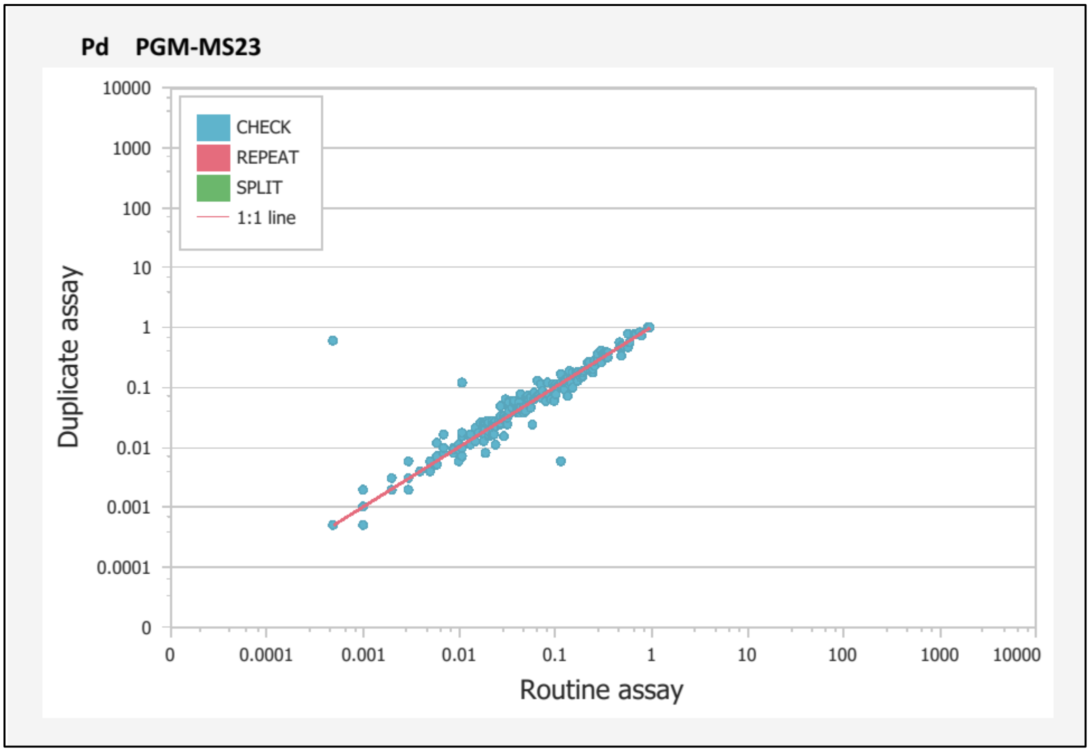


Figure 11-11: Field Duplicates, Pd, Overlimit Method >1 ppm

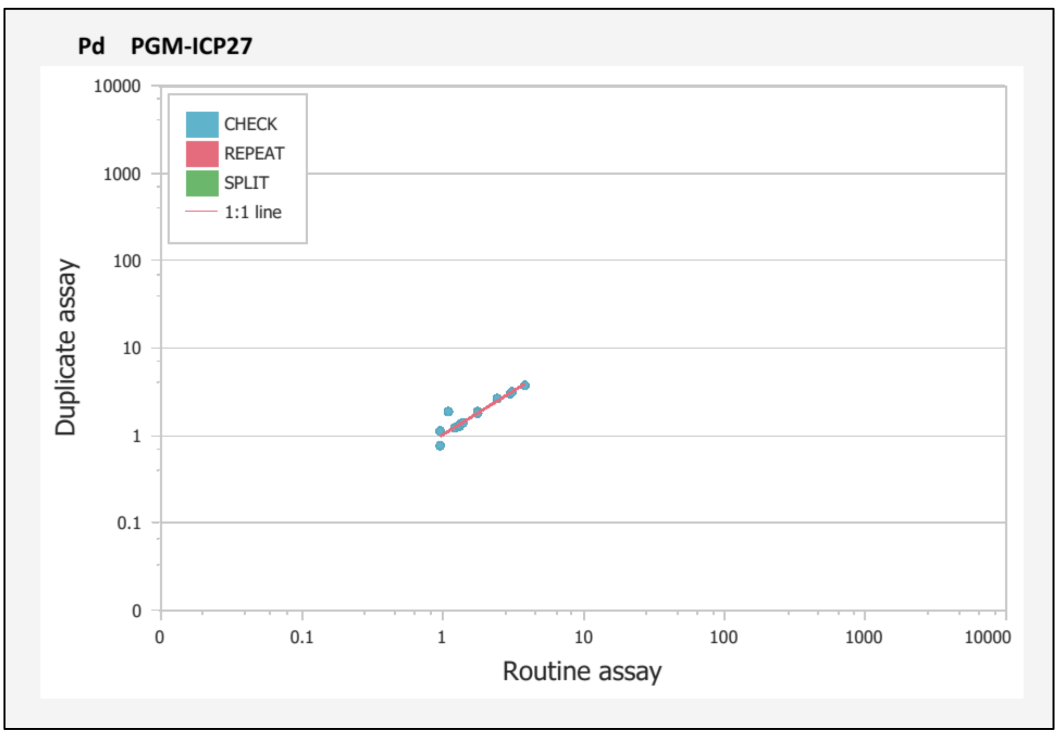


Figure 11-12: Field Duplicates, Pd, Overlimit Method >1 ppm

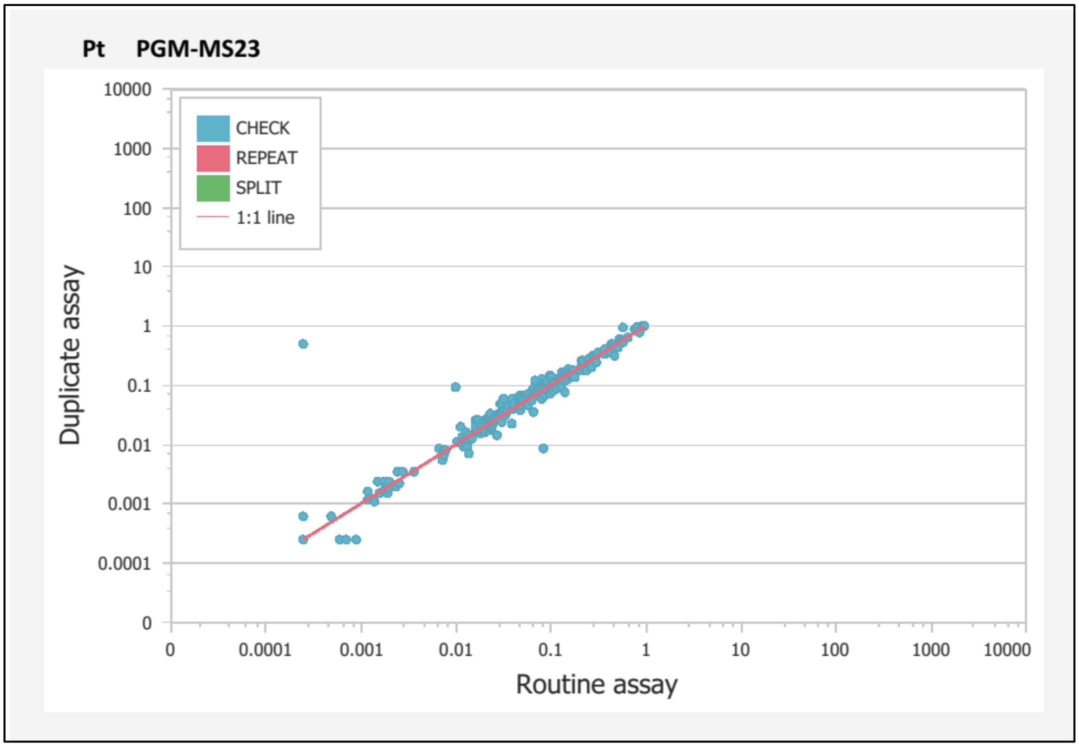


Figure 11-13: Field Duplicates, Pt

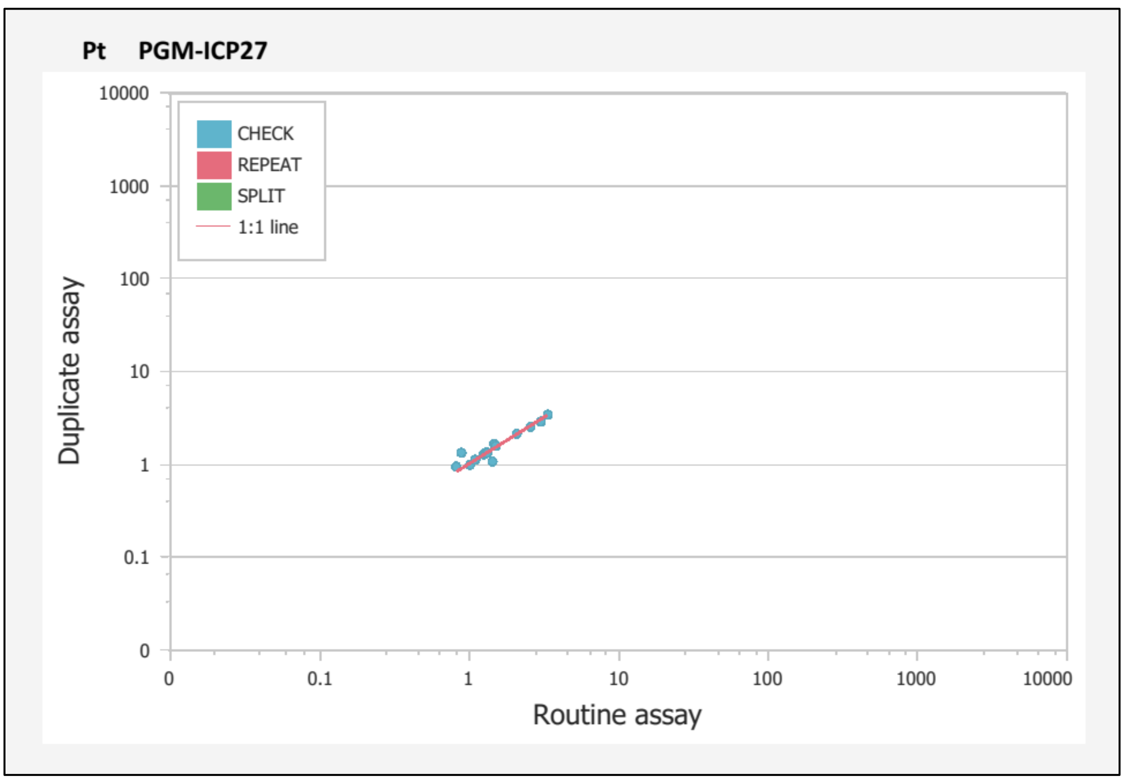


Figure 11-14: Field Duplicates, Pt, Overlimit Method >1 ppm

11.3.2.4 External Control Samples

Under ownership of Clean Air, a total of 3% to 5% of mineralized core samples (>1 ppm Pt+Pd) have been sent for external laboratory control checks. The summary is listed in Table 11-9.

Table 11-9: External Laboratory Control Sampling Summary
Clean Air Metals Inc. – Thunder Bay North Project

Drilling Campaign	Primary Laboratory	Control Laboratory	Material	# Samples	Results
2020	ALS Vancouver	Actlabs Canada	Pulp	82	received
2021	ALS Vancouver	Actlabs Canada	Pulp	25	received
2022	ALS Vancouver	SGS Canada	Pulp	35	received

Control sample results have been compared to the routine assay results for the elements that have the highest value for the Project (Pd, Pt, Cu, Ni, Au). Charts generally demonstrate good correlation between laboratories, although fire-assay elements have more scatter rather than four-acid multi-element data.

11.4 Qualified Person's Opinion on the Adequacy of Sample Preparation, Security, and Analytical Procedures

The SLR QPs are of the opinion that the sample preparation, security, and analytical procedures used by all parties are consistent with standard industry practices and that the data is suitable for use in Mineral Resource estimation. SLR recommends continuing with the established QA/QC program, although reducing the number of CRM samples by focusing on those with better performance in grade ranges approximating the cut-off grade, the average grade, and high grades. SLR did not identify material concerns regarding sample collection, manipulation, or analytical procedures.

12.0 DATA VERIFICATION

SLR reviewed the resource database that formed the basis for the Mineral Resource estimates presented in this Technical Report. In the opinion of the QPs, the database is acceptable for Mineral Resource estimation.

12.1 Site Visit

Tudorel Ciuculescu, SLR QP, conducted a site visit on the Project on October 13 and 14, 2022. Mr. Ciuculescu toured the Current and Escape deposits, office space, core logging and storage area, and core cutting shack. At the time of the visit, no logging or sampling activities were being conducted on the property.

Core review was performed on entire drill holes for familiarization with the Project geology, and on selected mineralized intervals. Lithological logging and assay results were discussed with project geologists during the core review.

Considering the stage of the Project and previous instances of check samples performed for both Current and Escape deposits, SLR decided not to collect additional check samples during the 2022 site visit.

Collar coordinates for 12 drill holes, six from Current deposit and six from Escape deposit, were surveyed using a handheld GPS for the purposes of data validation. The GPS coordinates collected by SLR were found to be within less than two metres from the coordinates recorded in the database, reflecting the lower accuracy of the handheld device. The comparison shows that collar position data in the database is reliable. Figure 12-1 shows the collar of BL10-303 with the handheld GPS during coordinate acquisition.

Figure 12-1: Collar Position Check for Drill Hole BL10-303

12.2 Database Verification

Clean Air provided to SLR the original laboratory assay certificates in digital format, covering samples collected by three operators on the Project: Magma (90 certificates), Rio Tinto (57 certificates), and Clean Air (197 certificates). SLR matched 63,424 samples from the database with assay certificate information, covering drilling campaigns from 2008 to 2022. SLR compiled Pt, Pd, Cu, Ni, Au, Ag values from randomly selected assay certificates and compared them with the content of the database for approximately 25% of the assay database content. No material discrepancies were observed. Occasional minor discrepancies were identified and were attributed to re-assayed samples, rounding conventions, and precedence in the master drill hole database.

A visual check of the drill hole collar elevations and drill hole traces with respect to the topographic surface was completed. A visual inspection of the drilling deviation was performed, ensuring that no sudden bends or kinks were present in the data.

Other checks performed on the database included the following:

- Sample length and overlapping
- Maximum and minimum lengths and assay grades
- Negative assay values
- Gaps in assays/unsampled intervals
- Assay and density outliers

12.3 Conclusions

Data verification undertaken by the SLR QPs has included validation of both spatial and analytical datasets provided by Clean Air. On-site collar coordinates, drill core review for lithology description and mineralized intercepts, and desktop checks of the assay certificates. Results of the QA/QC program were reviewed.

Similar verifications were performed in the past during work related to previous Technical Reports, most recently in 2021 by Nordmin (2021, 2022) for both Current and Escape deposits.

The SLR QPs are not aware of any limitations on data verification and is of the opinion that database verification procedures for the TBN Project are in line with industry standards and are adequate for the purposes of Mineral Resource estimation.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 Introduction

Metallurgical test work on the Thunder Bay North Project has been carried out in multiple campaigns:

- Completed in 2010 to 2011 by G&T (now ALS) in Kamloops, British Columbia, and SGS Mineral Services (SGS) in Lakefield, Ontario, for Magma
- Completed between 2020 to 2021 by Blue Coast Research (Blue Coast) for Clean Air

The objectives of each metallurgical testing campaign have varied slightly, but each successive test campaign builds on the previous work to maximize the recovery of payable metals.

The current resource estimate is based on the metallurgical test program that was initiated at Blue Coast in December 2020. The program used coarse reject samples from previous drilling campaigns as well as split core material recovered from four new drill holes from the 2020 drilling campaign. The objective of the program was to advance the flowsheet development with a focus on optimizing grades and recoveries of final concentrates and providing baseline data for preliminary process engineering. Key elements of the work included:

- Mineralogical characterization of composite samples for bulk modals, sulphide liberation and association.
- Hardness testing to include SAG Mill Comminution (SMC), Bond ball mill work index (BBWi), and Abrasion Index (Ai) testing.
- Flotation flowsheet development and optimization.
- Chemical characterization of flotation concentrates.

This section provides a summary of the test work completed on samples from the Current and Escape deposits.

13.2 Historical Testwork

Metallurgical test work on the Thunder Bay North Project (specifically the Current deposit) was initiated in 2010 by Magma to support a mineral resource estimate and technical report. The main focus of the test work was the concentration of pay metals by froth flotation, but gravity recovery and magnetic separation were also considered. Additional work was completed after the preliminary results to examine optimization of grinding and flotation, as well as downstream process options, including the Platsol process, in an effort to optimize the value of the final products.

Three reports form the basis of the historical technical information presented here:

- Xstrata Process Support (XPS); Mineralogical Report 5010809.00 for Magma Metals Limited, Qemscan Analysis of One Crushed Composite, June 8, 2010.
- G&T; Metallurgical Assessment of the Thunder Bay North Project, KM2533, November 5, 2010.
- SGS; Project #12372-001 for Magma Metals Limited, The Grindability Characteristics of Samples from the Thunder Bay North Project, April 30, 2010.

13.2.1 Sample Preparation and Characterization

The 2010 metallurgical testing program was based on a series of composites made from the Current deposit. The majority of testing was carried out utilizing 'main composite' which was one of six composites prepared by G&T from 281 kg of quartered drill core available as of March 2010. Head grade analysis of the Main Composite is summarized in Table 13-1.

Table 13-1: Main Composite Head Analysis
Clean Air Metals Inc. – Thunder Bay North Project

Element	Unit	Assay
Palladium	g/t	1.12
Platinum	g/t	0.95
Copper	%	0.31
Nickel	%	0.22
Cobalt	g/t	180
Gold	g/t	0.11
Silver	g/t	2.6
Iron	%	10.9
Sulphur	%	1.73

Source: G&T, 2010

Electron probe micro-analysis (EPMA) in the XPS study indicated that the Ni grade of serpentines and olivine in the composite is approximately 0.2%, and that non-sulphide Ni represents approximately 42% of the total Ni in the sample. In addition, an additional 6% of the Ni is contained in pyrite and pyrrhotite at grade of approximately 0.45% Ni.

Mineral liberation analysis (MLA) carried out at G&T revealed that at a P_{80} (80% passing size) of 86 µm Cu, as chalcopyrite, was found to be sufficiently liberated to achieve separation. At the same grind size pentlandite was not liberated and would be primarily associated with pyrite and pyrrhotite.

13.2.2 Grindability

Hardness testing was conducted at SGS on selected composite samples. Results are summarized in Table 13-2 and indicate that the samples tested are hard compared to other deposits, but only mildly abrasive.

Table 13-2: Summary of Grindability Results
Clean Air Metals Inc. – Thunder Bay North Project

Sample Name	Relative Density	JK Parameters		SPI® (Min)	CWi	RWi	BWi (kWh/t)		Ai (g)
		A x b	DWi		(kWh/t)	(kWh/t)	150M	325M	
Main Sample	2.89	30.9	9.28	135	-	17.0	18.7	23.4	0.052

Sample Name	Relative Density	JK Parameters A x b	DWi	SPI® (Min)	CWi (kWh/t)	RWi (kWh/t)	BWi (kWh/t) 150M	325M	Ai (g)
Boulder Sample	2.97	31.8	9.38	-	15.8	-	17.8	-	-
Variability Sample	2.94	37.4	7.84	-	-	-	17.6	-	-

Source: SGS, 2010.

Notes: RWi = bond rod mill work index, DWi = Drop Weight Index

13.2.3 Flotation Development

Flotation testwork was carried out at G&T with the objective of developing a flotation process to recover pay metals to a saleable concentrate and reject penalty elements, including talc minerals.

Three main flotation flowsheet options were investigated: bulk concentrate production; recovery of separate Cu-Ni and pyrite (PGM) concentrates, and separate Cu and Ni/PGM concentrates. In addition to flowsheet configuration, low-air flotation, consisting of nitrogen sparged flotation in the early stages of rougher flotation to selectively recover pyrite and pyrrhotite over Cu and Ni minerals was also evaluated. The presence of magnesium bearing minerals was identified in the mineralogical study and methods of control in the testwork included the addition of a talc pre-flotation step as well as the use of starch depressants.

The highest recoveries were achieved with a bulk concentrate flowsheet and locked cycle testing was conducted to evaluate the effect of recycle streams on final concentrate grades and recoveries. Table 13-3 presents the metallurgical projection for the bulk flowsheet including a pre-flotation step to control magnesium. The pre-float concentrate MgO grade was measured at 25.6%, and this stream would report to final tailings.

Table 13-3: Locked Cycle Flotation Test Results, Test #23
Clean Air Metals Inc. – Thunder Bay North Project

Flotation Stream	Wt	Assay, % (Cu, Ni, Co) g/t (Pt, Pd, Au)						Distribution, %					
	%	Cu	Ni	Co	Pt	Pd	Au	Cu	Ni	Co	Pt	Pd	Au
Feed	100	0.30	0.20	0.02	1.30	1.32	0.08	100	100	100	100	100	100
Pre-float Concentrate	5.7	0.15	0.12	0.01	0.6	0.7	0.06	2.9	3.6	4.0	2.4	3.1	3.9
3rd Cleaner Concentrate	4.6	5.73	1.91	0.09	23.3	22.2	1.12	87.2	44.7	28.4	80.9	77.6	60.8
Tailings	89.7	0.03	0.11	0.01	0.20	0.28	0.03	9.8	51.7	67.7	16.7	19.3	35.3

Source: G&T, 2010.

Minor element analysis of a 3rd cleaner concentrate sample from flotation test #23 is presented in Table 13-4. Despite the pre-flotation step and the use of depressants during flotation, the concentrate still has appreciable MgO, 7.8%, which may attract a smelter penalty. No other penalty elements were identified.

Table 13-4: Bulk Concentrate Minor Element Analysis, Test #23
Clean Air Metals Inc. – Thunder Bay North Project

Element	Symbol	Unit	Technique	Assay
Aluminum	Al	%	WR ICP-OES	0.53
Antimony	Sb	g/t	2 Acid ICP-OES	20
Arsenic	As	g/t	2 Acid ICP-OES	98
Bismuth	Bi	g/t	2 Acid ICP-OES	2
Cadmium	Cd	g/t	AR FAAS	10
Calcium	Ca	%	WR ICP-OES	0.87
Cobalt	Co	%	AR FAAS	0.093
Copper	Cu	%	AR FAAS	5.73
Fluorine	F	g/t	Fusion ISE	198
Gold	Au	g/t	FA FAAS	1.12
Iron	Fe	%	AR FAAS	30.7
Lead	Pb	%	AR FAAS	0.011
Magnesium Oxide	MgO	%	WR ICP-OES	7.79
Manganese	Mn	%	WR ICP-OES	0.072
Mercury	Hg	g/t	LeForte rt CV-AAS	<1
Molybdenum	Mo	%	2 Acid FAAS	0.003
Nickel	Ni	%	AR FAAS	1.91
Palladium	Pd	g/t	FA ICP-OES	22.2
Phosphorus	P	g/t	3 Acid ICP-OES	406
Platinum	Pt	g/t	FA ICP-OES	23.3
Selenium	Se	g/t	ESHKA ICP-OES	182
Silicon	Si	%	Fusion ICP-OES	7.25
Sulphur	S	%	2 Acid-ICP-OES	28.9
Silver	Ag	g/t	AR FAAS	26
Zinc	Zn	%	AR FAAS	0.038

Source: G&T, 2010.

Additional testwork evaluated both gravity and magnetic separation as means to reject gangue, and to improve precious metals recovery and overall concentrate grade. Centrifugal gravity recovery using a Knelson concentrator followed by hand panning indicated that approximately 30% of the contained gold could be recovered to a low grade concentrate suitable for combining with the bulk concentrate. No other metals were observed to benefit from gravity concentration. Low intensity magnetic separation at a field strength of 1000 Gauss was investigated as a means to remove pyrrhotite from the bulk concentrate but was not found to achieve an efficient separation.

13.2.4 Variability Testing

Five variability composites were prepared from the split core samples received at G&T. The samples represented discrete zones of varying geographical and geological properties. A summary of the head analysis for the variability samples is presented in Table 13-5. The composites varied widely in mineralization and metal grades. Total sulphur in the composites ranged from 0.8% to 17%, with pay metals varying in proportion to the sulphur.

Table 13-5: Head Assays for the Variability Composites
Clean Air Metals Inc. – Thunder Bay North Project

Sample	Cu	Ni	Co	S	MgO	Pd	Pt	Au	Ag
	%	%	%	%	%	g/t	g/t	g/t	g/t
Cloud	0.3	0.2	0.02	0.7	26.0	1.2	1.0	0.1	2.5
0.7 Diss	0.1	0.1	0.02	0.8	22.9	0.3	0.3	0.2	1.3
1.5 Diss	0.2	0.2	0.02	1.5	22.0	0.4	0.4	0.2	1.7
5 Diss	0.8	0.5	0.03	3.8	24.0	3.1	2.6	0.2	4.6
10 Matrix	1.2	0.6	0.03	3.9	23.1	4.9	4.9	0.3	6.6
20 Matrix	2.7	1.5	0.08	17.4	12.6	11.6	8.4	0.4	9.9

Rougher and cleaner flotation tests were carried out using the optimized conditions developed from the testwork on the Main Composite. Metallurgical response varied widely between composites driven largely by grade and sulphide content. Copper recoveries ranged from 68% to 89%, whereas Ni recovery was more sensitive to head grade, with recoveries ranging from 24% to 70%.

Based on the results of the G&T testwork, a conceptual flowsheet was developed that included pre-flotation of floatable gangue followed the production of a bulk concentrate with the potential for additional recovery in the grinding circuit through gravity concentration.

13.3 Clean Air Test Work

13.3.1 Summary

Clean Air initiated metallurgical testing work in 2020 with Blue Coast Research Ltd. (Blue Coast). Initial testing (Phase I) was carried out utilizing material available from historic drilling and existing assay reject material. Oxidation of the samples severely impacted the outcomes and fresh mineralized material was sought for Phase 2.

In 2021, Blue Coast continued testing with fresh drill core and completed the Phase 2 metallurgical testing (Hall, 2021). Testing utilized material from both Current and Escape deposits and was focused on mineralogy and flotation test work. A total of nine composite samples were prepared from drill core (CLM20-001 to -004) for the Current deposit and three composite samples were prepared from recent assay reject material representing HGZ, Escape South, and Escape North. A Bond Ball Mill Work index test was completed on the grindability composites with a resultant work index of 19.5 kWh/t, which indicated a hard sample. Model mineralogy indicated that primary sulphide minerals were chalcopyrite and Fe-sulphides (pyrrhotite and pyrite). Nickel minerals were found in low levels as iron nickel sulphide and millerite.

A total of 34 flotation tests were completed utilizing three flow sheets: sequential copper-nickel, sequential copper-bulk sulphide, and bulk sulphide only. The three flow sheets all indicated that the ore was amenable to sulphide flotation and concentration of PGEs into a concentrate.

A second round of metallurgical testing was initiated by Clean Air Metals in 2022 to optimize results from the preliminary work completed by Blue Coast. The metallurgical test work was to look at a broader range of variability within the Current and Escape deposits and continue working on a flowsheet that would generate a concentrate with best payables. This ongoing work, which is being completed by Base Metallurgical Labs, is ongoing and thus was not available to use in this resource estimate.

13.3.2 2020 Test Program: Blue Coast Phase 1

A new metallurgical testing program on samples from the Bridge, Beaver, and Current zones of the deposit was initiated at Blue Coast in November 2020 (Blue Coast, 2021a). The objective of the program was to further develop the flowsheet and advance the metallurgy.

13.3.2.1 Sample Selection and Characterization

Due to limitations on core sample availability, the initial development testwork was conducted on a Master Composite (MCo) composed of coarse assay reject material from past drilling programs. Later in the program, a second composite, labelled as Var1, was generated using selected core samples from the 2020 drilling campaign. Head assays for both composites are presented in Table 13-6.

Table 13-6: Head Assays for the Blue Coast Phase I Composites
Clean Air Metals Inc. – Thunder Bay North Project

Sample	Cu (%)	Ni (%)	NiS (%)	Pt (g/t)	Pd (g/t)	Rh (ppb)	S (%)
Master Composite	0.30	0.19	0.11	1.01	0.89	57	1.81
Var1 Composite	0.46	0.21	-	1.05	1.00	-	1.94

13.3.2.2 Mineralogy

A sample of the MCo was ground to a P_{100} of 100 µm, screened at 75 µm and 38 µm, and submitted for bulk modals as well as sulphide association and liberation analysis. A summary of the results of the modal analysis is presented in Table 13-7 and indicates that the main components of the gangue mineralization consist of serpentine and amphibole, and to a lesser extent chlorite and quartz.

Table 13-7: Modal Analysis for Three Size Fractions of the Master Composite
Clean Air Metals Inc. – Thunder Bay North Project

Mineral Abundance (%)	Combined	MCo +75	MCo -75	MCo -38
Chalcopyrite	0.75	0.50	1.09	1.11
Fe Sulphide	2.83	2.16	3.82	2.88
Pyrrhotite	0.23	0.24	0.21	0.16
Millerite	0.03	0.02	0.05	0.05
NiS low Fe (Godlevskite)	0.23	0.21	0.27	0.18
Fe Oxide/Hydroxide	2.55	2.40	2.75	2.73
Hematite low Cr	1.07	0.94	1.33	0.52

Mineral Abundance (%)	Combined	MCo +75	MCo -75	MCo -38
Ilmenite	2.40	2.07	2.98	1.39
Quartz	2.25	2.26	2.28	1.94
Feldspar	9.72	10.21	9.46	5.37
Amphibole	15.88	15.61	17.04	8.74
Phlogopite/Biotite	2.69	2.74	2.61	2.86
Muscovite	1.15	1.25	1.05	0.64
Chlorite	8.09	8.02	7.49	14.57
Si-Al Clays	1.64	1.65	1.60	1.91
Serpentine	46.57	47.99	43.87	52.34
Talc	0.33	0.36	0.29	0.20
Calcite	0.55	0.40	0.76	0.69
Dolomite	0.23	0.19	0.26	0.57

Copper is present as chalcopyrite while nickel was identified as the low iron sulphide godlevskite, although this may be result of the aging and oxidation of the sample, i.e., the godlevskite may be an altered form of pentlandite.

Chalcopyrite was found to be moderately liberated, with 54.1% being greater than 80% liberated at a P_{80} of 100 µm. Association of chalcopyrite was primarily with pyrite and serpentine. Nickel sulphide identified as godlevskite was found to be mostly locked, with 63.2% less than 40% liberated, and associations including chalcopyrite and serpentine.

13.3.2.3 Metallurgical Testwork

A total of nine rougher tests and nine open-circuit cleaner tests were carried out on the MCo. The tests sought to optimize the circuit parameters including primary and regrind size, circuit configuration, collector type and addition, and gangue depressants used.

Baseline testing focused on a sequential flowsheet targeting the selective flotation of copper sulphides followed by recovery of the nickel sulphides and remaining PGEs. An initial primary grind size P_{80} of 100 µm was selected, with lime added to achieve a pulp pH of 10.5, triethylenetetramine (TETA) added to depress pyrrhotite, and 3418A added as a copper collector. Rougher flotation of the copper minerals was followed by lowering the pH to 9.0 with sulphuric acid and the addition of sodium isopropyl xanthate (SIPX) for collection of the nickel sulphides.

Figure 13-1 presents the kinetic recovery curves for copper and nickel for each of the rougher tests. Copper circuit performance was consistently good with high copper recovery to the rougher concentrate. In comparison, nickel recovery was much lower averaging approximately 60% to the combined (Cu+Ni) rougher concentrate under most conditions. At the same time, sulphur recovery to the combined concentrate ranged from 80% to 88%, supporting the head assay result in Table 13-6 which indicates that a significant portion of the contained nickel is associated with non-sulphide gangue.

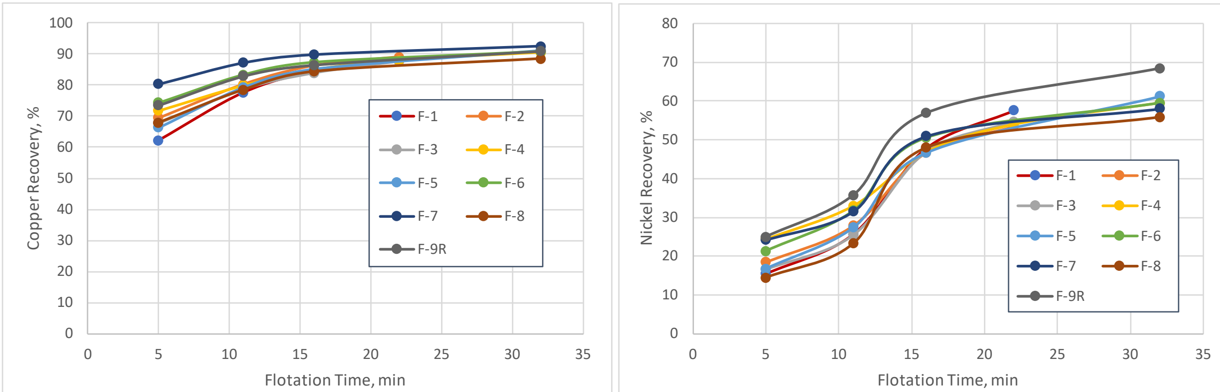


Figure 13-1: Kinetic Curves for Copper and Nickel Recovery for the Rougher Flotation Tests

Variations on this flowsheet and reagent scheme over the course of nine rougher kinetic flotation tests provided the following results:

- Optimal primary grind size was identified as a P_{80} of approximately 65 µm as this provided good liberation of the copper and nickel sulphide minerals.
- 3418A was found to provide selective recovery of the copper sulphides while minimizing the recovery of nickel to the copper rougher concentrate.
- Carboxymethyl cellulose (CMC) was found to be more effective than Calgon as a gangue dispersant/depressant.
- The addition of sodium sulphite was found to improve copper grade in the rougher concentrate, but negatively affected recovery.
- Increasing the collector dosage in the nickel rougher flotation was not found to improve nickel recovery.
- Addition of $CuSO_4$ in the nickel roughers was found to improve nickel recovery.

Platinum and palladium assays on selected products from the rougher kinetic tests indicated that PGE recovery is strongly dependent on sulphur recovery. This is particularly true for platinum, as shown in Figure 13-2. For palladium, the results indicate that the sulphides in the copper circuit concentrate carry more grade than in the nickel circuit. This suggests that a portion of the contained palladium is associated closely with chalcopyrite and would be expected to upgrade in the copper concentrate.

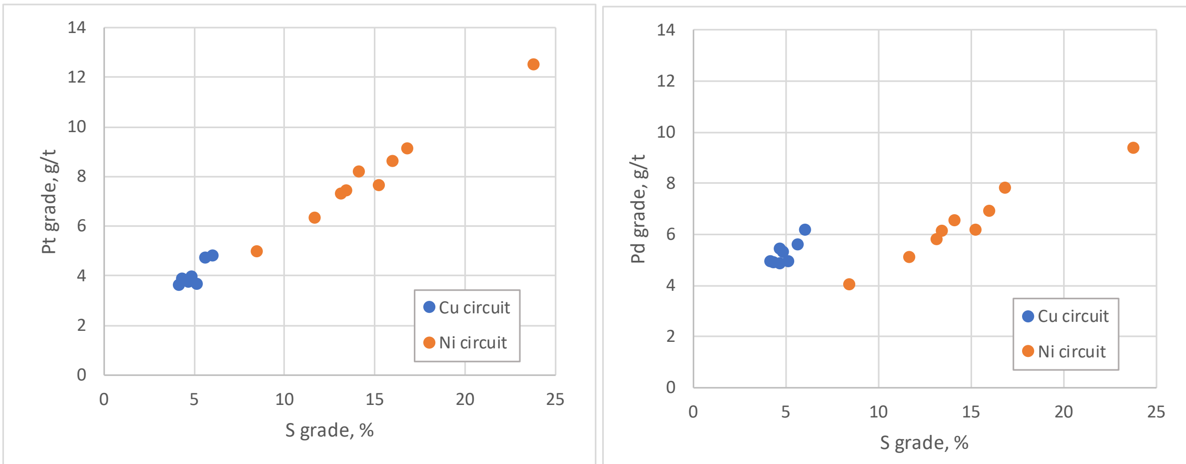
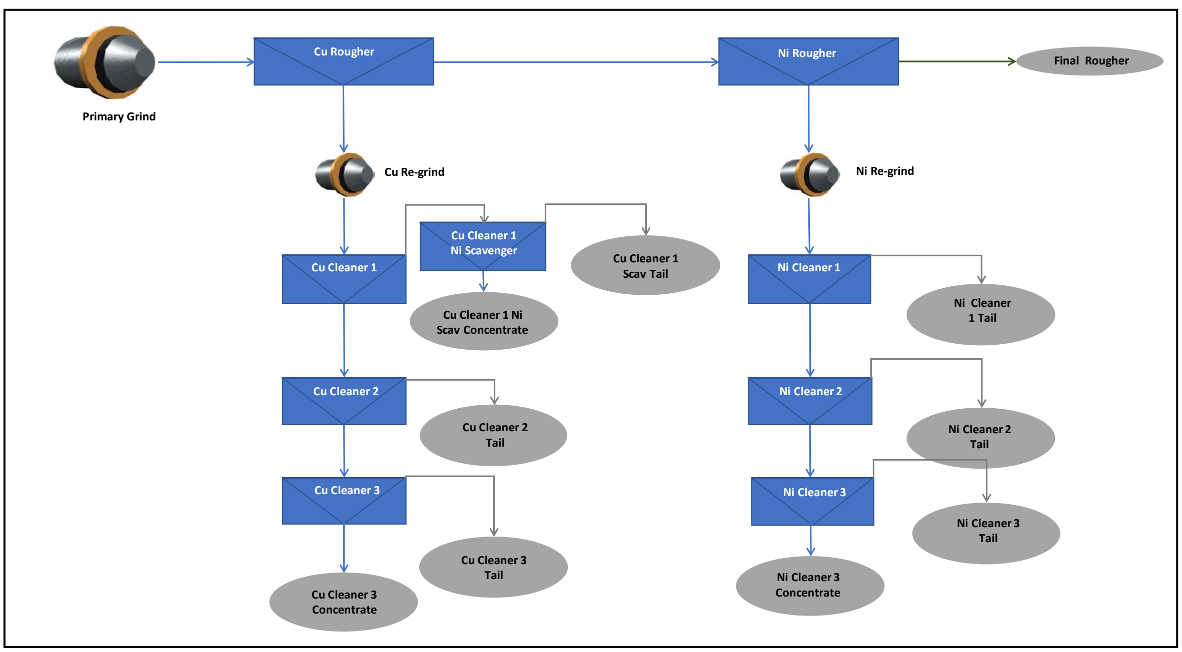


Figure 13-2: Pt/Pd Recovery vs. Sulphur Recovery for Rougher Flotation Tests F1 to F4.

Based on the results of the rougher kinetics tests, a rougher sequential flowsheet was identified as effective at achieving good stage recoveries of the contained pay metals. A further nine open-circuit cleaner flotation tests were carried out on the MCo to evaluate the potential final concentrate grades and recoveries. Figure 13-3 presents a schematic of the typical flowsheet used for these tests.



Source: Blue Coast, 2021a.

Figure 13-3: Flowsheet Used for Open-circuit Batch Flotation Testing

The initial starting point for the cleaner tests consisted of a primary grind P_{80} of 65 µm, a pH 10.5 in the copper rougher and pH 9 in the nickel rougher, with collectors as 3418A and SIPX. In addition, TETA, diethylenetriamine (DETA), and CMC were used as gangue and iron sulphide depressants, and copper sulphate was added as an activator in the nickel circuit.

The copper rougher concentrate was initially reground to a P_{80} of approximately 35 µm prior to three stages of open-circuit cleaning. Grade recovery curves for copper and nickel in the cleaner flotation tests are presented in Figure 13-4. The copper circuit demonstrated good performance in all tests, achieving final copper grades of >25% under varying conditions, and the steepness of the curves indicate high stage recoveries even in open-circuit.

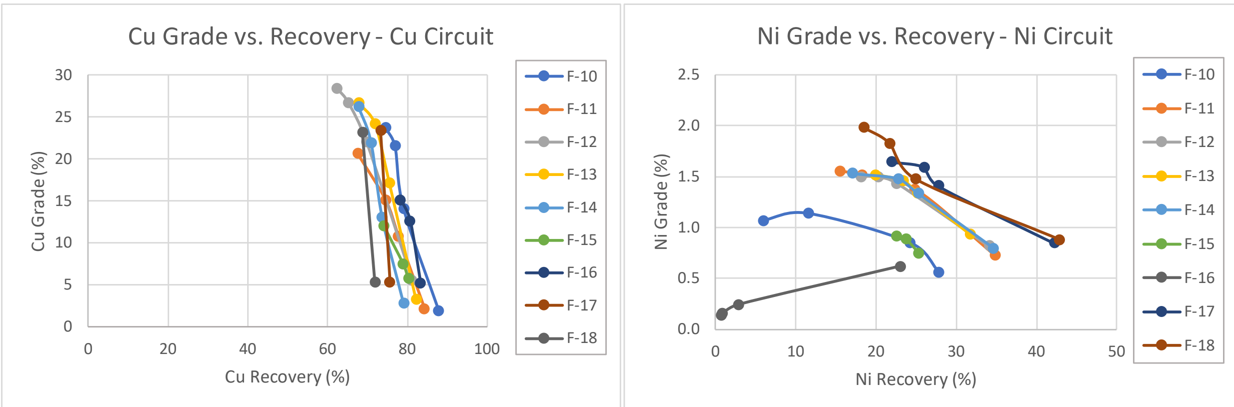


Figure 13-4: Grade/Recovery Curves for Copper and Nickel in the Cleaner Tests on the MC Composite

Conversely, the cleaning of the nickel rougher concentrate was found to be much more difficult. Stage recoveries were low, particularly in the first cleaner, and further compounded the low rougher circuit recovery. In addition, the cleaning of the rougher concentrate did not significantly improve the nickel grade of the concentrate reaching a maximum of 1.5% Ni in tests F-10 to F-16. For the last two tests in this series a regrind of the rougher nickel concentrate was included in the flowsheet and this improved the concentrate grade up to 2.0% Ni, but the high nickel losses in the first cleaner remained.

Platinum and palladium grade/recovery curves for test F-13 are presented in Figure 13-5. Higher grades and stage recoveries were achieved in the copper circuit, particularly for palladium due to a close association with chalcopyrite. Nickel circuit performance for PGEs were comparable to that for nickel shown in Figure 13-4, and suggests that pay metals in this stream are associated with both nickel sulphides and iron sulphides. As a result, any attempt to depress the iron sulphides and improve nickel and PGE grade has a detrimental effect on overall metal recovery.

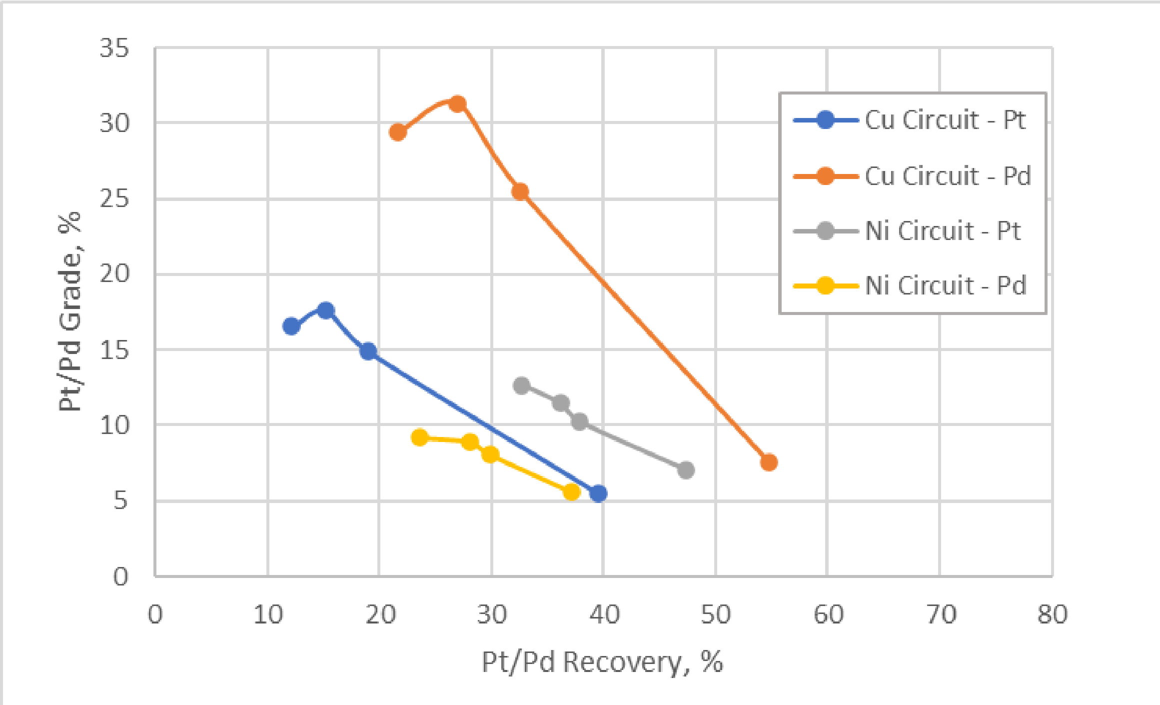


Figure 13-5: Pt/Pd Grade/Recovery Curves for Test F-13.

To evaluate the influence of composite sample aging and surface oxidation on the metallurgical performance, a second composite labelled as Var1 was generated. Unlike the MCo, which was composed of coarse assay rejects, the Var1 composite was comprised of selected intervals of split core from the 2020 drilling campaign. Head assays presented in Table 13-6 indicate that the composite is similar in grade to the MCo, although slightly higher in copper.

Six cleaner flotation tests were conducted on the Var1 composite, with the starting conditions for these tests taken from the F-17 test on the MCo. Immediate improvements in metallurgical performance were noted, in particular in terms of final concentrate nickel grade. Higher grades and recoveries were also observed in the copper circuit, as illustrated in Figure 13-6.

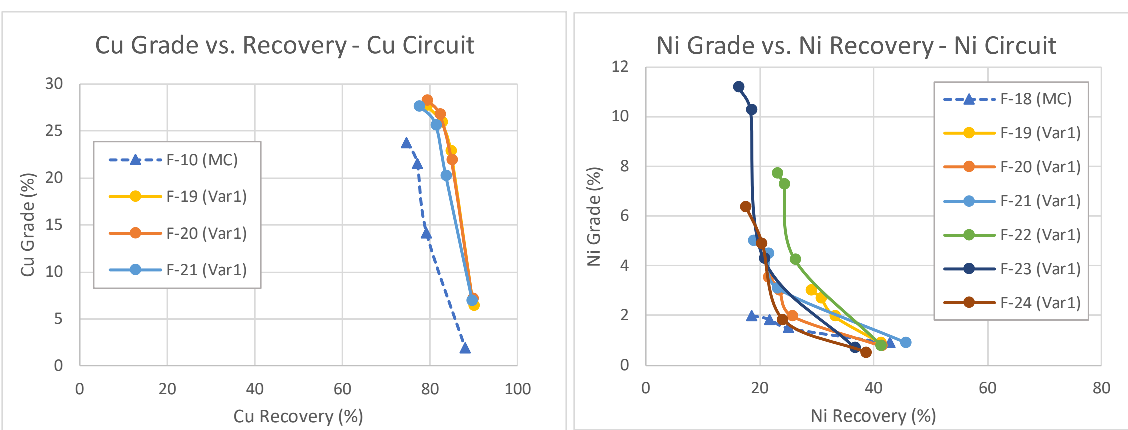


Figure 13-6: Cu and Ni Grade/Recovery Curves for the Cleaner Tests on the Var1 Composite

Subsequent tests in this series focused on improving grade in the nickel circuit through two flowsheet modifications: 1) replacement of SIPX with the specialized nickel sulphide collector, Solvay NP-12; and 2) varying the DETA addition to the nickel circuit regrind to improve depression of the contained iron sulphides. In test F-23, with 125 g/t DETA added to the regrind and 35 g/t NP-12 collector, a final concentrate nickel grade of 11.3% was achieved. However, overall nickel recovery to this stream was still too low at only 16.2%. High stage losses continued to occur during upgrading of the concentrate.

Results for platinum and palladium were similar to those for nickel with improved final concentrate grades, but at unacceptable recoveries. Figure 13-7 provides a comparison of the platinum and palladium results for the Var1 composite compared to those for the MCo (F-13).

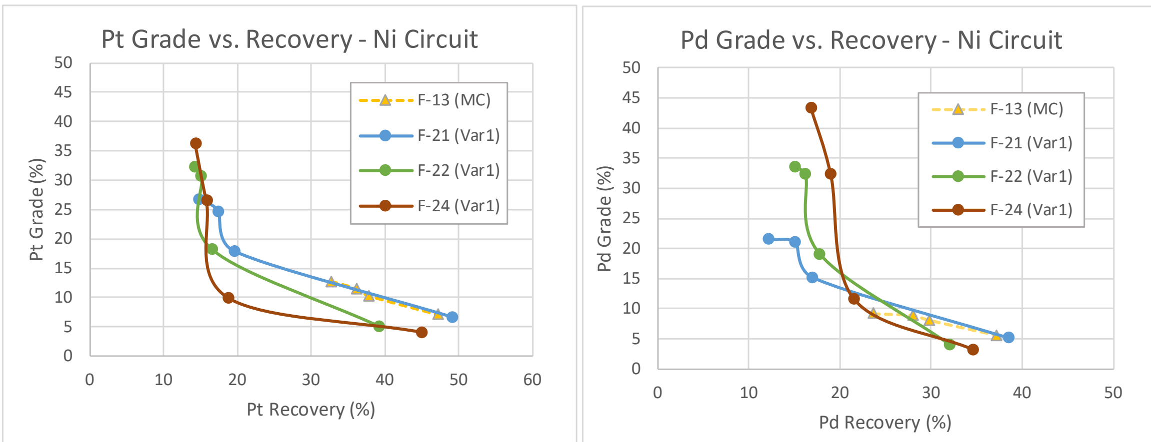


Figure 13-7: Ni Circuit Pt/Pd Grade/Recovery Curves for the Cleaner Tests on the Var1 Composite

The final concentrates from flotation test F-24 were submitted for an ICP scan to measure the contained minor elements. Results are presented in Table 13-8 and indicate that all elements are within reasonable limits. Magnesium in the copper concentrate is slightly elevated, but this can likely be controlled through a second stage of cleaning and/or fine tuning of the CMC addition.

Table 13-8: Minor Element Assays for Cu 1st Cleaner Conc and Ni 3rd Cleaner Conc for Test F-24
Clean Air Metals Inc. – Thunder Bay North Project

Element/Units		Cu Conc	Ni Conc	Element/Units		Cu Conc	Ni Conc
Ag	ppm	83.9	46.2	Mo	ppm	<1	<1
Al	%	0.51	0.20	Na	%	0.18	0.06
As	ppm	19	37	Nb	ppm	<10	<10
Ba	ppm	19	12	Ni	ppm	6950	OL
Be	ppm	<0.2	<0.2	P	%	<0.002	0.059
Bi	ppm	<2	23	Pb	ppm	75	135
Ca	%	0.39	0.15	Rb	ppm	<20	<20
Cd	ppm	11.8	2.7	Re	ppm	<20	<20
Co	ppm	515	3049	Sb	ppm	5	27

Element/Units		Cu Conc	Ni Conc	Element/Units		Cu Conc	Ni Conc
Cr	**ppm**	145	117	**Se**	**ppm**	99	103
Cu	**ppm**	OL	35243	**Sn**	**ppm**	<10	<10
Fe	**%**	27.84	37.71	**Sr**	**ppm**	31	14
Ga	**ppm**	<20	373	**Ta**	**ppm**	13	15
Ge	**ppm**	<20	<20	**Te**	**ppm**	<100	<100
Hf	**ppm**	<20	<20	**Ti**	**%**	0.08	0.08
In	**ppm**	<20	33	**Tl**	**ppm**	<2	7
K	**%**	0.05	0.02	**V**	**ppm**	19	28
Li	**ppm**	10	2	**W**	**ppm**	30	17
Mg	**%**	2.83	0.80	**Zn**	**ppm**	672	1225
Mn	**ppm**	220	125	**Zr**	**ppm**	43	26

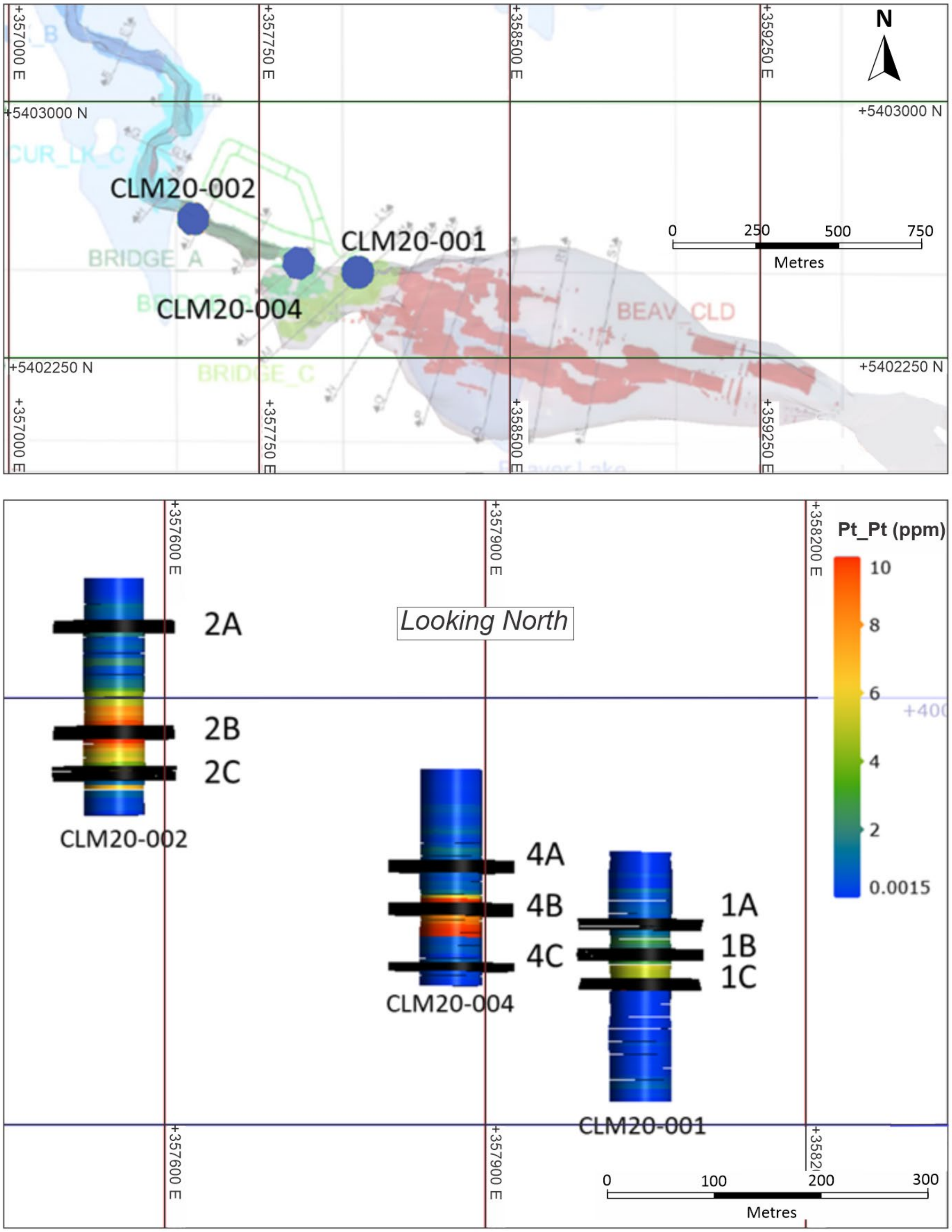
The Phase 1 program was concluded based on limitations of available sample and pending a re-evaluation of final product grade objectives.

13.3.3 2021 Test Program: Blue Coast Phase 2

A second phase of the flowsheet development program was initiated at Blue Coast Research in July 2021 (Blue Coast, 2021b). The objective of the program was to identify the optimal conditions for achieving metal recovery to concentrate, and to evaluate the effect of variations in head grade on metal recovery. The program included chemical and mineralogical characterization of 12 variability composites as well as bench scale grindability and flotation testwork.

13.3.3.1 Sample Selection and Characterization

A total of nine variability composites were generated from the same three drill holes in the Current deposit that had been blended to form the Var1 composite from the first phase of testing at Blue Coast. The location of these drill holes is presented in Figure 13-8. In Phase 2, each hole was used to generate three composites (A, B, and C) organized spatially, increasing in depth through the mineralized portion of the available core.



Source: Clean Air Metals Inc., 2023.

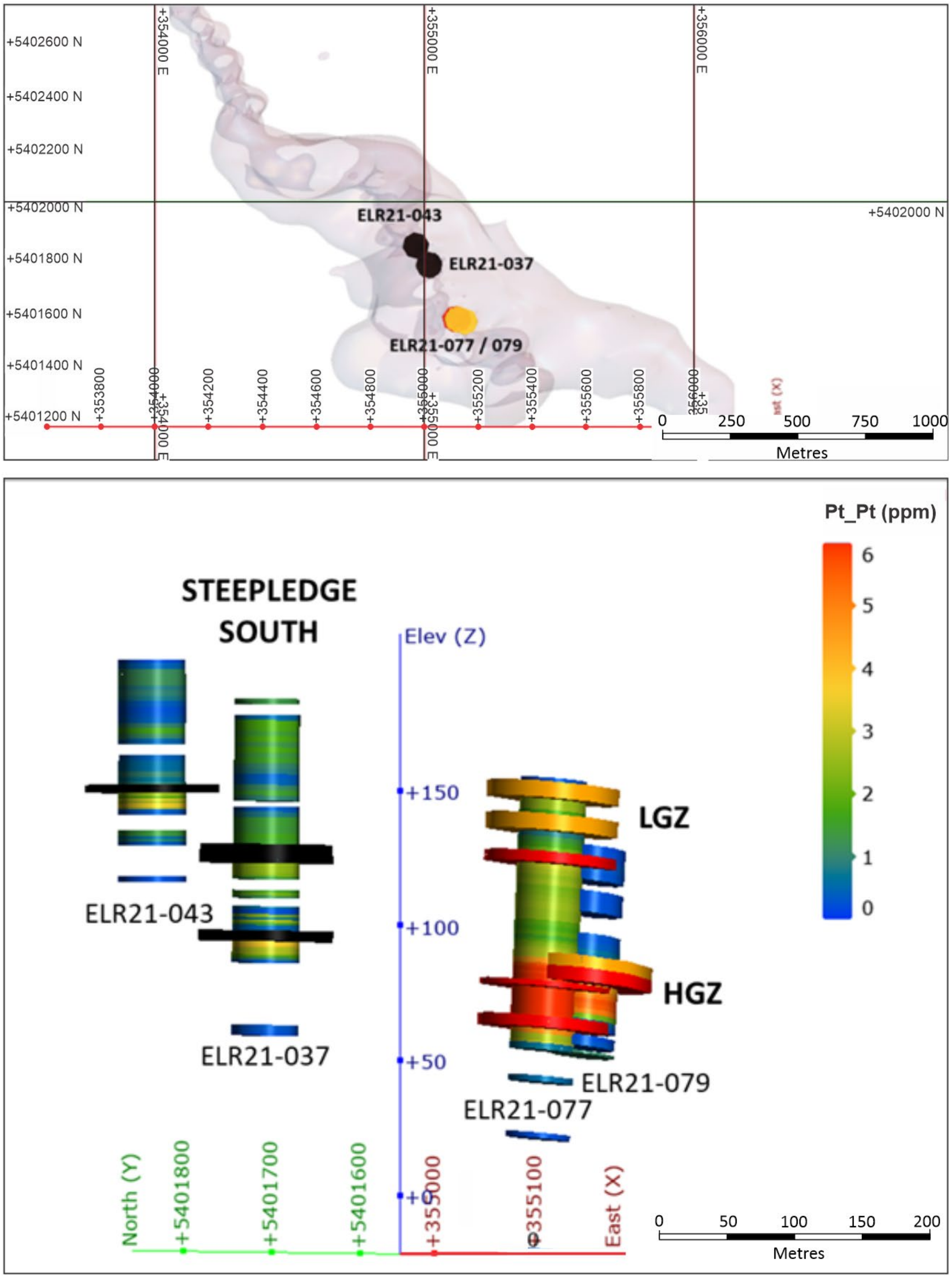
Figure 13-8: Hole Locations and Spatial Distribution of the Nine Current Deposit Variability Samples

The head assays for the nine Current deposit variability composites are presented in Table 13-9. The assays indicated a wide range in grade with PGE (Pt+Pd) grades ranging from 1.49 g/t (1A) to 11.2 g/t (4C). In general, higher PGE grades also correspond to higher copper, nickel, and sulphur grades. Assays for rhodium were conducted on the head samples and indicated grades ranging from 0.020 g/t to 0.402 g/t.

Table 13-9: Head Assays for the Phase 2 Metallurgical Composites
Clean Air Metals Inc. – Thunder Bay North Project

Composite	Element and Method					
	Pt (g/t) FA-ICP	Pd (g/t) FA-ICP	Rh (g/t) (Actlabs)	Cu (%) 4AD-AA	Ni (%) 4AD-AA	S (%) ELTRA
Hole 1A	0.77	0.72	0.031	0.23	0.17	1.97
Hole 1B	1.38	1.27	0.027	0.35	0.18	1.22
Hole 1C	5.53	5.13	0.101	1.28	0.42	3.89
Hole 2A	0.81	0.76	0.035	0.21	0.17	1.51
Hole 2B	5.1	5.48	0.402	1.51	1.04	8.53
Hole 2C	2.11	1.9	0.034	0.61	0.29	1.74
Hole 4A	0.67	0.6	0.020	0.16	0.15	0.81
Hole 4B	4.16	4.31	0.322	1.21	0.81	5.41
Hole 4C	5.92	5.31	0.031	1.27	0.42	2.86
HGZ-L	0.96	1.04	0.024	0.28	0.17	1.01
HGZ-H	1.89	2.29	0.110	0.65	0.33	3.01
Steepledge South	0.94	1.01	0.020	0.26	0.18	1.29

Towards the end of the test program, three additional variability composites representing the Escape deposit were generated using assay reject material. Figure 13-9 illustrates the location of these samples, with the head assays presented in Table 13-9.



Source: Clean Air Metals Inc., 2023.

Figure 13-9: Hole Locations and Spatial Distribution of the Three Escape Deposit Variability Samples

13.3.3.1.1 Mineralogy

For each of the variability composites, a head sample ground to a target P_{80} of 65 µm was submitted for bulk modals as well as sulphide association and liberation analysis. A summary of the results of the modal analysis for the variability composites is presented in Table 13-10 and indicates that, comparable to the Phase 1 composites, the main components of the gangue mineralization consist of serpentine and amphibole. The Escape domain composites contain a higher ratio of serpentine to amphibole compared to the Current domain.

Table 13-10: Modal Analysis for the Current Deposit Variability Samples
Clean Air Metals Inc. – Thunder Bay North Project

Composite	1A	1B	1C	2A	2B	2C	4A	4B	4C	HGZ-H	HGZ-L	Stplg. South
Galena	n.d.	n.d.	0.01	n.d.	0	n.d.	n.d.	n.d.	0	n.d.	n.d.	n.d.
Sphalerite	0	0.01	0.01	n.d.	0	0.01	0	0.01	0.01	0.01	0.01	0.01
Chalcopyrite	0.24	0.35	1.44	0.2	1.51	0.74	0.59	4.08	3.75	1.84	0.78	0.64
Fe Sulphide	3.06	1.72	4.64	1.86	5.02	1.73	0.69	3.54	1.38	1.75	0.48	0.84
Pyrrhotite	0.01	0.01	0.76	0.44	10.25	0.75	0.19	3.84	1.11	5.05	1.44	2.19
Millerite	0.25	0.23	0.11	0.09	n.d.	n.d.	0	n.d.	n.d.	n.d.	n.d.	n.d.
NiS low Fe	0.02	0.04	0.6	0.22	1.89	0.38	0.28	1.35	0.62	0.55	0.23	0.25
Pentlandite	0	0	0.03	0.06	0.74	0.08	0.02	0.3	0.14	0.20	0.07	0.15
Barite	n.d.	0	0	0.01	0	0.01	0	n.d.	0.01	n.d.	n.d.	n.d.
Fe Oxi/Hydroxi	2.43	2.78	3.11	1.33	2.14	2.02	1.72	4.33	2.74	2.44	2.84	2.11
Hematite low Cr	0.51	0.49	0.6	0.94	1	1.69	1	0.8	1.37	1.15	0.40	0.91
Ilmenite	1.75	2.05	2.16	1.82	1.04	1.51	2.12	1.36	1.45	0.78	0.91	0.57
Titanite	0.15	0.05	0.02	0.02	0	0.01	0.05	0	0	0.00	0.00	0.00
Quartz	0.14	0.14	0.15	0.14	0.13	0.17	0.12	0.14	0.15	0.16	0.11	0.14
Feldspar	0.94	4.1	8.69	3.44	5.28	9.35	6.27	5.96	8.45	4.37	4.46	5.56
Amphibole	16.5	15.3	13.1	12.8	11.2	10.2	15.3	13.2	9.45	9.93	8.89	9.45
Epidote	0.22	0.06	0.05	0.03	0.02	0.04	0.05	0.02	0.03	0.15	0.26	0.15
Allanite	0.01	0	0	n.d.	n.d.	0	0	0	0	0.00	0.01	0.00
Zircon	0.01	0	0.01	0	n.d.	0.02	n.d.	n.d.	0	0	0	0
Phlogop./Biotite	2.31	3.78	5.26	3.02	1.04	3.5	2.4	2.02	3.59	1.94	1.73	2.39
Muscovite	0.28	1.02	0.28	0.79	0.42	0.26	0.44	0.11	0.09	0.15	0.19	0.16
Chlorite	11.0	10.3	10.5	10.2	7.27	10.5	9.97	7.53	8.89	3.51	3.62	4.29
Si-Al Clays	0.47	0.88	1.72	0.87	1.07	1.5	1.04	1.17	1.35	0.26	0.30	0.41
Serpentine	57.0	54.3	43.4	58.0	43.9	51.7	54.9	45.1	51.2	61.4	69.5	64.8
Talc	0.24	0.13	0.04	0.08	0.01	0.02	0.2	0.07	0.05	0.01	0.00	0.02

Composite	1A	1B	1C	2A	2B	2C	4A	4B	4C	HGZ-H	HGZ-L	Stplg. South
Sillimanite	0.01	0.01	0.01	0.01	0.02	0.01	0	0.01	0.01	0.02	0.02	0.03
Apatite	0.3	0.37	0.3	0.24	0.16	0.3	0.27	0.21	0.21	0.18	0.20	0.24
Monazite	n.d.	n.d.	n.d.	0	0	0	0	0	n.d.	0.00	0.00	0.00
Calcite	0.34	0.16	0.2	1.79	0.85	0.84	0.63	0.42	0.31	0.44	0.22	0.71
Dolomite	1.27	1.32	1.47	0.77	1.53	1.79	0.99	1.58	2.15	1.31	1.28	1.60
Ankerite	0	0	0	0.02	0.03	0.02	0.01	0.01	0	0.01	0.01	0.02

Notes: n.d. – none detected

Figure 13-10 provides a comparison of sulphide mineral distributions between composites. For the Current deposit, high nickel grades in composites 2B and 4B are accompanied by higher ratios of pyrrhotite to pyrite. Composites 1A and 1B contain nickel primarily as millerite, in contrast to the other composites with more pentlandite or low iron nickel sulphide. Copper is present almost exclusively as chalcopyrite in all composites. The Escape deposit composites are comparable in terms of copper and nickel grade to the Current deposit composites but have a higher ratio of pyrrhotite to pyrite.

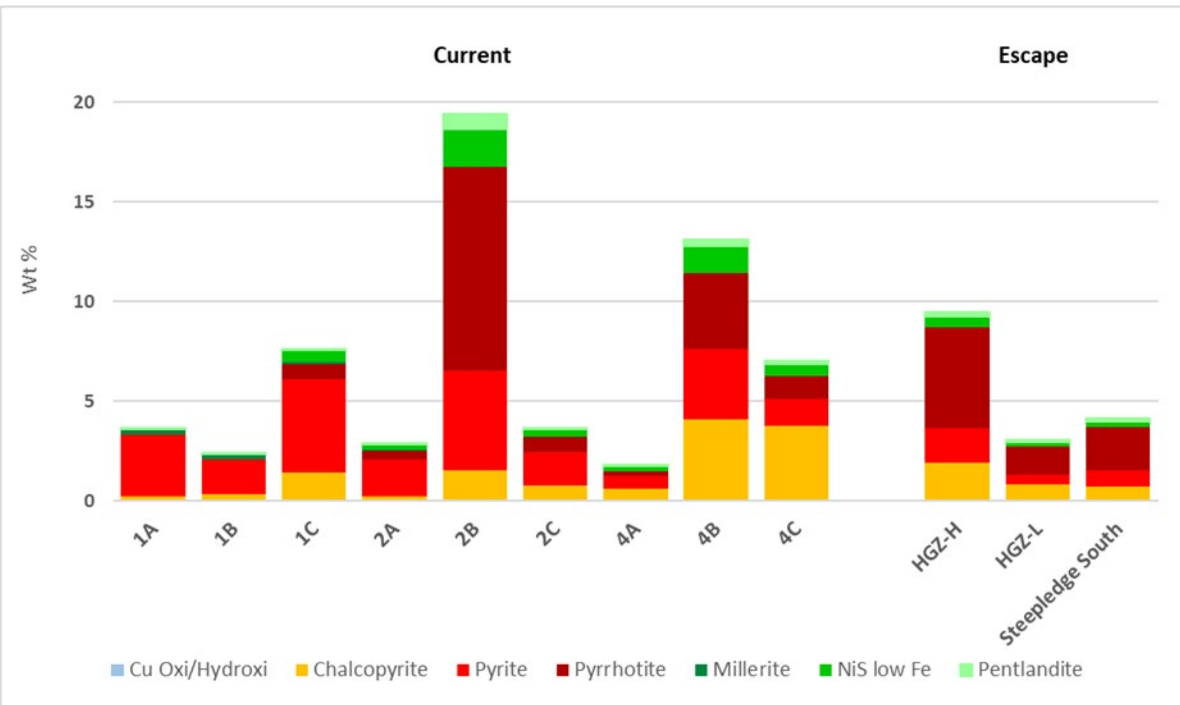


Figure 13-10: Distribution of Sulphide Minerals in the Variability Composites

Similar to the results in Phase 1, liberation analysis of the Current deposit composites indicated good liberation of chalcopyrite, whereas the Escape deposit samples indicated moderate liberation of chalcopyrite at the grind size tested. For both deposits poor liberation of the nickel sulphides was observed.

13.3.3.1.2 Grindability

A single grindability composite was prepared from evenly distributed intervals of the three Current deposit drill holes. Based on the drill hole data, the composite graded 0.88 g/t Pt, 0.85 g/t Pd, 0.22% Cu, 0.17% Ni, and 1.31% S. The composite was submitted for analysis for SMC, BBWi, and Ai testing. Grindability results are presented in Table 13-11 and indicate that the material can be classified as hard and is comparable to the earlier testwork on samples from this deposit summarized in Table 13-11.

Table 13-11: Test Results for the Phase 2 Grindability Comp
Clean Air Metals Inc. – Thunder Bay North Project

Sample	SMC			DWi	BBWi	Ai
	Axb	ta	sg	kWh/t	kWh/t	g
Grindability Comp	38.5	0.34	2.93	7.59	19.5	--

13.3.3.2 Metallurgical Testwork

The initial series of tests on samples from the Current deposit was composed of baseline testing of each composite using the sequential Cu/Ni flotation flowsheet developed in the Phase 1 program. The test procedure consisted of batch ball mill grinding to a P_{80} of 65 µm with lime and TETA added to the mill. Sequential flotation of copper and nickel concentrates using collectors 3418A and NP12 and the flotation procedure illustrated in Figure 13-3, except that only one stage of copper cleaning was included. CMC was added in the rougher and cleaner circuits to control gangue, in particular magnesium (Mg), in the final concentrate.

Figure 13-11 illustrates the open-circuit grade recovery curves for copper and nickel in their respective circuits. While both graphs indicate variability in the flotation response between samples, this is largely a function of the wide range in head grades, with those composites with comparable grade to the Phase 1 Var1 composite demonstrating very similar metallurgical response. Copper rougher recovery exceeded 80% for all composites with good upgrading to the first cleaner for all except for the two composites with the lowest head grade. (Note that only one stage of copper cleaning was included in the Cu/Ni flowsheet in Phase 2, as the potential for achieving a >25% Cu grade had been clearly demonstrated in earlier testwork.)

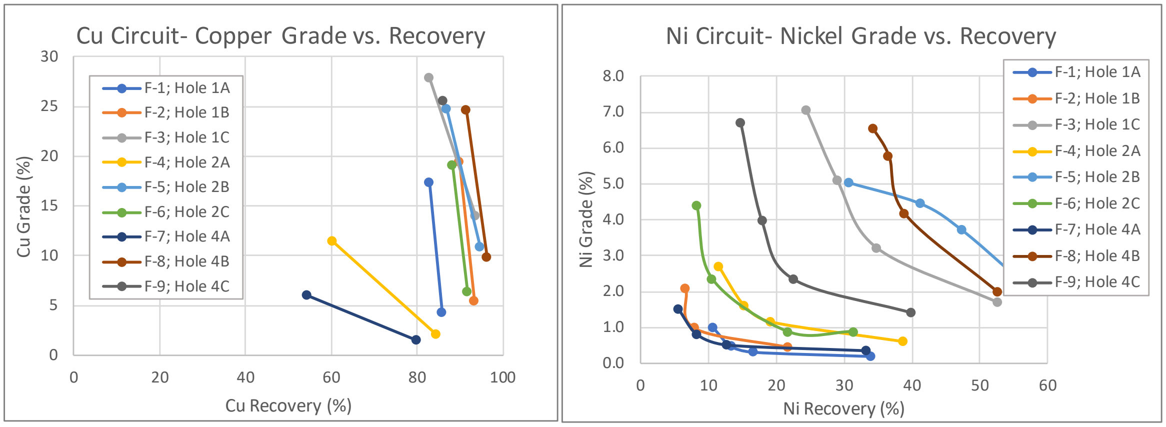


Figure 13-11: Cu and Ni Grade/Recovery Curves for the Variability Composites

Nickel circuit results revealed the same moderate recoveries to rougher concentrate followed by high losses in the first cleaner that were observed in Phase 1. Improved performance was achieved in composites with elevated nickel head grades (2B, 4B, 4C), suggesting that the background level of non-sulphide nickel is relatively constant and therefore less of an influence at higher grades.

13.3.3.3 Cu/Bulk Flowsheet

To improve overall PGE recovery, a Cu/Bulk flowsheet was proposed that would change the conditions in the nickel circuit to produce a bulk sulphide concentrate. The additional pyrite and pyrrhotite recovery was expected to increase the recovery of platinum and palladium, and to a lesser extent, nickel as well.

The selective flotation collector NP12 was replaced with SIPX and the regrind of the rougher concentrate was discontinued along with the addition of DETA to depress pyrrhotite. An initial series of tests was run on four blended composites consisting of equal mass of two selected variability composites. The copper and bulk concentrate open-circuit final concentrate grades and recoveries are provided in Table 13-12.

Table 13-12: Open-Circuit Concentrate Grades and Recoveries for the Cu/Bulk Flowsheet
Clean Air Metals Inc. – Thunder Bay North Project

Test #	Comp	Product	Grade					Distribution				
			Pt (g/t)	Pd (g/t)	Cu (%)	Ni (%)	S (%)	Pt (%)	Pd (%)	Cu (%)	Ni (%)	S (%)
F-11	1A	Cu Cln 2 Conc	13.0	44.4	25.6	1.7	30.6	12.7	43.9	81.5	8.6	12.4
		Bulk Cln 3 Conc	14.4	8.9	0.68	1.4	44.4	64.4	40.4	10.0	31.8	82.4
		Calculated Head	*0.79*	*0.78*	*0.24*	*0.15*	*1.9*	*100*	*100*	*100*	*100*	*100*
F-12	1A:2A	Cu Cln 2 Conc	11.3	30.6	25.1	1.6	31.1	9.0	24.6	71.6	6.1	11.5
		Bulk Cln 3 Conc	16.0	13.0	1.1	1.8	41.3	66.0	53.6	16.5	35.9	78.3
		Calculated Head	*0.77*	*0.77*	*0.22*	*0.16*	*1.67*	*100*	*100*	*100*	*100*	*100*
F-13	1B:2C	Cu Cln 2 Conc	24.8	35.9	27.0	1.4	32.6	21.2	31.5	87.5	8.8	34.6
		Bulk Cln 3 Conc	40.7	36.7	1.1	4.5	31.4	49.0	45.3	5.0	41.4	47.1

Test #	Comp	Product	Grade					Distribution				
			Pt (g/t)	Pd (g/t)	Cu (%)	Ni (%)	S (%)	Pt (%)	Pd (%)	Cu (%)	Ni (%)	S (%)
		Calculated Head	*1.7*	*1.6*	*0.44*	*0.22*	*1.4*	*100*	*100*	*100*	*100*	*100*
F-14	1C:4C	Cu Cln 2 Conc	12.1	18.1	31.1	0.5	33.3	6.1	10.1	79.8	4.0	29.9
		Bulk Cln 3 Conc	77.9	69.7	3.4	4.3	31.8	65.9	65.7	14.7	59.8	47.9
		Calculated Head	*6.1*	*5.5*	*1.2*	*0.38*	*3.4*	*100*	*100*	*100*	*100*	*100*
F-15	2B:4B	Cu Cln 2 Conc	19.0	25.0	25.2	2.4	32.8	19.3	24.0	94.4	14.5	22.4
		Bulk Cln 3 Conc	22.3	24.4	0.30	4.1	33.2	62.3	64.7	3.1	66.9	62.4
		Calculated Head	*4.8*	*5.0*	*1.3*	*0.81*	*7.1*	*100*	*100*	*100*	*100*	*100*

The Cu/Bulk flowsheet was demonstrated to offer improved overall metal recoveries, particularly for platinum and palladium. In addition, the elimination of the regrind improved the 1st cleaner stage recovery possibly through reduced sliming. Subsequent tests looked at increased collector addition and higher mass pull in the nickel circuit to improve metal recovery, with only minimal loss in grade.

A series of six tests were then completed on selected variability composites to confirm the flowsheet. Figure 13-12 presents the grade/recovery curves for palladium and platinum in the bulk circuit. The steepness of the curves indicates good stage recoveries in open-circuit testing and that the concentrates upgraded well with rejection of the non-sulphide gangue minerals. (Note that the calculated recoveries are for the bulk circuit only, and the overall recovery would also include metal recovered in the copper circuit.)

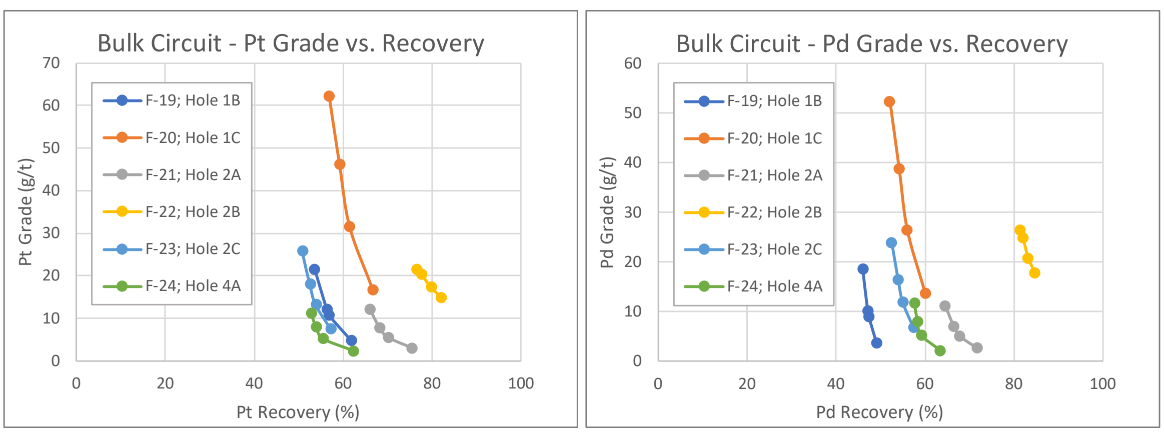


Figure 13-12: Pd and Pt Grade/Recovery Curves for the Bulk Circuit of the Cu/Bulk Flotation Tests

13.3.3.4 Bulk Circuit Only Flowsheet

The option of producing a single, bulk concentrate containing all of the sulphide minerals, including those reporting to the copper concentrate, was also considered. Six cleaner flotation tests were completed on variability composites. Figure 13-13 presents the grade/recovery curves for platinum and palladium for these tests and illustrates the overall recoveries of PGE to a flotation concentrate.

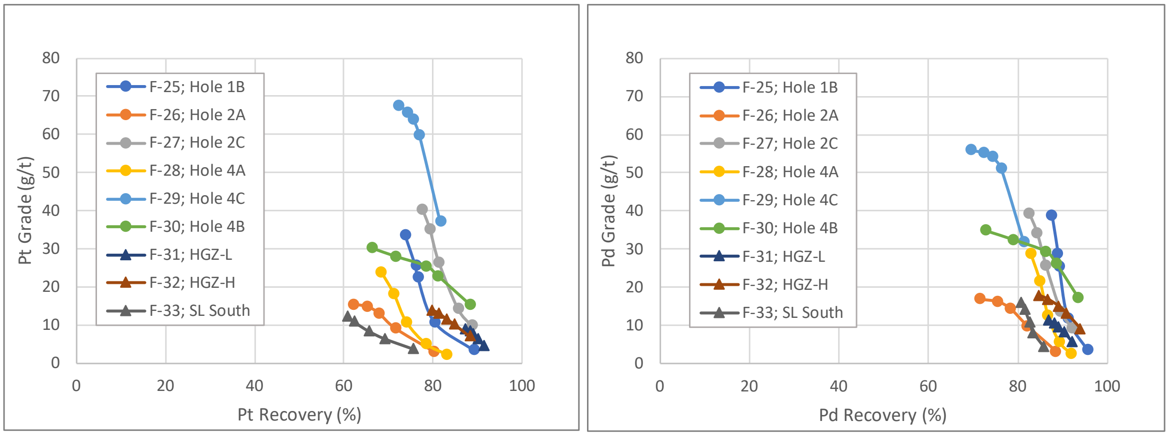


Figure 13-13: Pt/Pd Grade/Recovery Curves for the Bulk Only Flowsheet Option

The work on the bulk only flowsheet also included three tests on composite samples from the Escape deposit. Because these composites were generated from assay reject material rather than fresh core, it was expected that they would show signs of oxidation and yield poor separation performance in a split concentrate flowsheet. The bulk only flowsheet tests were conducted to demonstrate the amenability of the Escape deposit samples to flotation, i.e., the association of pay metals with sulphide minerals. The Escape deposit composites HGZ-L, HGZ-H, and Steepledge South were found to demonstrate comparable metal recoveries to the Current deposit composites.

The bulk only flowsheet produced good recoveries for all metals and offers a simpler process leading to lower expected capital and operating costs. However, the reduced grades of copper and nickel in the combined concentrate was found to negatively impact the overall payable and no further tests on the bulk only flowsheet were conducted.

13.4 Metallurgical Projection

Metallurgical recoveries of metal values to final concentrate were estimated based on the open-circuit flotation testwork results for each of the Current deposit variability composites. The results were plotted against the head grade for the corresponding composite and trendlines were generated for both the copper and bulk circuits of the Cu/Bulk flowsheet. Figure 13-14 presents the results of this analysis for platinum and palladium.

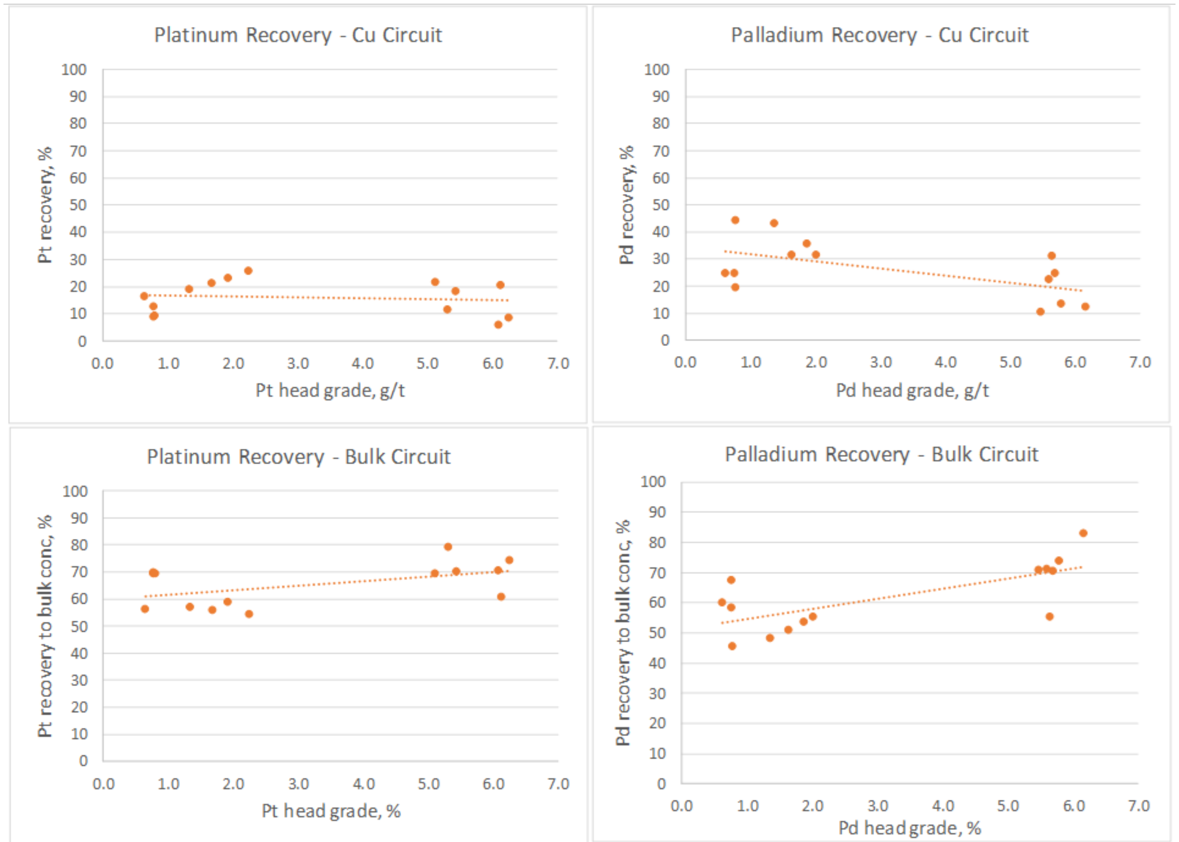


Figure 13-14: Head Grade vs. Recovery to Concentrate Relationships for Pt and Pd in the Copper and Bulk Circuits

Similar curves were prepared for copper, nickel, gold, silver, cobalt, and rhodium. The recovery relationships were used to provide an estimate of metal recovery for the resource model. Table 13-13 provides a summary of the estimated copper and bulk concentrate grade and recovery using the average LOM mill feed grade.

Table 13-13: Projected Grade and Recovery to Final Concentrate
Clean Air Metals Inc. – Thunder Bay North Project

Estimated Grade	Mass %	Pt g/t	Pd g/t	Cu %	Ni %	Au g/t	Ag g/t	Rh g/t	Co %
Average Mill Feed	100	1.59	1.56	0.41	0.21	0.097	2.2	0.041	0.015
Cu Concentrate	1.47	17.4	34.6	23.3	0.9	3.3	58	0.3	0.07
Bulk Concentrate	3.25	32.2	25.9	1.6	2.9	0.9	18	0.3	0.21
Estimated Mill Recovery	**Mass %**	**Pt %**	**Pd %**	**Cu %**	**Ni %**	**Au %**	**Ag %**	**Rh %**	**Co %**
Cu Concentrate	1.47	16.1	32.5	83.1	6.3	50.0	40.0	10.0	6.5
Bulk Concentrate	3.25	65.9	54.0	12.4	45.6	30.0	27.6	27.2	44.6
Combined Recovery	*4.72*	*82.0*	*86.5*	*95.5*	*51.9*	*80.0*	*67.6*	*37.2*	*51.1*

Rhodium assays were conducted on selected flotation tests to evaluate potential concentrate grades and recoveries. Concentrate grades up to 2 ppm Rh were measured but are strongly dependent on the rhodium and sulphur head grades. For the average mill feed grade, rhodium grade in the final concentrates is not expected to exceed 0.5 ppm.

13.4.1 Deleterious Elements

Analysis for minor elements was conducted by ICP on the concentrates from two tests from the Blue Coast Phase 2 test program using the Cu/Bulk flowsheet. Results of the analysis are summarized in Table 13-14. Slightly elevated levels of Mg are observed in both concentrate streams, which is typical of Current deposit samples where head samples range from as 9.5% to 15.0% Mg. The testwork here has demonstrated that Mg in the final products can be controlled through adjustments to the cleaner flotation conditions including the addition of CMC. Future testwork is expected to include fine tuning of depressant addition to ensure that penalty levels of Mg in the final concentrate are avoided.

Table 13-14: Minor Element Assays for Cu/Bulk Flotation Concentrates
Clean Air Metals Inc. – Thunder Bay North Project

Element	Units	Test F12, Comp 1A:2A		Test F20, Comp 1C	
		Cu Clnr Conc	Bulk Clnr Conc	Cu Clnr Conc	Bulk Clnr Conc
Al	%	0.37	0.72	0.23	0.27
As	ppm	56.7	51.7	3.69	193
Ba	ppm	8.25	39.1	17.5	16.1
Ca	%	0.31	0.50	0.22	0.44
Cd	ppm	7.8	5.6	17.6	0.79
Cr	ppm	86.8	356	132	144
Fe	%	29.0	31.9	25.4	36.9
Ga	ppm	30.2	99.8	46.8	34.4
Hg	ppm	<3	<3	<3	<3
In	ppm	<20	<20	<20	<20
K	%	0.039	0.076	0.039	0.045
Li	ppm	7.41	13.7	4.07	11.31
Mg	%	2.1	3.9	1.5	2.4
Mn	ppm	178	426	174	380
Mo	ppm	<1	<1	<1	<1
Na	%	0.027	0.128	0.069	0.039
P	%	<0.002	<0.002	<0.002	<0.002
Pb	ppm	105	187	209	69
Rb	ppm	<20	<20	<20	<20
Re	ppm	<20	<20	<20	<20

Element	Units	Test F12, Comp 1A:2A		Test F20, Comp 1C	
		Cu Clnr Conc	Bulk Clnr Conc	Cu Clnr Conc	Bulk Clnr Conc
Sb	ppm	14.5	18.2	31.3	8.9
Se	ppm	51.4	102.9	118.3	36.8
Sr	ppm	20.6	47.5	19.3	34.5
Ta	ppm	16.4	22.0	18.1	20.6
Te	ppm	93.4	53.3	45.5	38.9
Ti	%	0.07	0.22	0.11	0.21
Tl	ppm	11.8	11.2	6.0	10.2
V	ppm	31.2	61.5	28.7	73.8
Zn	ppm	1154	677	853	461
Zr	ppm	26.7	46.6	27.3	56.5

13.5 Conclusions

Based on the metallurgical testwork completed on composite samples from the Current and Escape deposits to date, the following conclusions are drawn:

- Chemical and mineralogical characterization of composite samples indicate that the copper is present as chalcopyrite, whereas nickel is present as nickel sulphide but also contained in silicates. Major gangue minerals include serpentine, chlorite, and amphibole.
- Testwork conducted on the MCo that was produced from coarse assay reject material in the Blue Coast Phase 1 testwork indicated that a sequential flowsheet and a moderate grind size P_{80} of 65 µm is suitable to achieve separate copper rougher and nickel rougher concentrates.
- A copper concentrate achieving high recovery and good grade can be achieved with a conventional chalcopyrite flowsheet including a moderate regrind and two stages of cleaning. The copper concentrate also yields partial recovery of platinum, palladium, gold, and silver.
- Flotation testwork on the Var1 composite revealed that a high grade nickel concentrate, >10% Ni, can be produced using a fine regrind, a selective nickel flotation collector, and moderate dosages of DETA to depress iron sulphides. Overall nickel recoveries to a selective concentrate, however, are poor due to oxide nickel contained in silicates as well as sulphide nickel closely associated with iron sulphides.
- PGEs in the deposit were found to be closely associated with the sulphide minerals. A portion of the contained palladium is associated with chalcopyrite and was found to upgrade to the copper concentrate. Both platinum and palladium are associated with nickel and iron sulphides (pyrite, pyrrhotite). High PGE recoveries can be achieved with either a Cu/Bulk or Bulk only flotation flowsheet.
- CMC has been demonstrated to be effective at controlling the recovery of floatable gangue to the final concentrate.
- The use of aged, assay reject material for flotation testwork was found to negatively affect test performance including flotation selectivity and final concentrate grade.

14.0 MINERAL RESOURCE ESTIMATE

14.1 Summary

The Project includes two deposits, Current and Escape. Mineral Resources for both deposits have been updated by SLR from the previous Mineral Resource estimates completed by Nordmin in 2021. The current estimate includes 50 additional infill drill holes completed in 2022, with 11 holes for the Current deposit and 39 holes for the Escape deposit. Block models were created for the two deposits to support the estimate.

The block models were completed using wireframes generated in Leapfrog Geo, filled with blocks measuring 5.0 m on Easting and Northing, and 2.5 m high. The estimates used uncapped, 2-m composites as input to ordinary kriging (OK) interpolation of block grade estimation. Grade estimates were validated using a number of validation techniques including visual inspection, global bias checks, and swath plots. CIM (2014) definitions were used for Mineral Resource classification.

Mineral Resources were reported within underground reporting shapes based on an NSR cut-off value of US$48/t. A crown pillar allowance of 20 m from the bottom of the overburden below the lakes and the underground reporting shapes used ensure that the Mineral Resources meet the NI 43-101 requirement of Reasonable Prospects for Eventual Economic Extraction (RPEEE).

The current Mineral Resource estimate for TBN completed by SLR follows a conventional approach, is inline with CIM (2019) best practices, and has been sufficiently validated. SLR is of the opinion that it is suitable to support ongoing studies for advancement of the Project.

The QPs are 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.

The Current deposit contains an Indicated Mineral Resource of 8.2 Mt grading 2.7 g/t 2PGE (Pt + Pd), 0.33% Cu, and 0.22% Ni and an Inferred Mineral Resource of 1.6 Mt grading 1.7 g/t 2PGE, 0.32% Cu, and 0.20% Ni. The Escape deposit contains an Indicated Mineral Resource of 5.8 Mt grading 2.6 g/t 2PGE, 0.52% Cu, and 0.28% Ni and an Inferred Mineral Resource of 0.6 Mt grading 1.5 g/t 2PGE, 0.29% Cu, and 0.17% Ni.

A summary of the TBN Project Mineral Resources, effective May 1, 2023, is provided in Table 14-1 and a detailed breakdown of the Mineral Resources by deposit and area is provided in Table 14-2.

Table 14-1: Summary of Mineral Resources – May 1, 2023
Clean Air Metals Inc. – Thunder Bay North Project

Classification/Deposit	Density (t/m³)	Tonnes (000 t)	Grades Pt (g/t)	Pd (g/t)	Au (g/t)	Ag (g/t)	Cu (%)	Ni (%)	2PGE (g/t)	Contained Metal Pt (000 oz)	Pd (000 oz)	Au (000 oz)	Ag (000 oz)	Cu (000 t)	Ni (000 t)	2PGE (000 oz)
Current Deposit																
Indicated	2.94	8,223	1.40	1.31	0.09	1.98	0.33	0.22	2.7	370.9	346.4	23.5	522.9	27.0	17.7	717.3
Inferred	2.95	1,641	0.87	0.79	0.07	1.91	0.32	0.20	1.7	45.8	41.9	3.7	100.9	5.3	3.2	87.7
Escape Deposit																
Indicated	3.11	5,810	1.17	1.46	0.11	3.32	0.52	0.28	2.6	218.8	273.3	20.8	620.0	30.4	16.5	492.1
Inferred	3.01	631	0.67	0.80	0.06	1.67	0.29	0.17	1.5	13.5	16.2	1.2	34.0	1.8	1.1	29.7
Total																
Indicated		14,033	1.31	1.37	0.10	2.53	0.41	0.25	2.7	589.7	619.7	44.3	1,142.9	57.5	34.3	1,209.4
Inferred		2,272	0.81	0.79	0.07	1.84	0.31	0.19	1.6	59.4	58.0	4.8	134.8	7.1	4.3	117.4

Notes:

1. 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 Resources.
2. The Mineral Resources have been reported within underground reporting shapes generated using Deswik Stope Optimizer (DSO) using an NSR cut-off value of US$48/t.
3. Material that is below lakes and within 20 m of the bottom of the overburden has been excluded from the Mineral Resource statement.
4. The NSR used for reporting is based on the following:
    a. Long term metal prices of US$1,500/oz Pd, US$1,450/oz Pt, US$1,800/oz Au, US$24/oz Ag, US$4.25/lb Cu, and US$10/lb Ni.
    b. Net metallurgical recoveries of 86% Pd, 82% Pt, 50% Au, 40% Ag, 83% Cu, and 46% Ni.
5. Bulk densities were interpolated into blocks and averages range between 2.94 t/m³ and 3.11 t/m³.
6. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
7. Numbers may not add up due to rounding.
8. 2PGE = Pt + Pd.

Table 14-2: Detailed Breakdown of Mineral Resources by Deposit and Area – May 1, 2023
Clean Air Metals Inc. – Thunder Bay North Project

Classification/Deposit/Area	Density (t/m³)	Tonnes (000 t)	Grades Pt (g/t)	Grades Pd (g/t)	Grades Au (g/t)	Grades Ag (g/t)	Grades Cu (%)	Grades Ni (%)	Grades 2PGE (g/t)	Contained Metal Pt (000 oz)	Contained Metal Pd (000 oz)	Contained Metal Au (000 oz)	Contained Metal Ag (000 oz)	Contained Metal Cu (000 t)	Contained Metal Ni (000 t)	Contained Metal 2PGE (000 oz)
Current Deposit																
Indicated																
UCL	2.93	838	1.36	1.27	0.09	2.05	0.34	0.23	2.6	36.7	34.2	2.4	55.3	2.9	1.9	71.0
LCL	2.95	2,337	1.77	1.66	0.11	2.47	0.40	0.24	3.4	133.4	124.8	8.3	185.3	9.4	5.5	258.1
Bridge	2.93	1,154	1.47	1.40	0.09	2.14	0.35	0.21	2.9	54.7	51.9	3.4	79.4	4.1	2.4	106.5
Cloud	2.92	909	1.08	1.03	0.07	1.52	0.25	0.18	2.1	31.7	29.9	2.0	44.4	2.3	1.6	61.6
Beaver	2.93	2,985	1.19	1.10	0.08	1.65	0.28	0.21	2.3	114.4	105.6	7.4	158.5	8.4	6.2	220.0
Total Indicated	2.94	8,223	1.40	1.31	0.09	1.98	0.33	0.22	2.7	370.9	346.4	23.5	522.9	27.0	17.7	717.3
Inferred																
Beaver	2.93	548	0.84	0.79	0.06	1.44	0.25	0.19	1.6	14.7	13.8	1.0	25.4	1.4	1.1	28.6
437_SE	2.96	1,093	0.88	0.80	0.08	2.15	0.36	0.20	1.7	31.1	28.0	2.7	75.4	3.9	2.2	59.1
Total Inferred	2.95	1,641	0.87	0.79	0.07	1.91	0.32	0.20	1.7	45.8	41.9	3.7	100.9	5.3	3.2	87.7
Escape Deposit																
Indicated																
EN	3.08	748	1.07	1.23	0.09	2.58	0.43	0.22	2.3	25.7	29.7	2.2	62.2	3.2	1.7	55.4
ES	3.07	1,863	0.81	0.98	0.08	2.29	0.35	0.23	1.8	48.3	58.7	4.6	137.0	6.6	4.2	107.0
HGZ	3.15	3,055	1.43	1.83	0.14	4.19	0.66	0.34	3.3	140.5	180.0	13.7	411.1	20.2	10.3	320.5
SL	3.06	143	0.91	1.07	0.08	2.10	0.37	0.22	2.0	4.2	4.9	0.4	9.7	0.5	0.3	9.1

Classification/Deposit/Area	Density (t/m³)	Tonnes (000 t)	Grades							Contained Metal						
			Pt (g/t)	Pd (g/t)	Au (g/t)	Ag (g/t)	Cu (%)	Ni (%)	2PGE (g/t)	Pt (000 oz)	Pd (000 oz)	Au (000 oz)	Ag (000 oz)	Cu (000 t)	Ni (000 t)	2PGE (000 oz)
Total Indicated	3.11	5,810	1.17	1.46	0.11	3.32	0.52	0.28	2.6	218.8	273.3	20.8	620.0	30.4	16.5	492.1
Inferred																
EN	3.04	191	0.65	0.74	0.06	1.49	0.25	0.15	1.4	4.0	4.5	0.3	9.1	0.5	0.3	8.5
ES	2.94	21	0.53	0.66	0.05	1.56	0.22	0.14	1.2	0.4	0.4	0.0	1.0	0.0	0.0	0.8
HGZ	2.95	62	0.54	0.73	0.05	1.61	0.27	0.18	1.3	1.1	1.5	0.1	3.2	0.2	0.1	2.5
SL	3.01	358	0.70	0.85	0.06	1.79	0.32	0.18	1.6	8.1	9.8	0.7	20.6	1.1	0.7	17.8
Total Inferred	3.01	631	0.67	0.80	0.06	1.67	0.29	0.17	1.5	13.5	16.2	1.2	34.0	1.8	1.1	29.7
TBN Project																
Total Indicated	**3.01**	**14,033**	**1.31**	**1.37**	**0.10**	**2.53**	**0.41**	**0.25**	**2.7**	**589.7**	**619.7**	**44.3**	**1,142.9**	**57.5**	**34.3**	**1,209.4**
Total Inferred	**2.97**	**2,272**	**0.81**	**0.79**	**0.07**	**1.84**	**0.31**	**0.19**	**1.6**	**59.4**	**58.0**	**4.8**	**134.8**	**7.1**	**4.3**	**117.4**

Notes:

1. CIM (2014) definitions were followed for Mineral Resources.
2. The Mineral Resources have been reported within underground reporting shapes generated using Deswik Stope Optimizer (DSO) using an NSR cut-off value of US$48/t.
3. Material that is below lakes and within 20 m of the bottom of the overburden has been excluded from the Mineral Resource statement.
4. The NSR used for reporting is based on the following:
   a. Long term metal prices of US$1,500/oz Pd, US$1,450/oz Pt, US$1,800/oz Au, US$24/oz Ag, US$4.25/lb Cu, and US$10/lb Ni.
   b. Net metallurgical recoveries of 86% Pd, 82% Pt, 50% Au, 40% Ag, 83% Cu, and 46% Ni.
5. Bulk densities were interpolated into blocks and averages range between 2.94 t/m³ and 3.11 t/m³.
6. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
7. Numbers may not add up due to rounding.
8. 2PGE = Pt + Pd.

14.2 Comparison with Previous Resource Estimate

Mineral Resources for both deposits have been updated from the previous Mineral Resource estimates completed by Nordmin in 2021 (effective date of November 1, 2021 for Current (Nordmin, 2022), and effective date of January 18, 2021 for Escape (Nordmin, 2021)). The current estimate includes 50 additional infill drill holes completed in 2022. Following a reinterpretation of the volume of mineralization within the intrusion, global Mineral Resources have decreased at the Project.

At Current, the addition of 11 drill holes and re-estimation has resulted in a 21% and 69% decrease of Indicated and Inferred Mineral Resource tonnages, respectively. The main changes can be attributed to the Mineral Resource estimation methodology.

At Escape, the addition of 39 drill holes and re-estimation has resulted in a 40% increase and 77% decrease of Indicated and Inferred Mineral Resource tonnages, respectively. The main changes can be attributed to additional drilling and the subsequent conversion of Inferred to Indicated Mineral Resources. A graphical comparison of the Mineral Resource tonnages by deposit is shown in Figure 14-1.

At both deposits, the SLR 2023 estimate shows a global average copper grade similar to Nordmin in 2021 while contained Cu metal shows a 6% and 73% decrease for Indicated and Inferred material, respectively. (Figure 14-2).

Apart from Indicated Mineral Resources at Current, the grade of 2PGE has remained consistent or increased with the Mineral Resource update (Figure 14-3).

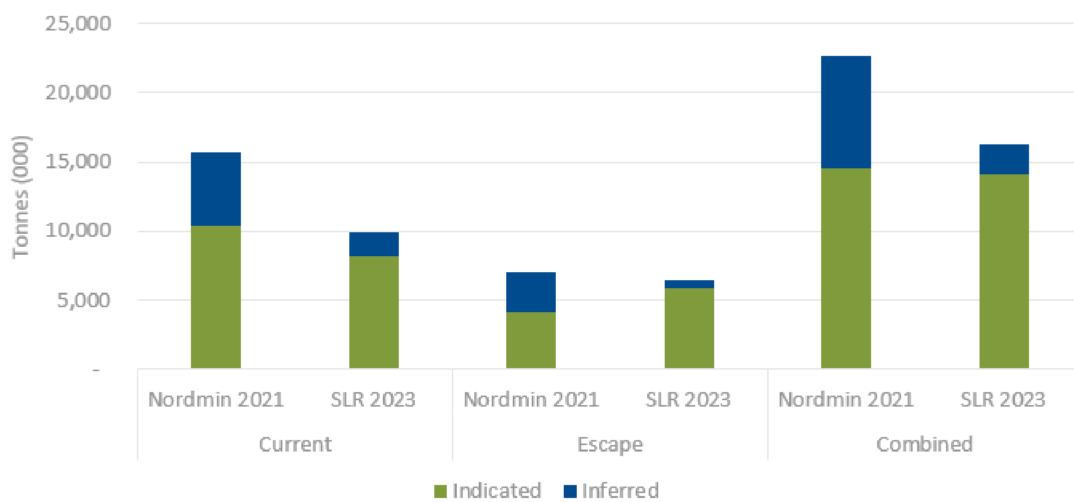


Figure 14-1: Comparison of Mineral Resource Estimate Tonnage between Nordmin 2021 and SLR 2023

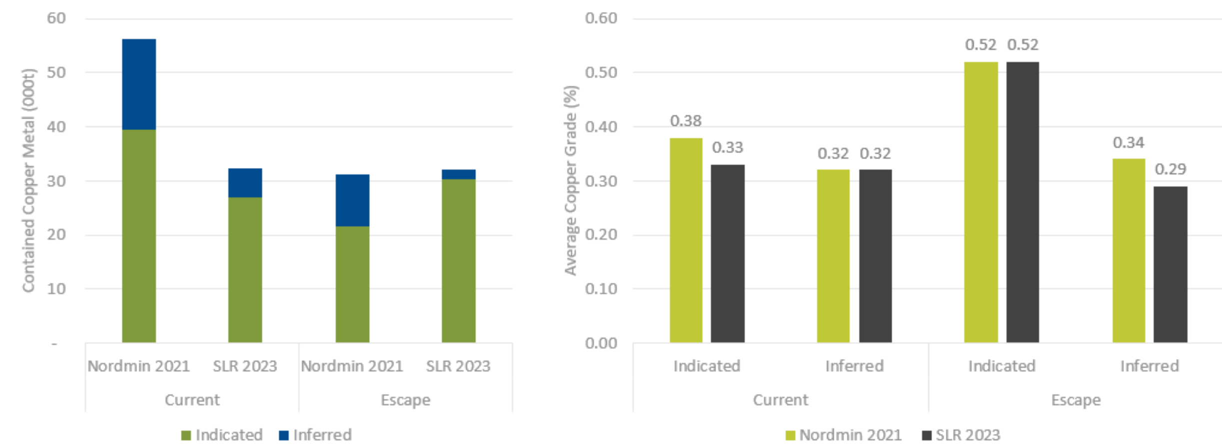


Figure 14-2: Comparison of Contained Copper (left) and Average Grade of Copper (right) between Nordmin 2021 and SLR 2023 Mineral Resource Estimates

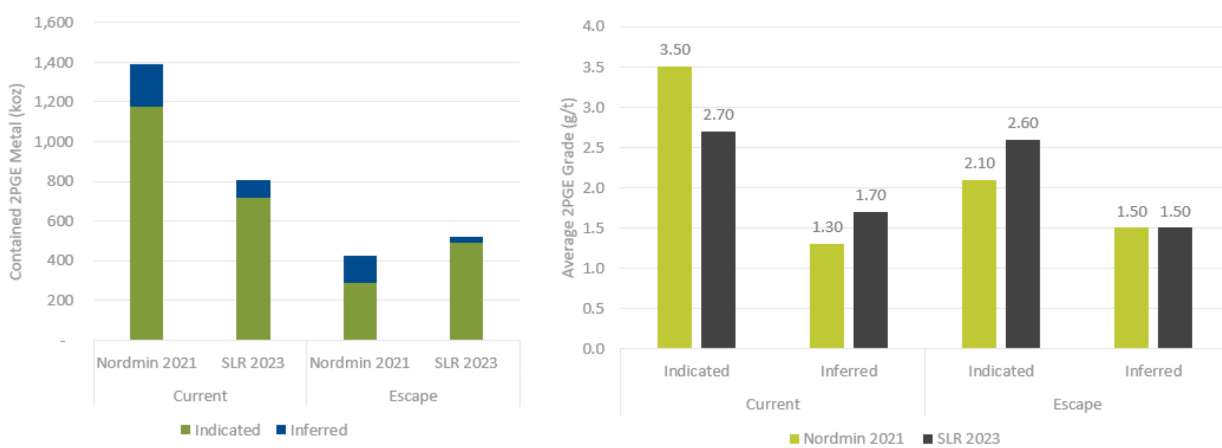


Figure 14-3: Comparison of Contained 2PGE (left) and Average Grade of 2PGE (right) between Nordmin 2021 and SLR 2023 Mineral Resource Estimates

The percentage differences for selected elements between the SLR 2023 Mineral Resource Estimate and the Nordmin 2021 Mineral Resource estimate are presented in Table 14-3.

Table 14-3: Percentage Difference Comparison with Previous Mineral Resources
Clean Air Metals Inc. – Thunder Bay North Project

Deposit Class	Tonnes (000)	Cu Grade (%)	2PGE Grade (g/t)	Contained Cu (kt)	Contained 2PGE (koz)
Current Deposit					
Indicated	-21%	-13%	-23%	-31%	-39%
Inferred	-69%	0%	31%	-69%	-60%
Escape Deposit					
Indicated	40%	1%	23%	40%	71%
Inferred	-77%	-15%	-3%	-81%	-78%
Total					
Indicated	**-4%**	**-2%**	**-14%**	**-6%**	**-17%**
Inferred	**-72%**	**-5%**	**19%**	**-73%**	**-67%**

1. Percent difference calculated using the equation: (SLR 2023 – Nordmin 2021)/Nordmin 2021

Changes to the Current Mineral Resources since the Nordmin 2021 Mineral Resources Estimate can be mainly attributed to the following in decreasing order of significance:

- General domaining methodology (wireframing criteria, grouping of metals, estimation boundary conditions and composite coding strategy)
- Additional drilling since the previous estimate (11 drill holes)
- Changes to metal prices and NSR parameters
- Capping strategy (SLR did not use capping)
- Application of underground reporting shapes for Mineral Resource reporting

Changes to the Escape Mineral Resources since the Nordmin 2021 Mineral Resources Estimate can be mainly attributed to the following in decreasing order of significance:

- Additional drilling since the previous estimate (39 drill holes)
- Changes to metal prices and NSR parameters
- Re-interpretation
- Application of underground reporting shapes for Mineral Resource reporting

14.3 Resource Database

A total of 73,990 m in 171 holes in the Escape deposit were drilled by the Company from 2020 to 2023 for a total drilling database of 105,086 m in 266 holes which support the new Mineral Resource Estimate at the Escape deposit.

A total of 17,172 m in 78 holes in the Current deposit were drilled by the Company from 2020 to 2023. Including these holes, the Current deposit is supported by a total of 179,629 m in 818 holes drilled between 2006 to 2015 and 2020 to 2023.

A detailed description of the database used to support the current Mineral Resource estimate is provided in Section 10 of this report.

14.4 Geological Interpretation

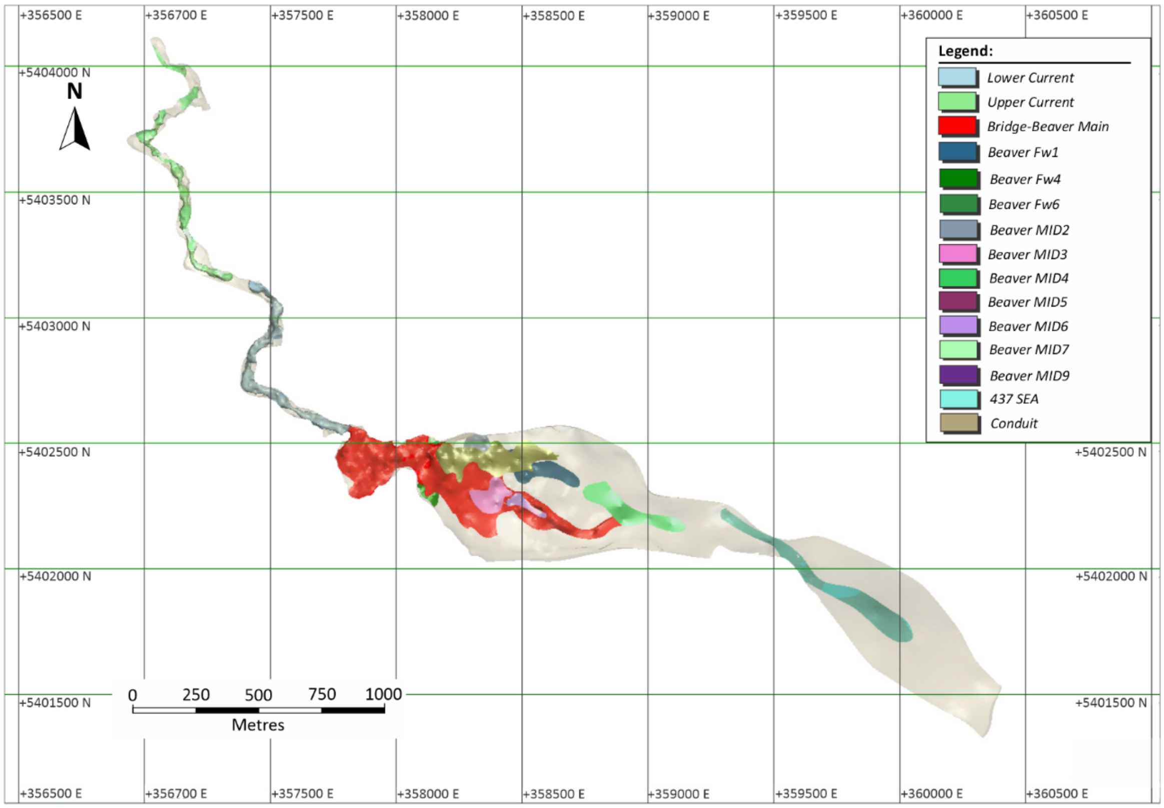
Lithological domains were constructed to provide the environment for the intruded chonolith forming the host rock of both deposits. Wireframes for the ultramafic chonolith were generated based on logged lithologies and chromium assays. Chromium shows a noticeable increase when the drill hole enters the chonolith, making it a good marker.

Higher grade mineralization wireframes were generated at a 1.0 g/t Pt + Pd cut-off grade with lower grade intercepts included to maintain continuity. This represents a departure from the previous approach, which involved separate mineralized volumes at various cut-off values. The higher grade mineralization wireframe resulting from the current approach simplified the domaining for estimation and reduced the domain fragmentation.

The interpreted chonolith intrusions at both Current and Escape have wide and thick geometries at the southern half, then continue with a reduced size, bending along the structural fabric of the pre-existing rocks.

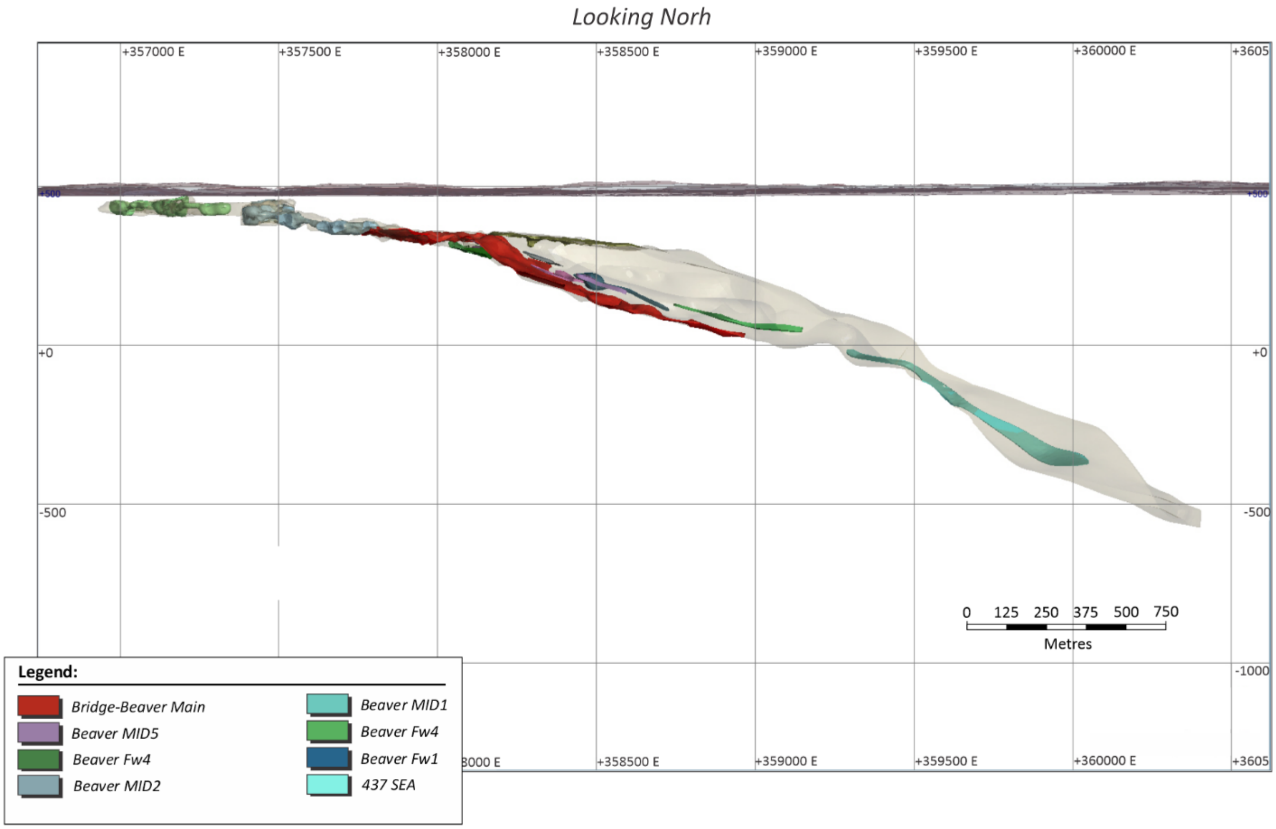
14.4.1 Current Deposit

The modelled Current chonolith spans 4.4 km. The wide southern part, representing approximately half of the intrusive, has a maximum width of 500 m, and a maximum thickness of 240 m approximately. It then becomes a 40 m wide by 45 m tall, winding tube. Figure 14-4 and Figure 14-5 show the chonolith and the modelled high grade lenses in plan and in longitudinal section, respectively.



Source: SLR, 2023.

Figure 14-4: Mineralization Wireframes Plan View - Current

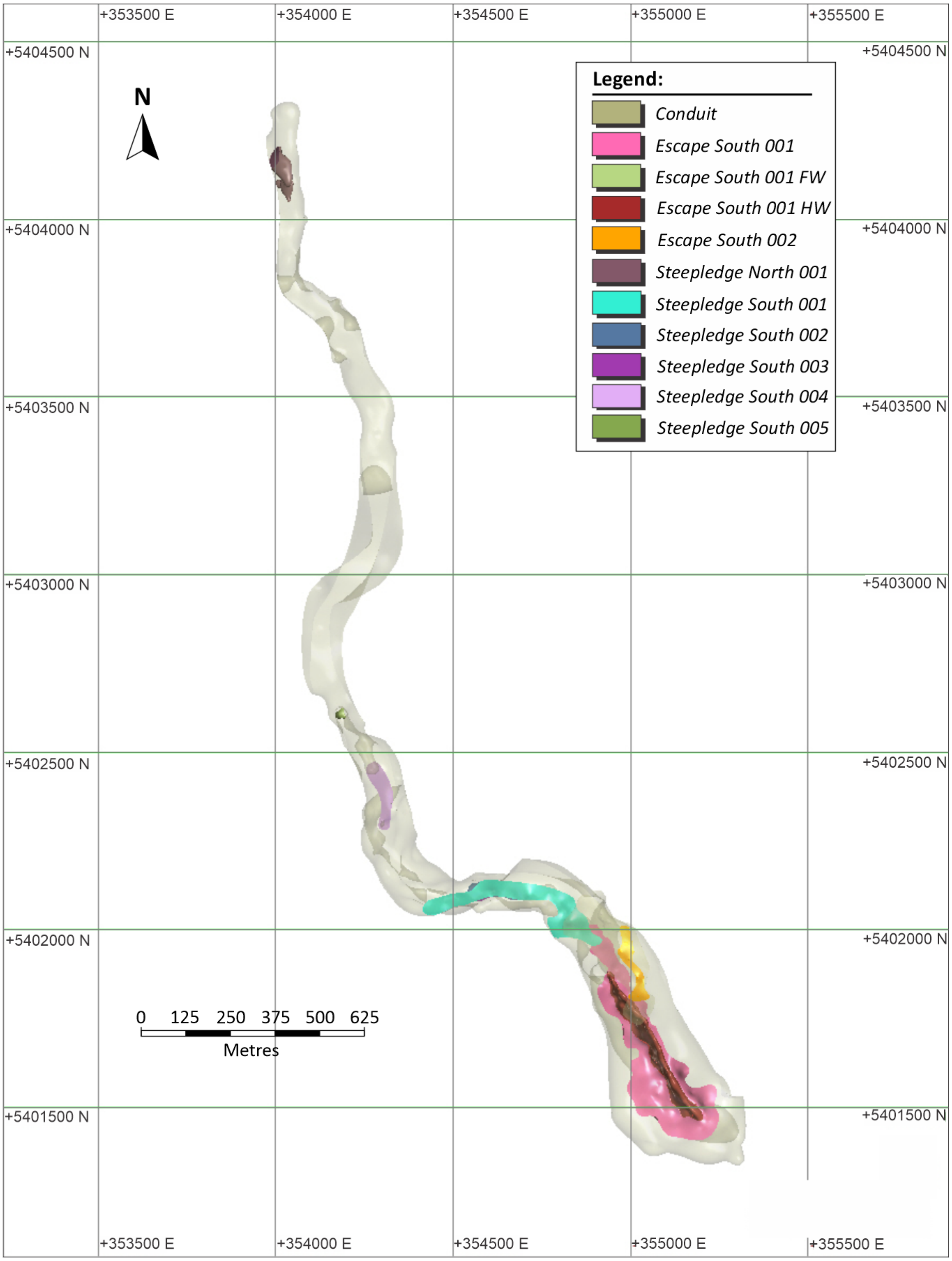


Source: SLR, 2023.

Figure 14-5: Mineralization Wireframes Vertical Section Looking North - Current

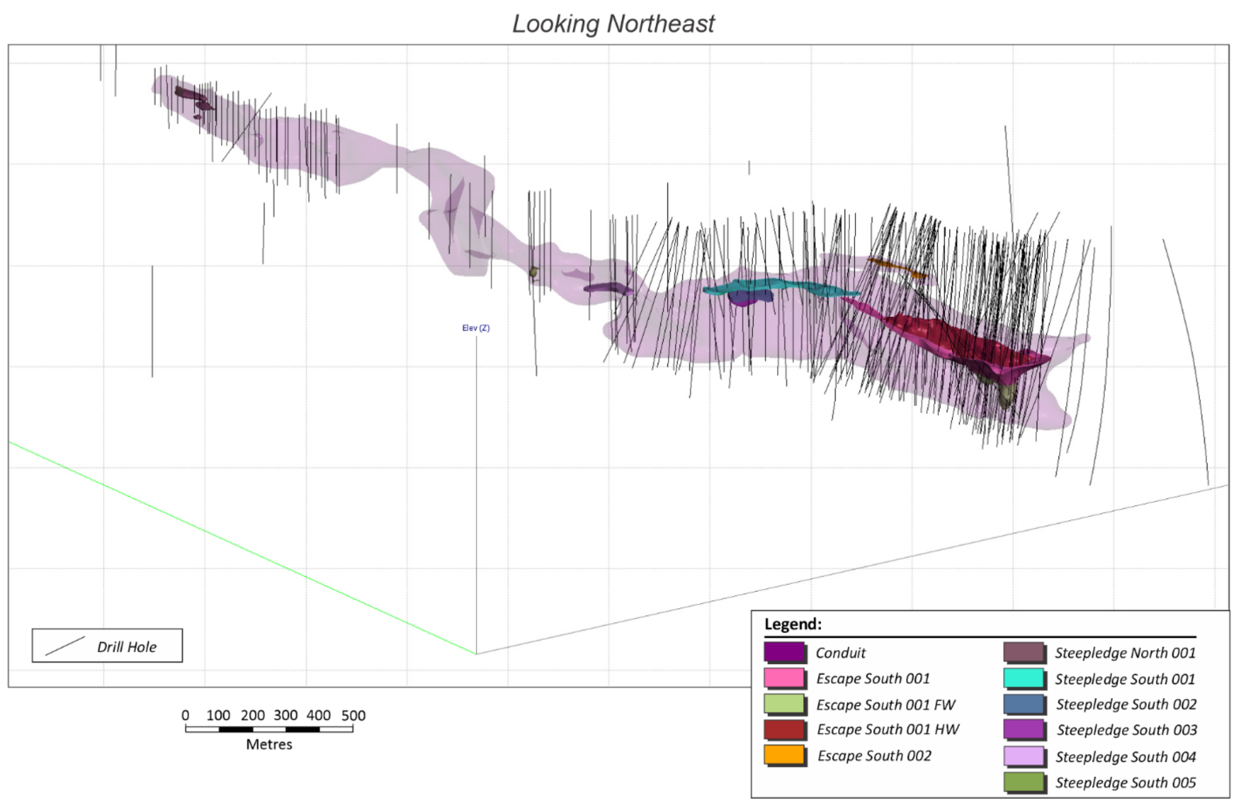
14.4.2 Escape Deposit

The modelled Escape chonolith spans 3.2 km. The southern part, representing approximately a third of the intrusive, has a width of up to 320 m, and a height of approximately 250 m. After the first deflection, approximately 90 degrees toward west, it then narrows to approximately a 100 m and maintains this width, while the height varies from 200 m to 300 m tall. Figure 14-6 and Figure 14-7 show the chonolith and the modelled high grade lenses in plan view and in 3D perspective, looking northeast, respectively.



Source: SLR, 2023.

Figure 14-6: Mineralization Wireframes Plan View - Escape



Source: SLR, 2023.

Figure 14-7: Mineralization Wireframes 3D View Looking Northeast - Escape

14.5 Resource Assays

There were six elements tracked for the estimate update of the TBN Project. The two most important elements in terms of value, Pd and Pt, carry approximately 70% of the revenue for the current NSR calculation. The remaining value is represented by Cu, Ni, Au, and Ag. Assay values for additional elements were present in the drill hole database and used for various purposes but were not part of the estimation exercise.

Assay values located inside the mineralization wireframes, or resource assays, were tagged with mineralized zone domain identifiers and subjected to a statistical analysis. The results assisted in verifying the modelling process. SLR compiled and reviewed the basic statistics for all the resource elements for Current and Escape deposits.

14.5.1 Current Deposit

Descriptive statistics for Current deposit resource assays are presented in Table 14-4 and Table 14-5. The assay data has been parsed in high grade mineralization (Mineralized domain), captured inside a grade shell with a nominal cut-off of the nominal Pt+Pd >= 1 g/t, and low grade mineralization (Conduit domain). The high grade mineralization was then split into the main body mineralization, residing in the wide, southern part of the deposit, and mineralization in the distal, tubular intrusion.

Table 14-4: Current - Low and High Grade Assay Descriptive Statistics Clean Air Metals Inc. – Thunder Bay North Project

Domain	Element	Count	Length	Mean	Coefficient of Variation	Minimum	Maximum
Conduit	Ag_ppm	23,492	33,879.32	0.34	1.81	0.01	60.900
	Au_ppm	23,822	34,157.87	0.01	1.72	0.001	2.400
	Cu_pct	23,822	34,157.87	0.04	1.71	0	8.900
	Ni_pct	23,822	34,157.87	0.12	0.28	0	3.540
	Pd_ppm	23,822	34,157.87	0.13	1.39	0.0005	15.300
	Pt_ppm	23,822	34,157.87	0.14	1.44	0.0003	22.700
Mineralized	Ag_ppm	7,101	7,715.47	2.04	1.45	0.01	139.000
	Au_ppm	7,126	7,736.27	0.09	1.64	0.001	9.280
	Cu_pct	7,126	7,736.27	0.33	1.44	0	20.400
	Ni_pct	7,126	7,736.27	0.22	0.84	0	3.820
	Pd_ppm	7,126	7,736.27	1.33	1.41	0.0005	61.500
	Pt_ppm	7,126	7,736.27	1.42	1.47	0.0003	90.000

Table 14-5: Current - High Grade Assay Descriptive Statistics Clean Air Metals Inc. – Thunder Bay North Project

Domain	Element	Count	Length	Mean	Coefficient of Variation	Minimum	Maximum
Main Mineralized	Ag_ppm	1,978	3,847.13	1.91	1.44	0	59.768
	Au_ppm	1,978	3,847.13	0.08	1.66	0	3.576
	Cu_pct	1,978	3,847.13	0.31	1.51	0	11.458
	Ni_pct	1,978	3,847.13	0.21	0.79	0	3.266
	Pd_ppm	1,978	3,847.13	1.23	1.51	0	41.155
	Pt_ppm	1,978	3,847.13	1.31	1.57	0	52.170
Distal Mineralized	Ag_ppm	1,969	3,903.29	2.15	1.11	0	36.200
	Au_ppm	1,969	3,903.29	0.10	1.05	0	1.120
	Cu_pct	1,969	3,903.29	0.35	1.04	0	6.800
	Ni_pct	1,969	3,903.29	0.22	0.71	0	3.760
	Pd_ppm	1,969	3,903.29	1.42	1.08	0	22.800
	Pt_ppm	1,969	3,903.29	1.51	1.09	0	23.400

14.5.2 Escape Deposit

Descriptive statistics for Escape deposit resource assays are presented in Table 14-6 and

Table 14-7. The assay data has been parsed in high grade mineralization (Mineralization domain), using Pt+Pd >= 1 g/t as guide, and low grade mineralization (Conduit domain). The high grade mineralization was then split into the main body mineralization, contained in the southern part of the deposit, and mineralization on the distal, narrower segment of the intrusion.

Table 14-6: Escape - Low and High Grade Assay Descriptive Statistics
Clean Air Metals Inc. – Thunder Bay North Project

Domain	Element	Count	Length	Mean	Coefficient of Variation	Minimum	Maximum
Conduit	Ag_ppm	14,685	23,557.38	0.38	7.98	0.05	322.000
	Au_ppm	14,745	23,648.08	0.01	1.75	0.001	0.840
	Cu_pct	14,745	23,648.08	0.04	1.45	0	3.880
	Ni_pct	14,745	23,648.08	0.12	0.36	0	0.799
	Pd_ppm	14,745	23,648.08	0.08	1.64	0.0005	6.360
	Pt_ppm	14,745	23,648.08	0.08	1.46	0.0003	5.000
Mineralized	Ag_ppm	2,722	3,537.62	2.95	0.96	0.25	38.700
	Au_ppm	2,743	3,570.62	0.10	0.95	0.001	0.960
	Cu_pct	2,743	3,570.62	0.48	0.96	0.006	3.820
	Ni_pct	2,743	3,570.62	0.27	0.78	0.008	1.280
	Pd_ppm	2,743	3,570.62	1.32	0.97	0.0005	11.450
	Pt_ppm	2,743	3,570.62	1.05	0.92	0.0023	10.400

Table 14-7: Escape - High Grade Assay Descriptive Statistics
Clean Air Metals Inc. – Thunder Bay North Project

Domain	Element	Count	Length	Mean	Coefficient of Variation	Minimum	Maximum
Main Mineralized	Ag_ppm	2,335	3,113.45	3.05	0.97	0.25	38.700
	Au_ppm	2,356	3,146.45	0.10	0.97	0.001	0.960
	Cu_pct	2,356	3,146.45	0.49	0.97	0.006	3.820
	Ni_pct	2,356	3,146.45	0.28	0.79	0.008	1.280
	Pd_ppm	2,356	3,146.45	1.35	0.99	0.0005	11.450
	Pt_ppm	2,356	3,146.45	1.07	0.95	0.0023	10.400
	Ag_ppm	387	424.17	2.21	0.68	0.25	12.900

Domain	Element	Count	Length	Mean	Coefficient of Variation	Minimum	Maximum
Distal Mineralized	Au_ppm	387	424.17	0.08	0.59	0.003	0.330
	Cu_pct	387	424.17	0.37	0.66	0.018	1.760
	Ni_pct	387	424.17	0.21	0.53	0.04	0.882
	Pd_ppm	387	424.17	1.09	0.63	0.035	6.750
	Pt_ppm	387	424.17	0.94	0.60	0.0366	4.370

14.6 Treatment of High Grade Assays

SLR performed statistical analysis on the resource assays for the estimation domains and determined that no capping was necessary for the TBN Project deposits. The mineralized domains show low coefficients of variation and grouping of the high grades, with gradual transition to average grades in the higher grade intercepts. In the low grade domains, occasional higher grade samples are tempered by nearby samples in the drill hole. Based on these observations SLR decided not to cap the assays prior to compositing. No other method of restriction of the influence of higher grade assays was used.

14.7 Compositing

Assays were composited to two metre lengths and then composites were used for block estimation on an uncapped basis.

14.7.1 Current Deposit

Descriptive statistics of the Mineralized and Conduit domains are presented in Table 14-8. Descriptive statistics of main mineralization and of distal lenses are presented in Table 14-9.

Table 14-8: Descriptive Statistics of the Mineralized and Conduit Domains – Current
Clean Air Metals Inc. – Thunder Bay North Project

Domain	Element	Count	Length	Mean	Coefficient of Variation	Minimum	Maximum
Conduit	Ag_ppm	17,359	34,580.38	0.33	1.49	0	90.900
	Au_ppm	17,359	34,580.38	0.01	1.47	0	1.777
	Cu_pct	17,359	34,580.38	0.04	1.49	0	6.333
	Ni_pct	17,359	34,580.38	0.12	0.28	0	1.236
	Pd_ppm	17,359	34,580.38	0.13	1.20	0	10.981
	Pt_ppm	17,359	34,580.38	0.14	1.23	0	15.788
Mineralized	Ag_ppm	3,947	7,750.42	2.03	1.27	0	59.768
	Au_ppm	3,947	7,750.42	0.09	1.35	0	3.576
	Cu_pct	3,947	7,750.42	0.33	1.27	0	11.458
	Ni_pct	3,947	7,750.42	0.22	0.75	0	3.760

Domain	Element	Count	Length	Mean	Coefficient of Variation	Minimum	Maximum
	Pd_ppm	3,947	7,750.42	1.33	1.28	0	41.155
	Pt_ppm	3,947	7,750.42	1.41	1.32	0	52.170

Table 14-9: Descriptive Statistics of the Main Mineralization and of Distal Lenses Domains – Current
Clean Air Metals Inc. – Thunder Bay North Project

Domain	Element	Count	Length	Mean	Coefficient of Variation	Minimum	Maximum
Main Mineralized	Ag_ppm	1,978	3,847.13	1.91	1.44	0	59.77
	Au_ppm	1,978	3,847.13	0.08	1.66	0	3.58
	Cu_pct	1,978	3,847.13	157.72	0.40	0	974.17
	Ni_pct	1,978	3,847.13	0.31	1.51	0	11.46
	Pd_ppm	1,978	3,847.13	0.21	0.79	0	3.27
	Pt_ppm	1,978	3,847.13	1.23	1.51	0	41.15
	Ag_ppm	1,978	3,847.13	1.31	1.57	0	52.17
Distal Mineralized	Au_ppm	1,969	3,903.29	2.15	1.11	0	36.20
	Cu_pct	1,969	3,903.29	0.10	1.05	0	1.12
	Ni_pct	1,969	3,903.29	156.99	0.38	0	1,380.00
	Pd_ppm	1,969	3,903.29	0.35	1.04	0	6.80
	Pt_ppm	1,969	3,903.29	0.22	0.71	0	3.76
	Ag_ppm	1,969	3,903.29	1.42	1.08	0	22.80
	Au_ppm	1,969	3,903.29	1.51	1.09	0	23.40

14.7.2 Escape Deposit

Descriptive statistics of the Mineralized and Conduit domains are presented in Table 14-10. Descriptive statistics of main mineralization and of distal lenses are presented in Table 14-11.

Table 14-10: Descriptive Statistics of the Mineralized and Conduit Domains - Escape
Clean Air Metals Inc. – Thunder Bay North Project

Domain	Element	Count	Length	Mean	Coefficient of Variation	Minimum	Maximum
Conduit	Ag_ppm	14,246	28,447.82	0.68	3.73	0	246.448
	Au_ppm	14,246	28,447.82	0.02	2.37	0	0.831
	Cu_pct	14,246	28,447.82	0.09	2.44	0	3.260
	Ni_pct	14,246	28,447.82	0.13	0.78	0	1.275

Domain	Element	Count	Length	Mean	Coefficient of Variation	Minimum	Maximum
	Pd_ppm	14,246	28,447.82	0.24	2.60	0	9.405
	Pt_ppm	14,246	28,447.82	0.20	2.42	0	7.170
Mineralized	Ag_ppm	1,812	3,586.37	2.91	0.92	0	22.716
	Au_ppm	1,812	3,586.37	0.10	0.91	0	0.769
	Cu_pct	1,812	3,586.37	0.47	0.94	0	3.260
	Ni_pct	1,812	3,586.37	0.27	0.77	0	1.275
	Pd_ppm	1,812	3,586.37	1.32	0.95	0	9.405
	Pt_ppm	1,812	3,586.37	1.05	0.90	0	7.170

Table 14-11: Descriptive Statistics of the Main Mineralization and of Distal Lenses Domains - Escape
Clean Air Metals Inc. – Thunder Bay North Project

Domain	Element	Count	Length	Mean	Coefficient of Variation	Minimum	Maximum
Main Mineralized	Ag_ppm	1,584	3,150.86	3.01	0.93	0	22.716
	Au_ppm	1,584	3,150.86	0.10	0.93	0.001	0.769
	Cu_pct	1,584	3,150.86	0.49	0.95	0.00653	3.260
	Ni_pct	1,584	3,150.86	0.28	0.77	0.031	1.275
	Pd_ppm	1,584	3,150.86	1.35	0.97	0.003277	9.405
	Pt_ppm	1,584	3,150.86	1.07	0.93	0.0113	7.170
Distal Mineralized	Ag_ppm	228	435.51	2.15	0.62	0	8.026
	Au_ppm	228	435.51	0.08	0.54	0	0.269
	Cu_pct	228	435.51	0.37	0.60	0	1.203
	Ni_pct	228	435.51	0.20	0.49	0	0.652
	Pd_ppm	228	435.51	1.07	0.56	0	3.493
	Pt_ppm	228	435.51	0.92	0.54	0	2.780

14.8 Trend Analysis

14.8.1 Variography

Variograms or correlograms were modelled for all the estimated elements in Snowden Supervisor. Parameters of the modelled variogram were used for the OK estimation in Leapfrog.

14.8.1.1 Current Deposit

Variogram parameters for the elements of interest of the Current deposit are listed in Table 14-12.

Table 14-12: Variogram Parameters – Current Deposit
Clean Air Metals Inc. – Thunder Bay North Project

Element	Domain	Nugget	Structure 1					Structure 2				
			Sill	Structure	Major (m)	Semi-major (m)	Minor (m)	Sill	Structure	Major (m)	Semi-major (m)	Minor (m)
Ag	Chonolith	0.15	0.77	Spherical	15	15	8	0.08	Spherical	200	200	80
	437_ES1, BE_BR_MAIN, BE_FW1, BE_FW4, BE_FW6, BE_MID2, BE_MID3, BE_MID4, BE_MID5, BE_MID6, BE_MID7, BE_MID9, CL_HW1	0.15	0.50	Spherical	30	30	15	0.35	Spherical	95	95	15
	LCL, UCL, Conduit	0.10	0.31	Spherical	15	15	15	0.75	Spherical	60	60	60
Au	Chonolith	0.15	0.65	Spherical	15	15	10	0.20	Spherical	200	200	80
	437_ES1, BE_BR_MAIN, BE_FW1, BE_FW4, BE_FW6, BE_MID2, BE_MID3, BE_MID4, BE_MID5, BE_MID6, BE_MID7, BE_MID9, CL_HW1	0.10	0.73	Spherical	40	40	15	0.17	Spherical	115	115	15
	LCL, UCL, Conduit	0.10	0.31	Spherical	15	15	15	0.75	Spherical	60	60	60
Co	Chonolith	0.05	0.60	Spherical	15	15	15	0.35	Spherical	125	125	125
	437_ES1, BE_BR_MAIN, BE_FW1, BE_FW4, BE_FW6, BE_MID2, BE_MID3, BE_MID4, BE_MID5, BE_MID6, BE_MID7, BE_MID9, CL_HW1	0.15	0.68	Spherical	25	25	15	0.17	Spherical	80	80	15
	LCL, UCL, Conduit	0.10	0.60	Spherical	8	8	8	0.46	Spherical	60	60	60
Cu	Chonolith	0.15	0.65	Spherical	15	15	10	0.20	Spherical	200	200	80
	437_ES1, BE_BR_MAIN, BE_FW1, BE_FW4, BE_FW6, BE_MID2, BE_MID3, BE_MID4, BE_MID5, BE_MID6, BE_MID7, BE_MID9, CL_HW1	0.15	0.68	Spherical	40	40	15	0.17	Spherical	115	115	15

Element	Domain	Nugget	Structure 1					Structure 2				
			Sill	Structure	Major (m)	Semi-major (m)	Minor (m)	Sill	Structure	Major (m)	Semi-major (m)	Minor (m)
	LCL, UCL, Conduit	0.05	0.36	Spherical	15	15	15	0.75	Spherical	60	60	60
Ni	Chonolith	0.05	0.60	Spherical	15	15	20	0.35	Spherical	200	200	200
	437_ES1, BE_BR_MAIN, BE_FW1, BE_FW4, BE_FW6, BE_MID2, BE_MID3, BE_MID4, BE_MID5, BE_MID6, BE_MID7, BE_MID9, CL_HW1	0.20	0.60	Spherical	30	30	15	0.20	Spherical	100	100	15
	LCL, UCL, Conduit	0.10	0.60	Spherical	8	8	8	0.46	Spherical	60	60	60
Pd	Chonolith	0.15	0.65	Spherical	20	20	12	0.20	Spherical	200	200	75
	437_ES1, BE_BR_MAIN, BE_FW1, BE_FW4, BE_FW6, BE_MID2, BE_MID3, BE_MID4, BE_MID5, BE_MID6, BE_MID7, BE_MID9, CL_HW1	0.10	0.73	Spherical	40	40	15	0.17	Spherical	115	115	15
	LCL, UCL, Conduit	0.05	0.36	Spherical	15	15	15	0.75	Spherical	60	60	60
Pt	Chonolith	0.15	0.65	Spherical	20	20	15	0.20	Spherical	200	200	75
	437_ES1, BE_BR_MAIN, BE_FW1, BE_FW4, BE_FW6, BE_MID2, BE_MID3, BE_MID4, BE_MID5, BE_MID6, BE_MID7, BE_MID9, CL_HW1	0.15	0.68	Spherical	40	40	15	0.17	Spherical	115	115	15
	LCL, UCL, Conduit	0.05	0.36	Spherical	15	15	15	0.75	Spherical	60	60	60
Density	Chonolith	0.05	0.60	Spherical	15	15	15	0.35	Spherical	350	350	150
	437_ES1, BE_BR_MAIN, BE_FW1, BE_FW4, BE_FW6, BE_MID2, BE_MID3, BE_MID4, BE_MID5, BE_MID6, BE_MID7, BE_MID9, CL_HW1	0.25	0.55	Spherical	10	10	8	0.20	Spherical	50	50	30
	LCL, UCL, Conduit	0.20	0.50	Spherical	8	8	8	0.30	Spherical	50	60	50

Correlograms of Pt and Cu for the BE_BR_MAIN high grade lens are shown in Figure 14-8 and Figure 14-9, respectively.

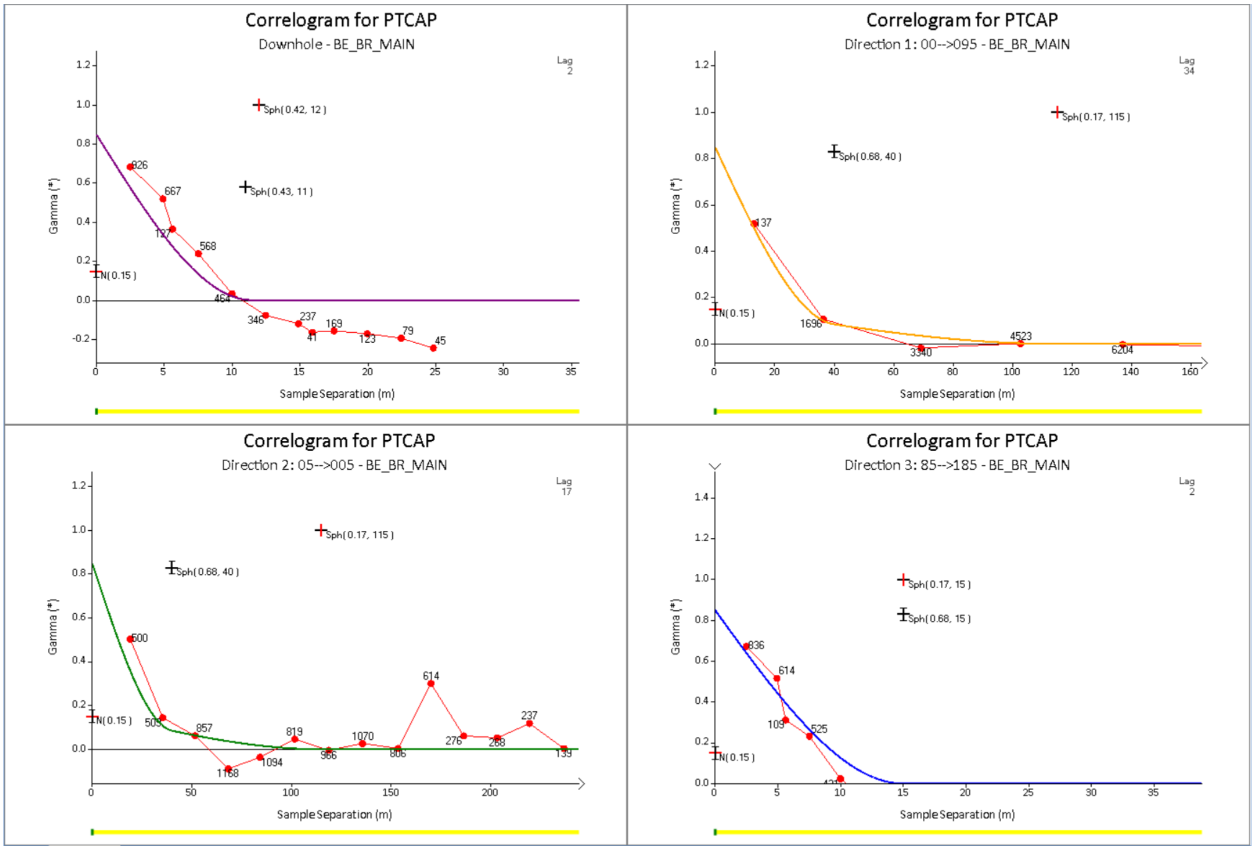


Figure 14-8: Pt Correlograms for the BE_BR_MAIN Lens

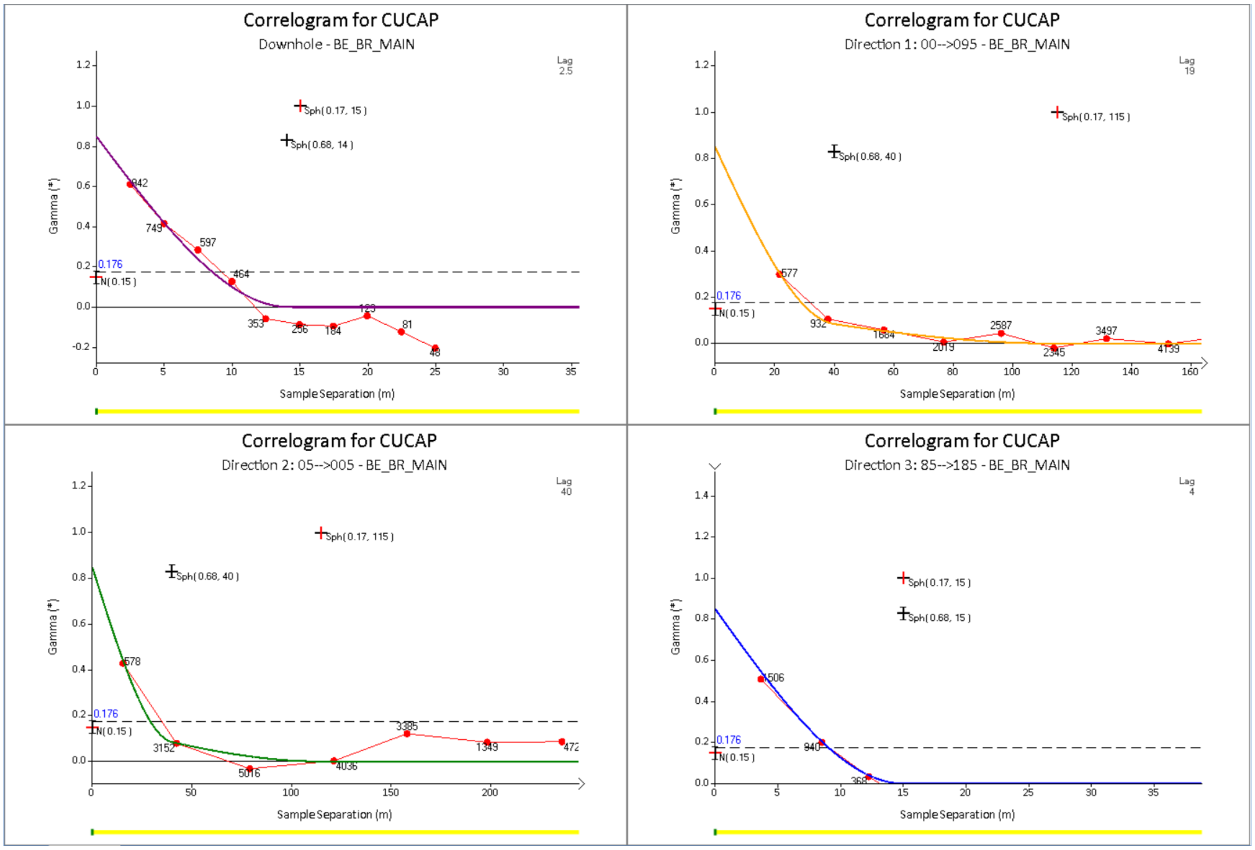


Figure 14-9: Cu Correlograms for the BE_BR_MAIN Lens

14.8.1.2 Escape Deposit

Variogram parameters for the elements of interest of the Escape deposit are listed in Table 14-13.

Table 14-13: Variogram Parameters – Escape Deposit
Clean Air Metals Inc. – Thunder Bay North Project

Element	Domain	Nugget	Structure 1					Structure 2				
			Sill	Structure	Major (m)	Semi-major (m)	Minor (m)	Sill	Structure	Major (m)	Semi-major (m)	Minor (m)
Ag	Conduit, ES_001_FW	0.1	0.9	Spherical	120	30	60					
	ES_001, ES_002, SLN_001, SLS_001, SLS_002, SLS_003, SLS_004, SLS_005	0.1	0.41	Spherical	61	67	16	0.49	Spherical	155	130	19
	ES_001_HW	0.1	0.49	Spherical	49	32	17	0.41	Spherical	165	135	20
Au	Conduit, ES_001_FW	0.1	0.9	Spherical	120	30	60					
	ES_001, ES_002, SLN_001, SLS_001, SLS_002, SLS_003, SLS_004, SLS_005	0.1	0.32	Spherical	63	48	14	0.58	Spherical	115	115	19
	ES_001_HW	0.1	0.29	Spherical	48	22	17	0.61	Spherical	115	75	23
Co	Conduit, ES_001_FW	0.1	0.9	Spherical	120	30	60					
	ES_001, ES_002, SLN_001, SLS_001, SLS_002, SLS_003, SLS_004, SLS_005	0.1	0.33	Spherical	106.8	62	21.6	0.57	Spherical	140	120	40
	ES_001_HW	0.1	0.61	Spherical	47	32	17	0.29	Spherical	120	105	18
Cu	Conduit, ES_001_FW	0.1	0.9	Spherical	120	30	60					
	ES_001, ES_002, SLN_001, SLS_001, SLS_002, SLS_003, SLS_004, SLS_005	0.1	0.38	Spherical	105	83	25	0.52	Spherical	155	110	26
	ES_001_HW	0.1	0.38	Spherical	45	20	17	0.52	Spherical	130	115	23
Ni	Conduit, ES_001_FW	0.1	0.9	Spherical	120	30	60					
	ES_001, ES_002, SLN_001, SLS_001, SLS_002, SLS_003, SLS_004, SLS_005	0.1	0.41	Spherical	60	70	16	0.49	Spherical	155	130	19
	ES_001_HW	0.1	0.47	Spherical	70	30	13	0.43	Spherical	225	60	22
Pd	Conduit, ES_001_FW	0.1	0.9	Spherical	120	30	60					

Element	Domain	Nugget	Structure 1					Structure 2				
			Sill	Structure	Major (m)	Semi-major (m)	Minor (m)	Sill	Structure	Major (m)	Semi-major (m)	Minor (m)
	ES_001, ES_002, SLN_001, SLS_001, SLS_002, SLS_003, SLS_004, SLS_005	0.1	0.29	Spherical	105	73	17	0.61	Spherical	150	115	23
	ES_001_HW	0.1	0.42	Spherical	33	22	19	0.48	Spherical	105	100	21
Pt	Conduit, ES_001_FW	0.1	0.9	Spherical	120	30	60					
Pt	ES_001, ES_002, SLN_001, SLS_001, SLS_002, SLS_003, SLS_004, SLS_005	0.1	0.13	Spherical	105	50	17	0.77	Spherical	140	130	25
Pt	ES_001_HW	0.1	0.42	Spherical	35	20	17	0.48	Spherical	105	80	23
Density	Conduit, ES_001_FW	0.1	0.9	Spherical	120	30	60					
Density	ES_001, ES_002, SLN_001, SLS_001, SLS_002, SLS_003, SLS_004, SLS_005	0.1	0.41	Spherical	60	70	16	0.49	Spherical	155	130	19
Density	ES_001_HW	0.1	0.47	Spherical	70	30	13	0.43	Spherical	225	60	22

Correlograms of Pt and Cu for the ES_001 high grade lens are shown in Figure 14-10 and Figure 14-11, respectively.

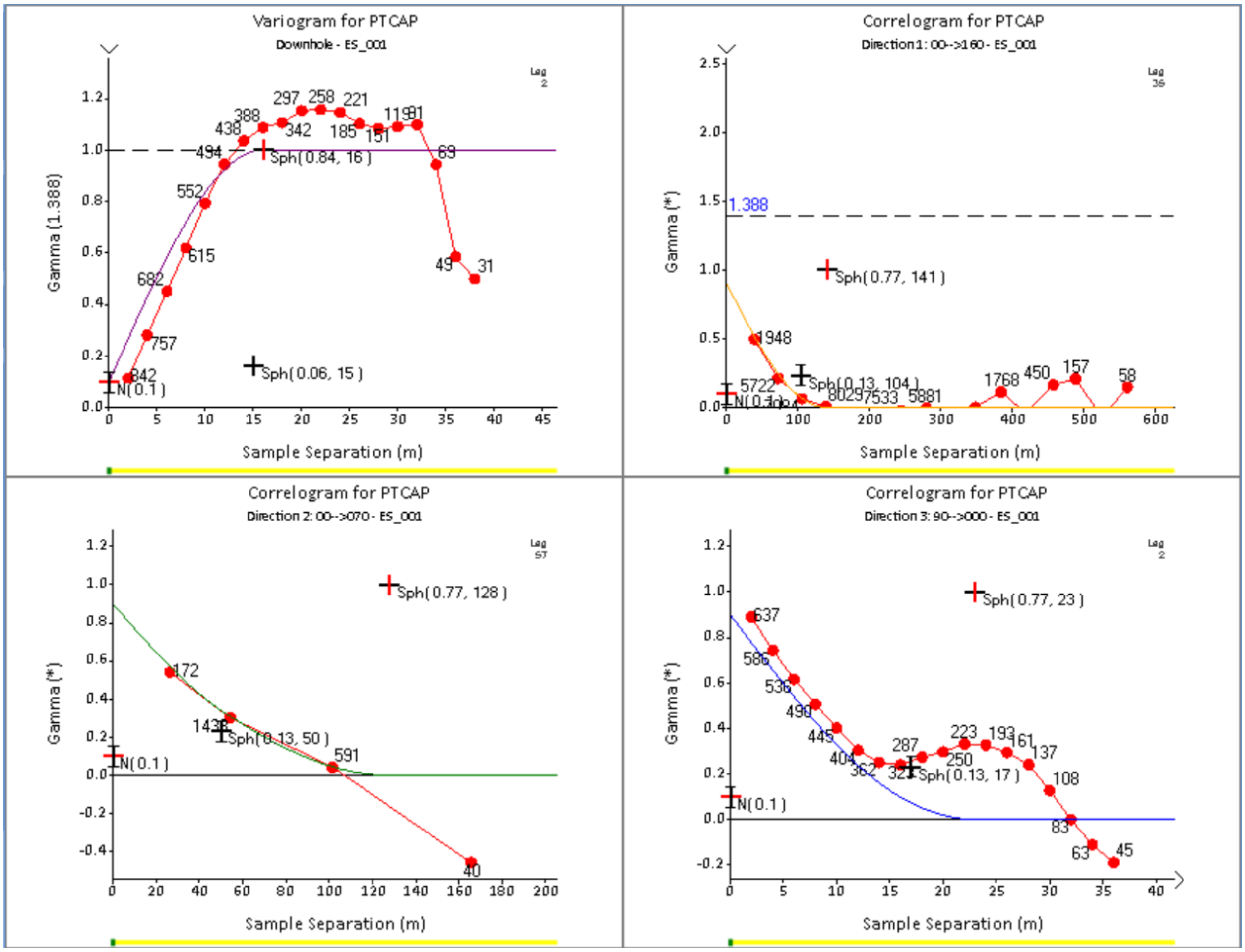
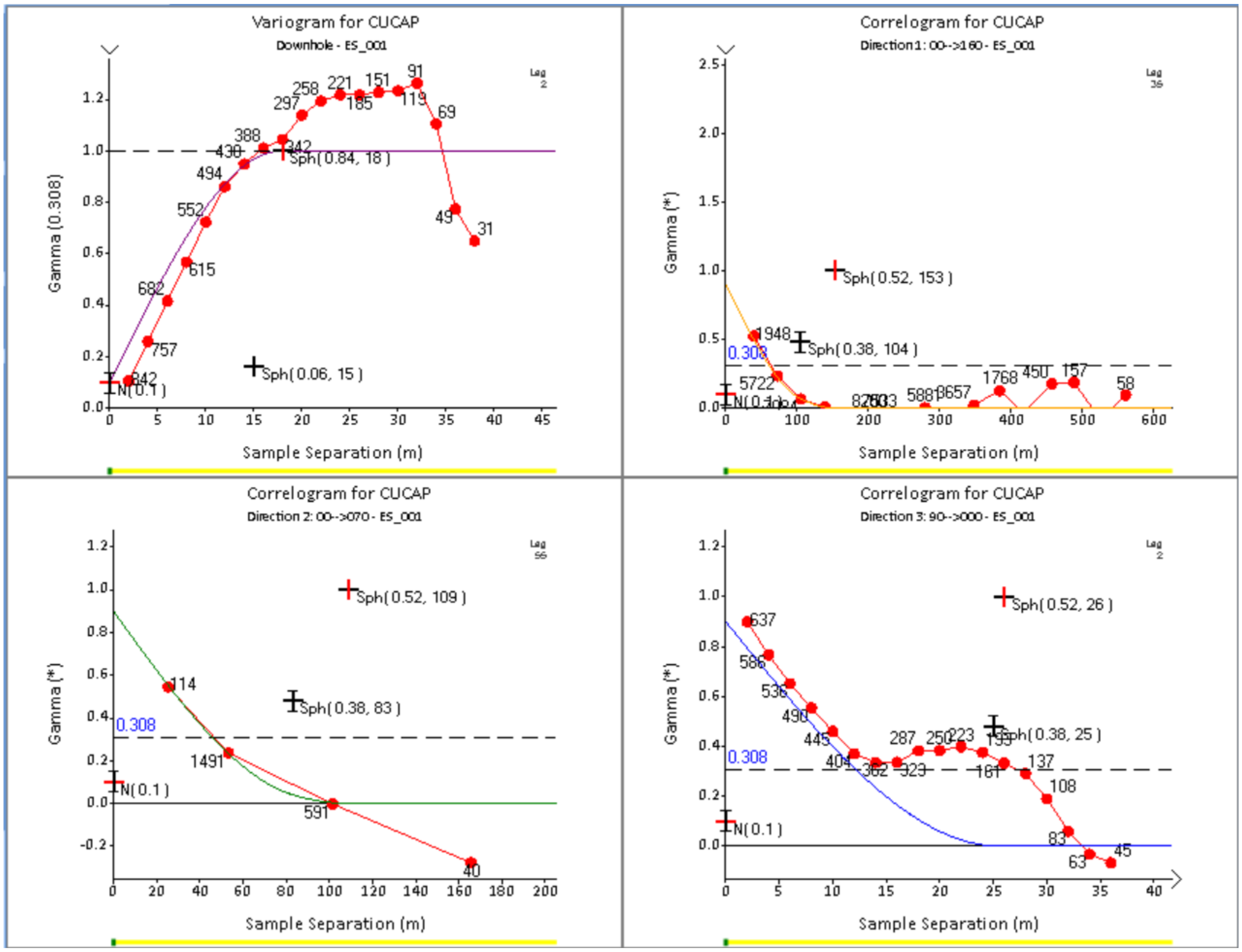


Figure 14-10: Pt Correlograms for the ES_001 Lens



14.8.2 Figure 14-11: Cu Correlograms for the ES_001 Lens Grade Contouring

SLR used Leapfrog GEO to generate grade shells for the elements of interest. The grade shells were constrained by the intrusive volume, but no trend was applied. A similar pattern is displayed by Pd, Pt, Cu, Au, and Ag, confirming the good correlation observed in the assay data, mostly focused on the volumes captured by the high grade mineralization wireframes. A different pattern is displayed by Ni and Co, which appear to be widespread within the intrusive volume.

14.8.2.1 Current Deposit

West of the Bridge area, in the thin Conduit domain, higher grade Ni coincides with the rest of the elements of interest. In the main area of the deposit, the Pd, Pt, Cu, Au, and Ag appear concentrated in discrete bands along the base and top of the intrusion, while Ni and Co are wider spread, both vertically and laterally.

In Figure 14-12 grade shells of 0.5 g/t Pt and 0.14 g/t Ni are shown inside the intrusive.

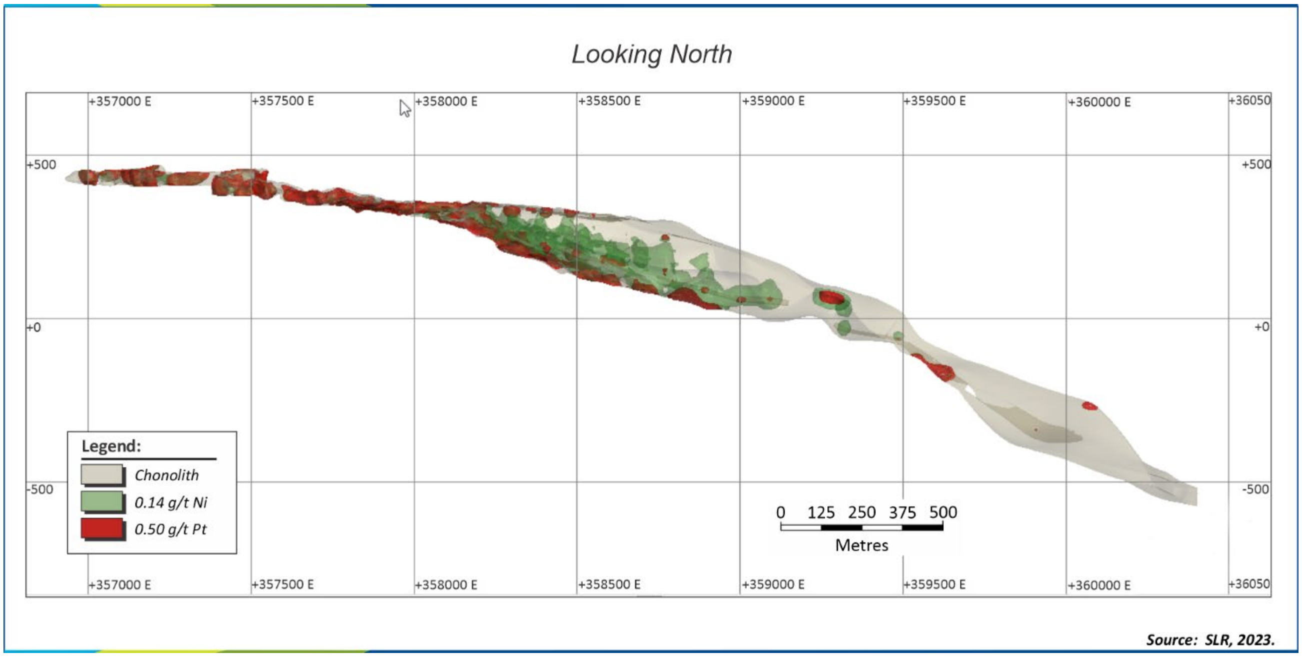
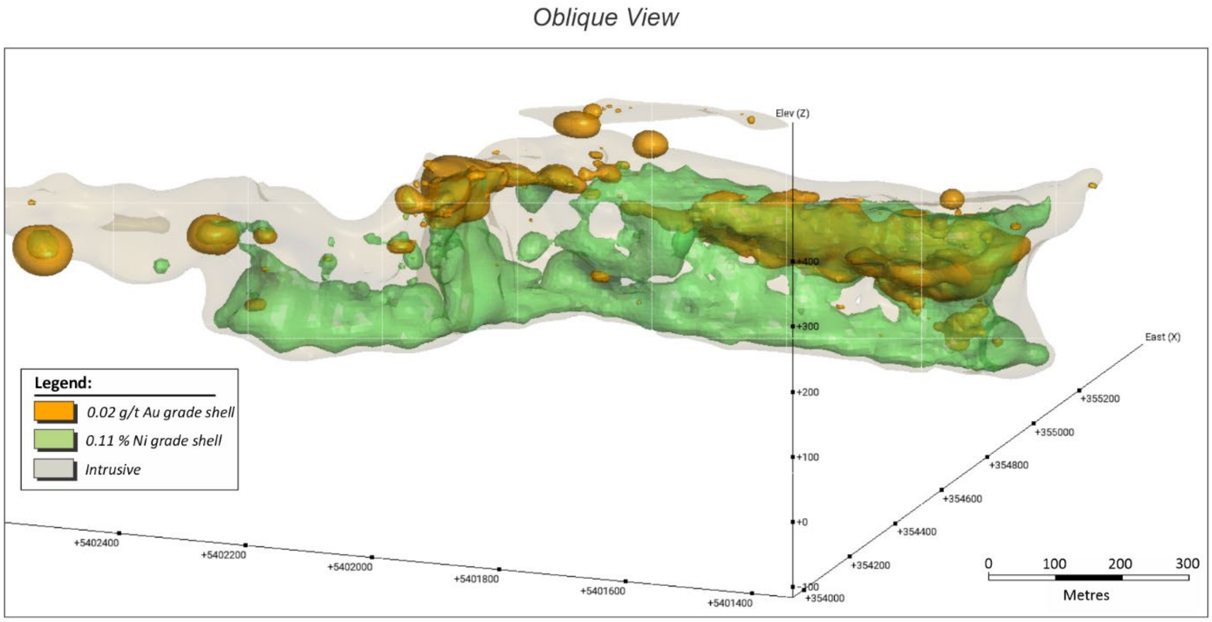


Figure 14-12: Current Deposit – Pt and Ni Grade Shells inside the Conduit

14.8.2.2 Escape Deposit

In the southern part of the Escape deposit, which contains the main mineralized volume, the Pd, Pt, Cu, Au and Ag suite of elements are distinctly present in a flower geometry in cross section, with vertical and horizontal elongation in the upper part of the intrusion. Ni and Co show a different grade trend, with concentrations following the vertical extent, base and top of the intrusion. In Figure 14-13, grade shells of 0.02 g/t Au and 0.11 g/t Ni are shown inside the intrusive, in a 3D view looking northeast.



Source: SLR, 2023.

Figure 14-13: Escape Deposit – Au and Ni Grade Shells inside the Conduit

14.9 Search Strategy and Grade Interpolation Parameters

Estimation of Pt, Pd, Cu, Ni, Au, and Ag grades was completed in three passes. High grade mineralization composites were used to estimate the blocks within the mineralization domains. A hard boundary was used between low grade and high grade, as well as between mineralization lenses.

Dynamic anisotropy was activated in Leapfrog to facilitate the alignment of the search ellipse with the local changes in the dip and strike of the mineralization.

All interpolations were completed using OK in three passes of increasing search ellipse size.

14.9.1 Current Deposit

Details of the search strategy and sample selection criteria for the Current deposit are presented in Table 14-4.

Table 14-14: Search Strategy and Sample Selection Criteria for Current Clean Air Metals Inc. – Thunder Bay North Project

Domain	Pass	Ellipsoid Ranges (m)			Orientation	Number of Samples		Max Samples per Hole
		Maximum	Intermediate	Minimum		Minimum	Maximum	
Chonolith, Conduit	Pass 1	60	60	5	Variable	4	8	2
	Pass 2	120	120	10	Variable	4	8	2
	Pass 3	240	240	30	Variable	1	8	
437_ES1, BE_BR_MAIN, BE_FW1, BE_FW4, BE_FW6, BE_MID2, BE_MID3, BE_MID4, BE_MID5, BE_MID6, BE_MID7, BE_MID9, CL_HW1	Pass 1	40	40	7	Variable	4	8	2
	Pass 2	80	80	15	Variable	4	8	2
	Pass 3	160	160	30	Variable	1	8	
LCL, UCL	Pass 1	60	30	30	Variable	4	8	2
	Pass 2	120	60	60	Variable	4	8	2
	Pass 3	240	120	120	Variable	1	8	

14.9.2 Escape Deposit

A summary of the search strategy and sample selection criteria for the Escape deposit are presented in Table 14-15.

Table 14-15: Search Strategy and Sample Selection Criteria for Current Clean Air Metals Inc. – Thunder Bay North Project

Domain	Pass	Ellipsoid Ranges (m)			Orientation	Number of Samples		Max Samples per Hole
		Maximum	Intermediate	Minimum		Minimum	Maximum	
Conduit	Pass 1	60	60	30	Variable	4	8	2
	Pass 2	120	120	60	Variable	4	8	2
	Pass 3	240	240	120	Variable	1	8	4
ES_001, ES_002 SLN_001, SLS_001 SLS_002, SLS_003 SLS_004, SLS_005	Pass 1	75	65	12	Variable	4	8	2
	Pass 2	150	130	24	Variable	4	8	2
	Pass 3	300	260	48	Variable	1	8	4
ES_001_FW	Pass 1	60	30	15	Variable	4	8	2
	Pass 2	120	60	30	Variable	4	8	2
	Pass 3	240	120	60	Variable	1	8	4

Domain	Pass	Ellipsoid Ranges (m)			Orientation	Number of Samples		Max Samples per Hole
		Maximum	Intermediate	Minimum		Minimum	Maximum	
ES_001_HW	Pass 1	65	12	40	Variable	6	16	4
	Pass 2	130	24	80	Variable	6	16	4
	Pass 3	260	48	160	Variable	1	16	4

14.10 Bulk Density

An extensive collection of SG data is available for the TBN Project deposits. The block SG value was estimated by OK. The SG data coverage was imbalanced, with higher grade intercepts tested more frequently. It was also noted that there was a reasonable correlation between Ni grade and SG within the mineralization wireframes and a poor correlation within the lower grade portions of the chonolith. As such, a final density field was created in the composites following the following logic:

- SG within the chonolith but outside of the mineralization wireframes were composited to two metres
- Where sampled in the mineralization wireframes, the SG value was used as is and composted to two metre lengths
- Where unsampled in the mineralization wireframes, the SG value was derived from a Ni regression as described below.

The final SG value recorded in the composites was then used to estimate the block SG value using OK.

14.10.1 Current

Descriptive statistics for the SG measurements available at the Current deposit are presented in Table 14-16.

Table 14-16: SG Measurements Descriptive Statistics by Wireframe Domain – Current
Clean Air Metals Inc. – Thunder Bay North Project

Zone	Count	Mean (t/m^3)	Coefficient of Variation	Minimum (t/m^3)	Median (t/m^3)	Maximum (t/m^3)
BE_FW6	73	3.08	0.11	2.70	2.99	4.45
437_ES1	12	3.00	0.02	2.88	2.98	3.12
BE_MID4	9	2.99	0.03	2.81	2.98	3.16
BE_MID6	17	2.96	0.03	2.81	3.00	3.06
LCL	1,665	2.96	0.04	1.75	2.95	4.33
BE_MID7	10	2.95	0.03	2.85	2.92	3.15
BE_BR_MAIN	1,034	2.95	0.05	2.40	2.93	4.43
UCL	1,431	2.95	0.02	2.61	2.94	3.21

Zone	Count	Mean (t/m³)	Coefficient of Variation	Minimum (t/m³)	Median (t/m³)	Maximum (t/m³)
BE_MID3	17	2.93	0.02	2.84	2.94	3.04
CONDUIT	3,888	2.93	0.03	1.71	2.93	4.18
BE_FW1	59	2.93	0.02	2.81	2.93	3.06
CL_HW1	93	2.92	0.02	2.81	2.91	3.04
BE_MID9	4	2.89	0.02	2.81	2.89	2.93
BE_MID5	16	2.87	0.02	2.77	2.86	2.97
BE_FW4	10	2.87	0.04	2.61	2.87	2.96
BE_MID2	19	2.76	0.06	2.53	2.85	2.93

The Ni-derived SG value at Current deposit was calculated using the formula:

Calculated SG = Ni% * 0.429325 + 2.84156.

14.10.2 Escape

Descriptive statistics for the SG measurements available at the Escape deposit are presented in Table 14-17.

Table 14-17: SG Measurements Descriptive Statistics by Wireframe Domain – Escape
Clean Air Metals Inc. – Thunder Bay North Project

Zone	Count	Mean (t/m³)	Coefficient of Variation	Minimum (t/m³)	Median (t/m³)	Maximum (t/m³)
ES_001	401	3.21	0.07	2.67	3.18	5.88
ES_001_FW	51	3.20	0.03	2.89	3.21	3.42
SLS_001	24	3.09	0.03	2.93	3.09	3.25
SLS_002	3	3.08	0.02	3.01	3.10	3.12
SLS_004	16	3.05	0.05	2.90	3.04	3.53
SLS_005	28	3.05	0.02	2.94	3.06	3.15
SLS_003	2	3.05	0.00	3.04	3.04	3.06
SLN_001	33	3.04	0.02	2.89	3.04	3.17
ES_001_HW	112	3.02	0.04	2.77	3.01	3.46
ES_002	3	2.99	0.01	2.97	3.00	3.01
CONDUIT	2,356	2.98	0.04	1.98	2.99	6.74

The Ni-derived SG value at Escape deposit was calculated using the formula:

Calculated SG = Ni% * 0.497608 + 2.97772

14.11 Block Models

Leapfrog Geo 2022.1 was used to build block models to support the resource estimate. The block models contained various types of information including:

- Mineralized domain identifier
- Estimated grades of elements of interest
- Calculated NSR values
- Bulk density
- Resource classification

The grade estimates are based on OK interpolation method. Inverse Distance Squared (ID^2) and Nearest Neighbour (NN) estimates were run for validation purposes.

14.11.1 Current Deposit

Table 14-18 presents the block model setup parameters for the Current deposit.

Table 14-18: Current Deposit Block Model Setup
Clean Air Metals Inc. – Thunder Bay North Project

Parameter	Current Deposit
Block Size (m)	5 m x 5 m x 2.5 m
Sub-block count	2, 2, 2
XYZ Origin (m)	356,800; 5,401,100; 565
Number of Blocks in XYZ	780, 640, 572

14.11.2 Escape Deposit

Table 14-19 presents the block model setup parameters for the Escape deposit.

Table 14-19: Escape Deposit Block Model Setup
Clean Air Metals Inc. – Thunder Bay North Project

Parameter	Escape Deposit
Block Size (m)	5 m x 5 m x 2.5 m
Sub-block count	2, 2, 2
XYZ Origin (m)	353,850; 5,401,300; 550
Number of Blocks in XYZ	310, 620, 280

14.12 NSR and Cut-off Value

The TBN Project Mineral Resources were reported inside underground constraining shapes developed using the Deswik Stope Optimizer (DSO) based on an NSR cut-off value of US$48/tonne.

14.12.1 NSR Calculation

NSR values have been estimated for an operating scenario that includes production of Cu and bulk concentrates containing payable platinum and palladium for both the Escape and Current deposits.

Metal prices are based on consensus, 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 14-20.

Table 14-20: NSR Calculation Factors
Clean Air Metals Inc. – Thunder Bay North Project

Commodity	Units	Metal Prices (US$)	Net Metallurgical Recovery	Refining Cost (US$)	Transport Cost/wmt (Cu Con/Bulk Con)	Treatment Cost/dmt (Cu Con/Bulk Con)	Royalty
Palladium	per oz	$1,500	86%	$15.00	US$100/US$100	US$67.33/US$150	3.50%
Platinum	per oz	$1,450	82%	$15.00			
Silver	per oz	$24.00	40%	$0.45			
Gold	per oz	$1,800	50%	$4.50			
Copper	per lb	$4.25	83%	$0.07			
Nickel	per lb	$10	46%	$0.00			

Notes: Transport and treatment costs given for Copper Concentrate (Cu Con) and Bulk Concentrate (Bulk Con).

14.12.2 Cut-off Value

The depth and geometry of the interpreted mineralized domains at TBN Project make it amenable to underground mining methods. Net Value factors were developed for the purposes of resource reporting. Net Value is the estimated value per tonne of mineralized material after allowance for metallurgical recovery and consideration of terms for third-party separation and refining, including payability and charges. These assumptions are based on the current processing scenario and results from metallurgical test work. The cut-off parameters, based on previous study work, are provided in Table 14-21:

Table 14-21: Cut-off Value Parameters
Clean Air Metals Inc. – Thunder Bay North Project

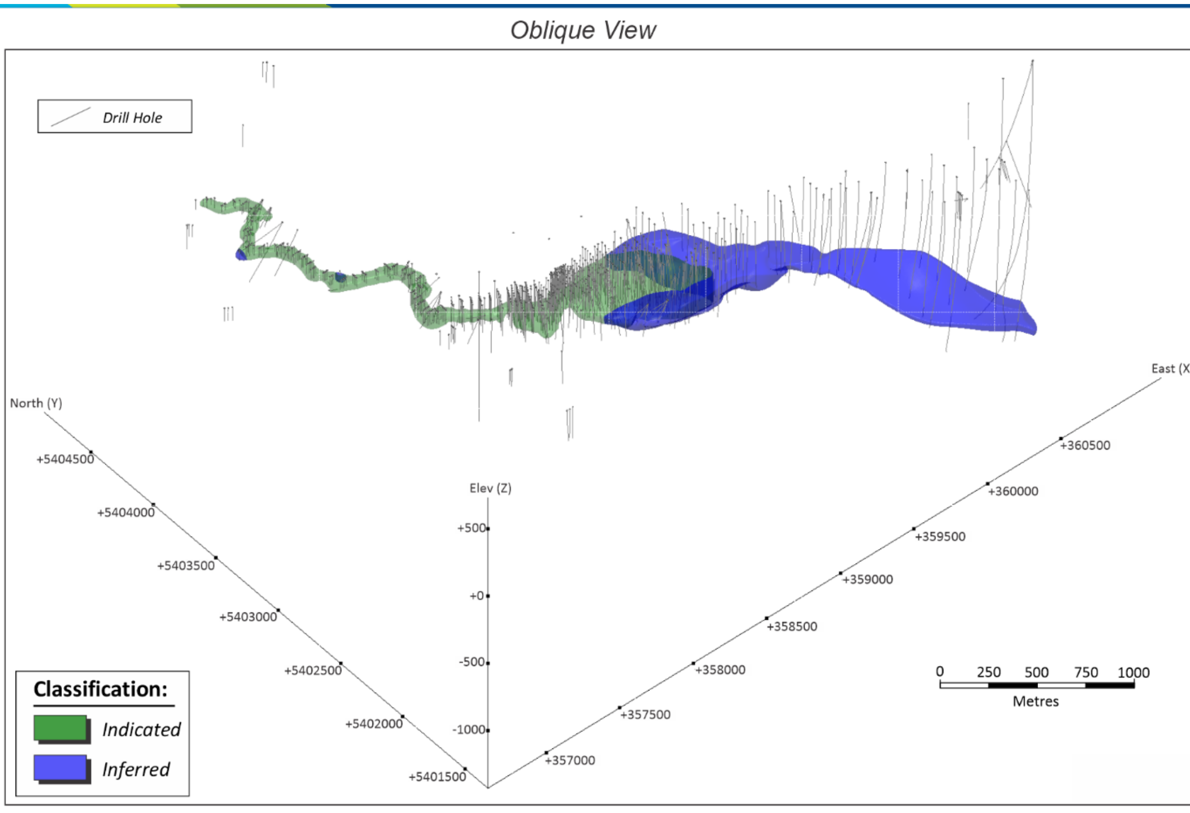
Parameter	Unit	Value
Mining (Underground)	US$/t milled	$ 26.92
Processing	US$/t milled	$ 15.38
G&A	US$/t milled	$ 5.38
Total Unit Operating Cost	US$/t milled	$ 47.69

14.13 Classification

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". 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.

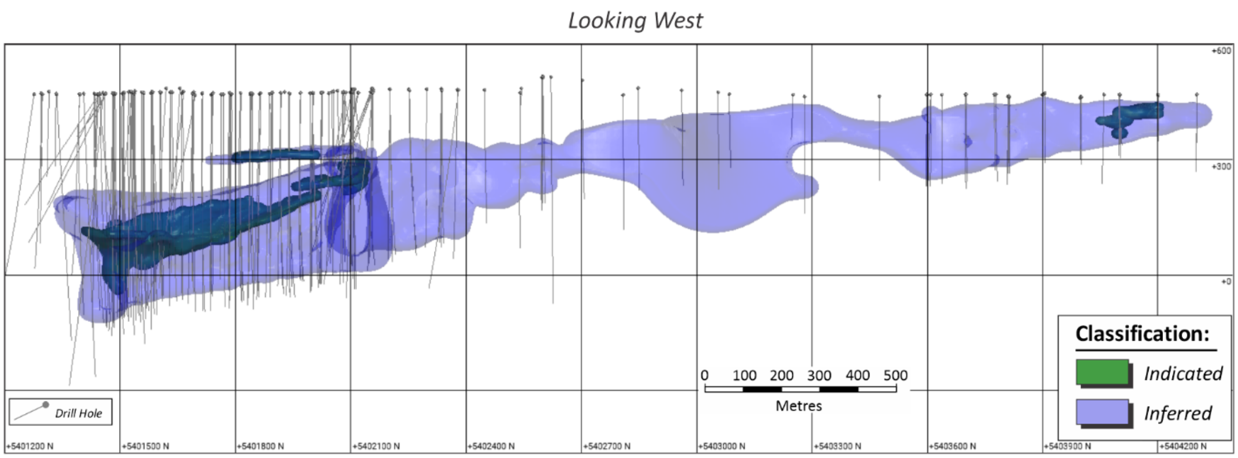
At Current and Escape, blocks were classified following CIM (2014) definitions as Indicated and Inferred using drill hole spacing based criterion and mineralization continuity. Indicated Mineral Resources were based on a nominal drill hole spacing of 50 m, with at least two holes informing the block. Classification wireframes were modelled and used to constrain the classified blocks.

Figure 14-14 and Figure 14-15 show the classification domains and drilling for the Current and Escape deposits, respectively.



Source: SLR, 2023.

Figure 14-14: Classification Domains and Drilling at Current



Source: SLR, 2023.

Figure 14-15: Classification Domains and Drilling at Escape

14.14 Block Model Validation

14.14.1 Global Validation

Comparisons between the composite, NN, and OK global mean grades were completed for each variable and the results of Pt, Pd, Au, and Cu are shown graphically in Figure 14-16 and Figure 14-17.

Mean comparisons were also completed for Ag and density but are not shown in the graphs. For all domains contributing a high metal content to the Project, all interpolation methods report very similar average grades.

The results taken in context with the results of additional validation tools including swath plots, visual review, and comparison with grade shells, as well as the individual deposit and domain characteristics, are considered reasonable. Note that the composite average grade is often highest, and this is due to the clustered nature of the data set (higher density of samples in high grade areas skew the average result of composites as compared to blocks).

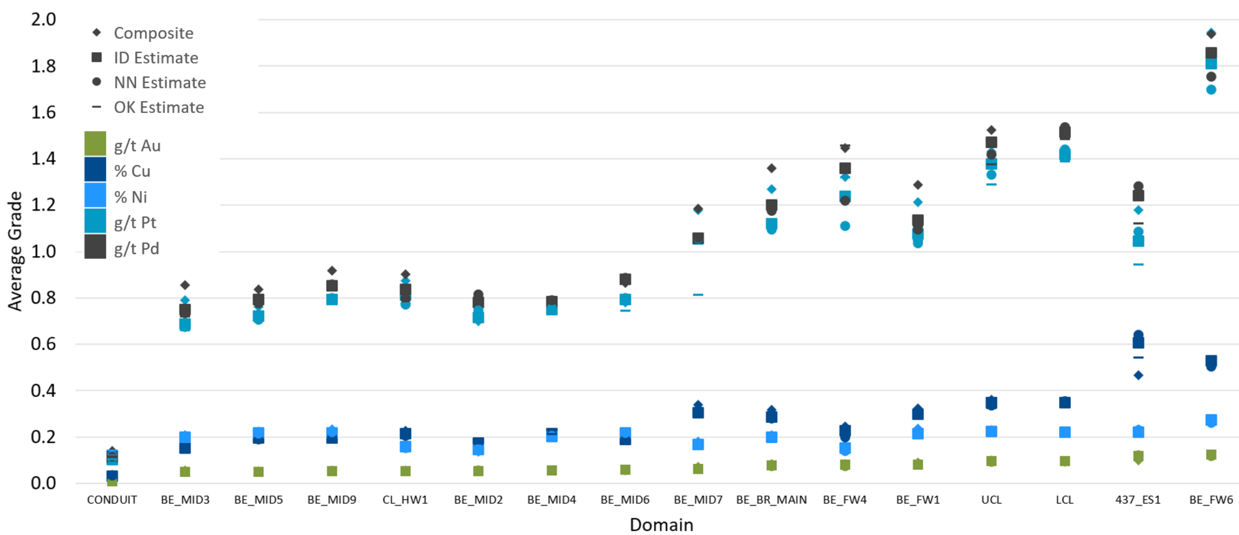


Figure 14-16: Current Deposit – Comparison of OK, NN, ID Block and Composite Grades

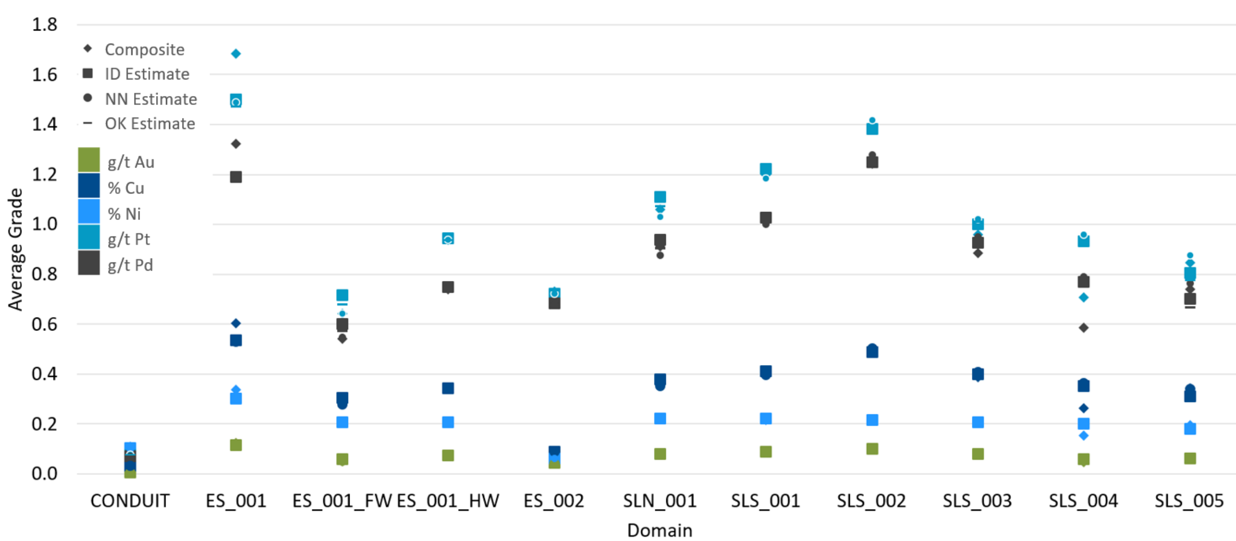


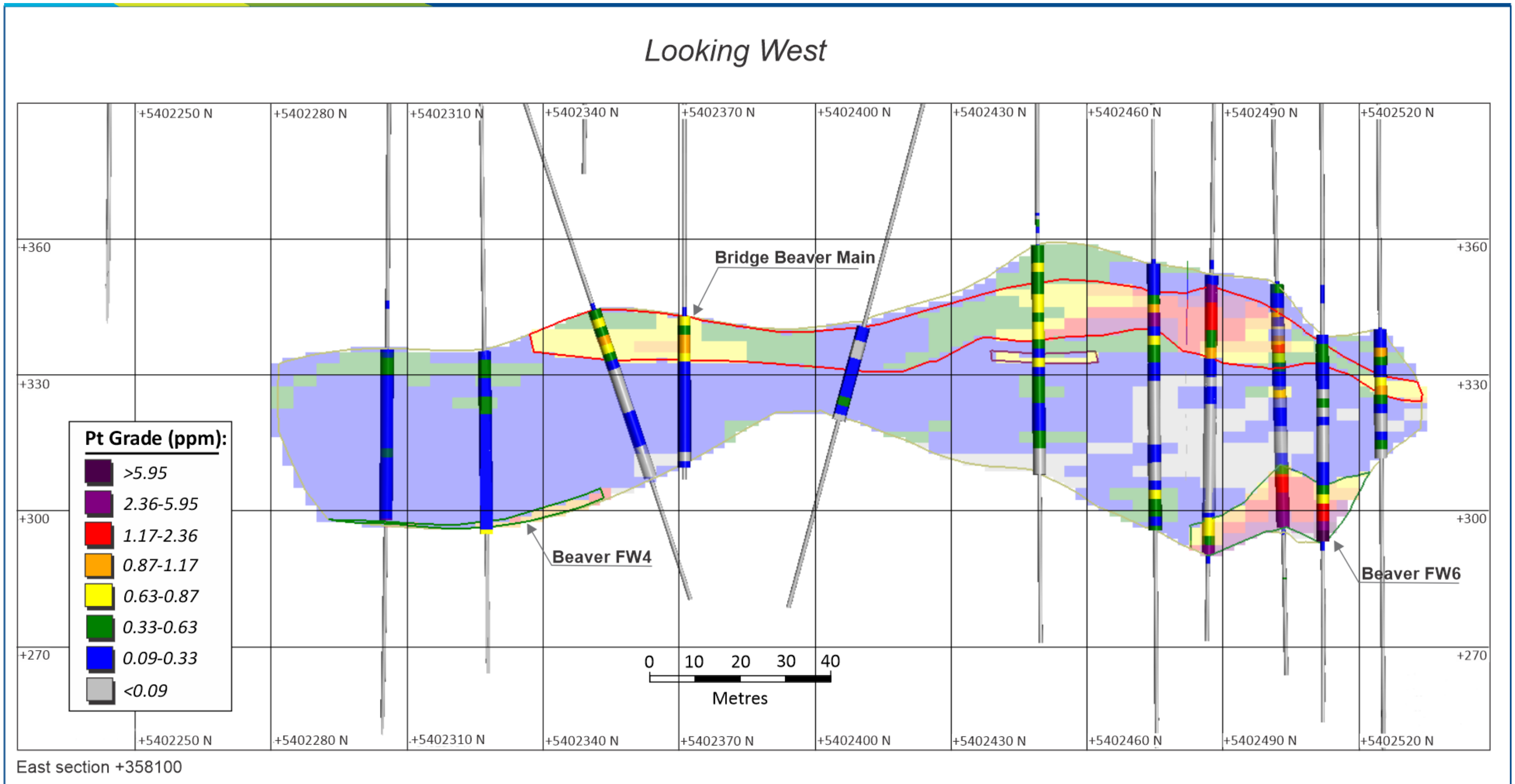
Figure 14-17: Escape Deposit – Comparison of OK, NN, ID Block and Composite Grades

14.14.2 Visual Validation

Visual validation of the block models was completed by comparing the estimated block grades with the assay and composite data. The model reasonably reflects the input data. The estimated block grades have trends that follow those of the assay data, in agreement with the modelled wireframes and the current understanding of the TBN Project deposits.

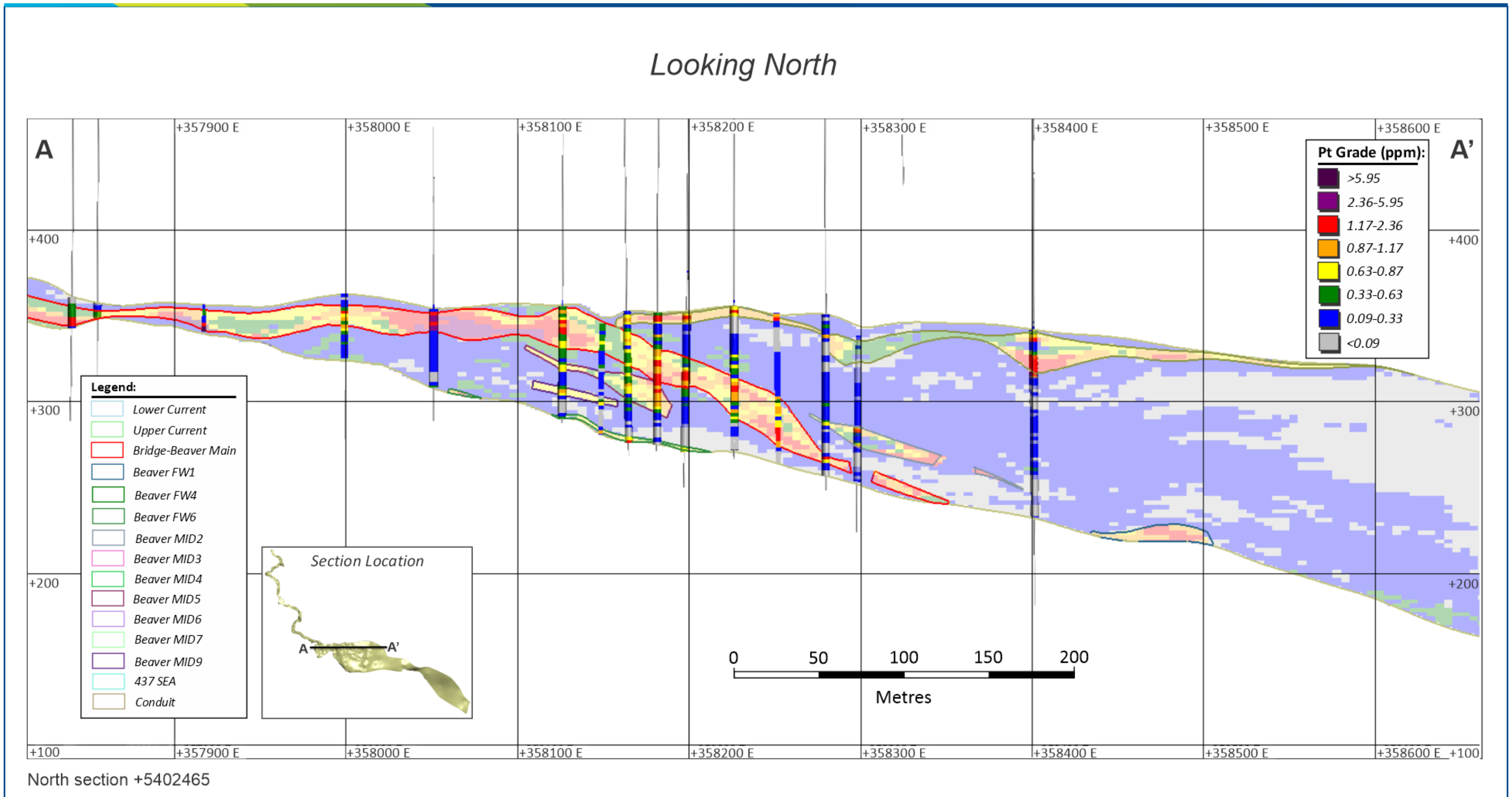
Figure 14-18 and Figure 14-19 show the block and composite Pt grades, and outlines of the modelled mineralization wireframes at Current deposit in cross section and long section, respectively.

Figure 14-20 and Figure 14-21 show the block and composite Pt grades, and outlines of the modelled mineralization wireframes at Escape deposit in cross section and long section, respectively.



Source: SLR, 2023.

Figure 14-18: Current Deposit – Comparison of Block and Composite Pt Grades



Source: SLR, 2023.

Figure 14-19: Current Deposit – Blocks, Composites, and Mineralization Wireframes Longitudinal Section

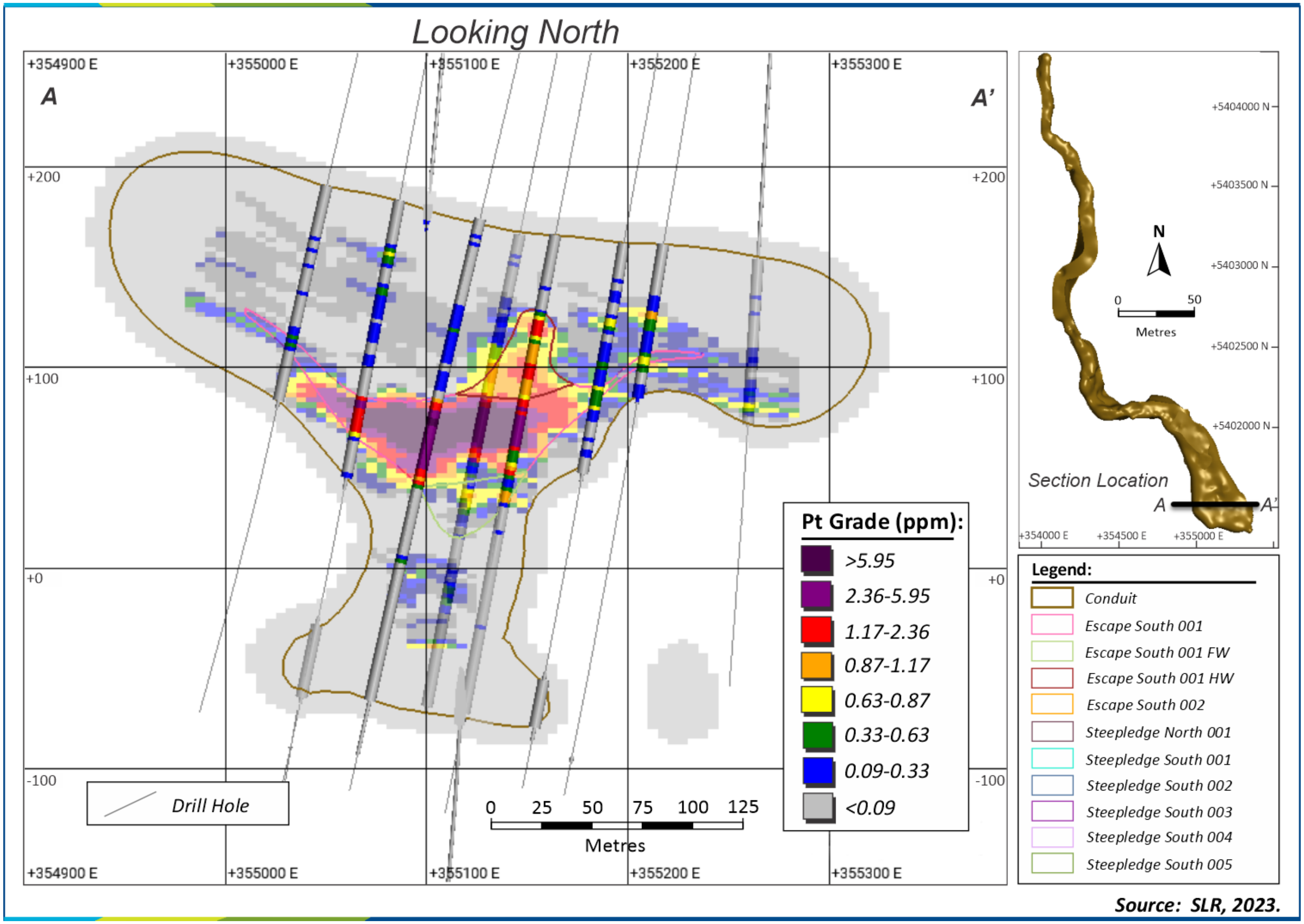
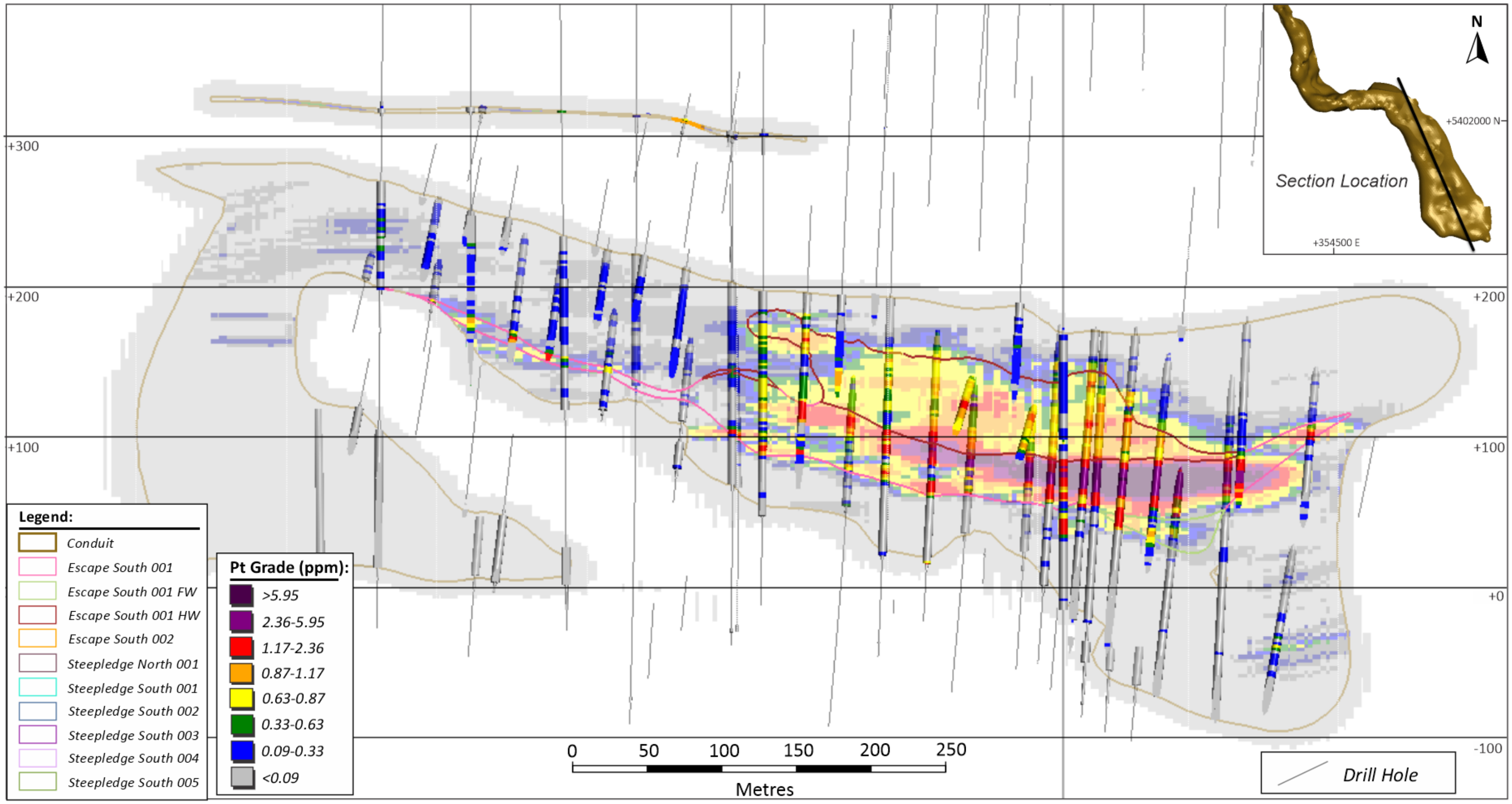


Figure 14-20: Escape Deposit – Blocks, Composites, and Mineralization Wireframes Cross Section



Source: SLR, 2023.

Figure 14-21: Escape Deposit – Comparison of Pt grades in Blocks and Composites

14.14.3 Local Validation

Swath plots by easting, northing and elevation for OK, ID² and NN were generated for Current and for Escape. The swath plot lines show minimal differences between the different models, with frequent and random line crossing. NN estimate shows the highest highs and the lowest lows, while ID² and OK have a smoother behaviour, as expected.

Figure 14-22 shows the Pt swath plots on easting for Current deposit (left) and the Pt swath plot on easting for Escape deposit (right).

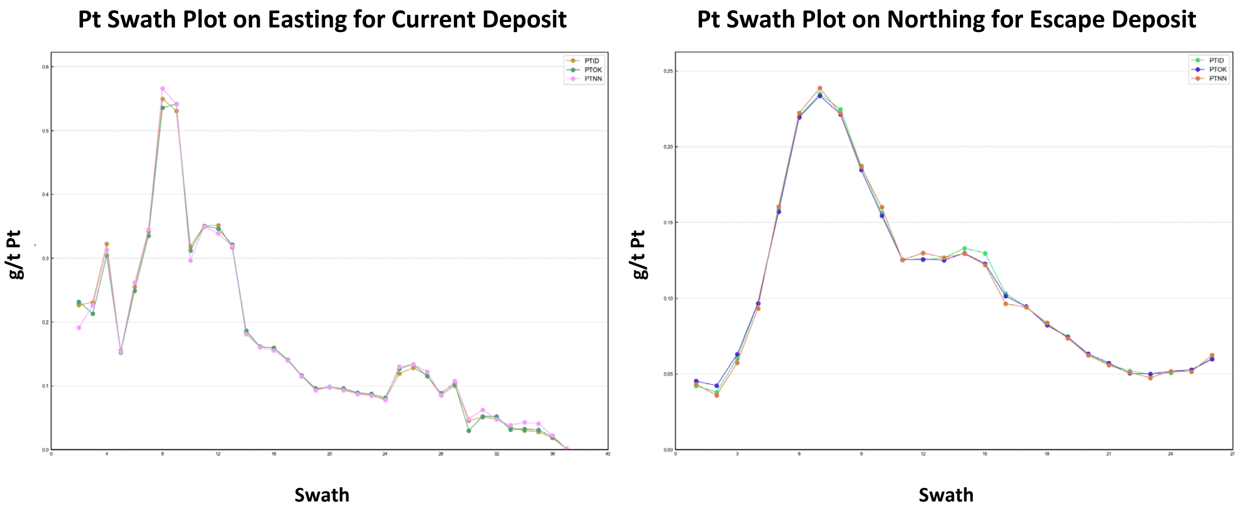


Figure 14-22: Pt Swath Plot on Easting for Current Deposit and Northing for Escape Deposit

The current Mineral Resource estimate for TBN completed by SLR follows a conventional approach, is inline with CIM (2019) best practices, and has been sufficiently validated. SLR is of the opinion that it is suitable to support ongoing studies for advancement of the Project.

15.0 MINERAL RESERVE ESTIMATE

No Mineral Reserves have been estimated at the TBN 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

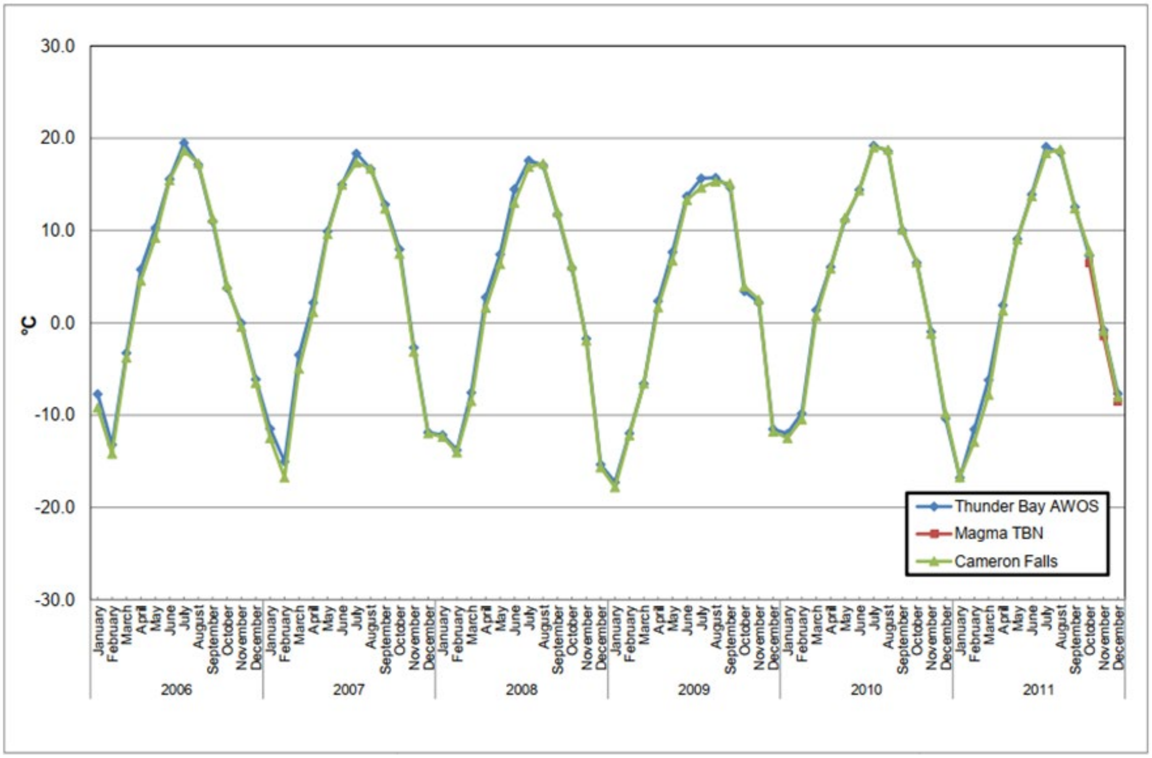
20.1 Environmental Studies

Environmental baseline data has been collected on the property since 2008. The former owners of the Project (Panoramic Resources and, prior to that, Magma Metals) retained DST Consulting Engineers Inc. (DST) to complete a series of environmental studies and to collect baseline environmental data at the Project property from 2008 to 2013 and starting again in 2020. Since re-starting baseline environmental data collection in 2020 with surface water sampling (completed by Englobe Corp), a number of additional environmental baseline studies have been conducted:

- Terrestrial and aquatic biology with North Winds Environmental Services
- Metals leaching and acid rock drainage (ML-ARD) with Minesite Drainage Assessment Group
- Hydrogeology with North Rock Engineering
- Meteorology, Sediment Assessment, and Surface Water Sampling with Englobe Corp. (Englobe)
- Hydrology with Oshki-Aki LP (a division of Stantec)

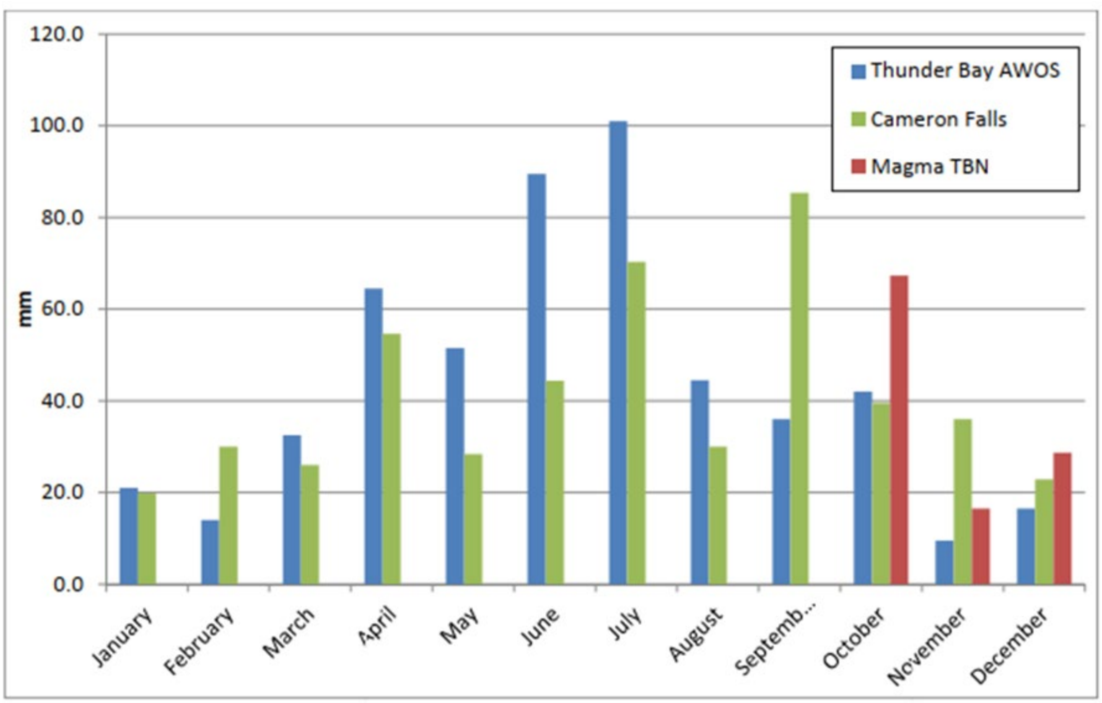
20.1.1 Meteorology

Meteorological data has been collected within the project area via automated weather station (AWS) located proximal to the Current deposit (presently located within the Core yard compound) since 2011 with a hiatus due to equipment failure. Data collected from the AWS was compared with three regional Environment Canada weather stations (Thunder Bay Automated Weather Observing System (AWOS), Thunder Bay-A and Cameron Falls station). Inter-station comparison of 2011 hourly data indicates good correlation between the onsite station (AWS) and regional Environment Canada stations (Figure 20-1, Figure 20-2: DST, 2012b).



Source: adapted from DST, 2012b.

Figure 20-1: 2006 – 2011 Mean Monthly Temperatures



Source: adapted from DST, 2012b.

Figure 20-2: 2011 Monthly Precipitation

In the spring of 2021, the meteorology station was refurbished and reinstalled approximately 100 m away from the original automated weather station (AWS) site to collect meteorological data for the Project area. The on-site station monitors temperature, relative humidity, barometric pressure, wind speed and direction, snow depth and rainfall amounts. The coldest temperature recorded on-site was –41.8°C on February 13, 2023, and the warmest temperature recorded was 31.2°C on June 20, 2022. The predominant wind direction was from the west / northwest with the average speed characterized as a light breeze on the Beaufort Scale. The total rainfall at the on-site weather station was measured to be 522 mm in 2022.

20.1.2 ML-ARD Geochemistry

Geochemical testing for metal leaching and acid rock drainage (ML-ARD) has been carried out via a number of campaigns. Static testing was completed for the Current, Bridge, and Beaver zones by previous owner/operator Magma, with Phase 1 ML-ARD studies completed in December 2010 and Phase 2 completed in March 2012 by Minesite Drainage Assessment Group and DST Group (now Englobe), respectively. On-site ML-ARD kinetic tests were initiated in 2021 with monthly sampling continuing. These kinetic tests comprise 205 L barrels, each containing hundreds of kilograms of broken rock and/or core that characterize the deposit and host rocks. Ongoing monitoring of these tests continues to show that relatively high neutralization potential exists within the rock. Drainage waters from the barrels were initially acidic, in the pH range of 4 to 7, in March 2021; within a month, all had increased to near-neutral levels typically between pH 7 and 8. In 2022, additional on-site ML-ARD kinetic tests were started for the Escape deposit. At the time of the freeze-up, towards the end of 2022, all pH values from these tests remained around 7.3 to 8.0. Near-neutral pH drainage waters from one or more of the on-site ML-ARD kinetic tests contain some elevated levels of leached and dissolved metals and other elements. These include dissolved arsenic, barium, boron, copper, molybdenum, nickel, selenium, uranium, and zinc. Additional laboratory-based kinetic tests have also been started.

Geochemical characterization testwork on the tailings was not completed as part of the conceptual level design. Additional static and kinetic test work on the Escape deposit and tailings is planned for future phases of the Project.

20.1.3 Hydrogeology

Initial hydrogeological test work consisting of groundwater quality sampling and packer testing in selected exploration boreholes was initiated in 2021 (Englobe, 2022). The results of this test work indicated exceedances of the Ontario Provincial Water Quality Objectives and Ontario Drinking Water Standards for some metal parameters. Packer testing results indicated very low to no flow in the rock units tested.

Detailed hydrogeological assessment work was initiated in 2022 with North Rock Engineering. Nine sets of monitoring wells were installed into the shallow bedrock at the Current deposit area. The wells were installed in nested pairs, generally with installed depths of 10 m and 30 m below ground surface. The wells were sampled for groundwater quality in August and November of 2022 and February 2023. Packer testing was completed in summer of 2022. Baseline reports are pending. The data will be used to evaluate the seasonal fluctuations in the groundwater table across the site and to develop a detailed hydrogeological model for the site including assessing hydraulic conductivity, predicted level of groundwater infiltration and to estimate the dewatering rates needed for eventual mine development. Additional detailed hydrogeological assessment work is planned for both the Escape deposit and the Current deposit.

20.1.4 Surface Water Quality

The baseline data collection for surface water began in fall of 2007 with two lake stations and one river station at Current Lake. The surface water baseline program was continued quarterly and expanded into the Steepledge and Ray Lake areas, until the fall of 2012 (DST 2009; 2010; 2012a; 2013). In total, six lake stations, 11 river stations, and six reference stations (three lake and three river sites) were established throughout the Current deposit project area, at which point the program was suspended.

In the winter of 2020, the surface water baseline data collection re-commenced with lake and river stations throughout the Project area, including Escape and Current lakes. In addition, the reference station at McWhinney Lake and the outlet from McWhinney Lake to the Spruce River were re-established as reference locations to support the baseline program. The surface water baseline program was expanded in 2021 to include the areas of Steepledge, Ray, and Lone Island lakes. In total, surface water monitoring stations were established in ten lakes and seven rivers from 2020 to present.

Surface water sample locations were analyzed for a suite of chemical parameters including dissolved and total metals, nutrients, and major anions and cations. Laboratory results since 2007 generally indicate that stream and lake water within the TBN Project footprint are commonly found to have aluminum and total iron concentrations above the Provincial Water Quality Objectives (PWQO). Values of pH are commonly found below the PWQO lower range of 6.5. Some total metals analyses in stream and lake samples had sporadic exceedances of the PWQO, while dissolved mercury and total phosphorous were periodically found above PWQO at various sampling locations (DST, 2009; 2010; 2012a; 2013).

20.1.5 Sediment Quality

Baseline sediment samples were collected from three lakes in the late summer of 2011 (DST, 2012a). Sediment quality baseline studies were completed in 2021 and again in 2022 and included samples collected from nine lakes and eight streams within the Project area (including one reference lake and one reference stream).

All sediment samples were analyzed for metals, grain size, total organic carbon (TOC), total phosphorous (TP), and total kjeldahl nitrogen (TKN) and compared to the Provincial Sediment Quality Guidelines (PSQG) in the Ministry of Environment's (MOE) Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario. The results of the sediment quality study in 2011 indicated that chromium, copper, and nickel concentrations were found to be above the PSQGs in at least one sample in all three lakes studied (DST, 2012a). In 2021 and 2022, the baseline samples collected for sediment analysis indicated exceedances of the applicable standards for a variety of metals including (but not limited to) chromium, manganese, nickel, copper, and TKN.

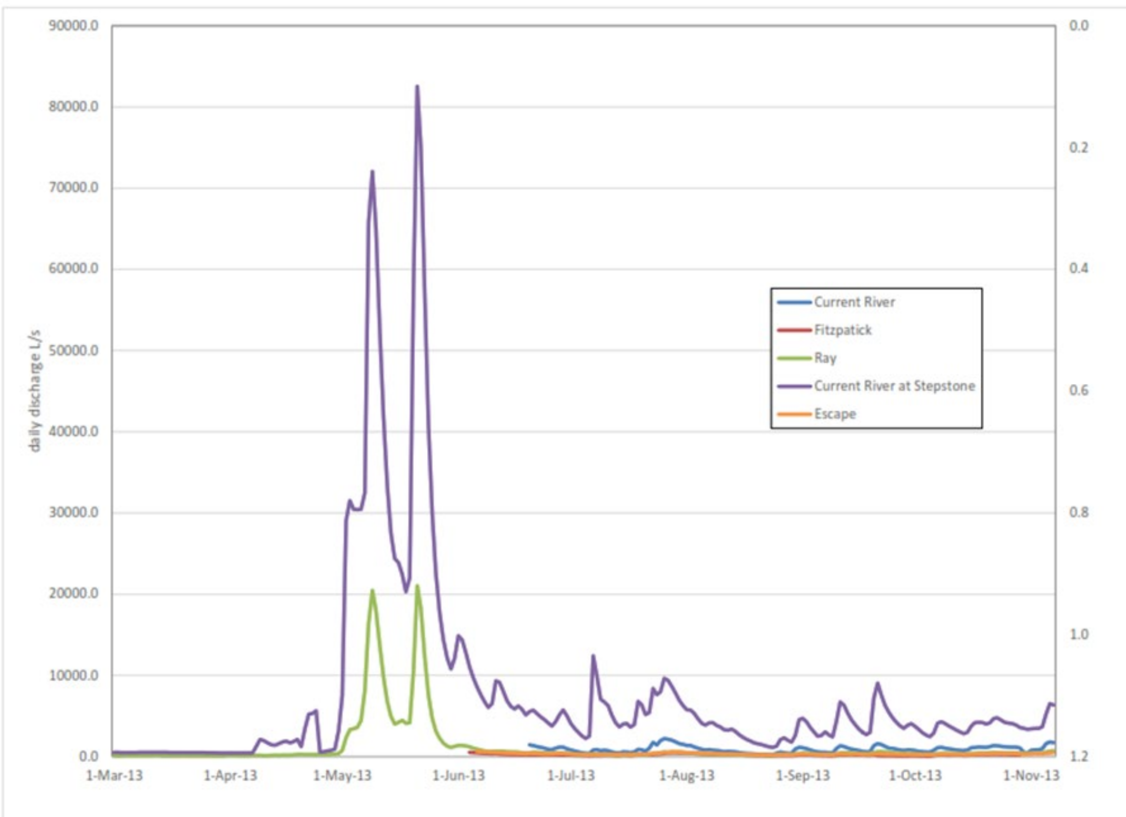
20.1.6 Noise

To assess background sound levels in the Project area, noise data was collected for two nearby receptors for 24 hours in 2011 (DST, 2012b) and three nearby receptors for two weeks in each season in 2021/2022 (Englobe, 2022). The average noise levels at the monitoring sites ranged from 32 dBA to 54 dBA based on a calculated 1-hour equivalent sound level (L_{eq}). The results of the studies document the baseline conditions and indicate that the changing of the seasons has a significant effect on the background sound level in the area. Noise levels are within expected tolerances for a natural area within the region.

20.1.7 Streamflow

Hydrological studies were undertaken from 2008 to 2013 at the Project property (DST, 2009; 2010; 2014). Stations were installed and monitored during the open water months at various locations including the Current Lake outlet, South Current River outlet, Fitzpatrick Lake outlet, Current Lake east inlet, Current Lake northeast inlet, Steepledge Lake inlet, and the Ray Lake outlet. Each year, discharge for each monitored stream was calculated. The greatest discharge was recorded during the spring freshet, as illustrated in the hydrograph for 2013 (see Figure 20-3).

In 2021, hydrometric stations were reinstated or installed at the following locations: Current Lake outlet, Escape Lake outlet, Beaver Lake inlet, Steepledge Lake inlet, Ray Lake outlet, and the Current River where it passes under Highway 527. The hydrometric stations have remained installed during the winter periods to assess flow during the winter and spring freshet. A report summarizing the results from the 2021 and 2022 hydrology study is in progress.



Source: Adapted from DST, 2014.

Figure 20-3: Study Area Hydrograph (2013)

In 2021, hydrometric stations were reinstated or installed at the following locations: Current Lake outlet, Escape Lake outlet, Beaver Lake inlet, Steepledge Lake inlet, Ray Lake outlet, and the Current River where it passes under Highway 527. The hydrometric stations have remained installed during the winter periods to assess flow during the winter and spring freshet. A report summarizing the results from the 2021 and 2022 hydrology study is in progress.

20.1.8 Vegetation and Ecological Communities

The vegetation study area for the Project covers 24,060 ha, including 23,116 ha of terrestrial habitat. Vegetation surveys were conducted in the summer of 2021 and 2022 and included surveys in 111 sampling units representing 27 ecosites throughout the Project area. The results of the vegetation field studies were compared to existing Forest Resource Inventory (FRI) data to assess if the existing FRI accurately represents ground conditions in the Project area. The study found errors between the FRI ecosite classification and ground truthing; however, the conclusions were that the ecosite classifications do accurately represent the tree species communities in the Project area. The upland treed communities dominate the vegetation throughout the Project area, with 70% of land cover dominated by jack pine – black spruce, pine – black spruce conifer, and aspen-birch hardwood stands. This is typical of the boreal forest ecoregion in which the Project is situated.

Wetland ecosites are also abundant within the Project area. A targeted wetland survey was completed following the Ontario Wetland Evaluation System (OWES; MNRF 2014) in the summer of 2021 to determine if there are any provincially significant wetlands (PSW) impacted by the Project. No PSWs were identified (NWES, 2023).

One plant species at risk (SAR) was identified in the Project area: the black ash. Further assessment work targeted for black ash is planned for any key infrastructure development areas to inform the potential impacts to this species at risk.

20.1.9 Wildlife and Wildlife Habitat

Desktop and field studies were completed for the Project in 2011 and included a breeding bird survey, nocturnal owl survey, Whip-poor-will survey, and an amphibian and reptile survey. The desktop study indicated that there is potential for Yellow Rail to be present in the Project property area, however this species was not identified during the surveys. During the bird surveys a Common Nighthawk was identified. The Common Nighthawk is designated as a species of Special Concern provincially and as Threatened federally. No provincially Threatened or Endangered species were encountered during the surveys (DST 2013).

Terrestrial wildlife studies were completed in 2021 and 2022 by NorthWinds Environmental Services with a suite of surveys completed including breeding bird, crepuscular, marsh bird, owls, waterfowl, ungulates, small mammals, bats, and amphibians and reptiles. During these surveys, special attention was paid to assessing for potential species at risk (SAR) including bat SAR and Eastern Whip-poor-will. Of the 103 bird species observed in the study area, eight species of special concern were noted, including bald eagle, common nighthawk, Canada warbler, evening grosbeak, eastern wood-pewee, olive-sided flycatcher, and rusty blackbird. There were four bat species identified throughout the study area; one of which, the little brown bat, is considered a species at risk. Twenty three mammal species were observed throughout the Project area, including moose, wolf, bear, fox, red squirrel, red fox, snowshoe hare, white-tailed deer, beaver, coyote, lynx, pine marten, and other small mammals.

20.1.10 Fish and Fish Habitat

Desktop and field studies of fish and fish habitat were completed for the Project from 2008 to 2012 (DST, 2009; 2010; 2012a) and in 2021 to 2022 (NWES, 2022; 2023). Fish communities and fish habitat were assessed in eight lakes in the Project area, including Current Lake, Escape Lake, Beaver Lake, Maple Leaf Lake, Fitzpatrick Lake, McWhinney Lake, Steepledge Lake, and McLeish Lake, as well as in several streams, including Current River, Escape Creek, Orchid Creek, and several other unnamed streams in the Project area.

All of the lakes surveyed contained fish communities that are characteristic of cool-water thermal regimes (northern pike, walleye, yellow perch, common white sucker, burbot), which are most often found in productive, shallow water. None of the area lakes are considered to be highly productive fisheries, and they see low to no use as sport fisheries. Habitat mapping completed on the lakes show shorelines that are predominantly characterized by boulder and exposed bedrock with some areas of soft bottom, although Steepledge Lake exhibited some sandy beaches while Beaver Lake was entirely vegetated.

A total of ten different fish species including cyprinids and large-bodied fish were captured during the stream assessments. The streams were assessed through a combination of minnow trapping and electrofishing. Stream morphology is that of typical stream habitats in the boreal forest ecoregion. There are deeper pools noted, up to 2 m deep, with other shallow, faster moving locations characterized with a cobble or bedrock bottom. Beaver ponds are located within many of the streams on the site.

Spawning habitat for walleye and northern pike was not confirmed; however, potential spawning areas were observed and these species are thought to be using lake spawning areas within this study area.

20.1.11 Benthic Invertebrates

In 2011, baseline benthic community samples were collected from six lakes and nine streams located within the Project area (DST, 2011). The results of the benthic invertebrate study indicated that taxon richness was significantly different between Current, Steepledge, and Lone Island lakes, when compared to Fitzpatrick Lake. The Fitzpatrick Lake invertebrate community showed a more diverse number of taxa than Current, Steepledge, and Lone Island lakes (DST, 2011).

Additional baseline benthic invertebrate studies were completed in the fall of 2021 and supplemented in 2022 to expand upon the data collected in 2011. Benthic invertebrate samples were collected from eight lakes and eight streams in the Project area (including McWhinney Lake and outlet as reference locations in 2021 and McLeish Lake in 2022). The stream site benthos analyses indicated high taxonomic richness with a Shannon Diversity Index (SDI) value usually greater than 1.5. Lake sites benthic taxonomic richness was low with SDI values typically below 1.5.

20.2 Project Permitting

Clean Air currently has no permits related to environment.

As described in Section 4.5. Clean Air holds a number of early exploration permits within the Project area. The most recent permits (PR-22-000278 and PR-22-000285) cover line cutting, geophysics, and exploration drilling in the area covering the Current deposit. These permits are valid until August 31, 2023.

A new early exploration permit covering the two resource areas (Current and Escape) was submitted to the Ministry of Mines on May 9, 2023 (PR-23-000153). As part of the Company's Indigenous Consultation, Clean Air has submitted pre-consultation documentation to each of the six Indigenous communities for a period of 21 days prior to formal submission to the Ministry. This permit will cover diamond drilling and associated BHEM surveying. The status of the permit application is pending.

20.3 Social or Community Requirements

Clean Air has developed productive relationships with the First Nation communities in the Project area. Clean Air has signed a Memorandum of Agreement (MOA) followed by an Exploration Agreement (EA) with Fort William First Nation, Red Rock Indian Band, and Biinjitiwaabik Zaaging Anishinaabek (the "Participating First Nations"). These agreements provide a framework for a mutually beneficial relationship for the Project whereby the Company and the Participating First Nations identify:

- Potential impacts of the Project on the Participating First Nations interests and rights;
- The appropriate measures to mitigate and avoid any adverse effects; and
- Opportunities to enhance positive impacts and benefits.

The agreements also set out the initial economic accommodation that Clean Air will provide to the Participating First Nations in the form of a warrant instrument and pending the completion of further relationship agreements. The future agreements are intended to consist of a Long Term Relationship agreement, at the appropriate time.

Clean Air Metals is in negotiations for a Community Consultation Agreement with the non-proximate Indigenous community of Kiashke Zaaging Anishinaabek (KZA) – Gull Bay First Nation, which is part of the Robinson Superior Treaty area and claims treaty rights through the Project area.

Memorandum of Understanding discussions between Clean Air and the Métis Nation of Ontario, Region 2, and the Red Sky Métis Independent Nation are underway.

It is anticipated that this Project will create employment and business opportunities as well as other economic benefits for the Participating First Nations, other Indigenous Nations within the Robinson Superior Treaty of 1850, the Metis Nation of Ontario, Region 2, the Red Sky Metis Independent Nation, the city of Thunder Bay and the region. Future public consultations and information sessions will be planned at appropriate times.

20.4 Mine Closure Requirements

There are no closure plans required for an early exploration project. Should the Project proceed in the future to a mine production decision, a closure plan and associated financial assurance will be prepared and submitted to the appropriate regulatory authorities as required by Ontario Regulation 240/00.

21.0 CAPITAL AND OPERATING COSTS

This section is not applicable.

22.0 ECONOMIC ANALYSIS

This section is not applicable.

23.0 ADJACENT PROPERTIES

This section is not applicable.

24.0 OTHER RELEVANT DATA AND INFORMATION

There is no additional information or explanation necessary to make the Technical Report understandable and not misleading.

25.0 INTERPRETATION AND CONCLUSIONS

25.1 Geology and Mineral Resources

- There is good potential to increase the Mineral Resource base at the Project and additional exploration and technical studies are warranted.
- There is a good understanding of the geology and the nature of the mineralization at both the Current and Escape deposits. The deposits are both orthomagmatic sulphide PGE-Ni-Cu deposits with individual morphologies and mineralization styles. Both Current and Escape are envisioned to be mined using underground techniques.
- The drill hole database is suitable to support Mineral Resource estimation and further exploration work.
- Mineral Resources for both deposits have been updated from the previous Mineral Resource estimates completed by Nordmin in 2021. The current estimate includes 50 additional infill drill holes completed in 2022. Changes to the Mineral Resources can be summarized as follows:
    - At Current, the addition of 11 drill holes and re-estimation has resulted in a 21% and 69% decrease of Indicated and Inferred Mineral Resource tonnages, respectively. The main changes can be attributed to the Mineral Resource estimation methodology.
    - At Escape, the addition of 39 drill holes and re-estimation has resulted in a 40% increase and 77% decrease of Indicated and Inferred Mineral Resource tonnages, respectively. The main changes can be attributed to additional drilling and the subsequent conversion of Inferred to Indicated Mineral Resources.
- Indicated Mineral Resources at the Property are estimated to total 14.033 million tonnes (Mt) grading 2.7 g/t 2PGE (Pt + Pd), 0.41% Cu, and 0.25% Ni and containing 589.7 koz Pt, 619.7 koz Pd, 57.5 kt Cu and 34.3 kt of Ni.
- Inferred Mineral Resources are estimated to total 2.272 Mt grading 1.6 g/t 2PGE, 0.31% Cu, and 0.19% Ni and containing 59.4 koz Pt, 58.0 koz Pd, 7.1 kt Cu, and 4.3 kt Ni.
- The current Mineral Resource estimate for TBN completed by SLR follows a conventional approach, is inline with CIM (2019) best practices, and has been sufficiently validated. SLR is of the opinion that it is suitable to support ongoing studies for advancement of the Project.

25.2 Mineral Processing

Based on the metallurgical testwork completed on composite samples from the Current and Escape deposits to date, the following conclusions are drawn:

- Chemical and mineralogical characterization of composite samples indicate that the copper is present as chalcopyrite, whereas nickel is present as nickel sulphide, but also contained in silicates. Major gangue minerals include serpentine, chlorite, and amphibole.
- Testwork conducted on the master composite that was produced from coarse assay reject material in the Blue Coast Phase 1 testwork indicated that a sequential flowsheet and a moderate grind size P_{80} of 65 µm is suitable to achieve separate copper rougher and nickel rougher concentrates.

- A copper concentrate achieving high recovery and good grade can be achieved with a conventional chalcopyrite flowsheet including a moderate regrind and two stages of cleaning. The copper concentrate also yields partial recovery of platinum, palladium, gold, and silver.
- Flotation testwork on the Var1 composite revealed that a high grade nickel concentrate, >10% Ni, can be produced using a fine regrind, a selective nickel flotation collector, and moderate dosages of DETA to depress iron sulphides. Overall nickel recoveries to a selective concentrate, however, are poor due to oxide nickel contained in silicates as well as sulphide nickel closely associated with iron sulphides.
- PGEs in the deposit were found to be closely associated with the sulphide minerals. A portion of the contained palladium is associated with chalcopyrite and was found to upgrade to the copper concentrate. Both platinum and palladium are associated with nickel and iron sulphides (pyrite, pyrrhotite). High PGE recoveries can be achieved with either a Cu/Bulk or Bulk only flotation flowsheet.
- CMC has been demonstrated to be effective at controlling the recovery of floatable gangue to the final concentrate.
- The use of aged, assay reject material for flotation testwork was found to negatively affect test performance including flotation selectivity and final concentrate grade.

25.3 Environment

- No environmental or social issues have been identified to date that would limit the extraction of the Mineral Resource.
- Environmental baseline studies are underway and will continue as the project progresses.
- Applications for permits required to continue exploration activities past August 2023 have been submitted to regulators.
- Community engagement is continuing and the appropriate agreements for exploration activities with local First Nations communities are in place.

26.0 RECOMMENDATIONS

26.1 Geology and Mineral Resources

SLR has reviewed and agrees with Clean Air's proposed exploration budget. Phase I of the recommended work program will include internal technical studies to evaluate Project options and prioritize further work, permitting and environmental studies, community and social engagement, and drill testing of the down dip extension of the Escape deposit (Table 26-1). While both Current and Escape deposits are prospective at depth and down plunge, the shallower target for Mineral Resource extension at Escape potentially allows for a higher return on investment in the near term. A Phase II program, contingent upon the results of Phase I, would include additional extension and infill drilling at both the Escape and Current Deposits, an update to the Mineral Resource estimate, and a Preliminary Economic Assessment (PEA).

Table 26-1: Proposed Budget – Phase I
Clean Air Metals Inc. – Thunder Bay North Project

Item	Cost (C$ 000)
Technical Studies	400
Permitting and Environmental Studies	400
Community Engagement and Studies	15
Drilling – Escape (6,000 m)	1,620
Subtotal	**2,435**
Contingency	500
Total	**2,935**

Notes:

1. Drilling costs are estimated to be $270/m including salaries and associated sample preparation and analysis fees.

26.2 Mineral Processing

1. Complete additional metallurgical test work with the goal of establishing the optimal process flowsheet that balances process plant recoveries with smelter off-take terms. The additional test work should be completed on representative zone and domain composites for the Current and Escape deposits, prepared using core material, and should include the following:
   - Mineralogical characterization including bulk modals, association, liberation, and PGE mineralization.
   - Optimization of the flotation flowsheet, including primary grind size, collector addition, and depressant addition.
   - Locked cycle testing.

- Additional hardness characterization including semi-autogenous grinding (SAG) mill comminution (SMC), Bond ball mill work index (BBWi), and Bond rod mill work index (BRWi) characterization. SMC and BBWi test work should be completed on up to eight variability composites.

2. Complete thickening and filtration testing on representative concentrate samples.
3. On representative tailings samples, complete dewatering test work and environmental characterization, including acid base accounting (ABA) and toxicity characteristic leaching procedure (TCLP) testing.

26.3 Environment

1. Continue baseline data collection and analysis activities as project planning evolves to support future environmental permits and approvals.
4. Develop a list of required environmental permits and approvals and timelines to obtain these permits.

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28.0 DATE AND SIGNATURE PAGE

This report titled “Technical Report on the Thunder Bay North Project, Ontario, Canada” with an effective date of May 1, 2023 was prepared and signed by the following authors:

(Signed & Sealed) ***Tudor Ciuculescu***

Dated at Toronto, ON
June 19, 2023

Tudorel Ciuculescu, M.Sc., P.Geo.
Consultant Geologist, SLR

(Signed & Sealed) ***Sean Horan***

Dated at Toronto, ON
June 19, 2023

Sean Horan, P.Geo.
Technical Manager Geology, SLR

(Signed & Sealed) ***Lyn Jones***

Dated at Toronto, ON
June 19, 2023

Lyn Jones, P.Eng.
Manager, Process Engineering, Blue Coast

29.0 CERTIFICATE OF QUALIFIED PERSON

29.1 Tudorel Ciuculescu

I, Tudorel Ciuculescu, M.Sc., P.Geo., as an author of this report entitled “Technical Report on the Thunder Bay North Project, Ontario, Canada”, with an effective date of May 1, 2023, prepared for Clean Air Metals Inc., do hereby certify that:

1. I am Consultant Geologist with SLR Consulting (Canada) Ltd, of Suite 501, 55 University Ave., Toronto, ON M5J 2H7.
2. I am a graduate of University of Bucharest with a B.Sc. degree in Geology in 2000 and University of Toronto with a M.Sc. degree in Geology in 2003.
3. I am registered as a Professional Geologist in the Province of Ontario (Reg. #1882). I have worked as a geologist for a total of 20 years since my graduation. My relevant experience for the purpose of the Technical Report is:
   - Geological consulting to the mining and exploration industry for the last 17 years where my primary focus was the preparation or review of Mineral Resource estimates for the purposes of reporting and public disclosure or for due diligence related assignments.
   - Mineral Resource estimates on a variety of commodities including gold, copper, nickel, silver, PGE, REE, and uranium for projects in Canada, the USA, Mexico, South America, Africa, and Europe.
   - Geologist responsible for underground exploration, modelling and resource estimation at a copper gold mine in Chile.
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 TBN Project on October 13 and 14, 2022.
6. I am responsible for Sections 1.1, 1.1.1.1, 1.1.1.3, 1.1.2.1, 1.1.2.3, 1.2, 2 – 12, 14, 20, 25.1, 25.3, 26.1, and 26.3 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 no prior involvement with the property that is the subject of the Technical Report.
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 2 – 12, 14, and 20, in 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 19th day of June 2023,

(Signed & Sealed) *Tudor Ciuculescu*

Tudorel Ciuculescu, M.Sc., P.Geo.

29.2 Sean Horan

I, Sean Horan, P.Geo., as an author of this report entitled "Technical Report on the Thunder Bay North Project, Ontario, Canada", with an effective date of May 1, 2023, prepared for Clean Air Metals Inc., do hereby certify that:

1. I am Technical Manager – Geology, and Principal Geologist and Geostatistician with SLR Consulting (Canada) Ltd, of Suite 501, 55 University Ave., Toronto, ON M5J 2H7.
2. I am a graduate of Rhodes University, South Africa, in 2003 with a B.Sc. (Hons.) degree in Environmental Studies, and in 2004 with a B.Sc. (Hons.) degree in Geology. I also have a post-graduate certificate in Geostatistics from the University of Alberta, Canada.
3. I am registered as a Professional Geologist in the Province of Ontario (Reg. #2090). I have worked as a geologist for a total of 17 years since my graduation. My relevant experience for the purpose of the Technical Report is:
   - Geological consulting to the mining and exploration industry in Canada and worldwide, including more than 150 projects involving Mineral Resource estimates for the purposes of auditing, reporting, disclosure, due diligence, and geostatistical studies.
   - Technical contributions to numerous base metal and precious metals mines and exploration projects around the globe, including orthomagmatic deposits in the Sudbury basin, Thompson, Greenland, Finland, and northwestern Ontario.
   - Geologist responsible for all geological aspects of underground mine development, underground exploration, resource definition drilling planning, and resource estimation at a gold mine in Ontario, Canada.
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 have not visited the TBN Project.
6. I am responsible for Sections 1.1, 1.1.1.1, 1.1.1.3, 1.1.2.1, 1.1.2.3, 1.2, 2 – 12, 14, 20, 25.1, 25.3, 26.1, and 26.3 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 no prior involvement with the property that is the subject of the Technical Report.
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, Sections 2 – 12, 14, and 20, in 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 19th day of June 2023,

(Signed & Sealed) ***Sean Horan***

Sean Horan, P.Geo.

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WWW.BLUECOASTRESEARCH.CA
2-1020 Herring Gull Way, Parksville
British Columbia, Canada, V9P 1R2
TEL: +1 250.586.0600
FAX: +1 250.586.0445

29.3 Lyn Jones

I, Lyn Jones, P. Eng., of Peterborough, Ontario, as an author of this report "Technical Report on the Thunder Bay North Project, Ontario, Canada", with an effective date of May 1, 2023, prepared for Clean Air Metals Inc., do hereby certify that:

1. I am the Manager, Process Engineering with Blue Coast Research with a business address at 2-1020 Herring Gull Way, Parksville, British Columbia.
2. I graduated from the University of British Columbia with a Bachelor's of Applied Science in 1996, and a Master's of Applied Science in 1998.
3. I am registered as a Professional Engineer in the province of Ontario (PEO licence #100067095).
4. I have practiced my profession continuously for 24 years. I have been directly involved with base and precious metals projects in the mining sector with experience including metallurgical testwork, flowsheet development, process engineering, and plant commissioning. I am a "Qualified Person" for the purposes of Canadian National Instrument 43-101 ("NI 43-101" or the "Instrument").
5. I have not visited the Thunder Bay North Project, located 50 km northeast of the city of Thunder Bay, within the Thunder Bay Mining Division, Ontario, Canada.
6. I am responsible for Sections 1.1.1.2, 1.1.2.2, 13, 25.2, and 26.2 of this Technical Report.
7. I am independent of Clean Air Metals Inc., as defined by Section 1.5 of the Instrument.
8. I have read NI 43–101 and the sections of the technical report for which I am responsible have been prepared in compliance with that Instrument.
9. As of the date of this certificate, to the best of my knowledge, information, and belief, Sections 1.1.1.2, 1.1.2.2, 13, 25.2, and 26.2 of the Technical Report, for which I am responsible, contain all scientific and technical information relating to the Thunder Bay North Project that is required to be disclosed to make the Technical Report not misleading.
10. I have prior involvement with the Thunder Bay North Project as a Qualified Person for the January 20, 2021 NI 43-101 Technical Report and Mineral Resource Estimate for the Thunder Bay North Project, Thunder Bay, Ontario.

Signed and dated this 19th day of June 2023, at Peterborough, Ontario.

(Signed & Sealed) ***Lyn Jones***

Lyn Jones, P. Eng.
Manager, Process Engineering
Blue Coast Research

30.0 APPENDIX 1

30.1 Land Tenure

Table 30-1: Active Claim List
Clean Air Metals Inc. – Thunder Bay North Project

Tenure ID	Legacy Claim ID	Tenure Type	Size (ha)	Expiry Date
280368	3018019	Single Cell Mining Claim	21	7-Oct-23
280973	4240097, 4245129	Boundary Cell Mining Claim	21	7-Oct-23
280974	4240097, 4242142	Boundary Cell Mining Claim	21	7-Oct-23
286362	4245129	Boundary Cell Mining Claim	21	7-Oct-23
291102	4241720, 4241727	Boundary Cell Mining Claim	21	7-Oct-23
298270	4240095, 4240097	Boundary Cell Mining Claim	21	7-Oct-23
327471	3018014, 3018019	Boundary Cell Mining Claim	21	7-Oct-23
330854	4241720	Boundary Cell Mining Claim	21	7-Oct-23
538167		Multi-cell Mining Claim	148	7-Oct-23
538168		Multi-cell Mining Claim	148	7-Oct-23
538169		Multi-cell Mining Claim	191	7-Oct-23
538170		Multi-cell Mining Claim	191	7-Oct-23
538171		Multi-cell Mining Claim	191	7-Oct-23
538172		Multi-cell Mining Claim	191	7-Oct-23
538173		Multi-cell Mining Claim	191	7-Oct-23
538174		Multi-cell Mining Claim	191	7-Oct-23
538175		Multi-cell Mining Claim	191	7-Oct-23
538176		Multi-cell Mining Claim	254	7-Oct-23
538177		Multi-cell Mining Claim	254	7-Oct-23
538178		Multi-cell Mining Claim	509	7-Oct-23
538179		Multi-cell Mining Claim	509	7-Oct-23
538202		Multi-cell Mining Claim	509	7-Oct-23
538234		Multi-cell Mining Claim	509	7-Oct-23
538235		Multi-cell Mining Claim	254	7-Oct-23
538236		Multi-cell Mining Claim	191	7-Oct-23
538237		Multi-cell Mining Claim	191	7-Oct-23
538238		Multi-cell Mining Claim	191	7-Oct-23
538277		Multi-cell Mining Claim	170	19-Oct-23
121035	4225973	Boundary Cell Mining Claim	21	23-Oct-23
123102	3005105, 4211637	Boundary Cell Mining Claim	21	23-Oct-23
168268	3005105	Boundary Cell Mining Claim	21	23-Oct-23

194299	3005105, 4211638	Boundary Cell Mining Claim	21	23-Oct-23
225627	4225973	Boundary Cell Mining Claim	21	23-Oct-23
225654	4225972, 4225973	Boundary Cell Mining Claim	21	23-Oct-23
234935	4211637, 4225972	Boundary Cell Mining Claim	21	23-Oct-23
264164	3005105	Boundary Cell Mining Claim	21	23-Oct-23
271635	3005105	Boundary Cell Mining Claim	21	23-Oct-23
538274		Multi-cell Mining Claim	212	23-Oct-23
538283		Multi-cell Mining Claim	149	23-Oct-23
538284		Multi-cell Mining Claim	85	23-Oct-23
538285		Multi-cell Mining Claim	255	23-Oct-23
116301	4208978	Single Cell Mining Claim	21	26-Oct-23
116302	4208978	Single Cell Mining Claim	21	26-Oct-23
117705	4208979	Single Cell Mining Claim	21	26-Oct-23
118027	4208977	Single Cell Mining Claim	21	26-Oct-23
118029	4208977	Single Cell Mining Claim	21	26-Oct-23
121768	4208981, 4222633	Single Cell Mining Claim	21	26-Oct-23
181131	4208979, 4208980	Single Cell Mining Claim	21	26-Oct-23
197514	4208978	Single Cell Mining Claim	21	26-Oct-23
198238	4225974	Boundary Cell Mining Claim	21	26-Oct-23
198239	4225974	Boundary Cell Mining Claim	21	26-Oct-23
205671	4225974	Boundary Cell Mining Claim	21	26-Oct-23
215778	4208977, 4208978	Single Cell Mining Claim	21	26-Oct-23
235021	4208981	Single Cell Mining Claim	21	26-Oct-23
235042	4208980	Single Cell Mining Claim	21	26-Oct-23
235578	4225974, 4240541	Boundary Cell Mining Claim	21	26-Oct-23
271682	4208980, 4208981	Single Cell Mining Claim	21	26-Oct-23
272239	4208979	Single Cell Mining Claim	21	26-Oct-23
284317	4225974	Boundary Cell Mining Claim	21	26-Oct-23
284318	4225974, 4225975	Boundary Cell Mining Claim	21	26-Oct-23
290396	4208978, 4208979	Single Cell Mining Claim	21	26-Oct-23
330893	4225974	Boundary Cell Mining Claim	21	26-Oct-23
343249	4225974	Boundary Cell Mining Claim	21	26-Oct-23
538185		Multi-cell Mining Claim	382	26-Oct-23
538192		Multi-cell Mining Claim	148	26-Oct-23

538245		Multi-cell Mining Claim	318	26-Oct-23
538246		Multi-cell Mining Claim	212	26-Oct-23
538258		Multi-cell Mining Claim	149	26-Oct-23
538260		Multi-cell Mining Claim	170	26-Oct-23
538264		Multi-cell Mining Claim	149	26-Oct-23
538265		Multi-cell Mining Claim	127	26-Oct-23
101134	4208971	Boundary Cell Mining Claim	21	27-Oct-23
116425	4208984	Boundary Cell Mining Claim	21	27-Oct-23
117612	4208971	Boundary Cell Mining Claim	21	27-Oct-23
117647	4208965, 4208966	Boundary Cell Mining Claim	21	27-Oct-23
117728	4208967	Boundary Cell Mining Claim	21	27-Oct-23
123782	4208965	Boundary Cell Mining Claim	21	27-Oct-23
161530	1248239, 4205378	Boundary Cell Mining Claim	21	27-Oct-23
167524	4205378, 4208981, 4222631	Boundary Cell Mining Claim	21	27-Oct-23
168298	4208966	Boundary Cell Mining Claim	21	27-Oct-23
181050	4208966, 4208984	Boundary Cell Mining Claim	21	27-Oct-23
194216	1248241, 1248244, 4208984	Boundary Cell Mining Claim	21	27-Oct-23
215006	1248244, 4208971	Boundary Cell Mining Claim	21	27-Oct-23
216430	4208984	Boundary Cell Mining Claim	21	27-Oct-23
235617	4208968	Boundary Cell Mining Claim	21	27-Oct-23
235620	4208967	Boundary Cell Mining Claim	21	27-Oct-23
263636	4208984	Boundary Cell Mining Claim	21	27-Oct-23
264169	4208971, 842186	Boundary Cell Mining Claim	21	27-Oct-23
264289	4208967, 4208968	Boundary Cell Mining Claim	21	27-Oct-23
271614	4208984	Boundary Cell Mining Claim	21	27-Oct-23
272279	4208965	Boundary Cell Mining Claim	21	27-Oct-23
284351	4208967	Boundary Cell Mining Claim	21	27-Oct-23
284372	4208965	Boundary Cell Mining Claim	21	27-Oct-23
291094	4208966	Boundary Cell Mining Claim	21	27-Oct-23
291686	4208967	Boundary Cell Mining Claim	21	27-Oct-23
330825	4208971	Boundary Cell Mining Claim	21	27-Oct-23
343299	4208967	Boundary Cell Mining Claim	21	27-Oct-23
343300	4208965, 4208967	Boundary Cell Mining Claim	21	27-Oct-23
538182		Multi-cell Mining Claim	191	27-Oct-23

538183		Multi-cell Mining Claim	488	27-Oct-23
538184		Multi-cell Mining Claim	170	27-Oct-23
538193		Multi-cell Mining Claim	509	27-Oct-23
538194		Multi-cell Mining Claim	127	27-Oct-23
538195		Multi-cell Mining Claim	127	27-Oct-23
538196		Multi-cell Mining Claim	127	27-Oct-23
538197		Multi-cell Mining Claim	85	27-Oct-23
538198		Multi-cell Mining Claim	85	27-Oct-23
538199		Multi-cell Mining Claim	85	27-Oct-23
538243		Multi-cell Mining Claim	127	27-Oct-23
232909	4225216, 4225973, 4225975	Boundary Cell Mining Claim	21	13-Nov-23
538268		Multi-cell Mining Claim	106	13-Nov-23
538269		Multi-cell Mining Claim	127	13-Nov-23
538286		Multi-cell Mining Claim	127	13-Nov-23
538287		Multi-cell Mining Claim	127	13-Nov-23
538397		Multi-cell Mining Claim	340	26-Nov-23
166320	1248244	Boundary Cell Mining Claim	21	14-Dec-23
262217	1248244	Boundary Cell Mining Claim	21	14-Dec-23
264218	1248239	Boundary Cell Mining Claim	21	14-Dec-23
269667	1248244	Boundary Cell Mining Claim	21	14-Dec-23
538244		Multi-cell Mining Claim	446	14-Dec-23
538261		Multi-cell Mining Claim	191	14-Dec-23
538263		Multi-cell Mining Claim	106	14-Dec-23
101693	4214076	Boundary Cell Mining Claim	21	31-Jan-24
116182	4214076	Boundary Cell Mining Claim	21	31-Jan-24
116183	4214076	Boundary Cell Mining Claim	21	31-Jan-24
122345	4214076	Boundary Cell Mining Claim	21	31-Jan-24
125800	4214075	Boundary Cell Mining Claim	21	31-Jan-24
160960	4214076	Boundary Cell Mining Claim	21	31-Jan-24
189173	4214075	Boundary Cell Mining Claim	21	31-Jan-24
196219	4214076	Boundary Cell Mining Claim	21	31-Jan-24
227054	4214075	Boundary Cell Mining Claim	21	31-Jan-24
233669	4214075, 4214076	Boundary Cell Mining Claim	21	31-Jan-24
266305	4214075	Boundary Cell Mining Claim	21	31-Jan-24

293680	4214075	Boundary Cell Mining Claim	21	31-Jan-24
345300	4214075	Boundary Cell Mining Claim	21	31-Jan-24
538255		Multi-cell Mining Claim	212	31-Jan-24
538280		Multi-cell Mining Claim	382	31-Jan-24
538365		Multi-cell Mining Claim	255	31-Jan-24
538366		Multi-cell Mining Claim	361	31-Jan-24
538398		Multi-cell Mining Claim	255	7-Feb-24
538399		Multi-cell Mining Claim	255	7-Feb-24
116407	4211637	Boundary Cell Mining Claim	21	22-Feb-24
216406	4211637	Boundary Cell Mining Claim	21	22-Feb-24
538248		Multi-cell Mining Claim	446	5-May-24
538270		Multi-cell Mining Claim	446	5-May-24
538181		Multi-cell Mining Claim	339	12-May-24
538200		Multi-cell Mining Claim	339	12-May-24
538201		Multi-cell Mining Claim	509	12-May-24
538239		Multi-cell Mining Claim	191	12-May-24
538262		Multi-cell Mining Claim	127	30-Jul-24
117648	4277682, 4277683	Boundary Cell Mining Claim	21	20-Feb-25
117726	4277684, 4277685	Boundary Cell Mining Claim	21	20-Feb-25
118051	4277683	Boundary Cell Mining Claim	21	20-Feb-25
121742	4277681	Single Cell Mining Claim	21	20-Feb-25
121743	4277681	Boundary Cell Mining Claim	21	20-Feb-25
123785	4277684	Boundary Cell Mining Claim	21	20-Feb-25
160876	4277681, 4277682	Boundary Cell Mining Claim	21	20-Feb-25
166873	4277681	Single Cell Mining Claim	21	20-Feb-25
168872	4277685	Boundary Cell Mining Claim	21	20-Feb-25
168898	4277684	Boundary Cell Mining Claim	21	20-Feb-25
198206	4277682	Boundary Cell Mining Claim	21	20-Feb-25
207686	4277683	Boundary Cell Mining Claim	21	20-Feb-25
215058	4277681	Boundary Cell Mining Claim	21	20-Feb-25
217068	4277685	Boundary Cell Mining Claim	21	20-Feb-25
270235	4277681	Single Cell Mining Claim	21	20-Feb-25
272284	4277684	Boundary Cell Mining Claim	21	20-Feb-25
291098	4277682	Boundary Cell Mining Claim	21	20-Feb-25

320906	4277683, 4277684	Boundary Cell Mining Claim	21	20-Feb-25
330939	4277685	Boundary Cell Mining Claim	21	20-Feb-25
341268	4277681	Boundary Cell Mining Claim	21	20-Feb-25
538449		Multi-cell Mining Claim	530	20-Feb-25
538450		Multi-cell Mining Claim	445	20-Feb-25
538451		Multi-cell Mining Claim	445	20-Feb-25
538273		Multi-cell Mining Claim	446	12-Mar-25
101666	4240536, 4240541	Boundary Cell Mining Claim	21	3-Apr-25
125096	4240541	Boundary Cell Mining Claim	21	3-Apr-25
196201	4240536, 4240537	Boundary Cell Mining Claim	21	3-Apr-25
196931	4240537	Boundary Cell Mining Claim	21	3-Apr-25
291663	4221370, 4240537	Boundary Cell Mining Claim	21	3-Apr-25
292364	4240537	Boundary Cell Mining Claim	21	3-Apr-25
538249		Multi-cell Mining Claim	127	3-Apr-25
538250		Multi-cell Mining Claim	127	3-Apr-25
538251		Multi-cell Mining Claim	64	3-Apr-25
538266		Multi-cell Mining Claim	127	3-Apr-25
232907	4221362	Single Cell Mining Claim	21	5-May-25
291661	4221370	Boundary Cell Mining Claim	21	5-May-25
538240		Multi-cell Mining Claim	445	5-May-25
538241		Multi-cell Mining Claim	445	5-May-25
538272		Multi-cell Mining Claim	191	5-May-25
538289		Multi-cell Mining Claim	149	5-May-25
538290		Multi-cell Mining Claim	85	5-May-25
538309		Multi-cell Mining Claim	191	5-May-25
538310		Multi-cell Mining Claim	191	5-May-25
178969	1246796, 4210157, 4222636	Boundary Cell Mining Claim	21	10-May-25
298876	4210157	Boundary Cell Mining Claim	21	10-May-25
538276		Multi-cell Mining Claim	106	10-May-25
181051	4242141, 4242142	Boundary Cell Mining Claim	21	12-May-25
181070	4221370, 4242141	Boundary Cell Mining Claim	21	12-May-25
205601	4242141	Boundary Cell Mining Claim	21	12-May-25
205703	4242142	Boundary Cell Mining Claim	21	12-May-25
234975	4242141	Boundary Cell Mining Claim	21	12-May-25

283738	4242141	Boundary Cell Mining Claim	21	12-May-25
538180		Multi-cell Mining Claim	509	12-May-25
101432	4221362, 4242801	Single Cell Mining Claim	21	22-May-25
151708	4242801	Boundary Cell Mining Claim	21	22-May-25
152410	4242812	Boundary Cell Mining Claim	21	22-May-25
181116	4242801	Single Cell Mining Claim	21	22-May-25
205643	4242801	Boundary Cell Mining Claim	21	22-May-25
214856	4242809	Boundary Cell Mining Claim	21	22-May-25
262831	4242808, 4242809, 4242811	Boundary Cell Mining Claim	21	22-May-25
262834	4242809	Boundary Cell Mining Claim	21	22-May-25
264936	4242812	Boundary Cell Mining Claim	21	22-May-25
270278	4242811	Boundary Cell Mining Claim	21	22-May-25
270280	4242809	Boundary Cell Mining Claim	21	22-May-25
284283	4242801	Boundary Cell Mining Claim	21	22-May-25
329476	4242811	Boundary Cell Mining Claim	21	22-May-25
538324		Multi-cell Mining Claim	319	22-May-25
538361		Multi-cell Mining Claim	170	22-May-25
538362		Multi-cell Mining Claim	170	22-May-25
538363		Multi-cell Mining Claim	212	22-May-25
328881	4242775	Single Cell Mining Claim	21	23-May-25
538254		Multi-cell Mining Claim	170	23-May-25
538339		Multi-cell Mining Claim	425	28-May-25
538357		Multi-cell Mining Claim	149	28-May-25
538393		Multi-cell Mining Claim	191	28-May-25
538394		Multi-cell Mining Claim	319	28-May-25
538395		Multi-cell Mining Claim	212	28-May-25
538396		Multi-cell Mining Claim	255	28-May-25
160893	4222633	Boundary Cell Mining Claim	21	5-Jul-25
161570	4222634	Boundary Cell Mining Claim	21	5-Jul-25
167572	4222634	Boundary Cell Mining Claim	21	5-Jul-25
181023	4222631	Boundary Cell Mining Claim	21	5-Jul-25
195625	4222633	Boundary Cell Mining Claim	21	5-Jul-25
195640	4222633	Boundary Cell Mining Claim	21	5-Jul-25
204958	4222634, 4222635	Boundary Cell Mining Claim	21	5-Jul-25

205648	4222635, 4222636	Boundary Cell Mining Claim	21	5-Jul-25
206250	4216374	Single Cell Mining Claim	21	5-Jul-25
217117	4216374	Boundary Cell Mining Claim	21	5-Jul-25
232906	4211163, 4216374	Boundary Cell Mining Claim	21	5-Jul-25
233597	4222633	Single Cell Mining Claim	21	5-Jul-25
235028	4222636	Boundary Cell Mining Claim	21	5-Jul-25
264846	4222632	Boundary Cell Mining Claim	21	5-Jul-25
264865	4222635	Boundary Cell Mining Claim	21	5-Jul-25
269557	4211163, 4222634	Boundary Cell Mining Claim	21	5-Jul-25
271564	4222631	Boundary Cell Mining Claim	21	5-Jul-25
271565	4222631	Boundary Cell Mining Claim	21	5-Jul-25
291104	4222636	Boundary Cell Mining Claim	21	5-Jul-25
328882	4216374, 4242775	Single Cell Mining Claim	21	5-Jul-25
329443	4222633	Boundary Cell Mining Claim	21	5-Jul-25
330252	4222631	Boundary Cell Mining Claim	21	5-Jul-25
341269	4222633	Single Cell Mining Claim	21	5-Jul-25
538256		Multi-cell Mining Claim	85	5-Jul-25
538279		Multi-cell Mining Claim	255	5-Jul-25
538281		Multi-cell Mining Claim	255	5-Jul-25
538282		Multi-cell Mining Claim	191	5-Jul-25
538356		Multi-cell Mining Claim	425	5-Jul-25
117800	842186	Boundary Cell Mining Claim	21	30-Jul-25
152337	842186	Boundary Cell Mining Claim	21	30-Jul-25
235673	842186	Boundary Cell Mining Claim	21	30-Jul-25
264867	842186	Boundary Cell Mining Claim	21	30-Jul-25
320950	842186	Boundary Cell Mining Claim	21	30-Jul-25
538267		Multi-cell Mining Claim	191	30-Jul-25
101168	4210862	Boundary Cell Mining Claim	21	18-Aug-25
117636	4210862	Boundary Cell Mining Claim	21	18-Aug-25
117637	4210862	Single Cell Mining Claim	21	18-Aug-25
123686	4210862	Boundary Cell Mining Claim	21	18-Aug-25
151693	4210862	Boundary Cell Mining Claim	21	18-Aug-25
151694	4210862	Boundary Cell Mining Claim	21	18-Aug-25
151695	4210862	Boundary Cell Mining Claim	21	18-Aug-25

198196	4210862	Boundary Cell Mining Claim	21	18-Aug-25
205637	4210862	Boundary Cell Mining Claim	21	18-Aug-25
216993	4210862	Single Cell Mining Claim	21	18-Aug-25
235011	4210862	Boundary Cell Mining Claim	21	18-Aug-25
264188	4210862	Boundary Cell Mining Claim	21	18-Aug-25
264189	4210862	Single Cell Mining Claim	21	18-Aug-25
271671	4210862	Single Cell Mining Claim	21	18-Aug-25
271672	4210862	Single Cell Mining Claim	21	18-Aug-25
284276	4210862	Boundary Cell Mining Claim	21	18-Aug-25
284277	4210862	Single Cell Mining Claim	21	18-Aug-25
291084	4210862	Boundary Cell Mining Claim	21	18-Aug-25
342702	4210862	Boundary Cell Mining Claim	21	18-Aug-25
102927	4245129	Boundary Cell Mining Claim	21	7-Oct-25
102928	4245129	Boundary Cell Mining Claim	21	7-Oct-25
124455	3018014	Boundary Cell Mining Claim	21	7-Oct-25
129668	3018019, 3018056	Single Cell Mining Claim	21	7-Oct-25
151710	4241720	Boundary Cell Mining Claim	21	7-Oct-25
152257	4240095, 4241727	Boundary Cell Mining Claim	21	7-Oct-25
165526	4240097	Boundary Cell Mining Claim	21	7-Oct-25
168344	4241727	Boundary Cell Mining Claim	21	7-Oct-25
178396	4240097, 4245129	Boundary Cell Mining Claim	21	7-Oct-25
182507	4240095	Boundary Cell Mining Claim	21	7-Oct-25
188462	4240095	Boundary Cell Mining Claim	21	7-Oct-25
194293	4240097	Boundary Cell Mining Claim	21	7-Oct-25
205646	3018014, 4241720	Boundary Cell Mining Claim	21	7-Oct-25
206376	3018014	Boundary Cell Mining Claim	21	7-Oct-25
231661	3018019	Single Cell Mining Claim	21	7-Oct-25
235602	4241727	Boundary Cell Mining Claim	21	7-Oct-25
264280	4241727	Boundary Cell Mining Claim	21	7-Oct-25
268916	4240097	Boundary Cell Mining Claim	21	7-Oct-25
181115	4277682	Boundary Cell Mining Claim	21	20-Feb-26
183039	4240541	Boundary Cell Mining Claim	21	3-Apr-26
538288		Multi-cell Mining Claim	127	5-May-26
159541	1246796, 4210157, 4211638	Boundary Cell Mining Claim	21	10-May-26

538275		Multi-cell Mining Claim	42	10-May-26
538247		Multi-cell Mining Claim	191	12-May-26
538271		Multi-cell Mining Claim	191	12-May-26
101637	4242811, 4242812	Boundary Cell Mining Claim	21	22-May-26
538321		Multi-cell Mining Claim	382	22-May-26
214782	4242775	Single Cell Mining Claim	21	23-May-26
235037	4242774	Single Cell Mining Claim	21	23-May-26
289670	4242774, 4242775	Single Cell Mining Claim	21	23-May-26
289672	4242775	Single Cell Mining Claim	21	23-May-26
538252		Multi-cell Mining Claim	233	23-May-26
538253		Multi-cell Mining Claim	255	23-May-26
538278		Multi-cell Mining Claim	191	23-May-26
538338		Multi-cell Mining Claim	510	28-May-26
538346		Multi-cell Mining Claim	425	28-May-26
538358		Multi-cell Mining Claim	255	28-May-26
538359		Multi-cell Mining Claim	531	28-May-26
538360		Multi-cell Mining Claim	531	28-May-26
538392		Multi-cell Mining Claim	191	28-May-26
330870	1248239, 842186, 842189	Boundary Cell Mining Claim	21	30-Jul-26
181106	4210862	Boundary Cell Mining Claim	21	18-Aug-26
116691	4210157	Boundary Cell Mining Claim	21	10-May-27
269003	4210157	Boundary Cell Mining Claim	21	10-May-27
538364		Multi-cell Mining Claim	191	22-May-27
116901	4242775	Single Cell Mining Claim	21	23-May-27
166844	4242775	Single Cell Mining Claim	21	23-May-27
265646	4243632	Boundary Cell Mining Claim	21	28-May-27
344610	4243632	Boundary Cell Mining Claim	21	28-May-27
160892	4222633	Boundary Cell Mining Claim	21	5-Jul-27
224868	3018019	Single Cell Mining Claim	21	7-Oct-27
165634	4210157	Boundary Cell Mining Claim	21	10-May-29
178970	4210157	Boundary Cell Mining Claim	21	10-May-29
269002	4210157	Boundary Cell Mining Claim	21	10-May-29
298877	4210157	Boundary Cell Mining Claim	21	10-May-29
284355	4242142	Boundary Cell Mining Claim	21	12-May-29

101250	4242812, 4243631, 4243632	Boundary Cell Mining Claim	21	28-May-29
265645	4243632	Boundary Cell Mining Claim	21	28-May-29
121769	4222632, 4222633	Boundary Cell Mining Claim	21	5-Jul-29
123091	4222631, 4222632	Boundary Cell Mining Claim	21	5-Jul-29
123805	4216374	Boundary Cell Mining Claim	21	5-Jul-29
166891	4222633	Boundary Cell Mining Claim	21	5-Jul-29
538259		Multi-cell Mining Claim	106	5-Jul-29