Rafaella Resources Limited
ABN: 49 623 130 987

ASX: RFR

Projects
CANADA
- **Horden Lake**
  Ni-Cu-PGM development
- **Belleterre-Angliers**
  Ni-Cu-PGM exploration

SPAIN
- **Santa Comba**
  W-Sn development
- **San Finx**
  W-Sn development

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ASX ANNOUNCEMENT

16 November 2022

JORC Compliant Mineral Resource Estimate at Horden Lake Deposit (Quebec), delivers an outstanding 27.8Mt at 1.49% CuEq.

Rafaella Resources Limited (ASX:RFR) ('Rafaella' or the 'Company') announces completion of the JORC compliant Mineral Resource Estimate ('MRE') at the Horden Lake Cu-Ni-Pd-Au Deposit (the 'Project'), as prepared by Caracle Creek International Consulting ('Caracle Creek'). The Horden Lake Deposit is subject to a binding acquisition agreement as announced on 13 September 2022[1]. The outcome is an outstanding resource that immediately becomes the focus of the Company's portfolio, particularly with the substantial upside still available.

Highlights

- JORC compliant pit shell constrained MRE of **27.8 Mt of 1.49% CuEq** (0.3% CuEq Open Pit cut-off and 1.12% CuEq Underground cut-off applied), with 55% currently classified in the Indicated Resource category and 45% Inferred.
- This is the first Estimate utilising data from all previous drilling, comprising 96 drill holes completed by INCO (1963-1969), 72 holes completed by Southampton (2008) and 12 drill holes completed by El Condor Minerals (2012).
- Drilling is planned to further extend and upgrade the mineral resources, focusing on higher-grade Cu ore-shoots and on those areas only drilled by INCO, where assay data is only available only for Cu and Ni.
- Gold mineralisation was estimated solely for the areas drilled in 2008 and 2012 (approximately 40% of the resource covered by this Estimate) and then diluted across the full resource offering substantial upside from gold credits.
- The planned drilling is also aimed at subsequent inclusion of other metals such as Ag and Co, as highlighted in the recent announcement on the high-grade assays from the 2012 drill holes[2], to be included in later iterations together with the remainder of the gold and further boost the CuEq grade.
- The Company is moving swiftly to finalise its 2023 programme to deliver a PFS. Delivery of the pit shell constrained resource estimate has advanced the understanding of the project and greatly assisted in the PFS planning.
- The Company has agreed with the vendor to extend the closing date for the acquisition to 23rd December 2022.

Managing Director, Steven Turner said: *"Caracle Creek conducted an extensive resource assessment utilising the entirety of the raw data. The resource has been modelled by detailed domaining of each of the metals, accounting for the 2012 drill hole data and updated commodity price forecasts. This has allowed the Company to formulate a pit constrained mineral resource estimate, presenting a more realistic assessment of the resource assuming an open pit for the shallower ore, followed by an underground operation. The 2023 PFS program will look to provide sufficient data to finally include the entirety of the contained gold as well as adding the cobalt and silver. Horden Lake, with new road infrastructure, HV power lines from the Le Grande hydroelectric station and supportive jurisdiction, is a top class polymetallic deposit."*

[1] See ASX announcement dated 13 September 2022 "Terms agreed over the Horden Lake Copper-Nickel-PGM Deposit in Quebec, Canada"
[2] See ASX release dated 17 October 2023 "Additional Historical Drill Holes from Horden Lake confirm Multi-Element and Expansion Potential"

RAFAELLA resources

Rafaella Resources Limited (ASX:RFR) ('Rafaella' or 'the Company') is pleased to announce the results of the recently completed JORC compliant resource estimation for the Horden Lake Cu-Ni-Pd-Au Deposit, located in the James Bay District, Province of Québec, Canada, carried out by Caracle Creek International Consulting Inc., as independent consultants. Table 1 shows the global total Mineral Resource Estimate (**MRE**) for the Horden Lake Deposit, as of 14 November 2022.

Table 1. Global Total Mineral Resource Estimate for Horden Lake Deposit

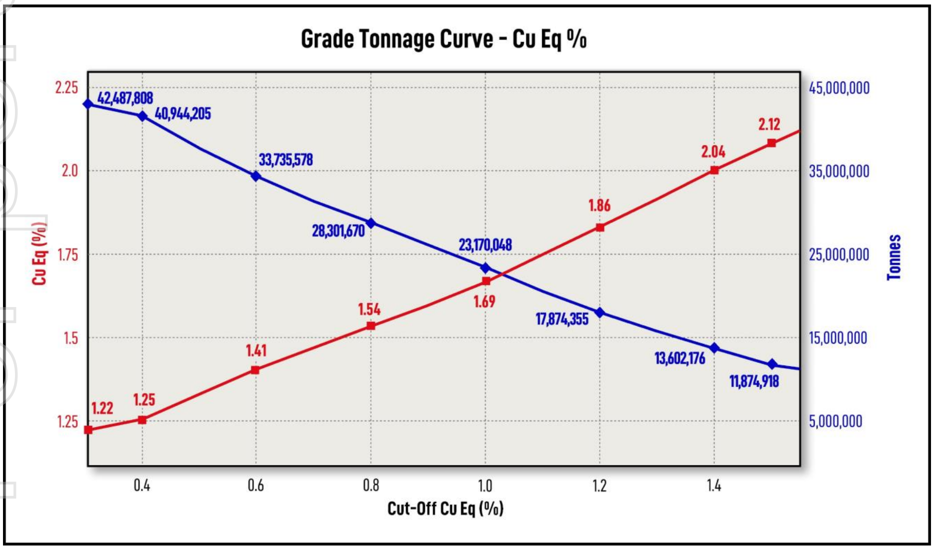
Mineral Resource Estimate, Horden Lake, Quebec, Canada - by Caracle Creek, November 2022											
Class	Tonnes (t)	Average Grade					*Metal Content*				
		Cu (%)	Ni (%)	Pd (ppm)	Au (ppm)	Cu Eq. (%)	*Cu (t)*	*Ni (t)*	*Pd (Oz)*	*Au (Oz)*	*Cu Eq. (%)*
INDICATED	15,114,010	0.78	0.20	0.19	0.12	1.51	*117,190*	*30,392*	*90,772*	*59,006*	*228,359*
INFERRED	12,445,286	0.67	0.25	0.19	0.02	1.48	*83,666*	*31,334*	*76,341*	*6,858*	*183,736*
TOTAL	27,559,296	0.73	0.22	0.19	0.07	1.50	*200,855*	*61,726*	*167,114*	*65,863*	*412,095*

No Overburden. Open Pit (Cut-off 0.3% CuEq.) – Underground (Cut-off 1.12% CuEq.). Rock Density of 3.2 t/m³.
*Formula: CuEq (%) = Cu (%)*1 + Ni (%)*2.59 + Pd (ppm)*0.74 + Au (ppm)*0.63*
Assumptions :

	Metal Prices	*Recovery (%)*
Copper	*US$7,300/t*	*90*
Nickel	*US$21,300/t*	*80*
Gold	*US$1,600/troy oz*	*80*
Palladium	*US$1,900/troy oz*	*80*

CuEq parameters and recoveries were determined by assessing the metallurgical reports from INCO and from benchmarking with other polymetallic deposits and magmatic Ni-Cu projects with similar characteristics to the Horden Lake Deposit.

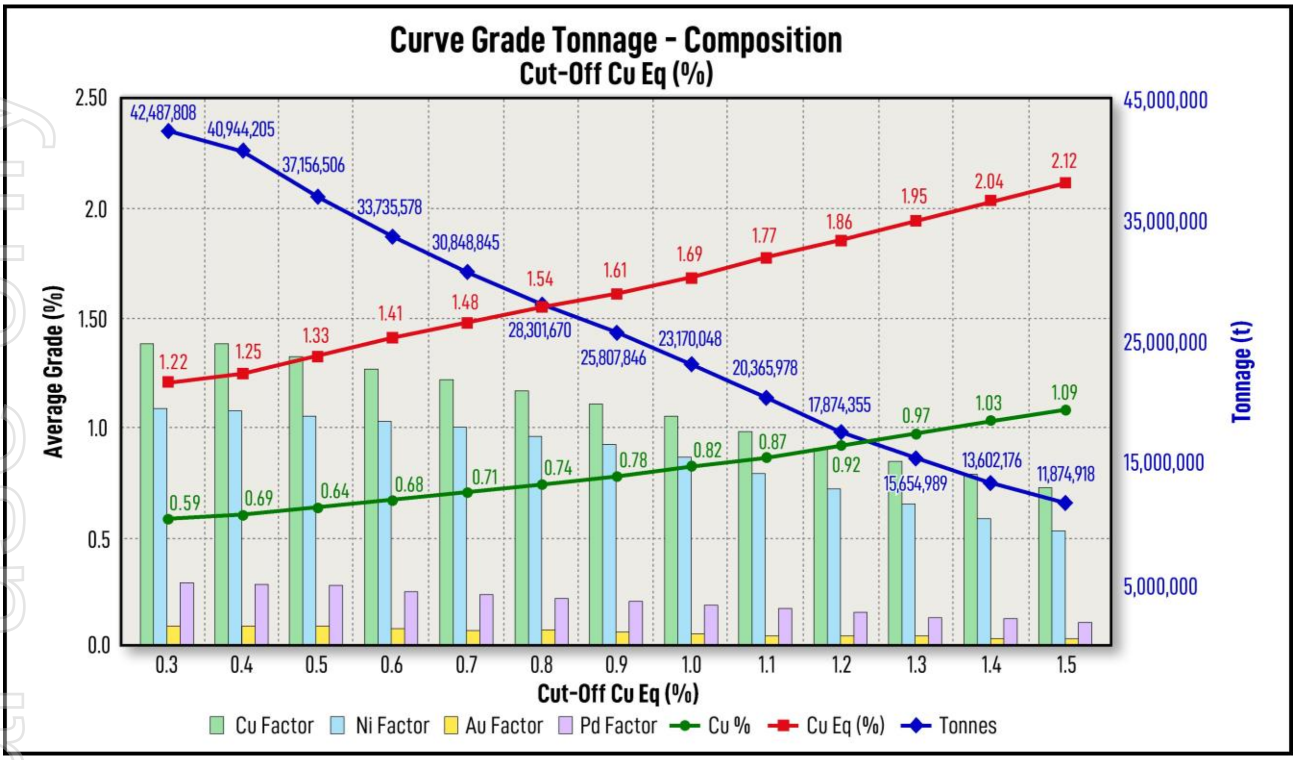
The current MRE has produced a 3D geological model interpretation based on lithology and mineralisation style for the overall sulphide domain (Cu domain) and, particularly for the higher-grade Cu sub-domain corresponding to the semi-massive to massive sulphides, at the bottom of the deposit, resulting in a significant increase of tonnes and Cu average grade for the Horden Lake deposit.



Cutoff Cu Eq (%)	Tonnage (t)	Cu Eq Average Grade (%)
0.3	42,487,808	1.22
0.4	40,944,205	1.25
0.5	37,156,506	1.33
0.6	33,735,578	1.41
0.7	30,848,845	1.48
0.8	28,301,670	1.54
0.9	25,807,846	1.61
1	23,170,048	1.69
1.1	20,365,978	1.77
1.2	17,874,355	1.86
1.3	15,654,989	1.95
1.4	13,602,176	2.04
1.5	11,874,918	2.12

The resource estimate has also produced individual domains for each of the other economic metals (Ni, Pd and Au) which were showing different spatial distribution within the overall copper domain.

The graphic below shows the grade-tonnage curve and metal contribution, across a range of CuEq (%) cut-off grades, for the whole modelled deposit, i.e., the geological resource.



Because INCO's drillholes were only analysed for Cu and Ni, the Au domain could only be estimated within the central part of the deposit (Figure 1) drilled by Southampton 2008 and by El Condor 2012, which analysed gold (Au), palladium (Pd), and platinum (Pt) and multi-elements (including Cu, Ni and Co).

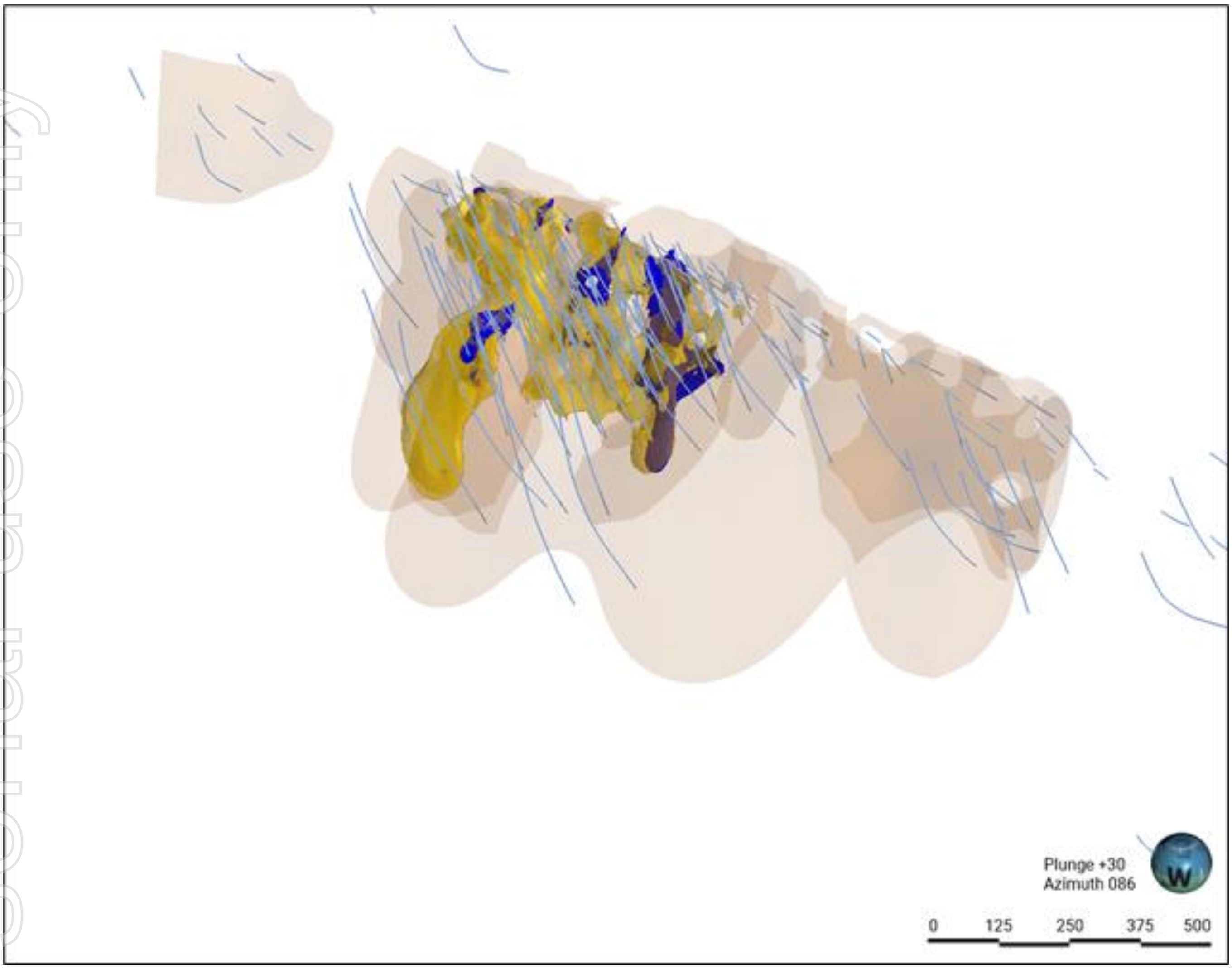


Figure 1. Longitudinal section looking SE. The extensive wireframed Cu domain (transparent orange), in comparison to the wireframed region of gold (yellow), showing the current contribution of gold is limited to the central part of the deposit.

By contrast, Pd values could be extrapolated across the INCO holes because of the high correlation between Pd and Ni, allowing the construction of the palladium domain across the entire deposit.

The "as reported" gold grade of the current MRE, underestimates the reality of the deposit because the gold content within in the central part of the deposit drilled by Southampton in 2008 and by El Condor in 2012 has been diluted across the entire Cu domain (i.e., gold currently assumed as nil outside the wireframed gold domain).

One of the principal objectives for the 2023 drilling campaign will be drilling those areas previously drilled by INCO but not tested for metals other than Cu and Ni, in particular Au, Pd, Ag, Co and other PGEs.

The new interpretation of the higher-grade Cu sub-domain provided the presence of ore-shoots as excellent targets for step-out drilling as shown in Figure 2, corresponding to a longitudinal section of the Cu resource model.

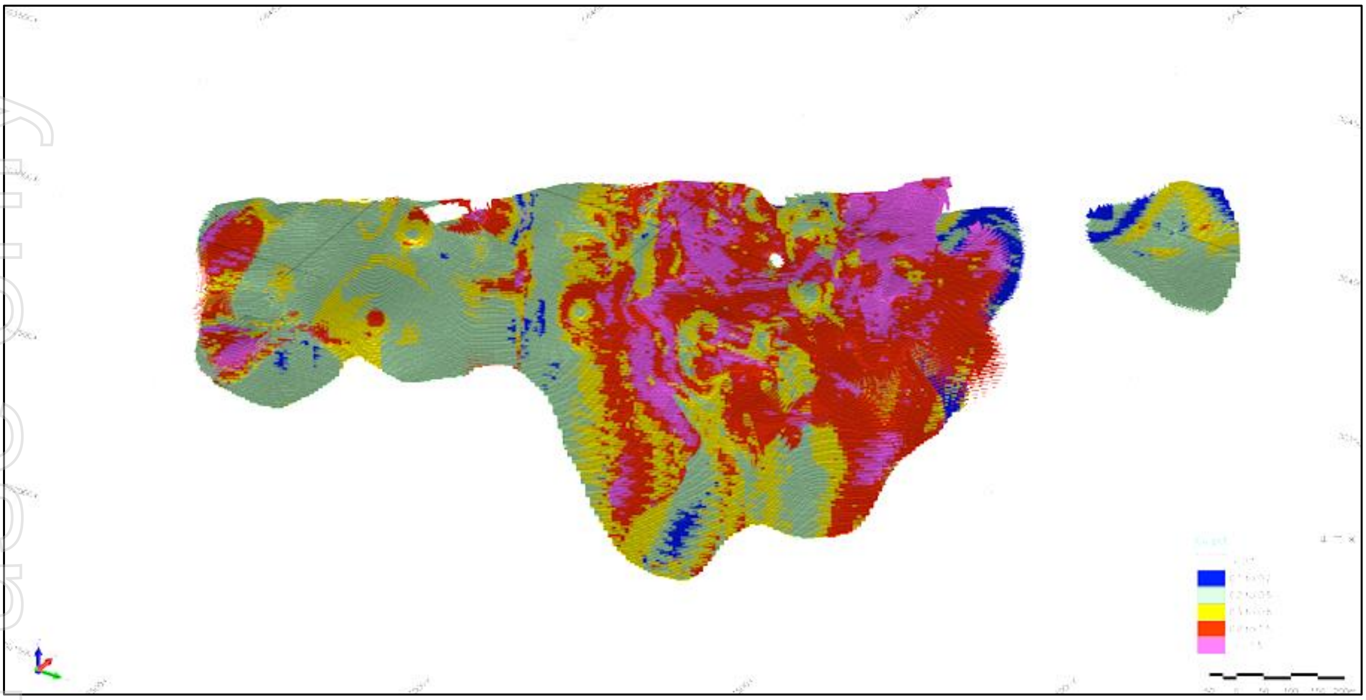


Figure 2. Longitudinal section (looking NW), of the Cu resource model. The red and purple colours are showing the higher-grade Cu ore-shoots and clearly pointing to drill targets.
The depth of the resource outline to the SW is solely constrained by the drilling thus far, as the only deeper drillholes are in the NE-Central zone. The resource remains open at depth across the full strike length.

Mineral Resource Estimate Reporting Requirements

Project Background

The Horden Lake Deposit is located approximately 140 km north of the town of Matagami in Township 1408, James Bay District, Quebec. It is located approximately 10 km west of kilometre 200 on Route 109 (James Bay Highway), an all-weather road connecting Matagami to the Hydro-Québec James Bay power complex at Radisson, Quebec (Figure 3).

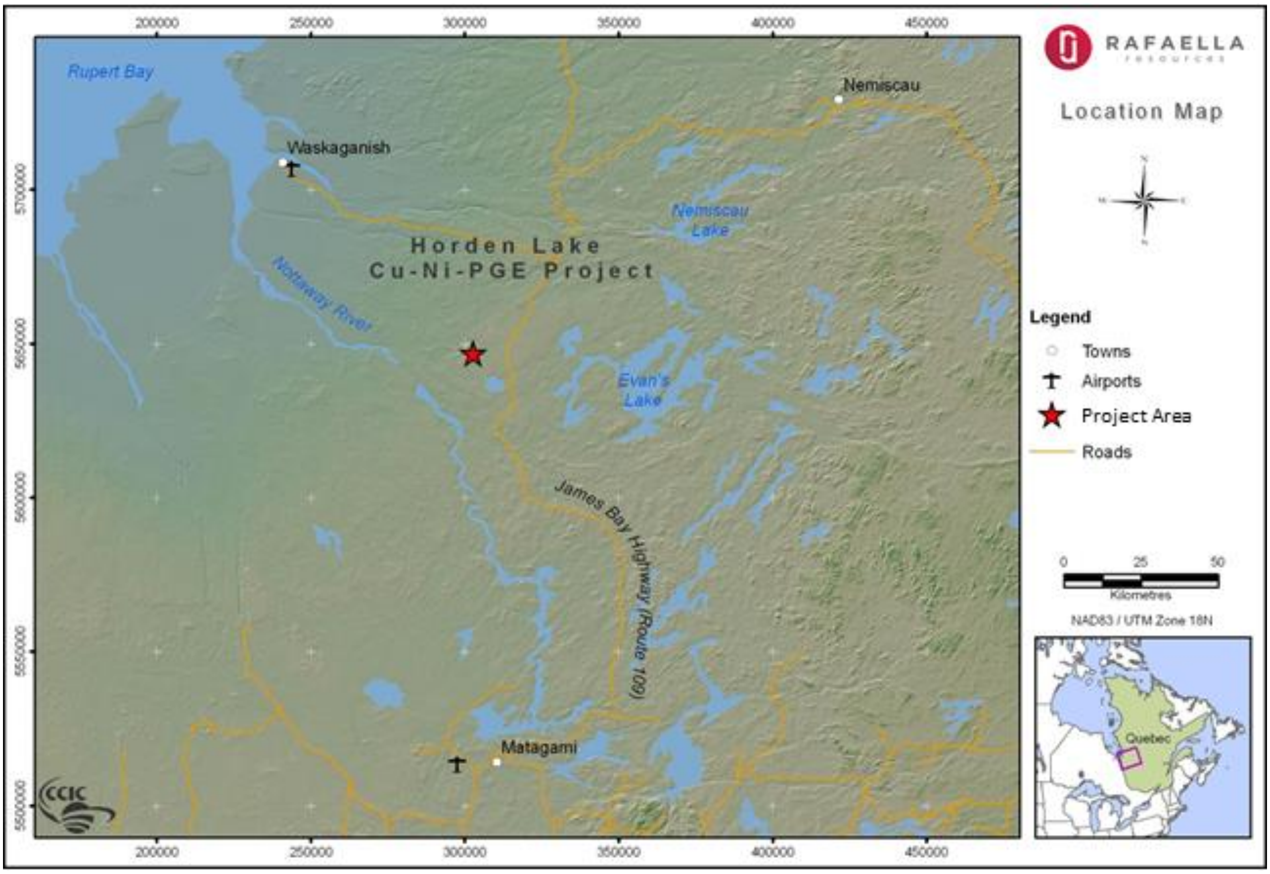


Figure 3. Province-scale map showing the location of Rafaella Resources' Horden Lake Project (red star) in the Province of Quebec, Canada (modified after Kelso et al., 2009).

The Horden Lake Deposit was discovered by INCO Ltd. in the 1960s. Between 1962 and 1969, INCO completed geophysics and 157 diamond drill holes totalling 32,229m. At the time the project was remote, with access only possible via float plane or helicopter. INCO focused solely on the nickel and copper content, without assaying for other metals, and given the difficult access, metal prices, and its primary focus on the larger Sudbury Nickel Camp, did not proceed, working only sporadically on the Horden Lake Deposit into the 1970s.

In 2008, Southampton Ventures Inc. conducted geophysics and drilling (18,136m in 73 NQ size drill holes) and assayed all drill holes for a range of metals, including copper (Cu), nickel (Ni), palladium (Pd) and platinum (Pt), gold (Au), silver (Ag), and cobalt (Co). A mineral resource estimate in accordance with National Instrument 43-101 (NI 43-101) was prepared by Caracle Creek dated 15 April 2009 which resulted in 16.55Mt comprising 8.76Mt of Indicated @ 0.88% Cu, 0.21% Ni, and 7.79Mt of Inferred at 0.87% Cu, 0.25% Ni.

<u>Cautionary Statement</u>

The estimates of Mineral Resources are not reported in accordance with the JORC Code 2012; a Competent Person has not done sufficient work to classify the estimates of Mineral Resources or Ore Reserves in accordance with the JORC Code 2012. It is possible that following evaluation and/or further exploration work the currently reported estimates may materially change and hence will need to be reported afresh under and in accordance with the JORC

Code 2012. Nothing has come to the attention of the Company that causes it to question the accuracy or reliability of the former owner's estimates, but the acquirer has not independently validated the former owners' estimates and therefore is not to be regarded as reporting, adopting or endorsing those estimates.

This was followed in 2012, by a further 2,037 m in 12 HQ size drill holes by El Condor Minerals Inc. who also assayed for a full suite of metals including Pd, Pt, Au, Ag, and Co, viewed as potential co-products.

Fundamental changes in the world economies as they transition to renewable energy, has seen commodity prices of battery metals rise. Previous owners have not focused on the range of by-product credits available, with cobalt and platinum-group elements (PGE), in particular, being overlooked. With the construction in the 1980s of the Route Billy-Diamond Highway, a major road linking Matagami and the Le Grande Hydroelectric Power Dam to the north, along with associated power lines, the deposit now benefits from key infrastructure passing within 18 km of the property. These developments have transformed the Horden Lake Deposit into a valuable project at a time that both the Canadian and Quebec governments are actively promoting the development of such critical deposits.

The JORC compliant MRE has been completed on the Horden Lake Deposit by Caracle Creek for Rafaella Resources Ltd which considers Cu and Ni as the principal metals with additional credits available from Au and Pd. Other metals that contribute to the in-situ value of the deposit include Ag and Co; however, additional drilling is required to incorporate these metals into future mineral resource estimations.

The Horden Lake Project consists of 18 mining claims (CDCs) in two non-contiguous groups, totalling approximately 814.81 ha (Figure 4). As of the date of the JORC compliant MRE all 18 mining titles for the Horden Lake Property are active and registered 100% in the name of Gestion Ora-Mirage Ltée, a Quebec registered private company. Rafaella does not own the surface rights over the mining claims, these rights remain with the Crown.

The status of the mining titles that comprise the Property was verified by the Principal Author online at GESTIM Plus. The 18 mining claims are split into two non-contiguous groups, with 12 claims in the northern group ("Horden North") and 6 claims in the southern group ("Horden South").

On 2 September 2022, 9426-9198 Quebec Inc. ("RFR Quebec"), a wholly owned Quebec registered subsidiary of Rafaella Resources Ltd., signed a Claims Purchase Agreement (the "Agreement") with Gestion Ora-Mirage Ltée, a Quebec registered private company, to purchase the 18 Horden Lake property mining claims for the total consideration of C$4 million and a 1% net smelter royalty. The initial closing date was set at 90 days from the date of signing, falling on 1 December 2022. The parties have subsequently agreed to extend the closing date to 23 December 2022.

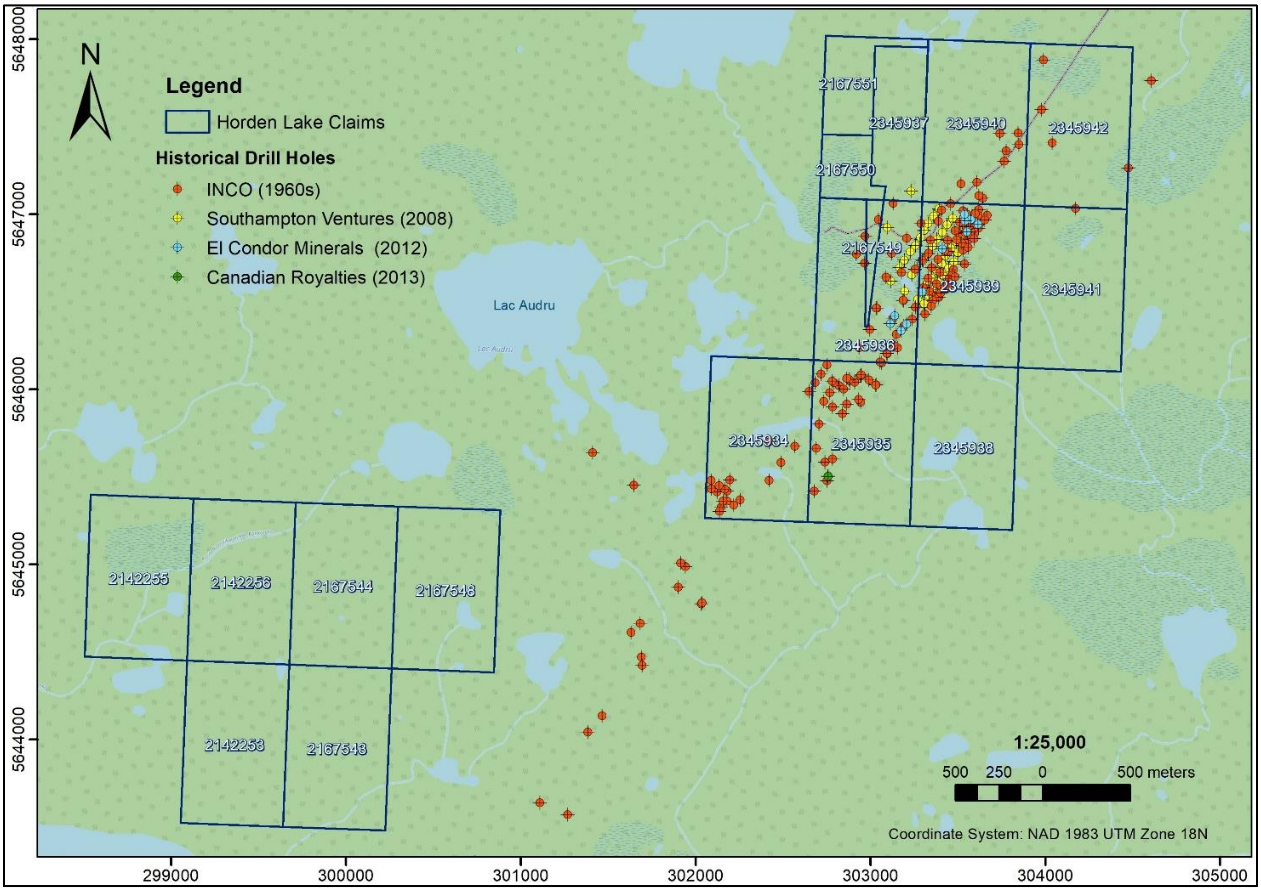


Figure 4. Location of the two groups of the 18 non-contiguous mining claims that make up the Horden Lake Project (Rafaella, 2022). Historical drillhole collars are represented in different colours, by companies (Rafaella, 2022).

Geological Setting and Mineralization

The Horden Lake property is located in the Nemiscau Subprovince, close to the border with the Opatica Subprovince, of the Superior Province of the Canadian Shield (Figures 5 and 6). The three other Subprovinces in the James Bay region are the La Grande, Opinaca and Opatica.

The area is characterized by metasedimentary and volcano-plutonic rocks and is transected by east-west and northeast-southwest trending shear zones. The rocks are metamorphosed to greenschist facies and locally to amphibolite facies. Peak metamorphic temperatures increase from the Quetico to the Nemiscau and on to the Opinaca and Ashuanipi subprovinces indicating exposure of different crustal levels (Percival 1998). Late granites intrude the metasedimentary and volcano-plutonic rocks (Houle, 2004).

On a regional scale, Percival (1998), suggested that the Nemiscau Subprovince is a remnant of an Archean accretionary prism although its age is poorly constrained. Metasedimentary rocks in the Nemiscau Subprovince are interpreted to have been deposited between 2698 Ma and 2688 Ma (Percival et al., 1992) and the age of the granites that intruded the metasedimentary rocks is 2672 ±2 Ma (Davies et al., 1995).

Structurally, on a regional scale, bedding and foliation dip moderately to the northwest. Low-angle normal faulting, subvertical strike-slip and oblique shear zones are dominant.

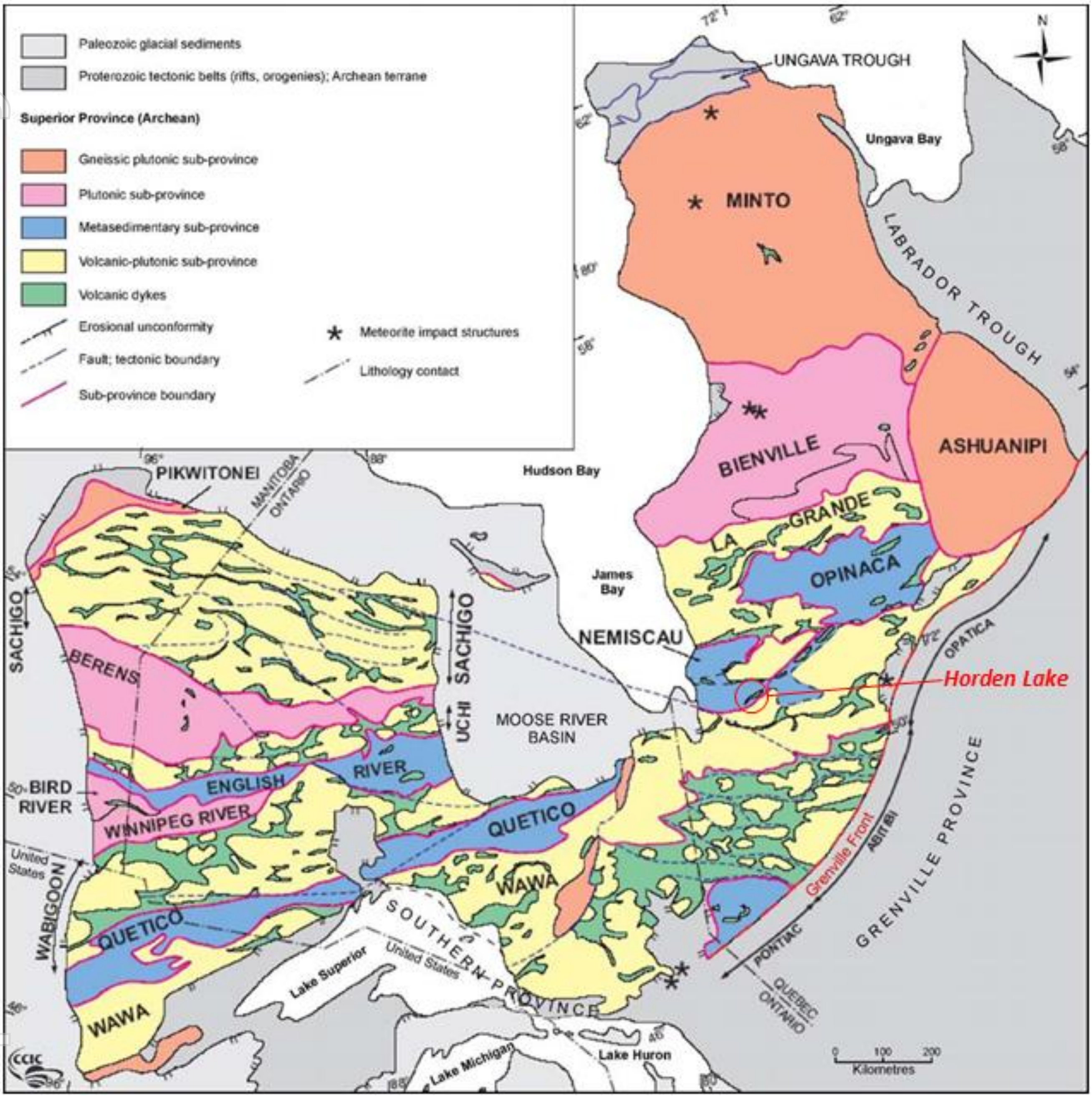


Figure 5. Generalized geological map of the Superior Province of the Canadian Shield showing its Subprovinces and the approximate location of the Horden Lake Property, Quebec (modified from Marquis, 2004).

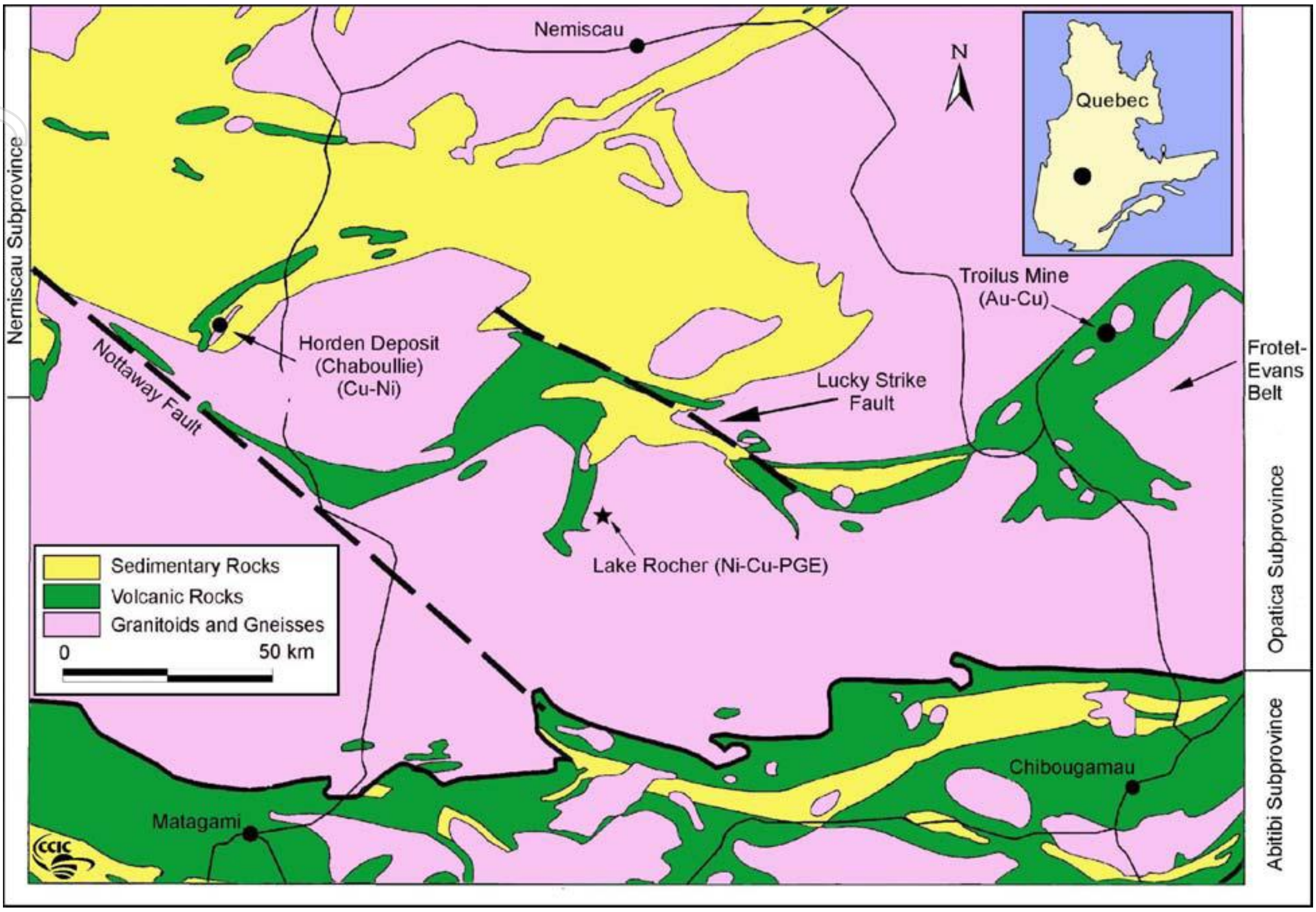


Figure 6. Regional geology for the Frotet-Evans Greenstone Belt, Opatica Subprovince, showing the location of the Horden Lake Deposit (Bandvayera and Sharma, 2001).

The geology of the Horden Lake area (Figure 7) was originally mapped by the Quebec Government (Remick, 1963). The dominant rock types are metavolcanic and metasedimentary rocks. Metagabbro occurs as a long and narrow, concordant body and has inclusions of metasedimentary rocks. Granites intruded the metasedimentary and metavolcanic package. The granites themselves are cut by granitic dikes and pegmatites. The youngest rocks in the area are gabbro and diabase dikes. Structures on the property are interpreted to strike east-west, northeast, and northwest and are generally dipping steeply to the south. Shearing is abundant in the area.

Remick (1963), reported a mapped and interpreted metagabbro 40 km long and 1-1.5 km wide. Lyon and Jobin-Bevans (2002), concluded from their geological review of the same metagabbro that the Horden Lake Deposit is associated with a mafic / ultramafic sill. The layering of the sill from east (footwall sedimentary rocks) to west consists of: (1) poikilitic gabbro, (2) metapyroxenite and metagabbro, (3) metagabbro, (4) anorthositic gabbro, (5) metagabbro, (6) anorthositic metagabbro, and (7) quartz-bearing metagabbro (cf. Bandvayera and Sharma, 2001), suggested of a west-upward, fractionated intrusive sequence.

The footwall to the gabbroic sill consists of metasedimentary rocks, dominantly quartzites, meta-greywacke, cordierite-anthophyllite-cummingtonite-bearing rocks of sedimentary origin and quartz-sericite schists.

RAFAELLA resources

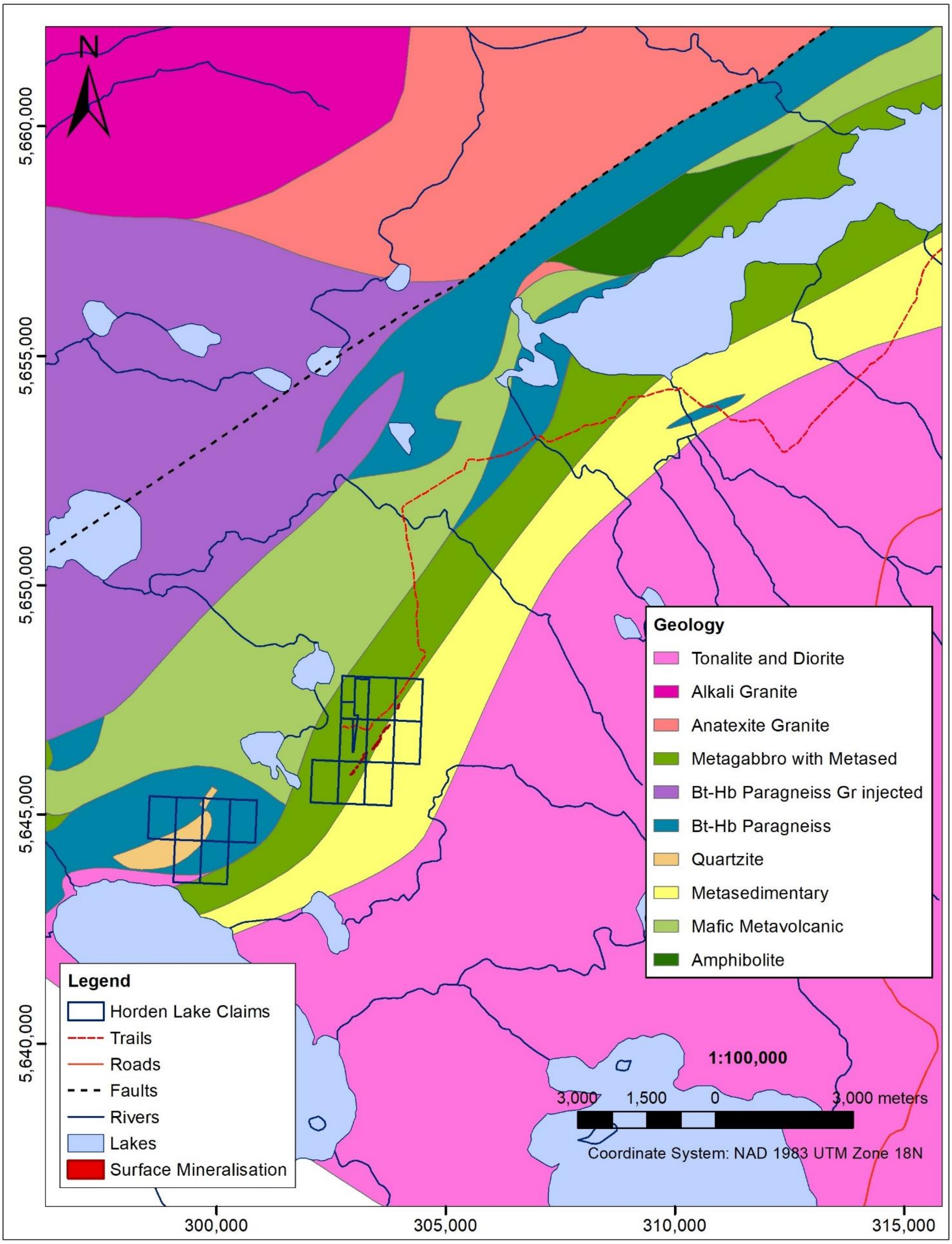


Figure 7. Generalized geological map in the region of the Horden Lake Project area (Rafaella, 2022).

Based on 1960s diamond drilling, INCO described a "Main Zone" as a conductive and sulphide-rich zone related to a northeast trending, 50 to 60 degree west-dipping structure, near the contact of gabbro and metasedimentary rocks, which are both variably mineralized (WGM, 1993).

INCO characterized the Main Zone as 1 to 30 m wide and 1,950 m long. Visually, the dominant sulphides are pyrrhotite, pyrite, chalcopyrite and possible pentlandite. Minor sphalerite also occurs. Traces of PGE, Au and Ag were recorded. The ore minerals occur as disseminations and stringers. The footwall contact between country rock and mineralization tends to be sharp whereas the hanging wall contact appears to be gradual. East trending faults offset the ore zone in steps (WGM, 1993).

Lyon and Jobin-Bevans (2002) reported that mineralization is hosted by the lower units in the gabbroic sill and into the footwall sedimentary rocks with up to 5% disseminated pyrrhotite and chalcopyrite, and blebby sulphides also occurring in shear zones. They also reported two distinct mineralization styles: (1) Blebby pyrrhotite, chalcopyrite, and pentlandite in gabbro, and (2) large blebs and disseminations of chalcopyrite and pyrrhotite (±pentlandite) in shear zones. Both types are most abundant at the contact between the metasedimentary rocks and the gabbro (Figure 8).

Cumulative information known to date about sulphide mineralization within the Horden Lake Intrusion, suggests a mineralized horizon at or near the footwall between a gabbroic sill and sedimentary units with mineralization occurring within the gabbro and the footwall sedimentary rocks. Based on drilling data, widths in the mineralization are variable but appear to range from several metres to several 10s of metres. The length of the Horden Lake Intrusion, at nearly 2 km and up to 1 km thick, also offers excellent exploration upside at depth and along strike, as most of the eastern contact has not been adequately drilled, both on the current Property and within the intervening areas northeast and southwest of the Horden Lake deposit.

Figure 8. Photograph of drill core from hole HN-08-07 (102.71-107.00 m) from Southampton's 2008 drilling program showing large blebs of pyrrhotite, pyrite and chalcopyrite and massive sulphide in a shear zone at the contact between gabbro and metasedimentary rocks. Drill core diameter is 47.6 millimetres (Kelso et al., 2011). Assay data returned 2.48% Cu, 0.91% Ni, 0.51ppm Pd and 0.26ppm Au over 4.29m for the interval starting at 102.71m.

The Horden Lake Project is a magmatic sulphide deposit associated with mafic and ultramafic rocks. Magmatic sulphide deposits host about 40% of nickel and platinum-group elements ("PGE") and >99% of the global resources of nickel and PGE, and about 3% of copper, and provide 60% Ni and >99% PGE to the world market. On the basis of their geological and geochemical characteristics, magmatic sulphide deposits can be broadly divided into two major groups: rich in sulphides (sulphide >5%, generally 20%–90%) and sulphide poor (sulphide <5%) (Song et al., 2011) (e.g., Naldrett, 2004).

Sulphide mineralization in Contact-Associated deposits, commonly occur as semi-massive to less commonly massive sulphide bodies or sulphide disseminations along the contact of mafic to ultramafic intrusions with the surrounding host rock (typically sedimentary); commonly referred to as "bottom-loaded" with respect to sulphide mineralization.

Drilling

Rafaella Resources Limited has not performed any drilling on the Horden Lake deposit. The current MRE has used historical drilling by INCO (1963-1969), Southampton (2008) and El Condor (2012).

Diamond drilling by INCO Inc. focused on the conductive zones marginal to and within the metagabbro that extends across the property from Lac Chaboullié, northeast of Lac Colomb (Lyon and Jobin-Bevans, 2002). By the end of 1969, diamond drilling by INCO totalled 32,229 m in 157 drill holes. The current MRE uses 96 of the 157 INCO drill holes.

Between January and March 2008, Southampton Ventures Inc. carried out a drilling program consisting of 73 NQ size drill holes, totalling 18,136 m (Kelso et al., 2009). A total of 72 of the 73 drill holes are used in the current mineral resource estimate.

In March 2012, El Condor Minerals announced the completion of its 12 diamond drill hole program totalling approximately 2,036 metres. The drilling program, utilizing HQ size core, was designed to generate sufficient volumes of mineralization for preliminary metallurgical testwork (four drill holes) and to expand the strike length of the copper-nickel-precious metals zone. The project manager halted drilling once sufficient sample was obtained for the metallurgical program and spring conditions began to hamper access. The 12 drill holes are used in the current mineral resource estimate.

Sample Preparation, Analysis and Security

Rafaella Resources Limited, has not done any work on the Project and as such has not collected any samples. All information contained within this section comes from historical work completed by past owner/operators in the Project area. No information is known about the sampling procedures, sample preparation, sample analyses or security (chain of custody). from INCO's drilling campaigns.

During the 2008 diamond drilling program (drilled by Southampton Ventures and supervised by Caracle Creek), Laboratoire Expert and Actlabs (Activation Laboratories Ltd., Ontario) completed the sample assaying. Drill core samples were collected from mineralized intervals and from 10 to 15 m of the hanging and footwall of the mineralized section. Outside of the mineralized zone, samples were collected where it was deemed appropriate (e.g., quartz veins). The core was split in half using a mechanical core splitter. Typical sample intervals range from 0.5 to 2.0 m, but smaller intervals were sampled where appropriate. In total, 6,551 half-core samples were collected. All samples were tagged using pre-printed sample tags with a unique five-digit number and bagged in individual plastic bags. Ten individual bags were collected in rice bags prior to shipping. Sampling was conducted by Caracle Creek geologists. Laboratoire Expert completed lead fire assay with a DCP (direct coupled plasma) finish of the precious metals with 5 ppb detection limit for Pt, Pd and Au, and Activation Laboratories completed aqua regia digestion and ICP/OES analysis for the base-metals (Cu, Ni, and 29 other elements) with 1 ppm detection limit for both Cu and Ni. Sample preparation and analysis procedures include the following steps:

a) Samples are dried and crushed to 90% -10 mesh.
b) Crushed samples are split to provide a 300 gram representative sample using a Jones splitter.
c) 300-gram samples are then pulverized to a minimum of 90% - 200 mesh.
d) 30 grams of the pulverized samples are analyzed by standard fire assay with an DCP (direct coupled plasma) finish for Au, Pt and Pd.
e) A second sample aliquot is digested using aqua regia and analyzed by ICP for Cu, Ni and 29 additional elements.

f) The results are reported in percent, parts per million (ppm) and parts per billion (ppb).
g) Samples with values exceeding the detection limit (i.e., Cu and Ni) were re-analyzed using the appropriate technique

Five percent of the sample database (141 coarse reject samples) and 17 QC samples were sent to Accurassay Laboratories for analysis as a quality control check.

Caracle Creek implemented and consistently followed a QA/QC program during the drilling program which involved the placement of blanks or certified reference materials ("CRM"). A total of 222 samples of AGP3 (low grade standard), 132 samples of OREAS_14P (high grade standard), 64 samples of SMG1 (low grade standard) and 310 samples of blanks were used as QC samples. The QC samples consist of 10% of the total samples submitted to the lab. Laboratoire Expert and Actlabs randomly selected samples to become pulp duplicates. A total of 465 samples were duplicated for Cu and Ni by ICP analyses and a total of 917 samples were duplicated for Au, Pt and Pd by fire assay. Since the standards and blanks were blind to the labs, they were duplicated along with the drill core samples.

During the 2012 diamond drilling program, supervised by Caracle Creek on behalf of Southampton Ventures, Actlabs (Activation Laboratories Ltd., Ontario) completed the sample assaying. Sampling protocols were the same as during the Southampton campaign of 2008. In total, 721 half-core samples were collected from12 HQ size diamond drill holes and sent in six batches to Actlabs.

The Authors of the Technical Report and the MRE have reviewed the historical data and information regarding past exploration work on the Project as provided by the Issuer. The Authors have no reason to doubt the adequacy of historical sample preparation, security and analytical procedures for the exploration work completed by previous operators and have a high level of confidence in the historical information and data.

Mineral Processing and Metallurgical Testing

Rafaella Resources Limited has not performed any mineral processing or metallurgical testing on mineralization within the Horden Lake Project.

In the early 1970s, INCO performed preliminary flotation testing on five drill core samples from the Horden Lake Property (WGM, 1993). The tests were performed on samples composited from drill core taken at various sections along the strike of the deposits as they are presently known. These tests showed that saleable grades of copper concentrates could be made at recoveries varying from 85% to 96% of copper in the feed. It was noted that, along with nickel, these concentrates also contained quantities of silver, gold and other platinum group elements (PGE).

Geological and Grade Modelling

The current Mineral Resource Estimate ("MRE") was completed using both Micromine 2020 (Service Pack 3) and Leapfrog Geo 2022.1 software, the former for resource calculation and block model definition and the latter for data integration and geological modelling.

The MRE estimate utilized data from all historical drill holes within the determined resource boundary, comprising 96 drill holes completed by INCO (1963-1969), 72 holes completed by Southampton (2008), and 12 drill holes completed by El Condor Minerals (2012). The final drill hole database used for estimation totals 52,464.06 m in 180 diamond drill holes, with 7,155 samples taken over 11,877.96 metres.

All drill hole data was provided as Microsoft Access and Excel tables which had been imported to Excel files, SQL 2019, Leapfrog and Micromine databases. The data were validated in Micromine and Leapfrog for errors such as missing and overlapping intervals, intervals beyond hole depth, significant downhole deviations. Errors were identified and corrected, and the data found to be suitable for use in resource estimation.

Analytical data from original assay certificates (2008 & 2012) were checked by the Competent Persons against data in the drill hole database and no errors were found. A total of 7,155 primary core assays were used in the mineral resource estimate. Previous QA/QC procedures, which included the insertion of standards and blanks and sending of samples to a referee lab, were reviewed, along with the internal QA/QC procedures and results employed by the primary laboratory. No issues were found. The drill hole database has been reviewed by the Competent Persons and is suitable for use in resource estimation.

The process of geological modelling and interpretation reviewed aspects of lithology, structure, mineralization style and geochemistry. The majority of the mineralization in the Horden Lake Deposit is situated within a contact shear, between the Horden Lake Intrusion, a layered gabbroic body, and metasedimentary rocks, and to a lesser extent, in lenses within the base of the gabbroic intrusion. Three-dimensional wireframe models were developed for the lithology, the shear zone, and a range of domain models for each of the mineral components to the resource.

The lithology model was constructed using the logged lithology data from the Southampton and El Condor drill holes and from a Southampton geological map. The lithology model defined the overburden and the contact between the intrusive and the sediments, grouping together all the variations of the metasedimentary rocks and gabbro, as identified in the core logging.

The mineralization model is based upon the logged presence of sulphides, selecting intervals to define the drill strings that contain greater than 5% total sulphides. The mineralization model contains varying proportions of chalcopyrite, pyrrhotite, pentlandite and pyrite, but as chalcopyrite is always present the resultant solid is essentially the copper domain and the copper assay data has been used to refine the model (Figure 9).

The modelling defined six parallel and interconnecting mineralized lenses and when cross referenced with the lithology model, it was noted that the majority of the mineralization is hosted along the contact and in the metasedimentary rocks. Considering the cross-cutting nature of the mineralized lenses, their geometry, and through review of the core photos and the geological reports the mineralized lenses are considered to be a contact shear.

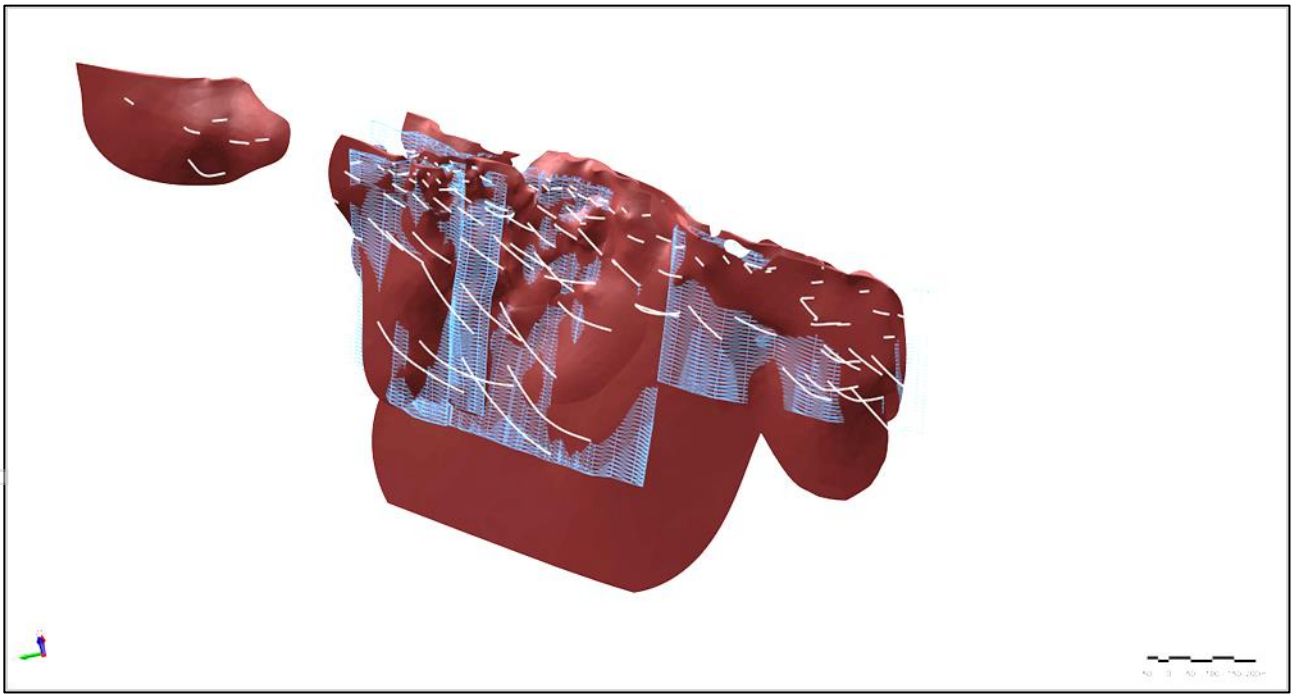


Figure 9. The new sulphide mineralization model (dark red) against the mineralized envelope (blue wireframe) used in the 2009 Southampton mineral resource estimation (Kelso et al., 2009).

The mineralized zone was analysed for variation in the distributions of each of the potentially economic elements – Cu, Ni, Co, Pt, Pd, Au, Ag - and it was found that the copper was distributed throughout, while the nickel, cobalt, gold, silver, platinum and palladium were concentrated locally within the overall sulphide mineralization solid. The spatial distribution for each of the economic elements were different and required the wireframing of individual domains for each element. In these types of deposits (layered intrusions) it is typical that cobalt, platinum and palladium are associated with nickel, and that gold and silver are associated with copper.

The copper domain utilized the sulphide mineralization solid and review of the copper grade distribution of the assay composites within this solid showed two populations and so a sub-domain was created to separate out low-grade and a high-grade copper domain defined by a threshold of 0.56% Cu which begins to define the higher-grade sub-domain.

The gold and silver domains were modelled from only the Southampton and El Condor data, based on initial thresholds of 0.1 ppm Au and 15 ppm Ag, respectively (Figure 10). The nickel domain was modelled with data from all drill holes and was based on an initial threshold of 0.1% Ni. The domain is more restrictive than that of copper (Figure 11). The palladium domain, based on an initial threshold of 0.1 ppm Pd, uses assay data from the Southampton and El Condor drill holes plus assigned assay values (extrapolation) across the INCO drill holes based on the association / correlation between nickel and palladium (Figure 12).

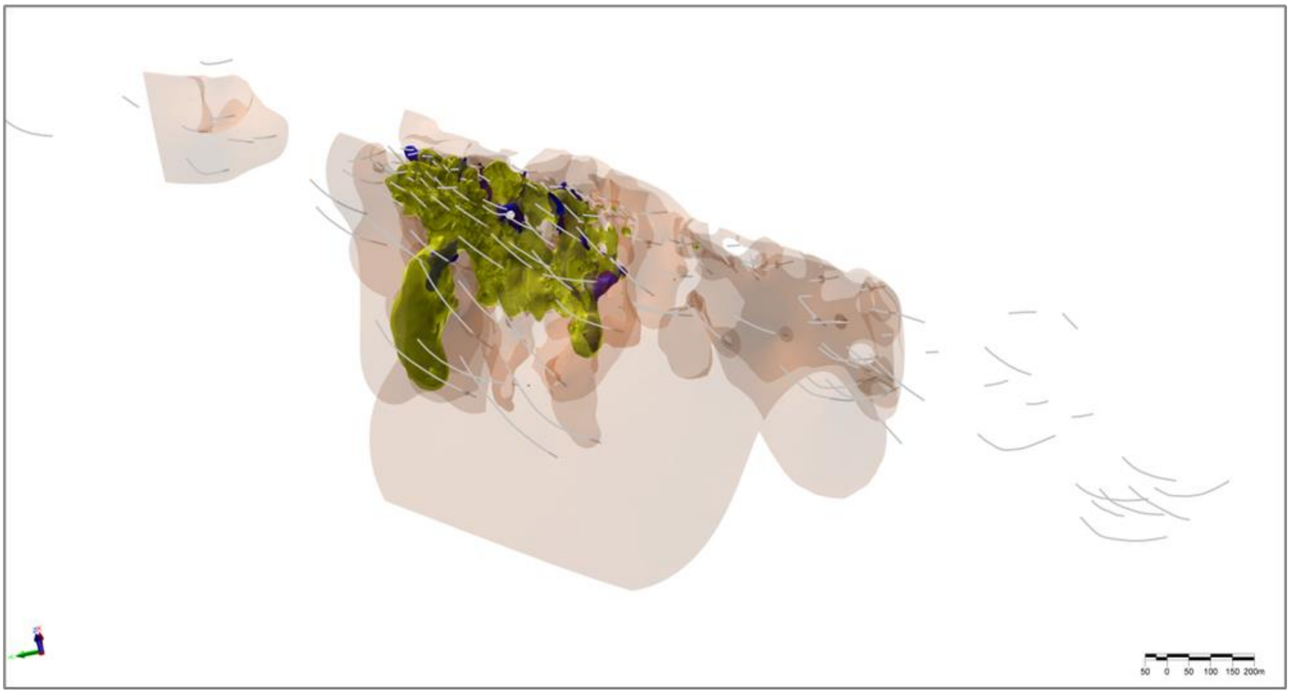


Figure 10. Extensive wireframed domain for copper (transparent orange), in comparison to the wireframed regions of gold (yellow) and silver (blue), showing their relative limited spatial distribution compared to copper, within the mineralized zone.

Figure 11. Wireframed domains for copper (transparent orange) and nickel (green), showing their relative spatial distribution within the mineralized zone.

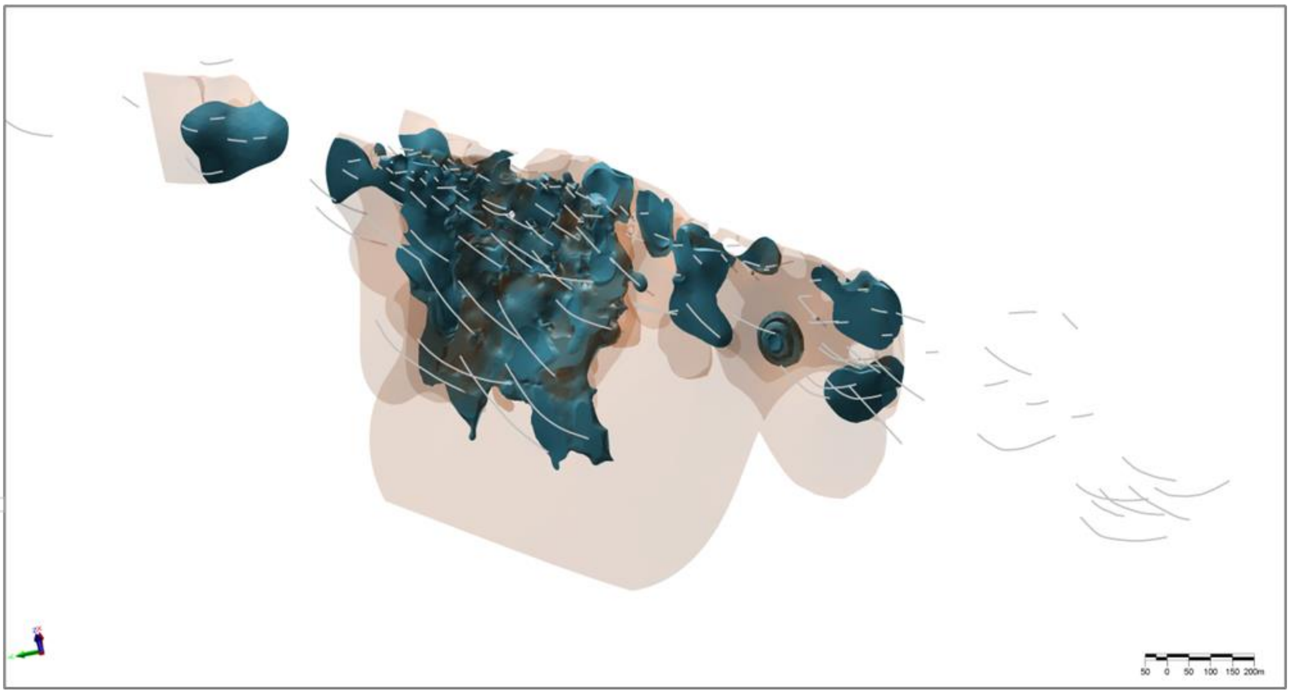


Figure 12. Wireframed domains for copper (transparent orange) and palladium (light blue), showing their relative spatial distribution within the mineralized zone.

Bulk Density

The rock bulk density within the mineralized zone is highly variable, with an increase in density related to the presence of sulphides. A total of 37 density samples were taken by Southampton Ventures across the mineralized zone, the results of which have been grouped by lithology and by sulphide mineralization style (Table 2). It can be seen from the basic statistics that the rock density is dependent on the style of sulphide mineralization; however, more analyses are required to adequately model distribution of the density with the mineralized domains. For the purpose of this resource estimation an average value of 3.2 was used in the tonnage calculation across all estimation domains.

Table 2. The basic statistics of the density data broken down into lithology and mineral type.

	Domain		Min	Max	N Points	Sum	Mean	Variance	Std Dev
	No Domain	SG_GRAV	2.24	4.46	37	119.57	3.231622	0.328942	0.573534
Litho	Gabbro	SG_GRAV	2.94	3.12	5	15.11	3.022	0.00482	0.06943
	Meta-Sediment	SG_GRAV	2.24	4.46	32	104.46	3.264	0.37318	0.61088
	Dom		Min	Max	N Points	Sum	Mean	Variance	Std Dev
MinType	MIN	SG_GRAV	2.95	4.46	10	33.26	3.326	0.28196	0.531
	DISS	SG_GRAV	2.24	2.94	7	18.97	2.71	0.08877	0.29794
	MASS	SG_GRAV	3.99	4.29	4	16.39	4.098	0.01876	0.13696
	SMASS	SG_GRAV	3.76	4.37	3	12.01	4.003	0.10443	0.32316
	BLEB	SG_GRAV	3	3.06	2	6.06	3.03	0.0018	0.04243

Compositing, Top Cutting and Geostatistics

All assay values were assigned to their corresponding grade domain and composited to 1.5 m with a minimum accepted length of 0.5 m, residual lengths were added to the last interval. Composite data tables were generated for each of the estimated elements, Cu, Ni, Au, and Pd. Top cutting was not applied as no outlying high-grade values were identified.

Variograms were generated for all the metals (Cu, Ni, Au, Pd) using data filtered for their respective domains. The variogram model directions were obtained from the geometries of the mineralised lenses, and the derived variograms were able to determine the nugget effect and the ranges for each orientation of the search ellipsoid (Table 3).

Table 3. Geostatistical parameters obtained from the variogram analysis.

	Structure					
Domain	Type	Nugget	Sill	Strike	Plunge	Dip
Cu	0.063	0.063	2.98	210.9	51.85	51.9
Cu	0.027	0.027	0.19	210.9	51.85	51.9
Ni	0.050	0.050	0.07	300.9	89.1	-51.9
Au	0.030	0.030	0.13	300.9	89.1	-51.9
Pd	0.001	0.001	0.03	300.9	89.1	-51.9

Block Modelling and Kriging

A block model with the cell size 4 m x 8 m x 4 m and factor of sub blocking 2-4-2 was generated over the principal (copper) mineralization domain. Each of the subdomains for Ni, Au, and Pd were then generated. The mineral domain wireframes were assigned to the block model and sub blocking applied to preserve volumes; the block model was restricted to the domains. Block model parameters are shown in Table 4.

Table 4. Block Model Parameters.

	Original Block Model (Orientation 35° Azimuth)				
	Origin Min Centre	Origin Max Centre	Block Size	Factor Sub-Block	Min Block Size
X Coordinate	302278.46	304702.47	4 m	2	2 m
Y Coordinate	5644593.21	5648761.21	8 m	4	2 m
Z Coordinate	-427.17	292.83	4 m	2	2 m

The block model was estimated on a domain-by-domain basis using Ordinary Kriging (OK). The copper estimation was restricted to within the mineralized zone wireframe, while the estimations for the other elements were run within their respective domains which were all subdivisions of the copper domain. In the estimation of the secondary metals, the blocks which were outside their respective domains but still within the copper domain were assigned their respective means.

Analysis of the grade distribution within the copper domain show two distinct populations. It was found that breaking this domain down into its component base lithology – the metasediment and gabbroic rocks, separated the populations and defined the final domains that would be used in the estimation. The subdivision of the copper domain into metasedimentary and gabbro portions improved statistical continuity and produced a more realistic estimation. Table 5 outlines the basic statistics of the composite assay datapoints filtered for the final copper domains.

Table 5. Basic statistics for the copper lithology domains.

	Grade	Minimum	Maximum	No of Points	Sum	Mean	Variance	Std Dev	Coeff. of Variation
Cu High Grade	Cu_PCT_BEST	0.013	20.64	1798	2831.0	1.57	2.72	1.65	1.05
Cu Low Grade	Cu_PCT_BEST	0.0003	13.78	3757	1445.1	0.38	0.37	0.61	1.58
Shear Zone	Cu_PCT_BEST	0.0003	20.64	5555	4276.1	0.77	1.44	1.20	1.56

Each of the metals were estimated inside their respective domains with three passes (Table 6). The copper estimation used a variable search geometry to follow the dip of the deposit, while the other elements used the search ellipsoid orientations from the variogram models.

Table 6. Kriging parameters used in the estimation of copper (high and low grades separately), nickel, palladium and gold.

				Range		
Estimation Pass	Domain	Min # of Composites	Max # of Composites	Major	Intermediate	Minor
Pass 1	Cu High	2	16	200	110	5
Pass 2		4	16	315	155	7
Pass 3		4	24	350	175	10
Pass 1	Cu Low	2	16	165	100	10
Pass 2		4	16	250	150	15
Pass 3		4	24	495	300	30
Pass 1	Ni	2	8	70	35	18
Pass 2		4	12	100	50	25
Pass 3		4	40	300	150	75
Pass 1	Au	2	8	70	50	5
Pass 2		4	12	140	100	10
Pass 3		4	40	210	150	15
Pass 1	Pd	2	8	70	35	10
Pass 2		4	12	100	50	15
Pass 3		4	40	300	150	45

Model Validation

- *Statistics Comparison*

A basic analysis of the comparison of the statistics between the estimated results and the input data shows that the estimation does not exhibit any bias and is representative of the samples used versus composites and the resource calculation

- *Swath Plots. Statistical Analysis of Kriging and Nearest Neighbour Estimates*

The block model was populated with Ordinary Kriging (OK) estimation and swat plots generated to show how the OK estimation varies with respect to the nearest neighbour (NN) and the assay values. In general, there is a good correlation between the drill hole assay data, the nearest neighbour model, and the estimated block grades (Figure 13).

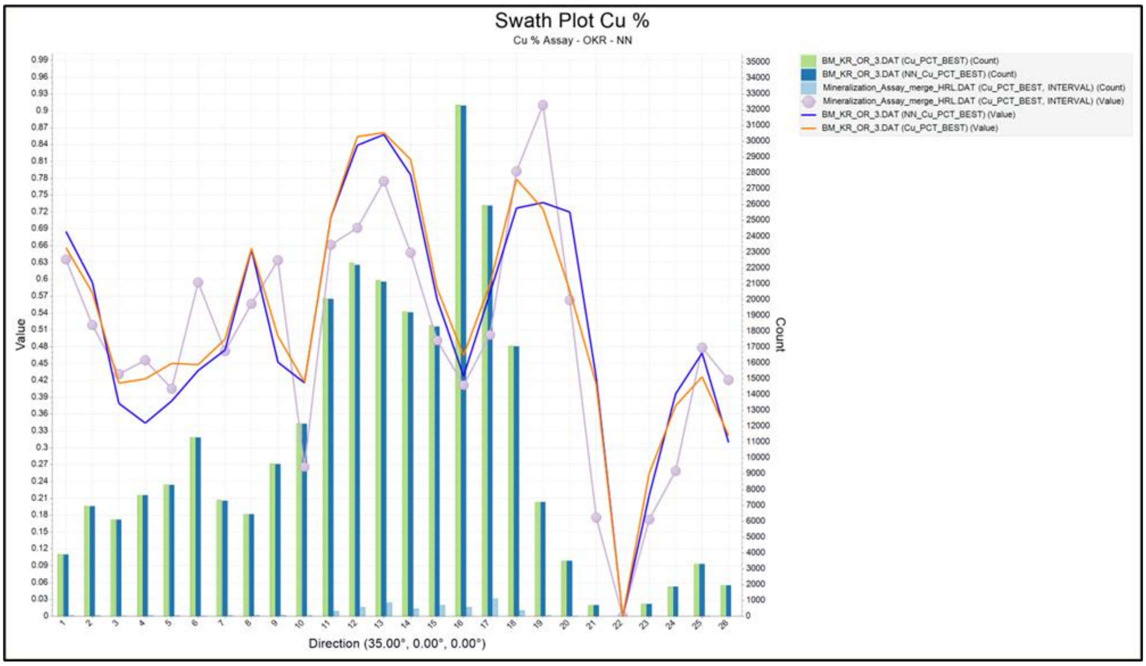


Figure 13. Swath plot for Cu comparing Ordinary Kriging (OK) estimation against Nearest Neighbour (NN), along strike.

- *Visual Validation*

A detailed visual inspection of the block model was performed in cross-section, long-section and in plan to ensure that the results obtained are representative of the geology and known grade distribution. The estimated copper, nickel, gold, and palladium grades in the model are a valid representation of the sample data taken from the drill holes (Figures 14 and 15).

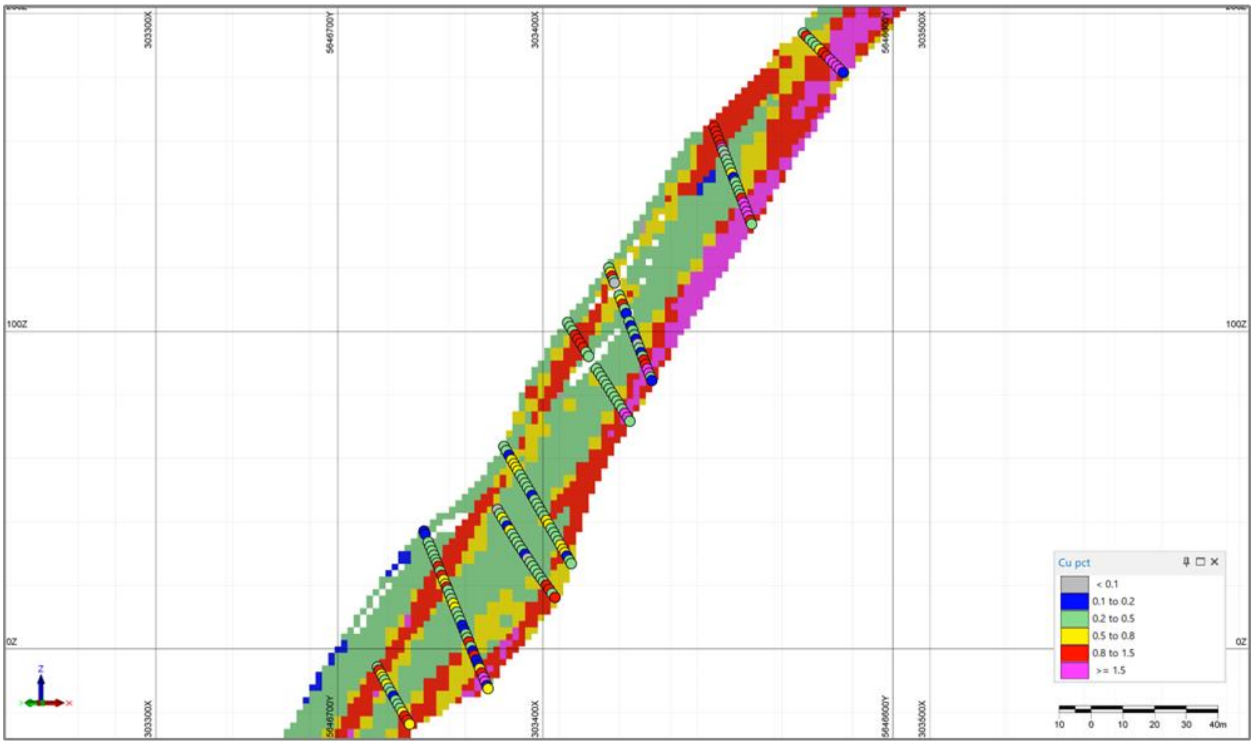


Figure 14. Cross-section image showing the estimated blocks and input data for copper.

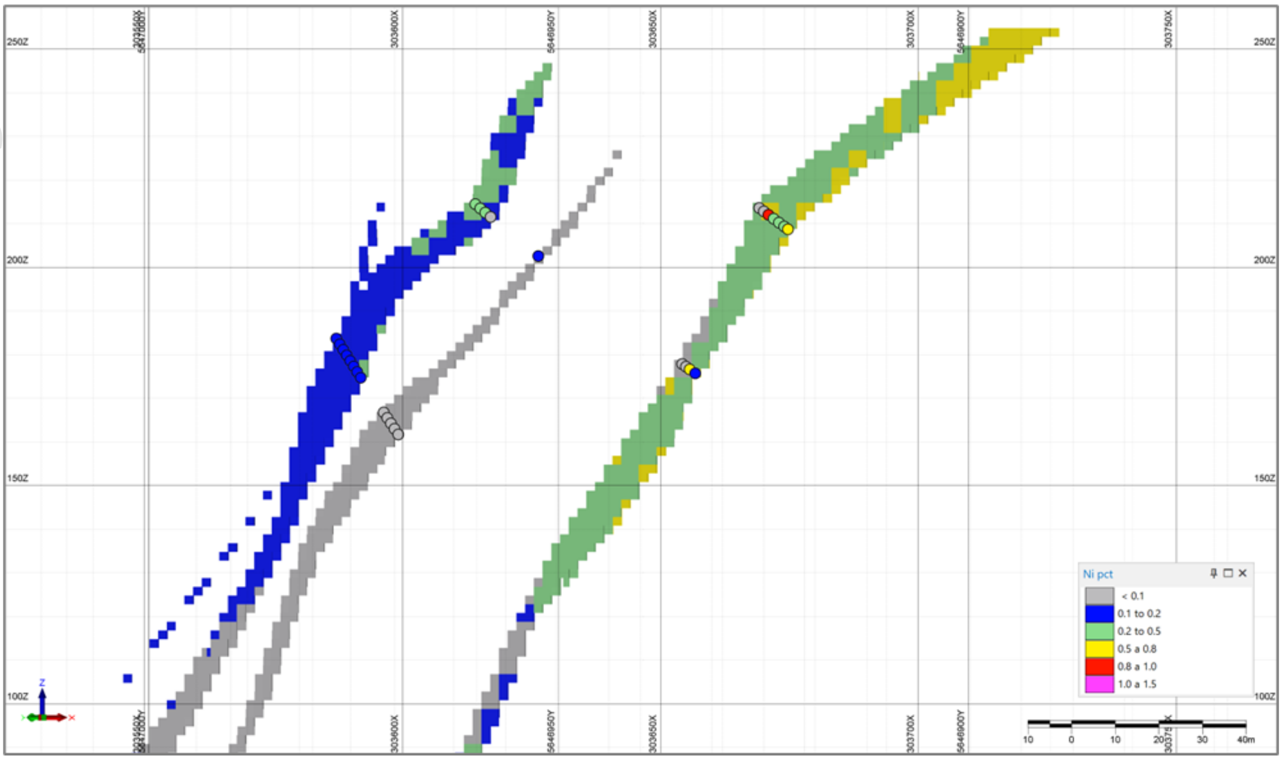


Figure 15. Cross-section image showing the estimated blocks and input data for nickel.

Resource Classification

The classification of the resource is based upon the ranges observed in the variogram models and the number of drill hole composites that went into estimating the blocks. Table 8 provides the parameters used to define the different resource classifications.

Table 7. Resource classification parameters.

	Distance			
	X (Along structure)	Z (Down dip)	Min N° Drillholes	Min N° Samples
Indicated	40 - 50	50 - 70	3	3
Inferred	100	100 - 120	2	2

After assigning the resource classification based upon the criteria shown in Table 7, the model was reviewed and the classification modified considering risk assessment on the input data, essentially downgrading the blocks that were estimated from the INCO drill holes to Inferred (Figure 16).

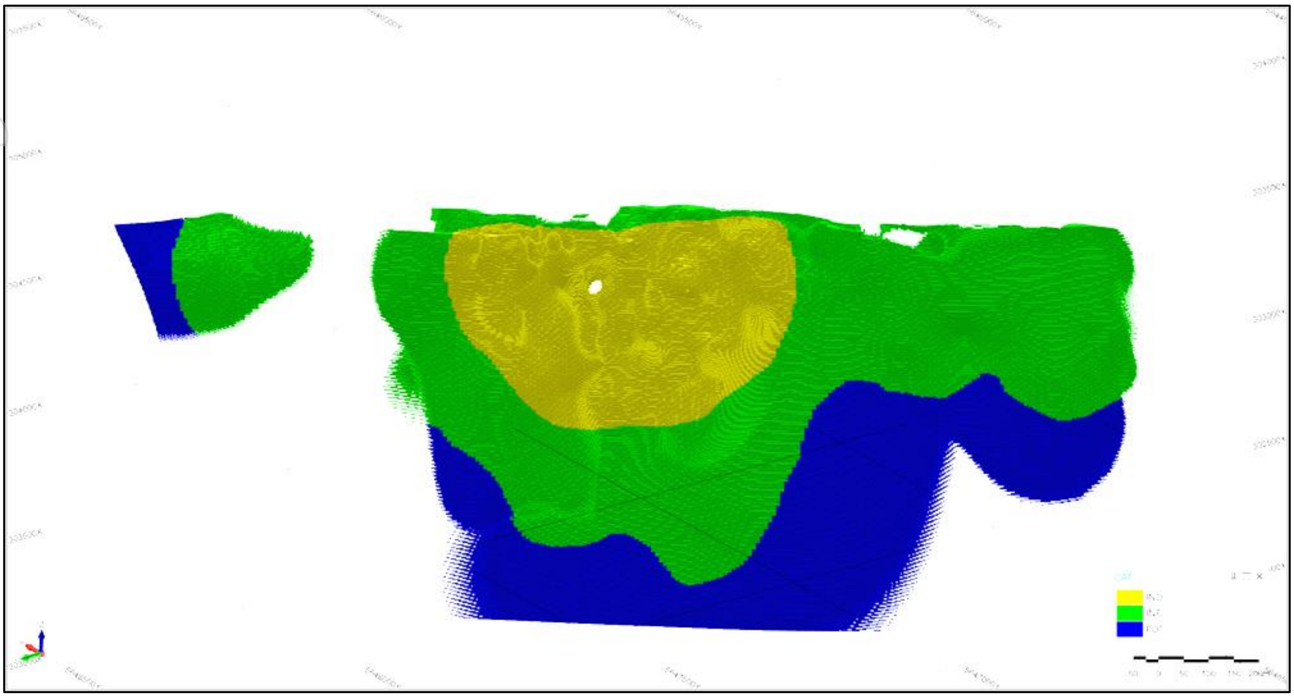


Figure 16. Classification of the resources as Indicated (yellow) and Inferred (green) with unclassified blocks (blue) representing the exploration target potential.

Reasonable Prospect of Economic Extraction and Cut-Off Grade

The geometry of the mineralization body and its proximity to the surface puts forward the option to extract this mineral deposit via an initial open pit with the deeper portions being extracted via underground mining methods. To ascertain which portion of the resource could be considered to have a reasonable prospect of economic extraction both open pit and underground mining scenarios were reviewed. Based on economic, metallurgical, and cost parameters, copper equivalent (CuEq) cut-off grades were estimated for both underground and open pit mining scenarios

The calculation of CuEq was made based on copper, nickel, gold and palladium prices and expected metallurgical recoveries provided in Table 8 and Formula (1) below. The CuEq parameters and recoveries were determined by benchmarking with other (polymetallic) deposits and magmatic Ni-Cu projects with similar characteristics to the Horden Lake Deposit.

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Table 8. Summary of metals parameters used in the calculation of a CuEq cut-off.

Metal	Price		Recovery
Cu	7,300	US$/t	90%
Ni	21,300	US$/t	80%
Au	1600	US$/oz	80%
Pd	1900	US$/oz	80%

Formula (1):

*CuEq=Cu(%) +Ni(%)*2.59 + Au(ppm)*0.63 + Pd(ppm)*0.74*

Table 9. Summary of open pit (OP) and underground (UG) parameters used in developing a CuEq cut-off.

OP Parameters			*UG Parameters*		
Mining Cost OP	4.3	US$/t	*Mining Cost UG*	50	US$/t
Process Cost	11.1	US$/t	*Process Cost*	10.6	US$/t
G & A	2.3	US$/t	*G & A*	5.5	US$/t
Sale Cost	661.4	US$/t	*Sale Cost*	661.4	US$/t

According to these parameters, the calculation was made to obtain the copper equivalent (CuEq) cut-off grade for Open Pit and for Underground with the following formula:

Formula (2):

$$Cu\ Eq.(\%)\ Cut - Off\ \text{Open Pit}_{(Economic)} = 100 * \frac{Mining\ Cost + Processing\ Cost + G\&A}{(Recovery * \ (Price - Sale\ Cost)}$$

$$Cut - Off\ \text{Open Pit}_{(Economic)} = 0.30\%\ CuEq$$

$$\textit{Cut-Off}\text{Underground } (\textit{Economic}) = 1.12\%\ \text{CuEq}$$

In order to determine the proportion of the deposit that would be amenable to extraction via open pit mining methods and calculate the number of blocks that could be considered a mineral resource at a cut-off of 0.30% CuEq, an optimised pit shell was generated (Figure 17). The pit shell was calculated using a Lerchs-Grossmann algorithm run inside Datamine NPV Scheduler software using the parameters outlined in Table 10.

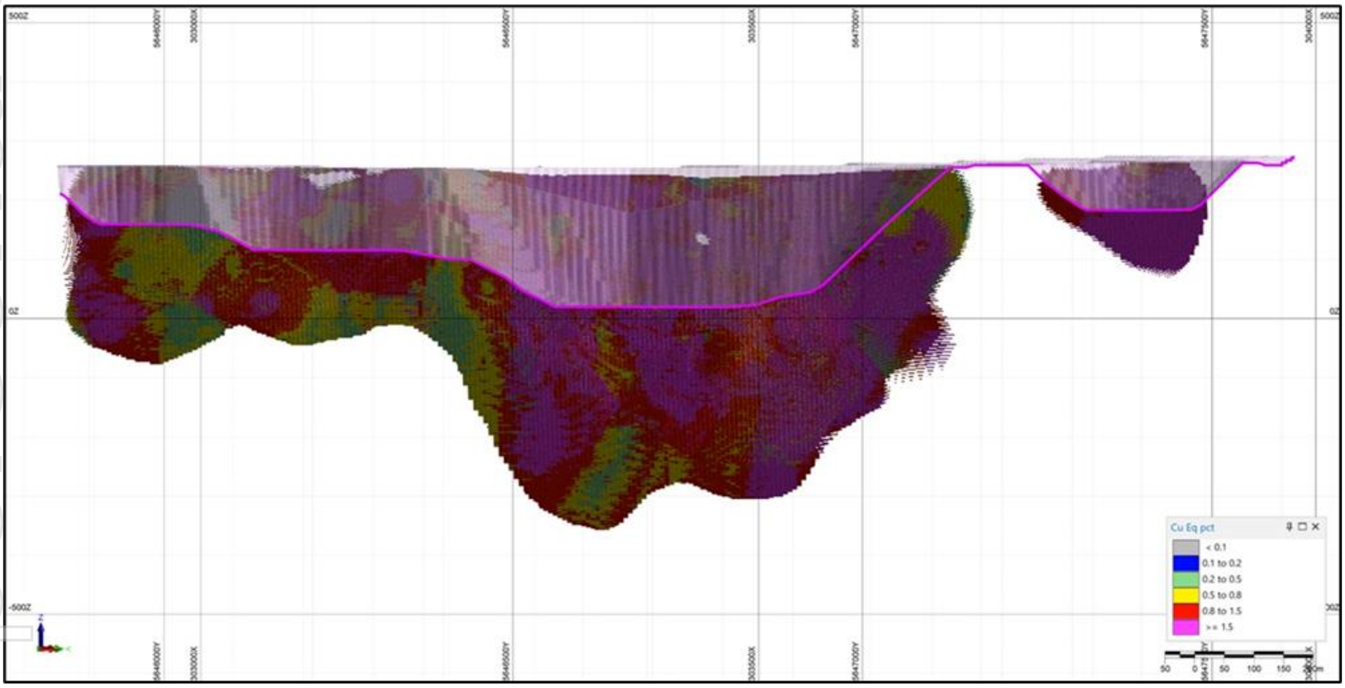

Figure 17. Optimized pit shell overlain on the current mineral resource estimate, looking west-northwest and showing the % CuEq grades.

Table 10. Summary of parameters considered for the pit optimisation.

Optimization Parameters		
Item	**Unit**	**Value**
Discount Rate	%	10
Metal Prices		
Copper	US$/t	7,300
Nickel	US$/t	21,300
Gold	US$/troy oz	1,600
Palladium	US$/troy oz	1,900
Metal Recoveries		
Copper	%	90

Nickel	%	80
Gold	%	80
Palladium	%	80
Mining Cost	US$/t	4.25
Processing Cost	US$/t	11.11
G & A	US$/t	2.31
Sale Cost		
Copper	US$/t	730
Nickel	US$/t	2,130
Gold	US$/troy oz	160
Palladium	US$/troy oz	190
Mining Dilution	%	10
Overall Pit Slope	degrees	45
Mill throughput	tonnes/year	1,000,000

Mineral Resource Statement

The mineral resource estimation of the Horden Lake Deposit considers the elements copper, nickel, gold, and palladium, and a calculation for copper equivalent. The Mineral Resource Statement considers the portions of the resource within the optimised pit shell at a cut-off of 0.30% CuEq, and the deeper portions of the mineral resources outside (below) the optimised pit shell, using an underground cut-off of 1.12% CuEq.

The Mineral Resource Statement for the Horden Lake Cu-Ni-Au-Pd Deposit is provided in Table 11, with the open pit and underground components detailed in Table 12 and Table 13, respectively.

Table 11. Total Mineral Resource Statement for the Horden Lake Cu-Ni-Au-Pd Deposit using an in-pit cut-off of 0.30% CuEq, and a below pit cut-off of 1.12% CuEq.

Tonnes (t)	CuEq (%)	Cu (%)	Ni (%)	Au (ppm)	Pd (ppm)	Metal Cu (t)	Metal Ni (t)	Metal Au (oz)	Metal Pd (oz)	CAT
15,238,042	1.5	0.77	0.2	0.12	0.19	117,576	30,535	59,364	91,332	IND
12,538,163	1.47	0.67	0.25	0.02	0.19	84,018	31,392	6,881	76,696	INF

Table 12. Component of the Mineral Resource Statement for the Horden Lake Cu-Ni-Au-Pd Deposit that falls within the optimized open pit using a cut-off of 0.3% CuEq.

Tonnes (t)	CuEq (%)	Cu (%)	Ni (%)	Au (ppm)	Pd (ppm)	Metal Cu (t)	Metal Ni (t)	Metal Au (oz)	Metal Pd (oz)	CAT
11,591,808	1.42	0.72	0.19	0.11	0.18	83,822	21,902	42,429	67,298	IND
5,728,307	1.31	0.56	0.24	0.01	0.18	31,831	13,684	1,499	33,221	INF

Table 13. Component of the Mineral Resource Statement for the Horden Lake Cu-Ni-Au-Pd Deposit that falls outside (below pit) the optimised pit and within a cut-off of 1.12% CuEq.

Tonnes (t)	CuEq (%)	Cu (%)	Ni (%)	Au (ppm)	Pd (ppm)	Metal Cu (t)	Metal Ni (t)	Metal Au (oz)	Metal Pd (oz)	CAT
3,646,234	1.78	0.93	0.24	0.14	0.21	33,754	8,632	16,936	24,034	IND
6,809,856	1.6	0.77	0.26	0.02	0.2	52,187	17,708	5,382	43,475	INF

Note: values in Table 11, Table 12 and Table 13 have been rounded off to 2 significant figures as to reflect the level of certainty of the resource calculation and for this reason the figures quoted may not always add up.

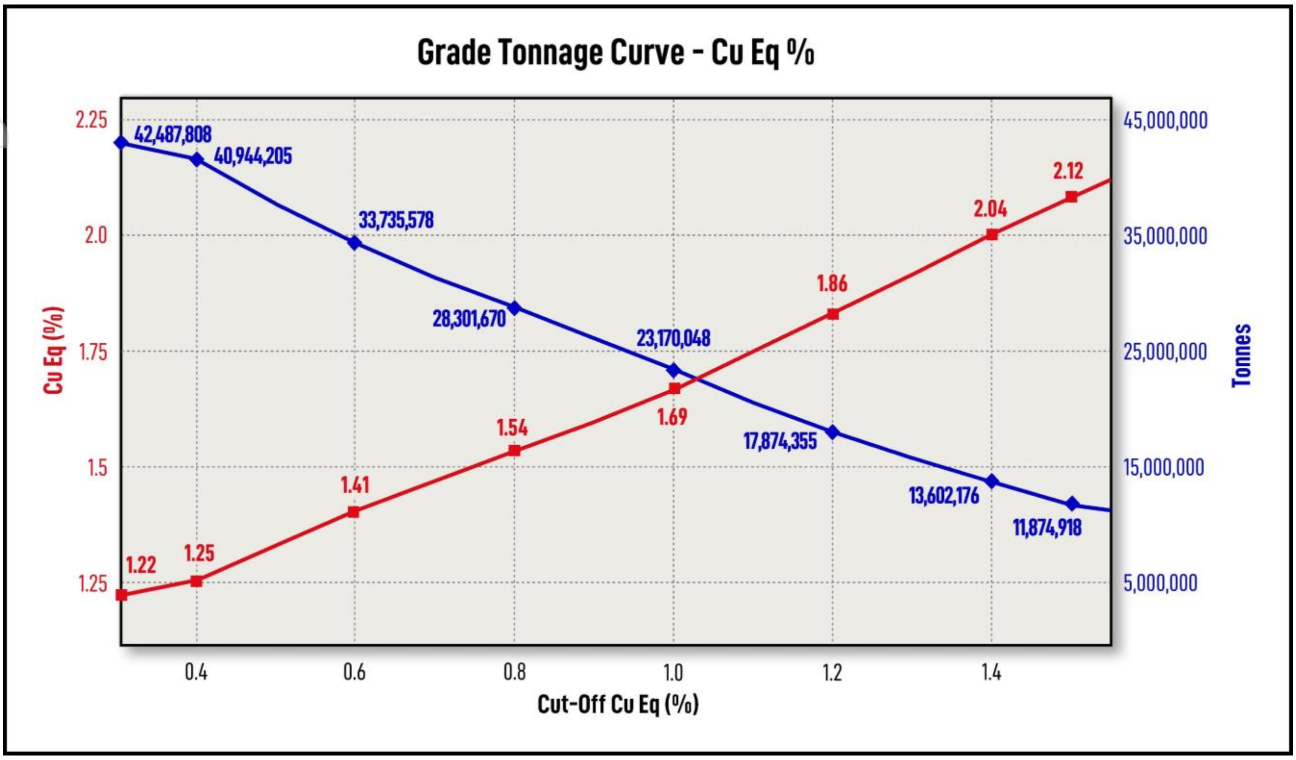

Figure 18. Grade-tonnage curve using % CuEq

The main component of the mineral resource is copper with substantial value added through the occurrence of nickel and to a lesser extent gold and palladium, for this reason the copper equivalence is an effective way to the evaluate the economic potential of the deposit. Figure 19 is showing the grade-tonnage curve using % CuEq and showing the relative metal contribution.

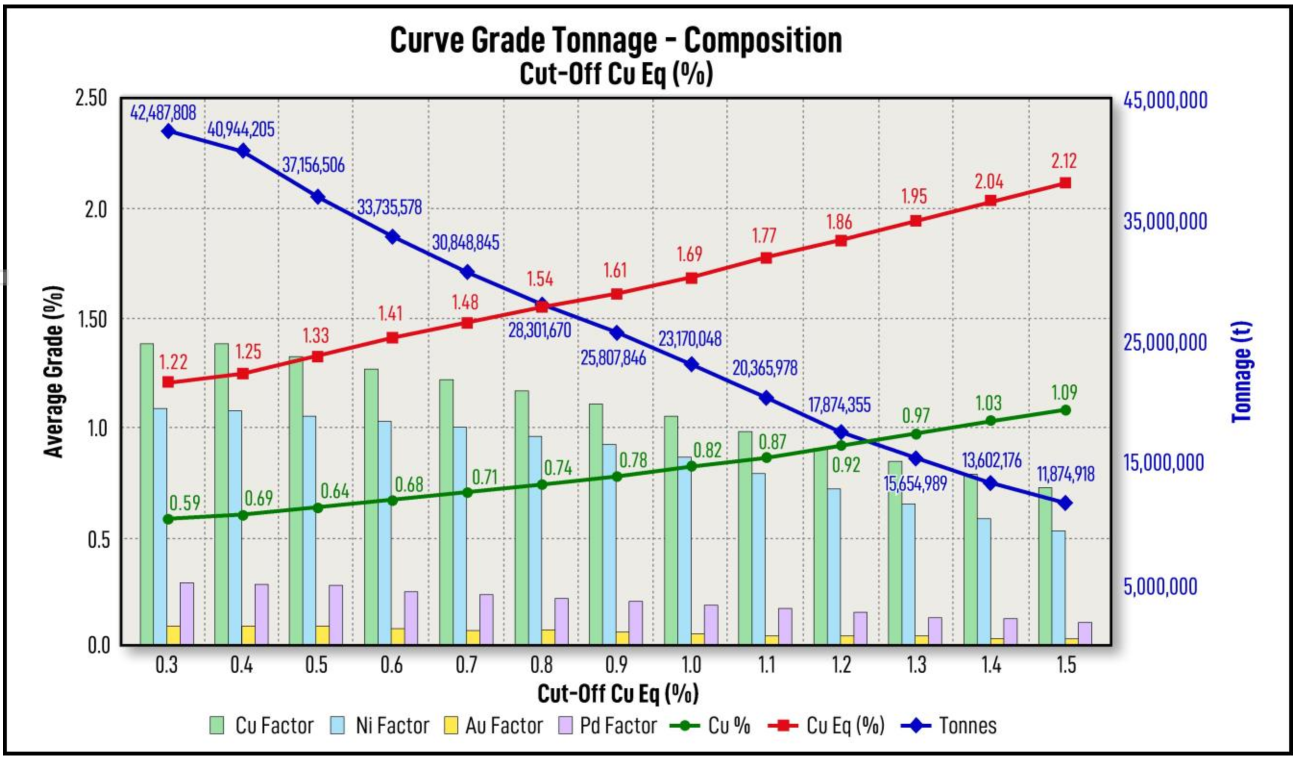

Figure 19. Grade-tonnage curve using % CuEq and showing the relative metal contribution.

This announcement has been authorised by the Board of Directors of the Company.

Ends

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About Rafaella Resources

Rafaella Resources Limited (ASX:RFR) is an explorer and developer of world-class mineral deposits. Rafaella holds a battery metals exploration portfolio in Canada located within the prolific Belleterre-Angliers Greenstone Belt comprised of the Midrim, Laforce, Alotta and Lorraine high-grade nickel copper PGM sulphide projects in Quebec (together the '**Belleterre-Angliers Project**'). These projects are now complemented by the flagship Horden Lake property, subject to a binding acquisition agreement, which contains a significant copper-nickel-PGM-gold-silver metal resource. The combination of these projects offers significant upside for the Company shareholders in a supportive mining jurisdiction as modern economies look to transition to renewables.

Rafaella also owns the Santa Comba and San Finx tungsten and tin development projects in Spain. The recently acquired San Finx project lies 50km south from the Company's Santa Comba tungsten and tin mine in Galicia, NW Spain, all within the same geological belt, strengthening the Company's strategic position in the Iberian Peninsula and its long-term goal of being a significant supplier of the critically listed metals of tungsten and tin.

To learn more please visit: www.rafaellaresources.com.au

Competent Person Statement

The Report has been prepared and reported in accordance with the JORC Code (2012). The information in the Report that relates to Technical Assessment of the Mineral Assets or Exploration Results is based on information compiled and conclusions derived by Dr. Jobin-Bevans and Mr. Simon Mortimer, both Competent Persons as defined by JORC Code (2012).

The Authors have sufficient experience that is relevant to the Technical Assessment of the Mineral Assets under consideration, the style of mineralisation and types of deposit under consideration and to the activity being undertaken to qualify as a Practitioner as defined in the 2015 Edition of the "Australasian Code for Public Reporting of Technical Assessments and Valuations of Mineral Assets", and as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". The Authors consent to the inclusion in the Announcement of the matters and the supporting information based on his information in the form and context in which it appears.

Forward Looking Statements Disclaimer

This announcement contains forward-looking statements that involve a number of risks and uncertainties. These forward-looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this announcement. No obligation is assumed to update forward looking statements if these beliefs, opinions, and estimates should change or to reflect other future developments.

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JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.*	Three historical diamond drilling programs with data available: 2008 Southampton Diamond Drilling (Kelso et al., 2009): • NQ diamond drill core (47.6 mm dia.) was mechanically split in half; half for sample and half for reference. • Typical sample intervals were from 0.5 to 2.0 m, based upon lithology and mineralization, but smaller intervals taken where appropriate. • Core samples collected from mineralized intervals and from 10 to 15 m of the hanging and footwall of the mineralized section. • In total, 6,551 samples were collected. • Descriptive information, including drill hole number, sample interval and character of mineralization, recorded using DHLogger software. • Due to limited early-stage understanding of mineralized zone geometry, samples were not necessarily 'true' thickness 2012 El Condor Drilling (El Condor, 2012): • HQ diamond drill core (63.5 mm dia.) was mechanically split in half; half for sample and half for reference. • Typical sample intervals were from 0.5 to 1.5 m, based upon lithology and mineralization, but smaller intervals taken where appropriate. • Descriptive information, including drill hole number, survey information, downhole survey, magnetic susceptibility, RQD, specific gravity, sample interval and character of mineralization, alteration recorded in Excel spreadsheets 1963-1968 INCO Drilling (WGM, 1993; INCO, 1963-1969): • Some holes noted as BQ size core (36.5 mm dia.). • Details of sampling techniques not available and not reviewed by Competent Person
Drilling techniques	• *Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Southampton: NW casing (76.2 mm dia.) set through overburden. Bedrock diamond drilling was standard tube NQ core (Kelso et al., 2009). • El Condor: HW casing (101.6 mm dia.) set though overburden. Bedrock diamond drilling standard tube HQ core (El Condor, 2012). • INCO: Some holes noted as BQ size (INCO, 1964-1969). • Details of drilling techniques not available and not reviewed by a Competent Person.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure*	Southampton (2008): • Average core recovery ranged from 90% to 95% (Kelso et al., 2009). • No description of core recovery estimation method is provided in historical

Criteria	JORC Code explanation	Commentary
	representative nature of the samples. • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	Technical Report (Kelso et al., 2009). El Condor (2012) • Average core recovery in 2012 drilling ranged from 93.4% to 98.3% (El Condor, 2012): • No description of RQD estimation method accompanied drill core logs. • Overall recovery good enough to avoid sample bias. INCO (1960s): • Details of core recovery for INCO drilling were not available or reviewed by a Competent Person.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• The Competent Persons have reviewed historical drill logs (El Condor, 2012) but have not verified the information independently for quality control and quality assurance nor been to site. In the CPs opinion the historical core has been geologically and geotechnically logged to a level of detail to support future Mineral Resource Estimation, mining studies and metallurgical studies. Core logs were made for the full length of the core and are qualitative in nature. Both wet and dry core photographs exist for 2008 and 2012 drilling programs.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• It is reported (Kelso et al., 2009; El Condor, 2012) that core was split or sawn and sampled as half-core in marked intervals with remaining core kept for reference and stored. The Competent Person has not independently verified this information for quality control and quality assurance nor been to the sites and therefore reporting as stated. • Samples for both programs were prepared and analysed by standard mineral geochemistry methods at a primary certified lab (Activation Laboratories (Actlabs), Ancaster Ontario) and to Laboratoire Expert Inc. of Rouyn-Noranda, Quebec (Kelso et al., 2009). • Quality control procedures for 2008 drilling were reviewed, and included field reject and pulp duplicates (Kelso et al., 2009). Some inefficiencies in in core processing procedures were noted. • Quality control procedures for 2012 drilling were reviewed, and included field duplicates, and insertion of quartz blanks and blind standards (El Condor, 2012).
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their*	• Both the 2008 and 2012 drilling programs included a QA/QC program. • No details of QA/QC procedures for INCO drilling were available or reviewed by a Competent Person. • The 2008 drilling program sampling included one blank and two of three (high, medium, and low) Cu-Ni-PGE standards, as well as laboratory pulp and reject duplicates. Samples were analysed for gold (Au), palladium

Criteria	JORC Code explanation	Commentary
	derivation, etc. • *Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	(Pd), and platinum (Pt) through fire assay, and all other elements (31 including Cu and Ni) were analysed using aqua regia digestion with an ICP-OES finish. Five percent of the sample database (141 coarse reject samples) and 17 QC samples were sent to Accurassay Laboratory for analysis as a quality control check. • Extensive QA/QC checks, including reanalysis of failed (outside 2sδ) samples concluded that Cu and Ni outliers were acceptable for resource estimation and that 'the re-assay by Accurassay of 5% of the samples used in the resource model calculation confirms that the original assays by Actlabs are of good quality (Kelso et al., 2009). • The Competent person has not independently verified this information for quality control and quality assurance to comment on the nature, quality and appropriateness of the assaying and laboratory procedures used, nor has he been to site. • 2012 drilling program sampling included one field duplicate, one quartz blank and one of three CRMs every 25 samples, as well as laboratory reject and pulp duplicates. • Samples were analysed for gold (Au), palladium (Pd), and platinum (Pt) through fire assay, and other elements (36) by four-acid digestion and ICP-MS analysis. Overlimit for Cu and Ni were reanalysed by ICP-OES (El Condor, 2012). • It is not clear whether external check analysis was performed in the 2012 drilling.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Significant intersections have been reported historically. The Competent Persons have not independently verified this information for quality control and quality assurance nor been to the site. • The 2008 drilling program informing the historical resource estimate employed an external check lab (Accurassay Laboratory) (Kelso et al., 2009). • No external check lab appears to have been used for the 2012 drilling program. However, despite there not being a complete record available for the QA/QC, the program was managed by the same QA/QC personnel who oversaw the 2008 Southampton drilling and so it is likely that similar protocols were followed.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• 2008 and 2012 drillhole collars were surveyed using Trimble GEO XH using Zephyr™ external antenna and base corrected using GPS Pathfinder software. The results of the DGPS survey were utilized for the transformation of historical INCO data from local grid to UTM space (+/- 10cm accuracy). • Location accuracy of drill collars is considered adequate for early-stage

Criteria	JORC Code explanation	Commentary
		resource estimation. • Down hole survey data collected with Flexit and Reflex Maxibore instruments. Reflex Maxibore is an advanced instrument which is considered more accurate in magnetically disturbed environments. • Survey data with Reflex Maxibore collected at every 3 m from hole bottom and transferred digitally into database. • Down hole survey data accuracy considered adequate for early-stage resource estimation. • There are no accurate locations provided for the INCO drill hole collars and the drill holes were spotted on a local grid which was later transformed to UTM coordinates by Caracle Creek on the basis of some INCO drill hole collar locations found and GPS'd in the field.
Data spacing and distribution	• ***Data spacing for reporting of Exploration Results.*** • ***Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.*** • ***Whether sample compositing has been applied.***	• Southampton (2008) drill holes spaced 50 m apart along gridlines (Kelso et al., 2009). • The mineralized zone was modelled on sections at intervals of approximately 50 m. The zones were extended 25 m along strike to the north-east and south-west, beyond the last section drilled. • Drill density (168 holes) sufficient for an Inferred and Indicated resource estimate (Kelso et al., 2009). • Sample compositing at 1.5 m in mineralized zones applied (Kelso et al., 2009). • The data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource estimation procedure(s) and classifications applied.
Orientation of data in relation to geological structure	• ***Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*** • ***If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.***	• Information about the orientation of data in relation to geological structure applied is not presented in the reports reviewed by the Competent Person • From map presentation and cross-sections, drill hole azimuth and inclination appear to have been designed to minimize sample bias (Kelso et al., 2009; El Condor, 2012). • No bias is considered to have been introduced to the sampling.
Sample security	• ***The measures taken to ensure sample security.***	• All samples were tagged using pre-printed sample tags with a unique 5-digit number and bagged in individual plastic bags. Ten individual bags were collected in rice bags prior to shipping. the core was stored at Horden Lake camp which was a very remote location., Only drilling company staff and the Caracle Creek geologists had access. • The samples were transported from Matagami to Laboratoire Expert, in Noranda by bus (Expedibus) and by a private freight company (Rona Inc.) to Actlabs in Ancaster Ontario (Kelso et al., 2009). • 2012 drilling program conducted by Caracle Creek using same camp and laboratory (El Condor, 2012). No details of sample security procedures

Criteria	JORC Code explanation	Commentary
		were available or reviewed by the Competent Persons.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• The 2009 Technical Report and Mineral Resource Estimation was signed off by Luc Harnois, Ph.D., and P.Geo., (OGQ, APGO) who also reviewed the 2008 drilling program while underway. His review included: • Core logging and sampling of 21 diamond drill holes totalling 5.2 km. • Locating several drill holes on the grid. • The azimuth and dip of these drill holes were verified (Kelso et al., 2009). • A Competent Person has not independently verified this information nor been to the site.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The Horden Lake Cu-Ni-PGE Project is located approximately 140 km north of the town of Matagami in Township 1408, James Bay District, Quebec. It is located approximately 10 km west of kilometre 200 on Route 109 (James Bay Highway), an all-weather road connecting Matagami to the Hydro-Québec James Bay power complex at Radisson, Quebec. The approximate location of the Horden Lake Deposit (the "Deposit") is UTM 303505mE, 5646895mN, map datum NAD83 Zone 18 North, equivalent to 50°56'25" latitude and 77°47'49" longitude. • The boundaries of the Property have not been legally determined by surveying. Claim outlines are obtained from GESTIM Plus, the online title management system of the Ministry of Energy and Natural Resources of Quebec. • The Project consists of 18 mining claims (CDCs) in two non-contiguous groups, totalling approximately 814.81 ha. As of 21 October 2022, all 18 mining titles for the Horden Lake Property are active and registered 100% in the name of Gestion Ora-Mirage Ltée, a Quebec registered private company. Rafaella does not own the surface rights over the mining claims, these rights remain with the Crown. • The annual holding costs for the 18 mining claims total C$1,137 in annual fees and C$34,500 in annual exploration work. There is currently enough credit in "Excess Work" (C$4,606,029.94) that can be applied (distributed) amongst the current mining claims, circumventing the immediate need for the filing of exploration expenditures. • On 2 September 2022, 9426-9198 Quebec Inc. ("RFR Quebec"), a wholly owned Quebec registered subsidiary of Rafaella Resources Ltd., signed a Claims Purchase Agreement (the "Agreement") with Gestion Ora-Mirage

Criteria	JORC Code explanation	Commentary
		Ltée, a Quebec registered private company, to purchase 12 of the Horden Lake Property mining claims. On 2 September 2022, the same parties signed an amendment to the Agreement which included an addition 6 mining claims. Together the Agreement and the Amendment give Rafaella Resources Ltd. the right to purchase 100% of the 18 mining claims, subject to certain conditions, totalling C$4M dollars. • The 18 mining claims are subject to a Net Smelter Return Royalty ("NSR") defined as a production royalty, which is payable at a rate of 1.0% from material derived from the Property during production. • There are no issues with native title issues, historical sites, wilderness or national parks and environmental settings. • Permits are required to conduct exploration programs that will disturb the surface (e.g., surface trenching, diamond drilling) and, typically, for any associated environment-altering work (e.g., watercourse diversion, water crossings, clear-cutting). Rafaella must file the permit applications for these activities with the appropriate government departments in a timely fashion, allowing a minimum of 4 weeks, but ideally 6 to 8 weeks, for the processing period, inclusive of any required First Nation consultation. • Rafaella is in the process of applying for drilling permits and is investigating the need and requirements to install a temporary exploration camp on or near the Property. • In Quebec, forest management permits are required before trees can be felled when building access roads and drill sites. These permits are issued by the Ministry of Forests, Wildlife and Parks ("MFFP"). The time frame in obtaining this type of permit is usually 2 to 4 weeks.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Exploration to date has been completed by other parties including INCO and Caracle Creek International Consulting Inc. on behalf of Southampton ventures and El Condor Minerals (Kelso et al., 2009; El Condor, 2012). A Competent Person has reviewed reports and files pertaining to the 1960s, 2008 and 2012 exploration work and drilling campaigns but has not independently verified the contained information nor been to site.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Magmatic Cu-Ni-PGE (platinum-group element) sulphide mineralization within the Frotet-Evans Greenstone Belt in the Opatica Subprovince. Dominant rock types are metavolcanic and metasedimentary rocks. Metagabbro occurs as a long and narrow, concordant body and has inclusions of metasedimentary rocks. Granites intrude the metasedimentary and metavolcanic package and are cut by granitic dikes and pegmatites. The youngest rocks in the area are gabbro and diabase dikes. • Host of the mineralization is variable between the gabbroic rocks and the footwall metasedimentary rocks, with up to 5% disseminated to massive

Criteria	JORC Code explanation	Commentary
		pyrrhotite, pentlandite, pyrite and chalcopyrite, and blebby sulphides also occur in shear zones within the gabbro, along the contact and within the sediments (Kelso et al., 2009; El Condor, 2012). Local sphalerite and galena occur in altered gabbro (Kelso et al., 2009).

Criteria	JORC Code explanation	Commentary

Drill hole Information

JORC Code explanation:

- ***A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:***
  - ***easting and northing of the drill hole collar***
  - ***elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar***
  - ***dip and azimuth of the hole***
  - ***down hole length and interception depth***
  - ***hole length.***
- ***If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.***

Commentary:

- The following drill holes were used in the modelling and calculation of the current Mineral Resource Estimate ("MRE") and are drill holes that occur within the boundary of the Horden Lake Property. All oordinates are in NAD83 Zone 18N unless otherwise stated.
- Summary of 96 drill holes completed by INCO (1963-1969) and used in the current MRE:

Drill Hole	UTM_mE	UTM_mN	Elev (m)	Length (m)	Az	Dip
H24029	303031.56	5646024.85	258.00	11.28	124.0	-45.0
H24047	303629.35	5646951.86	253.00	115.83	124.0	-46.0
H24048	303641.54	5647090.91	255.00	172.21	124.0	-45.0
H24049	303849.24	5647397.95	263.17	115.22	124.0	-46.0
H24064	302991.25	5646052.11	257.00	135.03	124.0	-45.0
H24065	303062.98	5646151.08	255.00	128.63	124.0	-45.0
H24066	302933.43	5645942.76	258.04	128.93	124.0	-45.0
H24068	303191.10	5646361.08	249.39	124.06	124.0	-45.0
H24070	303390.16	5646525.61	247.00	118.87	124.0	-55.0
H24071	303031.05	5646024.09	258.00	24.69	124.0	-55.0
H24085	303449.58	5646633.52	248.00	124.36	124.0	-45.0
H24087	303336.60	5646560.97	255.00	169.78	124.0	-55.0
H24088	303311.93	5646429.50	247.46	127.71	124.0	-45.0
H24089	303557.54	5646856.61	253.03	125.58	124.0	-45.0
H25301	303765.69	5647303.20	259.80	106.68	124.0	-45.0
H25302	303579.00	5646985.45	254.00	156.67	124.0	-45.0
H25303	303507.03	5646891.04	254.11	160.02	124.0	-46.0
H25304	303397.97	5646667.95	255.05	167.64	124.0	-65.0
H25305	303442.64	5646788.28	255.00	149.96	124.0	-60.0
H25306	303484.59	5646905.64	254.40	246.89	124.0	-65.0
H25307	303342.10	5646852.41	255.65	300.54	124.0	-65.0
H25308	303527.98	5647020.22	255.00	260.91	124.0	-65.0
H25309	303294.32	5646737.83	255.92	304.80	124.0	-65.0
H25310	303619.69	5647104.75	255.00	209.10	124.0	-65.0

Criteria	JORC Code explanation	Commentary

H25311	303255.76	5646466.97	249.00	186.85	124.0	-57.0
H25313	303128.61	5646402.77	250.00	179.83	124.0	-60.0
H25315	303036.26	5646464.38	250.00	297.79	124.0	-62.0
H25317	303176.36	5646667.13	252.31	319.13	124.0	-57.0
H25319	303474.17	5646683.92	249.00	107.60	124.0	-65.0
H25321	303385.87	5646742.83	255.50	213.36	124.0	-65.0
H25323	303528.44	5646794.54	251.63	122.84	124.0	-65.0
H25324	303419.13	5646573.81	247.00	117.96	124.0	-65.0
H25325	303441.66	5646852.43	255.00	252.07	124.0	-69.0
H25327	303330.33	5646633.06	255.00	212.45	124.0	-69.0
H25329	303388.84	5646961.07	255.59	330.41	124.0	-70.0
H25378	303574.14	5646947.57	253.24	134.11	124.0	-50.0
H25379	303568.12	5646914.52	253.04	152.10	124.0	-70.0
H26810	303576.69	5646872.10	252.36	110.03	124.0	-70.0
H26812	303189.46	5646506.80	250.00	263.96	124.0	-70.0
H26815	303133.28	5646250.63	251.55	106.07	124.0	-70.0
H26816	303596.88	5646895.70	252.06	106.38	124.0	-70.0
H26817	302933.78	5646236.90	253.48	288.04	124.0	-65.0
H26818	302946.81	5646081.39	256.19	176.79	124.0	-70.0
H26819	303548.81	5646927.77	253.00	190.81	124.0	-70.0
H26823	303608.02	5647181.91	256.00	320.35	124.0	-70.0
H26824	303096.28	5646201.91	253.00	116.74	124.0	-50.0
H26825	302997.16	5646341.44	252.00	273.71	124.0	-70.0
H26826	303620.04	5647027.07	254.00	171.30	124.0	-70.0
H26827	303459.56	5647060.72	255.00	319.74	124.0	-70.0
H26828	303467.55	5646651.63	248.96	100.28	124.0	-70.0
H26849	303440.67	5646596.15	247.90	108.21	124.0	-70.0
H26850	303377.22	5646601.41	255.00	167.34	124.0	-70.0
H26851	303349.37	5646693.77	255.34	229.52	124.0	-70.0
H26852	303401.14	5646549.11	247.00	108.21	124.0	-70.0

Criteria	JORC Code explanation	Commentary

H26853	303521.39	5646835.95	254.30	132.59	124.0	-50.0
H26854	303302.18	5646578.43	254.20	213.97	124.0	-70.0
H26855	303493.13	5646854.43	254.79	193.25	124.0	-65.0
H26856	303553.43	5646998.10	254.02	192.03	124.0	-60.0
H26857	303147.01	5646314.89	250.00	120.40	124.0	-70.0
H26858	303093.24	5646203.93	253.00	105.16	124.0	-70.0
H26859	303615.70	5646993.26	254.00	135.03	124.0	-50.0
H26860	303238.22	5646400.86	249.00	130.46	124.0	-57.0
H26861	303356.96	5646505.54	247.24	103.94	124.0	-70.0
H26863	303205.98	5646862.83	252.00	420.93	124.0	-70.0
H26865	303653.65	5646967.94	253.36	89.92	124.0	-50.0
H26867	303592.97	5646860.87	252.00	82.30	124.0	-65.0
H26868	303617.75	5646919.22	252.68	88.39	124.0	-50.0
H26869	303542.96	5646894.97	253.57	161.85	124.0	-70.0
H26870	303558.96	5646957.70	253.79	160.02	124.0	-60.0
H26871	303559.51	5646810.88	251.00	92.97	124.0	-50.0
H26872	303482.90	5646641.75	248.41	77.12	124.0	-70.0
H26873	303449.78	5646590.07	247.57	83.52	124.0	-65.0
H26874	303348.58	5646474.42	247.00	95.10	124.0	-70.0
H26875	303600.27	5647003.56	254.00	159.72	124.0	-65.0
H28811	303511.28	5646953.17	253.91	246.28	124.0	-70.0
H28812	303254.26	5646685.64	254.80	335.28	124.0	-70.0
H28813	303407.47	5647022.80	255.06	392.59	124.0	-70.0
H28814	303088.22	5646641.51	251.00	366.98	124.0	-72.0
H28816	303120.76	5646775.43	251.77	468.79	124.0	-82.0
H28817	303331.37	5646776.24	255.11	310.90	124.0	-70.0
H28818	303289.66	5646946.85	253.20	488.60	124.0	-80.0
H28819	303517.31	5647173.79	257.00	391.06	124.0	-70.0
H33227	303046.75	5646969.42	253.00	545.90	124.0	-70.0
H33228	302918.59	5646771.92	252.00	578.52	124.0	-80.0

Criteria	JORC Code explanation	Commentary

H33234	303130.63	5647061.39	254.00	593.15	124.0	-80.0
H33236	302865.14	5645915.64	258.70	126.19	124.0	-55.0
H33237	302791.75	5646037.28	254.00	269.75	124.0	-67.0
H33239	302864.77	5646062.71	255.44	183.80	124.0	-55.0
H33240	303777.04	5647362.80	262.08	126.80	124.0	-55.0
H33242	303738.90	5647461.65	266.52	224.95	124.0	-70.0
H33243	302767.73	5645980.62	252.69	268.23	124.0	-70.0
H33246	303844.98	5647464.30	264.40	130.76	124.0	-70.0
H33269	302716.94	5646087.91	249.00	365.76	124.0	-70.0
H33279	302780.20	5646045.72	252.81	297.79	124.0	-65.0
H33280	302682.98	5646037.16	249.00	367.29	124.0	-70.0
H33281	302750.91	5646138.66	249.42	398.99	124.0	-70.0

- Summary of 72 drill holes completed by Southampton Ventures (2008) and used in the current MRE:

Drill Hole	UTM_mE	UTM_mN	Elev (m)	EOH (m)	Az	Dip
HN-08-01	303547.00	5646927.00	253.50	180.0	124	-70
HN-08-02	303470.00	5646978.00	254.69	255.0	124	-60
HN-08-03	303470.00	5646979.00	254.69	276.0	124	-70
HN-08-04	303393.00	5647031.00	255.50	317.0	124	-60
HN-08-05	303392.00	5647032.00	255.53	342.0	124	-70
HN-08-06	303585.00	5646900.00	252.74	103.0	124	-45
HN-08-07	303584.00	5646900.00	252.64	150.0	124	-70
HN-08-08	303448.00	5646693.00	254.94	111.0	124	-45
HN-08-09	303447.00	5646693.00	254.95	150.0	124	-70
HN-08-10	303408.00	5646718.00	255.61	168.0	124	-70
HN-08-11	303329.00	5646771.00	255.33	264.0	124	-60
HN-08-12	303329.00	5646771.00	255.31	300.0	124	-70
HN-08-13	303257.00	5646821.00	254.90	342.0	124	-60
HN-08-14	303257.00	5646821.00	254.93	368.0	124	-70

Criteria	JORC Code explanation	Commentary

HN-08-15	303490.00	5646844.00	254.70	192.0	124	-70
HN-08-16	303410.00	5646896.00	255.19	255.5	124	-60
HN-08-17	303410.00	5646896.00	255.06	300.0	124	-70
HN-08-18	303329.00	5646947.00	255.63	395.0	124	-60
HN-08-19	303329.00	5646947.00	255.56	411.0	124	-70
HN-08-20	303529.00	5646820.00	254.00	123.0	124	-45
HN-08-21	303527.00	5646821.00	254.05	150.0	124	-70
HN-08-22	303517.00	5646887.00	254.33	198.0	124	-70
HN-08-23	303439.00	5646939.00	255.31	243.3	124	-60
HN-08-24	303438.00	5646939.00	255.36	282.0	124	-70
HN-08-25	303363.00	5646990.00	255.51	322.2	124	-60
HN-08-27	303555.00	5646861.00	253.85	150.0	124	-45
HN-08-28	303554.00	5646861.00	253.86	129.0	124	-70
HN-08-29	303347.00	5646636.00	254.93	195.0	124	-70
HN-08-30	303267.00	5646688.00	255.18	267.0	124	-60
HN-08-31	303267.00	5646688.00	255.13	291.0	124	-70
HN-08-32	303195.00	5646737.00	254.81	350.0	124	-59.8
HN-08-33	303194.00	5646737.00	254.47	366.0	124	-70
HN-08-34	303385.00	5646614.00	255.48	130.0	124	-45
HN-08-35	303385.00	5646615.00	255.28	157.0	124	-70
HN-08-36	303460.00	5646805.00	255.07	195.0	124	-70
HN-08-37	303380.00	5646857.00	255.60	273.0	124	-60
HN-08-38	303380.00	5646857.00	255.64	334.2	124	-70
HN-08-39	303307.00	5646906.00	255.12	306.0	124	-60
HN-08-40	303306.00	5646907.00	255.17	359.0	124	-70
HN-08-41	303500.00	5646779.00	254.80	124.7	124	-45.1
HN-08-42	303499.00	5646780.00	254.88	144.0	124	-69.2
HN-08-43	303430.00	5646762.00	254.83	190.0	124	-70.3
HN-08-44	303356.00	5646818.00	255.48	267.3	124	-58.1
HN-08-45	303355.00	5646818.00	255.50	294.4	124	-69.9

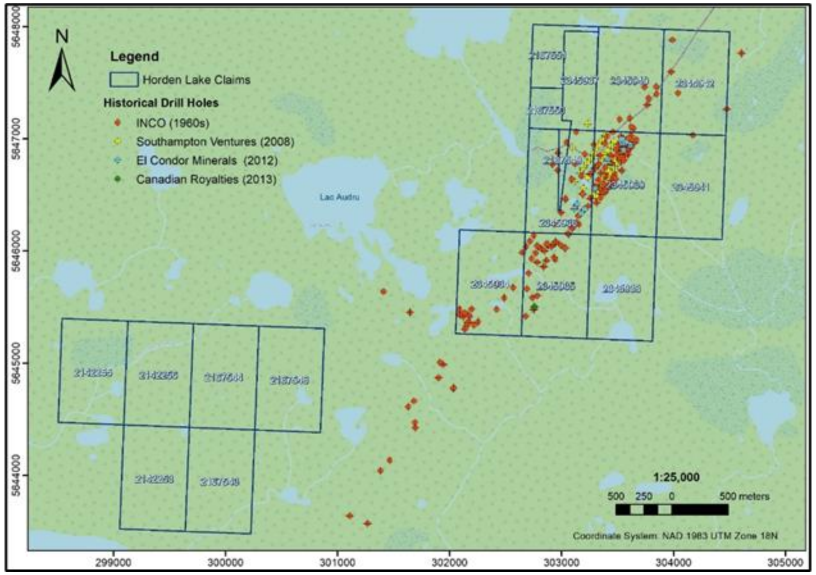
Criteria	JORC Code explanation	Commentary

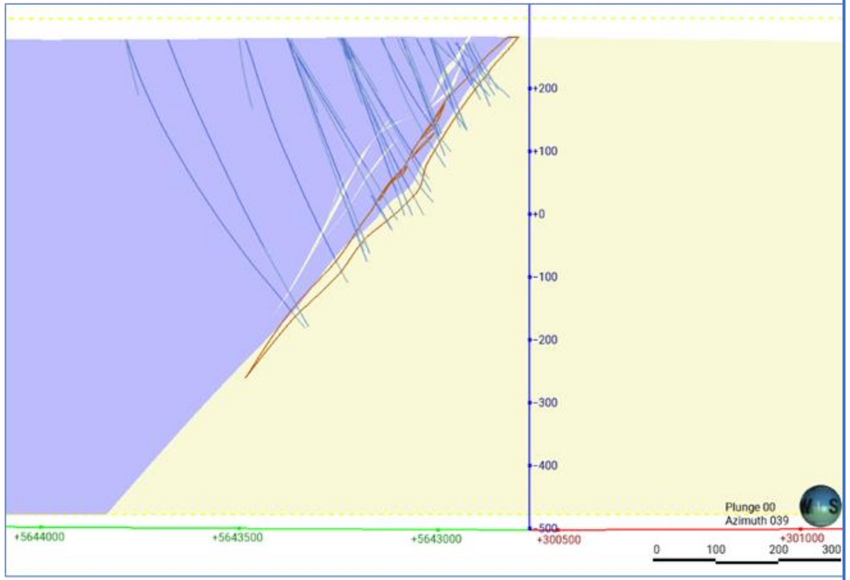
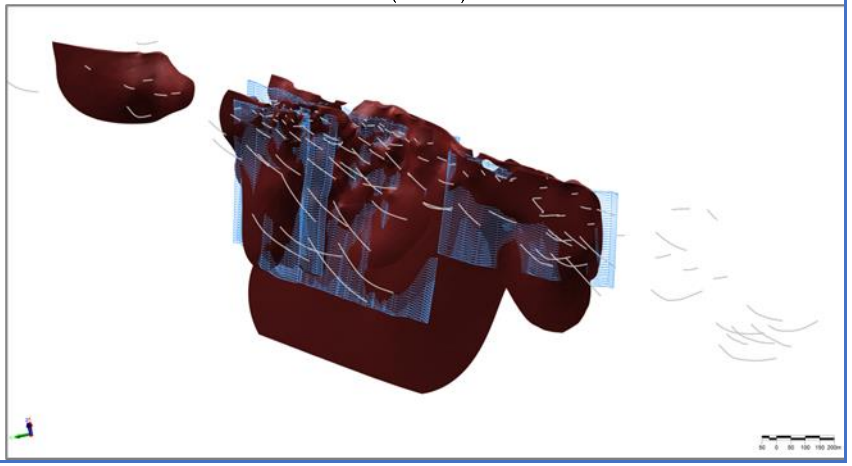
HN-08-46	303287.00	5646867.00	254.79	348.0	124	-59
HN-08-47	303287.00	5646867.00	254.79	363.0	124	-69.5
HN-08-48	303478.00	5646729.00	255.00	100.0	124	-43.6
HN-08-49	303477.00	5646729.00	255.02	147.0	124	-69.5
HN-08-50	303378.00	5646680.00	255.27	200.0	124	-70.9
HN-08-51	303301.00	5646733.00	255.91	282.5	124	-60.7
HN-08-52	303300.00	5646734.00	255.82	303.0	124	-69.2
HN-08-53	303228.00	5646786.00	255.27	349.6	124	-60
HN-08-54	303228.00	5646786.00	255.36	378.0	124	-69.6
HN-08-55	303417.00	5646651.00	254.93	124.0	124	-44.4
HN-08-56	303416.00	5646651.00	254.94	155.6	124	-69.9
HN-08-57	303319.00	5646595.00	255.14	192.0	124	-70.3
HN-08-58	303237.00	5646654.00	254.65	272.0	124	-60.4
HN-08-59	303236.00	5646655.00	254.44	286.0	124	-69.6
HN-08-60	303167.00	5646695.00	254.55	335.0	124	-59.5
HN-08-61	303166.00	5646695.00	254.42	354.0	124	-69.6
HN-08-62	303361.00	5646568.00	255.23	158.0	124	-44.6
HN-08-63	303360.00	5646569.00	255.27	172.3	124	-70
HN-08-69	303337.00	5646532.00	255.29	126.0	124	-45
HN-08-70	303335.00	5646533.00	255.27	138.0	124	-71.5
HN-08-71	303270.00	5646513.00	254.57	145.2	124	-70
HN-08-72	303195.00	5646562.00	253.98	228.0	124	-60
HN-08-73	303195.00	5646562.00	254.04	255.0	124	-70.4
HN-08-74	303116.00	5646617.00	254.58	318.0	124	-60.2
HN-08-76	303307.00	5646487.00	255.05	116.0	124	-45
HN-08-77	303306.00	5646488.00	254.97	116.4	124	-70
HN-08-78	303095.00	5646923.00	252.71	510.0	124	-68.7
HN-08-79	303233.00	5647132.00	257.84	593.0	124	-68.8

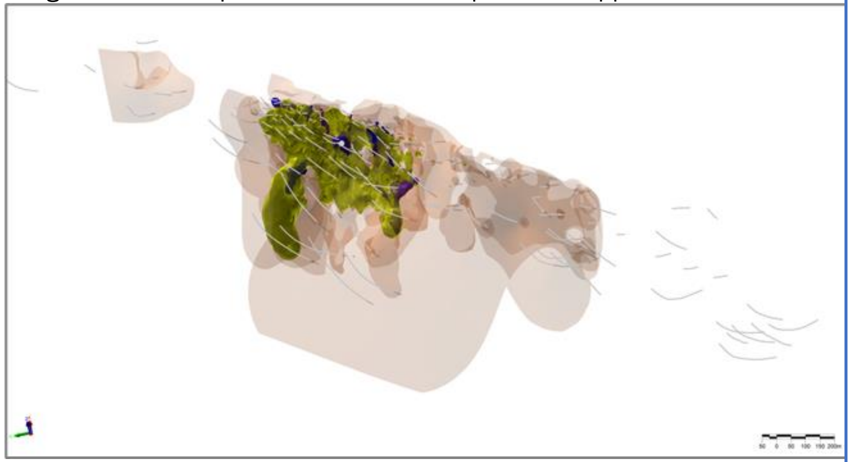
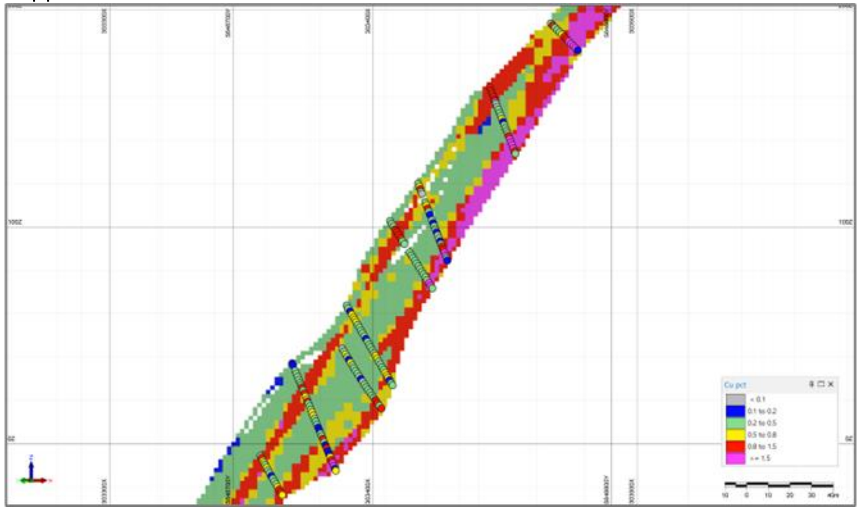
Criteria	JORC Code explanation	Commentary

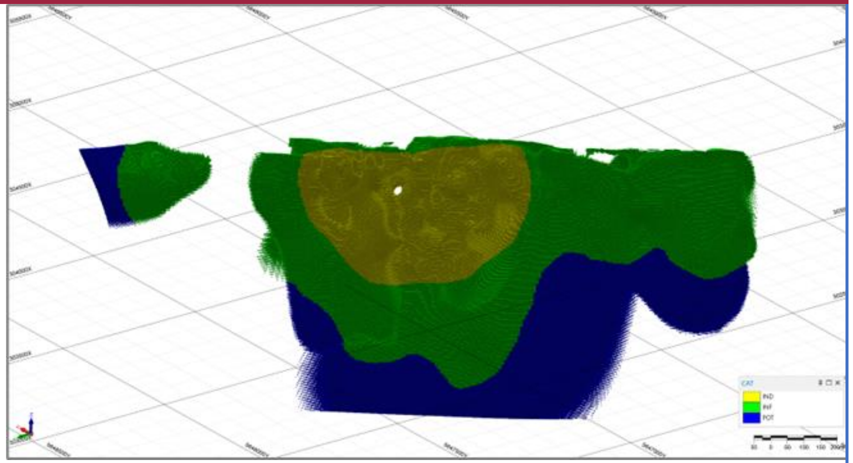
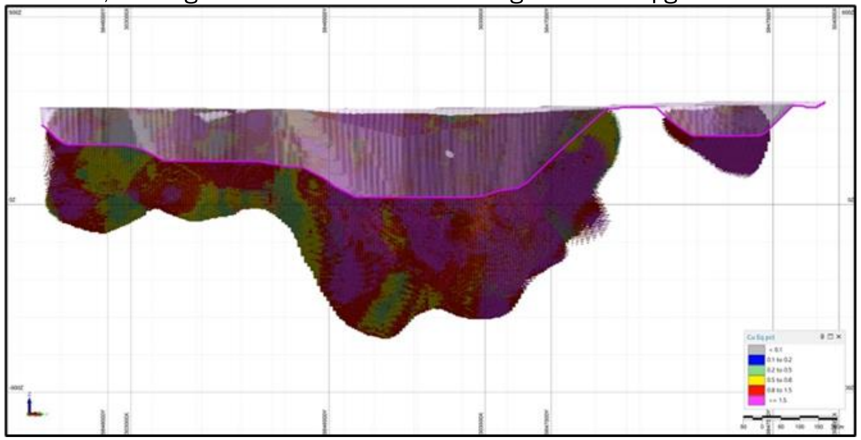
- Summary of 12 drill holes completed by El Condor Minerals (2012) and used in the current MRE:

Drill Hole	UTM_mE	UTM_mN	Elev (m)	EOH (m)	Az	Dip
HN-12-80	303411.00	5646801.00	248.84	246	124	-70
HN-12-82	303615.47	5646943.09	252.13	95	124	-45
HN-12-84	303615.47	5646943.09	252.13	117	124	-70
HN-12-85	303574.45	5646969.84	253.05	231	124	-70
HN-12-88	303540.00	5646962.00	251.43	207	124	-70
HN-12-91	303537.28	5646999.00	254.55	264	124	-70
HN-12-81	303552.33	5646898.19	251.09	163	124	-70
HN-12-83	303294.45	5646556.21	250.83	210	124	-70
HN-12-86	303206.99	5646373.76	252.57	80	124	-45
HN-12-87	303138.50	5646420.72	252.30	180	124	-60
HN-12-89	303175.44	5646333.42	252.47	70	124	-45
HN-12-90	303113.99	5646375.85	254.01	174	124	-70

Criteria	JORC Code explanation	Commentary
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Reporting of the metal concentrations in drill hole intercepts is done through the weighted averaging of the assays over the given sample intervals. • Metal Equivalents: in order to ascertain which portion of the mineral resource could be considered to have a reasonable prospect of economic extraction, two potential mining scenarios were reviewed – open pit and underground (below pit depth).
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').*	• True widths of the mineralized intercepts are not known and as such are reported as drill hole core lengths.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Plan view of drill holes within the Horden Lake Property showing drill hole collars and drill hole traces:  • Example cross section view (looking northeast) of the lithology model, showing the contact between the gabbro (light purple) and

Criteria	JORC Code explanation	Commentary
		metasedimentary rocks (yellow), with the outline of the mineralized zone in red and drill hole traces in blue:  • New sulphide mineralization model (dark red) against the mineralized envelope (blue wireframe) used in the 2009 Southampton mineral resource estimation of Kelso et al.(2009): 

Criteria	JORC Code explanation	Commentary
		• Extensive wireframed domain for copper (transparent orange), in comparison to wireframed domains of gold (yellow) and silver (blue), showing their limited spatial distribution compared to copper:  • Cross-section image showing the estimated blocks and input data for copper:  • Classification of the resources as Indicated (yellow) and Inferred (green) with unclassified blocks (blue) representing the exploration target potential:

Criteria	JORC Code explanation	Commentary
		 • Optimized pit shell (light area) overlain on the current mineral resource estimate, looking west-northwest and showing the % CuEq grades:  • Additional maps and diagrams are included in public announcements by RFR and in the JORC Code (2012) Technical Report and Mineral Resource Estimate.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All drill hole information and drill cores assays that were used in the generation of the current Mineral Resource Estimate have been reported.
Other substantive	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical*	• Historical exploration in the area included airborne magnetic/EM survey (Noranda Mines 1957/58) and regional airborne geophysical surveys, and

Criteria	JORC Code explanation	Commentary
exploration data	*survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	32,229 m of diamond drilling (157 holes) culminating in an historical resource estimate of 6,088,900 t @ 1.24 % Cu, 0.33 % Ni, 18.40 g/t Ag (INCO 1963-69) (Kelso et al., 2009) on three properties including Horden Lake. A Pre-Feasibility Study in 1993 identified an historical resource of 1,238,333 t @ 1.91% Cu.40% Ni. (Kingswood Resources Inc.) (WGM, 1993; Kelso et al., 2009). • These historical resources have not been reviewed by a Competent person and cannot be considered compliant under JORC guidelines. • In the early 1970s, INCO performed preliminary flotation testing on five drill core samples from the Horden Lake Deposit. The tests showed recoveries from 85% to 96% Cu with concentrates of Ni, Cu, Ag and traces of Au and platinum-group elements (PGE), demonstrating the presence of significant cobalt from the composite sampling. Copper grades in the concentrate range from 21.5% to 30.4% Cu (WGM, 1993; Kelso et al., 2009; Thompson, 1981). • A Fugro DIGHEM EM-Mag survey was completed in the area 2005 by Pacific North West Capital Corp., consisting of 445.5 line-km and identifying multiple EM conductors in the region. • A Fugro HeliGEOTEM® was flown in 2008 (Southampton Ventures): three profile lines over the Horden Lake Deposit and 131 and 35 lines over the exploration areas to the NE and SW exploration blocks respectively. The mineralized zone at Horden Lake showed a clear association with magnetic and conductive responses (Kelso et al., 2009). Six targets were selected from the northeast block and may represent a grouping of several conductive targets. It was difficult to select isolated magnetic/conductive targets because magnetic features in this block had strong conductive association. One target was selected (Kelso et al., 2009). • The geophysical work has not been directly reviewed by the Competent Persons. • In 2008, Southampton Ventures completed a diamond drilling program comprising 73 NQ size drill holes totalling 18,136 m. • In 2012, El Condor Minerals completed a diamond drilling program comprising 12 HQ size drill holes totalling 2,036 m.
Further work	• *The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Caracle Creek recommends the following work on the Horden Lake Property: • Phased diamond drilling programs (NQ size core) aimed at: • evaluating the distribution of Au-Ag-Co-PGE concentrations in the southwestern portion of the Deposit whch was drilled by INCO in the 1960s but contains only Cu-Ni assays.

Criteria	JORC Code explanation	Commentary
		• testing the approximately 150 m gap between the Main Zone Deposit in the south and the extension of the Deposit to the northeast in the Northeast Zone. • In-fill drilling to improve the confidence and upgrade the categorization of the resources from Inferred to Indicated and eventually Indicated to Measured for future higher level economic studies. • Diamond drilling (HQ or PQ core) for metallurgical and mineralogical testwork, considering 100 to 150 kg of mineralized core representative of the style of mineralization found to date in the Deposit. • Mineralogical investigations to better characterize target sulphide mineralization (pyrrhotite, pentlandite, chalcopyrite and pyrite) and secondary sulphides such as galena and sphalerite. Techniques to consider include Quantitative Evaluation of Materials by Scanning Electron Microscopy (QEMSCAN), X-Ray Diffraction (XRD), Electron Microprobe Analysis (EMPA), and optical mineralogy and petrography studies. • In order to gain a better understanding of the structures within the Deposit and the host rocks and their bearing on the distribution and grade of mineralization, a selected number of oriented drill cores should be considered as part of the geotechnical drilling program. • Additional specific gravity measurements should be made by an accredited laboratory in order to develop a robust density library for various lithology types and styles of mineralization. • As much as possible, previous drill core logs (1960s, 2008, 2012 and 2013) should be reviewed prior to beginning a new drilling program and a new set of standardized lithological, alteration, mineralization and structural codes be determined. • Information and data from the hard copy drill core logs from the 1960s INCO drilling should be digitally captured, reviewed and incorporated into any future modelling and mineral resource estimation. • Initiation of an Environmental Baseline Study to be expanded upon as the Project moves toward higher levels of economic evaluations. • Completion of an airborne LIDAR (Light Detection And Ranging) survey in order to utilize an accurate Digital Elevation Model (DEM) in future exploration work, technical studies, and future mine planning. • Re-examination of the historical 2012 drill core and if located, the 2008 drill core (both stored in Matagami, Quebec). • Once the appropriate amount of new diamond drilling has been completed, an updated mineral resource estimate should be generated

Criteria	JORC Code explanation	Commentary
		in order to move the project forward into a Preliminary Economic Assessment or Pre-Feasibility Study.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	• All drill hole data was provided as Microsoft Access and Excel tables which were imported to Excel files, SQL 2019, Leapfrog, and Micromine databases. Data was validated in Micromine and Leapfrog for errors (i.e., missing and overlapping intervals, intervals beyond hole depth, significant downhole deviations) and any errors identified were corrected. • Analytical data from original assay certificates (2008 & 2012) were checked by the Competent Persons against data in the drill hole database and no errors were found. A total of 7,155 primary core assays were used in the mineral resource estimate. Previous QA/QC procedures, which included the insertion of standards and blanks and sending of samples to a referee lab, were reviewed, along with the internal QA/QC procedures and results employed by the primary laboratory. No issues were found. • The drill hole database has been reviewed by the Competent Persons and is suitable for use in mineral resource estimation.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• No site visits to the Project have been completed by either of the Competent Persons. Given the general lack of exposure on the Property and the time of year (snow covered) a site visit would not add any additional information to the knowledge of the Property as understood by the Competent Persons. • Competent Person Dr. Jobin-Bevans, has worked as a consulting geologist on the Project for various clients / owners / operators since 2001 and was involved in the planning and execution of past exploration work programs for Canalaska Ventures, Pacific North West Capital, Southampton Ventures and El Condor Minerals.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• There is sufficient confidence in the geological interpretation of the Deposit to allow for a Mineral Resource to be reported. • Drill core sample assays from historical INCO, Southampton, and El Condor drilling were used to assist with in the geological interpretation. • The Horden Lake Deposit shows excellent geological continuity by the host gabbroic and footwall metasedimentary units and good grade continuity with sulphide mineralization showing a disseminated, semi-massive and massive distribution.

Criteria	JORC Code explanation	Commentary
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The current Mineral Resource Estimate is contained within a mineralized envelope that is approximately 2,200 m long (NE) by about 200 m deep in the NE, 600 m deep in the central area, and about 300 m deep in the SE (vertical depths). The Deposit is open to the NE, to the SW and at depth. • Cumulative information known to date about sulphide mineralization within the Horden Lake Intrusion, suggests a mineralized horizon at or near the footwall contact between a gabbroic sill and sedimentary units with mineralization occurring within the gabbro and the footwall sedimentary rocks. • Based on drilling date, widths in the mineralization are variable but appear to range from several metres to several 10s of metres. The length of the Horden Lake Intrusion, at nearly 2 km and up to 1 km thick, also offers excellent exploration upside as most of the eastern contact has not been adequately drilling, both on the current Property and within the intervening areas northeast and southwest of the Horden Lake Cu-Ni Deposit.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g., sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	• The current Mineral Resource Estimate has been prepared by Caracle Creek: • The database consists of 180 historical diamond drill holes totalling 52,464.06 metres: 96 drill holes completed by INCO between 1963 and 1969; 72 drill holes completed by Southampton between January 26 and March 30, 2008; and 12 drill holes completed by El Condor Minerals by March 2012. • Caracle Creek completed a review of the compiled historical data, which had been archived by Caracle Creek. The database captures all historical drill hole data excepting lithological logs from INCO's 1960s drilling campaigns. • Geological and Grade Modelling: The process of geological modelling and interpretation reviewed aspects of lithology, structure, mineralization style, and geochemistry. The majority of the mineralization in the Horden Lake Deposit is situated within a contact shear, between the Horden Lake Intrusion, a layered gabbroic body, and metasedimentary rocks, and to a lesser extent, in lenses within the base of the gabbroic intrusion. Three-dimensional wireframe models were developed for the lithology, the shear zone, and a range of domain models for each of the mineral components to the resource. • Lithology Model: The lithology model was constructed using the logged lithology data from the Southampton and El Condor drill holes and from a Southampton geological map. No lithology data was available for the INCO holes hence in the regions that contained only INCO holes the contact surfaces were defined only from the geological map. The lithology

Criteria	JORC Code explanation	Commentary
		model defined the overburden and the contact between the intrusive and the sediments, grouping together all the variations of the metasedimentary rocks and gabbro, as identified in the core logging. This simplified lithology model does not consider minor lithologies such as the mafic or diabase dikes. • Mineralization Model: The mineralization model is based on the logged presence of sulphide minerals, selecting intervals to define the drill strings that contain greater than 5% total sulphides. This selection was then refined, reviewing the type and amount of sulphide mineralization along with the geochemistry to capture all the intercepted mineralization. The definition of sulphide mineralization in the INCO holes, which are without geological logging information, was made using only the Cu-Ni assay data. The modelling defined six parallel and interconnecting mineralized lenses and when cross referenced with the lithology model, it was noted that the majority of the mineralization is hosted along the contact and in the metasedimentary rocks. Considering the cross-cutting nature of the mineralized lenses, their geometry, and through review of the core photos and the geological reports the mineralized lenses are considered to be a contact shear. The mineralization model contains varying proportions of chalcopyrite, pyrrhotite, pentlandite and pyrite, but as chalcopyrite is always present the resultant solid is essentially the copper domain, and the copper assay data has been used to refine the model. Domain Modelling: The mineralized zone was analysed for variation in the distributions of each of the potentially economic elements – Cu, Ni, Co, Pt, Pd, Au, Ag - and it was found that the copper was distributed throughout, while the nickel, cobalt, gold, silver, platinum and palladium were concentrated locally within the overall sulphide mineralization solid. The spatial distribution for each of the economic elements were significantly different and required the wireframing of individual domains for each element. Considering only the Southampton and El Condor holes, it was found that platinum exhibited a very limited and erratic low-grade distribution; silver was also very limited in its distribution and very low grade; cobalt showed some spatial correlation with the nickel, but this was also very low grade; gold displayed a more ample distribution and so did the nickel. The modelling of the cobalt, silver and platinum showed that they each contributed less than 1% of contained metal value to the deposit and so no further work was carried out with respect to their contribution to the metal tenor of the deposit.

Criteria	JORC Code explanation	Commentary
		With only the Southampton and El Condor holes analysed for a full suite of elements, there is no input assay data to confirm the existence of the mineralised domains across the portion of the deposit intercepted by only the INCO drill holes. However, it is recognised that in these types of deposits (mafic layered intrusions) it is typical that cobalt, platinum, and palladium are associated with nickel, and that gold and silver are associated with copper. The correlation statistics were reviewed for the assay data points from the Southampton and El Condor drilling within the sulphide mineralization solid, creating a correlation matrix between the economic metals. It was found that palladium exhibits a moderately high correlation coefficient with nickel and that silver exhibits a high correlation coefficient with copper. The cobalt, platinum and gold did not show strong correlation statistics with any of the other elements. Based on the relationship between palladium and nickel, as seen in the Southampton and El Condor holes, values for palladium were assigned to the INCO drill hole data. Silver also exhibited a high correlation coefficient but was not assigned as their results were too low grade. The copper domain utilized the sulphide mineralization solid and review of the copper grade distribution of the assay composites within this solid showed that there is more than one population and so a sub-domain was created to separate out low-grade and high-grade copper domains. A review of the distribution histogram showed that a threshold of 0.56% Cu begins to define the higher-grade population and so this was used to define the sub-domain wireframe solid. The gold and silver domains were modelled from only the Southampton and El Condor data, based on initial thresholds of 0.1 ppm Au and 15 ppm Ag, respectively, and generating solids that are limited to the central region. It is likely that there exists similar gold and silver mineralization across the southwestern and northeastern areas drilled by INCO and from which only Cu and Ni were reported. Additional drilling and multi-element assaying in these regions drilled previously by INCO is required to better understand the distribution of silver, gold, cobalt, and PGE. The nickel domain was modelled with data from all drill holes and was based on an initial threshold of 0.1% Ni. The domain is more restrictive than that of copper. The palladium domain, based on an initial threshold of 0.1 ppm Pd, uses assay data from the Southampton and El Condor drill holes plus assigned assay values (extrapolation) across the INCO drill

Criteria	JORC Code explanation	Commentary
		holes based on the association / correlation between nickel and palladium. • Compositing and Top Cutting: All assay values were assigned to their corresponding grade domain and composited to 1.5 m with a minimum accepted length of 0.5 m, residual lengths were added to the last interval. Composite data tables were generated for each of the estimated elements, Cu, Ni, Au, and Pd. Top cutting was not applied as no significant outlying high-grade values were identified. • Block Modelling: A block model with the cell size 4 m x 8 m x 4 m and factor of sub blocking 2-4-2 was generated over the principal (copper) mineralization domain. Each of the sub-domains for Ni, Au, and Pd were then generated. The mineral domain wireframes were assigned to the block model and sub blocking applied to preserve volumes; the block model was restricted to the domains. Block model parameters.

	Original Block Model (Orientation 35° Azimuth)				
	Origin Min Centre	Origin Max Centre	Block Size	Factor Sub-Block	Min Block Size
X Coordinate	302278.46	304702.47	4 m	2	2 m
Y Coordinate	5644593.21	5648761.21	8 m	4	2 m
Z Coordinate	-427.17	292.83	4 m	2	2 m

		• Geostatistics and Estimation Methodology: The block model was estimated on a domain-by-domain basis using Ordinary Kriging (OK). Copper estimation was restricted to within the mineralized zone wireframe, while the estimations for the other elements (Ni, Au, Pd) were run within their respective domains which were all subdivisions of the copper domain. In the estimation of the secondary metals, the blocks which were outside their respective domains but still within the copper domain were assigned their respective means. • Ordinary Kriging Parameters: Variograms were generated for the metals Cu, Ni, Au, and Pd using data filtered for their respective domains. The variogram model directions were obtained from the geometries of the mineralised lenses, and the derived variograms were able to determine the nugget effect and the ranges for each orientation of the search ellipsoid. Geostatistical parameters obtained from the variogram analysis.

Criteria	JORC Code explanation	Commentary

	Structure					
Domain	Type	Nugget	Sill	Strike	Plunge	Dip
Cu	0.063	0.063	2.98	210.92	51.85	-51.9
Cu	0.027	0.027	0.19	210.92	51.85	-51.9
Ni	0.050	0.050	0.07	300.9	89.1	-51.9
Au	0.030	0.030	0.13	300.9	89.1	-51.9
Pd	0.001	0.001	0.03	300.9	89.1	-51.9

- Each of the metals were estimated inside their respective domains with three passes. The copper estimation used a variable search geometry to follow the dip of the deposit, while the other elements used the search ellipsoid orientations from the variogram models.

Kriging parameters used in the estimation of copper, nickel, palladium, and gold.

				Range		
Estimation Pass	Domain	Min # of Composites	Max # of Composites	Major	Intermediate	Minor
Pass 1		2	16	200	110	5
Pass 2	Cu High	4	16	315	155	7
Pass 3		4	24	350	175	10
Pass 1		2	16	165	100	10
Pass 2	Cu Low	4	16	250	150	15
Pass 3		4	24	495	300	30
Pass 1		2	8	70	35	18
Pass 2	Ni	4	12	100	50	25
Pass 3		4	40	300	150	75
Pass 1		2	8	70	50	5
Pass 2	Au	4	12	140	100	10
Pass 3		4	40	210	150	15
Pass 1		2	8	70	35	10
Pass 2	Pd	4	12	100	50	15
Pass 3		4	40	300	150	45

• Model Validation: A basic analysis of the comparison of the statistics between the estimated results and the input data shows that the estimation does not exhibit any bias and is representative of the samples used versus composites and the resource calculation.

The block model was populated with Ordinary Kriging (OK) estimation and swath plots generated to show how the OK estimation varies with respect to the nearest neighbour (NN) and the assay values. The swath plots show graphically how the grade distribution varies along the structure in a 35Az direction, along strike of the mineralization, plotting the OK estimated values against the NN estimated values and the input

Criteria	JORC Code explanation	Commentary
		assay values. In general, there is a good correlation between the drill hole assay data, the nearest neighbor model, and the estimated block grades. Swath plots for the Cu domain demonstrate a good correlation between the OK and NN estimates, and a good representation of the input data showing no bias, maintaining a local average, and reducing the extremely high and low values to a more local mean. The swath plots for the Ni domain maintain a good correlation with the NN estimation across the entirety of the structure, and a good representation of the input data showing no bias, maintaining a local average. Swath plots for the validation for the Au domain demonstrate a good correlation with the NN and OK estimates, with the local smoothing of the grade values from the assay input data. A greater smoothing is observed, possibly due to the variability of the data value and the factor work by regression to the Au grade. The Swath plots for the validation for the Pd domain demonstrate a good correlation with the NN and OK estimates, with the local smoothing of the grade values from the assay input data. Overall, the Swath Plot validation results indicate that the ordinary kriging model is a reasonable representation of the input data. A detailed visual inspection of the block model was performed in cross-section, long-section and in plan to ensure that the results obtained are representative of the geology and known grade distribution. The estimated copper, nickel, gold and palladium grades in the model are a valid representation of the sample data taken from the drill holes.
Moisture	• ***Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.***	• **Tonnages are estimated on a dry basis.**
Cut-off parameters	• ***The basis of the adopted cut-off grade(s) or quality parameters applied.***	• Reasonable Prospect of Economic Extraction and Cut-Off Grade: The geometry of the mineralization body and its proximity to the surface puts forward the option to extract this mineral deposit via an initial open pit with the deeper portions being extracted via underground mining methods. To ascertain which portion of the resource could be considered to have a reasonable prospect of economic extraction both open pit and underground mining scenarios were reviewed. • Based on economic, metallurgical, and cost parameters, copper equivalent (CuEq) cut-off grades were estimated for both underground and open pit mining scenarios. The calculation of CuEq was made based on nickel, gold and palladium, at their current prices and expected metallurgical recoveries. The Parameters are provided in the table below and Formula (1). Commodity prices were considered for the last 3 months based on the London Metal Exchange (LME) and a factor of 95% was applied against the prices.

Criteria	JORC Code explanation	Commentary

Summary of metals parameters used in the calculation of a CuEq cut-off applying estimated recoveries.

Metal	Price	Recovery
Cu	7,300 US$/t	90%
Ni	21,300 US$/t	80%
Au	1,600 US$/ozt	80%
Pd	1,900 US$/ozt	80%

Formula (1):

CuEq=Cu(%)+Ni(%)*2.59 + Au(ppm)*0.63 + Pd(ppm)*0.74

The CuEq parameters and recoveries were determined by benchmarking with other deposits and magmatic Ni-Cu projects with similar characteristics to the Horden Lake Deposit. The table below provides a summary of the parameters.

Summary of parameters used in developing a CuEq cut-off for an open pit scenario.

OP Parameters		
Mining Cost OP	4.3	US$/t
Process Cost	11.1	US$/t
G & A	2.3	US$/t
Sale Cost	730.0	US$/t

Using the parameters in the table above and considering a possible open pit extraction scenario, a calculation was made to obtain the CuEq cut-off grade using Formula (2).

Formula (2):

$$Cu\ Eq.(\%)\ Cut-Off\ \text{Open Pit}_{(Economic)} = 100 * \frac{Mining\ Cost + Processing\ Cost + G\&A}{(Recovery * (Price - Sale\ Cost)}$$

$$Cut-Off\ \text{Open Pit}_{(Economic)} = 0.30\%\ CuEq$$

For these given parameters, an economic cut-off of 0.30% CuEq can be considered for an open pit mining scenario.

In considering an underground extraction scenario, economic and metallurgical parameters were considered to calculate a CuEq cut-off grade. These parameters are shown in the following table.

Summary of parameters used in developing a CuEq cut-off for an underground scenario

Criteria	JORC Code explanation	Commentary

UG Parameters		
Mining Cost UG	50	US$/t
Process Cost	10.58	US$/t
G & A	5.5	US$/t
Sale Cost	730.0	US$/t

Using these parameters and considering a possible underground (below pit) extraction scenario, a calculation was made to obtain the CuEq cut-off grade using Formula (2) above.

Cut-Off Underground (Economic)= 1.12% CuEq
For these given parameters, an economic cut-off of 1.12% CuEq can be considered for an underground (below pit) mining scenario.

The main component of the mineral resource is copper with substantial value added through the occurrence of nickel and to a lesser extent gold and palladium, for this reason the copper equivalence is an effective way to the evaluate the economic potential of the deposit

- Pit Shell Optimization: In order to determine the proportion of the deposit that would be amenable to extraction via open pit mining methods and calculate the number of blocks that could be considered a mineral resource at a cut-off of 0.30% CuEq, an optimised pit shell was generated. The pit shell was calculated using a Lerchs-Grossmann algorithm run inside Datamine NPV Scheduler software using the parameters outlined in the following table.

Summary of parameters considered for the pit optimisation.

Criteria	JORC Code explanation	Commentary

Optimization Parameters		
Item	**Unit**	**Value**
Discount Rate	%	10
Metal Prices		
Copper	US$/t	7,300
Nickel	US$/t	21,300
Gold	US$/troy oz	1,600
Palladium	US$/troy oz	1,900
Metal Recoveries		
Copper	%	90
Nickel	%	80
Gold	%	80
Palladium	%	80
Mining Cost	US$/t	4.25
Processing Cost	US$/t	11.11
G & A	US$/t	2.31
Sale Cost		
Copper	US$/t	730
Nickel	US$/t	2,130
Gold	US$/troy oz	160
Palladium	US$/troy oz	190
Mining Dilution	%	10
Overall Pit Slope	degrees	45
Mill throughput	tonnes/year	1,000,000

These parameters were used to define an economic profile of the pit, applying the same economic parameters that were used in the cut-off calculations, and mining dilution and overall pit slope, which were determined through a benchmarking of other projects with similar characteristics to the Horden Lake Cu-Ni-Au-Pd Deposit.

Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• Mining will be by open pit methods initially with underground mining (below open pit depth) at a later stage. No mining studies have been carried out to date.

Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	• ***The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.***	• Historical Mineral Processing and Metallurgical Testing: In the early 1970s, INCO performed preliminary flotation testing on five drill core samples from the Horden Lake Property (WGM, 1993). The tests were performed on samples composited from drill core taken at various sections along the strike of the deposits as they are presently known. These tests showed that saleable grades of copper concentrates could be made at recoveries varying from 85% to 96% of copper in the feed. These concentrates also contained quantities of silver and traces of gold and other platinum group metals (PGE). • The details of the testwork program such as grind size, flowsheet and the reagents used in the process were not available (WGM, 1993). However, from the flotation test results it would appear that the flowsheet consisted of the production of a bulk concentrate which was then separated into copper and nickel concentrates. The copper concentrate grades ranged from 21.5% Cu to 30.4% Cu with recoveries ranging from 85% to 96 % on the three samples from the northern end of the deposit which could be mined by open pit. These samples also showed some potential for the production of a nickel concentrate (WGM, 1993). • Based on these preliminary results, WGM believed that the Horden Lake Deposit has the potential to produce saleable grades of copper concentrates. We would expect copper concentrates assaying 25% Cu to be produced at recoveries in the order of 88% to 90% of the copper in the feed. Silver recoveries to the copper concentrates varied from 95% to 33% Ag and will require further testwork to confirm and optimize these results. A silver recovery of 40% to the copper concentrate is used in the present assessment. Further testwork is required to optimize metal recoveries and determine whether a saleable nickel concentrate can be produced. This assessment would also confirm the deportment of gold and PGE into the copper and nickel concentrates (WGM, 1993).
Environmental factors or assumptions	• ***Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an***	• The Property is located in a mining friendly jurisdiction with a long history of exploration and mining. There are no agreements with local communities or stakeholders and no consultation with First Nations is required in this region. The Horden Lake area falls within the traditional territory of the Cree Nation of Waskaganish. • The region in which the Project is located has ample space to develop a mine and all of the associated infrastructure, with access to water, power and a skilled labour force.

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td>explanation of the environmental assumptions made.</td><td>No environmental permits have been issued to Rafaella for exploitation purposes as there are no immediate plans for exploitation of the Horden Lake Deposit. Environmental permit(s) will be required at a later date to fulfil environmental requirements to return the land to a use whose value is at least equal to its previous value and to ensure the long-term ecological and environmental stability of the land and its watershed; however, no environmental liabilities were inherited with any of the claims on the Property, and there are no environmental requirements needed to maintain any of the claims in good standing.</td></tr>
<tr><td>Bulk density</td><td>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.
The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.
Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</td><td>Bulk Density: The rock bulk density within the mineralized zone is highly variable, with an increase in density mainly related to the amount of sulphide mineralization present. A total of 37 density samples were taken by Southampton (2008) across the mineralized zone, the results of which have been grouped by lithology and by sulphide mineralization style. It can be seen from the basic statistics that the rock density is dependent on the style of sulphide mineralization; however, more analyses are required to adequately model distribution of the density with the mineralized domains. For the purpose of this resource estimation an average value of 3.2 was used in the tonnage calculation across all estimation domains.
Future drilling programs must consider implementing a much more robust and comprehensive density (Specific Gravity) measurement program. This program could include the measurement of core densities on site but with check measurements made at an accredited laboratory.</td></tr>
<tr><td>Classification</td><td>The basis for the classification of the Mineral Resources into varying confidence categories.
Whether appropriate account has been taken of all relevant factors (i.e., relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).
Whether the result appropriately reflects the Competent Person's view of the deposit.</td><td>Resource Classification: The classification of the mineral resource is based upon the ranges observed in the variogram models and the number of drill hole composites that went into estimating the blocks.
Parameters used to define the different resource classifications.
<table>
<tr><th></th><th colspan="2">Distance</th><th></th><th></th></tr>
<tr><th></th><th>X (Along structure)</th><th>Z (Down dip)</th><th>Min N° Drillholes</th><th>Min N° Samples</th></tr>
<tr><td>Indicated</td><td>40 - 50</td><td>50 - 70</td><td>3</td><td>3</td></tr>
<tr><td>Inferred</td><td>100</td><td>100 - 120</td><td>2</td><td>2</td></tr>
</table>
The Mineral Resource is classified as Inferred and Indicated in accordance with guidelines contained in the JORC Code (2012). The Mineral Resource is classified based upon drillhole spacing, quality of sampling and sample analyses, quantity of density measurements, and the relative confidence in the geological interpretation.
The Competent Person (Simon Mortimer) is of the opinion that the sampling methods and sample analyses have been adequately tested by quality assurance and quality control (QA/QC) procedures, which would be required for a Mineral Resource to be classified as Inferred and</td></tr>
</table>

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>Indicated.
Insufficient metallurgical testwork of drill core samples has taken place across the breadth of the deposit also prevents a higher classification level being assigned.</td></tr>
<tr><td>Mineral Resource Statement</td><td>Mineral resource estimate</td><td>Mineral Resource Statement: The mineral resource estimation of the Horden Lake Deposit considers the elements copper, nickel, gold, and palladium, and a calculation for copper equivalent. The Mineral Resource Statement considers the portions of the resource within the optimised pit shell at a cut-off of 0.30% CuEq, and the deeper portions of the mineral resources outside (below) the optimised pit shell, using an underground cut-off of 1.12% CuEq. The Mineral Resource Statement for the Horden Lake Cu-Ni-Au-Pd Deposit is provided in the following three tables.
Total Mineral Resource Statement for the Horden Lake Cu-Ni-Au-Pd Deposit using an in-pit cut-off of 0.30% CuEq, and a below pit cut-off of 1.12% CuEq.
<table>
<tr><th>Tonnes (t)</th><th>CuEq (%)</th><th>Cu (%)</th><th>Ni (%)</th><th>Au (ppm)</th><th>Pd (ppm)</th><th>Metal Cu (t)</th><th>Metal Ni (t)</th><th>Metal Au (oz)</th><th>Metal Pd (oz)</th><th>CAT</th></tr>
<tr><td>15,238,042</td><td>1.5</td><td>0.77</td><td>0.2</td><td>0.12</td><td>0.19</td><td>117,576</td><td>30,535</td><td>59,364</td><td>91,332</td><td>IND</td></tr>
<tr><td>12,538,163</td><td>1.47</td><td>0.67</td><td>0.25</td><td>0.02</td><td>0.19</td><td>84,018</td><td>31,392</td><td>6,881</td><td>76,696</td><td>INF</td></tr>
</table>
Component of the Mineral Resource Statement for the Horden Lake Cu-Ni-Au-Pd Deposit that falls within the optimized open pit using a cut-off of 0.3% CuEq.
<table>
<tr><th>Tonnes (t)</th><th>CuEq (%)</th><th>Cu (%)</th><th>Ni (%)</th><th>Au (ppm)</th><th>Pd (ppm)</th><th>Metal Cu (t)</th><th>Metal Ni (t)</th><th>Metal Au (oz)</th><th>Metal Pd (oz)</th><th>CAT</th></tr>
<tr><td>11,591,808</td><td>1.42</td><td>0.72</td><td>0.19</td><td>0.11</td><td>0.18</td><td>83,822</td><td>21,902</td><td>42,429</td><td>67,298</td><td>IND</td></tr>
<tr><td>5,728,307</td><td>1.31</td><td>0.56</td><td>0.24</td><td>0.01</td><td>0.18</td><td>31,831</td><td>13,684</td><td>1,499</td><td>33,221</td><td>INF</td></tr>
</table>
Component of the Mineral Resource Statement for the Horden Lake Cu-Ni-Au-Pd Deposit that falls outside (below pit) the optimised pit and within a cut-off of 1.12% CuEq.
<table>
<tr><th>Tonnes (t)</th><th>CuEq (%)</th><th>Cu (%)</th><th>Ni (%)</th><th>Au (ppm)</th><th>Pd (ppm)</th><th>Metal Cu (t)</th><th>Metal Ni (t)</th><th>Metal Au (oz)</th><th>Metal Pd (oz)</th><th>CAT</th></tr>
<tr><td>3,646,234</td><td>1.78</td><td>0.93</td><td>0.24</td><td>0.14</td><td>0.21</td><td>33,754</td><td>8,632</td><td>16,936</td><td>24,034</td><td>IND</td></tr>
<tr><td>6,809,856</td><td>1.6</td><td>0.77</td><td>0.26</td><td>0.02</td><td>0.2</td><td>52,187</td><td>17,708</td><td>5,382</td><td>43,475</td><td>INF</td></tr>
</table>
The main component of the mineral resource is copper with substantial value added through the occurrence of nickel and to a lesser extent gold and palladium, for this reason the copper equivalence is an effective way to the evaluate the economic potential of the deposit.</td></tr>
<tr><td>Audits or reviews</td><td>The results of any audits or reviews of Mineral Resource estimates.</td><td>The Mineral Resource Estimate was peer reviewed by Caracle Creek as part of their internal procedures, with no flaws noted.
No external review has been conducted.</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
Discussion of relative accuracy/ confidence	• ***Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*** • ***The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.*** • ***These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.***	• Relevant tonnages and grade are reported from geological domains and are provided in the Report. Tonnages were calculated by selecting all blocks coded as Inferred and those as Indicated, with no Measured category reported. The volumes of all the blocks were multiplied by the determined density value (3.2), and then multiplied by the interpolated yield value to derive the tonnages. • The Competent Persons have high level of confidence in the underlying data and information used to calculate the Mineral Resource Estimate with confidence levels that follow those implied by the Resource Classifications outlined by JORC Code (2012) and VALMIN (2015): • An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling: • Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. • It is based on exploration, sampling, and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings, and drill holes. • An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to an Ore Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. • An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit: • Geological evidence is derived from adequately detailed and reliable exploration, sampling, and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings, and drill holes, and is sufficient to assume geological and grade (or quality) continuity between points of observation where data and samples are gathered. • An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Ore Reserve.