

**Independent Technical Report and Mineral Resource Estimates  
Crawford Nickel-Cobalt Sulphide Project:  
Main Zone (Update) and East Zone (Initial) Deposits**

Timmins-Cochrane Area  
Ontario, Canada

**Report Prepared for:**



**Canada Nickel Company Inc.**  
130 King Street West, Suite 1900  
Toronto, Ontario, Canada, M5X 1E3

**Report Prepared by:**



**Caracle Creek International Consulting Inc.**  
1545 Maley Drive, Ste. 2018  
Sudbury, Ontario, Canada, P3A 4R7

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**Qualified Persons:**

Scott Jobin-Bevans (Ph.D., PMP, P.Geo.)  
Principal Geoscientist

John Siriunas (M.A.Sc., P.Eng.)  
Senior Project Geologist

David Penswick (P.Eng.)  
Mining Engineer

## DATE AND SIGNATURE PAGE

The Report, "Independent Technical Report and Mineral Resource Estimates, Crawford Nickel-Cobalt Sulphide Project: Main Zone (Update) and East Zone (Initial) Deposits, Timmins-Cochrane Area, Ontario, Canada", with an Amended Report Date of December 31, 2020, a Report Effective Date of December 12, 2020, and a Mineral Resource Estimate Effective Date of December 11, 2020, was authored by the following:

*"signed and sealed original on file"*

---

Scott Jobin-Bevans (Ph.D., PMP, P.Geo.)  
Principal Geoscientist  
Caracle Creek International Consulting Inc.

*"signed and sealed original on file"*

---

John Siriunas (M.A.Sc., P.Eng.)  
Senior Project Geologist  
Caracle Creek International Consulting Inc.

*"signed and sealed original on file"*

---

David Penswick (P.Eng.)  
Mining Engineer

Dated: December 31, 2020

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## 1.0 SUMMARY

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### 1.1 Introduction

At the request of Mr. Mark Selby, Chair and CEO of public company Canada Nickel Company Inc. (“Canada Nickel” or “CNC” or the “Company” or the “Issuer”), Caracle Creek International Consulting Inc. (“Caracle” or the “Consultant”), has prepared these mineral resource estimates and technical report as a National Instrument 43-101 (“NI 43-101”) Mineral Resource Estimates and Technical Report (the “Report”) on the Crawford Nickel-Cobalt Sulphide Project (the “Project” or the “Property” or the “Crawford Project”), located in the Timmins-Cochrane Mining camp, about 42 km north of the City of Timmins, Ontario.

The Report was prepared for the purpose of describing Mineral Resource Estimates within an NI 43-101 Technical Report to support the public disclosure of Mineral Resources by Canada Nickel, a Canadian based exploration company listed on the TSX Venture Exchange (“TSX-V”) under the trading symbol “CNC”, with its head office at 130 King Street West, Suite 1900, Toronto, Ontario, Canada, M5X 1E3.

The Effective Date of the Report is December 12, 2020 and the Effective Date of the Mineral Resource Estimate is December 11, 2020. The Report dated 31 December 2020, is an amended version of the original technical report dated December 4, 2020 with the amended version providing Mineral Resources for the Main Zone Deposit and East Zone Deposit, constrained within conceptual pit shells. The agreement between CNC and Caracle permits Canada Nickel to file the Report with Canadian securities regulatory authorities pursuant to NI 43-101 Standards of Disclosure for Mineral Projects, and to publicly file, post and distribute the Report.

The Report has been completed by Dr. Scott Jobin-Bevans and Mr. John Siriunas of Caracle Creek International Consulting Inc., based in Sudbury, Ontario, Canada, and Mr. David Penswick, Independent Consultant, based in Toronto, Ontario, Canada (together the “Consultants” or the “Authors”). Dr. Scott Jobin-Bevans, Mr. John Siriunas, and David Penswick, by virtue of their education, experience, and professional association, are each considered to be a Qualified Person (“QP”), as that term is defined in NI 43-101, for the Report.

Mr. John Siriunas (M.A.Sc., P.Eng.) visited the Project on October 12, 2019 (one day), on February 3-4, 2020 (two days), and on September 10-11, 2020 (two days), accompanied during each site visit by CNC personnel. Dr. Scott Jobin-Bevans and Mr. David Penswick have not visited the Project.

Dr. Jobin-Bevans is responsible for all sections of the Report, excluding Section 2.3 and Section 14.13.1 to 14.13.5. Mr. Siriunas is responsible for Section 2.3, Section 6.4, and Section 11 of the Report. Mr. Penswick is responsible for Sections 14.13.1 to 14.13.5 of the Report.

### 1.2 Property Description and Location

The Crawford Nickel-Cobalt Sulphide Project is located in Crawford and Lucas townships, about 42 km north of the City of Timmins, and on 1:50 000 NTS map sheet 42A/14E and 14F, Buskegau River.

The approximate centre of the Property is at UTM coordinates 473380mE, 5408504mN (NAD83, UTM Zone 17 North; EPSG:2958) and elevation ranges from about 265 to 290 m above mean sea level.

The Project comprises approximately 5,384 ha (53.84 km<sup>2</sup>), consisting of a combination of patented lands (Crown Patents) and unpatented mining claims (“staked claims”). Specifically, the Property comprises 72 Crown Patents (freehold patented lands) in Crawford and Lucas townships that cover approximately 4,844 ha and 64 single cell mining claims (“SCMC”) in Crawford Township covering approximately 540 ha. The 72 Crown Patents in Crawford and Lucas townships are mining rights only (CNC does not control the surface rights) and according to the Company are held 100% by Canada Nickel. No permits are necessary to complete exploration work on the mining rights only patented lands, however notice must be given to the owners of the surface rights prior to beginning an exploration on the Property.

As of the Effective Date of the Report, Canada Nickel Company Inc. holds a 100% interest in the mining lands, subject to the terms of the Crawford Annex property purchase (*see* Canada Nickel news release dated March 4, 2020), and a 2% Net Smelter Return Royalty (“NSR”) on the patented lands (*see* Noble new release dated December 3, 2019 and December 19, 2019). However, as of the Effective Date of the Report, registration of ownership on MLAS shows Canada Nickel holding 100% of 18 SCMCs and Noble holding 100% of the balance of 46 SCMCs.

On the basis of the information provided by the Company and from what is available in the public domain, the Authors confirm that all of the unpatented and patented mining lands which comprise the Crawford Project are in good standing.

### 1.3 Exploration History

Prior to 1964, little was known about the geology of Crawford Township. The 1963 discovery of the rich base metal deposit in Kidd Township (Kidd Creek Mine), about 15 km south of the Property, led to a flurry of exploration in Crawford Township through the latter 1960s and the 1970s. Historical aeromagnetic surveys (1950s and 1960s) show a large, roughly circular, strongly magnetic high zone in the east-central part of the township that is interpreted to be an ultramafic rock mass (*i.e.*, the Crawford Ultramafic Complex or “CUC”). The International Nickel Company of Canada Limited led the way in exploring the township during the 1960s with multiple drill holes testing numerous geophysical MAG-EM anomalies.

In late 2017, Spruce Ridge Resources entered into an agreement with Noble Mineral Exploration to explore certain lands in Crawford Township, including the CUC. Spruce Ridge began a diamond drilling program in late 2018 and they continue to drill in 2019. In 2017, Noble Mineral Exploration completed a 1,031.3 line km airborne helicopter MAG-EM survey and in 2018, a fixed-wing 936.1 line km FALCON<sup>®</sup> Airborne Gravity Gradiometer and magnetics survey, both covering Crawford Township and the Property.

There are at least 26 historical drill holes reported in Lucas Township which comprise five diamond drill holes and 21 reverse circulation (“RC”) drill holes (ODHD, 2020). These drill holes were completed in the 1980s by Abitibi-Price Mineral Resources (diamond and RC holes; MENDM

Assessment File 42A14SE0131) and Kidd Creek Mines Ltd. (RC holes only; MENDM Assessment File 42A14SW).

Based on what is available in the public domain, no significant work has been conducted in the Project area within Crawford and Lucas townships since the 1980s.

## 1.4 Historical Mineral Processing and Metallurgical Testing

In 2019, Spruce Ridge commissioned a mineralogical study of ultramafic rock material collected from drill core samples from the 2018 diamond drilling program. The purpose of the study was to determine whether the nickel (and other elements) occur in the sulphide state, which could be economically extracted from the altered ultramafic host rocks of the CUC. The study identified nickel (Ni) and/or cobalt (Co) bearing minerals that included pentlandite (50%), heazlewoodite (35%), awaruite (15%), and minor godlevskite. The pentlandite dominates the nickel-bearing mineral assemblage and is considered most promising for economic nickel extraction. Heazlewoodite is one of the most nickel rich sulphide minerals and is generally thought to be of hydrothermal origin.

In 2019, selective leach analysis tests were performed on pulp samples of the 12 core intervals from which the mineralogy samples were taken. All drill core samples had been initially analysed by ICP after sample preparation using sodium peroxide fusion for total digestion of nickel and cobalt. Pulps from the same 12 sample intervals selected for SEM analysis were re-analysed using the same ICP procedure, after digestion using aqua regia, which does not attack silicate minerals to any significant degree. In comparing the results, this provided a semi-quantitative estimate of the amount of nickel and cobalt that had been liberated from their parent olivine by serpentinization. The difference between the two methods showed that average nickel liberation was 62% and average cobalt liberation was 77 percent.

## 1.5 Geology and Mineralization

The Crawford Nickel-Cobalt Sulphide Project is situated in the Timmins-Cochrane Mining Camp of Northeastern Ontario, in the western portion of the mineral-rich Abitibi Greenstone Belt (2.8 to 2.6 Ga), which is within the Superior Province, Canada. The Abitibi Greenstone Belt of the Abitibi Subprovince, spans across the Ontario-Quebec provincial border and is considered to be the largest and best preserved greenstone belt in the world (Jackson and Fyon, 1991; Sproule *et al.*, 2003). The Timmins-Cochrane Mining camp has a history of nickel production from komatiite-associated nickel-copper-platinum group element (Ni-Cu-(PGE)) deposits.

Recent work (2003-2012) suggests that the rocks underlying the Property are part of the Deloro Assemblage (Monecke *et al.*, 2017). The Deloro Assemblage (2730 to 2724 Ma) hosts the CUC and consists mainly of mafic to felsic calc-alkaline volcanic rocks with local tholeiitic mafic volcanic units and an iron formation cap which is typically iron-poor, chert-magnetite (Ayer *et al.*, 2005; Thurston *et al.*, 2008).

The surrounding Lower Blake River Assemblage (2704 to 2701 Ma), not underlying the Property, consists predominantly of tholeiitic mafic volcanic rocks with isolated units of tholeiitic felsic

volcanic rocks and turbiditic sedimentary rocks (Ayer *et al.*, 2005; Thurston *et al.*, 2008) and is host to several mafic-ultramafic sills in the northern part of Crawford Township and in neighbouring Mahaffy and Aubin townships.

The rocks have undergone greenschist facies metamorphism with widespread carbonate, chlorite and sericite alteration in volcanic rocks and serpentinization in ultramafic rocks (*i.e.*, dunite, peridotite).

## 1.6 Crawford Ultramafic Complex

The principal target, the Crawford Ultramafic Complex (“CUC”), is entirely undercover but based on geophysics and drilling is an approximately 8.0 km long by 2.0 km wide body (original estimated shape) of dunite, peridotite (and their serpentinized equivalents), and lesser pyroxenite and gabbro, as confirmed in recent historical diamond drill holes (2018 - Spruce Ridge Resources) and the current extensive drilling program by Canada Nickel. Historical diamond drilling (1960s and 1970s) also reported intersections of gabbro, peridotite, pyroxenite, dunite and serpentinite (*e.g.*, George, 1970). Descriptions from drill core logs record localized brecciation in the Main Zone at the northern contact between mafic volcanic rocks and dunite.

The CUC, although geophysically recognized as early as 1964, was recently redefined by a high-resolution helicopter-borne magnetic and electromagnetic survey in 2017 (Balch, 2017) and a high-sensitivity aeromagnetic and airborne gravimetric survey in 2018 (CGG, 2018), both conducted over the entire Crawford Township, and followed up with 3D-Inversion and detailed interpretation (St-Hilaire, 2019).

Sulphide mineralization discovered to date on the Crawford Project can be characterized as Komatiite-hosted Ni-Cu-Co-(PGE) deposit type, which recognizes two sub-types (Leshner and Keays, 2002). Sulphide nickel-copper-cobalt-PGE mineralization in the Crawford Ultramafic Complex is interpreted as most similar to Mt. Keith-style. Mt. Keith-style (Type II) is based on sheet flow theory (Leshner and Keays, 2002) and is characterized by thick komatiitic olivine adcumulate-hosted, disseminated and bleb sulphides, hosted primarily in a central core of a thick, differentiated, dunite-peridotite dominated, ultramafic body. More common nickel sulphides such as pyrrhotite and pentlandite are present but also sulphur poor mineral Heazlewoodite (Ni<sub>3</sub>S<sub>2</sub>) and nickel-iron alloys such as Awaruite (Ni<sub>3</sub>-Fe). These deposit types are generally on the order of 10s to 100s of million tonnes with nickel grades of less than one percent (*e.g.*, Mt. Keith, Australia; Dumont Deposit, Quebec).

The type example of the komatiite-hosted Ni-Co-PGE exploration model that the Company is using for the Crawford Ultramafic Complex is the Dumont Nickel Deposit (the “Dumont”) of Dumont Nickel by Magneto Investments L.P., previously Royal Nickel Corporation (“RNC”), located 220 km to the east of Crawford Township. The Dumont Sill has undergone pervasive serpentinization and local talc-carbonate alteration due to metamorphism to mid-upper greenschist facies (*e.g.*, Eckstrand, 1975; Sciortino *et al.*, 2015). The observed mineralogy of the Dumont is a result of the serpentinization of a dunite protolith (>90% olivine), which locally hosted a primary, disseminated (intercumulus) magmatic sulphide assemblage and contained “trapped” nickel within the unaltered

olivine. The pervasive serpentinization process, whereby olivine reacts with water to produce serpentine, magnetite and brucite, creates a strongly reducing environment where the nickel released from the decomposition of olivine is partitioned into low-sulphur nickel sulphides (*i.e.*, Heazlewoodite) and newly formed awaruite. The final mineral assemblage and texture of the disseminated nickel mineralization in the Dumont deposit and the variability has been controlled primarily by the variable degree of serpentinization that the host dunite has undergone. Metallurgical test work by Royal Nickel has yielded concentrates with over 29% Ni and 1% Co.

Historical drilling of the CUC and other differentiated ultramafic-mafic bodies in Crawford Township intersected extensively serpentinized dunite and peridotite. On the basis of limited historical metallurgical work completed in the 1960s and a more recent mineralogical study, the serpentinized ultramafic rocks in the CUC are considered to have potentially recoverable nickel.

While some similarities between the Dumont and the CUC exist, exploration of the CUC is early-stage and, as such, mineralization hosted by the advanced stage Dumont Nickel Project is not necessarily indicative of mineralization hosted on the Company's Crawford Nickel-Cobalt Sulphide Project.

## 1.7 Exploration – Current

The current 2019-2020 diamond drilling program was initiated by Spruce Ridge in September 2018, under its option-joint venture agreement with then property owner, Noble Mineral Exploration. With the October 1st, 2019 announcement that Noble had created a new entity, Canada Nickel Company, to focus on the Crawford Nickel-Cobalt Project, management and control of the drilling program shifted from Spruce Ridge to Canada Nickel Company, in collaboration with Noble.

Following on from the initial four holes completed in late 2018 and reported in early 2019 (*see* Noble news release date March 4, 2019), results from CNC's first nine drill holes, which totalled 5,280 m, were announced by Noble on December 9, 2019. As of the Effective Date of the Report (December 12, 2020), a total of 76 drill holes totalling approximately 32,293 metres (up to hole CR20-73), have been completed by Canada Nickel and Spruce Ridge. This includes drilling metres (635 m) from six abandoned holes (CR19-14, CR19-26, CR19-26A, CR20-30, CR20-40, CR20-70). Three of the 76 drill holes, CR20-55, CR20-57, and CR20-58, were HQ size, completed for metallurgical testwork, whereas the remaining 73 drill holes used NQ size.

### 1.7.1 Main Zone

The focus of the 2019-2020 drilling at the Main Zone was to extend along strike mineralization encountered in the original historical 2018 series drill holes (Spruce Ridge), to test the east-northeastern and west-southwestern extents of mineralization (*i.e.*, the contacts), to test deeper portions of the CUC and to complete in-fill drilling within the initial mineral resource envelope and its higher-grade core.

To date, diamond drilling has outlined a west-northwest trending (approx. 285-315Az) ultramafic body (largely dunite-peridotite) that is at least 1.8 km in strike length, 200 to 250 m in width, and more than 650 metres deep. Mineralization remains open along strike to the northwest, and at

depth. A north-northwest trending regional sinistral, strike-slip fault terminates the ultramafic body along its southeastern extent. A 3D-Inversion magnetic anomaly, nearly one kilometre deep, has been only partially tested at depth. **Higher Grade Nickel Zone**

Diamond drilling core assay results to date allow for the delineation of two higher grade (>0.30% Ni and >0.35% Ni) regions (modelled grade shells) within the larger core High-Grade Zone (>0.25% Ni), which in turn are within the larger enveloping Low-Grade Zone (>0.15% Ni), all contained within the host ultramafic body of the CUC. The High-Grade Zone (>0.25% Ni) has a minimum modelled strike length of about 1.9 km, is between approximately 115 and 210 m wide, and contains regions of incrementally higher grade nickel (*i.e.*, >0.30% Ni and >0.35% Ni). The High-Grade Zone and internal regions of higher grade nickel (modelled grade shells) remain open along strike to the west-northwest and extend to a depth of at least 650 metres.

The modelled High-Grade Zone encloses a >0.30% Ni shell and two >0.35% Ni shells and shows good continuity along strike. The >0.30% Ni shell shows reasonable continuity which may improve given increased drill hole density. The >0.35% Ni shell has been modelled in two areas which could develop greater continuity and size with increased drill hole density. The >0.30% Ni grade shell contains an estimated 200.5 Mt with a mean grade of 0.34% Ni and the >0.35% Ni grade shell contains an estimated 57.7 Mt with a mean grade of 0.36% Ni. These higher grade regions have been considered and modelled in the current Main Zone Mineral Resource Estimate.

#### **1.7.1.2. Main Zone – PGE Reef**

The Main Zone PGE Reef, located within the northern margin of the ultramafic to mafic body, is associated with a contact between an ultramafic (pyroxenite) unit to the south and a gabbroic unit to the north, reflected in seven (7) drill hole intercepts. Additional drill holes will be required to better define the PGE reef and as such the PGE reef was restricted to the central region of the modelling area.

### **1.7.2 East Zone**

In addition to Main Zone drilling, the Company began to drill-test the East Zone, located about 1.2 km northeast of the Main Zone in late 2019 and into 2020 with relatively wide-spaced drill hole sections (11 drill holes in total). Drilling and interpretation has defined an ultramafic body that is about 2 km long by 600 m wide and east-west oriented. The East Zone is open to the east and west and is open at depth

#### **1.7.2.1. East Zone – PGE Reefs**

Within the layered ultramafic unit of the East Zone, two domains can be differentiated: (1) a high nickel, PGE poor, domain to the south, comprising mainly dunite and peridotite, and (2) a low (to barren) nickel domain, comprising peridotite and pyroxenite, with major PGE occurrences interpreted as horizons or “reefs” proximal to the northern margin of the ultramafic body. Nine (9) of the 11 drill holes in the East Zone intersected one or both of the two PGE reefs, with five (5) holes intersecting both the south reef (PGE-1) and north reef (PGE-2).

## 1.8 Mineralogical Assessment

Canada Nickel reported on some initial mineral processing work based on the results of 89 samples from drill core, processed at both XPS Expert Process Solutions (“XPS”) and SGS Canada (“SGS”), in order to determine the mineralogy and proportion of nickel contained in nickel sulphide and nickel-iron alloy minerals (pentlandite, heazlewoodite, and awaruite).

In the Higher Grade Zone (core), 89% of the nickel in the 44 samples tested was contained in nickel sulphide and nickel-iron alloy minerals with 11% in unrecoverable silicate minerals. Given the relatively significant amount of sulphur (0.14% S) in the samples, 97% of the nickel was contained in the sulphide minerals (pentlandite and heazlewoodite) and only 3% in the nickel-iron alloy mineral awaruite.

In the Lower Grade Zones, 59% of the nickel was contained in nickel sulphide and nickel-iron alloy minerals with 41% in unrecoverable silicate minerals. Eighty-nine percent of the nickel was contained in sulphide minerals (pentlandite and heazlewoodite) and, given the relatively lower sulphur content (0.03% S), 11% of the nickel was in awaruite.

Both the higher and lower grade zones contain significant quantities of magnetite. In the Higher Grade Zone (core), the magnetite content averaged 8.7% and in the Lower Grade Zones it averaged 6.9%.

## 1.9 Mineral Resource Estimation

Caracle Creek was retained by CNC to prepare two NI 43-101 compliant mineral resource estimates (“MRE”s) supported by one technical report, for the Crawford Nickel-Cobalt Sulphide Project, which incorporates all current diamond drilling for which the drill hole data could be confidently confirmed. Drill hole information up to 18 October 2020 was utilized in the preparation of the Mineral Resource Estimates. The updated MRE for the Main Zone and the initial MRE for the East Zone, disclosed herein, were prepared under the direct supervision of Luis Oviedo (P.Ge.), using all available information. Mr. Oviedo also supervised the work completed by Miguel Vera and Mario Diaz.

The mineral resources for the Project were classified in accordance with the most current CIM Definition Standards (CIM, 2014) which provides standards and definitions for the classification of Mineral Resources and Mineral Reserves estimates.

The deposit type being considered for nickel mineralization discovered to date in the Crawford Ultramafic Complex, komatiite-hosted Ni-Cu-Co-(PGE), is comparable to the Dumont Nickel Deposit, located in Quebec, Canada. The host Archean Dumont Sill is about 7 km long, up to 1 km in width, and like the Crawford Ultramafic Deposit is located within the Abitibi Greenstone Belt.

The drill hole and project database provided by CNC for the Main Zone contains the following:

- Collar: 49 holes drilled (plus two abandoned at shallow depth), amounting to 25,190.5 m, with an approximate mean depth of 500 metres.
- Survey: 47 holes measured, with two of them having their end-halves estimated due to blocking. The two shallow, abandoned holes were not measured.

- Lithology: 24 unique rock codes, grouped into 10 codes for modelling purposes (*see* Section 14.4).
- Assays: 15,098 core samples with a mean length of 1.5 m; 23 elements reported.
- Mag-Sus: 8,678 handheld magnetic susceptibility measurements on drill core, taken every 3 m on average.
- Specific Gravity: 3,929 SG (density) measurements made on drill core, taken every 4 m on average during the first drilling campaign, and every 17 m on average during the second drilling campaign.

The drill hole and project database provided by CNC for the East Zone contains the following:

- Collar: 11 holes drilled, amounting to 5,329 m, with a mean depth of 485 metres.
- Survey: nine holes measured.
- Lithology: 11 unique rock codes, grouped into eight litho-codes for modelling purposes (*see* Section 14.4).
- Assays: 3,164 core samples with a mean length of 1.5 m; 23 elements reported.
- Mag-Sus: 1,609 handheld magnetic susceptibility measurements on drill core, taken every 3 m on average.
- Specific Gravity: 396 SG (density) measurements made on drill core, taken every 4 m on average during the first drilling campaign, and every 17 m on average during the second drilling campaign.

Secondary data sources for both the Main and East zones include alteration, mineralization and structural drill hole logs, historical geophysical surveys (magnetic susceptibility, EM and gravity), geological maps and various work reports.

The nickel resource area in the Main Zone measures approximately 1.8 km along strike, 280-440 m in width, and 650 m deep, while the nickel resource in the East Zone is approximately 2 km along strike (with a notable 800 m undrilled gap), 160-220 m in width, and 550 m deep. Estimates are based on a compilation of a few historical and numerous recent diamond drill holes, along with mineralized zones prepared by Caracle.

The main steps in the resource estimation methodology were as follows:

- Database compilation and validation of the diamond drill holes used in the mineral resource estimate;
- Modelling of 3D geological units and mineralized zones based on lithological units, densities, magnetic susceptibility and nickel/PGE concentrations;
- Generation of drill hole intercepts for each mineralized zone;
- Grade compositing and capping;
- Spatial statistics and semi-variogram modelling;
- Grade interpolations (kriging, IDW, NN) and classification; and
- Results validation.

The mineral resource estimates detailed in the Report was prepared using Micromine 2020.5 v.20.5.317.3 (“Micromine”) software. Statistical studies were done using Micromine and Microsoft Excel software. The estimation used 3D block modelling, applying the Ordinary Kriging (“OK”) and Inverse Distance Weighting (“IDW”) interpolation methods, depending on the zone and elements. The 3D model was also generated in Micromine 2020.5, through the use of implicit modelling techniques (Cowan *et al.*, 2003).

The Main Zone geo-modelling area is 2 km long by 700 m wide, northwest-southeast oriented (105Az), following the approximate mineralization bearing and to make it compatible with drilling directions. The northern and southern limits of the area, therefore, are defined by the drilling extents. The western limit is an open boundary, determined by the extents of the westernmost reaching drill hole (CR20-56), the only hole with a northwest dip direction. The regional fault defines the eastern limit of the modelling area, though it was not intersected by any drill hole. The depth of the area and geological model was constrained by applying a maximum vertical depth of 650 m below overburden. Although depth-constrained in the current model, the deposit is open at depth with at least three drill holes extending past the 650 m limit with intercepts containing >0.25% Ni.

The East Zone geo-modelling area is 2 km long by 600 m wide, east-west oriented, following the approximate mineralization bearing, and to make it compatible with drilling directions. The northern and southern limits of the area, therefore, are defined by the drilling extents. The western and eastern limits are open boundaries, established at 200 m from the respective nearest drill holes. Because of this, the western end does not reach the main regional fault, so the model was not affected by it, unlike in the Main Zone. The depth of the area and geological model was constrained by applying a maximum vertical depth of 560 m below overburden, and 80 m below the deepest drill hole. There is not enough information available to determine if the deposit is open at depth.

Main Zone resource classification was based, as a first step, on the search ellipsoids from the higher-grade domain estimation passes, given that it is the better informed of the three nickel domains, comprising almost two thirds (61%) of the drill hole samples valid for resource estimation. Specifically, this meant that measured resources would be limited to the first pass search radius, roughly equivalent to a 70-75 m grid, and 2 minimum drill holes; indicated resources would come from the second pass parameters, with a search radius roughly equivalent to a 140-150 m grid and 2 minimum drill holes, and finally inferred resources replicating the third pass parameters. The PGE reef domain at the Main Zone contains only exploration targets.

East Zone resource classification was based on the search ellipsoids defined for the estimation strategy of the deposit. Specifically, this meant that measured resources would be limited to the first pass search radius, very roughly equivalent to a 80 m grid, and 2 minimum drill holes; indicated resources would come from the second pass parameters, with a search radius very roughly equivalent to a 100 m grid and 2 minimum drill holes, and finally inferred resources replicating the third pass parameters. The PGE reef domains at the East Zone contain only exploration targets.

## 1.10 Pit Optimization and Cut-off Grade

Current Mineral Resources for the Project are constrained by theoretical open pit models. An updated Main Zone Mineral Resource Estimate (Main Zone Deposit) and initial East Zone Mineral Resource Estimate (East Zone Deposit) have been completed on the Crawford Project using all available information and data. The Mineral Resources for the Project were classified in accordance with the most current CIM Definition Standards (CIM, 2014).

In order to determine the quantity of mineralization that shows a “reasonable prospect for eventual economic extraction” using open pit mining methods, Independent Consultant David Penswick (PEng), carried out a pit optimization using Datamine NPVS, which employs the Lerchs-Grossmann algorithm. This algorithm uses the net value of every block in the model to determine the ultimate extent of an open pit that maximizes overall project value.

The mineral resource estimates have been revised to include a conceptual pit envelope constraint that was developed using the following optimization parameters. Metal prices used were US\$7.75/lb nickel, US\$15/lb cobalt, US\$200/tonne Fe recovered to magnetite, US\$1,600/oz Pd, and US\$800/oz Pt. Different pit slopes were used for each layer (in degrees): 9.5 in clay, 21.8 in gravel, and 45 in rock. Exchange rate utilized was US\$/C\$ at \$0.75. Mining costs utilized different values for overburden (clay, gravel), selective mining, and bulk mining, ranging from C\$1.75 to C\$3.15/t mined. Processing costs and general and administration costs for a 100 ktpd operation (similar to Dumont) were C\$6.18/t. Selling costs are expected to be C\$0.85/lb nickel.

It is important to note that the results from the pit optimization exercise are used solely for testing the “reasonable prospects for eventual economic extraction” by open pit mining methods and do not represent an economic study.

### 1.10.1 Cut-off Grade: Calculated

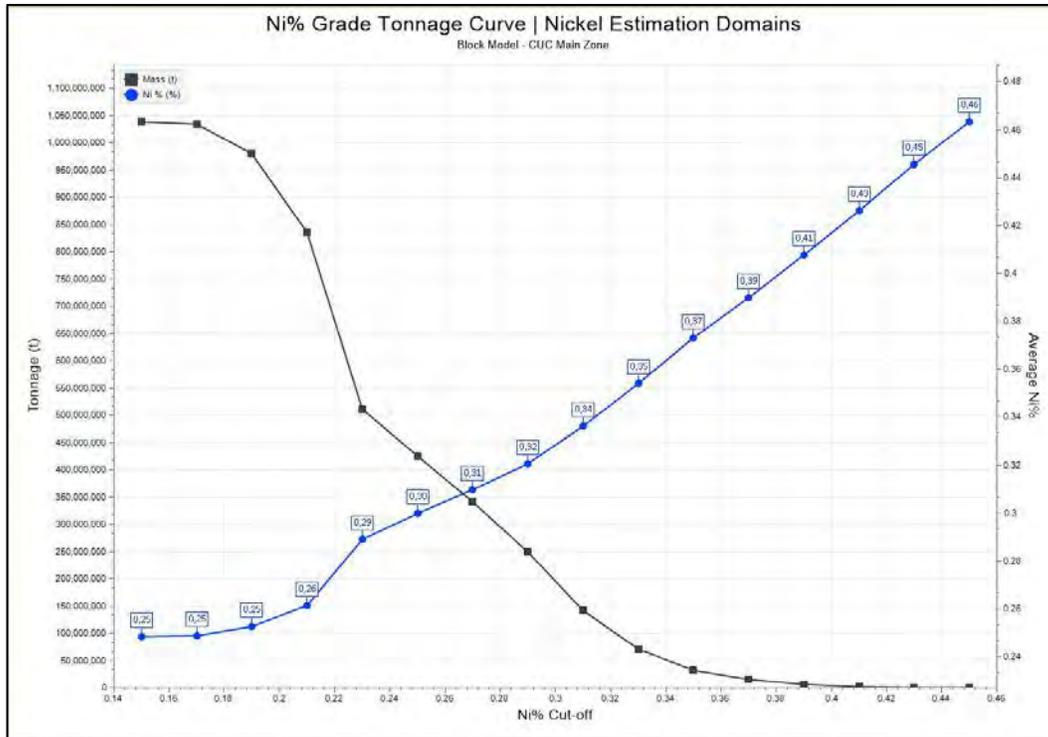
Based on the techno-economic parameters described above, the marginal cut-off can be achieved with less than 1 lb of payable Ni per tonne of ore processed.

With the current techno-economic parameters, the calculated cut-off approximates 0.1% Ni and is thus lower than the 0.15% Ni that has been used as the basis for the mineral resource statement (see Section 14.14). The 0.15% Ni cut-off was selected as a conservative cut-off given the early stage nature of the Project’s development.

It is the QP David Penswick’s opinion that the calculated cut-off grade is relevant to the grade distribution of this Project and that the mineralization exhibits sufficient continuity for economic extraction under the cut-offs applied.

### 1.10.2 Grade Sensitivity Analysis

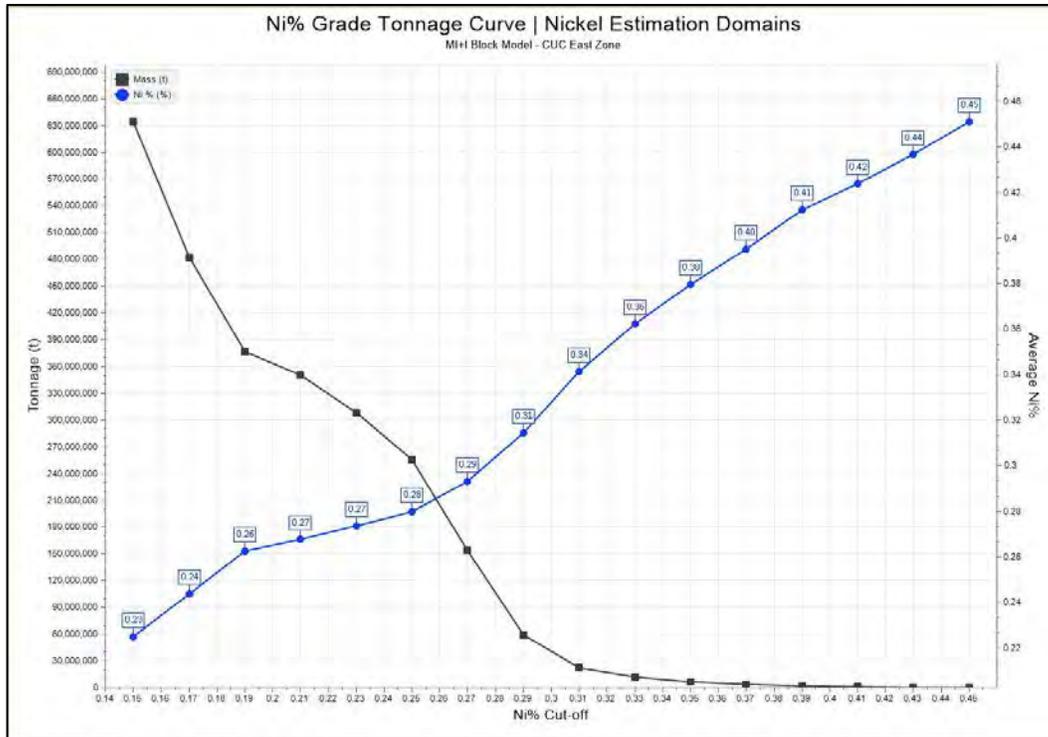
Based on the combined Main Zone block model, a grade-tonnage curve was calculated for the nickel domains, marking a nickel cut-off grade of 0.267% Ni:



A nickel cut-off grade of 0.267% Ni is included as a data point in the grade sensitivity analysis table:

CUT-OFF	TONNAGE	Ni (%)	METAL CONTENT (t)
0.15	1,038,152,354	0.25	2,580,231
0.16	1,037,904,423	0.25	2,579,843
0.17	1,034,435,077	0.25	2,574,080
0.18	1,010,654,260	0.25	2,532,308
0.19	980,511,010	0.25	2,476,579
0.2	928,332,982	0.26	2,375,007
0.21	835,240,436	0.26	2,184,338
0.22	630,717,697	0.28	1,745,262
0.23	510,545,095	0.29	1,476,075
0.24	447,271,006	0.30	1,328,175
0.25	424,283,389	0.30	1,272,075
0.26	383,858,118	0.30	1,168,770
0.267	353,268,360	0.31	1,088,570
0.27	341,265,125	0.31	1,056,373
0.28	299,800,562	0.31	942,555
0.29	249,433,374	0.32	799,258
0.3	194,985,070	0.33	638,819
0.33	70,726,665	0.35	250,460
0.35	32,414,926	0.37	120,939

Based on the combined East Zone block model, a grade-tonnage curve was calculated for the nickel domains, marking a nickel cut-off grade of 0.259% Ni:



It is important to note that this curve is mostly referential, as exploration targets were not considered for its calculation due to their significantly high uncertainty.

A nickel cut-off grade of 0.259% Ni is included as a data point in the grade sensitivity analysis table:

CUT-OFF	TONNAGE	Ni (%)	METAL CONTENT (t)
0.15	260,049,007	0.24	626,635
0.16	250,366,424	0.24	611,383
0.17	228,364,120	0.25	575,561
0.18	210,655,470	0.26	545,394
0.19	193,436,510	0.27	513,997
0.2	185,140,287	0.27	497,846
0.21	180,635,780	0.27	488,652
0.22	173,589,305	0.27	473,343
0.23	162,711,177	0.28	449,208
0.24	148,558,712	0.28	415,929
0.25	128,691,263	0.28	367,099
0.259	110,148,827	0.29	318,953
0.26	108,489,577	0.29	314,647
0.27	81,512,488	0.30	243,153
0.28	60,415,719	0.31	185,236
0.29	33,495,189	0.32	108,415
0.3	23,062,382	0.34	77,717
0.33	11,533,581	0.36	41,862
0.35	6,546,028	0.38	24,857

## 1.11 Mineral Resource Statement

The Measured (“Mea”), Indicated (“Ind”) and Inferred (“Inf”) Mineral Resource Estimates presented herein, are constrained within pit shells developed for the Main and East zones from the pit optimization analysis discussed within the Report. The Effective Date of the Mineral Resource Estimates is December 11, 2020. Total and class-characterized mineral resources for all three classifications within the pit-constrained Main Zone are presented for all elements studied in the following table:

DOMAIN	CLASS	TONNES (Mt)	Ni (%)	Ni CONTENT (kt)	Co (%)	Co CONTENT (kt)
Higher-Grade	Measured	151.7	0.32	482.2	0.013	19.9
	Indicated	128.6	0.30	391.8	0.013	16.5
	Mea+Ind	280.2	0.31	873.9	0.013	36.4
	Inferred	109.9	0.29	315.0	0.013	14.0
Northern Lower-Grade	Measured	24.8	0.22	54.4	0.013	3.2
	Indicated	109.7	0.21	232.8	0.013	14.0
	Mea+Ind	134.5	0.21	287.2	0.013	17.1
	Inferred	90.4	0.21	187.4	0.013	11.3
Southern Lower-Grade	Measured	37.6	0.21	80.7	0.014	5.1
	Indicated	153.5	0.21	324.2	0.013	20.7
	Mea+Ind	191.1	0.21	404.9	0.013	25.7
	Inferred	119.9	0.21	257.5	0.013	15.8
DOMAIN	CLASS	TONNES (Mt)	Fe (%)	Fe CONTENT (Mt)	S (%)	S CONTENT (kt)
Higher-Grade	Measured	151.7	6.25	9.5	0.20	298.8
	Indicated	128.6	6.37	8.2	0.16	202.5
	Mea+Ind	280.2	6.31	17.7	0.18	501.3
	Inferred	109.9	6.66	7.3	0.09	103.8
Northern Lower-Grade	Measured	24.8	6.15	1.5	0.05	12.0
	Indicated	109.7	6.40	7.0	0.05	55.9
	Mea+Ind	134.5	6.35	8.5	0.05	67.9
	Inferred	90.4	6.59	6.0	0.07	62.0
Southern Lower-Grade	Measured	37.6	7.28	2.7	0.04	16.4
	Indicated	153.5	7.27	11.2	0.04	57.5
	Mea+Ind	191.1	7.27	13.9	0.04	73.9
	Inferred	119.9	7.08	8.5	0.05	54.6
DOMAIN	CLASS	TONNES (Mt)	Pd (g/t)	Pd CONTENT (koz)	Pt (g/t)	Pt CONTENT (koz)
Higher-Grade	Measured	151.7	0.029	141	0.012	57
	Indicated	128.6	0.027	111	0.013	52
	Mea+Ind	280.2	0.028	252	0.012	108
	Inferred	109.9	0.026	93	0.013	47
SUMMARY						
DOMAIN	CLASS	TONNES (Mt)	Ni (%)	Ni CONTENT (kt)	Co (%)	Co CONTENT (kt)
Total Grade	Mea+Ind	605.9	0.26	1,566.0	0.013	79.2
	Inferred	320.1	0.24	759.8	0.013	41.2
DOMAIN	CLASS	TONNES (Mt)	Fe (%)	Fe CONTENT (Mt)	S (%)	S CONTENT (kt)
Total Grade	Mea+Ind	605.9	6.62	40.1	0.11	643.1
	Inferred	320.1	6.80	21.8	0.07	220.5
DOMAIN	CLASS	TONNES (Mt)	Pd (g/t)	Pd CONTENT (koz)	Pt (g/t)	Pt CONTENT (koz)
Higher-Grade	Mea+Ind	280.2	0.028	252	0.012	108
	Inferred	109.9	0.026	93	0.013	47

Total and class-characterized mineral resources for all three classifications within the pit-constrained East Zone are presented for all elements studied in the following table:

DOMAIN	CLASS	TONNES (Mt)	Ni (%)	Ni CONTENT (kt)	Co (%)	Co CONTENT (kt)
Higher-Grade	Measured	22.5	0.27	60.9	0.012	2.8
	Indicated	19.5	0.27	51.9	0.012	2.4
	Mea+Ind	41.9	0.27	112.8	0.012	5.2
	Inferred	119.5	0.27	324.3	0.013	15.2
Northern Lower-Grade	Measured	3.3	0.20	6.5	0.013	0.4
	Indicated	2.3	0.19	4.3	0.014	0.3
	Mea+Ind	5.6	0.19	10.8	0.013	0.8
	Inferred	22.8	0.18	41.0	0.013	3.1
Southern Lower-Grade	Measured	0	-	-	-	-
	Indicated	0	-	-	-	-
	Mea+Ind	0	-	-	-	-
	Inferred	34.4	0.17	58.2	0.013	4.3
DOMAIN	CLASS	TONNES (Mt)	Fe (%)	Fe CONTENT (Mt)	S (%)	S CONTENT (kt)
Higher-Grade	Measured	22.5	5.91	1.3	0.04	9.3
	Indicated	19.5	6.09	1.2	0.04	7.5
	Mea+Ind	41.9	6.00	2.5	0.04	16.8
	Inferred	119.5	6.18	7.4	0.04	48.6
Northern Lower-Grade	Measured	3.3	6.78	0.2	0.05	1.7
	Indicated	2.3	7.09	0.2	0.05	1.2
	Mea+Ind	5.6	6.91	0.4	0.05	2.9
	Inferred	22.8	7.30	1.7	0.06	12.7
Southern Lower-Grade	Measured	0	-	-	-	-
	Indicated	0	-	-	-	-
	Mea+Ind	0	-	-	-	-
	Inferred	34.4	7.76	2.7	0.01	3.5
SUMMARY						
DOMAIN	CLASS	TONNES (Mt)	Ni (%)	Ni CONTENT (kt)	Co (%)	Co CONTENT (kt)
Total Grade	Mea+Ind	47.5	0.26	123.6	0.013	6.0
	Inferred	176.7	0.24	423.5	0.013	22.6
DOMAIN	CLASS	TONNES (Mt)	Fe (%)	Fe CONTENT (Mt)	S (%)	S CONTENT (kt)
Total Grade	Mea+Ind	47.5	6.11	2.9	0.04	19.7
	Inferred	176.7	6.63	11.7	0.04	64.8

It is the opinion of the QPs that both the updated Main Zone and initial East Zone Mineral Resource Estimates, completed in accordance with the requirements of the NI 43-101, reasonably reflect the mineralization that is currently known on the Crawford Ni-Co Sulphide Project and that there are reasonable prospects for future economic extraction, likely using open pit and/or bulk underground mining methods.

The Mineral Resources are not mineral reserves as they do not have demonstrated economic viability. The estimate is categorized as Inferred, Indicated and Measured resources based on data density, geological and grade continuity, search ellipse criteria, drill hole density and specific interpolation parameters. The Effective Date of the Mineral Resource Estimates is December 11, 2020, based on the drill hole data compilation status, cut-off grade parameters, and pit optimization.

## 1.12 Exploration Targets

Despite having been quantified by the same methodologies used for classified resources, tonnages and grades of exploration targets are conceptual in nature. Insufficient geological and sampling data prevents the definition of a mineral resource, and as such it is uncertain if the targets will be effectively confirmed and delineated as mineral resources. Ranges in tonnages and grades were interpreted as follows:

Ranges for exploration targets in the Main Zone PGE reef domain.

DOMAIN	TONNES (Mt)	Pd (g/t)	Pt (g/t)	PGE (g/t)
PGE	5 - 6	0.4 - 0.5	0.5 - 0.6	1.0 - 1.1

Ranges for exploration targets in the two East Zone PGE reef domains.

DOMAIN	TONNES (Mt)	Pd (g/t)	Pt (g/t)	PGE (g/t)
PGE-1	8 - 12	0.5 - 0.6	0.6 - 0.7	1.1 - 1.3
PGE-2	9 - 13	0.1 - 0.2	0.2 - 0.3	0.3 - 0.5
TOTAL	17 - 25	0.3 - 0.4	0.4 - 0.5	0.7 - 0.9

Ranges for exploration targets in the East Zone nickel domains.

DOMAIN	TONNES (Mt)	Ni (%)
HG	120 - 170	0.24 - 0.27
NLG	30 - 50	0.18 - 0.20
SLG	110 - 160	0.17 - 0.20
TOTAL	260 - 380	0.20 - 0.23

## 1.13 Other Relevant Data and Information

On March 4, 2020, Canada Nickel announced that it had entered into a Memorandum of Agreement with Noble Mineral Resources to option five properties near the Crawford Project. The five nearby properties have similar geology, mineralization and deposit model targets as the CUC (see Canada Nickel news release dated March 4, 2020). On the 23 September 2020, the Company announced that it had begun detailed airborne magnetic and gravity surveys, similar to what was successfully utilized at the Company's flagship Crawford Nickel-Cobalt Sulphide Project, on its Option Properties.

The Crawford-Nesbitt-Aubin property ("CNA"), comprising 22 SCMCs and 31 patented lands covering approximately 2,113 ha in parts of Crawford, Nesbitt and Aubin townships, is centred about 8.5 km northwest of and contiguous with the Crawford Project.

The Nesbitt North nickel target ("Nesbitt"), comprising 31 SCMCs and 14 patented lands covering approximately 1,222 ha, is located in the southwest quadrant of Nesbitt Township, about 9.5 km north-northwest of the CUC.

The Aubin-Mahaffy nickel target ("Aubin"), consists of two separate properties, a small 57 ha area in the north ("Aubin North") in Aubin Township and a larger 5,324 ha area in the south ("Aubin South") in Aubin and Mahaffy townships. Together, the two properties comprise 235 SCMCs and 11

patented lands covering approximately 5,381 ha. The Aubin is located about 14 km west-northwest of the CUC.

The MacDiarmid-Jamieson nickel target (“MacDiarmid”), comprising 176 SCMCs covering approximately 3,753 ha in parts of MacDiarmid Township and Jamieson Township to the south, is about 23 km southwest of the CUC.

The Kingsmill-Aubin property (“Kingsmill”), located in the northeast quadrant of Kingsmill Township and the northwest quadrant of Aubin Township, is about 23 km northwest of the CUC. The property consists of 24 SCMCs and 17 patented lands covering approximately 1,311 ha. The Kingsmill covers a differentiated ultramafic-mafic intrusion that was first drilled by INCO Canada Ltd. in 1964, 1965, and 1966 (at least 23 drill holes) intersecting serpentinized peridotite in several drill holes (e.g., DDH 27090: 385.57 m grading 0.36% Ni and DDH 25064: 190.20 m grading 0.28% Ni) and explaining the strong magnetic anomaly. McIntyre Porcupine Mines Ltd. completed at least four drill holes on the Kingsmill target in 1974, intersecting serpentinized peridotite.

In January 2012, Ring of Fire Resources began its first phase of drilling on the Kingsmill target with 11 of the 12 drill holes intersected serpentinized peridotite, interpreted to be part of a high-angle ultramafic sill with the top of the sill in the south and the bottom of the sill in the north. Mineralogical studies carried out by Noble Mineral Exploration reported a similar nickel-bearing mineral assemblage to that which is described in the CUC, including awaruite (naturally occurring alloy of nickel and iron), heazlewoodite (rare sulphur-poor nickel-rich sulphide) and cobaltian pentlandite (iron-nickel-cobalt sulphide).

The Qualified Persons of the Report have been unable to verify this information and the information presented is not necessarily indicative of the mineralization on the Property that is the subject of the Report.

## **1.14 Interpretation and Conclusions**

The main target on the Property is the Archean-age Crawford Ultramafic Complex, a differentiated ultramafic to mafic komatiitic flow (sill) that is hosted by the Deloro Assemblage of the AGB and comprises mainly dunite (+90% olivine) and peridotite (+40% olivine), which have undergone extensive serpentinization, along with minor gabbro and pegmatite which have all been cut by late felsic (aplite) and mafic dikes. The CUC is completely covered and as such is currently mainly defined by its geophysical signature (strong magnetic highs), a few historical diamond drill holes dating back to 1964, the more recent 2018 drilling by Spruce Ridge, and the current 2019-2020 (ongoing) drilling by Canada Nickel.

The ultramafic rocks (peridotite-dunite) from the CUC intersected in drill core have, for the most part, undergone intense serpentinization resulting in a substantial volume increase and the liberation of nickel and iron. This pervasive serpentinization process creates a strongly reducing environment where the nickel released from the decomposition of olivine is partitioned into low-sulphur sulphides like heazlewoodite and into the nickel-iron alloy, awaruite.

Sulphide mineralization discovered to date on the Crawford Project can be characterized as Komatiite-hosted Ni-Cu-Co-(PGE) deposit type and most similar to the sub-type Mt. Keith style (Leshner and Keays, 2002). Of the five major volcanic facies for komatiitic flow fields suggested by Barnes et al (2004), the CUC is interpreted to be most similar to the dunitic compound sheet flow (DCSF), the same flow field facies interpreted for Mt. Keith. The DCSF facies represent high-flow volume magma pathways characterized by thick olivine-rich cumulates. Ultramafic rocks in the CUC are komatiitic, having magnesium oxide contents that range from 18.43 to 46.81wt% MgO (determined by ICP Peroxide Fusion) and average 39.3wt% MgO (937 samples).

In 2019, Spruce Ridge commissioned a mineralogical study of ultramafic rock material collected from drill core samples (2018 diamond drilling) in order to determine whether nickel (and other elements) could be economically extracted from altered ultramafic host rocks of the CUC. The study identified several nickel- and cobalt-bearing minerals (in order of decreasing abundance): pentlandite (50%: iron-nickel sulphide), heazlewoodite (35%: sulphur poor, nickel-rich sulphide), awaruite (15%: nickel-iron alloy) and minor godlevskite (nickel-iron sulphide). The pentlandite, which dominates the nickel-bearing mineral assemblage, is considered most promising for economic nickel extraction. Heazlewoodite, one of the most nickel rich sulphide (low) minerals, is generally thought to be of hydrothermal origin and contains potentially recoverable nickel.

Also, in 2019, Noble commissioned selective leach analytical tests on pulp samples from the 2018 diamond drilling program. All 2018 drill core samples had been initially analysed by ICP after sample preparation using sodium peroxide fusion for total digestion (palladium, platinum and gold were determined by fire assay). Pulps from the same 12 sample intervals selected for SEM analysis were re-analysed using the same ICP procedure, after digestion using aqua regia, which does not attack silicate minerals to any significant degree. This provided a semi-quantitative estimate of the amount of nickel and cobalt that had been liberated from their parent olivine by serpentinization. After eliminating the one sample that showed much lower liberation, the average overall nickel liberation was 62%, and the average cobalt liberation was 77 percent.

Recently (March 2020), the Company reported on initial mineral processing work (mineralogical studies) based on the results of 89 samples from drill core. The samples were processed at both XPS Expert Process Solutions and SGS Canada labs in order to determine the mineralogy and proportion of nickel contained in nickel sulphide and nickel-iron alloy minerals (pentlandite, heazlewoodite, and awaruite). Initial results suggest that the nickel mineralization within the higher-grade core and lower-grade zone (envelope) of the deposit could be amenable to magnetic separation and sulphide flotation processes. Canada Nickel is continuing with this work having planned on about 1,000 samples being analyzed.

The Dumont Nickel Deposit in Quebec is considered to be comparable to the nickel mineralization hosted by the Crawford Ultramafic Complex. Metallurgical test work by RNC on the Dumont Nickel Deposit has yielded concentrates with over 29% Ni and 1% Co. The high concentrate grade is a function of the very low sulphur content of the rock, so that most of the recoverable nickel is in low-sulphur minerals like heazlewoodite, or sulphur-free minerals like awaruite, a nickel-iron alloy (Ausenco, 2013 and 2019).

It should be noted that exploration of the CUC is early-stage and as such mineralization hosted by the Feasibility Study stage Dumont Nickel Project is not necessarily indicative of mineralization hosted on the Company's Crawford Nickel-Cobalt Sulphide Project.

The ultimate determination of whether an economic size and grade of deposit can be developed from the CUC will be predicated on the success of metallurgical test work and the price of nickel and other recoverable metals. The Crawford Nickel-Cobalt Sulphide Project is still early-stage, but initial metallurgical work and mineralogical studies have shown that the nickel contained within the serpentinized ultramafic rocks of the CUC can be liberated. Critical to the success of this Project is completing further thorough metallurgical test work to determine if the nickel could be economically extracted.

It is the opinion of the Authors, that at this stage of the Project, there are no reasonably foreseen contributions from risks and uncertainties identified in the Report that could affect the Project's continuance at its current stage of exploration.

### 1.15 Recommendations

It is the opinion of the Authors that additional exploration expenditures are warranted on the Crawford Nickel-Cobalt Sulphide Project, particularly in view of the recently acquired additional mining lands (see CNC news release 13 July 2020).

Based on the results of the current Main and East zone Mineral Resource Estimates, Caracle concurs with the Company's decision to rapidly advance the Project into the Preliminary Economic Assessment ("PEA") stage (see CNC news release 9 June 2020).

A high level cost estimate, totalling C\$1,600,000, for completion of the PEA is as follows (this is not a phased program):

Work Item	Amount (C\$)
Engineering and Testwork	\$700,000
Metallurgical Testwork	\$500,000
Report Development	\$200,000
Other	\$200,000
<b>Total (C\$):</b>	<b>\$1,600,000</b>

Earlier in 2020, the Company announced that it had commenced the PEA for the Project and retained Ausenco Engineering Canada Inc. as the lead study consultant (see CNC news release 9 June 2020). Since that time, the Company has been working on the PEA (expending funds related to the above budget), with the aim to complete the PEA by the end of 2020. As of the Effective Date of the Report, the drilling required for the PEA has been completed and as such is not included in the above cost estimate.

Initial metallurgical work and mineralogical studies have shown that the nickel contained within the serpentinized ultramafic rocks of the CUC can be liberated. At this stage, the Company should be considering very robust mineral processing and metallurgical test work given the importance of these parameters to the success of the Project. Expanded metallurgical test work, including

grinding, flotation and magnetic separation tests, should be done on a series of composites at various nickel grades, extracted from the main ultramafic bodies (>0.15% Ni) at the Main and East zones in order to determine the magnitude of recoverable nickel. Lessons learned from metallurgical tests completed on the Dumont Nickel Deposit (*e.g.*, pre-treatment/de-fiberizing, wet grinding and de-sliming) should also be considered in the design of these metallurgical tests. In addition, bulk sample reconciliation and block model calibration can be completed against the new mineral resource estimates and appropriate adjustments made.

Caracle is of the opinion that the character of the Project and results to date are of sufficient merit to justify the recommended program and to move the Project through the PEA stage. Furthermore, the proposed budget reasonably reflects the type and amount required for the activities being contemplated.

In order to better characterize the specific komatiite volcanic flow facies and deposit sub-type, the Company should consider a targeted lithochemical and petrological study to determine the character of the cumulate igneous rocks which define the CUC which hosts sulphide mineralization.

CNC plans to investigate carbon sequestration or carbon dioxide removal (“CDR”), also known as carbon capture and storage (“CCS”), which is the long-term removal, capture or sequestration of carbon dioxide from the atmosphere. It is believed that geologic carbon sequestration could contribute significantly to the worldwide and multidisciplinary efforts to slow or reverse atmospheric carbon dioxide pollution and to mitigate or reverse global warming (*e.g.*, Duncan and Morrissey, 2011).

On 27 July 2020, Canada Nickel announced the creation of a wholly-owned subsidiary, NetZero Metals, to begin the research and development of a processing facility that would be located in the Timmins, Ontario region with the goal of utilizing existing technologies to produce zero-carbon nickel, cobalt and iron products (*see* CNC news release 27 July 2020). As part of the research to be undertaken by NetZero Metals, CNC plans to investigate carbon sequestration or carbon dioxide removal and storage technologies.

## 2.0 INTRODUCTION

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At the request of Mr. Mark Selby, Chair and CEO of public company Canada Nickel Company Inc. (“Canada Nickel” or “CNC” or the “Company” or the “Issuer”), Caracle Creek International Consulting Inc. (“Caracle” or the “Consultant”), has prepared these mineral resource estimates and technical report as a National Instrument 43-101 (“NI 43-101”) Mineral Resource Estimates and Technical Report (the “Report”) on the Crawford Nickel-Cobalt Sulphide Project (the “Project” or the “Property” or the “Crawford Project”), located in the Timmins-Cochrane Mining camp, about 42 km north of the City of Timmins, Ontario (Figure 2-1).

### 2.1 Terms of Reference and Purpose of the Report

The Report was prepared for the purpose of describing Mineral Resource Estimates within an NI 43-101 Technical Report to support the public disclosure of Mineral Resources by Canada Nickel, a Canadian based exploration company listed on the TSX Venture Exchange (“TSX-V”) under the trading symbol “CNC”, with its head office at 130 King Street West, Suite 1900, Toronto, Ontario, Canada, M5X 1E3.

On October 1, 2019, Noble Mineral Exploration Inc. (“Noble”) announced the creation of private company Canada Nickel Company Inc., which will own a consolidated 100% interest in the Crawford Nickel-Cobalt Sulphide project, and to distribute a significant portion of Noble’s interest in Canada Nickel to Noble shareholders and qualify CNC as a new public entity. On December 30, 2019, Noble announced that 99.99% of Noble shareholders had approved the arrangement with CNC (*see* Noble news releases dated December 9 and December 30, 2019). Canada Nickel began trading on the TSX-V on February 27, 2020 (*see* Company news release dated February 26, 2020).

On March 4, 2020, Canada Nickel announced the signing of a Memorandum of Agreement with Noble to acquire an additional property and to enter into option agreements on five other targets near the Project (*see* CNC news release dated March 4, 2020). The newly acquired property, the “Crawford Annex”, is contiguous with the original Crawford Ni-Co Sulphide Project and increases the overall Project size to approximately 5,642 hectares. On 22 May 2020, Noble announced that it had received final approval from the TSX-V and closed the transaction with Canada Nickel.

The Report, titled “Independent Technical Report and Mineral Resource Estimates, Crawford Nickel-Cobalt Sulphide Project: Main Zone (Update) and East Zone (Initial) Deposits, Timmins-Cochrane Area, Ontario, Canada”, was prepared by Qualified Persons following the guidelines of NI 43-101, and in conformity with definitions of the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards on Mineral Resources and Mineral Reserves (CIM, 2014) and CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (CIM, 2019).

The Report dated 31 December 2020, is an amended version of the original technical report dated December 4, 2020 with the amended version providing Mineral Resources for the Main Zone Deposit and East Zone Deposit, constrained within conceptual pit shells.

The agreement between CNC and Caracle permits Canada Nickel to file the Report with Canadian securities regulatory authorities pursuant to NI 43-101 Standards of Disclosure for Mineral Projects,

and to publicly file, post and distribute the Report. Except for the purposes legislated under provincial securities law, any other uses of the Report by any third party is at that party's sole risk. The responsibility for this disclosure remains with Canada Nickel. The user of this document should ensure that this is the most recent technical report for the Project as it is not valid if a new technical report has been issued.

### **2.1.1 Declarations**

The quality of information, conclusions, and recommendations contained herein is consistent with the level of effort involved in Caracle's services, determined using: i) information available at the time of Report preparation; ii) data supplied by outside sources; and, iii) the assumptions, conditions, and qualifications set forth in the Report. The Report is intended for use by CNC subject to the terms and conditions of its contract with Caracle and relevant securities legislation.

The opinions contained herein are based on information collected throughout the course of investigations by the QPs, which in turn reflects various technical and economic conditions at the time of writing. Given the nature of the mining business, these conditions can change significantly over relatively short periods of time. Consequently, actual results can be significantly more or less favourable.

The Consultants employed in the preparation of the Report have no beneficial interest in CNC and the Consultants are not insiders, associates, or affiliates of CNC. The results of the Report are not dependent upon any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings between CNC and the Consultants. The Consultants are being paid a fee for their work in accordance with normal professional consulting practices.

The mineral resources presented in the Report are estimates of the size and grade of the deposit. The estimates are based on a certain number of drill holes and on assumptions and parameters currently available. The level of confidence in the estimates depends upon a number of uncertainties. These uncertainties include but are not limited to future changes in metal prices and/or production costs; differences in size; grade and recovery rates from those expected; and changes in Project parameters. In addition, there is no assurance that Project implementation will be carried out.

A Qualified Person, for the purposes of NI 43-101, has not done sufficient work to classify the historical estimates referenced in the Report as current mineral resources or mineral reserves. CNC and Noble are not treating the historical mineral resource estimates contained herein as current.

## **2.2 Qualifications of Consultants**

The Report has been completed by Dr. Scott Jobin-Bevans and Mr. John Siriunas of Caracle Creek International Consulting Inc., based in Sudbury, Ontario, Canada, and Mr. David Penswick, Independent Consultant, based in Toronto, Ontario, Canada (together the "Consultants" or the "Authors").

Dr. Jobin-Bevans is a Professional Geoscientist (APGO #0183, P.Geo.) with experience in geology, mineral exploration, Mineral Resource and Mineral Reserve estimation and classification, land tenure management, metallurgical testing, QA/QC, mineral processing, capital and operating cost estimation, and mineral economics.

Mr. Siriunas is a Professional Engineer (PEO #42706010, P.Eng.) with experience in geology, geochemistry, mineral exploration, Mineral Resource and Mineral Reserve estimation and classification, QA/QC, land tenure management, and mineral economics.

Mr. Penswick is a Professional Mining Engineer (PEO #100111644), Mining Engineer (Independent Consultant) with Gibsonian Inc., (BSc, Queen's University (Canada) and MSc, University of the Witwatersrand (South Africa)), has over 30 years of mining industry experience in operations, projects, technology and finance, and is responsible for providing the pit optimization parameters for the Lerchs-Grossmann pit optimization models used for the Mineral Resource Estimates.

Dr. Scott Jobin-Bevans, Mr. John Siriunas, and Mr. David Penswick, by virtue of their education, experience, and professional association, are each considered to be a Qualified Person ("QP"), as that term is defined in NI 43-101, for the Report.

Dr. Jobin-Bevans is responsible for all sections of the Report, excluding Section 2.3 and Sections 14.13.1 to 14.13.5. Mr. Siriunas is responsible for Section 2.3, Section 6.4, and Section 11 of the Report. Mr. Penswick is responsible for Sections 14.13.1 to 14.13.5 of the Report. A Certificate of Author for each Qualified Person is provided in Appendix 1.

## **2.3 Details of Personal Inspection – Site Visit**

Mr. John Siriunas (M.A.Sc., P.Eng.) visited the Project on October 12, 2019 (one day), on February 3-4, 2020 (two days), and on September 10-11, 2020 (two days), accompanied during each site visit by Mr. William MacRae (M.Sc., P.Geo.), CNC's Project Manager. Travel from the City of Timmins, Ontario to the Project area takes approximately 30 minutes. Visits to observe the general property conditions and access and to verify the locations of some of the historical drill-hole collars and work progress were made in the field. The focus of the September 2020 visit was to confirm the drilling in the East Zone and the progress of drilling in the Main Zone since the previous visit made in February 2020.

During the site visits, diamond drilling procedures were discussed and a review of the on-site logging and sampling facilities for processing the drill core were carried out. In 2019 the secure storage and logging facility at 3700 Highway 101 West in Timmins was visited; in 2020 a visit to the larger facilities at 170 Jaguar Drive, Timmins was made.

As there is no outcrop on the Property, no surface grab samples of target mineralization/lithologies could be collected. After verification of existing core logs and assay results against drill core observations, Mr. Siriunas did not feel it necessary to re-sample the drill core. Photographs taken during the site visit are provided in Appendix 2. Dr. Scott Jobin-Bevans and Mr. David Penswick have not visited the Project.



Figure 2-1. Province-scale location of the Crawford Nickel-Cobalt Sulphide Project (red star) in the Timmins-Cochrane Mining Camp, Northeastern Ontario, Canada.

## 2.4 Sources of Information

Standard professional review procedures were used by the Authors in the preparation of the Report. The Consultants reviewed data and information provided by CNC and its associates and conducted a site visit to confirm the data and mineralization as presented.

Company personnel were actively consulted post and during report preparation, as well as during the Property site visit. Company personnel include Mr. Mark Selby (Chair and CEO, CNC), Mr. Stephen Balch (Vice President Exploration, CNC), Mr. William MacRae (Project Manager, CNC), Mr. Curtis Ferron (Lead Geologist, CNC), and Jessie Liu-Ernsting (VP Corporate Development and

Investor Relations, CNC). The QPs have relied on information and data supplied by the Company, including that from geological, geochemical, assay, mineralogical, metallurgical, diamond drilling, and geophysical work programs.

The Report is based on internal Company technical reports, previous studies, maps, published government reports, Company letters and memoranda, and public information as cited throughout the Report and listed in Section 27, References. The mining lands system for Ontario was accessed online through MLAS (Mining Lands Administration System) at:

- <https://www.mndm.gov.on.ca/en/mines-and-minerals/applications/mining-lands-administration-system-mlas-map-viewer>

Digital data and historical work reports (assessment reports) filed with the Ministry of Energy, Northern Development and Mines (“MENDM”), Ontario were accessed online at:

- <http://www.geologyontario.mndm.gov.on.ca/index.html>

Information relating to Crown Patents, freehold patented lands with mining rights, was provided by the Company and verified where possible through the Ontario Land Registry Access portal:

- <https://www.onland.ca/>

and the Teranet Express portal:

- <https://www.teranetexpress.ca/>

Additional information was reviewed and acquired through public online sources including SEDAR ([www.sedar.com](http://www.sedar.com)) and at various corporate websites.

Work completed by the Consultants was supported by geological consultants Mr. Mario Diaz (B.Sc., Eng.), a Senior geologist with Atticus Consulting S.A.C. (Micromine LATAM), Mr. Miguel Vera (B.Sc., Eng.), a Senior Geologist and Geomodeller with Atticus Chile S.A. (Micromine LATAM), and Mr. Luis Oviedo (B.Sc., P.Geo.), a Professional Geologist (Chilean Mining Commission: RM, CMC #013, P.Geo.) with experience in geology, mineral exploration, Mineral Resource and Mineral Reserve estimation and classification, metallurgical testing, QA/QC, mineral processing, capital and operating cost estimation, and mineral economics.

Anton von Wielligh, P.Eng., is responsible for generating the optimized pit shells using Datamine NPVS software. The work performed by Mr. von Wielligh, a mining engineer who is independent of the Company and Caracle, was supervised by QP David Penswick. The resultant data and information was used in support of the Mineral Resource Estimates described in Section 14. Anton von Wielligh a Principal Mining Engineer with ABGM (Pty) Ltd (Hons. BEng, University of Pretoria (South Africa), Registered Professional Engineer (PR-ENG) with the Engineering Council of South Africa, a Fellow with the Australian Institute of Mining and Metallurgy (FAUSIMM), and a member of the South African Institute of Mining and Metallurgy (SAIMM)), has over 20 years of mining industry experience, spread between open pit and underground production roles and several mine start-ups.

### **3.1 Effective Date**

The Effective Date of the Report is December 12, 2020 and the Effective Date of the Mineral Resource Estimate is December 11, 2020.

### **3.2 Units of Measure and Terminology**

All units in the Report are based on the International System of Units ("SI"), except for units that are industry standards, such as troy ounces for the mass of precious metals. Table 2-1 provides a list of commonly used terms and abbreviations.

Unless specified otherwise, the currency used is Canadian Dollars ("C\$") and coordinates are given in North American Datum 83 ("NAD83"), UTM Zone 17N (EPSG:2958; suitable between 84°W and 78°W).

#### **3.2.1 Cumulate Igneous Rock Textures**

Igneous rocks formed by sedimentation (accumulation of crystals from a magma either by settling or floating) are termed cumulates and display cumulate textures. Relative to groundmass, adcumulates contain 100-93% accumulated crystals (fine-grained groundmass), mesocumulates contain between 93 and 85%, and orthocumulates containing between 85 and 75% accumulated minerals in groundmass.

Table 2-1. Commonly used units, abbreviations and initialisms.

Units of Measure		Abbreviations and Initialisms	
above mean sea level	AMSL	Atomic Absorption	AA
annum (year)	a	Abitibi Greenstone Belt	AGB
billion years ago	Ga	Association Professional Geoscientists of Ontario	APGO
centimetre	cm	All-Terrain Vehicle	ATV
degree	°	Boundary Cell Mining Claim	BCMC
degrees Celsius	°C	Certified Reference Material	CRM
dollar (Canadian)	C\$	Crawford Ultramafic Complex	CUC
dollar (United States)	US\$	Diamond Drill Hole	DDH
eotvos	Eo	Department of Fisheries and Oceans Canada	DFO
foot	ft	Doctor of Philosophy	Ph.D.
gram	g	Electromagnetic	EM
grams per tonne	g/t	End of Hole	EOH
greater than	>	European Petroleum Survey Group	EPSG
hectare	ha	Fire Assay	FA
hour	hr	Geological Survey of Canada	GSC
inch	in	Inductively Coupled Plasma	ICP
kilo (thousand)	K	Interval	Int.
kilogram	kg	Lower Detection Limit	LDL
kilometre	km	Lower Limit of Detection	LLD
less than	<	Letter of Intent	LOI
litre	L	Land Use Permit	LUP
megawatt	Mw	Magnetics or Magnetometer	MAG
metre	m	Master of Science (degree)	M.Sc.
millimetre	mm	Ministry of Energy Northern Development and Mines	MENDM
million	M	Mining Licences of Occupation	MLO
million tonnes per year	Mtpa	Ministry of Natural Resources	MNR
million years ago	Ma	Mining Rights (only)	MR
nanogram per gram (q.v. ppb)	ng/g	Mining and Surface Rights	MSR
nanotesla	nT	Mining Lands Administrative System	MLAS
NQ - 47.6 mm diameter core tube	NQ	National Instrument 43-101	NI 43-101
ounce	oz	North American Datum 83	NAD83
parts per million (by weight)	ppm	Net Smelter Return Royalty	NSR
parts per billion (by weight)	ppb	Ontario Geological Survey	OGS
percent	%	Professional Engineer	P.Eng.
pound	lb	Professional Engineers Ontario	PEO
short ton (2,000 lb)	st	Professional Geoscientist Ontario	P.Geo.
specific gravity	t/m <sup>3</sup>	Quality Assurance / Quality Control	QA/QC
square kilometre	km <sup>2</sup>	Qualified Person	QP
square metre	m <sup>2</sup>	Reverse Circulation	RC
thousand tonnes per year	ktpa	Right of First Refusal	ROFR
three-dimensional	3D	Single Cell Mining Claim	SCMC
tonne (1,000 kg) (metric tonne)	t	Scanning Electron Microscope	SEM
tonne per year	tpa	Specific Gravity	SG
<b>Elements</b>		International System of Units	
cobalt	Co	Standard Reference Material	SRM
copper	Cu	Surface Rights (only)	SR
gold	Au	Township	Twp
nickel	Ni	Universal Transverse Mercator	UTM
platinum-group elements	PGE	Volcanogenic Massive Sulphide	VMS
palladium	Pd	World Geodetic System 1984	WGS84
platinum	Pt	World Geodetic System 1984	WGS84
silver	Ag		
sulphur	S		
iron	Fe		

### 3.0 RELIANCE ON OTHER EXPERTS

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The Authors have relied on Mark Selby (Chair and CEO, Canada Nickel) for the legal description and title evaluations of the Property. The Authors express no legal opinion as to the land tenure title or ownership status, other than to comment on the status of mining lands and other information that is publicly available:

Ontario Government MLAS website:

- <https://www.mndm.gov.on.ca/en/mines-and-minerals/applications/mining-lands-administration-system-mlas-map-viewer>

Ontario Land Registry Access portal (Crown Patents):

- <https://www.onland.ca>

Teranet Express portal (Crown Patents):

- <https://www.teranetexpress.ca>

## 4.0 PROPERTY DESCRIPTION AND LOCATION

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The Crawford Nickel-Cobalt Sulphide Project is situated within the Timmins-Cochrane Mining Camp in Northeastern, Ontario, Canada, a region with a strong mining history (gold, nickel, zinc, lead etc.), and a pro-mining Canadian province with regulations that reflect that history.

In general, all known mineralization, economic or potentially economic that is the focus of the Report and that of CNC, is located within the boundary of the mining lands that comprise the Crawford Nickel-Cobalt Sulphide Project.

### 4.1 Property Location

The Crawford Nickel-Cobalt Sulphide Project, located mostly in Crawford and Lucas townships with a small portion in Carnegie Township, is about 42 km north of the City of Timmins, and on 1:50 000 NTS map sheet 42A/14E and 14F, Buskegau River (Figure 4-1). The approximate centre of the Property is at UTM coordinates 473380mE, 5408504mN (NAD83, UTM Zone 17 North; EPSG:2958) and elevation ranges from about 265 to 290 m above mean sea level ("AMSL").

### 4.2 Mineral Tenure

The Crawford Nickel-Cobalt Sulphide Project comprises approximately 5,384 ha (53.84 km<sup>2</sup>), consisting of a combination of patented lands (Crown Patents) and unpatented mining claims ("staked claims"), summarized in Tables 4-1 and 4-2 and shown in Figure 4-2.

Specifically, the Property comprises 72 Crown Patents (freehold patented lands) in Crawford and Lucas townships that cover approximately 4,844 ha and 64 single cell mining claims ("SCMC") in Crawford Township covering approximately 540 hectares. In this region of Ontario, one SCMC averages approximately 21.22 hectares.

The 72 Crown Patents in Crawford and Lucas townships (Table 4-2) are mineral rights only (CNC does not control the surface rights), and are registered with the Land Registry Office, District of Cochrane (LRO 06). The status of patented lands can be verified online through Teranet Express ([www.teranetexpress.ca](http://www.teranetexpress.ca)). There are three patented lands (mineral and surface rights) within the boundary of the Project area that are owned by third parties (see Figure 4-2).

The Ontario Mining Act (2010) grants surface access to an unpatented mineral claim without owning the surface rights and given proper consultation with appropriate stakeholders. Access to mining rights only patented lands or unpatented SCMC in which the Company owns or has rights to the sub-surface rights only, requires that the surface rights owner be contacted in writing and that agreed upon compensation be paid to the surface rights owner for any significant surface disturbances.

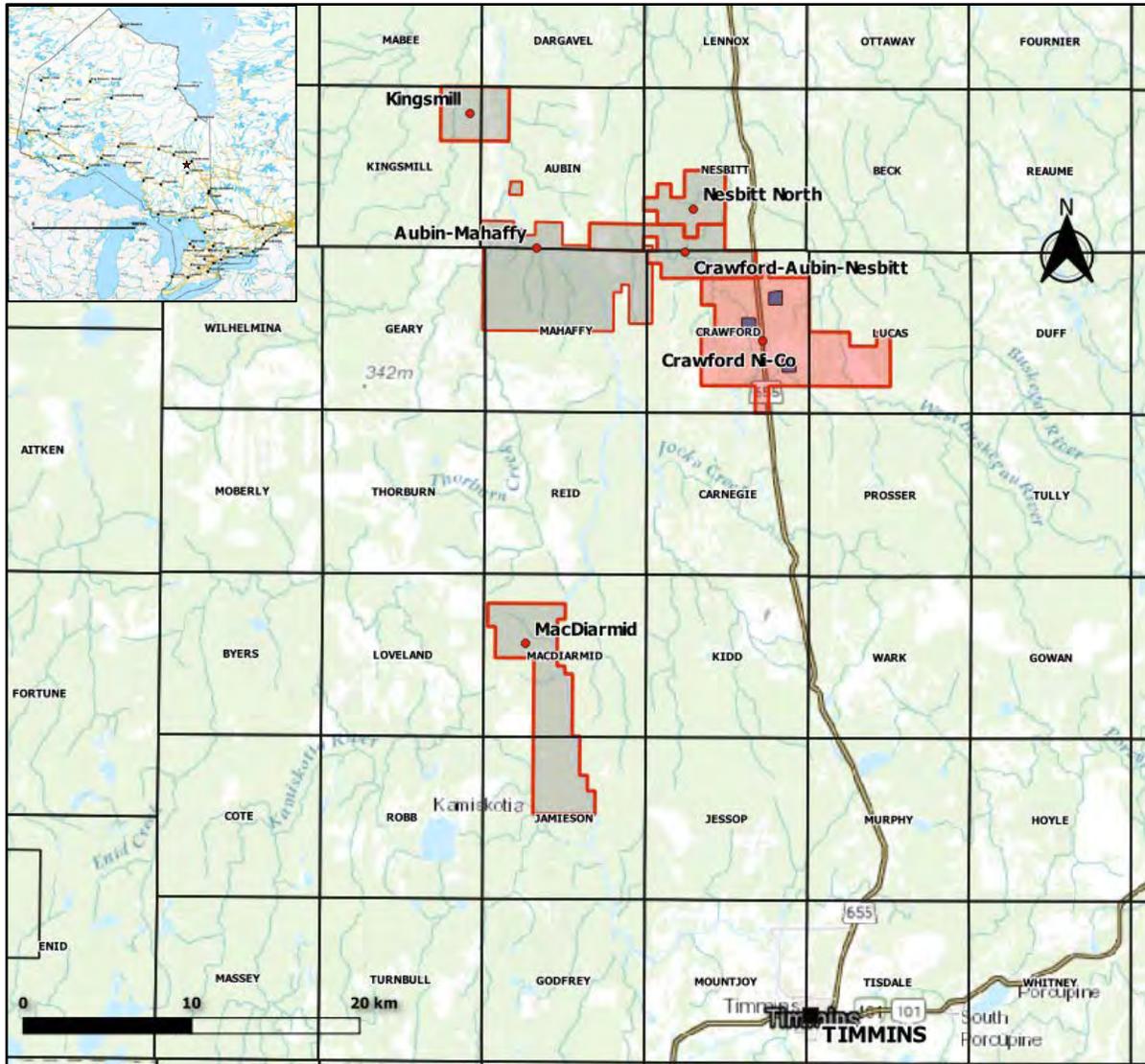


Figure 4-1. Township-scale location of the Crawford Nickel-Cobalt Sulphide Project (red area) in Crawford and Lucas townships, Timmins-Cochrane Area of Ontario, Canada. Locations of the five properties under option by CNC are also shown (shaded red outlines). The City of Timmins is located in the lower right corner and the upper left inset map shows the general location (star) in Ontario.

The SCMCs shown in Figure 4-2 apply only to the portions of lands that were originally defined by the eight historical Legacy Claims, physically staked claims prior to the Province introducing online “map staking” in April 2018. The eight Legacy Claims and in turn the 64 full and partial SCMCs that cover them, total about 540 hectares.

Annual holding costs for the 72 patented lands (mining tax) total approximately \$19,377 and the required annual assessment work for the unpatented lands is approximately \$14,400. The unpatented mining claims (SCMCs) have approximately \$43,200 in work previously applied assessment credits. Except for the SCMCs that cover Legacy Mining claims 4267380 and 4259542, all unpatented mining claims are non-contiguous.

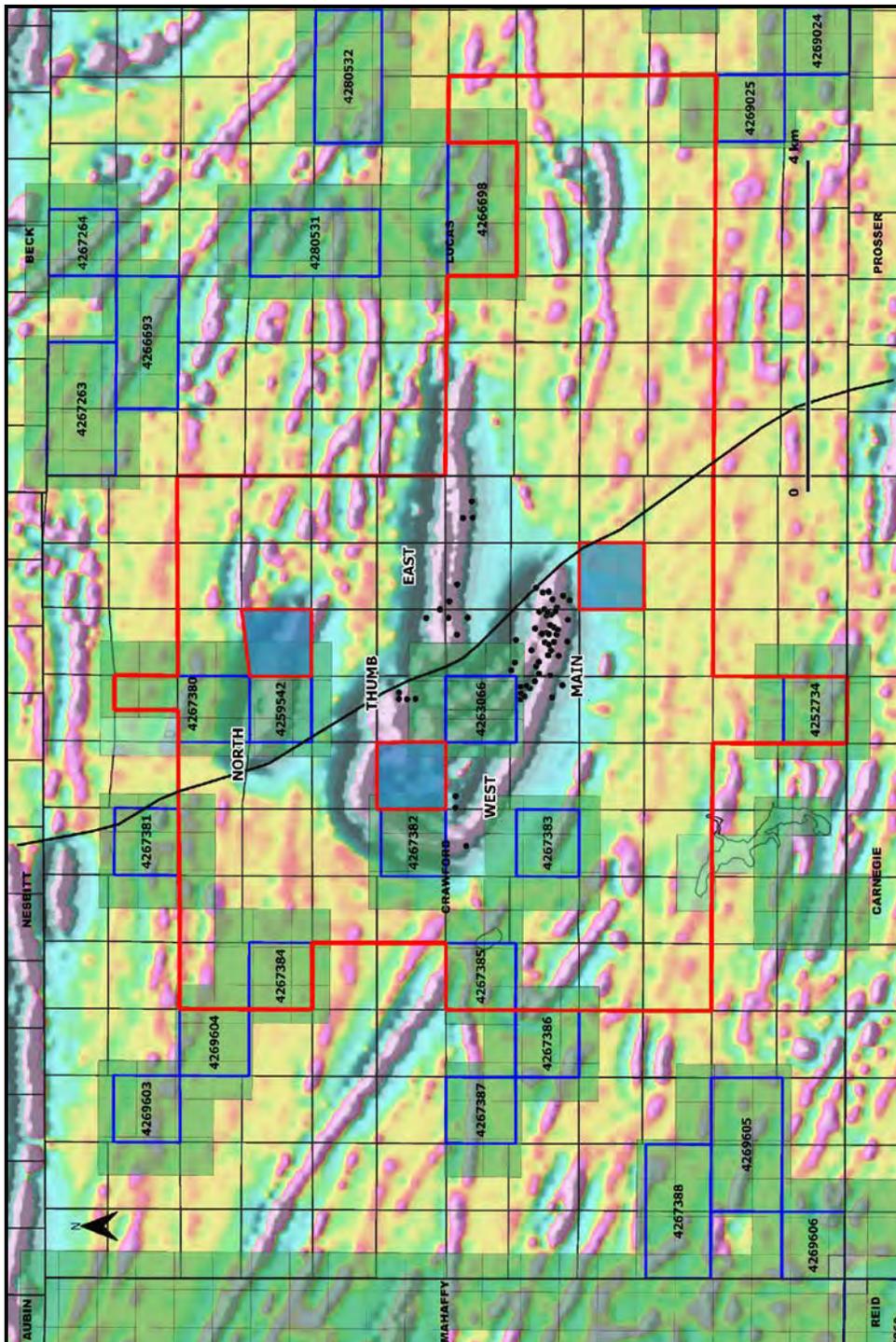


Figure 4-2. Land tenure, superimposed on 2<sup>nd</sup> vertical derivative magnetic intensity (MegaTEM, 2002), with the boundary of the Crawford Nickel-Cobalt Sulphide Project (red outline), unpatented mining claims (green squares), and eight Legacy Mining Claims (blue outlines) (see Table 4-1). Shaded blue-grey areas inside of the Project boundary are patented lands held by third parties. The Main, East, West, Thumb and North zones of the Crawford Ultramafic Complex, the trace (black) of the main northwest trending regional fault and drill hole collar locations (black dots) from 2018, 2019, and 2020 diamond drilling are also shown.

Unpatented SCMCs have expiry dates of October 4 and 5, 2022 and September 29, 2022, and the patented lands have an annual due date of approximately March 30 for payment of the mining land tax and related holding costs (payment due 60 days from invoicing which is generally the end of January).

As of the Effective Date of the Report, Canada Nickel Company Inc. holds a 100% interest in the mining lands listed in Tables 4-1 and 4-2, subject to the terms of the Crawford Annex property purchase (see Canada Nickel news release dated March 4, 2020), and a 2% NSR on the patented lands (see Noble new release dated December 3, 2019 and December 19, 2019). However, as of the Effective Date of the Report, registration of ownership on MLAS shows Canada Nickel holding 100% of 18 SCMCs and Noble holding 100% of the balance of 46 SCMCs.

On the basis of the information provided by the Company and from what is available in the public domain, the Authors confirm that all of the unpatented and patented mining lands which comprise the Crawford Project are in good standing.

Table 4-1. Unpatented mining claims (SCMCs) in Crawford Township, Ontario.

Legacy Claim	ID	Type	Anniversary	Holder (%)	Work Req/Yr	Description	Area (ha)
4263066	171995	SCMC	05/10/2022	CNC (100)	\$400	N 1/2 LOT 4 CON 3	67.66
4263066	171996	SCMC	05/10/2022	CNC (100)	\$200	N 1/2 LOT 4 CON 3	
4263066	222029	SCMC	05/10/2022	CNC (100)	\$200	N 1/2 LOT 4 CON 3	
4263066	256604	SCMC	05/10/2022	CNC (100)	\$200	N 1/2 LOT 4 CON 3	
4263066	256605	SCMC	05/10/2022	CNC (100)	\$200	N 1/2 LOT 4 CON 3	
4263066	305769	SCMC	05/10/2022	CNC (100)	\$200	N 1/2 LOT 4 CON 3	
4263066	312574	SCMC	05/10/2022	CNC (100)	\$200	N 1/2 LOT 4 CON 3	
4263066	325300	SCMC	05/10/2022	CNC (100)	\$200	N 1/2 LOT 4 CON 3	
4263066	334714	SCMC	05/10/2022	CNC (100)	\$200	N 1/2 LOT 4 CON 3	
4267380	130535	SCMC	29/09/2022	NOB (100)	\$200	N 1/2 LOT 4 CON 5	99.89
4267380	147108	SCMC	29/09/2022	NOB (100)	\$200	N 1/2 LOT 4 CON 5	
4267380	193796	SCMC	29/09/2022	NOB (100)	\$200	N 1/2 LOT 4 CON 5	
4267380	213242	SCMC	29/09/2022	NOB (100)	\$400	N 1/2 LOT 4 CON 5	
4267380	309733	SCMC	29/09/2022	NOB (100)	\$400	N 1/2 LOT 4 CON 5	
4267380	309734	SCMC	29/09/2022	NOB (100)	\$200	N 1/2 LOT 4 CON 5	
4267380	316442	SCMC	29/09/2022	NOB (100)	\$200	N 1/2 LOT 4 CON 5	
4267385	158482	SCMC	05/10/2022	NOB (100)	\$200	N 1/2 LOT 8 CON 3	67.74
4267385	203181	SCMC	05/10/2022	NOB (100)	\$200	N 1/2 LOT 8 CON 3	
4267385	254715	SCMC	05/10/2022	NOB (100)	\$200	N 1/2 LOT 8 CON 3	
4267385	275855	SCMC	05/10/2022	NOB (100)	\$200	N 1/2 LOT 8 CON 3	
4267385	275856	SCMC	05/10/2022	NOB (100)	\$200	N 1/2 LOT 8 CON 3	
4267385	313693	SCMC	05/10/2022	NOB (100)	\$200	N 1/2 LOT 8 CON 3	
4252734	130662	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 4 CON 1	61.29
4252734	195379	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 4 CON 1	
4252734	225503	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 4 CON 1	
4252734	250662	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 4 CON 1	
4252734	269338	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 4 CON 1	
4252734	269339	SCMC	04/10/2022	NOB (100)	\$400	S 1/2 LOT 4 CON 1	
4252734	316508	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 4 CON 1	
4252734	332283	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 4 CON 1	

Legacy Claim	ID	Type	Anniversary	Holder (%)	Work Req/Yr	Description	Area (ha)
4252734	332284	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 4 CON 1	
4259542	111361	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 4 CON 5	58.84
4259542	167982	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 4 CON 5	
4259542	205922	SCMC	04/10/2022	NOB (100)	\$400	S 1/2 LOT 4 CON 5	
4259542	205923	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 4 CON 5	
4259542	242401	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 4 CON 5	
4259542	250456	SCMC	04/10/2022	NOB (100)	\$400	S 1/2 LOT 4 CON 5	
4259542	271941	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 4 CON 5	
4259542	309735	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 4 CON 5	
4259542	333029	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 4 CON 5	
4267383	160092	SCMC	05/10/2022	CNC (100)	\$200	S 1/2 LOT 6 CON 3	
4267383	212747	SCMC	05/10/2022	CNC (100)	\$400	S 1/2 LOT 6 CON 3	
4267383	249992	SCMC	05/10/2022	CNC (100)	\$200	S 1/2 LOT 6 CON 3	
4267383	249993	SCMC	05/10/2022	CNC (100)	\$200	S 1/2 LOT 6 CON 3	
4267383	260736	SCMC	05/10/2022	CNC (100)	\$200	S 1/2 LOT 6 CON 3	
4267383	308592	SCMC	05/10/2022	CNC (100)	\$200	S 1/2 LOT 6 CON 3	
4267383	315319	SCMC	05/10/2022	CNC (100)	\$200	S 1/2 LOT 6 CON 3	
4267383	328599	SCMC	05/10/2022	CNC (100)	\$200	S 1/2 LOT 6 CON 3	
4267383	332101	SCMC	05/10/2022	CNC (100)	\$200	S 1/2 LOT 6 CON 3	
4267382	109668	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 6 CON 4	62.97
4267382	109669	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 6 CON 4	
4267382	129456	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 6 CON 4	
4267382	129457	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 6 CON 4	
4267382	212249	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 6 CON 4	
4267382	337123	SCMC	04/10/2022	NOB (100)	\$200	S 1/2 LOT 6 CON 4	
4267384	158708	SCMC	05/10/2022	NOB (100)	\$200	S 1/2 LOT 8 CON 5	60.90
4267384	164003	SCMC	05/10/2022	NOB (100)	\$400	S 1/2 LOT 8 CON 5	
4267384	164004	SCMC	05/10/2022	NOB (100)	\$200	S 1/2 LOT 8 CON 5	
4267384	203341	SCMC	05/10/2022	NOB (100)	\$200	S 1/2 LOT 8 CON 5	
4267384	247900	SCMC	05/10/2022	NOB (100)	\$200	S 1/2 LOT 8 CON 5	
4267384	247901	SCMC	05/10/2022	NOB (100)	\$200	S 1/2 LOT 8 CON 5	
4267384	291950	SCMC	05/10/2022	NOB (100)	\$200	S 1/2 LOT 8 CON 5	
4267384	331719	SCMC	05/10/2022	NOB (100)	\$200	S 1/2 LOT 8 CON 5	
4267384	331720	SCMC	05/10/2022	NOB (100)	\$200	S 1/2 LOT 8 CON 5	
<b>TOTAL:</b>					<b>\$14,400</b>		

Table 4-2. Crown patented lands (mineral rights only) in Crawford and Lucas Townships, Ontario.

Township	Description	Parcel	PIN	Area (ha)	Tax
Crawford	S 1/2 LOT 8 CON 2	4445NEC	65321-0048(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 8 CON 2	4116NEC	65321-0049(LT)	64.75	\$259.00
Crawford	S 1/2 LOT 8 CON 3	972NEC	65321-0050(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 8 CON 5	4647NEC	65321-0055(LT)	63.94	\$255.76
Crawford	S PT BRKN LOT 7 CON 2	4666NEC	65321-0059(LT)	63.94	\$255.76
Crawford	N PT BRKN LOT 7 CON 2	4668NEC	65321-0060(LT)	63.94	\$255.76
Crawford	S 1/2 LOT 7 CON 3	4521NEC	65321-0061(LT)	64.55	\$258.19
Crawford	N 1/2 LOT 7 CON 3	4497NEC	65321-0062(LT)	64.55	\$258.19
Crawford	S 1/2 LOT 7 CON 4	637NEC	65321-0063(LT)	64.75	\$259.00

Township	Description	Parcel	PIN	Area (ha)	Tax
Crawford	N 1/2 LOT 7 CON 4	656NEC	65321-0064(LT)	64.75	\$259.00
Crawford	S 1/2 LOT 7 CON 5	4515NEC	65321-0065(LT)	64.14	\$256.57
Crawford	N 1/2 LOT 7 CON 5	4659NEC	65321-0066(LT)	64.14	\$256.57
Crawford	S PT BRKN LOT 6 CON 2	4446NEC	65321-0071(LT)	62.93	\$251.72
Crawford	N PT BRKN LOT 6 CON 2	4471NEC	65321-0072(LT)	62.93	\$251.72
Crawford	N 1/2 LOT 6 CON 3	4540NEC	65321-0073(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 6 CON 4	4541NEC	65321-0075(LT)	65.15	\$260.62
Crawford	S 1/2 LOT 6 CON 5	4516NEC	65321-0076(LT)	64.55	\$258.19
Crawford	N 1/2 LOT 6 CON 5	4437NEC	65321-0077(LT)	64.55	\$258.19
Crawford	S 1/2 LOT 5 CON 2	3252NEC	65321-0082(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 5 CON 2	4502NEC	65321-0083(LT)	64.75	\$259.00
Crawford	S 1/2 LOT 5 CON 3	4517NEC	65321-0084(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 5 CON 3	4524NEC	65321-0085(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 5 CON 4	4598NEC	65321-0087(LT)	64.75	\$259.00
Crawford	LOT 5 CON 5	7747NEC	65321-0088(LT)	128.28	\$513.14
Crawford	LOT 4 CON 2	7743NEC	65321-0091(LT)	129.5	\$518.00
Crawford	LOT 4 CON 4	7745NEC	65321-0093(LT)	127.88	\$511.52
Crawford	S 1/2 LOT 3 CON 2	4093NEC	65321-0097(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 3 CON 2	4616NEC	65321-0098(LT)	64.75	\$259.00
Crawford	S 1/2 LOT 3 CON 3	4496NEC	65321-0099(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 3 CON 3	4537NEC	65321-0100(LT)	64.75	\$259.00
Crawford	S 1/2 LOT 3 CON 4	663NEC	65321-0101(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 3 CON 4	4440NEC	65321-0102(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 3 CON 5	4101NEC	65321-0104(LT)	64.34	\$257.38
Crawford	S 1/2 LOT 2 CON 2	4488NEC	65321-0109(LT)	64.55	\$258.19
Crawford	S 1/2 LOT 2 CON 3	4580NEC	65321-0111(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 2 CON 3	4653NEC	65321-0112(LT)	64.75	\$259.00
Crawford	S 1/2 LOT 2 CON 4	4557NEC	65321-0113(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 2 CON 4	4436NEC	65321-0114(LT)	64.75	\$259.00
Crawford	S 1/2 LOT 2 CON 5	4100NEC	65321-0115(LT)	64.55	\$258.19
Crawford	N 1/2 LOT 2 CON 5	4099NEC	65321-0116(LT)	64.55	\$258.19
Crawford	S 1/2 LOT 1 CON 2	4674NEC	65321-0121(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 1 CON 2	4514NEC	65321-0122(LT)	64.75	\$259.00
Crawford	S 1/2 LOT 1 CON 3	976NEC	65321-0123(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 1 CON 3	4511NEC	65321-0124(LT)	64.75	\$259.00
Crawford	S 1/2 LOT 1 CON 4	4095NEC	65321-0125(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 1 CON 4	4096NEC	65321-0126(LT)	64.75	\$259.00
Crawford	S 1/2 LOT 1 CON 5	4098NEC	65321-0127(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 1 CON 5	4097NEC	65321-0128(LT)	64.75	\$259.00
Crawford	N 1/2 LOT 4 CON 1	7742NEC	65321-0134(LT)	64.75	\$259.00
Crawford	S 1/2 LOT 4 CON 3	7744NEC	65321-0280(LT)	64.75	\$259.00
Lucas	S 1/2 LOT 12 CON 2	511SND	65320-0023(LT)	64.55	\$258.20
Lucas	S 1/2 LOT 11 CON 2	688SND	65320-0024(LT)	64.75	\$259.00
Lucas	S 1/2 LOT 10 CON 2	593SND	65320-0025(LT)	64.75	\$259.00
Lucas	S 1/2 LOT 9 CON 2	481SND	65320-0026(LT)	64.55	\$258.20
Lucas	S 1/2 LOT 8 CON 2	616SND	65320-0027(LT)	64.34	\$257.36
Lucas	S 1/2 LOT 7 CON 2	610SND	65320-0028(LT)	64.34	\$257.36

Township	Description	Parcel	PIN	Area (ha)	Tax
Lucas	N 1/2 LOT 12 CON 2	531SND	65320-0034(LT)	64.55	\$258.20
Lucas	N 1/2 LOT 11 CON 2	539SND	65320-0035(LT)	64.75	\$259.00
Lucas	N 1/2 LOT 10 CON 2	648SND	65320-0036(LT)	64.75	\$259.00
Lucas	N 1/2 LOT 9 CON 2	544SND	65320-0037(LT)	64.55	\$258.20
Lucas	N 1/2 LOT 8 CON 2	558SND	65320-0038(LT)	64.34	\$257.36
Lucas	N 1/2 LOT 7 CON 2	-	65320-0039(LT)	64.34	\$257.36
Lucas	S 1/2 LOT 12 CON 3	513SND	65320-0045(LT)	64.55	\$258.20
Lucas	S 1/2 LOT 11 CON 3	541SND	65320-0046(LT)	64.95	\$259.80
Lucas	N 1/2 LOT 11 CON 3	508SND	65320-0047(LT)	64.95	\$259.80
Lucas	N 1/2 LOT 10 CON 3	591SND	65320-0048(LT)	64.95	\$259.80
Lucas	N 1/2 LOT 7 CON 3	1322SND	65320-0049(LT)	65.15	\$260.60
Lucas	S 1/2 LOT 7 CON 3	4627SWS	65320-0057(LT)	65.15	\$260.60
Lucas	S 1/2 LOT 8 CON 3	1320SND	65320-0058(LT)	65.15	\$260.60
Lucas	S 1/2 LOT 9 CON 3	592SND	65320-0059(LT)	65.15	\$260.60
Lucas	S 1/2 LOT 10 CON 3	518SND	65320-0060(LT)	64.95	\$259.80
Lucas	N 1/2 LOT 12 CON 3	516SND	65320-0061(LT)	64.55	\$258.20
<b>TOTALS:</b>				<b>4,844.27</b>	<b>\$19,377.09</b>

#### 4.2.1 Mining Lands Tenure System

Traditional claim staking (physical staking) in Ontario came to an end on January 8, 2018 and on April 10, 2018 the Ontario Government converted all existing claims (referred to as Legacy Claims) into one or more “cell” claims or “boundary” claims as part of their new provincial grid system. The provincial grid is latitude- and longitude-based and is made up of more than 5.2 million cells ranging in size from 17.7 ha in the north to 24 ha in the south. Dispositions such as leases, patents, and licences of occupation were not affected by the new system. Mining claims are registered and administrated through the Ontario Mining Lands Administration System (“MLAS”), which is the online electronic system established by the Ontario Government for this purpose.

Mining claims can only be obtained by an entity (person or company) that holds a Prospector’s Licence granted by the MENDM (a “prospector”). A licenced prospector is permitted to enter onto provincial Crown and private lands that are open for exploration and stake a claim on those lands. Notice of the staked claim can then be recorded in the mining register maintained by the MENDM. Once the mining claim has been recorded, the prospector is permitted to conduct exploratory and assessment work on the subject lands. To maintain the mining claim and keep it properly staked, the prospector must adhere to relevant staking regulations and conduct all prescribed work thereon. The prescribed work is currently set at \$400 per annum per 16-hectare claim unit. The prescribed work must be completed as no payments in lieu of work can be made. No minerals may be extracted from lands that are the subject of a mining claim – the prospector must possess either a mining lease or a freehold interest to mine the land, subject to all provisions of the Ontario Mining Act.

A mining claim can be transferred, charged or mortgaged by the prospector without obtaining any consents. Notice of the change of owner of the mining claim or charge thereof should be recorded in the mining registry maintained by the MENDM.

#### **4.2.2 Mining Lease**

If a prospector wants to extract minerals, the prospector may apply to the MENDM for a mining lease. A mining lease, which is usually granted for a term of 21 years, grants an exclusive right to the lessee to enter upon and search for, and extract, minerals from the land, subject to the prospector obtaining other required permits and adhering to applicable regulations.

Pursuant to the provisions of the Ontario Mining Act (the "Act"), the holder of a mining claim is entitled to a lease if it has complied with the provisions of the Act in respect of those lands. An application for a mining lease may be submitted to the MENDM at any time after the first prescribed unit of work in respect of the mining claim is performed and approved. The application for a mining lease must specify whether it requests a lease of mining and surface rights or mining rights only and requires the payment of fees.

A mining lease can be renewed by the lessee upon submission of an application to the MENDM within 90 days before the expiry date of the lease, provided that the lessee provides the documentation and satisfies the criteria set forth in the Act in respect of a lease renewal.

A mining lease cannot be transferred or mortgaged by the lessee without the prior written consent of the MENDM. The consent process generally takes between two and six weeks and requires the lessee to submit various documentations and pay a fee.

#### **4.2.3 Freehold Mining Lands**

A prospector interested in removing minerals from the ground may, instead of obtaining a mining lease, make an application to the Ontario Ministry of Natural Resources ("MNR") to acquire the freehold interest in the subject lands. If the application is approved, the freehold interest is conveyed to the applicant by way of the issuance of a mining patent. A mining patent can include surface and mining rights or mining rights only.

The issuance of mining patents is much less common today than in the past, and most prospectors will obtain a mining lease in order to extract minerals. If a prospector is issued a mining patent, the mining patent vests in the patentee all of the provincial Crown's title to the subject lands and to all mines and minerals relating to such lands, unless something to the contrary is stated in the patent.

As the holder of a mining patent enjoys the freehold interest in the lands that are the subject of such patent, no consents are required for the patentee to transfer or mortgage those lands.

#### **4.2.4 Licence of Occupation**

Prior to 1964, Mining Licences of Occupation ("MLO") were issued, in perpetuity, by the MENDM to permit the mining of minerals under the beds of bodies of water. MLOs were associated with portions of mining claims overlying adjacent land. As an MLO is held separate and apart from the

related mining claim, it must be transferred separately from the transfer of the related mining claim. The transfer of an MLO requires the prior written consent of the MENDM. As an MLO is a licence, it does not create an interest in the land.

#### **4.2.5 Land Use Permit**

Prospectors may also apply for and obtain a Land Use Permit (“LUP”) from the MNR. An LUP is considered to be the weakest form of mining tenure. It is issued for a period of 10 years or less and is generally used where there is no intention to erect extensive or valuable improvements on the subject lands. LUPs are often obtained when the land is to be used for the purposes of an exploration camp. When an LUP is issued, the MNR retains future options for the subject lands and controls its use. LUPs are personal to the holder and cannot be transferred or used as security.

### **4.3 Royalties, Agreements and Encumbrances**

On December 19, 2019, Noble announced that it had completed the acquisition of the 5% net smelter return royalty (“NSR”) applicable to ~55,000 hectare of patented mineral rights on its Project 81 in the Timmins-Cochrane area of northern Ontario. As a result of doing so, those patented properties are now subject to a 2% NSR (*see* Noble news releases dated October 24, 2019 and November 28, 2019). The terms of this acquisition apply to the patented lands which were transferred to CNC (*see* Noble news release dated December 3, 2019) and which comprise part of the current Project.

### **4.4 Environmental Liabilities**

Caracle is not aware of any environmental liabilities on the Property.

### **4.5 Plans and Permits**

In Ontario, there are two types of applications that must be considered prior to a prospector starting an exploration program. An Exploration Plan is a document provided to the MENDM by an Early Exploration Proponent indicating the location and dates for prescribed early exploration activities. An Exploration Permit is an instrument which allows an Early Exploration Proponent to carry out prescribed early exploration activities at specific times and in specific locations. An Exploration Plan or Exploration Permit must be submitted prior to undertaking any of the prescribed work listed by the Ministry but neither of these permits are necessary on Crown Patents (patented lands).

#### **4.5.1 Exploration Plans**

Exploration Plans are used to inform Aboriginal Communities, Government, Surface Rights Owners and other stakeholders about these activities. In order to undertake certain prescribed exploration activities, an Exploration Plan application must be submitted, and any surface rights owners must be notified. Aboriginal communities potentially affected by the Exploration Plan activities will be notified by the MENDM and have an opportunity to provide feedback before the proposed activities can be carried out.

Early Exploration Proponents who wish to undertake prescribed exploration activities on claims, leases or licences of occupation must submit an Exploration Plan. The early exploration activities that require an Exploration Plan are:

- Line cutting that is a width of 1.5 m or less;
- Geophysical surveys on the ground requiring the use of a generator;
- Mechanized stripping a total surface area of less than 100 square metres within a 200-metre radius;
- Excavation of bedrock that removes one cubic metre and up to three cubic metres of material within a 200-metre radius; and,
- Use of a drill that weighs less than 150 kilograms.

Exploration Plan applications should be submitted directly to the MENDM at least 35 days prior to the expected commencement of activities. Submission of an Exploration Plan is mandatory.

#### **4.5.2 Exploration Permits**

Exploration Permits include terms and conditions that may be used to mitigate potential impacts identified through the consultation process. Some prescribed early exploration activities will require an Exploration Permit. Those activities will only be allowed to take place once the permit has been approved by the MENDM.

Surface rights owners must be notified when applying for an Exploration Permit. Aboriginal communities potentially affected by the Exploration Permit activities will be consulted by the MENDM and have an opportunity to provide comments and feedback before a decision is made on the Exploration Permit. Permit proposals will be posted for comment on the Ontario Ministry of the Environment Environmental Registry for 30 days.

Early Exploration Proponents who wish to undertake prescribed exploration activities on claims, leases or licences of occupation should submit an Exploration Permit application. The early exploration activities that require an Exploration Permit are:

- Line cutting that is a width greater than 1.5 metres;
- Mechanized stripping of a total surface area of greater than 100 square metres within a 200-metre radius (and below advanced exploration thresholds);
- Excavation of bedrock that removes more than three cubic metres of material within a 200-metre radius; and,
- Use of a drill that weighs more than 150 kilograms.

Exploration Permit applications should be submitted directly to the MENDM at least 55 days prior to the expected commencement of activities. Submission of an Exploration Permit is mandatory.

#### **4.5.3 Current Permits and Project Status**

The current diamond drilling program is being conducted on mining rights only (MR) Crown Patents and as such does not require an Exploration Plan or an Exploration Permit.

## 4.6 Other Applicable Regulations

Some other regulatory permits and notable requirements for early exploration activities, outside of the MENDM, can apply. For example, permits should be obtained from the MNR for road construction, cutting timber, fire permit (burning), and water crossings. Projects near water may require provisions to protect fish habitats under the jurisdiction of the Department of Fisheries and Oceans Canada.

## 4.7 Other Significant Factors and Risks

### 4.7.1 Community Consultation

Consultation is the process of discussing mining sequence activities with individuals or communities who may be or will be affected by the proposed mineral exploration and/or mining activities. In Ontario, consultation is carried out with three main groups or stakeholders:

- **Aboriginal Communities:** Aboriginal communities must be consulted before beginning early exploration activities requiring exploration plans and exploration permits.
- **Surface Rights Holder:** Mineral rights are the rights to the minerals located in, on or under a surveyed portion of land. A surface rights holder is an individual who owns rights to land which do not include the mineral rights. Contact with surface rights holders should be made and maintained throughout the mining sequence, as they have a legal right to the land. In most cases, contacting surface rights holders is a requirement under the Ontario Mining Act. Regardless, it is highly recommended to contact surface rights holders before entering their property to prospect, begin new exploration activities, make changes to existing exploration activities, etc.
- **Public:** includes all citizens and communities located within a distance from the mineral exploration/mining project who may be affected directly or indirectly by the proposed activities. Contact with the public should be made and maintained throughout the mining sequence, as changes to the land may influence recreational activities, raise environmental concerns or cause health or safety issues.

### 4.7.2 Aboriginal Consultation - Ontario

In Canada, the term “Aboriginal” refers to the first inhabitants of Canada, and includes First Nations and Metis peoples in Ontario, and additionally Inuit people in other parts of Canada. The Company is encouraged to engage with the Metis Nation of Ontario and is obligated to engage the Mattagami and Matachewan First Nation communities. These First Nations plus three other First Nations and one Aboriginal Affiliate are served by the Wabun Tribal Council to organize and facilitate the members’ economic and resource development and other Community services.

On January 17, 2012, Noble (previously Ring of Fire Resources) announced the signing of a Memorandum of Understanding (“MOU”) with Mattagami First Nation and Matachewan First Nation (together the “First Nations”) in relation to exploration to be conducted on its Project 81 (includes the Crawford Nickel Property), in the Timmins area, Northeastern Ontario. The legally binding MOU, dated January 9, 2012, was approved by the TSXV on February 3, 2012.

Under the exploration agreement, Noble and the First Nations have agreed to terms that underline each party's mutual respect for the land and a responsible approach to exploring in their traditional territory. The agreement remains in effect during the initial program and until such time as the Company and the First Nations enter into an Impact Benefit Agreement ("IBA").

Noble agreed to contribute toward the First Nations Communities in amounts based on a percentage of its exploration expenditures on the mining claims within their traditional lands relative to the Company's Project 81. The agreement required Noble to issue 50,000 common shares to each of the First Nations over a period of eighteen months and issue options to purchase 50,000 common shares of Noble to each of the First Nations with the exercise price to be determined as at the date of issue. The agreement also includes terms outlining environmental protection, employment, training and business opportunities, and the mitigation of impacts on the traditional pursuits the members of the respective communities.

CNC intends to honour the conditions of the MOU and intends to work with the Wabun Tribal Council on an amendment to the original MOU with Mattagami First Nation ([www.mattagami.com](http://www.mattagami.com)) and Matachewan First Nation ([www.matachewanfirstnation.com](http://www.matachewanfirstnation.com)).

## 5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

### 5.1 Access to Property

Year-round access to the Property is gained from paved Ontario Highway 655 which leads north from the City of Timmins to Ontario Highway 11, part of the Trans-Canada Highway, and the towns of Smooth Rock Falls, Cochrane and Kapuskasing. The current target area lies within 1.5 km of Ontario Highway 655. The Property is traversed by numerous former logging trails and winter drill roads suitable for ATV and snowmobile. There are no lakes large enough for float planes in the immediate area.

The operating season, although tempered by changes in the climate, is year-round and exploration programs such as geophysical surveys and diamond drilling can be conducted with relative ease.

### 5.2 Climate

The local climate is typical of Northeastern Ontario and consists of a continental climate with cold winters and relatively short hot summers (Figure 5-1). Occasionally, fieldwork is not permitted due to forest fire danger and the Ontario MNR may prevent access during such times.

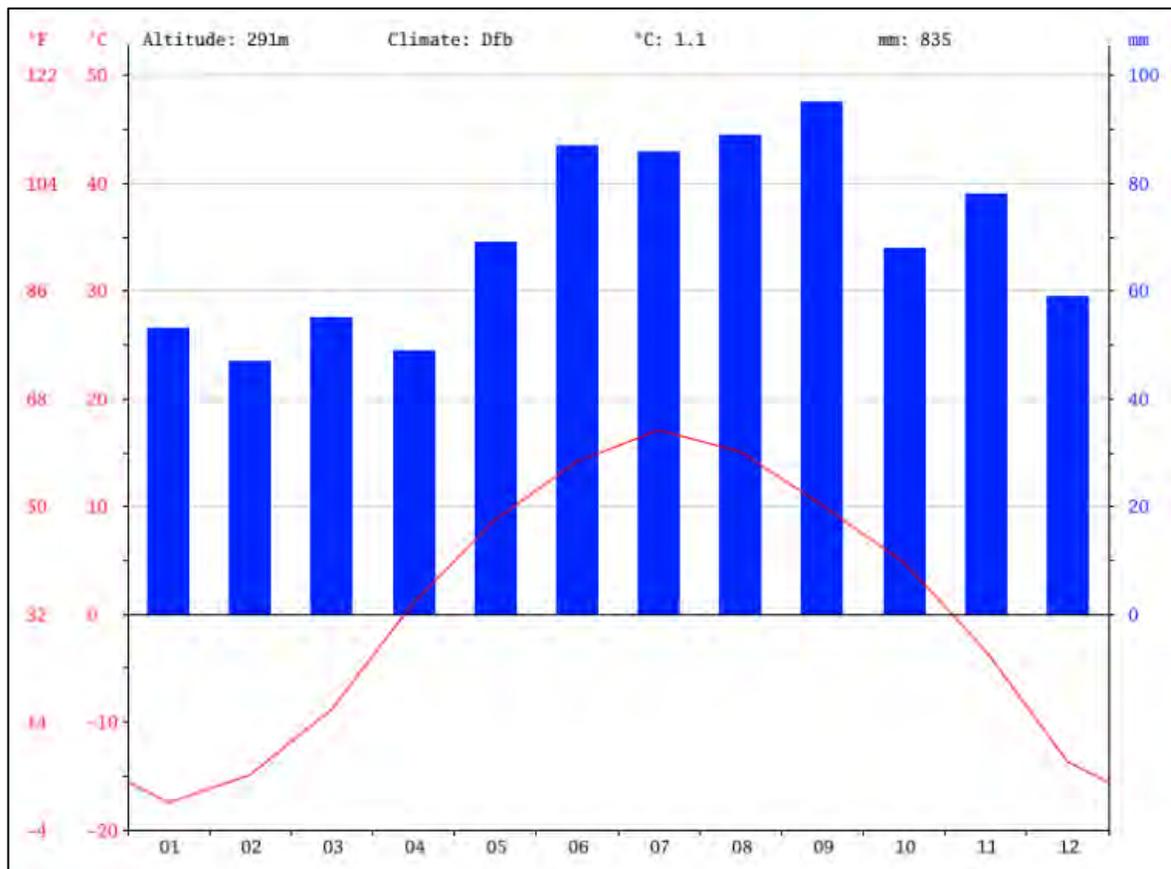


Figure 5-1. Average annual temperature (red line) and precipitation (blue bars) for Timmins, Ontario.

### **5.3 Local Resources and Infrastructure**

Supplies, food, fuel, lodgings and the full range of equipment, supplies and services that are required for exploration and mining work are available in Timmins, the fourth-largest city in Northeastern Ontario (population of 41,788 in 2016). Services are also available in Black River-Matheson (population of 2,438 in 2016) and Cochrane (population of 5,321 in 2016). The centre of the Property is approximately 30 km to a railhead and Ontario Highway 11 to the north and 17 km to a rail spur near the Kidd Creek Mine (Glencore) to the south.

One major hydro transmission line runs through Crawford Township, paralleling the western side of Ontario Highway 655, and a second runs parallel about 4 km east of the centre of the Property. The Lower Sturgeon hydro-electric generating station with a capacity of 14 Mw is situated along the Mattagami River to the west of the Project in Mahaffy Township.

#### **5.3.1 Sufficiency of Potential Surface Rights**

Although an early stage project, there is sufficient suitable land area available within the current Project boundary and within the region in general, for any future tailings disposal, mine waste disposal, and potential processing plant sites.

### **5.4 Physiography**

The Property lies within the Abitibi upland physiographic region and has a typical “Laurentian Shield” landscape, composed of forest covered ridges, very few outcrops, boulder and gravel tills, as well as swampy tracts, ephemeral Spring-runoff stream beds and swales, beaver ponds, and small lakes. It is largely a low relief, bedrock- dominated peneplain with isolated, lithologically controlled topographic highs. Locally, glacial landforms add to relief which is generally less than 15 metres. Thick fine-grained, glaciolacustrine deposits subdue local landscape and form terrain characterized by broad, poorly drained, swampy conditions.

Overburden, predominantly glacial till consisting of sand, clay, loose gravel and boulders, varies from less than 10 m to as much as 85 m and an average thickness of about 50 metres. For reference, the Kidd Creek Mine, located about 15 km south of the Property, is located under about seven metres of overburden. In general outcrop exposure on the Property is nil to one percent.

#### **5.4.1 Topography**

In general, the area is well drained with moderate topographic relief and minor, steep depressions along river and stream routes. Elevations on the Property range from 265 to 290 m AMSL with large sand and outcrop ridges trending north-south. Ultramafic rocks tend to lie in topographic lows, covered by swamps and lakes, and rare outcrop along the edges of large volcanic rock ridges.

#### **5.4.2 Water Availability**

Water accessibility is excellent throughout the year with several small ponds and numerous swampy areas associated with small lakes and creeks, and a shallow water table.

### 5.4.3 Flora and Fauna

The Property lies within the Boreal Shield Ecozone, as defined by the Commission for Environmental Cooperation (“CEC”) and is the largest ecozone in Canada. Tree species include white and black spruce, balsam fir, tamarack, trembling aspen (poplar), white and red pine, jack pine, maple, eastern red cedar, eastern hemlock, paper birch, speckled alder, pin cherry, and mountain ash. Many of the forests in the area have been designated for cutting or have already been cut by forestry companies, leaving a majority of secondary growth forests. Other plants include ericaceous shrubs, sphagnum moss, willow, Labrador tea, blueberries, feathermoss, cotton grass, sedges, kalmia heath, shield fern, goldenrod, water lilies, horsetails and cattails.

Mammals include moose, black bear, wolf, chipmunk, beaver, muskrat, snowshoe hare, vole, red squirrel, mice, marten, short-tailed weasel, fisher, ermine, mink, river otter, coyote, and red fox. Garter snakes and frogs are also present. Waterfowl are seen on lakes during the ice-free season, and fish can be abundant in some lakes and the larger perennial streams.

## 6.0 HISTORY

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The Porcupine Mining District of Ontario was founded in 1908 after the discovery of gold in the Ontario portion of the Abitibi Greenstone Belt (“AGB”) near Timmins. Since then, gold production in the region has been substantial and the Timmins region is one of the richest goldfields in the world, producing more gold than any other mining camp in Canada (about 230 tonnes).

In the early years, prospectors followed rivers and lakeshores hunting for gold and base metals, but the extensive drift-covered ridges and valleys left by the Pleistocene Laurentide Ice Sheet meant that they could not explore the area in detail. Because of immature surficial covers of the glacial landscape, there were no alluvial gold trains in creek bottoms extending from hard-rock mineralization. Without outcropping mineralization, ore deposits of all kinds remained undetected.

The advent of airborne geophysics post World War Two, allowed for new and renewed exploration campaigns in the AGB. Starting in the early 1960s, subsidiaries of the International Nickel Company of Canada Ltd. (“INCO”), private and public companies and the Ontario and Canadian governments flew airborne magnetic and electromagnetic surveys across the AGB looking for nickel sulphide deposits. The targets were magnetic anomalies reflected by a magnetic response from pyrrhotite-dominated nickel sulphide mineralization. Since many, but not all, nickel sulphide ores are dominated by semi-massive to massive pyrrhotite with associated chalcopyrite, they generate coincident magnetic-electromagnetic anomalies which are high priority targets in nickel sulphide exploration. This geophysical signature (coincident MAG-EM targets) led to the discovery of the “Type IV hydrothermal-metamorphic” nickel sulphide deposits (Layton-Matthews *et al.*, 2010) at and near Thompson, Manitoba in the 1950s and in subsequent decades.

Not all coincident magnetic-electromagnetic anomalies are due to pyrrhotite dominated sulphides as magnetite will naturally generate a very strong magnetic response and if present, graphite will generate a very strong conductive response. Ultramafic rocks, including extrusive komatiite flows, komatiitic channelized sheet sills, and intrusive mafic-ultramafic bodies, the host lithologies to many of the nickel sulphide ores discovered to date in the Timmins Mining Camp and the AGB, are commonly serpentized by dynamic metamorphism which results in the liberation of magnetite from olivine, which in turn results in a very strong magnetic response, overwhelming weaker magnetic signatures, and lower specific gravity. The serpentization also results in the liberation of nickel which forms iron-nickel alloy (*i.e.*, awaruite) and nickel sulphides (*e.g.*, pentlandite, pyrrhotite, heazlewoodite), reflected in increased concentrations of available nickel. This in comparison to “fresh” non-serpentized ultramafic rocks which have relatively high specific gravity, a relatively low magnetic signature, and low (background) concentrations of nickel.

The enormous number of magnetic and conductive anomalies generated by airborne and ground geophysical surveys and the masking of a “clean” response from potential nickel sulphide deposits, by both magnetic and electromagnetic effects, means that not all targets may have been tested and/or delineated. In the Timmins region of the AGB and specifically in Crawford Township, given the lack of outcrop and the deep overburden, the only solution was and is to drill-test targets.

## 6.1 Exploration

Prior to 1964, little was known about the geology of Crawford Township. The first aeromagnetic survey was completed in 1955 (Aeromagnetic Surveys Limited: 1 inch to ¼ mile scale), followed by a 1956 Geological Survey of Canada aeromagnetic survey (Map 301G, Crawfish Lakes: 1 inch to 1 mile), and a 1964 Geological Survey of Canada aeromagnetic survey (Map 2319G, Crawfish Lakes: 1 inch to 1 mile). All three magnetic surveys showed a large, roughly circular, strongly magnetic high zone in the east-central part of the township that was interpreted to be an ultramafic rock mass (*i.e.*, the Crawford Ultramafic Complex or “CUC”).

The 1963 discovery of the rich base metal deposit in Kidd Township (Kidd Creek Mine), about 15 km south of the CUC, led to a flurry of exploration in Crawford Township through the latter 1960s and the 1970s. The first exploration recorded in Crawford Township dates back to 1964. The International Nickel Company of Canada led the way in exploring the township during the 1960s with multiple drill holes testing numerous geophysical MAG-EM anomalies. Anomalous base and precious metal (Cu, Zn, Pb, Ag) results were reported from intermediate to felsic volcanic rocks and long intersections (*e.g.*, 236 m) of nickel (*e.g.*, 0.25-0.40% Ni) in peridotite with very low sulphide content were noted (*e.g.*, Skrecky, 1971). McIntyre Porcupine Mines Ltd. dominated exploration in the township during the 1970s with exploration waning significantly through the 1980s and thereafter.

There are at least 26 historical drill holes reported in Lucas Township which comprise five diamond drill holes and 21 reverse circulation (“RC”) drill holes (ODHD, 2020). These drill holes were completed in the 1980s by Abitibi-Price Mineral Resources (diamond and RC holes; MENDM Assessment File 42A14SE0131) and Kidd Creek Mines Ltd. (RC holes only; MENDM Assessment File 42A14SW).

Based on what is available in the public domain, no significant work has been conducted in the Project area within Crawford and Lucas townships since the 1980s.

### 6.1.1 Noble Mineral Exploration: 2012-2019

On March 2, 2012, Ring of Fire Resources Inc. announced a name change to Noble Mineral Exploration Inc. (TSX-V:NOB). Noble continued to explore the nearby Kingsmill Ni Target, announcing March 29, 2012 that it had completed 4,922.2 m of diamond drilling which had intersected long sections (*e.g.*, 546 m) of serpentinized peridotite (*see* Section 23, Adjacent Properties).

On June 7, 2017, Noble announced the start of a 2,100 line-kilometre airborne helicopter MAG-EM survey which was completed by Balch Exploration Consulting Inc. (“BECI”) and covered Crawford and Carnegie Townships. The object of the survey was to identify discrete conductors that could represent copper-lead-zinc (Cu-Pb-Zn) mineralization (*e.g.*, Kidd-Creek style) or nickel-copper sulphide, plus to map weakly conductive trends that could represent gold associated with disseminated sulphide-bearing mineralization. Previous airborne work on nearby townships within Project 81 identified conductive trends in bedrock that correlated with historical drilling that

encountered anomalous copper, lead, zinc and gold. The system used was the AirTEM-150, a compact and concentric helicopter time domain EM system that can penetrate to depths of 400 m with high resolution. Measurements of the three axes of the EM secondary field are measured in a full waveform mode and the resulting profiles are used to determine the size, orientation, conductance and depth of the anomalous source.

On May 3, 2018, Noble announced that it had commissioned Albert Mining Inc. (TSXV: AIMM) of Brossard, Quebec to complete an Artificial Intelligence (“AI”) technology Interpretation over Crawford and Carnegie townships. On October 18, 2019 Albert Mining Inc. announced a name change to Windfall Geotek Inc. ([www.windfallgeotek.com](http://www.windfallgeotek.com)). Results of the study including a final report were delivered to Noble in June 2019 and announced July 17, 2019. The objective within Crawford Township (approx. 9,321 hectares or 93.21 km<sup>2</sup>) was to use their proprietary Computer Aided Resources Detection Software (“CARDS”) AI Technology to identify potential Cu-Zn and Ni-Co targets. By using its CARDS technology, Windfall Geotek assisted Noble in identifying targets and possible sites with the same signature as known copper-zinc and nickel-cobalt occurrences. Windfall Geotek used its proprietary technology to analyze geophysical, geochemical, and geological data to discover the patterns hidden in the large amount of data that Noble has compiled over the years. The AI study generated nine (9) Ni targets that show +80% similarity prediction using the AGEO (Aggregation of GEO-referenced model) Ni model and 12 Cu-Zn targets that show +80% similarity prediction using the AGEO Cu-Zn model. AGEO is one of two (2) algorithms used to determine and validate the accuracy of prediction of the model. The other being the C-Cluster (Clustering for Classification) algorithm which is used to compare and validate predictions generated by the AGEO algorithm. The AI study incorporated a total of 2,632 training points that were subjected to evaluation using merged helicopter-borne Time Domain Electromagnetic (“HTEM”) and Magnetic surveys completed by BECI in 2017 (at 25 m resolution), together with an historical diamond drill hole database to construct the Cu-Zn and Ni “Predictive Models”. CARDS use data mining techniques and pattern recognition algorithms to analyze and compile the exploration data into many layers of gridded variables, in order to identify target zones with high statistical similarity to known areas of mineralization.

On May 8, 2018, Noble announced that it had signed an Option and Joint Venture Agreement with Spruce Ridge Resources Ltd. (TSX-V: SHL) to earn a 75% interest in the Crawford Township Property on specific target areas having a size up 2,000 hectares.

On August 27, 2018, Noble announced that it had contracted CGG Multi-Physics to complete a FALCON<sup>®</sup> Airborne Gravity Gradiometer and magnetics survey over parts of Project 81 including Crawford Township. The Falcon AGG technology is a gravity gradiometer system specifically designed for airborne survey use and reportedly provides several key advantages over other standard Full Tensor Gradiometer (“FTG”) systems such as: lower noise, higher resolution and sensitivity, measured error and redundancy and high production rate. Results of the survey were delivered to Noble in a final report in November 2018.

On June 11, 2019, Noble announced that it had received and released the results of mineralogical studies on drill core samples from its Crawford Nickel-Cobalt Sulphide Property. Twelve samples of

drill core were selected from 1.5 metre analyzed intervals, to cover a range of nickel, cobalt, palladium and sulphur contents as well as differing degrees of serpentinization. Polished thin sections were made from the core samples and were examined under reflected-light microscope and a Scanning Electron Microscope (“SEM”), which provided chemical analyses of individual mineral grains to aid in their identification (see Section 6.3, Historical Mineral Processing and Metallurgical Testing).

On October 1, 2019, under the terms of a binding letter of intent, Noble announced the creation of Canada Nickel Company which will own a consolidated 100% interest in the Crawford Nickel-Cobalt Sulphide Property. A definitive agreement was entered into on November 14, 2019 with details provided in a Noble news release dated November 29, 2019.

Noble, in conjunction with CNC, announced the results of their first phase of diamond drilling targeting the CUC on December 9, 2019. Phase 1 drilling consisted of nine diamond drill holes, totalling 5,267 m and all nine holes intersected nickel (Ni) cobalt (Co) and platinum-group element (PGE) mineralization.

### **6.1.2 Spruce Ridge Resources Inc.: 2017-2019**

On September 25, 2017, Spruce Ridge announced that it had signed a binding Letter of intent (“LOI”) with Noble to earn a 75% interest in specific target areas having a size of up to 2,000 hectares within Noble’s Crawford Township Property. On May 8, 2018, Spruce Ridge announced that it had entered into an Option and Joint Venture Agreement with Noble under the terms set out in the LOI between the two companies. On September 27, 2018, Spruce Ridge announced that it has signed an additional LOI with a private group of knowledgeable mining investors to acquire up to 50% of its Option and Joint Venture agreement with Noble on its Crawford Township Property.

On November 15, 2018, Spruce Ridge (and Noble) announced that it had begun a 2,000-metre program of diamond drilling on the Crawford Township Property. The target of the drilling program was a 3,000-metre long, magnetic anomaly interpreted to be a differentiated ultramafic to mafic intrusive complex, the Crawford Ultramafic Complex. On March 1, 2019, Spruce Ridge (and Noble on March 4) announced the results of its 2018 winter drilling program which totalled 1,818 m in four drill holes.

On September 19, 2019, Spruce Ridge (and Noble on September 20) announced that it had begun a second phase of diamond drilling on the Crawford Nickel Property. The phase 2 drilling program was planned to comprise approximately 4,000 m of drilling in eight holes. Planned drill holes include infill drilling between the four drill holes put down in the winter of 2018, as well as step-out drilling to the northwest and southeast.

On October 1, 2019, Spruce Ridge announced that it had agreed to sell its interest in the Crawford Nickel-Cobalt Sulphide Property to the private company Canada Nickel Company, which was created by Noble. Spruce Ridge retains its interest in various base metal targets located in Crawford Township. At this time, Noble assumed care and control and management of the diamond drilling program in collaboration with management of the newly formed Canada Nickel Company.

## 6.2 Historical Drilling

In Crawford Township, between 1964 and 2018, at least 147 drill holes (diamond core and reverse circulation), totalling more than 14,600 m, were completed. This drilling tested numerous geophysical anomalies, targeting base metals, gold and nickel sulphides in volcanic and mafic-ultramafic rocks (Orix Geoscience, 2019). Reported overburden intervals are drill hole casing lengths and do not necessarily represent true thickness of overburden.

### 6.2.1 INCO Canada Ltd.: 1965-1966

The earliest drilling in Crawford Township, targeting the Crawford Ultramafic Complex, was by INCO Canada Ltd. in 1965. A total of eight drill holes are reported, targeting magnetic anomalies “4-89”, “4-313”, and “4-B” which were collectively referred to as “Owl” (Table 6-1). Anomaly “4-89”, “4-313”, and “4-B” correspond to the “Main”, “East”, and “North” components of the CUC, respectively. The 1965 drilling intersected broad intervals (*e.g.*, 467.56 m) of mafic-ultramafic rocks, largely serpentinized peridotite and/or serpentinized dunite. Overburden intervals (drill hole casing length) ranged from 34.75 to 86.87 metres.

Table 6-1. Drill holes and assays summary, INCO Canada Ltd., Crawford Ultramafic Complex.

Year	Drill Hole	Target	Anomaly	<sup>1</sup> OB (m)	<sup>2</sup> EOH (m)	From (m)	To (m)	Int (m)	Ni (%)	Comments
1964	25050	Main Mag	4-89	34.75	502.31	39.62	502.31	462.69	0.25	34.75 m to EOH: mafic-ultramafic rocks
1965	26636	Main Mag	4-89	43.89	43.89	-	-	-	-	abandoned in overburden
1965	26637	Main Mag	4-89	61.87	474.57	-	-	-	-	83.06 m to EOH: mafic-ultramafic rocks; no assays reported
1965	27005	Main Mag	4-89	63.40	245.97	63.67	220.98	157.31	0.16	63.40 m to 185.93 m: mafic-ultramafic rocks
1965	27064	East Mag	4-313	86.87	602.89	165.70	419.10	253.40	0.24	165.72 m to EOH: mafic-ultramafic rocks
1966	27086	Main Mag	4-89	50.90	384.05	50.90	384.05	333.15	0.07	50.90 to EOH: mafic-ultramafic rocks
1966	27095	Main Mag	4-89	37.19	273.41	37.20	273.40	236.20	0.34	37.19 to EOH: mafic-ultramafic rocks
1966	29173	North Mag	4-B	68.89	364.24	-	-	-	-	148.59 m to EOH: mafic-ultramafic rocks; no assays reported

<sup>1</sup>OB=overburden; <sup>2</sup>EOH=End of Hole

### 6.2.2 McIntyre Porcupine Mines Ltd.: 1973

McIntyre Porcupine Mines Ltd. completed a drilling campaign in 1973 targeting a magnetic high in the north-central area of Crawford Township, near the border with Nesbitt Township to the north. The company completed four drill holes targeting a magnetic anomaly referred to as “Anomaly 3N” (Table 6-2). The drilling intersected broad intervals (*e.g.*, 153.11 m) of mafic-ultramafic rocks, largely

serpentinized peridotite and/or serpentinized dunite. Overburden intervals (drill hole casing length) ranged from 27.43 to 97.54 metres.

Table 6-2. Drill hole summary with significant assays, McIntyre Porcupine Mines, Anomaly 3N.

Year	Drill Hole	Target	Anomaly	<sup>1</sup> OB (m)	<sup>2</sup> EOH (m)	From (m)	To (m)	Int (m)	Ni (%)	Comments
1973	904-73-3	Mag High	3N	60.96	163.68	-	-	-	-	intersected felsic volcanic rocks
1973	904-73-4	Mag High	3N	60.96	134.42	120.85	122.38	1.53	0.35	120.85 m to EOH: peridotite
						129.24	129.69	0.45	0.43	
						132.89	134.42	1.53	0.21	
1973	904-73-5	Mag High	3N	97.54	208.18	-	-	-	-	intersected felsic volcanic rocks
1973	904-73-27	Mag High	3N	27.43	163.37	35.36	36.88	1.52	0.17	27.43 m to EOH: ultramafic rocks
						57.91	59.44	1.53	0.30	

<sup>1</sup>OB=overburden; <sup>2</sup>EOH=End of Hole

### 6.2.3 Spruce Ridge Resources Ltd.: 2018

In late 2018, Spruce Ridge completed a drilling program targeting the “Main” magnetic high that defines a portion of the CUC. Results from the four-hole, 1,818 m (NQ size core, 47.6 mm diameter) winter drilling program were announced in March 2019 (Table 6-3; Spruce Ridge news release March 1, 2019). All four drill hole collars are located immediately east of Ontario Highway 655, about 40 km north of Timmins. The holes were drilled toward the north-northeast (azimuth 35°) at dips of -50° or -60°.

Table 6-3. Summary of drill holes completed by Spruce Ridge Resources in winter 2018.

Summary of Intervals Passing 0.25% Ni cut-off										
Drill Hole	Az	Dip	From (m)	To (m)	Int (m)	Ni (%)	Co (ppm)	Pt (ppb)	Pd (ppb)	Au (ppb)
CR18-01	35	-60	234.00	525.00	291.00	0.293	118	11	20	2
CR18-03	35	-50	475.50	606.00	130.50	0.299	140	28	55	6
CR18-04	35	-50	205.50	402.00	196.50	0.332	135	10	27	2
Summary of Intervals Passing 0.20% Ni cut-off										
Drill Hole	Az	Dip	From (m)	To (m)	Int (m)	Ni (%)	Co (ppm)	Pt (ppb)	Pd (ppb)	Au (ppb)
CR18-01	35	-60	36.00	594.00	558.00	0.261	127	10	16	2
CR18-02	35	-50	24.00	175.50	151.50	0.224	126	5	5	1
CR18-03	35	-50	288.00	606.00	318.00	0.248	126	19	28	3
CR18-04	35	-50	193.50	402.00	208.50	0.324	135	18	28	3
Selected Intervals with Elevated PGEs										
Drill Hole	Az	Dip	From (m)	To (m)	Int (m)	Ni (%)	Co (ppm)	Pt (ppb)	Pd (ppb)	Au (ppb)
CR18-03	35	-50	492.00	493.50	1.50	0.285	140	219	567	4
CR18-03	35	-50	507.00	511.50	4.50	0.339	140	59	498	48
CR18-04	35	-50	165.00	166.50	1.50	0.182	120	69	570	6

Note, the lengths reported are core lengths and not true widths. Spruce Ridge has insufficient information to determine the attitude, either of the ultramafic body or of mineralized zones within it. True widths will be less than the core lengths by unknown factors.

Three of the holes intersected serpentinized dunite with persistent nickel concentrations greater than 0.25% Ni over core lengths of up to 291 metres. Using a lower threshold of 0.20% Ni, long intervals are present in all four holes, with a maximum core length of 558 metres. Individual samples of 1.5 metre core intervals reported up to 0.669% Ni and all four holes were terminated in dunite or peridotite.

With the exception of drill hole CR18-02, which was terminated early (216 m) and in dunite, drill core assays show increasing nickel concentrations down the holes. Drill hole CR18-01 recorded nickel grades of about 0.20% Ni in the upper peridotite, which compares favourably relative to the nickel grades in peridotite from the Dumont Sill which are generally very low to nil. Nickel grades in CR18-01 increase further down-hole and through a central intercept, and then decline toward the bottom of the hole.

Palladium concentrations show a strong correlation with increased nickel concentrations, suggesting the presence of nickel sulphides.

#### **6.2.3.1. Drill Core Characterization**

Drill core samples from four drill holes completed in 2018 by Spruce Ridge, holes CR18-01, 02, 03 and 04, were used to determine average specific gravity and magnetic susceptibility of the intersected rock units and to run laboratory tests comparing recovery differences using two different analytical methods.

##### **Specific Gravity**

Drill core from the 2018 drilling had specific gravity (“SG”) measurements made at regular intervals using the “weight in water vs weight in air” relative density method. Average SG for mafic volcanic rocks was 2.67 (n=60) and average SG for serpentinized ultramafic rocks was 2.66 (n=436). Specifically, with respect to the ultramafic rocks, average SG for intervals grading over 0.25% Ni was 2.61, for intervals between 0.20% and 0.25% Ni was 2.62, and for intervals less than 0.20% Ni was 2.63. Fresh, unaltered dunite and peridotite, typically have a SG in the range of 3.2 to 3.4. The process of serpentinization involves the introduction of water into the rock, resulting in a substantial volume increase. The low average SG of the CUC ultramafic rocks (2.66) implies a high degree of serpentinization.

##### **Magnetic Susceptibility**

Magnetic susceptibility readings were collected along the drill core from the four drill holes completed in 2018. On the basis of more than 1,400 readings it was shown that the ultramafic rocks (average 129 units) were some 100 times higher than host mafic volcanic rocks (average 0.72 units). The serpentinized rocks are extremely magnetic relative to the host rocks and non-serpentinized ultramafic rocks, a result amplified by the serpentinization of olivine which releases iron to form magnetite.

#### **6.2.4 Spruce Ridge Resources Ltd.: 2019**

On September 19, 2019, Spruce Ridge began a second round of drilling, planned to comprise 4,000 m (NQ size core, 47.6 mm diameter) of diamond drilling in eight holes. In conjunction with CNC,

results of this phase of drilling were released by Noble (see Noble news release dated December 9, 2019) and Spruce Ridge (see Company news release dated December 10, 2019) in December 2019. The results, along with more recent drilling results, are discussed in Section 10.0, Drilling and Section 11.0, Sample Preparation, Analysis and Security.

## 6.3 Historical Mineral Processing and Metallurgical Testing

### 6.3.1 Anomaly 3N - Sulphide Flotation Tests, 1973

In 1973, McIntyre Porcupine Mines Ltd. drill-tested magnetic anomaly “Anomaly 3N” (interpreted to be serpentized ultramafic rocks), located in the northeast part of Crawford Township (drill hole collar in N1/2 Lot 7, Con 6). Drill hole 904-73-4 (134.5 m) required 61 m of casing before intersecting mafic-felsic volcanic rocks (61-100 m) before intersecting diorite (100-121 m) and then serpentized peridotite (121-134.5 m) which had an overall low sulphide content; the drill hole ended in peridotite. A summary of core assays is provided in Table 6-4.

Table 6-4. Summary of drill core assays from historical drill hole 904-73-4.

Sample	From (m)	To (m)	Int (m)	Ag (oz/t)	Cu (%)	Ni (%)
12670	97.23	98.45	1.22	0.03	0.04	-
12671	116.77	116.92	0.15	-	0.06	nil
12672	118.26	118.48	0.22	-	0.05	nil
12673	120.85	122.38	1.53	-	0.06	0.35
12674	129.24	130.00	0.76	-	0.05	0.43
12675	132.89	134.42	1.53	-	0.08	0.21

A 6.8 kg composite sample of this drill core (samples 12673, 74, and 75) was sent into the McIntyre Mine laboratory for sulphide flotation tests. The sample was described as serpentized peridotite with about 5% sulphide mineralization and an assayed head grade that averaged 0.44% Ni and 0.04% Cu.

Three separate flotation tests were completed on the drill core from hole 904-73-4, showing an average 61.7% recovery of nickel (not optimized). Copper recoveries varied from 30% to 50% but was inconclusive due to the very low copper head grade. The final nickel concentrate averaged 1.80% Ni and 0.24% Cu.

This ultramafic body is not located on the current Property and as such the results are not necessarily indicative of results we might expect from similar rocks in the CUC.

### 6.3.2 CUC- SEM/BEI Mineralogical Study, 2019

In 2019, Spruce Ridge commissioned a mineralogical study of ultramafic rock material collected from drill core samples from the 2018 diamond drilling program (see Noble news release dated June 11, 2019). The purpose of the study was to determine whether the nickel (and other elements)

occur in the sulphide state, which could be economically extracted from the altered ultramafic host rocks of the CUC.

Twelve samples of drill core were selected from 1.5 metre analyzed intervals, to cover a range of nickel, cobalt, palladium and sulphur contents as well as differing degrees of serpentinization. Polished thin sections were made from the core samples and examined under reflected-light microscope to determine target areas for subsequent relocation and analysis using a JEOL 733 Electron Microprobe. Backscattered Electron Images (“BEI”) were captured and areas of interest within each grain were analysed using an Oxford Instruments X-Act Energy Dispersive System (“EDS”) attached to the electron microprobe (Renaud, 2019).

The following minerals were identified as carrying most of the nickel and cobalt (in order of decreasing abundance): pentlandite (50%: iron-nickel sulphide), heazlewoodite (35%: sulphur poor, nickel-rich sulphide), awaruite (15%: nickel-iron alloy) and minor godlevskite (nickel-iron sulphide). The pentlandite, which dominates the nickel-bearing mineral assemblage, is considered most promising for economic nickel extraction. Heazlewoodite is one of the most nickel rich sulphide minerals, and is generally thought to be of hydrothermal origin, most often found in dunite and lherzolite.

### 6.3.3 Selective Leach Analysis

A selective leach analysis was performed on pulp samples of the 12 core intervals from which the mineralogy samples were taken. Table 6-5 shows a comparison between the Peroxide Fusion analysis and the Aqua Regia analysis for cobalt and nickel and establishes the potential percentages of “Liberation” of these key elements (see Noble news release dated June 11, 2019).

Table 6-5. Comparison between Peroxide Fusion and Aqua Regia analyses for cobalt and nickel.

Drill Hole	From (m)	To (m)	Int (m)	Co (ppm) FUS-ICP	Co (ppm) AR-ICP	Percent Liberated	Ni (%) FUS-ICP	Ni (%) AR-ICP	Percent Liberated	S (%) FUS-ICP	
CR18-01	165.0	166.5	1.5	240	193	80%	0.669	0.431	64%	0.28	
CR18-01	238.5	240.0	1.5	120	105	88%	0.297	0.203	68%	0.02	
CR18-01	243.0	244.5	1.5	170	149	88%	0.487	0.332	68%	0.15	
CR18-01	286.5	288.0	1.5	150	130	87%	0.345	0.232	67%	0.18	
CR18-01	423.0	424.5	1.5	120	85	71%	0.317	0.203	64%	0.03	
CR18-01	588.0	589.5	1.5	110	87	79%	0.272	0.178	65%	0.01	
CR18-03	508.5	510.0	1.5	140	108	77%	0.332	0.217	65%	0.01	
CR18-03	535.5	537.0	1.5	140	109	78%	0.337	0.227	67%	0.07	
CR18-03	594.0	595.5	1.5	150	110	73%	0.349	0.205	59%	0.05	
CR18-04	165.0	166.5	1.5	120	52	43%	0.182	0.050	27%	< 0.01	
CR18-04	216.0	217.5	1.5	260	206	79%	0.647	0.423	65%	0.60	
CR18-04	337.5	339.0	1.5	130	103	79%	0.427	0.275	64%	0.20	
						<b>Mean Co Liberation</b>	<b>77%</b>		<b>Mean Ni Liberation</b>	<b>62%</b>	

All drill core samples had been initially analysed by ICP after sample preparation using sodium peroxide fusion (“FUS-ICP”) for total digestion (palladium, platinum and gold were determined by fire assay). Pulps from the same 12 sample intervals selected for SEM analysis were re-analysed using the same ICP procedure, after digestion using aqua regia (“AR-ICP”), which does not attack silicate minerals to any significant degree. This provided a semi-quantitative estimate of the amount of nickel and cobalt that had been liberated from their parent olivine by serpentinization. After eliminating the one sample that showed much lower liberation, the average overall nickel liberation was 62%, and the average cobalt liberation was 77 percent (Table 6-5).

## **6.4 Historical Sample Preparation, Analysis, Security**

There was no Quality Assurance/Quality Control (“QA/QC”) information found regarding sample preparation, analyses, and security procedures for the diamond drill core assay results prior to the 2018 and 2019 drilling programs by Spruce Ridge. No casing was left in drill holes prior to the work done by Spruce Ridge, so in the field it is not possible to confirm the location of historical, pre-2018 drill holes. The following information comes from a review of Spruce Ridge’s completed 2018 program and the ongoing 2019 diamond drilling program.

### **6.4.1 Sample Collection and Transportation**

Drill core (NQ size core, 47.6 mm diameter) was placed in core boxes at the drill by the drilling contractor (NPLH Drilling of Timmins, Ontario: [www.nplhdrilling.ca](http://www.nplhdrilling.ca)) following industry standard procedures. Small wooden tags mark the distance drilled in metres at the end of each run. On each filled core box, the drill hole number and sequential box numbers are marked by the drill helper and checked by the site geologist. Once filled and identified, each core tray is covered and secured shut.

Core was delivered to the side of Highway 655 by the drilling contractor as the drilling progressed. Company personnel transported the core to the core shack from that location. Casing has been left in the completed drill holes with the casing being capped and marked with a metal flag.

### **6.4.2 Core Logging and Sampling**

The Company used a rented core shack in Timmins (3700 Highway 101 West), a driving distance of approximately 50 km from the Project area access point. Once the core boxes arrive at the logging facility in Timmins, the boxes are laid out on the logging table in order and the lids removed. Core is stored sequentially, hole by hole, in racks for logging. Core logging consists of two major parts: geotechnical logging and geological logging.

Geological core logging records the lithology, alteration, texture, colour, mineralization, structure and sample intervals. All geotechnical and geological logging and sample data are recorded directly into a computer spreadsheet (MS Office Excel). As the core was logged the target rock type (dunite and/or peridotite) was marked for sampling at a nominal sample interval of 1.5 metres. The entire intercept of ultramafic rocks was sampled in each drill hole. Magnetic susceptibility was measured every metre. Relative density of core samples was calculated at a variable interval of three to six metres.

Samples are identified by inserting three identical pre-fabricated, sequentially-numbered, weather-resistant sample tags at the end of each sample interval. Once the core is logged, photographed and the samples are marked, the core boxes are transferred to the cutting room for sampling. In general, the core recovery for the diamond drill holes on the Property has been better than 95% and little core loss due to poor drilling methods or procedures has been experienced.

Sections marked for sampling was cut in half with a diamond saw; a separate cutting room is located adjacent to the logging area. Once the core was cut in half it was returned to the core box. A geotechnician prepared the sample tags, selecting half of the core in each interval, placing said core in a sample bag and sealing the bag with a cable tie. The boxes containing the remaining half core are stacked and stored on site in the secure core storage facility.

Individual samples were then placed in large polypropylene bags (rice bags), five samples to a bag, and then the larger bag secured with a cable tie. Company personnel were responsible for transporting the samples to the Activation Laboratories Ltd. (“Actlabs”) Timmins analytical facility, a driving distance of approximately 4.5 km from the core shack.

### 6.4.3 Analytical

A total of 952 drill core samples (CR18 drill hole series) were submitted to Actlabs (Timmins and Ancaster, Ontario) for analysis by Spruce Ridge. Actlabs, a Canadian-owned analytical and assay laboratory certified to ISO/IEC 17025 with CAN-P-1579 (Mineral Analysis), is independent of Spruce Ridge, Noble and CNC. Analyses for precious metals (Pt, Pd, Au) were done by Fire Assay on 30-gram splits with ICP-OES analysis. Nickel and cobalt were determined by ICP-OES after sample preparation by sodium peroxide fusion.

Additionally, the Spruce Ridge performed independent spot analysis (nickel concentration) of a duplicate pulp from approximately every fifth sample (184 samples), using a portable X-Ray Fluorescence (“XRF”) instrument. Results accorded closely to those from the Actlabs laboratory’s ICP-OES peroxide fusion (“ICP”) analyses. With respect to the 184 samples, the percent difference between the ICP and XRF analyses ranges from -30% to +13% and the average percent difference is -5%. On average, the XRF analyzer underestimated nickel concentrations by 5%.

Concentrations of other metals such as cobalt and precious metals (*i.e.*, gold, silver, PGE) were too low to be reliably determined by portable XRF technology.

#### 6.4.3.1. Control Samples

No QA/QC samples were introduced to the sample stream by Spruce Ridge. Actlabs inserted internal certified reference material and blanks into the sample stream and also carried out duplicate and replicate (“preparation split”) analyses within each sample batch as part of their own internal monitoring of quality control. It is the results of Actlabs’ internal quality control that Spruce Ridge relied upon to service the quality control of the Project and it is those results that are reported on herein.

A total of 154 duplicate analyses (including six replicate analyses) were carried out by Actlabs in the course of their work. Of those duplicate analyses, 90 were performed by FA digestion and 82 by

sodium peroxide ( $\text{Na}_2\text{O}_2$ ) fusion digestion. A total of 83 analyses of blank material were performed by FA digestion and 91 samples of blank material were analysed after the sodium peroxide fusion digestion. For the purposes of the Report only the elements of major economic importance to the project (*i.e.*, Ni, Co, Au, Pd, Pt) were examined in detail for an assessment of the quality of the analytical data. The elements Cu, Mg and S were also examined in a cursory manner for the assessment.

The Actlabs laboratory in Timmins, Ontario carried out the sample login/registration, sample weighing and sample preparation.

For statistical purposes within the Report any analytical result that was reported to be less than the detection limit was set to one half of that detection limit (*e.g.*, a result reported as <0.5 was set to a numeric value of 0.25). Results reported to be greater than maximum value reportable, and where no corresponding over limit analysis was performed, were set to that maximum value (*e.g.*, a result reported as >15.0 was set to a numeric value of 15).

#### **6.4.4 QA/QC Data verification**

##### **6.4.4.1. Blank Material**

All analyses performed on blank material are considered to be acceptable as the majority of results were reported to be below the detection limits for each element examined. The exception with respect to those elements examined in detail was S where 5.5% of the blank samples reported at the lower limit of detection (0.01%) or above (maximum 0.06%); however, this failure rate is still considered to be acceptable.

##### **6.4.4.2. Certified Reference Material**

Certified reference materials (“CRM”) are used by Actlabs to internally monitor the accuracy of their analyses. A number of different reference materials for different combinations of elements were used during the course of the analytical work being reported on herein, including: CDN-PGMS-28, DTS-2b, CCU-1e, GBW 07113, PTM-1a, CD-1, GBW 07238, OREAS 74a, OREAS 134b, MP-1b, AMIS 0129, OREAS 13b, NCS DC86314, PK2, CZN-4, W 106, OREAS 922.

For the purpose of the Report we have focused on the results of the first two reference materials in the preceding list (CDN-PGMS-28 and DTS-2b) as they report certified values in ranges similar to material that was submitted to Actlabs for analysis.

It is observed that all the certified reference material examined in detail averaged within two standard deviations of the certified concentrations over the span of the laboratory work (Figures 6-3, 6-4 and 6-5). That all analyses of certified reference material, over time, averaged close to their certified concentration gives reason that the accuracy of the analyses be considered as acceptable.

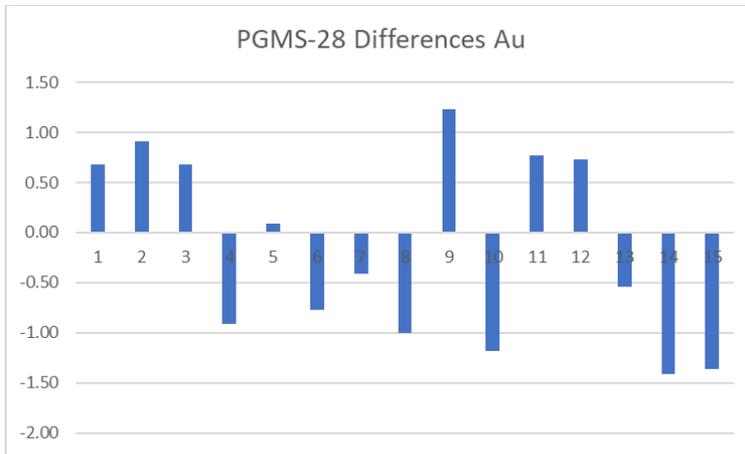


Figure 6-3. CRM CDN-PGMS-28 – Number of standard deviations difference for Au analysis from the Certified Value for various analytical runs.

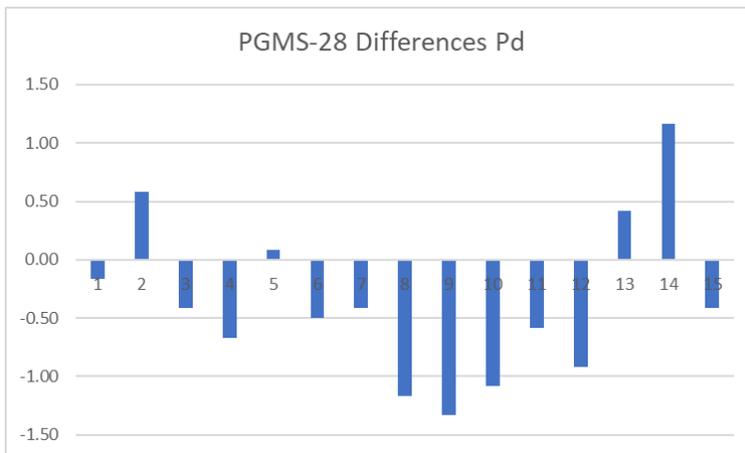


Figure 6-4. CRM CDN-PGMS-28 – Number of standard deviations difference for Pd analysis from the Certified Value for various analytical runs.

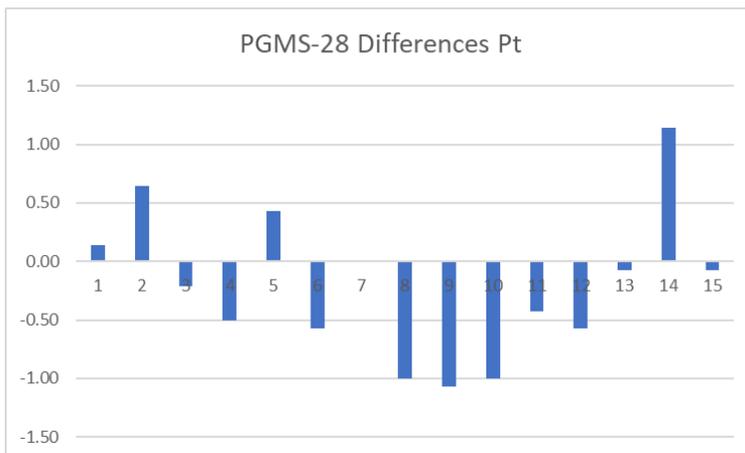


Figure 6-5. CRM CDN-PGMS-28 – Number of standard deviations difference for Pt analysis from the Certified Value for various analytical runs.

### 6.4.5 Duplicate Samples

In general, the duplicate material for the precious metal analyses has indicated good reproducibility of the assays (Figures 6-6, 6-7 and 6-8).

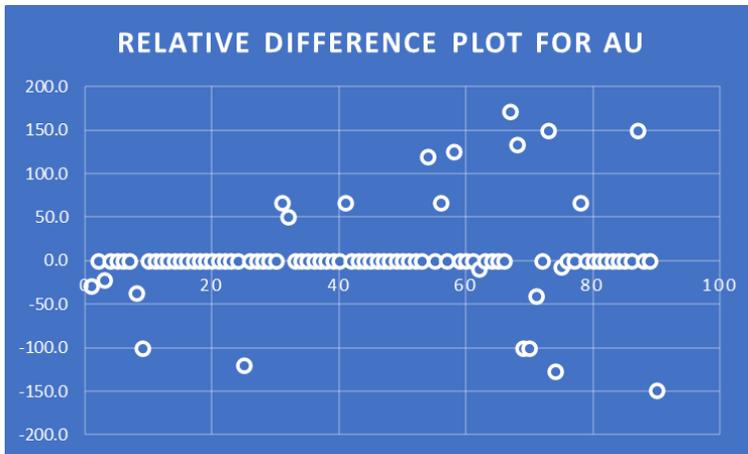


Figure 6-6. Relative percent difference of pairs of duplicate samples analyzed for Au.

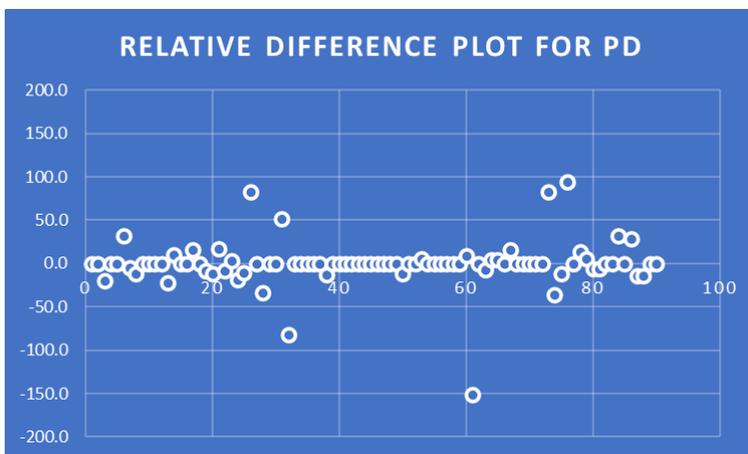


Figure 6-7. Relative percent difference of pairs of duplicate samples analyzed for Pd.

Where relative differences of over 100% are observed, sample pairs generally exhibit low absolute concentrations of the precious metals and the order of magnitude difference at those levels is not considered to be of importance.

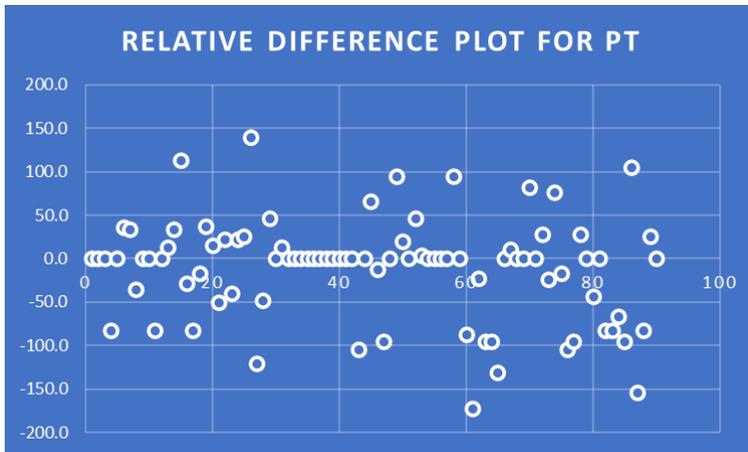


Figure 6-8. Relative percent difference of pairs of duplicate samples analyzed for Pt.

The relative differences for Co and Ni were under 20% with the exception of one sample, 701330, where the relative difference between the pair of Ni analyses was over 100 percent (Figure 6-9). Again, this appears to be a case where exceptionally low Ni values were returned and as such the relative difference is not considered to be of importance.

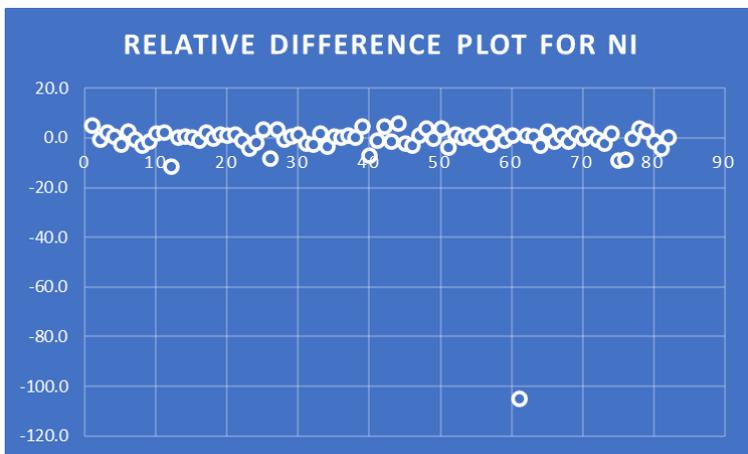


Figure 6-9. Relative percent difference of pairs of duplicate samples analyzed for Ni.

## 7.0 GEOLOGICAL SETTING AND MINERALIZATION

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### 7.1 Regional Geology

The Crawford Nickel-Cobalt Sulphide project is situated in Northeastern Ontario, in the western portion of the mineral-rich Abitibi Greenstone Belt (2.8 to 2.6 Ga), which is within the Superior Province, Canada (Figures 7-1 and 7-2). The AGB of the Abitibi Subprovince, spans across the Ontario-Quebec provincial border and is considered to be the largest and best preserved greenstone belt in the world (Jackson and Fyon, 1991; Sproule *et al.*, 2003), covering an area of approximately 700 km from the southeast to northwest and 350 km from north to south and comprising several major east-trending successions of folded volcanic and sedimentary rocks, with associated felsic to ultramafic intrusions. The supracrustal rocks of the AGB are uniquely well preserved and have mostly been overprinted only at a low metamorphic grade (Monecke *et al.*, 2017). The economic importance of the AGB is of incredible importance as it contains some of the most important gold and base metal mining camps in Canada, as well as a long history of punctuated production from ultramafic extrusive komatiite-hosted Ni-Cu-(PGE) sulphide deposits.

More than an estimated 50% of the supracrustal rocks of the AGB, including those on the Property, are under tens of metres of clay-dominated cover (referred to as the “Abitibi Clay Belt” or “Great Clay Belt” and formed from the lakebed sediments of Glacial Lake Ojibway), making mineral exploration challenging and expensive and hampering the discovery rate of new metal mines. At the same time this also creates an opportunity for discovery.

The AGB has been subdivided into nine lithotectonic assemblages or volcanic episodes (Ayer *et al.*, 2002a, 2002b and 2005), however, the relationships between these assemblages are for the most part ambiguous. Allochthonous greenstone belt models, with each terrane having been formed in a different tectonic environment, predict them to be a collage of unrelated fragments. Autochthonous greenstone belt models allow for the prediction of syngenetic mineral deposits hosted by specific stratigraphic intervals and formed within a structurally deformed singular terrane. Greenstone belts in the Superior Province consist mainly of volcanic units unconformably overlain by largely sedimentary “Timiskaming-style” assemblages, and field and geochronological data indicate that the AGB developed autochthonously (Thurston *et al.*, 2008).

Proterozoic dikes of the Matachewan Dyke Swarm and the Abitibi Dyke Swarm intrude all of the rock in the region. Matachewan dikes generally trend north-northwest while the younger Abitibi Dyke Swarm trends northeast.

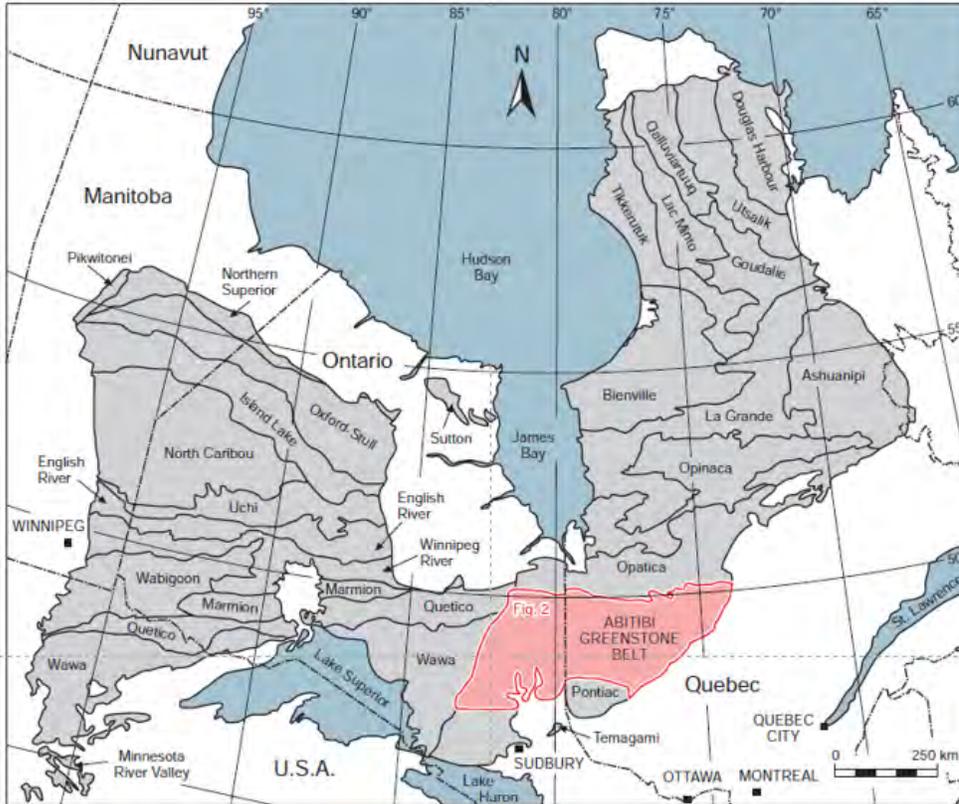


Figure 7-1. Location of the Abitibi Greenstone Belt within the Archean Superior Province, Canada (Monecke *et al.*, 2017).

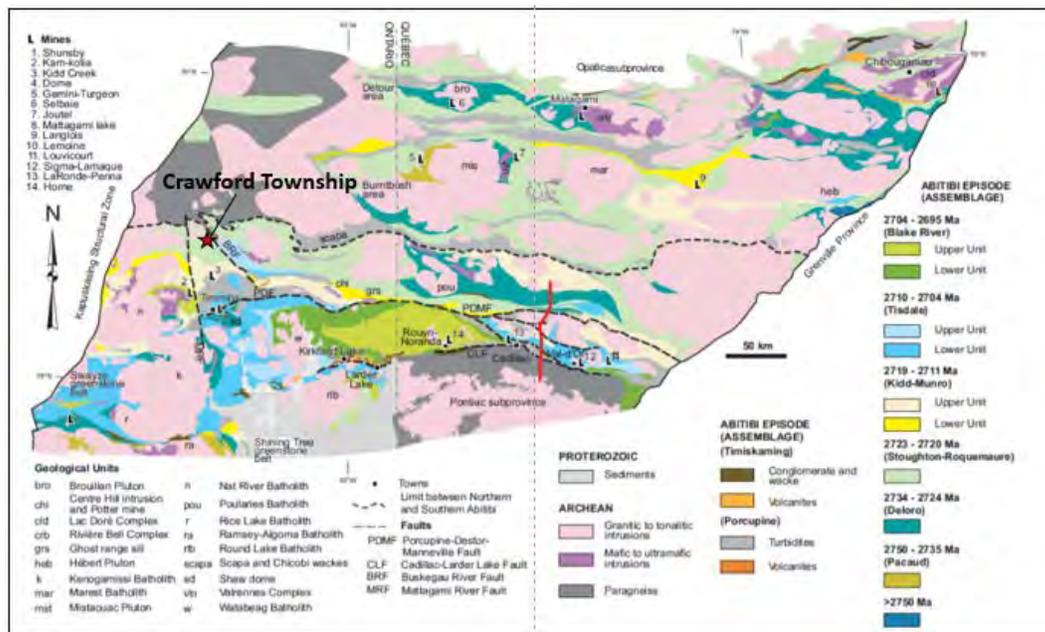


Figure 7-2. General geology of the Abitibi Greenstone Belt and the location (red star) of the Crawford Nickel-Cobalt Sulphide Project (Crawford-Lucas townships) in Northeastern Ontario (Thurston *et al.*, 2008; MERC, 2017). The Deloro Assemblage in which the CUC is hosted is not shown at this scale.

### 7.1.1 Komatiitic Rocks

Of the nine distinct lithotectonic assemblages defined in the AGB, only four of these are generally accepted to contain extrusive komatiitic rocks (ultramafic mantle-derived rock with  $\geq 18$  wt% MgO) and therefore considered prospective for komatiite-associated Ni-Cu-(PGE) sulphide deposits (Arndt *et al.*, 2008).

These four assemblages, which differ considerably in the physical volcanology and geochemistry of the komatiitic flows, have distinct and well-defined ages as well as spatial distribution (Sproule *et al.*, 2003; Thurston *et al.*, 2008; Houle and Leshner, 2011):

- Pacaud Assemblage (2750-2735 Ma)
- Stoughton-Roquemaure Assemblage (2723-2720 Ma)
- Kidd-Munro Assemblage (2719-2711 Ma)
- Tisdale Assemblage (2710-2704 Ma)

The Kidd-Munro and Tisdale assemblages contain a much greater abundance of cumulate komatiites than the other assemblages. The Kidd-Munro Assemblage is east to southeast-striking and comprises komatiitic flows, magnesium to iron-rich mafic volcanic rocks, thin rhyolite units (FIII-type to calc-alkaline), clastic sedimentary rocks (argillite and greywackes, many graphitic), and chemical sedimentary rocks (limestone, dolomite) occurring as interflow horizons. These units are intruded by mafic to ultramafic bodies and minor felsic dikes (Ayer *et al.*, 2002a and 2002b; Sproule *et al.*, 2005; Ayer *et al.*, 2005).

Almost all komatiite-associated Ni-Cu-(PGE) deposits in the AGB are interpreted to be localized in lava channels/channelized sheet flows (*e.g.*, Alexo, Hart, Langmuir, Marbridge, and Texmont) or channelized sheet sills (*e.g.*, Sothman, Dumont, Kelex-Dundead-Dundonald South). One exception is the McWatters deposit, which occurs within a thick mesocumulate to adcumulate peridotite that is interpreted to be a synvolcanic dike (Houlé and Leshner, 2011).

### 7.1.2 Economic Geology

The Timmins Mining camp has a history of nickel production from komatiite-associated Ni-Cu-(PGE) deposits (Table 7-1; Figure 7-3). Several of these deposit types have been identified within the Kidd-Munro Assemblage (*e.g.*, Alexo, Dundonald, Mickel, and Marbridge) and the Tisdale Assemblage (*e.g.*, Hart, Langmuir, Redstone, Texmont, and Sothman).

Table 7-1. Pre-mining geologic resource estimates plus mined ore, Komatiite-hosted Ni-Cu-(PGE) mines/deposits, Timmins Mining Camp, Ontario (modified after Houle *et al.*, 2017).

Name	Status	Township	Notes	Assemblage	Milled (t)	Reported (t)	Ni (%)
Alexo	Past Producer	Dundonald	extrusive	Kidd-Munro	115,000	-	3.18
Kelex	Past Producer	Clergue	intrusive (subvolcanic sill)	Kidd-Munro	279,000	-	0.97
Dundeal	Deposit	Dundonald	intrusive (subvolcanic sill)	Kidd-Munro	-	400,000	2.00
Dundonald	Deposit	Dundonald	intrusive (subvolcanic sill)	Kidd-Munro	-	141,000	2.73
Langmuir #1	Deposit	Langmuir	extrusive; Shaw Dome	Tisdale	1,834,000	-	0.58
Langmuir #2	Past Producer	Langmuir	extrusive; Shaw Dome	Tisdale	1,369,000	-	1.40
McWatters	Past Producer	Langmuir	intrusive; Shaw Dome	Tisdale	1,688,000	-	0.75
Redstone	Past Producer	Eldorado	extrusive; Shaw Dome	Tisdale	2,043,000	-	1.62
Hart	Deposit	Eldorado	extrusive; Shaw Dome	Tisdale	1,868,000	-	1.38
Texmont	Past Producer	Bartlett Geikie	extrusive	Tisdale	3,369,000	-	0.92

In addition to nickel, the Timmins-Porcupine Gold Camp of Northeastern Ontario represents the largest Archean orogenic greenstone-hosted gold camp in the world in terms of total gold production (*e.g.*, Monecke *et al.*, 2017).

The Kidd Creek Cu-Zn deposit, north of Timmins and about 15 km south of Crawford Township, is the world's largest and highest-grade Archean Volcanogenic Massive Sulphide ("VMS") deposit currently in production. Monecke *et al.* (2017), reported historical past production, reserves and resources to the 2,990 m level as 170.9 Mt grading 2.25% Cu, 5.88% Zn, 0.22% Pb, and 77 g Ag/t. Discovery hole K55-1 was drilled in 1963 and encountered ore at a depth of 7 m, intersecting 190 m (entire hole) grading 1.21% Cu, 8.5% Zn, 0.8% Pb, and 138 g Ag/t. Today, the orebodies of the deposit are exploited from surface to more than 3 km depth and are open at depth, making Kidd Creek the deepest base metal mine in the world (Monecke *et al.*, 2017).

## 7.2 Local and Property Geology

The Greenstone Architecture Project (2003-2005) and Discover Abitibi Initiative (2001-2012), led by the Ontario Geological Survey ("OGS"), resulted in reclassification of the lithological assemblages in the southern AGB (Ontario portion) by using detailed U/Pb geochronology, and updated geological and geophysical compilations (Ayer *et al.*, 2005; Thurston *et al.*, 2008). This work suggests that the rocks underlying the Property are part of the Deloro Assemblage (Figures 7-3 and 7-4) (Monecke *et al.*, 2017).

The Deloro Assemblage (2730 to 2724 Ma) consists mainly of mafic to felsic calc-alkaline volcanic rocks with local tholeiitic mafic volcanic units and an iron formation cap which is typically iron-poor, chert-magnetite (Ayer *et al.*, 2005; Thurston *et al.*, 2008). This assemblage (volcanic episode) is host to the CUC on the Property (Crawford and Lucas townships) and other ultramafic sills in the area.

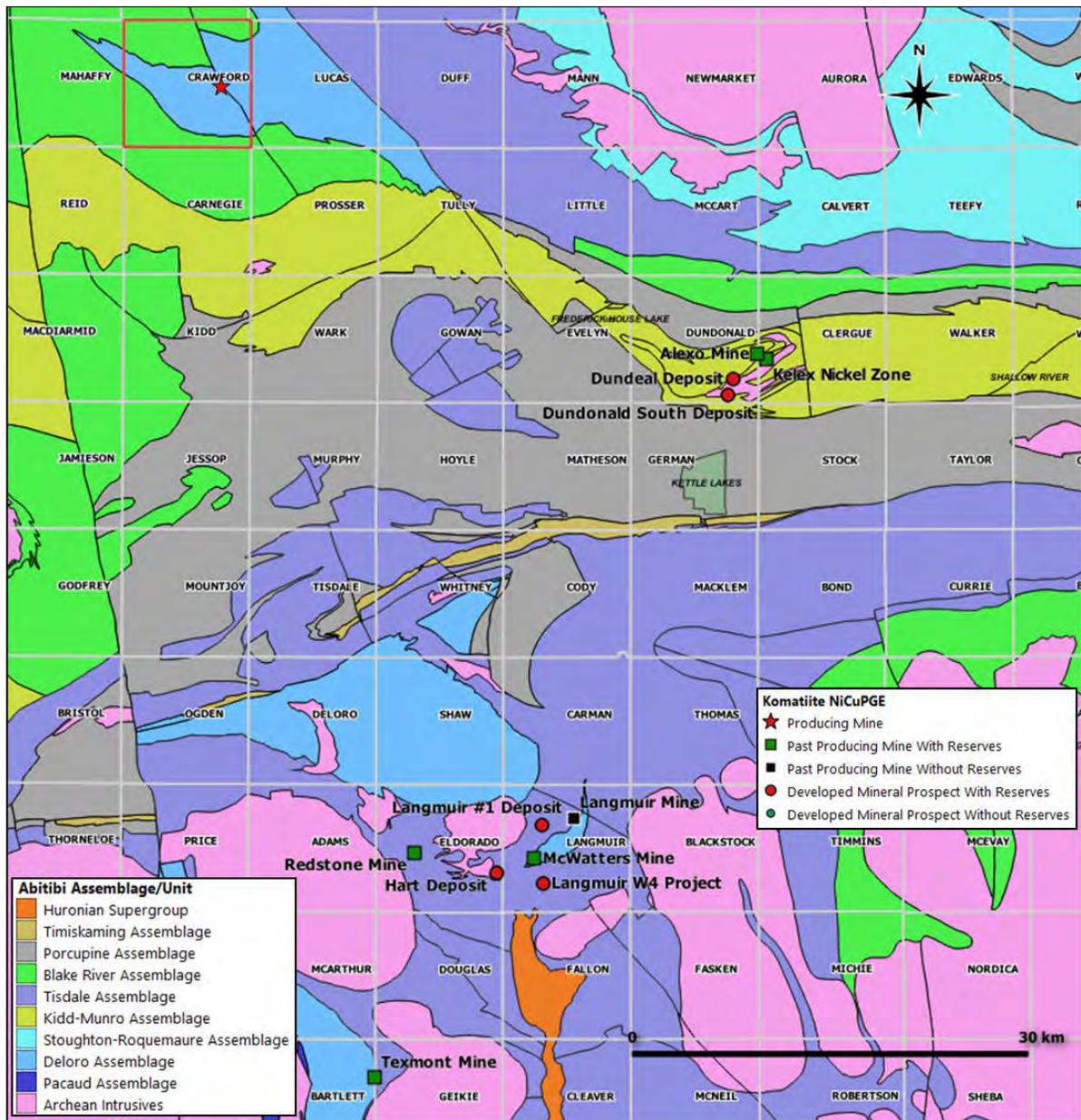


Figure 7-3. Locations of komatiite-hosted Ni-Cu-(PGE) deposits/mines in the Timmins Mining Camp and location of the Project area in Crawford Township (red square) and Lucas Township, and the Crawford Ultramafic Complex (red star). Geology of the Abitibi assemblages (volcanic episodes) is from Ayer *et al.*, (2005) and Ontario Geological Survey MRD155.

The surrounding and regional lithologies (not underlying the Property) belong to the Blake River Assemblage (2704 to 2701 Ma) which consists mainly of tholeiitic mafic volcanic rocks with isolated units of tholeiitic felsic volcanic rocks and turbiditic sedimentary rocks (Ayer *et al.*, 2005; Thurston *et al.*, 2008). This assemblage, also referred to as the Blake River Group, is host to several mafic-ultramafic sills in the northern part of Crawford Township and in neighbouring Lucas, Mahaffy and Aubin townships. The Blake River Assemblage, the youngest volcanic-dominated package, is one of

the most prospective Archean stratigraphic packages for VMS exploration, especially for gold-rich VMS deposits (Ross *et al.*, 2009).

The rocks have undergone greenschist facies metamorphism with widespread carbonate, chlorite and sericite alteration in volcanic rocks and serpentinization in ultramafic rocks (*i.e.*, dunite, peridotite).

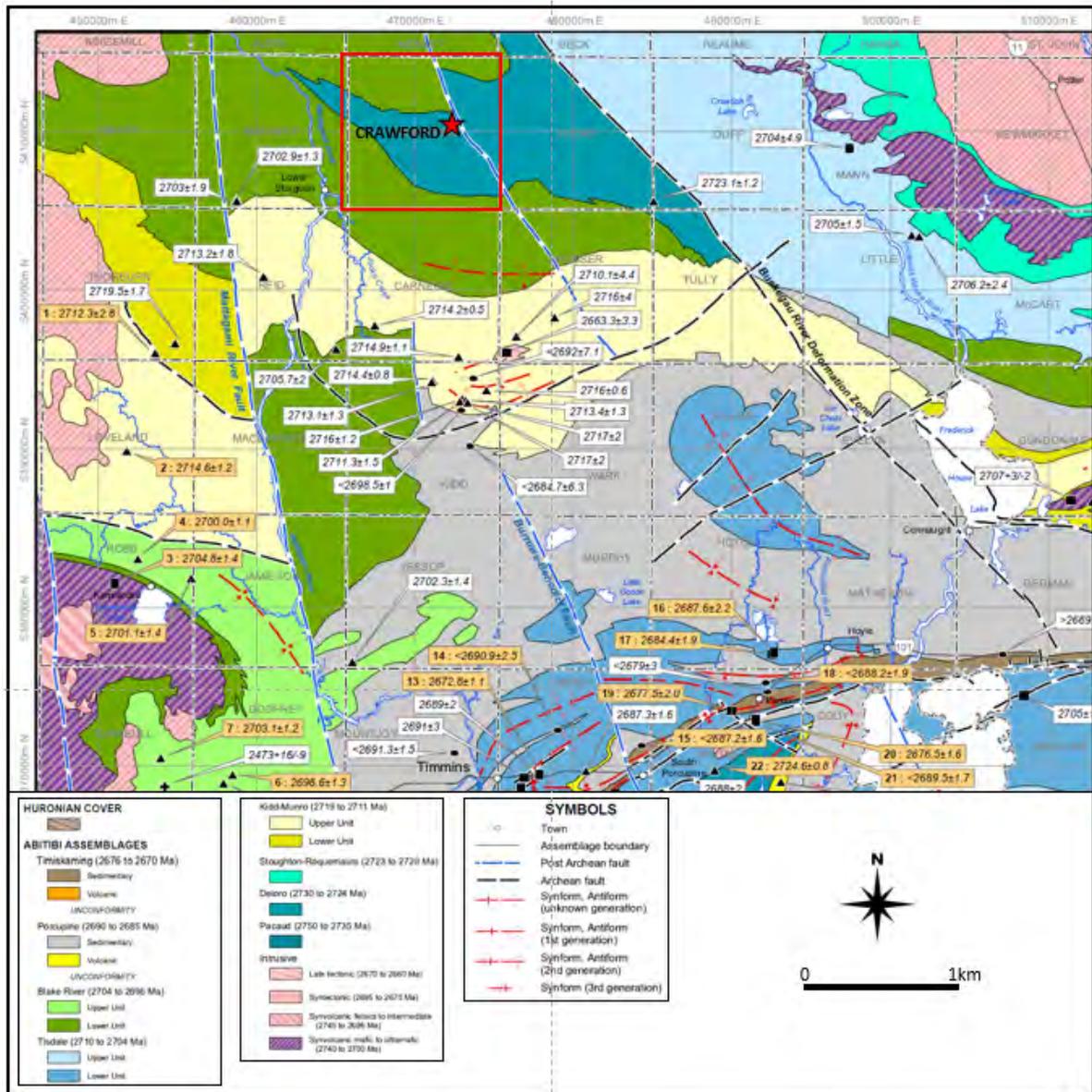


Figure 7-4. Regional geology (Abitibi Assemblages) and location of the Property in Crawford Township (red square) and the approximate location of the Crawford Ultramafic Complex (red star). Also shown are the age dates from U/Pb geochronology samples taken from various Abitibi assemblages (Ayer *et al.*, 2005).

### 7.2.1 Crawford Ultramafic Complex

Historical work in Crawford and Lucas townships has generated several generations of geological maps with geology inferred almost entirely from diamond drill core, overburden bedrock interval sampling, and the interpretation of geophysical surveys.

The principal target, the Crawford Ultramafic Complex (“CUC”) (Figure 7-5), is entirely under cover but based on geophysics and drilling is an approximately 8.0 km long by 2.0 km wide body (original estimated shape) of dunite, peridotite (and their serpentinized equivalents), and lesser pyroxenite and gabbro, as confirmed in recent historical diamond drill holes (2018 - Spruce Ridge Resources) and the current extensive drilling program by Canada Nickel. Historical diamond drilling (1960s and 1970s) also reported intersections of gabbro, peridotite, pyroxenite, dunite and serpentinite (*e.g.*, George, 1970). Descriptions from drill core logs record localized brecciation in the Main Zone at the northern contact between mafic volcanic rocks and dunite.

The CUC, although geophysically recognized as early as 1964, was recently redefined by a high-resolution helicopter-borne magnetic and electromagnetic survey in 2017 (Balch, 2017) and a high-sensitivity aeromagnetic and airborne gravimetric survey in 2018 (CGG, 2018), both conducted over the entire Crawford Township, and followed up with 3D-Inversion and detailed interpretation (St-Hilaire, 2019) (Figures 7-6 and 7-7).

### 7.2.2 Structure

The dominant structural trend on the Property is west-northwest to east-southeast with lesser, localized east-west striking stratigraphy. Based on geophysics (*i.e.*, magnetics and gravity), the ultramafic to mafic body is horseshoe-shaped (open to the east) and cut by a regional northwest trending fault along its eastern extent. It is not clear if the CUC’s current form is primary but it is likely that its current shape is due to regional folding.

Strong magnetic anomalies defined three distinct portions of the CUC, namely, the Main, North and East areas (Figures 7-6 and 7-8). The eastern portion (North and East zones) of the CUC are displaced about 1.8 km to the northwest by a regional, northwest-trending sinistral strike-slip fault (Figure 7-8).

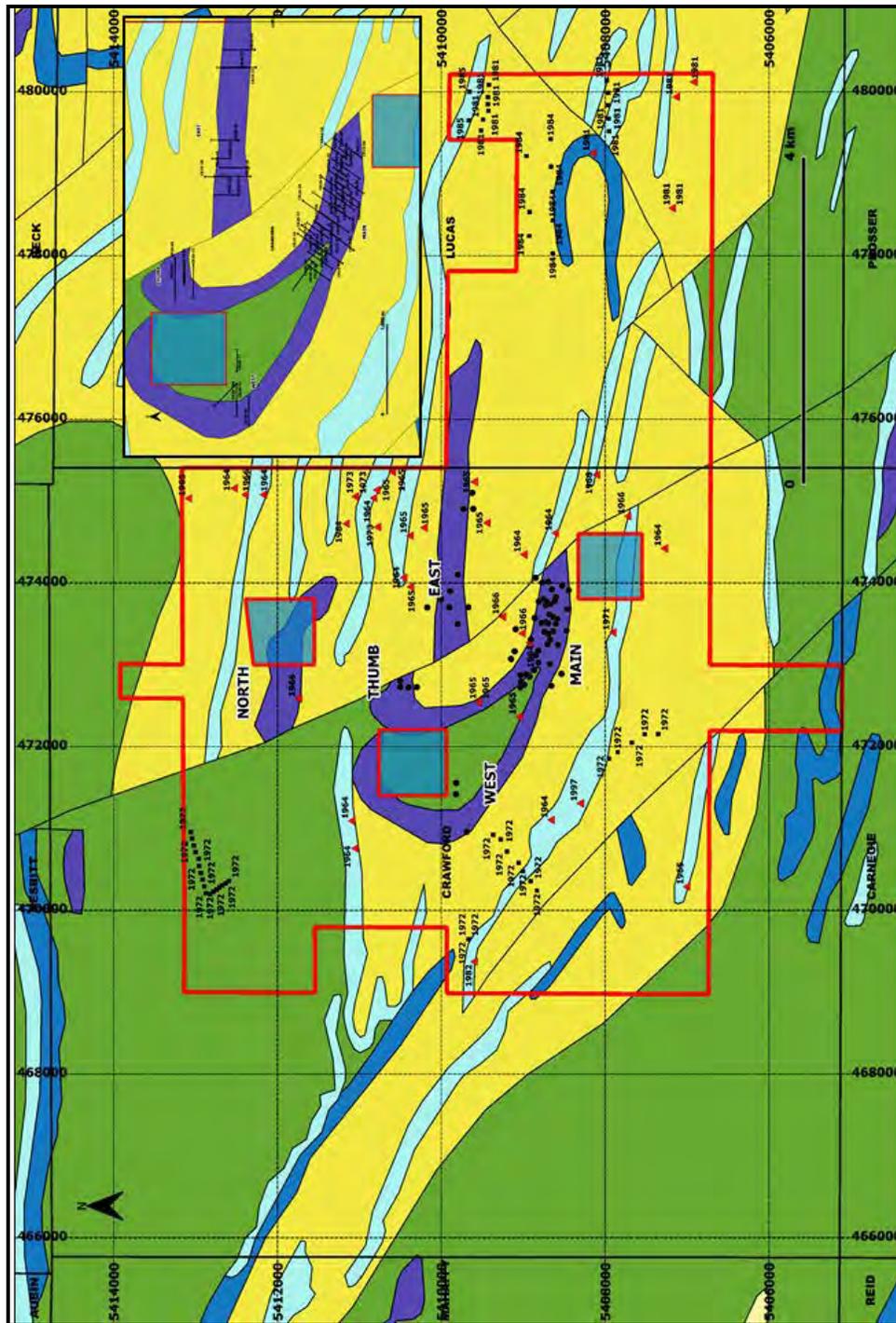


Figure 7-5. Generalized property-scale geology of the project area (red outline) in Crawford and Lucas townships. Inset is a close up of the drill hole traces and collar locations. Map Features: CR18, CR20 and CR20 series drill hole collars (black dots); historical (1960s/1970s) diamond drill hole collars (red triangles) and reverse circulation collars (black squares) labelled by year. Target ultramafic-mafic rocks (purple/blue) of the Crawford Ultramafic Complex and other intrusions are hosted by metasedimentary (yellow/light blue) and volcanic (green) rocks (geology from Ontario Geological Survey, MRD126). Inset shows close up of the current drill hole collar locations targeting the CUC.

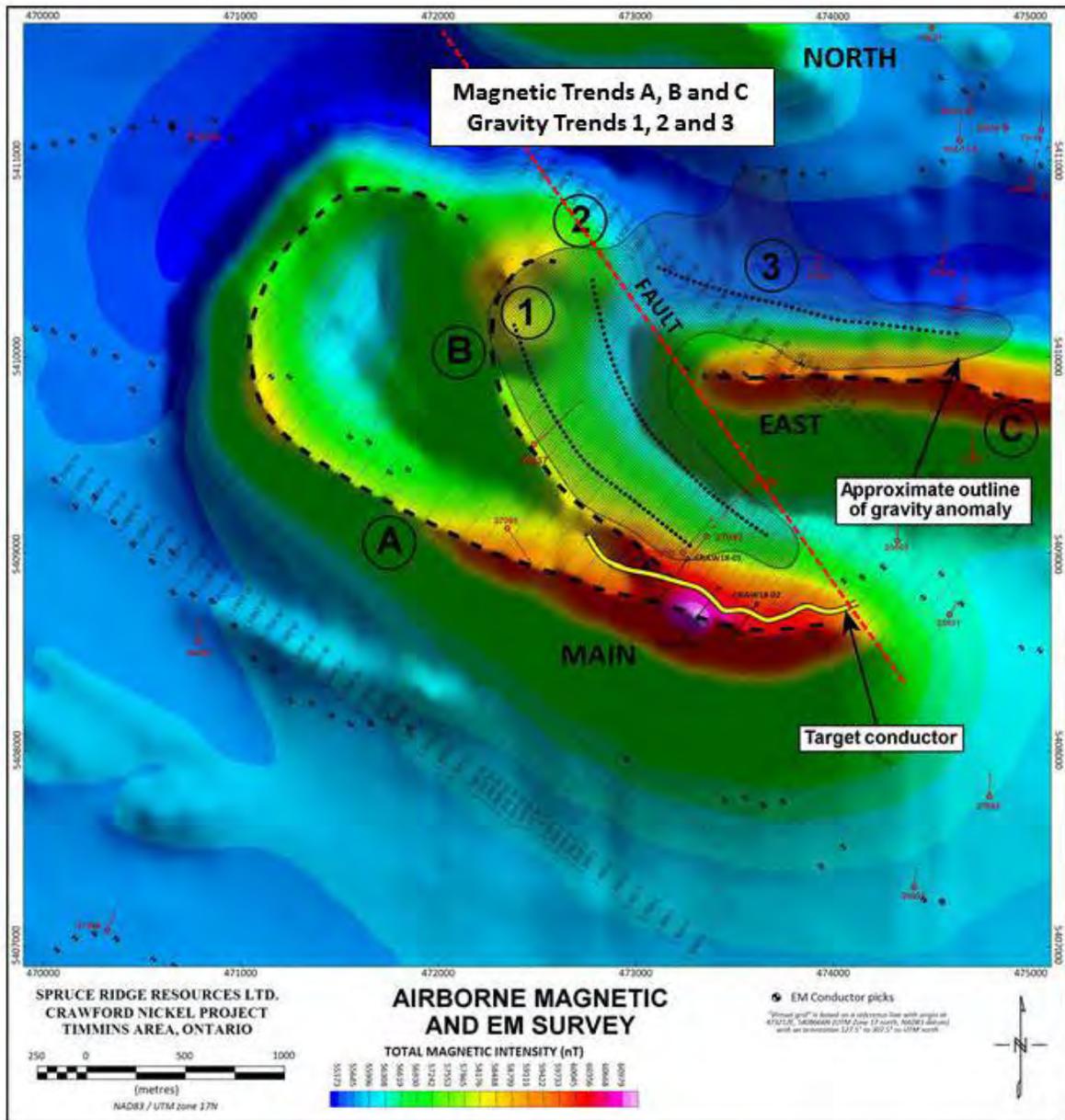


Figure 7-6. High-resolution helicopter-borne magnetic and electromagnetic survey flight lines, results, and interpretation (Balch, 2017) over the Crawford Ultramafic Complex. Shown are the general magnetic trends (A, B, C), the gravity anomaly outline and trends (1, 2, 3; see Figure 7-7) and the EM conductor picks. The northwest-southeast magnetic high and “Target Conductor” (yellow) at the Main Zone and the magnetic high at the East Zone, are the foci of current diamond drilling (historical drill hole traces shown). The North and East zones of the CUC have been offset to the northwest by a regional sinistral strike-slip fault (generalized with dashed line) (image from Spruce Ridge Resources Ltd.).

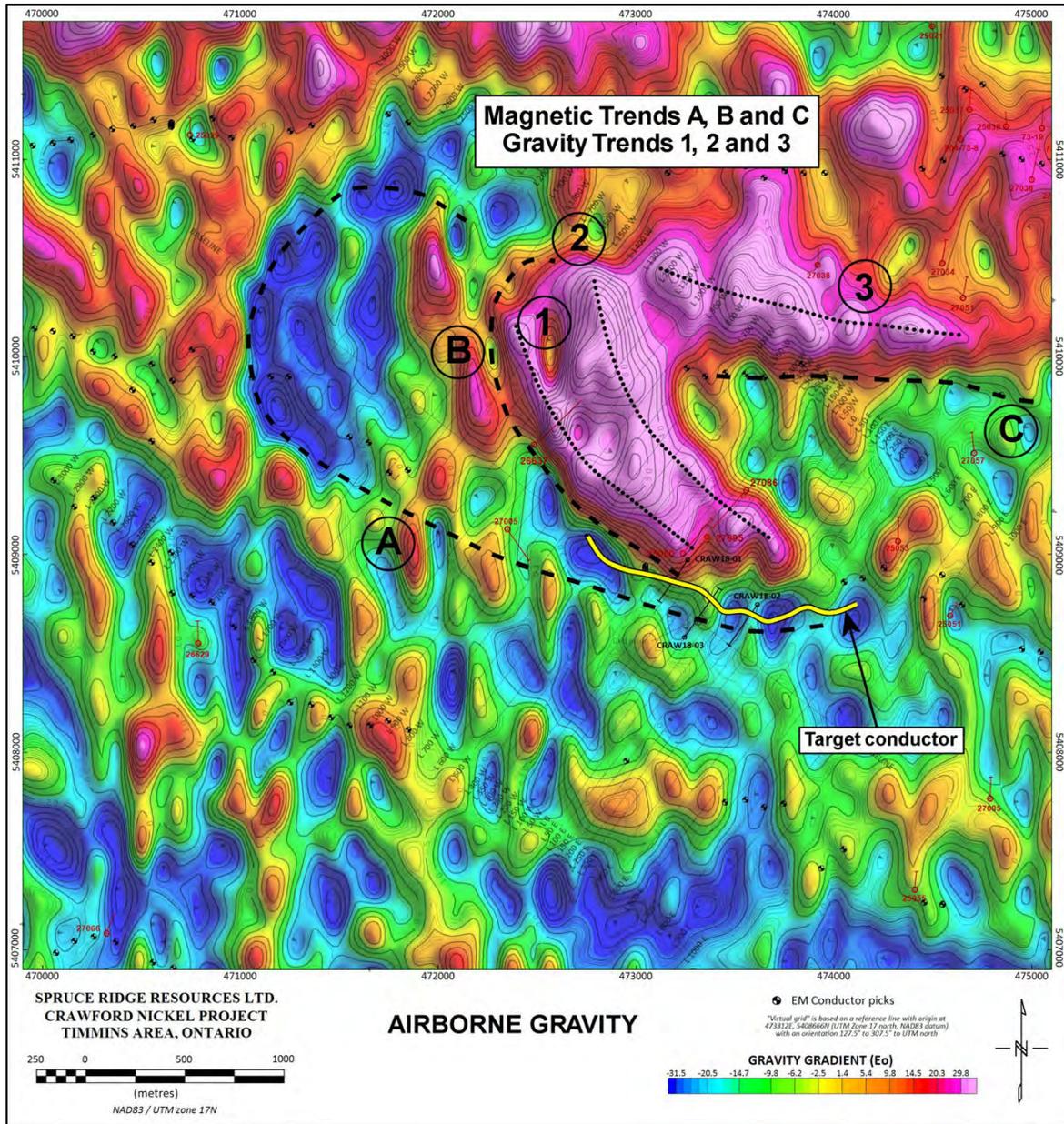


Figure 7-7. Results of the Crawford Township airborne gravimetric survey completed in 2018 (CGG, 2018). Shown are the general magnetic trends (A, B, C), the gravity anomaly outline and trends (1, 2, 3) and the EM conductor picks. The east-west electromagnetic “Target Conductor” (yellow) in the southeast portion of the Main target area is the focus of current diamond drilling; historical drill hole traces from INCO (1960s) and Spruce Ridge (CR18 series, 2018) are shown (image from Spruce Ridge Resources Ltd.).

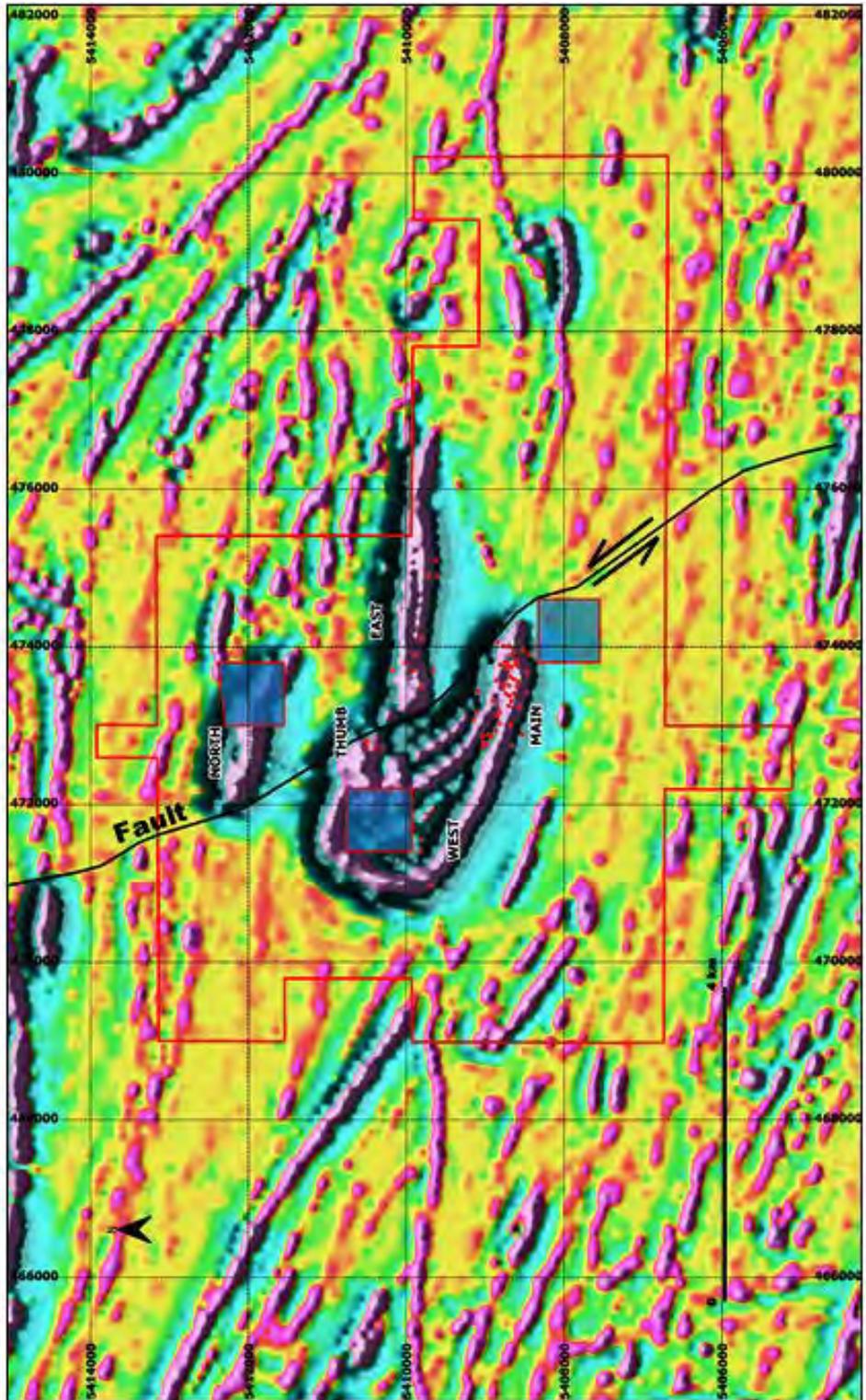


Figure 7-8. Crawford Ni-Co Sulphide Project (red outline) superimposed on MEGATEM II (2002), 2<sup>nd</sup> vertical derivative magnetic intensity map. The eastern part of the CUC is interpreted to have been displaced to the northwest by a regional strike-slip sinistral fault (see also Figure 7-5). Also shown are CR18, CR19 and CR20 series drill hole collar locations (red dots) targeting the Main, East, West and Thumb zones of the Crawford Ultramafic Complex.

### 7.2.3 Alteration

Dunite and peridotite intersected in diamond drilling is extensively serpentinized. The process of serpentinization involves the introduction of water into the rock which leads to a substantial volume increase. Fresh, unaltered dunite and peridotite typically has an SG ranging from 3.2 to 3.4. Core samples from drilling have SG measurements ranging in general from 2.61 to 2.63, and this along with observations recorded from drill core, support the inference that the rocks have been strongly serpentinized.

Serpentinization breaks down the olivine and other silicate minerals, resulting the liberation of nickel and iron in a strongly reducing environment. The result is the liberated nickel partitions into low-sulphur sulphides like heazlewoodite and into the nickel-iron alloy, awaruite.

## 7.3 Mineralization

The Abitibi Greenstone Belt affords a mineral exploration company with several target deposit types and commodities, including Ni-Cu-Co-(PGE), VMS, and orogenic gold (Figure 7-9).

Within Crawford Township, several prominent ultramafic to mafic bodies (*i.e.*, volcanic flows and sub-volcanic sills) offer the potential for magmatic sulphide, nickel, copper, cobalt, and platinum-group element (PGE) style of mineralization. This mineralization style forms the principal target deposit type for the Crawford Nickel-Cobalt Sulphide Project, which in this case is Komatiite-hosted Ni-Co-PGE sulphide mineralization (*see* Section 8.0 Deposit Models). Core log descriptions from historical drill holes (1960s/1970s) and from the 2018 to 2020 diamond drill holes, describe intersections of ultramafic rocks (dunite-peridotite) and their serpentinized equivalents, but do not report any significant visible sulphide mineralization, suggesting very low sulphur conditions. Exploration work to date by the Company has discovered komatiite-hosted Ni-Co-PGE sulphide mineralization in four areas within the CUC: (1) Main Zone, (2) East Zone, (3) West Zone, and (4) Thumb Zone (*see* Section 7.2 and Figure 7-5).

Many mineralized structures have been mapped previously in Crawford and Lucas townships, and typically show a strike length of several hundred metres to a few kilometres, with conductive graphite and/or pyrrhotite and pyrite mineralization (Balch, 2017). Within these conductive trends, economic concentrations of sulphide minerals can concentrate (*e.g.*, the Kidd Creek Volcanogenic Massive Sulphide or VMS base metal mine) and would have a lateral footprint of several hundred metres. These deposits may or may not be magnetic, but they would be associated with an anomalous gravity high (positive Bouguer anomaly) and would likely be strongly conductive (Balch, 2017).

The possibility for the discovery of gold mineralization also exists within Crawford and Lucas townships, largely associated with felsic volcanic tuffs that form a part of the thicker mafic-intermediate volcanic sequences. An example of structurally controlled, felsic volcanic hosted (tuff-pyrite-chert-quartz) gold mineralization occurs at the Lucas Gold deposit, west of the Property in Lucas Township (Noble Mineral Exploration Inc.).

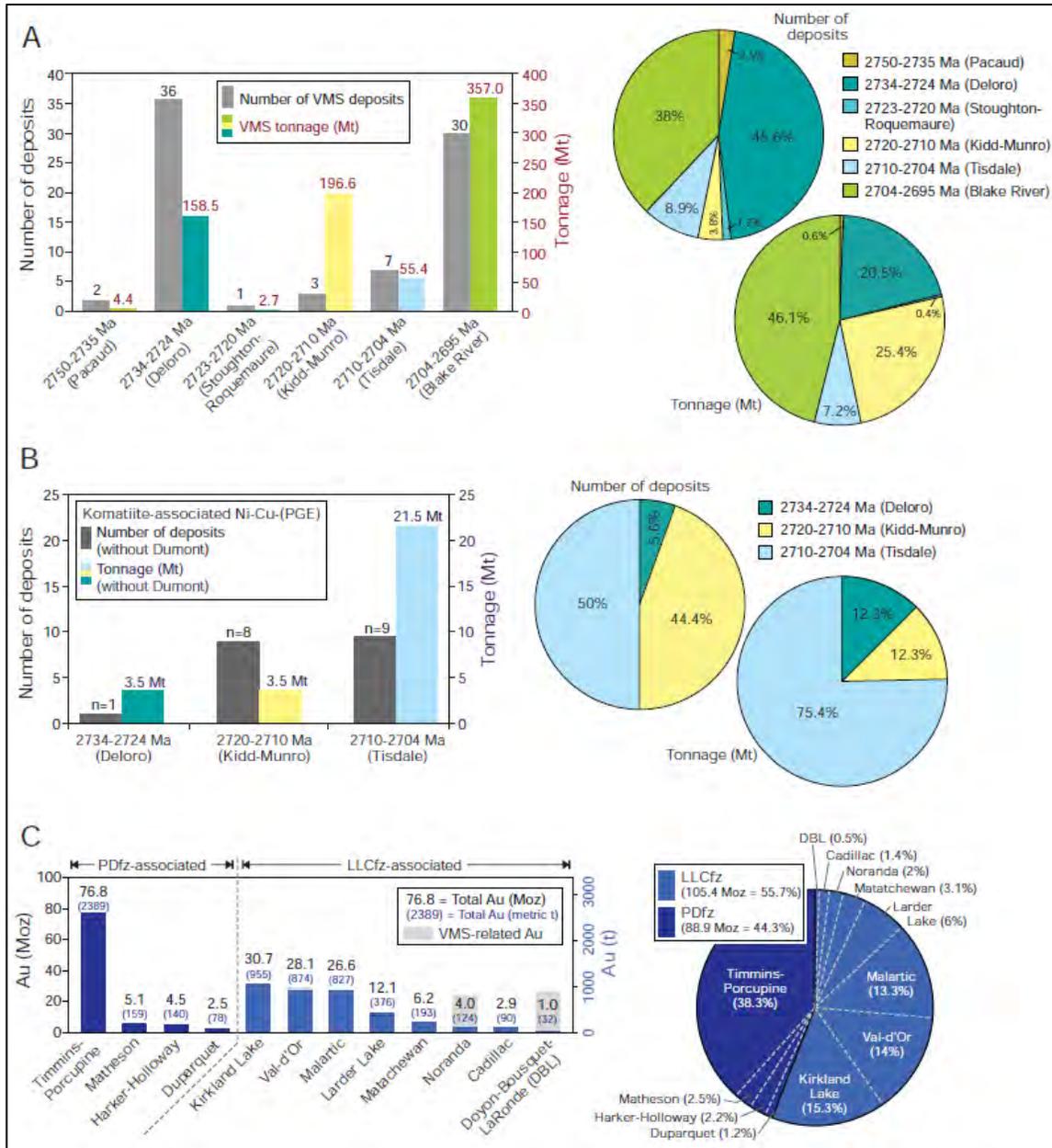


Figure 7-9. Base and precious metal endowment of the Abitibi Greenstone Belt. [A] VMS Deposits; [B] Komatiite-Associated Ni-Cu-(PGE); [C] Main Orogenic Gold Camps (Monecke et al., 2017).

## 8.0 DEPOSIT TYPES

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Sulphide mineralization discovered to date on the Crawford Project can be characterized as Komatiite-hosted Ni-Cu-Co-(PGE) deposit type, which recognizes two sub-types (Leshner and Keays, 2002):

- 1) Type I - Kambalda-style: channelized flow theory; komatiite-hosted; dominated by net-textured and massive sulphides situated at or near the basal ultramafic/footwall contact with deposits commonly found in footwall embayments up to 200 m in strike length, 10s to 100s of metres in down-dip extent, and metres to 10s of metres in thickness; generally on the order of millions of tonnes (generally <5 Mt) with nickel grades that are typically much greater than one percent nickel; tend to occur in clusters (*e.g.*, Alexo-Dundonald, Ontario; Langmuir, Ontario; Redstone, Ontario; Montcalm, Ontario; Thompson, Manitoba; Raglan, Quebec).
- 2) Type II - Mt. Keith-style: sheet flow theory; thick komatiitic olivine adcumulate-hosted; disseminated and bleb sulphides, hosted primarily in a central core of a thick, differentiated, dunite-peridotite dominated, ultramafic body; more common nickel sulphides such as pyrrhotite and pentlandite but also sulphur poor mineral Heazlewoodite ( $\text{Ni}_3\text{S}_2$ ) and nickel-iron alloys such as Awaruite ( $\text{Ni}_3\text{-Fe}$ ); generally on the order of 10s to 100s of million tonnes with nickel grades of less than one percent (*e.g.*, Mt. Keith, Australia; Dumont Deposit, Quebec).

Sulphide nickel-copper-cobalt-PGE mineralization in the Crawford Ultramafic Complex is interpreted as most similar to Mt. Keith-style.

The Mt. Keith deposit (aka MKD5), located in the Yilgarn Craton of Western Australia, was first drill-tested and discovered in 1968 and put into production in 1993 (Butt and Brand, 2003). The MKD5 deposit is hosted by a serpentinized dunite within a larger, lenticular peridotite-dunite komatiite body, the Mt. Keith Ultramafic Complex and has a complex residual regolith profile of more than 75 m thickness (up to 120 m weathering profile). Disseminated NiS mineralization strikes for 2 km, is 350 m wide, and is open below 600 m depth. In 2002, the deposit had proven and probable reserves of 299 Mt grading 0.56% Ni (0.4% Ni cut-off) (Butt and Brand, 2003).

### 8.1 Komatiite Emplacement Models

After the discovery of the Kambalda and Mt. Keith Ni-Cu-Co-(PGE) deposits in Australia (*ca.* 1971), geological models were developed for these ultramafic extrusive komatiite-hosted deposits (*e.g.*, Leshner and Keays, 2002; Butt and Brand, 2003; Barnes et al., 2004).

Komatiitic rocks are derived from high degree partial melts of the Earth's mantle. Due to the high degree of partial melting the komatiitic melt is enriched in elements such as nickel and magnesium. When erupted, the melts have a low viscosity and tend to flow turbulently over the substrate eroding the footwall lithologies through a combination of physical and chemical processes.

Due to the low viscosity of the komatiitic melts, the lavas tended to concentrate in topographic lows. Komatiitic eruptions have been envisaged to have a high effusion rate and large volumes of

lava and/or magma. The Mt. Keith-style of deposits are no exception, interpreted to be large volume sheet flows several hundreds of metres thick by several kilometres to tens of kilometres long and are composed primarily of olivine adcumulate to mesocumulate.

Further downstream, more distal from the eruptive source, the komatiitic flows become channelized, similar to a river channel today, and begin to erode the substrate forming more defined channel feature. This channelization is the cornerstone of the Kambalda model. Denser sulphides would tend to accumulate in the bottom of the channel-like features under the influence of gravity. As the eruption continued the channel would fill with olivine mesocumulate to adcumulate because of the constantly replenished magnesium-rich komatiitic melt.

As the eruption waned the channel would be capped by a sequence of regressive komatiitic flows composed of komatiitic pyroxenite and basalts. In order to develop Ni-Cu sulphides, the komatiitic melt must become sulphide saturated. A komatiitic melt will become sulphur saturated when an external source of sulphur is introduced to the melt by assimilation of a sulphide-rich lithology or by differentiation or contamination of a komatiitic melt until the sulphur content exceeds the saturation point. A strong relationship exists between the presence of footwall lithologies rich in sulphide and the development of Ni-Cu sulphide deposits in the overlying komatiitic flows. This association is strongest in the Kambalda-style Ni-Cu sulphide deposits. Differentiation or the assimilation of rocks rich in certain elements may result in the oversaturation of the komatiitic melt in sulphur. This is the mechanism related to the development of the Mt. Keith-style of deposits.

Komatiite-hosted Ni sulphide deposits, whether they are Archean (*e.g.*, Kambalda, Australia) or Proterozoic (*e.g.*, Thompson, Manitoba; Raglan, Quebec) occur in clusters of small sulphide bodies generally less than 1 Mt. At 1:250000 scale, these deposits usually occur at a pronounced thickening of ultramafic stratigraphy, and at 1:5000 scale, these deposits occur as net-textured to massive sulphide in small embayments up to 200 m in strike length, tens to hundreds of metres in down-dip length and metres to tens of metres thick. The shape can be cylindrical, podiform, or in rare instances tabular.

### 8.1.1 Komatiite Volcanic Facies

The five major volcanic facies that are common constituents of komatiitic flow fields include (Barnes et al., 2004) (Table 8-1):

- thin differentiated flows (TDF)
- compound sheet flows with internal pathways (CSF)
- dunitic compound sheet flows (DCSF)
- dunitic sheet flows (DSF)
- layered lava lakes or sills (LLLS).

DCFS and CSF facies represent high-flow magma pathways characterized by olivine cumulates and can be identified by their elevated Ni/Ti and Ni/Cr ratios and low Cr contents (Barnes et al., 2004). Although only DCFS and CSF facies are known to host economic nickel sulfide mineralization (Burley

and Barnes, 2019), it does not discount the prospectivity of the other facies, particularly the thick sheets and/or sills associated with the DSF and LLLS types.

The geophysical expression and diamond drilling to date suggests that the CUC is at least 8 km in cumulative strike length and averages about 2 km in width. Both the Main Zone and the East Zone contain several hundred metres (thickness) of dunite-peridotite cumulates and include fractionated upper (northern) zones dominated by pyroxenite and gabbro (and their associated PGE reefs). The CUC is interpreted to be most similar to DCSF komatiite volcanic flow facies.

Table 8-1. Features of komatiite volcanic flow facies (Barnes et al., 2004).

Facies	Description	Type Examples
Thin Differentiated Flows (TDF)	Multiple compound spinifex-textured flows; generally less than 10 m thick, with internal differentiation into spinifex and cumulate zones	Munro Township (Pyke et al., 1973)
Compound Sheet Flows with Internal Pathways (CSF)	Compound sheet flows with internal pathways (CSF) Compound thick cumulate-rich flows, with central olivine-rich lava pathways flanked by multiple thin differentiated units, from tens of metres to ~200 m maximum thickness	Silver Lake Member at Kambalda (Leshner et al., 1984)
Dunitic Compound Sheet Flows (DCSF)	Thick olivine-rich sheeted units with central lenticular bodies of olivine adcumulates, up to several hundred metres thick and 2 km wide, flanked by laterally extensive thinner orthocumulate-dominated sequences with minor spinifex. CSF and DCSF correspond to 'Flood Flow Facies' of Hill et al. (1995).	Perseverance and Mount Keith (Hill et al., 1995)
Dunitic Sheet Flows (DSF)	Thick, laterally extensive, unfractionated sheet-like bodies of olivine adcumulates and mesocumulates, in some cases laterally equivalent to layered lava lake bodies	Southern section of the Walter Williams Formation (Gole and Hill, 1990; Hill et al., 1995)
Layered Lava Lakes and/or Sills (LLLS)	Thick, sheeted bodies of olivine mesocumulates and adcumulates with lateral extents of tens of kilometres, with fractionated upper zones including pyroxenite and gabbro, up to several hundred metres in total thickness	Kurrajong Formation (Gole and Hill, 1990; Hill et al., 1995)

## 8.2 Crawford Project Analogy – Dumont Nickel Deposit

The type example of the komatiite-hosted Ni-Co-PGE exploration model that the Company is using for the Crawford Ultramafic Complex is the Dumont Nickel Deposit (the "Dumont") of Dumont Nickel by Magneto Investments L.P., previously Royal Nickel Corporation ("RNC"), located 220 km to the east of Crawford Township (Figure 8-1). The Archean Dumont Sill, first reported in 1925, is located about 60 km northeast of Rouyn-Noranda and 25 km by road, northwest of the city of Amos, and within the Abitibi Greenstone Belt (Abitibi Region), northwestern Quebec (Ausenco, 2013).

The komatiitic (>18 wt% MgO), synvolcanic Dumont Sill occurs within a sequence of iron-rich tholeiite lavas and volcanoclastic rocks assigned to the Amos Group and which are part of the

Barraute Volcanic Complex. Although the exact age of the Dumont Sill is not known, stratigraphic studies in the AGB suggest that the host rocks (Amos Group) are correlative with the Deloro Assemblage (Monecke *et al.*, 2017; Mercier-Langevin *et al.*, 2017).

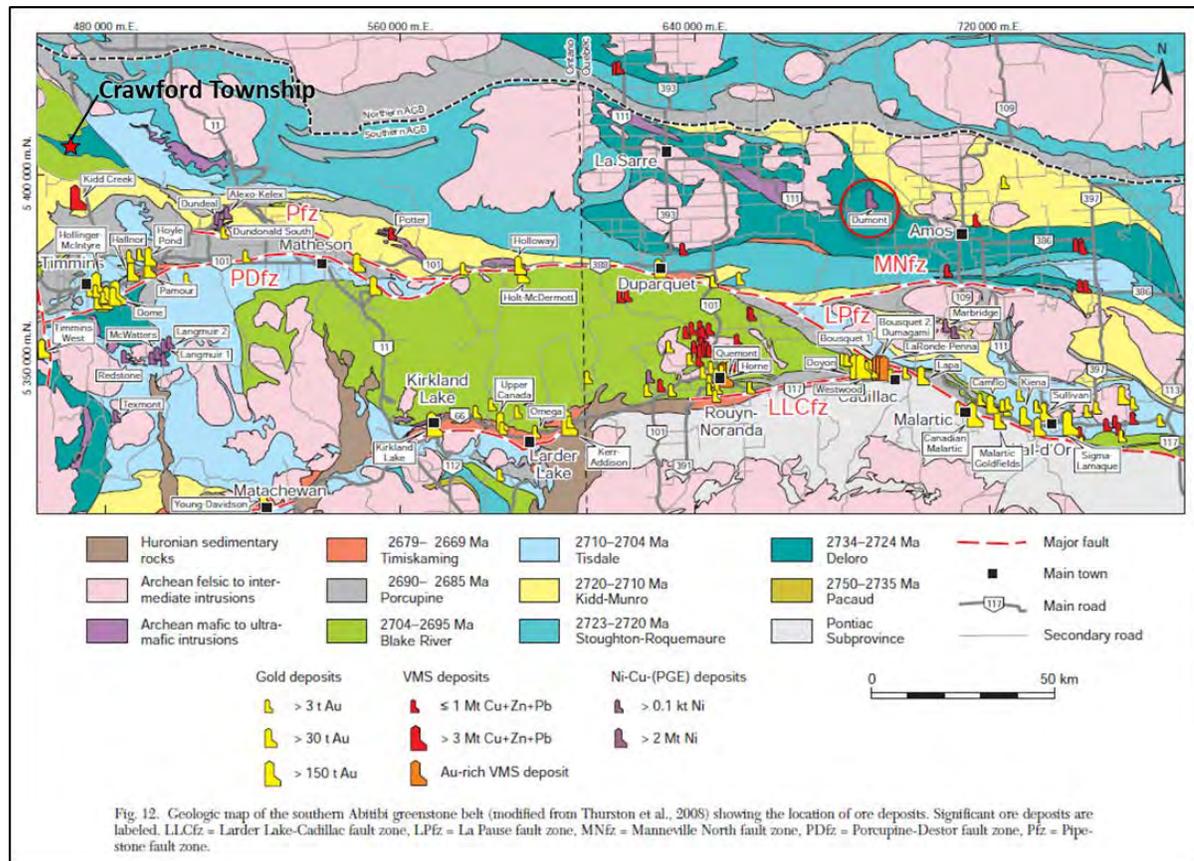


Figure 8-1. Simplified regional geological setting of the Abitibi Greenstone Belt (Abitibi Assemblages) with the location of the Dumont Sill, Quebec (red circle), the approximate location of Crawford and Lucas townships and the Crawford Ultramafic Complex Ontario (red star). Both the Crawford Ultramafic Complex and the Dumont Sill are interpreted to be hosted by Deloro Assemblage rocks (modified after Monecke *et al.*, 2017).

The differentiated Dumont Sill, about 7 km long, up to 1 km wide, and extending to a depth of more than 500 m, dips steeply to the northeast (Figure 8-2). Its lower Ultramafic Zone (~450 m thick) comprises the Lower Peridotite Subzone, an olivine + chromite cumulate, the Dunite Subzone, an olivine ±sulphide cumulate, and the Upper Peridotite Subzone, an olivine + chromite cumulate. The overlying Mafic Zone (~250 m thick) comprises the Clinopyroxenite Subzone, a clinopyroxene cumulate, the Gabbro Subzone, a clinopyroxene + plagioclase cumulate, and the Quartz Gabbro which includes plagioclase + pyroxene cumulates as well as non-cumulate gabbros (Duke, 1986).

The Dumont is usually categorized with its most similar counterpart, the Mt. Keith nickel deposit located in the Agnew-Wiluna Greenstone Belt, in the Archean Yilgarn craton of Western Australia (Naldrett, 1989). Although the Dumont and CUC share some similarities with Mt. Keith, it should be

noted that nickel grades reported from reserves at Mt. Keith range from 0.48% to 0.57% Ni (<https://miningdataonline.com/property/848/Mt-Keith-Mine.aspx>).

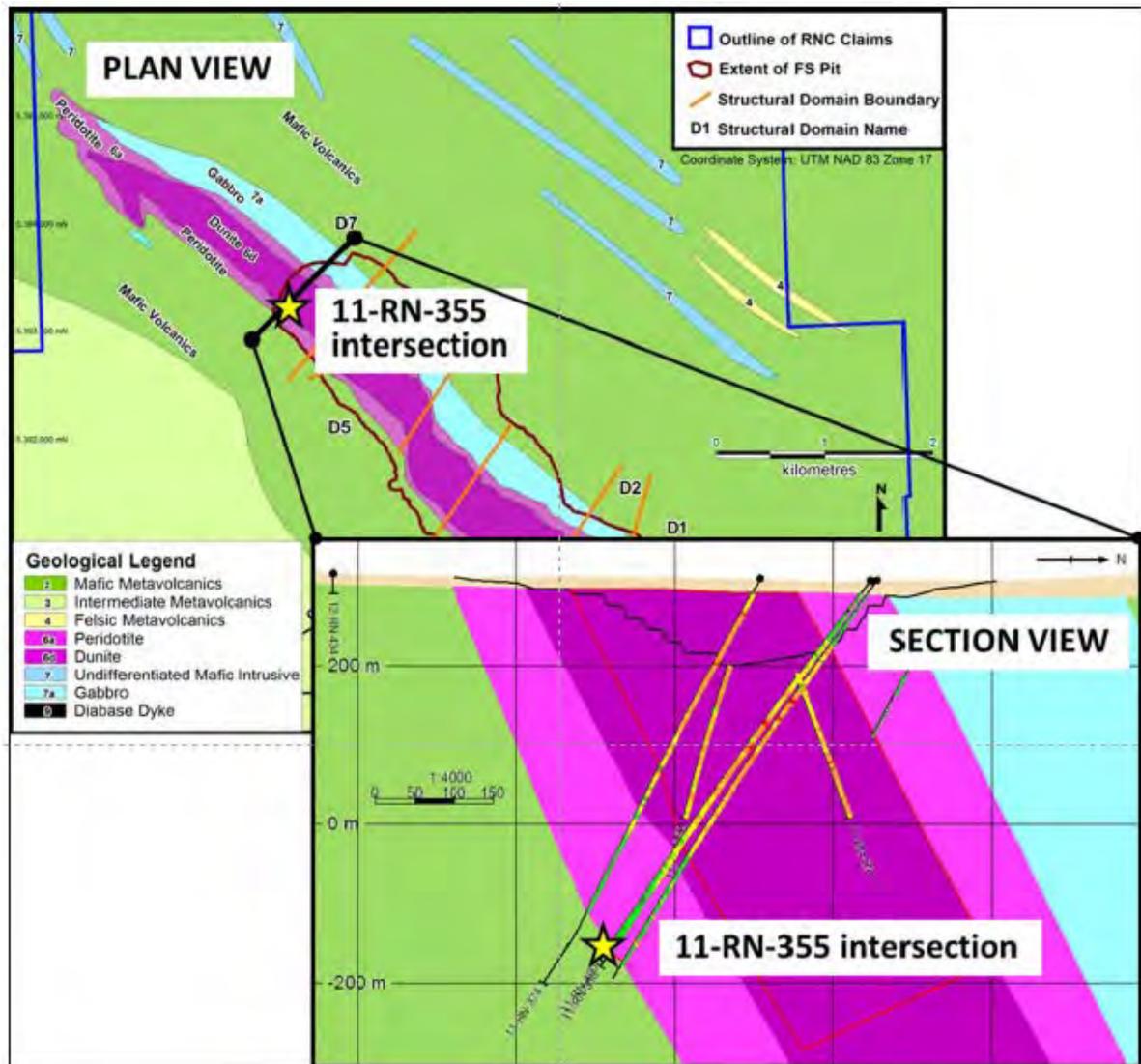


Figure 8-2. Plan view and cross-section view (looking northwest) of the Dumont Nickel Deposit showing the outline of the proposed open pit. Section is from a massive sulphide interval in drill hole 11-RN-355 (Ausenco, 2019).

In addition to its lower grade, the Dumont is differentiated from the Mt. Keith nickel deposit by the abundance of the nickel-iron alloy awaruite and by the restricted extent of talc-carbonate alteration, which is limited to the basal contact of the ultramafic body and occurs outside the resource envelope. In addition, the Dumont and CUC have not been subjected to the extensive supergene weathering alteration present at the Mt. Keith deposit.

Both the Dumont and Mt. Keith deposits have undergone pervasive serpentinization and local talc-carbonate alteration due to metamorphism to mid-upper greenschist facies. The observed mineralogy of the Dumont is a result of the serpentinization of a dunite protolith (>90% olivine),

which locally hosted a primary, disseminated (intercumulus) magmatic sulphide assemblage and contained “trapped” nickel within the unaltered olivine. The pervasive serpentinization process, whereby olivine reacts with water to produce serpentine, magnetite and brucite, creates a strongly reducing environment where the nickel released from the decomposition of olivine is partitioned into low-sulphur sulphides and newly formed awaruite (see Section 6.3.2, Mineralogical Study). The final mineral assemblage and texture of the disseminated nickel mineralization in the Dumont deposit and the variability has been controlled primarily by the variable degree of serpentinization that the host dunite has undergone.

An NI 43-101 Mineral Resource Estimate reported by RNC in July 2019 (Ausenco, 2019), quotes Measured plus Indicated Mineral Resources of 1.66 billion tonnes grading 0.27% Ni, 107 ppm Co, 9 ppb Pt and 20 ppb Pd, plus an Inferred Mineral Resource of 0.5 billion tonnes grading 0.26% Ni, 101 ppm Co, 6 ppb Pt and 12 ppb Pd. The same study also included a Mineral Reserve statement with Proven Reserves of 163,140,000 tonnes grading 0.33% Ni, 114 ppm Co, 13 ppb Pt and 31 ppb Pd, and Probable Reserves of 864,908,000 tonnes grading 0.26% Ni, 106 ppm Co, 8 ppb Pt and 17 ppb Pd.

Metallurgical test work by RNC has yielded concentrates with over 29% Ni and 1% Co. The high concentrate grade is a function of the very low sulphur content of the rock, so that most of the recoverable nickel is in low-sulphur minerals like heazlewoodite, or sulphur-free minerals like awaruite, a nickel-iron alloy.

Historical drilling of the CUC and other mafic-ultramafic intrusions in Crawford Township intersected extensively serpentinized dunite and peridotite. On the basis of limited historical metallurgical work completed in the 1960s and a more recent mineralogical study (see Section 6.3, Historical Mineral Processing and Metallurgical Testing) the serpentinized ultramafic rocks in the CUC are considered to have potentially recoverable nickel. Historical drill hole intercepts to date have returned average nickel, cobalt, platinum, and palladium concentrations that are notably higher than those at the Dumont.

While some similarities between the Dumont and the CUC exist, exploration of the CUC is early-stage and, as such, mineralization hosted by the advanced stage Dumont Nickel Project is not necessarily indicative of mineralization hosted on the Company’s Crawford Nickel-Cobalt Sulphide Project.

## **9.0 EXPLORATION**

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Other than diamond drilling (*see* Section 10.0, Drilling), Canada Nickel has not completed any other exploration work on the Project.

## 10.0 DRILLING

The current drilling program (2019-2020) is ongoing, having been initiated by Spruce Ridge in September 2018, under its option-joint venture agreement with then property owner, Noble Mineral Exploration. With the October 1<sup>st</sup>, 2019 announcement that Noble had created a new entity, Canada Nickel Company, to focus on the Crawford Nickel-Cobalt Project, management and control of the drilling program shifted from Spruce Ridge to Canada Nickel Company.

Results from the initial four drill holes completed by Spruce Ridge and Noble (CR18 series) are discussed in detail in Section 6.2, Historical Drilling. Following on from the initial four holes completed in late 2018 and reported in early 2019 (see Noble news release date March 4, 2019), results from CNC’s first nine drill holes (CR19-05 to 13), which totalled 5,280 m, were announced by Noble on December 9, 2019.

As of the Effective Date of the Report (December 12, 2020), a total of 76 drill holes totalling approximately 32,293 metres (up to hole CR20-73), have been completed by Canada Nickel and Spruce Ridge (Figure 10-1; Table 10-1). This includes drilling metres (635 m) from six abandoned holes (CR19-14, CR19-26, CR19-26A, CR20-30, CR20-40, CR20-70). Three of the 76 drill holes, CR20-55, CR20-57, and CR20-58, were HQ size, completed for metallurgical testwork, whereas the remaining 73 drill holes used NQ size.

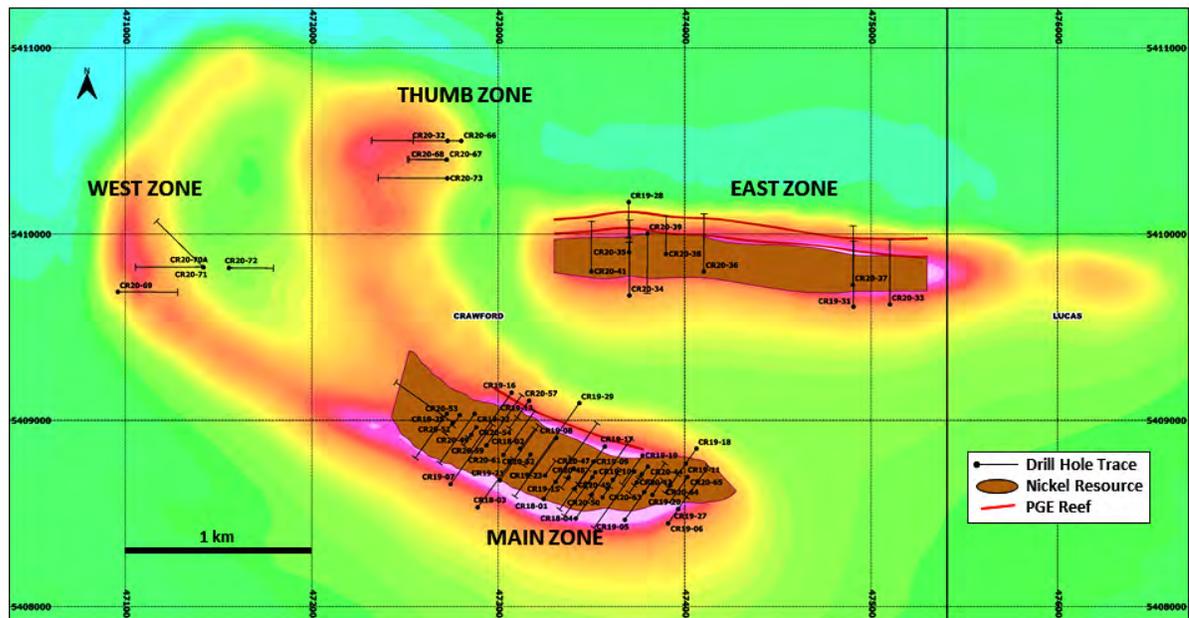


Figure 10-1. Plan view of diamond drill hole traces from 2018, 2019 and 2020 drilling within the Main, East, West and Thumb zones, outlines of the Main Zone and East Zone nickel Mineral Resource Estimate envelopes and PGE reefs, superimposed on airborne total field magnetic intensity (linear colour transform from low (blue) to high (red) magnetic field).

## 10.1 Drill Hole Collar Surveys

The majority of the drill hole collar locations were determined using Differential GPS (“DGPS”) survey with the balance using an APS (Azimuth-Pointing-System) and collar inclination was measured using a manual inclinometer (Table 10-1). Drill hole collar surveys (DGPS) were carried out by Talbot Surveys Inc. ([www.talbotsurveys.com](http://www.talbotsurveys.com)) of Timmins, Ontario.

Table 10-1. Summary of parameters for CR-18, CR-19, and CR-20 series diamond drill holes.

Drill Hole	UTM (mN)	UTM (mE)	Elev (m)	Depth (m)	Collar Az	Collar Dip	Survey	Zone
CR18-01	5408577.53	473243.98	273.57	540.0	33.4	-60	DGPS	Main
CR18-02	5408847.90	473117.66	273.07	210.0	37.0	-50	DGPS	Main
CR18-03	5408533.00	472890.10	271.52	510.0	36.0	-50	DGPS	Main
CR18-04	5408472.72	473416.08	272.87	230.0	34.7	-51	DGPS	Main
CR19-05	5408466.16	473679.58	273.14	580.0	35.0	-50	DGPS	Main
CR19-06	5408446.25	473910.99	273.42	270.0	35.0	-50	DGPS	Main
CR19-07	5408657.60	472744.80	275.90	610.0	35.0	-50	DGPS	Main
CR19-08	5408905.56	473311.87	274.63	600.0	215.0	-50	DGPS	Main
CR19-09	5408778.17	473510.98	273.88	490.0	215.0	-50	DGPS	Main
CR19-10	5408725.21	473729.33	273.83	580.0	215.0	-50	DGPS	Main
CR19-11	5408767.48	474006.30	274.42	300.0	215.0	-50	DGPS	Main
CR19-12	5408602.61	473501.57	273.21	570.0	35.0	-50	DGPS	Main
CR19-13	5409104.92	473164.72	274.86	280.0	215.0	-50	DGPS	Main
*CR19-14	5408633.54	473410.27	273.59	0.0	35.0	-82	DGPS	Main
CR19-14A	5408633.54	473410.27	273.59	903.0	35.0	-82	DGPS	Main
CR19-15	5408669.69	473307.95	273.63	600.0	35.0	-50	DGPS	Main
CR19-16	5409148.57	473071.96	273.27	600.0	215.0	-50	DGPS	Main
CR19-17	5408859.46	473571.99	274.14	501.0	214.8	-55	DGPS	Main
CR19-18	5408848.56	474063.46	274.65	400.0	215.0	-50	DGPS	Main
CR19-19	5408810.94	473773.88	274.25	450.0	215.0	-65	DGPS	Main
CR19-20	5408599.70	473827.28	273.60	699.0	35.2	-82	DGPS	Main
CR19-21	5408678.00	473009.80	271.79	561.0	35.0	-50	DGPS	Main
CR19-22	5409034.95	472873.27	271.11	504.0	215.0	-50	DGPS	Main
CR19-23	5408702.95	473250.86	273.30	705.0	35.0	-82	DGPS	Main
CR19-24	5408633.08	473586.52	273.39	701.0	35.0	-82	DGPS	Main
CR19-25	5409035.20	472723.74	270.39	453.0	215.0	-50	DGPS	Main
*CR19-26	5408793.60	473016.70	275.50	0.0	34.9	-82	APS	Main
*CR19-26A	5408794.40	473016.30	274.00	146.0	35.0	-82	APS	Main
CR19-27	5408523.49	473965.57	273.37	435.0	35.0	-50	DGPS	Main
CR19-28	5410172.10	473699.97	277.82	300.0	180.0	-50	DGPS	East
CR19-29	5409092.69	473435.31	275.00	750.0	215.0	-50	DGPS	Main
CR19-31	5409610.14	474905.41	276.14	549.0	359.9	-50	DGPS	East
*CR20-30	5410652.92	472669.27	271.05	0.0	270.0	-50	DGPS	Thumb
CR20-32	5410500.78	472728.33	271.63	633.0	270.0	-50	DGPS	Thumb

Drill Hole	UTM (mN)	UTM (mE)	Elev (m)	Depth (m)	Collar Az	Collar Dip	Survey	Zone
CR20-33	5409622.88	475100.71	275.58	540.0	359.9	-50	DGPS	East
CR20-34	5409670.85	473703.42	277.62	630.0	360.0	-50	DGPS	East
CR20-35	5409902.75	473701.28	277.86	390.0	360.0	-82	DGPS	East
CR20-36	5409798.69	474102.68	277.09	483.0	360.0	-50	DGPS	East
CR20-37	5409728.22	474902.77	276.16	492.0	360.0	-50	DGPS	East
CR20-38	5409893.24	473899.97	278.03	315.0	360.0	-50	DGPS	East
CR20-39	5410003.70	473800.86	278.35	501.0	180.0	-50	DGPS	East
*CR20-40	5409994.89	473597.48	277.97	333.0	180.0	-50	DGPS	East
CR20-41	5409799.78	473499.31	277.37	417.0	360.0	-50	DGPS	East
CR20-42	5408708.54	473769.82	274.03	405.0	215.0	-80	DGPS	Main
CR20-43	5408666.40	473743.43	273.85	402.0	215.0	-80	DGPS	Main
CR20-44	5408751.91	473802.32	274.14	394.0	215.0	-80	DGPS	Main
CR20-45	5408680.40	473615.20	277.60	405.0	35.0	-80	DGPS	Main
CR20-46	5408720.58	473520.66	273.74	408.0	215.0	-80	DGPS	Main
CR20-47	5408742.38	473404.90	273.85	391.0	215.2	-80	DGPS	Main
CR20-48	5408693.29	473378.55	273.53	402.0	215.1	-80	DGPS	Main
CR20-49	5408922.14	472855.70	270.86	402.0	215.1	-80	DGPS	Main
CR20-50	5408586.40	473559.19	273.15	402.0	34.9	-80	DGPS	Main
CR20-51	5408985.38	472755.49	270.40	402.0	215.4	-80	DGPS	Main
CR20-52	5408816.60	473173.14	273.51	402.0	211.2	-80	DGPS	Main
CR20-53	5409028.64	472794.06	270.85	402.0	212.1	-80	DGPS	Main
CR20-54	5408963.30	472882.91	270.92	402.0	217.7	-80	DGPS	Main
**CR20-55	5408633.37	473410.64	273.42	226.0	35.0	-82	DGPS	Main
CR20-56	5408987.37	472756.97	270.71	585.0	305.0	-50	DGPS	Main
**CR20-57	5409105.38	473165.51	274.83	171.0	215.5	-50	DGPS	Main
**CR20-58	5408712.00	473770.00	279.50	177.0	215.3	-80	DGPS	Main
CR20-59	5408865.89	472937.27	271.38	513.0	34.8	-50	DGPS	Main
CR20-60	5408696.50	473505.10	274.90	402.0	215.3	-50	APS	Main
CR20-61	5408815.10	473027.80	276.30	450.0	35.3	-50	APS	Main
CR20-62	5408695.00	473505.60	273.59	402.0	215.3	-80	DGPS	Main
CR20-63	5408615.00	473782.40	275.00	402.0	35.0	-80	APS	Main
CR20-64	5408651.60	473923.00	270.00	402.0	35.0	-80	APS	Main
CR20-65	5408696.00	474016.00	275.00	402.0	215.0	-65	APS	Main
CR20-66	5410500.40	472801.80	275.00	400.0	270.0	-50	APS	Thumb
CR20-67	5410400.00	472725.00	275.00	300.0	270.0	-45	APS	Thumb
CR20-68	5410399.40	472722.90	276.00	402.0	270.0	-60	APS	Thumb
CR20-69	5409690.00	470960.00	276.00	498.6	90.0	-50	APS	West
*CR20-70	5409815.00	471420.00	275.00	156.0	270.0	-50	APS	West
CR20-70A	5409823.70	471416.60	272.20	568.4	269.5	-50	APS	West
CR20-71	5409821.70	471418.90	275.00	594.1	314.2	-53	APS	West

Drill Hole	UTM (mN)	UTM (mE)	Elev (m)	Depth (m)	Collar Az	Collar Dip	Survey	Zone
CR20-72	5409818.60	471555.90	275.00	372.1	90.1	-50	APS	West
CR20-73	5410299.80	472727.10	275.00	525.0	270.0	-45	APS	Thumb

\*abandoned hole; \*\*metallurgical drill holes (HQ)

The APS system utilized by the drillers is a Multiwave Sensors' GPS-based compass providing True North or Grid North azimuth ([www.multiwavesensors.com/azimuth-pointing-system-aps/](http://www.multiwavesensors.com/azimuth-pointing-system-aps/)). The unit has sub-metre accuracy with the Satellite-Based Augmentation System (SBAS) to +/-60 cm or better and +/-2.5 m accuracy when SBAS is not available. The handheld GPS unit provided location accuracy of approximately +/-3 metres.

In general, drill hole surveys were initiated immediately following the casing and then every 50 m afterward using a Reflex gyrocompass system ([www.reflexnow.com/solutions/downhole-navigation/](http://www.reflexnow.com/solutions/downhole-navigation/)). If the hole survey was completed after the drill hole was finished and the rods removed, then the survey was taken approximately every 10 metres.

## 10.2 Diamond Drill Core Assay Results

As of the Effective Date of the Report, diamond drilling has been completed at the Main, East, West, and Thumb zones (see Figure 10-1). Forty-nine (49) of the current 76 drill holes were used in the updated Main Zone Mineral Resource Estimate and 11 were used in the initial East Zone Mineral Resource Estimate (see Section 14).

### 10.2.1 Main Zone Drilling

The focus of the 2019-2020 drilling was to extend along strike mineralization encountered in the original historical 2018 series drill holes (Spruce Ridge), to test the east-northeastern and west-southwestern extents of mineralization (*i.e.*, the contacts), to test deeper portions of the CUC and to complete in-fill drilling within the mineral resource envelope and its higher-grade core. Selective drill core assay results from the Main Zone are summarized in Table 10-2. A plan map and drill hole cross sections for the Main Zone are provided in Appendix 3.

Table 10-2. Main Zone: selective drill core assays, CR19 and CR20 series diamond drill holes.

DDH	From (m)	To (m)	Interval (m)	Estimated True Width (m)	Ni (%)	Co (%)	Pd (g/t)	Pt (g/t)	Pd+Pt (g/t)	S (%)	Fe (%)
<b>CR19-05</b>	51.6	582.0	530.4	344.8	0.227	0.013	0.018	0.008	0.0259	0.13	-
incl.	432.0	481.5	49.5	32.2	0.310	0.015	0.037	0.010	0.0471	0.53	-
incl.	445.5	472.5	27.0	17.6	<b>0.359</b>	0.018	0.051	0.015	0.0656	0.78	-
<b>CR19-06</b>	207.0	576.0	369.0	239.9	0.229	0.011	0.005	0.004	0.0088	0.04	-
incl.	304.5	453.0	148.5	96.5	0.275	0.012	0.001	0.001	0.0018	0.03	-
<b>CR19-07</b>	204.0	619.5	415.5	270.1	0.221	0.013	0.007	0.008	0.0147	0.01	-
incl.	591.0	619.5	28.5	18.5	0.265	0.013	0.092	0.034	0.1260	0.04	-
<b>CR19-08</b>	36.0	592.5	556.5	361.7	0.251	0.013	0.020	0.011	0.0312	0.06	-
incl.	70.5	468.0	397.5	258.4	0.271	0.013	0.018	0.011	0.0294	0.06	-
incl.	160.5	363.0	202.5	131.6	0.314	0.012	0.032	0.016	0.0476	0.10	-

DDH	From (m)	To (m)	Interval (m)	Estimated True Width (m)	Ni (%)	Co (%)	Pd (g/t)	Pt (g/t)	Pd+Pt (g/t)	S (%)	Fe (%)
incl.	183.0	223.5	40.5	26.3	<b>0.351</b>	0.013	0.026	0.013	0.0391	0.18	-
<b>CR19-09</b>	55.5	513.0	457.5	297.4	0.254	0.013	0.020	0.010	0.0297	0.08	-
incl.	63.0	436.5	373.5	242.8	0.270	0.013	0.023	0.012	0.0351	0.09	-
incl.	70.5	309.0	238.5	155.0	0.310	0.013	0.027	0.013	0.0401	0.11	-
incl.	192.0	265.5	73.5	47.8	<b>0.365</b>	0.014	0.047	0.011	0.0575	0.17	-
<b>CR19-10</b>	55.5	388.5	333.0	216.5	0.277	0.013	0.026	0.010	0.0358	0.34	-
incl.	57.0	271.5	214.5	139.4	0.320	0.013	0.030	0.011	0.0412	0.48	-
incl.	208.5	243.0	34.5	22.4	<b>0.355</b>	0.015	0.037	0.013	0.0502	1.18	-
<b>CR19-11</b>	48.0	438.0	390.0	253.5	0.271	0.014	0.028	0.011	0.0395	0.19	-
incl.	48.0	307.5	259.5	168.7	0.310	0.015	0.038	0.015	0.0527	0.25	-
incl.	133.5	277.5	144.0	93.6	<b>0.353</b>	0.015	0.060	0.023	0.0821	0.32	-
<b>CR19-12</b>	57.0	571.5	514.5	334.4	0.210	0.013	0.017	0.017	0.0344	0.06	-
incl.	57.0	337.5	280.5	182.3	0.281	0.012	0.011	0.003	0.0139	0.07	-
incl.	61.5	157.5	96.0	62.4	0.310	0.013	0.017	0.005	0.0218	0.16	-
incl.	72.0	91.5	19.5	12.7	0.353	0.014	0.018	0.004	0.0219	0.23	-
incl.	507.0	520.5	13.5	8.8	0.060	0.013	0.300	0.500	0.8000	0.04	-
incl.	508.5	510.0	1.5	1.0	0.060	0.014	0.700	1.600	2.3000	0.02	-
incl.	517.5	520.5	3.0	2.0	0.050	0.01	0.700	0.700	1.4000	0.05	-
<b>CR19-13</b>	78.0	85.5	7.5	-	0.050	0.12	0.700	1.000	1.7000	0.03	-
<b>AND</b>	102.0	609.0	507.0	329.6	0.237	0.013	0.010	0.008	0.0182	0.03	-
incl.	300.0	552.0	252.0	163.8	0.270	0.013	0.018	0.012	0.0300	0.06	-
incl.	300.0	426.0	126.0	81.9	0.311	0.012	0.034	0.016	0.0497	0.06	-
incl.	304.5	343.5	39.0	25.4	<b>0.351</b>	0.012	0.026	0.010	0.0358	0.10	-
<b>CR19-14A</b>	43.5	944.2	900.7	n-v*	0.31	0.013	0.022	0.008	0.0296	0.17	-
incl.	93.0	457.5	364.5	n-v*	0.37	0.014	0.031	0.011	0.0423	0.26	-
incl.	174.0	225.0	51.0	n-v*	0.40	0.014	0.023	0.009	0.0310	0.19	-
<b>AND</b>	253.5	316.5	63.0	n-v*	0.40	0.015	0.030	0.010	0.0400	0.20	-
<b>AND</b>	357.0	448.5	91.5	n-v*	0.41	0.015	0.048	0.016	0.0642	0.49	-
<b>CR19-15</b>	39.0	447.5	408.5	265.5	0.25	0.012	0.008	0.004	0.0126	0.03	-
incl.	60.0	301.5	241.5	157.0	0.28	0.012	0.012	0.004	0.0162	0.05	-
incl.	99.0	184.5	85.5	55.6	0.30	0.012	0.019	0.004	0.0232	0.08	-
<b>AND</b>	519.0	522.0	3.0	-	0.04	0.008	0.200	0.100	0.3000	0.04	-
<b>CR19-16</b>	48.0	55.5	7.5	-	0.06	0.013	0.800	1.000	1.8000	0.04	-
<b>AND</b>	81.0	642.0	561.0	364.7	0.24	0.013	0.015	0.009	0.0237	0.05	-
incl.	217.5	642.0	424.5	275.9	0.26	0.013	0.017	0.009	0.0262	0.06	-
incl.	295.5	424.5	129.0	83.9	0.35	0.014	0.032	0.010	0.0416	0.16	-
incl.	309.0	379.5	70.5	45.8	0.38	0.014	0.032	0.010	0.0417	0.20	-
incl.	322.5	342.0	19.5	12.7	0.47	0.015	0.050	0.016	0.0664	0.30	-
<b>CR19-17</b>	36.0	501.0	465.0	302.3	0.26	0.013	0.019	0.009	0.0279	0.08	-
incl.	289.5	501.0	211.5	137.5	0.32	0.013	0.034	0.015	0.0485	0.17	-
incl.	400.5	439.5	39.0	25.4	0.37	0.015	0.053	0.022	0.0751	0.23	-
<b>CR19-18</b>	78.0	507.0	429.0	278.9	0.25	0.013	0.015	0.007	0.0219	0.08	-
incl.	252.0	360.0	108.0	70.2	0.35	0.014	0.020	0.008	0.0278	0.29	-
incl.	303.0	360.0	57.0	37.1	0.37	0.016	0.030	0.011	0.0411	0.51	-
<b>CR19-19</b>	136.5	723.0	586.5	381.2	0.26	0.012	0.013	0.006	0.0189	0.22	-
incl.	393.0	723.0	330.0	214.5	0.33	0.012	0.023	0.007	0.0297	0.39	-
incl.	403.5	442.5	39.0	25.4	0.41	0.014	0.030	0.009	0.0397	0.60	-
<b>AND</b>	570.0	600.0	30.0	19.5	0.39	0.012	0.022	0.007	0.0288	0.26	-
<b>CR19-20</b>	34.8	702.0	667.2	n-v*	0.26	0.013	0.017	0.009	0.0257	0.09	-

DDH	From (m)	To (m)	Interval (m)	Estimated True Width (m)	Ni (%)	Co (%)	Pd (g/t)	Pt (g/t)	Pd+Pt (g/t)	S (%)	Fe (%)
incl.	249.0	702.0	453.0	n-v*	0.28	0.012	0.021	0.009	0.0306	0.08	-
incl.	676.5	702.0	25.5	n-v*	0.30	0.012	0.003	0.004	0.0068	0.09	-
<b>CR19-21</b>	43.5	702.0	658.5	428.0	0.25	0.013	0.026	0.008	0.0339	0.04	-
incl.	43.5	559.5	516.0	335.4	0.27	0.012	0.032	0.010	0.0416	0.04	-
incl.	174.0	442.5	268.5	174.5	0.32	0.012	0.056	0.011	0.0672	0.06	-
incl.	376.5	442.5	66.0	42.9	0.34	0.013	0.044	0.015	0.0596	0.12	-
<b>CR19-22</b>	55.5	489.0	433.5	281.8	0.25	0.013	0.019	0.010	0.0283	0.05	-
incl.	112.5	301.5	189.0	122.9	0.31	0.013	0.031	0.014	0.0454	0.09	-
incl.	139.5	172.5	33.0	21.5	0.36	0.014	0.036	0.016	0.0519	0.20	-
<b>CR19-23</b>	36.0	705.0	669.0	n-v*	0.30	0.012	0.019	0.007	0.0258	0.08	-
incl.	357.0	447.0	90.0	n-v*	0.33	0.014	0.026	0.007	0.0322	0.08	-
<b>CR19-24</b>	40.5	702.0	661.5	n-v*	0.32	0.013	0.023	0.008	0.0308	0.24	-
incl.	441.0	586.5	145.5	n-v*	0.38	0.013	0.029	0.008	0.0369	0.32	-
incl.	511.5	550.5	39.0	n-v*	0.40	0.013	0.032	0.010	0.0418	0.36	-
<b>CR19-25</b>	70.0	387.0	317.0	196.9	0.22	0.003	0.014	0.012	0.0260	0.08	-
incl.	70.0	114.0	44.0	27.3	0.34	0.006	0.034	0.012	0.0460	0.26	-
<b>CR19-27</b>	87.0	420.0	333.0	218.4	0.25	0.005	0.009	0.005	0.0140	0.05	-
	166.5	385.5	219.0	143.7	0.28	0.004	0.004	0.003	0.0070	0.04	-
	82.5	91.5	9.0	5.9	0.51	0.035	0.320	0.123	0.4430	0.30	-
	82.5	84.0	1.5	1.0	0.65	0.094	0.632	0.263	0.8950	0.53	-
	84.0	85.5	1.5	1.0	1.09	0.037	0.699	0.265	0.9640	0.54	-
<b>CR19-28</b>	34.5	42.0	7.5	-	0.05	0.006	0.100	0.200	0.3000	-	-
<b>AND</b>	180.0	184.5	4.5	-	0.03	0.009	0.800	0.900	1.7000	-	-
<b>CR19-29</b>	205.5	210.0	4.5	-	0.05	0.009	0.300	0.500	0.8000	0.16	-
incl.	208.5	210.0	1.5	-	0.06	0.011	0.600	1.000	1.6000	0.21	-
<b>AND</b>	331.5	445.5	114.0	74.6	0.21	0.003	0.004	0.003	0.0070	0.03	-
incl.	382.5	445.5	63.0	41.2	0.23	0.003	0.004	0.003	0.0070	0.03	-
<b>CR19-31</b>	520.5	528.0	7.5	-	0.04	0.011	0.400	0.400	0.8000	-	-
incl.	525.0	528.0	3.0	-	0.03	0.009	0.700	0.900	1.6000	-	-
<b>CR20-42</b>	43.5	405.0	361.5	62.8	0.40	0.017	0.036	0.012	0.0480	0.52	6.05
incl.	43.5	349.5	306.0	53.1	0.42	0.017	0.041	0.013	0.0540	0.57	5.71
incl.	304.5	331.5	27.0	4.7	0.51	0.019	0.057	0.019	0.0760	0.74	5.59
<b>CR20-43</b>	45.0	402.0	357.0	*n-v	0.33	0.014	0.027	0.010	0.0370	0.29	6.11
incl.	45.0	294.0	249.0	*n-v	0.36	0.014	0.028	0.009	0.0370	0.37	5.60
incl.	46.5	132.0	85.5	*n-v	0.39	0.014	0.030	0.010	0.0400	0.41	5.23
<b>AND</b>	262.5	294.0	31.5	*n-v	0.42	0.018	0.036	0.010	0.0460	0.56	6.92
<b>CR20-44</b>	36.0	402.0	366.0	*n-v	0.27	0.014	0.019	0.006	0.0250	0.30	6.51
incl.	283.5	402.0	118.5	*n-v	0.33	0.016	0.030	0.009	0.0390	0.58	6.67
incl.	349.5	402.0	52.5	*n-v	0.41	0.020	0.043	0.013	0.0560	0.99	7.35
<b>CR20-45</b>	39.0	408.0	369.0	*n-v	0.28	0.012	0.016	0.007	0.0230	0.08	5.17
incl.	39.0	289.5	250.5	*n-v	0.30	0.012	0.022	0.008	0.0300	0.11	4.70
incl.	145.5	219.0	73.5	*n-v	0.34	0.013	0.028	0.010	0.0380	0.13	4.51
<b>CR20-46</b>	48.0	411.0	363.0	*n-v	0.31	0.013	0.030	0.010	0.0400	0.29	5.83
incl.	315.0	384.0	69.0	*n-v	0.36	0.017	0.057	0.019	0.0760	0.97	8.19
<b>CR20-47</b>	33.3	402.0	368.7	*n-v	0.30	0.011	0.020	0.008	0.0280	0.07	5.91
incl.	40.5	286.5	246.0	*n-v	0.31	0.011	0.022	0.008	0.0300	0.06	5.54
incl.	363.0	399.0	36.0	*n-v	0.36	0.014	0.030	0.009	0.0390	0.14	6.96
<b>CR20-48</b>	34.0	402.0	368.0	*n-v	0.31	0.014	0.026	0.012	0.0380	0.13	7.22
incl.	34.0	288.0	254.0	*n-v	0.34	0.014	0.023	0.008	0.0310	0.15	7.22

DDH	From (m)	To (m)	Interval (m)	Estimated True Width (m)	Ni (%)	Co (%)	Pd (g/t)	Pt (g/t)	Pd+Pt (g/t)	S (%)	Fe (%)
incl.	125.5	283.5	158.0	*n-v	0.36	0.014	0.023	0.008	0.0310	0.16	7.22
incl.	151.5	223.5	72.0	*n-v	0.40	0.015	0.027	0.010	0.0370	0.19	7.36
<b>CR20-49</b>	36.5	402.0	365.5	*n-v	0.28	0.013	0.024	0.012	0.0360	0.05	6.83
incl.	36.5	210.0	173.5	*n-v	0.35	0.012	0.037	0.011	0.0480	0.10	6.11
incl.	36.5	91.5	55.0	*n-v	0.41	0.013	0.047	0.019	0.0660	0.19	5.34
<b>CR20-50</b>	36.0	402.0	366.0	*n-v	0.33	0.016	0.038	0.014	0.0520	0.58	7.51
incl.	36.0	181.5	145.5	*n-v	0.35	0.017	0.050	0.020	0.0700	0.67	7.84
incl.	124.5	162.0	37.5	*n-v	0.40	0.018	0.051	0.016	0.0670	1.03	8.02
<b>CR20-51</b>	49.6	405.0	355.4	*n-v	0.28	0.013	0.023	0.013	0.0360	0.14	6.70
incl.	69.0	256.5	187.5	*n-v	0.34	0.013	0.037	0.013	0.0500	0.23	6.22
incl.	73.5	174.0	100.5	*n-v	0.37	0.015	0.032	0.011	0.0430	0.39	5.43
incl.	79.5	142.5	63.0	*n-v	0.39	0.016	0.038	0.014	0.0520	0.51	4.92
<b>CR20-52</b>	27.0	402.0	375.0	*n-v	0.30	0.012	0.023	0.017	0.0400	0.07	5.98
incl.	27.0	157.5	130.5	*n-v	0.35	0.013	0.024	0.008	0.0320	0.14	4.59
incl.	27.0	51.0	24.0	*n-v	0.40	0.014	0.033	0.011	0.0440	0.23	4.43
<b>CR20-53</b>	52.0	402.0	350.0	*n-v	0.29	0.012	0.017	0.007	0.0240	0.10	6.37
incl.	169.5	352.5	183.0	*n-v	0.35	0.011	0.021	0.007	0.0280	0.12	6.66
incl.	169.5	210.0	40.5	*n-v	0.40	0.009	0.039	0.012	0.0510	0.35	5.22
<b>CR20-54</b>	44.4	402.0	357.6	*n-v	0.29	0.011	0.019	0.012	0.0310	0.08	6.55
incl.	71.5	317.5	246.0	*n-v	0.32	0.010	0.025	0.014	0.0390	0.11	6.21
incl.	74.5	206.5	132.0	*n-v	0.34	0.008	0.016	0.007	0.0230	0.17	5.32
incl.	121.0	148.0	27.0	*n-v	0.40	0.010	0.010	0.005	0.0150	0.23	4.64
<b>CR20-56</b>	70.8	588.0	517.2	-	0.28	0.013	0.013	0.009	0.0220	0.08	6.72
incl.	114.0	262.5	148.5	-	0.34	0.013	0.028	0.010	0.0380	0.02	5.99
incl.	186.0	217.5	31.5	-	0.42	0.013	0.038	0.012	0.0500	0.23	6.11
<b>CR20-59</b>	42.6	390.0	347.4	223.3	0.26	0.013	0.015	0.008	0.0230	0.11	6.08
incl.	42.6	163.5	120.9	77.7	0.34	0.015	0.025	0.008	0.0330	0.28	5.34
incl.	42.6	99.0	56.4	36.3	0.38	0.015	0.032	0.010	0.0420	0.29	4.73
<b>AND</b>	460.5	469.5	9.0	5.9	0.04	0.010	0.600	0.900	1.5000	-	-
incl.	465.0	468.0	3.0	2.0	0.05	0.013	0.600	1.200	1.8000	-	-
<b>CR20-60</b>	51.0	352.5	301.5	-	0.24	0.013	0.016	0.009	0.0250	0.10	6.94
incl.	51.0	163.5	112.5	-	0.33	0.014	0.028	0.011	0.0390	0.20	7.24
incl.	51.0	127.5	76.5	-	0.36	0.014	0.024	0.008	0.0320	0.23	7.13
incl.	84.0	100.5	16.5	-	0.43	0.015	0.031	0.010	0.0410	0.33	7.06
<b>CR20-61</b>	36.8	276.0	239.2	-	0.30	0.013	0.022	0.008	0.0300	0.14	5.39
incl.	36.8	183.0	146.2	-	0.35	0.014	0.030	0.010	0.0400	0.20	5.01
incl.	36.8	156.0	119.2	-	0.38	0.014	0.034	0.011	0.0450	0.23	4.84
incl.	67.5	144.0	76.5	-	0.40	0.015	0.039	0.012	0.0510	0.26	4.92
<b>CR20-62</b>	45.3	402.0	356.7	*n-v	0.29	0.013	0.018	0.007	0.0250	0.28	6.83
incl.	49.5	132.0	82.5	*n-v	0.30	0.010	0.017	0.007	0.0240	0.09	5.48
incl.	231.0	399.0	168.0	*n-v	0.30	0.015	0.028	0.011	0.0390	0.49	7.63
<b>CR20-63</b>	39.0	402.0	363.0	*n-v	0.27	0.014	0.027	0.013	0.0400	0.19	7.01
incl.	357.0	402.0	45.0	*n-v	0.36	0.013	0.016	0.006	0.0220	0.21	5.58
<b>CR20-64</b>	32.6	402.0	369.4	*n-v	0.33	0.014	0.020	0.007	0.0270	0.21	5.05
incl.	193.5	289.5	96.0	*n-v	0.38	0.014	0.026	0.010	0.0360	0.20	4.85
incl.	193.5	22.0	-171.5	*n-v	0.41	0.015	0.027	0.009	0.0360	0.24	4.94
<b>CR20-65</b>	36.0	402.0	366.0	-	0.26	0.013	0.018	0.009	0.0270	0.07	6.10
incl.	36.0	162.0	126.0	-	0.33	0.012	0.018	0.006	0.0240	0.11	4.81
incl.	36.0	76.5	40.5	-	0.35	0.013	0.018	0.007	0.0250	0.15	5.31

DDH	From (m)	To (m)	Interval (m)	Estimated True Width (m)	Ni (%)	Co (%)	Pd (g/t)	Pt (g/t)	Pd+Pt (g/t)	S (%)	Fe (%)
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\*n-v: holes drilled at steep angle of -82 or -80 degrees and so interval length is equal to depth.  
 Note: where not estimated, core intervals are not true widths. Canada Nickel has insufficient information to determine the attitude, either of the ultramafic body or of mineralized zones within it. True widths will be less than the core intervals by a number of factors.

To date, diamond drilling has outlined a west-northwest trending (~285-315Az) ultramafic body (largely dunite-peridotite) that is at least 1.8 km in strike length, 200 to 250 m in width, and more than 650 metres deep (Figures 10-2 and 10-3). Mineralization remains open along strike to the northwest, and at depth. A north-northwest trending regional sinistral, strike-slip fault terminates the ultramafic body along its southeastern extent (see Figures 7-5 and 7-6). A 3D-Inversion magnetic anomaly, nearly one kilometre deep, has been only partially tested at depth (Figure 10-3).

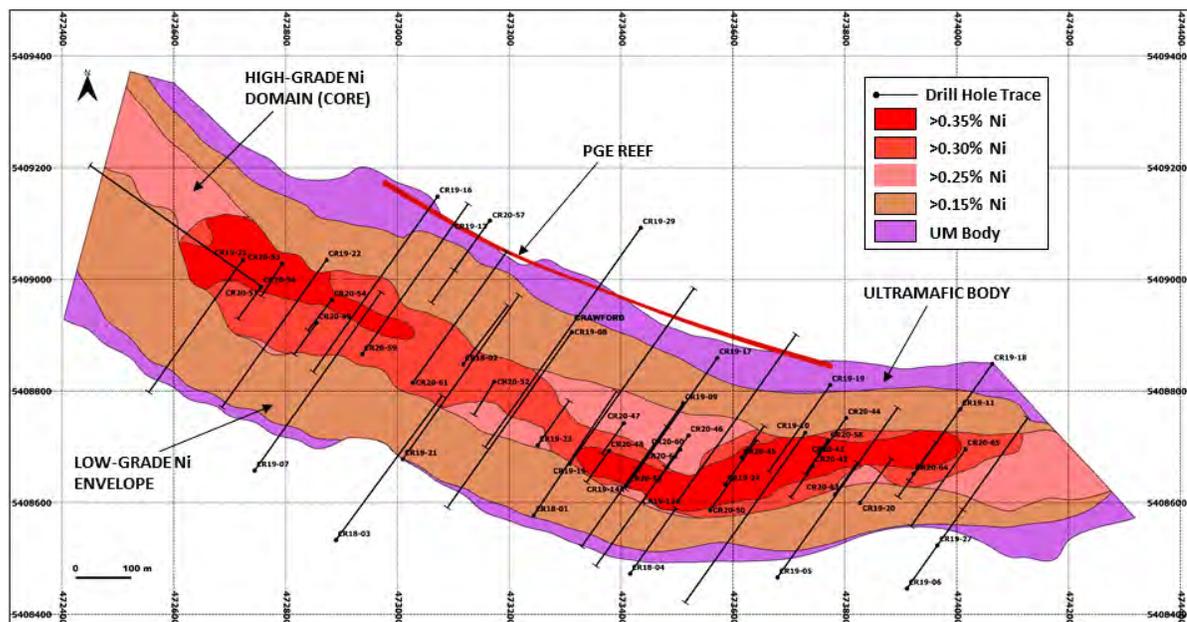


Figure 10-2. Plan view of diamond drill hole traces from 2018, 2019 and 2020 drilling superimposed on the outline of the updated Main Zone nickel Mineral Resource Estimate and PGE reef.

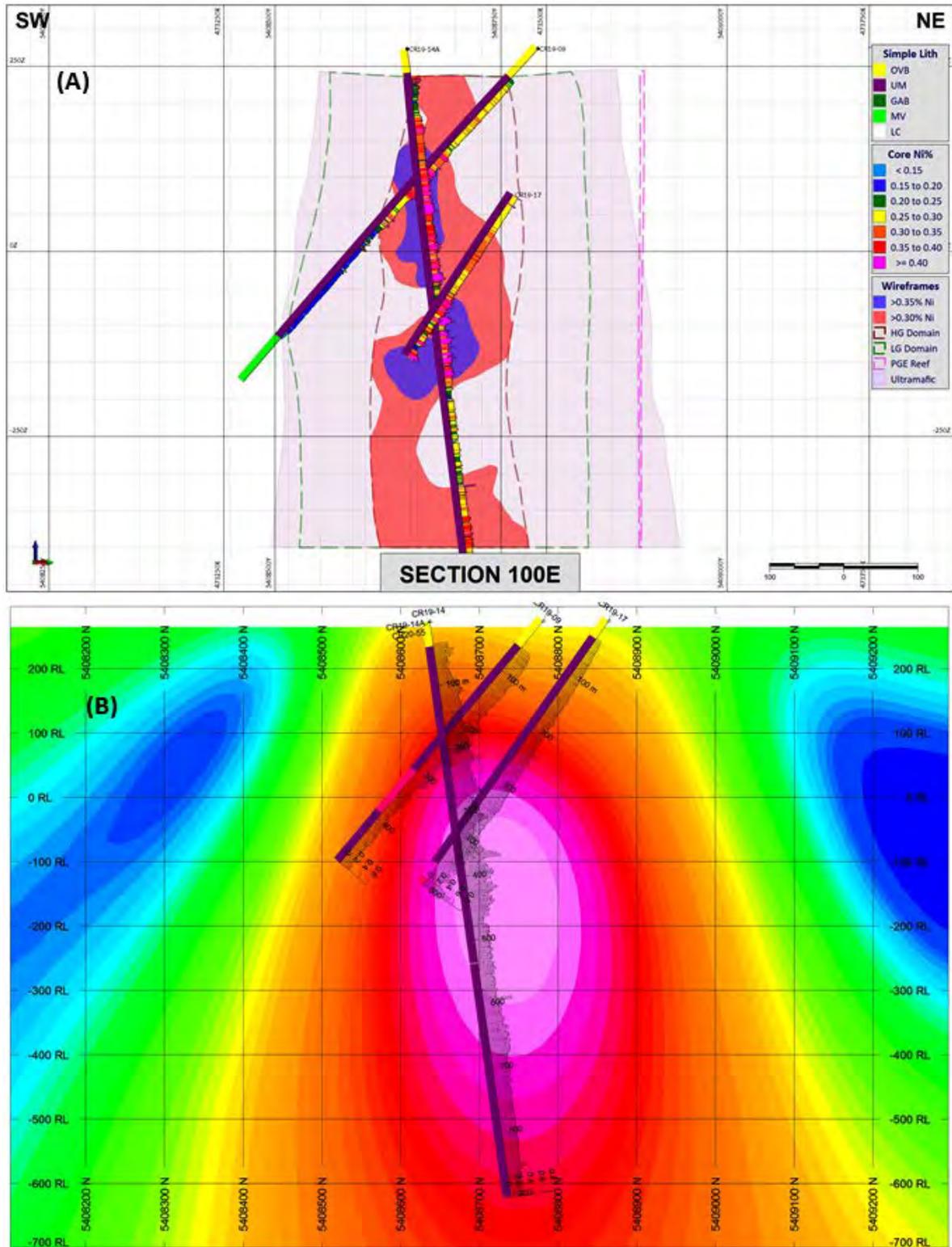


Figure 10-3. Cross-sections from Main Zone line L100E (looking northwest 305Az) showing drill holes CR19-14A, CR19-09 and CR19-17: (a) boundaries of the updated Main Zone Mineral Resource Estimate and (b) superimposed on 3D-Inversion magnetic intensity (linear colour transform from low (blue) to high (red) magnetic field); histogram scale is %Ni.

### 10.2.1.1. Higher Grade Nickel Zone

Diamond drilling core assay results to date allow for the delineation of two higher grade (>0.30% Ni and >0.35% Ni) regions (modelled grade shells) within the larger core High-Grade Zone (>0.25% Ni), which in turn are within the larger enveloping Low-Grade Zone (>0.15% Ni), all contained within the host ultramafic body of the CUC (see Figure 10-2). The High-Grade Zone (>0.25% Ni) has a minimum modelled strike length of about 1.9 km, is between approximately 115 and 210 m wide, and contains regions of incrementally higher grade nickel (*i.e.*, >0.30% Ni and >0.35% Ni). The High-Grade Zone and internal regions of higher grade nickel (modelled grade shells) remain open along strike to the west-northwest and extend to a depth of at least 650 m (Figures 10-2 and 10-3).

The modelled High-Grade Zone (see Figure 10-2) encloses a >0.30% Ni shell and two >0.35% Ni shells and shows good continuity along strike. The >0.30% Ni shell shows reasonable continuity which may improve given increased drill hole density. The >0.35% Ni shell has been modelled in two areas which could develop greater continuity and size with increased drill hole density. The >0.30% Ni grade shell contains an estimated 200.5 Mt with a mean grade of 0.34% Ni and the >0.35% Ni grade shell contains an estimated 57.7 Mt with a mean grade of 0.36% Ni. These higher grade regions have been considered and modelled in the current Mineral Resource Estimate (see Section 14).

### 10.2.1.2. Main Zone – PGE Reef

The Main Zone PGE Reef, located within the northern margin of the ultramafic to mafic body, is associated with a contact between an ultramafic (pyroxenite) unit to the south and a gabbroic unit to the north, reflected in seven (7) drill hole intercepts (Table 10-3; Figure 10-3). Additional drill holes will be required to better define the PGE reef and as such the PGE reef was restricted to the central region of the modelling area.

Table 10-3. True width intercepts for drill holes into the Main Zone PGE reef.

BHID	True Width (m)	Pd (ppm)	Pt (ppm)	PGE (ppm)	Ni (%)	Co (%)	Fe (%)	S (%)
CR19-12	7.70	0.315	0.493	0.807	0.064	0.013	7.379	0.039
CR19-13	4.90	0.735	1.012	1.747	0.053	0.012	7.000	0.030
CR19-15	0.90	0.298	0.058	0.356	0.035	0.007	4.870	0.010
CR19-16	5.00	0.772	0.958	1.730	0.060	0.013	7.098	0.044
CR19-29	2.80	0.349	0.484	0.834	0.052	0.011	4.807	0.157
CR20-59	6.60	0.540	0.772	1.313	0.041	0.010	5.857	0.082
CR20-61	0.90	0.127	0.200	0.327	0.080	0.016	7.700	0.030

### 10.2.2 East Zone Drilling

Located about 1.2 km northeast of the Main Zone (see Figure 7-5), the Company began to drill-test the East Zone in late 2019 and into 2020 with relatively wide-spaced drill hole sections (Figure 10-4). Selective drill core assays from the East Zone are summarized in Table 10-4. A plan map and drill hole cross sections for the East Zone are provided in Appendix 3.

Table 10-4. East Zone: selective drill core assays, CR19 and CR20 series diamond drill holes.

DDH	From (m)	To (m)	Interval (m)	Estimated True Width (m)	Ni (%)	Co (%)	Pd (g/t)	Pt (g/t)	Pd+Pt (g/t)	S (%)	Fe (%)
<b>CR19-28</b>	252.0	573.0	321.0	-	0.270	0.013	0.028	0.017	0.045	0.07	6.10
incl.	316.5	573.0	256.5	-	0.300	0.013	0.032	0.018	0.050	0.08	5.77
incl.	406.5	462.0	55.5	-	0.420	0.014	0.131	0.071	0.202	0.78	6.01
<b>CR19-31</b>	115.5	498.0	382.5	-	0.21	0.013	0.010	0.000	0.010	0.02	6.89
incl.	226.5	387.0	160.5	-	0.26	0.013	0.010	0.000	0.010	0.02	6.13
incl.	304.5	333.0	28.5	-	0.31	0.013	0.020	0.010	0.030	0.04	6.07
<b>CR19-32</b>	123.0	135.0	12.0	-	0.02	0.007	0.900	0.900	1.800	-	-
incl.	123.0	130.5	7.5	-	0.02	0.007	1.300	1.300	2.600	-	-
<b>AND</b>	242.0	245.0	3.0	-	0.03	0.007	0.900	1.000	1.900	-	-
<b>AND</b>	277.5	289.5	12.0	-	0.03	0.008	0.500	0.500	1.000	-	-
<b>AND</b>	280.5	286.5	6.0	-	0.02	0.008	0.900	0.800	1.700	-	-
<b>AND</b>	390.0	633.0	243.0	-	0.25	0.013	0.003	0.003	0.006	0.02	6.10
incl.	438.0	633.0	195.0	-	0.27	0.013	0.003	0.003	0.006	0.02	5.80
incl.	576.0	633.0	57.0	-	0.30	0.013	0.003	0.003	0.006	0.01	5.88
<b>CR19-33</b>	119.8	434.4	314.6	-	0.25	0.013	0.018	0.008	0.026	0.04	6.70
incl.	190.6	422.4	231.8	-	0.28	0.013	0.022	0.010	0.032	0.04	6.26
incl.	272.4	362.4	90.0	-	0.32	0.013	0.053	0.020	0.073	0.06	5.82
incl.	324.9	362.4	37.5	-	0.37	0.015	0.122	0.044	0.166	0.10	6.05
incl.	332.4	335.4	3.0	-	0.42	0.014	1.160	0.035	1.195	0.12	5.72
<b>AND</b>	453.9	456.9	3.0	-	0.03	0.008	0.540	0.500	1.040	-	-
<b>AND</b>	521.4	522.9	1.5	-	0.06	0.013	0.660	0.700	1.360	-	-
<b>CR20-34</b>	192.0	445.5	253.5	-	0.26	0.013	0.032	0.013	0.045	0.04	6.28
incl.	274.5	387.0	112.5	-	0.30	0.012	0.067	0.026	0.093	0.04	5.80
incl.	348.0	381.0	33.0	-	0.37	0.015	0.216	0.079	0.295	0.09	6.06
incl.	349.5	361.5	12.0	-	0.42	0.015	0.463	0.166	0.629	0.08	6.11
<b>CR20-34</b>	450.0	468.0	18.0	-	0.06	0.015	0.400	0.300	0.700	-	-
incl.	463.5	468.0	4.5	-	0.06	0.014	0.900	0.900	1.800	-	-
<b>CR20-36</b>	33.0	289.5	256.5	-	0.23	0.013	0.007	0.006	0.013	0.05	6.94
incl.	172.5	247.5	75.0	-	0.30	0.013	0.011	0.007	0.018	0.08	6.09
<b>AND</b>	432.0	436.5	4.5	-	0.00	0.000	0.100	0.200	0.300	-	-
<b>CR20-37</b>	262.5	286.5	24.0	-	0.08	0.014	0.200	0.200	0.400	-	-
incl.	283.5	286.5	3.0	-	0.06	0.013	0.900	1.100	2.000	-	-
<b>CR20-38</b>	51.0	189.0	138.0	89.7	0.22	0.012	0.004	0.004	0.008	0.04	6.59
incl.	51.0	117.0	66.0	42.9	0.26	0.011	0.003	0.004	0.007	0.03	5.78
<b>AND</b>	189.0	195.0	6.0	3.9	0.03	0.008	0.700	0.700	1.400	-	-
incl.	189.0	193.5	4.5	2.9	0.03	0.008	0.800	0.900	1.700	-	-
<b>CR20-39</b>	36.0	456.0	420.0	273.0	0.24	0.013	0.004	0.005	0.009	0.02	6.80
incl.	36.0	190.5	154.5	100.4	0.27	0.013	0.004	0.004	0.008	0.03	6.21
incl.	36.0	97.5	61.5	40.0	0.30	0.013	0.004	0.005	0.009	0.03	5.82
<b>CR20-40</b>	48.0	375.0	327.0	212.6	0.26	0.012	0.003	0.003	0.006	0.03	5.87
<b>CR20-41</b>	55.0	280.5	225.5	146.6	0.24	0.013	0.008	0.006	0.014	0.04	6.24
incl.	96.0	249.0	153.0	99.5	0.26	0.013	0.010	0.006	0.016	0.03	6.03
incl.	168.0	226.5	58.5	38.0	0.28	0.012	0.021	0.011	0.032	0.03	5.79
<b>AND</b>	321.0	327.0	6.0	3.9	0.02	0.008	0.700	0.800	1.500	-	-
incl.	322.5	327.0	4.5	2.9	0.03	0.008	0.900	0.900	1.800	-	-

Note: where not estimated, core intervals are not true widths. Canada Nickel has insufficient information to determine the attitude, either of the ultramafic body or of mineralized zones within it. True widths will be less than the core intervals by a number of factors.

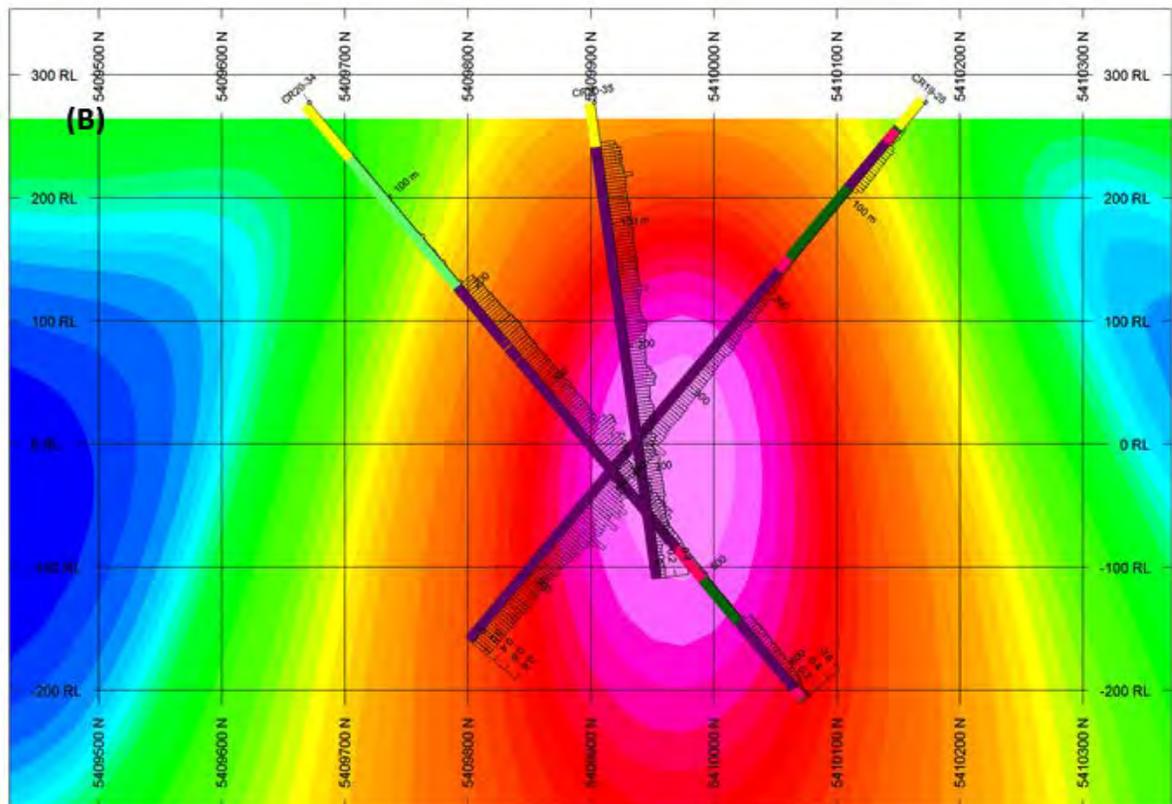
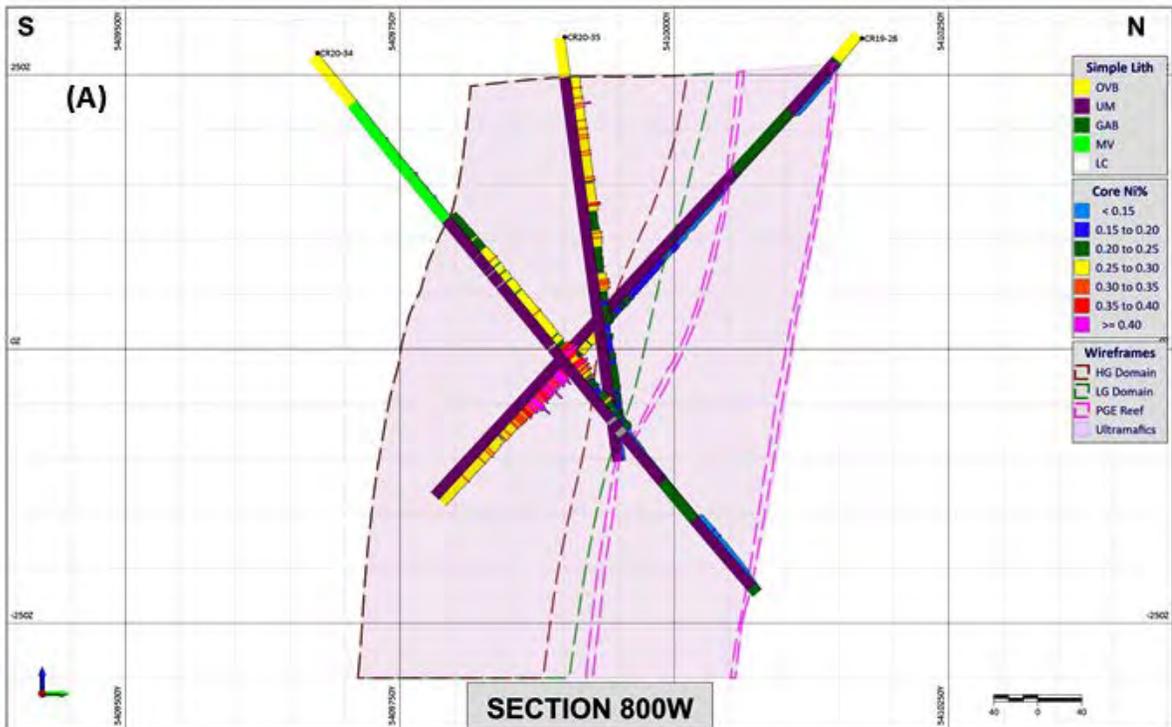


Figure 10-4. Cross-sections from East Zone line L800W (looking west 270Az) showing drill holes CR19-28, CR20-34 and CR20-35: (a) boundaries of the initial East Zone Mineral Resource Estimate and (b) superimposed on 3D-Inversion magnetic intensity (linear colour transform from low (blue) to high (red) magnetic field); histogram scale is %Ni.

### 10.2.1.3. East Zone PGE Reefs

Within the layered ultramafic unit of the East Zone, two domains can be differentiated: (1) a high nickel, PGE poor, domain to the south, comprising mainly dunite and peridotite, and (2) a low (to barren) nickel domain, comprising peridotite and pyroxenite, with major PGE occurrences interpreted as horizons or “reefs” proximal to the northern margin of the ultramafic body. Nine (9) of the 11 drill holes in the East Zone intersected one or both of the two PGE reefs, with five (5) holes intersecting both the south reef (PGE-1) and north reef (PGE-2) (Table 10-5).

Table 10-5. True width intercepts for drill holes into the Main Zone PGE reef.

REEF	BHID	True Width (m)	Pd (ppm)	Pt (ppm)	PGE (ppm)	Ni (%)	Co (%)	Fe (%)	S (%)
PGE-1	CR19-28	2.90	0.780	0.873	1.653	0.028	0.009	5.640	0.122
South	CR19-31	1.70	0.737	0.849	1.586	0.032	0.009	6.510	0.015
	CR20-33	1.50	0.538	0.504	1.042	0.026	0.008	5.700	0.170
	CR20-34	4.30	0.865	0.891	1.755	0.059	0.014	8.180	0.060
	CR20-35	1.80	0.552	1.130	1.682	0.056	0.011	6.850	0.030
	CR20-36	2.10	0.037	0.065	0.101	0.045	0.010	6.300	0.055
	CR20-37	2.30	0.685	0.807	1.492	0.056	0.013	7.560	0.047
	CR20-38	3.30	0.836	0.988	1.824	0.034	0.008	6.010	0.167
	CR20-41	4.70	0.742	0.779	1.520	0.024	0.008	6.070	0.066
PGE-2	CR19-28	4.00	0.150	0.245	0.395	0.043	0.006	5.410	0.015
North	CR20-34	3.40	0.171	0.275	0.445	0.035	0.006	5.670	0.037
	CR20-36	3.10	0.145	0.226	0.371	0.039	0.006	5.770	0.012
	CR20-37	2.70	0.162	0.253	0.415	0.043	0.006	5.740	0.010
	CR20-38	3.40	0.153	0.259	0.412	0.039	0.006	5.550	0.017

### 10.2.3 West Zone Drilling

In October 2020, the Company reported the discovery of previously unknown mineralization in four drill holes from the West Zone, with the first step out hole located about 850 m northwest of the Main Zone (see Figure 7-5). Selective drill core assay results from the West Zone are summarized in Table 10-6; not all assays were available as of the Effective Date of the Report (see Company news release dated 22 October 2020).

Table 10-6. West Zone: selective drill core assays, CR20 series diamond drill holes.

DDH	From (m)	To (m)	Interval (m)	Estimated True Width (m)	Ni (%)	Co (%)	Pd (g/t)	Pt (g/t)	Pd+Pt (g/t)	S (%)	Fe (%)
CR19-69	45.0	501.0	456.0	-	assays pending						
CR19-70	46.2	541.0	494.8	-	assays pending						
CR19-71	48.0	594.0	546.0	-	assays pending						
CR19-72	46.5	342.0	295.5	-	assays pending						

<b>AND</b>	342.0	372.0	30.0	-	0.29	0.014	0.043	0.023	0.066	0.07	7.38
incl.	351.0	372.0	21.0	-	0.31	0.014	0.045	0.026	0.071	0.09	7.37

Note: core intervals are not true widths. Canada Nickel has insufficient information to determine the attitude, either of the ultramafic body or of mineralized zones within it. True widths will be less than the core intervals by a number of factors.

The four holes intersected mineralized dunite (three of four holes both collared and ended in dunite), consistent with mineralization seen in the Main Zone, across a width of 800 m and strike length of 425 metres. The final 21 metres in the fourth hole intersected disseminated mineralization with sulphide blebs approximately 850 metres along strike from the westernmost portion of the Main Zone’s Higher-Grade Zone (Figure 10-5).

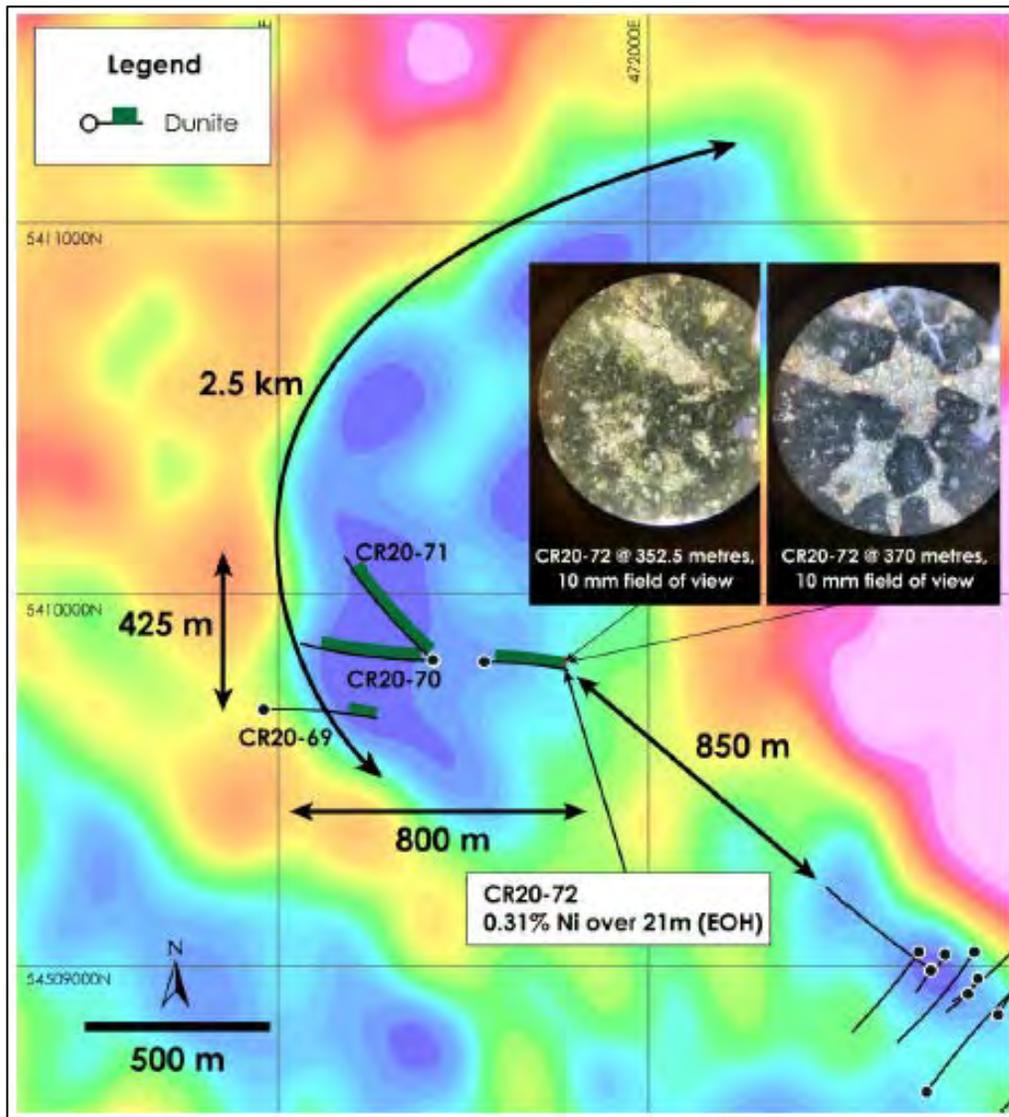


Figure 10-5. West Zone discovery holes CR20-69 through CR20-72 superimposed on 2018 gravity gradient survey (from Company news release dated 22 October 2020).

## 10.2.4 Thumb Zone Drilling

In 2019 and 2020, the Company reported six drill holes (one abandoned) from the Thumb Zone, the interpreted northern extension of the Main Zone, located about 825 m west-northwest of the East Zone and about 1 km north of the west end of the Main Zone (see Figure 7-5). Selective drill core assay results from the Thumb Zone are summarized in Table 10-7.

Table 10-7. Thumb Zone: selective drill core assays, CR20 series diamond drill holes.

DDH	From (m)	To (m)	Interval (m)	Estimated True Width (m)	Ni (%)	Co (%)	Pd (g/t)	Pt (g/t)	Pd+Pt (g/t)	S (%)	Fe (%)
<b>CR19-32</b>	123.0	135.0	12.0	-	0.02	0.007	0.900	0.900	1.800	-	-
incl.	123.0	130.5	7.5	-	0.02	0.007	1.300	1.300	2.600	-	-
<b>AND</b>	242.0	245.0	3.0	-	0.03	0.007	0.900	1.000	1.900	-	-
<b>AND</b>	277.5	289.5	12.0	-	0.03	0.008	0.500	0.500	1.000	-	-
<b>AND</b>	280.5	286.5	6.0	-	0.02	0.008	0.900	0.800	1.700	-	-
<b>AND</b>	390.0	633.0	243.0	-	0.25	0.013	0.003	0.003	0.006	0.02	6.10
incl.	438.0	633.0	195.0	-	0.27	0.013	0.003	0.003	0.006	0.02	5.80
incl.	576.0	633.0	57.0	-	0.30	0.013	0.003	0.003	0.006	0.01	5.88

Note: core intervals are not true widths. Canada Nickel has insufficient information to determine the attitude, either of the ultramafic body or of mineralized zones within it. True widths will be less than the core intervals by a number of factors.

## **11.0 SAMPLE PREPARATION, ANALYSIS AND SECURITY**

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William E. MacRae (M.Sc., P.Geo.), a Qualified Person as defined by NI 43-101, is responsible for the on-going drilling and sampling program, including quality assurance (QA) and quality control (QC), together QA/QC.

The core is marked and sampled at primarily 1.5 metre lengths and cut with a diamond blade saw. Samples are bagged with QA/QC samples inserted in batches of 35 samples per lot. Samples are transported in secure bags directly from the Company core shack to Activation Laboratories Ltd. (“Actlabs”) in Timmins. In general, the core recovery for the diamond drill holes on the Property has been better than 95% and little core loss due to poor drilling methods or procedures has been experienced.

### **11.1 Sample Collection and Transportation**

Core (NQ size core, 47.6 mm diameter) is collected from the drill into core boxes and secured in closed core trays at the drill site by the drilling contractor (NPLH Drilling of Timmins, Ontario: [www.nplhdrilling.ca](http://www.nplhdrilling.ca)), following industry standard procedures. Small wooden tags mark the distance drilled in metres at the end of each run. On each filled core box, the drill hole number and sequential box numbers are marked by the drill helper and checked by the site geologist. Once filled and identified, each core tray is covered and secured shut.

Core is delivered to the side of Highway 655 by the drilling contractor as the drilling progressed. Company personnel transport the core to the core shack from that location. Casing is being left in the completed drill holes with the casing capped and marked with a metal flag.

### **11.2 Core Logging and Sample**

The Company originally used a rented core shack in Timmins (3700 Highway 101 West), a driving distance of approximately 50 km from the Project area access point. The Company has since rented a larger facility at 170 Jaguar Drive in Timmins that is marginally closer to the Project area. The procedures described herein are those protocols at the latter facility.

Once the core boxes arrive at the logging facility in Timmins, the boxes are laid out on the logging table in order and the lids removed. The core logging process consists of two major parts: geotechnical logging and geological logging.

Core is first turned and aligned to be sure the same side of the core is being marked, cut and sampled. Core is measured and the nominal sampling interval of 1.5 metres is marked and tagged for the entirety of the drill hole by a geotechnician. Samples are identified by inserting two identical prefabricated, sequentially numbered, weather-resistant sample tags at the end of each sample interval. Magnetic susceptibility is measured at every three metre block, taking a minimum of 2 readings (averaged) and a third reading if the first two readings are significantly different. Relative density of core samples (specific gravity or SG) are calculated from core in one out of every four core boxes that contain the target ultramafic rocks. The logging geologist determines if additional SG measurements need to be made. The geotechnician writes the SG measurement directly on the

core that was measured. Core is stored sequentially, hole by hole, in racks ahead of the logging process.

Geological core logging records the lithology, alteration, texture, colour, mineralization, structure and sample intervals and pays particular attention to the target rock types (dunite and/or peridotite). Originally, all geotechnical logging, geological logging and sample data were recorded directly into a MS Office Excel spreadsheet. Currently, core logging is done directly into an MS Access based logging system and the geotechnical logging into MS Excel then uploaded into the MS Access database. As the core is logged, the target rock type (dunite and/or peridotite) is marked for sampling at a nominal sample interval of 1.5 metres, with the entire intercept of ultramafic rocks sampled in each drill hole.

Once the core is logged and photographed, the core boxes are returned to the indoor storage racks prior to being transferred to the cutting room for sampling on a box by box basis.

Sections marked for sampling are cut in half with a diamond saw located in a separate cutting room adjacent to the logging area; two saws are available for use. Once the core is cut in half it is returned to the core box. A geotechnician consistently selects the same half of the core in each interval/hole, placing the half core in a sample bag with one of the corresponding sample tags, and sealing the bag with a cable tie. Bags are also marked externally with the sample tag number. The boxes containing the remaining half core are transferred to outdoor core racks on site in the secure core storage facility.

Individual samples are placed in large polypropylene bags (rice bags), five samples to a bag, and then the larger bag secured with a cable tie. Company personnel are responsible for transporting the samples to the Actlabs Timmins analytical facility, a driving distance of approximately 3 km from the core current shack location.

### 11.3 Analytical

Activation Laboratories Ltd., a geochemical services company accredited to international standards, with assay lab ISO 17025 certification, certification to ISO 9001:2008 and CAN-P-1579 (Mineral Analysis), was used for the analytical requirements related to the Project. The Actlabs laboratory in Timmins, Ontario (the "lab") carried out the sample login/registration, sample weighing, sample preparation and analyses. Actlabs is independent of Canada Nickel, Noble and Spruce Ridge.

Platinum Group Elements ("PGE"s) palladium (Pd) and platinum (Pt), and precious metal gold (Au) were analyzed using a fire assay (FA) digestion of 30 g of sample material followed by an ICP-OES determination of concentration; Au had a detection limit of 2 ppb while Pd and Pt had detection limits of 5 ppb (Table 11-1). Base metals and other elements (total of 20 elements including Al, As, Be, Ca, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Ni, Pb, S, Sb, Si, Ti, W, Zn) with various detection limits (Table 11-1) were determined by ICP-OES following a sodium peroxide ( $\text{Na}_2\text{O}_2$ ) fusion digestion. The sodium peroxide fusion method is suitable for the "total" digestion of refractory minerals and samples with high sulphide content. For the purposes of the Report only the elements of major importance to the Project (*i.e.*, Ni, Co, Au, Pd, Pt, Fe, S) were examined in detail for an assessment

of the quality of the analytical data. The elements Au, Cr, Cu and Mg were examined in a cursory manner for the current assessment.

Table 11-1. Lower limits of detection for elements measured at Actlabs.

Element	Method	LLD	Unit	Element	Method	LLD	Unit
Au	FA-ICP	2	ppb	Li	FUS-Na2O2	0.01	%
Pt	FA-ICP	5	ppb	Mg	FUS-Na2O2	0.01	%
Pd	FA-ICP	5	ppb	Mn	FUS-Na2O2	0.01	%
Al	FUS-Na2O2	0.01	%	Ni	FUS-Na2O2	0.005	%
As	FUS-Na2O2	0.01	%	Pb	FUS-Na2O2	0.01	%
Be	FUS-Na2O2	0.001	%	S	FUS-Na2O2	0.01	%
Ca	FUS-Na2O2	0.01	%	Sb	FUS-Na2O2	0.01	%
Co	FUS-Na2O2	0.002	%	Si	FUS-Na2O2	0.01	%
Cr	FUS-Na2O2	0.01	%	Ti	FUS-Na2O2	0.01	%
Cu	FUS-Na2O2	0.005	%	W	FUS-Na2O2	0.005	%
Fe	FUS-Na2O2	0.05	%	Zn	FUS-Na2O2	0.01	%
K	FUS-Na2O2	0.1	%				

FA-ICP=fire assay with ICP-OES finish

FUS-Na2O2=sodium peroxide fusion digestion with ICP-OES finish

For statistical purposes within the Report, any analytical result that was reported to be less than the detection limit was set to one half of that detection limit (*e.g.*, a result reported as <0.5 was set to a numeric value of 0.25). Results reported to be greater than maximum value reportable, and where no corresponding over limit analysis was performed, were set to that maximum value (*e.g.*, a result reported as >15.0 was set to a numeric value of 15).

### 11.3.1 Control Samples

The Company began introducing their own internal QA/QC samples into the sample stream approximately halfway through the 2019-2020 drilling program (*i.e.*, starting with drill hole CR19-11). Prior to this point, the Company relied upon Actlabs' own use of internal monitoring of quality control to service the overall quality control of the Project.

A total of 10,934 samples were submitted by CNC to Actlabs for analysis during the current part of the Project which includes diamond drilling carried out between 2020/01/24 and 2020/08/21 predominantly in the Main and East zones. A total of 983 QA/QC samples were included in the overall sample submissions by CNC at the approximate rate of three samples per batch of 35 samples shipped to the lab; of the total number of QA/QC samples submitted, 308 of those (31.3%) were from drilling on the East Zone and the balance from the Main Zone.

Actlabs inserted internal certified reference material into the sample stream, ran blank aliquots and also carried out duplicate and replicate ("preparation split") analyses within each sample batch as part of their own internal monitoring of quality control. Replicate ("preparation split") analyses were carried out at a rate of 0.1%, less than that previously carried out (0.6%; Jobin-Bevans et al., 2020).

Four types of sample have been used to routinely examine the quality of the geochemical data. Certified reference materials (“CRM” or colloquially a “standard”) have been used to evaluate the accuracy of the analyses. A number of different reference materials for different combinations of elements were used by Actlabs during the course of the analytical work being reported on herein, including: AMIS 0346, CDN-PGMS-27, CDN-PGMS-30, CPB-2, DTS-2b, CCU-1e, PTM-1a, CD-1, GBW 07238, OREAS 45e, OREAS 74a, OREAS 77a, OREAS 77b, OREAS 78, OREAS 124, OREAS 134b, OREAS 139, OREAS 352, OREAS 621, OREAS 624, OREAS 680, OREAS 922, MP-1b, AMIS 0129, OREAS 13b, NCS DC73304, NCS DC86303, NCS DC86304, NCS DC86313, NCS DC86314, NCS DC86315, PK2, CZN-4, W 106.

CNC have inserted two different samples of CRM into the sample stream: OREAS 70P (275 samples) and OREAS 72a (52 samples).

Actlabs reruns duplicates of the prepared sample pulps (“analytical duplicates”) at the approximate rate of one in ten samples. A total of 1,788 analytical duplicates of sample material were carried out by Actlabs in the course of their work. Of those analytical duplicate analyses, 881 were performed by FA digestion and 970 by sodium peroxide fusion digestion.

In addition, Actlabs carried out 16 preparation duplicates (herein referred to as “replicate” samples). CNC refers to this type of material as their “duplicates”; they indicate to the lab for which original sample to take a second cut of the sample reject material (nominal coarse crushed size: 2 mm / No. 10 U.S. Mesh / 9 Tyler Mesh) for preparation and analysis. CNC added 328 replicate samples of this type to the sample stream. The Actlabs internal results have been included with the CNC list of replicate samples. Of all the replicate sample analyses, 343 were performed after FA digestion and 344 after sodium peroxide fusion digestion.

Actlabs performed 995 analyses of blank aliquots for Au, Pd and Pt determinations and 1,615 analyses for the 20-element suite. CNC introduced 328 samples of “blank gravel” into the sample stream.

Although CNC did not quarter core sample intervals to generate “sampling” or “field” duplicates in order to evaluate the reproducibility of the sampling procedures, the Company did submit 30 core pulp samples to referee lab, SGS Canada (see Section 11.3.2.4).

### **11.3.2 QA/QC Data Verification**

#### **11.3.2.1. Certified Reference Material**

Certified reference materials are used by Actlabs to internally monitor the accuracy of their analyses. A number of different reference materials for different combinations of elements were used during the course of the analytical work being reported on herein, including: AMIS 0346, CDN-PGMS-27, CDN-PGMS-30, CPB-2, DTS-2b, CCU-1e, PTM-1a, CD-1, GBW 07238, OREAS 45e, OREAS 74a, OREAS 77a, OREAS 77b, OREAS 78, OREAS 124, OREAS 134b, OREAS 139, OREAS 352, OREAS 621, OREAS 624, OREAS 680, OREAS 922, MP-1b, AMIS 0129, OREAS 13b, NCS DC73304, NCS DC86303, NCS DC86304, NCS DC86313, NCS DC86314, NCS DC86315, PK2, CZN-4, W 106. For the purpose of the Report we have focused on the results of five reference materials in the preceding

list (*i.e.*, CDN-PGMS-27, CDN-PGMS-30, OREAS 74a OREAS 922 and DTS-2b) plus the reference material submitted for analysis by CNC (OREAS 70P and OREAS 72a) as they report certified values in the expected concentration ranges similar to the samples of drill core that was submitted to Actlabs for analysis. It should be noted though that CRM OREAS 70P does not have certified reference values for analyses that include a sodium peroxide fusion digestion; in addition the certified reference values for Pd and Pt are below the detection limits while that for Au is very low (13 ppb Au) for the chosen analytical method.

It is observed that in general the analyses for the certified reference material examined in detail averaged within two standard deviations of the certified concentrations over the span of the laboratory work and that, over time, averaged close to their certified concentration; this gives reason that the accuracy of the analyses be considered as acceptable. Examples of the Actlabs CRM responses are shown in Figures 11-1 to 11-14. Caveats to this paragraph follow below.

It is noted that the average Ni and Co analyses for CRM OREAS 70P were higher than their certified reference values (0.380% Ni vs. 0.273% Ni and 0.013% Co vs. 0.009% Co) as were the average Ni analyses for CRM OREAS 72a (0.714% Ni vs. 0.692% Ni). The variance in the analyses for each CRM was negligible. The PGE analyses for CRM OREAS 72a were dominantly lower than the expected (*i.e.*, certified reference) values for those elements.

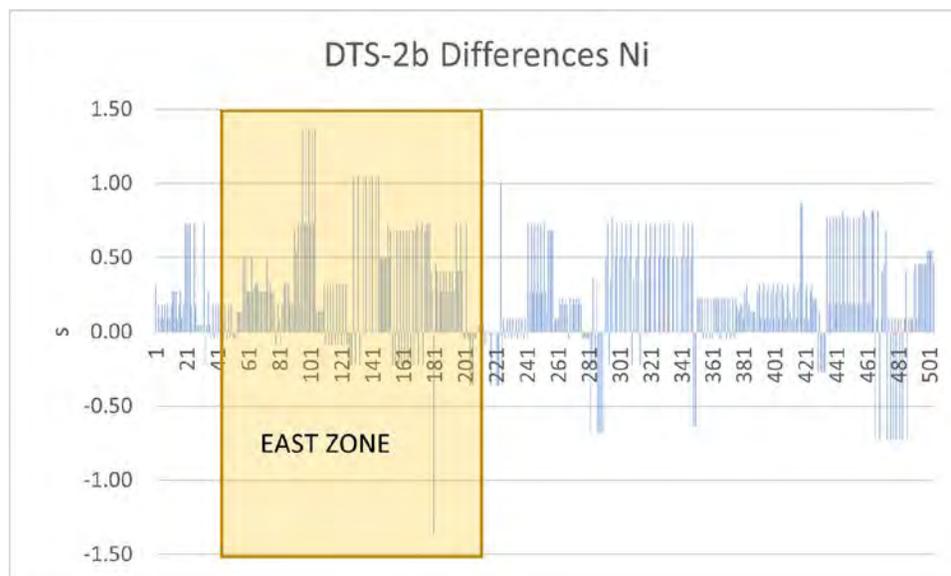


Figure 11-1. CRM DTS-2b: Number of standard deviations difference for Ni analysis from the Certified Value for various analytical runs. Samples specific to the East Zone are indicated by shaded rectangle.

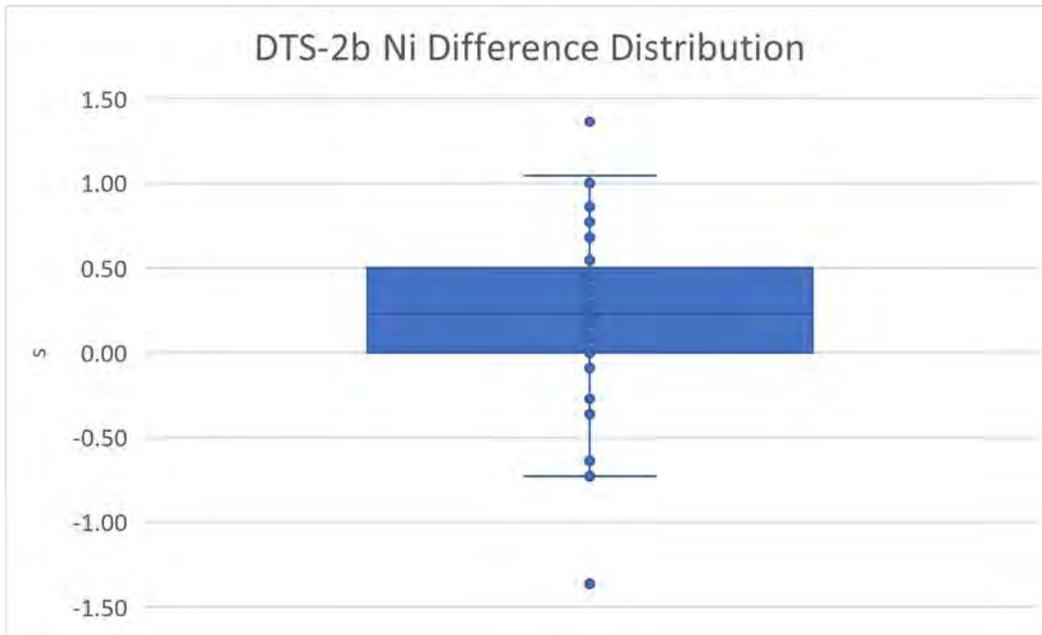


Figure 11-2. CRM DTS-2b: Distribution of standard deviations difference for Ni analysis from the Certified Value.

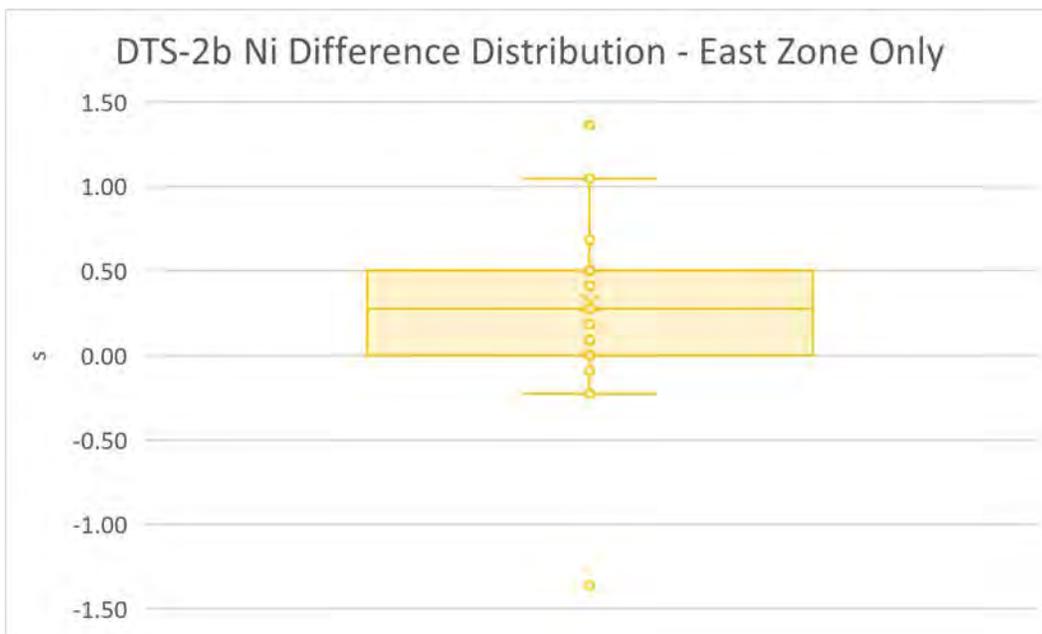


Figure 11-3. CRM DTS-2b: Distribution of standard deviations difference for Ni analysis from the Certified Value for the East Zone only.

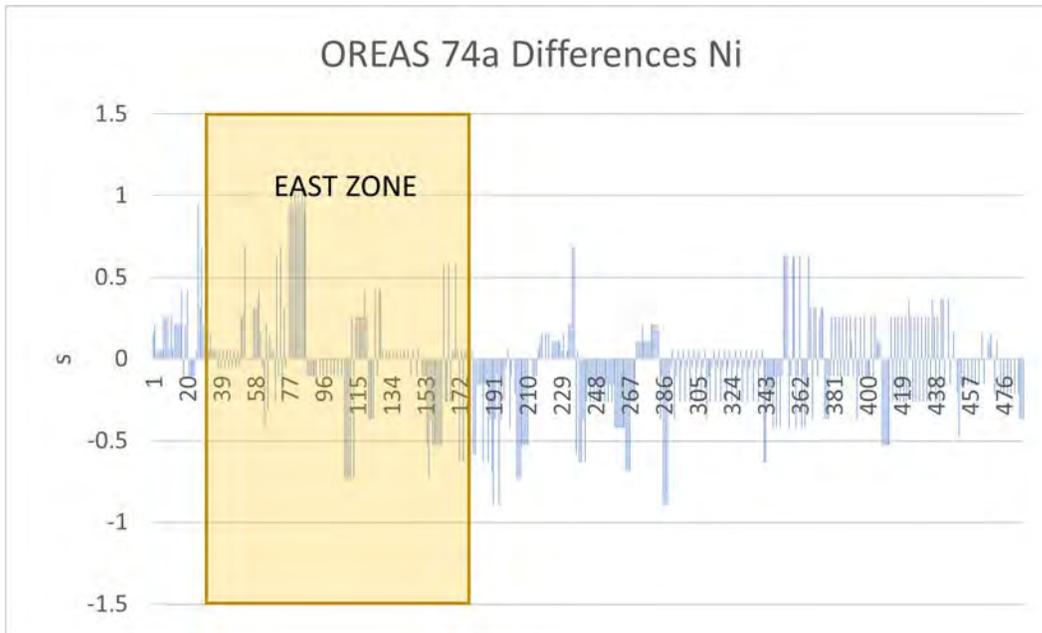


Figure 11-4. CRM OREAS 74a: Number of standard deviations difference for Ni analysis from the Certified Value for various analytical runs. Samples specific to the East Zone are indicated by shaded rectangle.

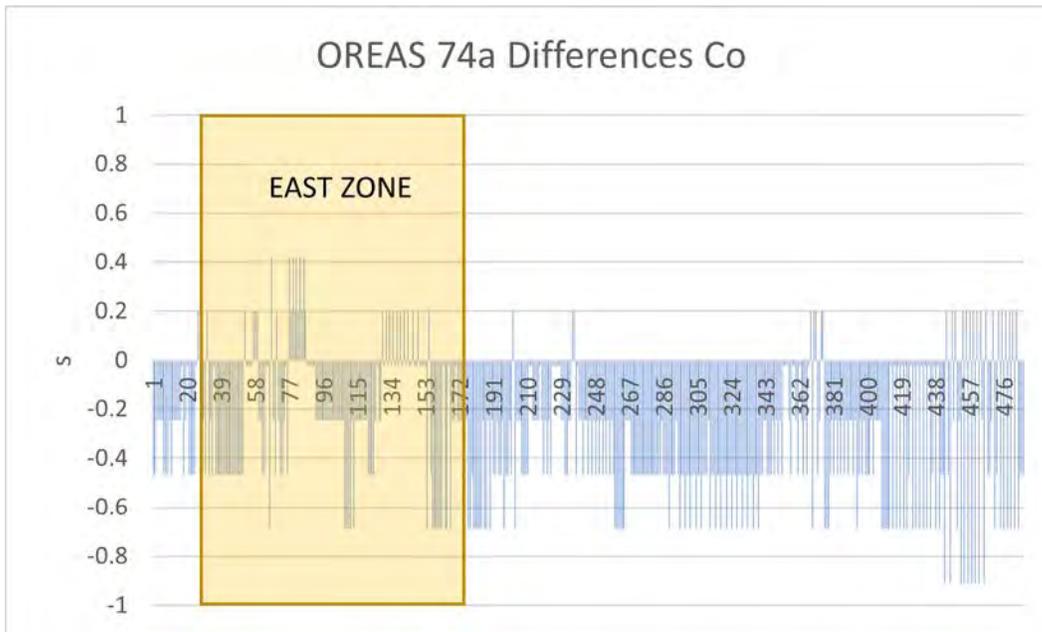


Figure 11-5. CRM OREAS 74a: Number of standard deviations difference for Co analysis from the Certified Value for various analytical runs. Samples specific to the East Zone are indicated by shaded rectangle.

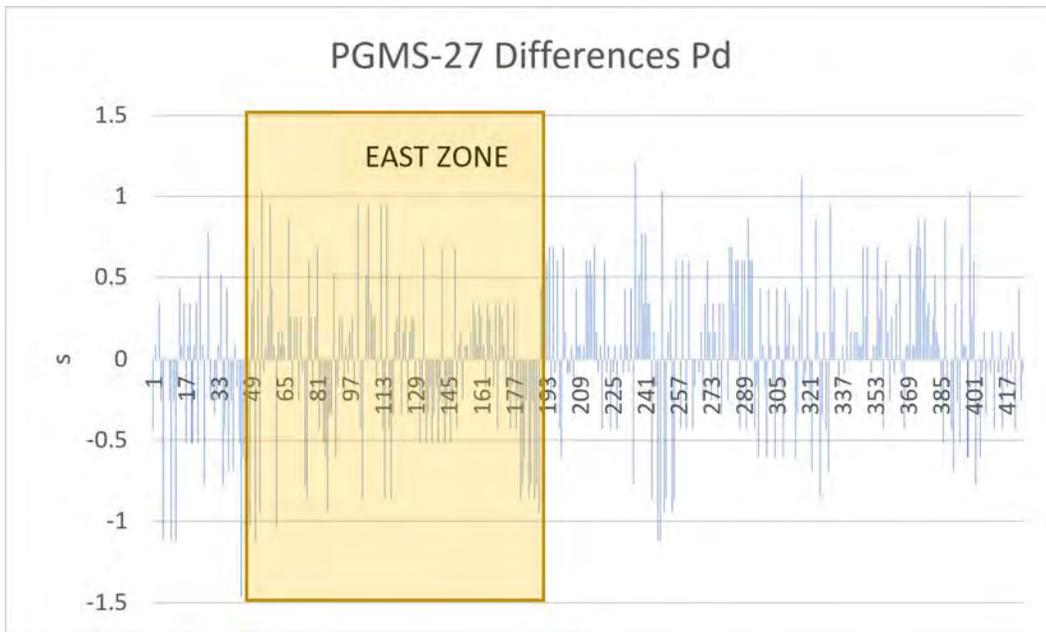


Figure 11-6. CRM CDN-PGMS-27: Number of standard deviations difference for Pd analysis from the Certified Value for various analytical runs. Samples specific to the East Zone are indicated by shaded rectangle.

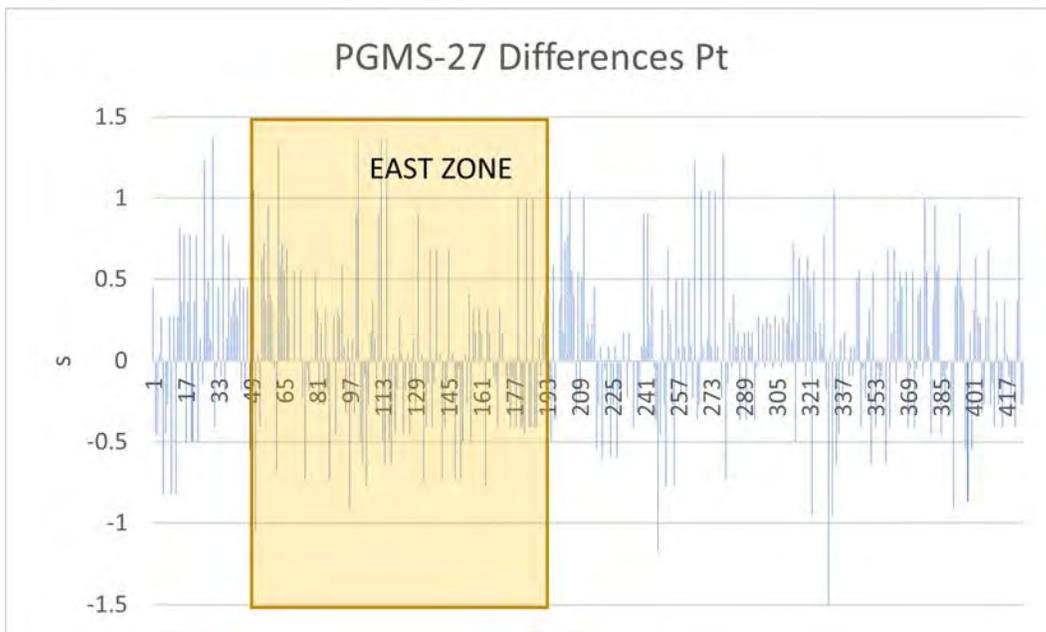


Figure 11-7. CRM CDN-PGMS-27: Number of standard deviations difference for Pt analysis from the Certified Value for various analytical runs. Samples specific to the East Zone are indicated by shaded rectangle.

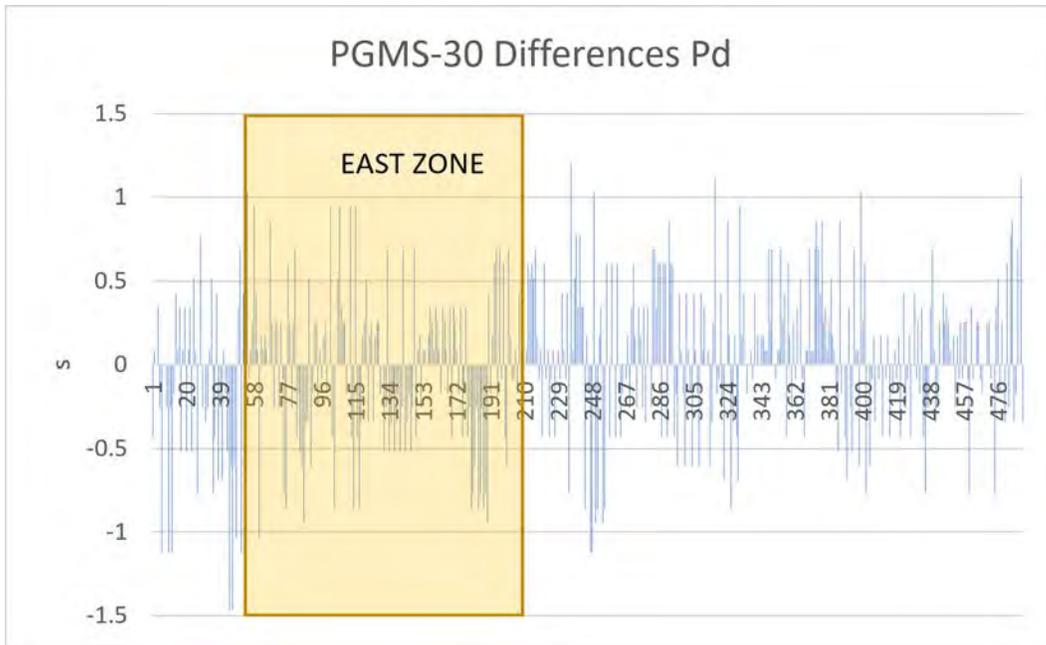


Figure 11-8. CRM CDN-PGMS-30: Number of standard deviations difference for Pd analysis from the Certified Value for various analytical runs. Samples specific to the East Zone are indicated by shaded rectangle.

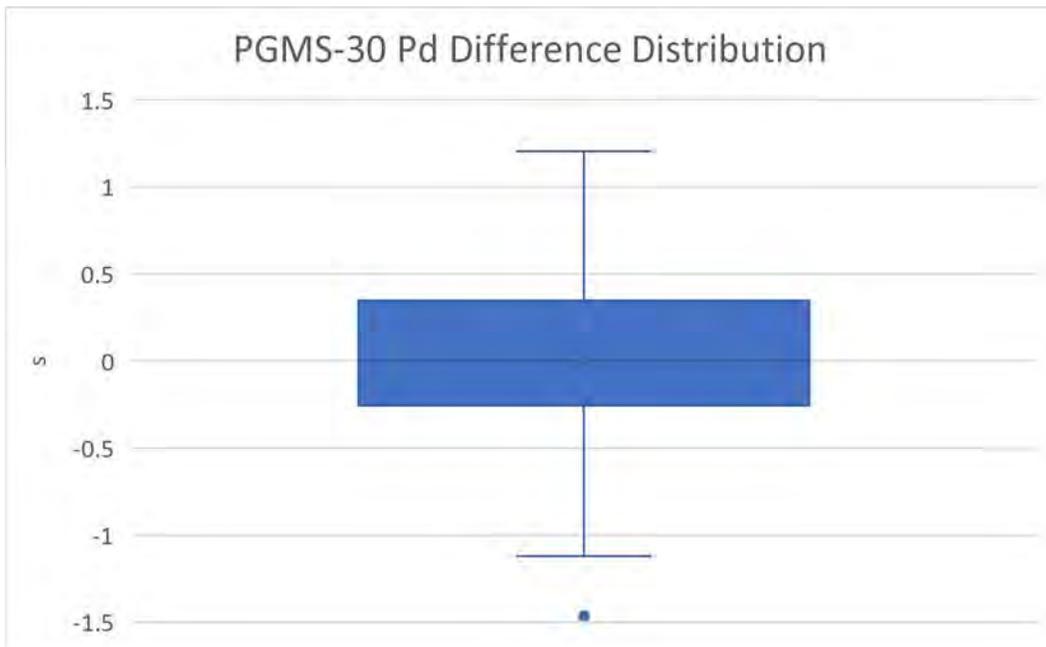


Figure 11-9. CRM CDN-PGMS-30: Distribution of standard deviations difference for Pd analysis from the Certified Value.

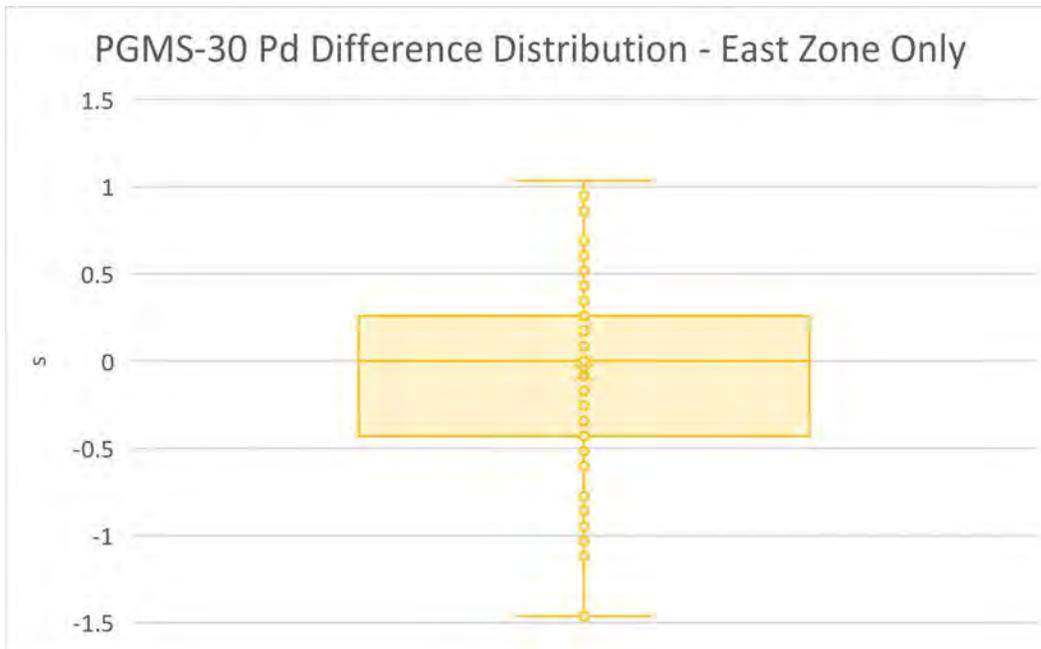


Figure 11-10. CRM CDN-PGMS-30: Distribution of standard deviations difference for Pd analysis from the Certified Value for the East Zone only.

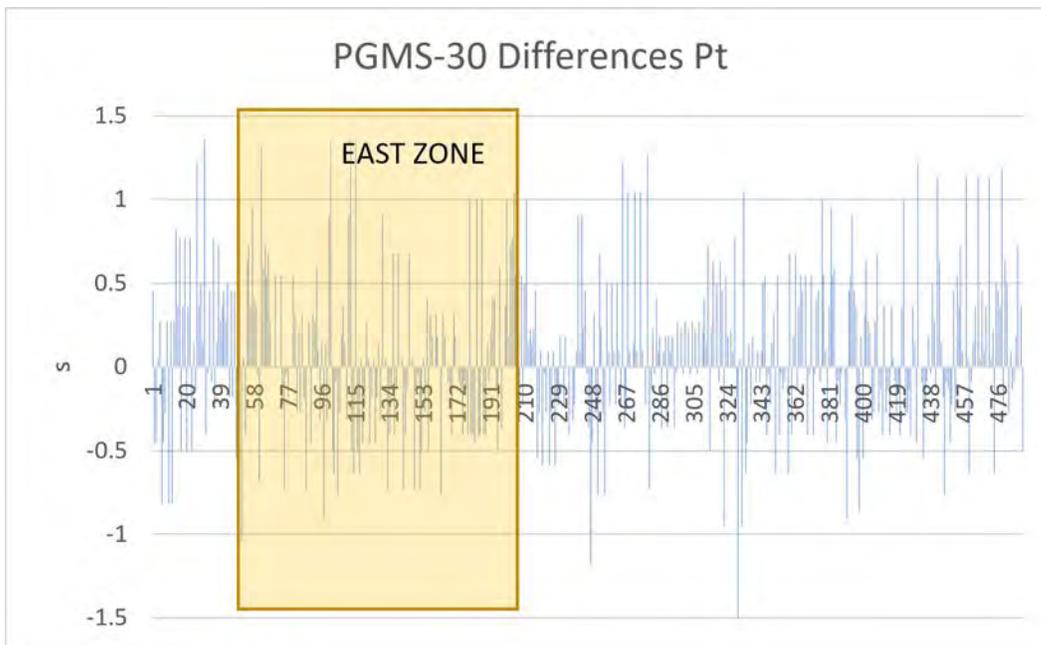


Figure 11-11. CRM CDN-PGMS-30: Number of standard deviations difference for Pt analysis from the Certified Value for various analytical runs. Samples specific to the East Zone are indicated by shaded rectangle.

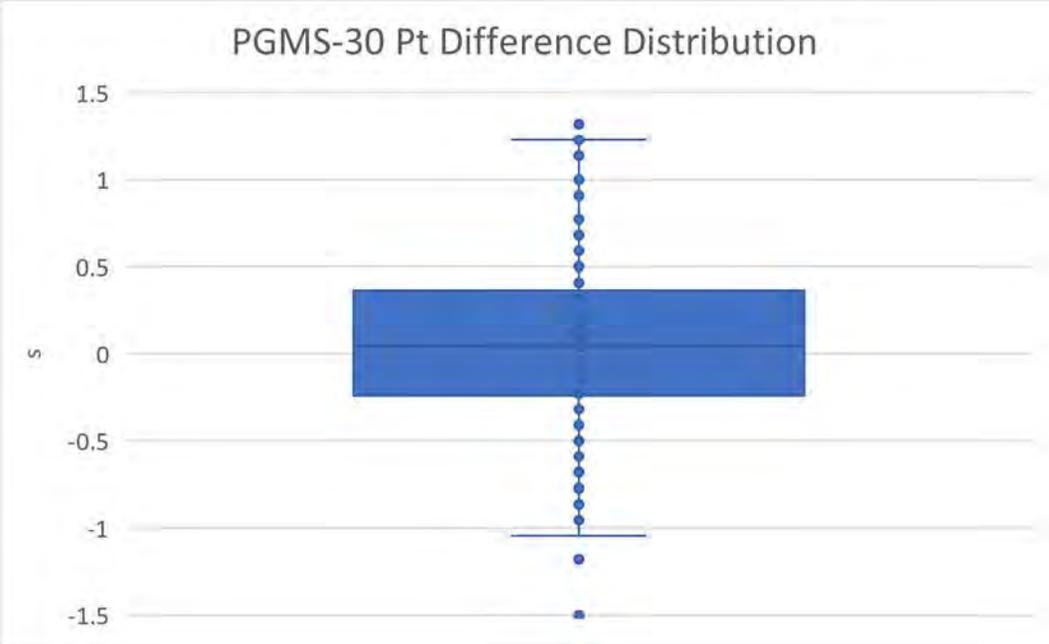


Figure 11-12. CRM CDN-PGMS-30: Distribution of standard deviations difference for Pt analysis from the Certified Value.

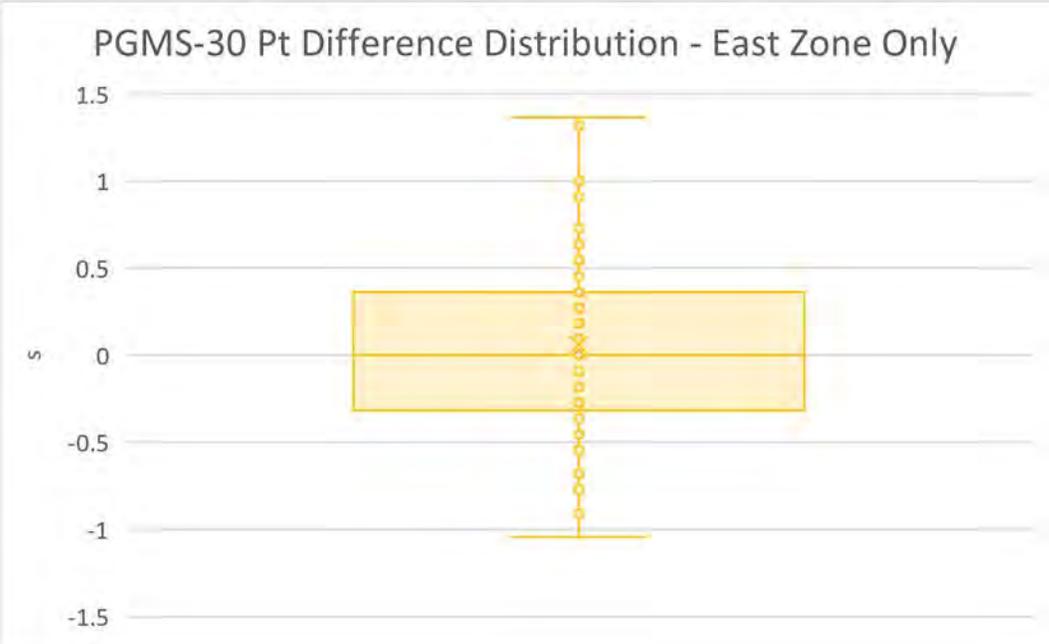


Figure 11-13. CRM CDN-PGMS-30: Distribution of standard deviations difference for Pt analysis from the Certified Value for the East Zone only.

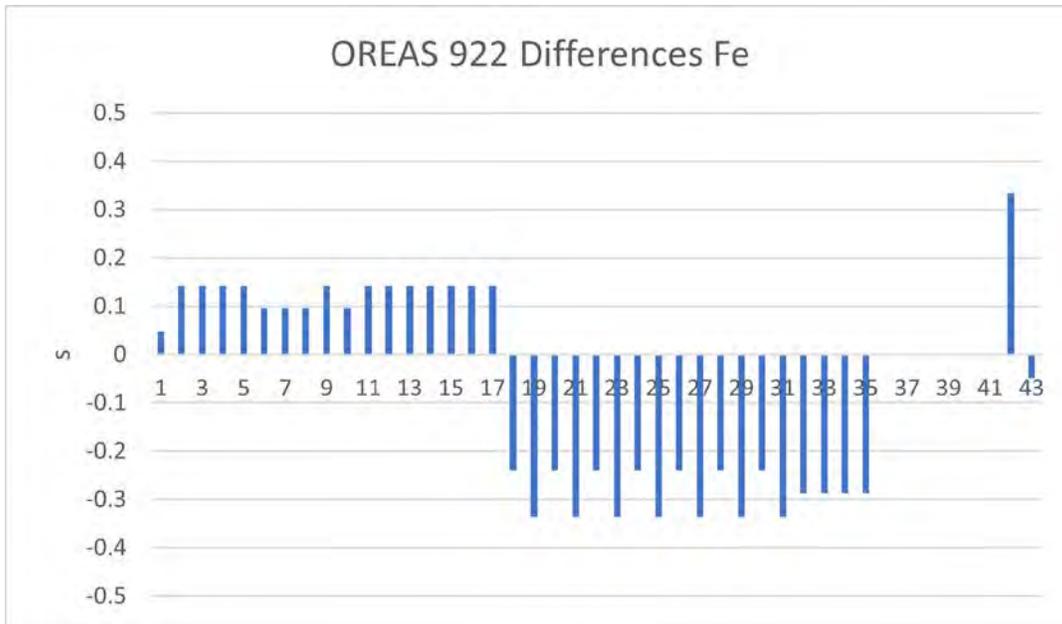


Figure 11-14. CRM OREAS 922: Number of standard deviations difference for Fe analysis from the Certified Value for various analytical runs.

It is noted that the average Ni analysis for CRM OREAS 70P was higher than the certified reference value (0.286% Ni vs. 0.273% Ni), though this average is closer to the certified reference value than that previously observed (0.380% Ni as reported by Jobin-Bevans et al., *ibid*). Around 36% of the analyses had a relative difference of greater than two (2) standard deviations with a mean relative difference of 1.92 standard deviations (Figure 11-15).

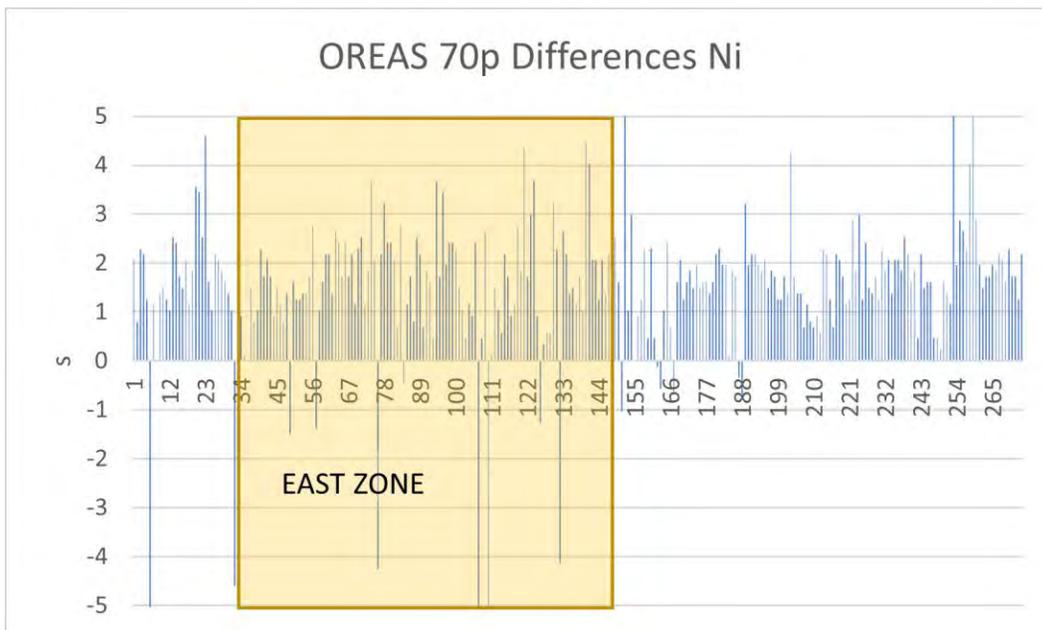


Figure 11-15. CRM OREAS 70P: Number of standard deviations difference for Ni analysis from the Certified Value for various analytical runs. Samples specific to the East Zone are indicated by shaded rectangle.

Three reported analyses of CRM OREAS 70P returned exceptionally low concentrations of Ni (in the range from 0.127% Ni to 0.180% Ni); it is thought that these reported values are transcription errors as the surrounding sequential sample numbers report similar concentrations of Ni.

The average Ni analyses for CRM OREAS 72a were also higher than the certified reference value (0.731% Ni vs. 0.692% Ni) while Co analyses were similar to the certified reference value (Figures 11-16 and 11-17). The variance in the analyses for each CRM was negligible. The PGM analyses for CRM OREAS 72a were *lower* than the expected (*i.e.*, certified reference) values for Pd but accurate for Pt. These anomalies do not significantly influence the validity of the core analyses.

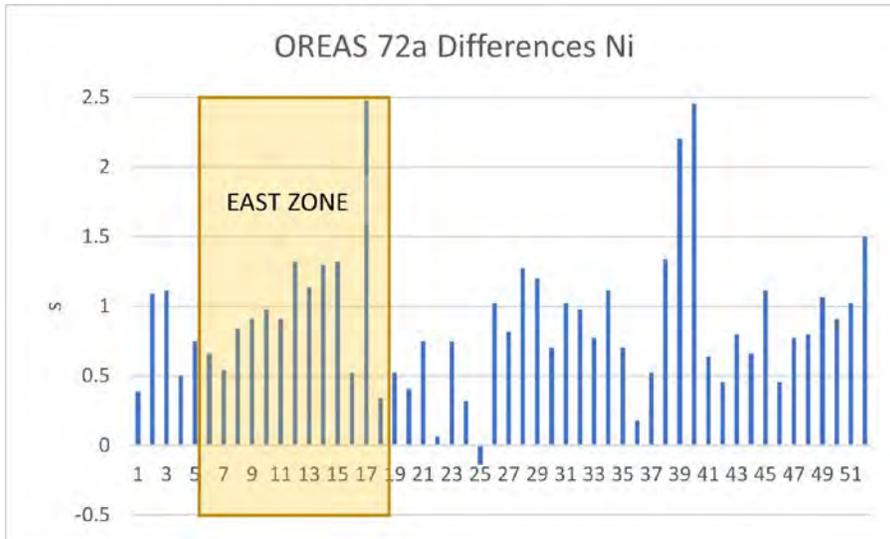


Figure 11-16. CRM OREAS 72a: Number of standard deviations difference for Ni analysis from the Certified Value for various analytical runs. Samples specific to the East Zone are indicated by shaded rectangle.

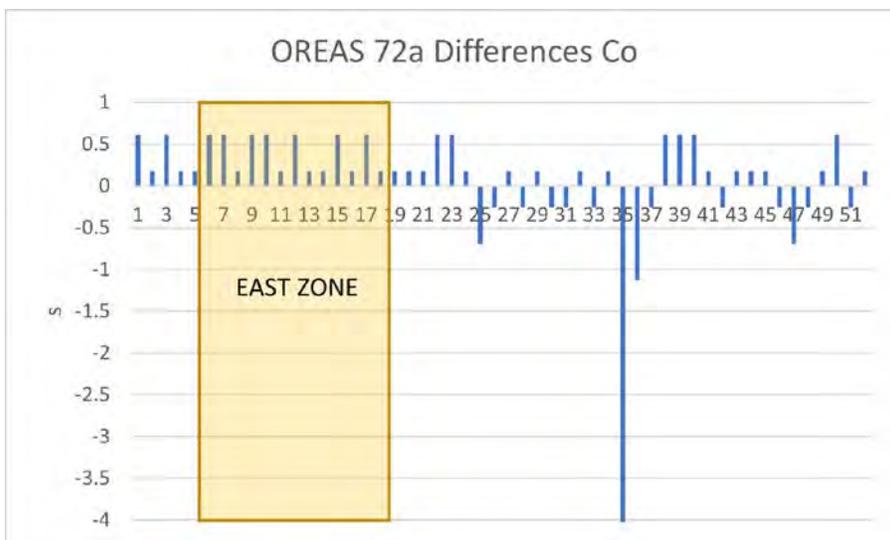


Figure 11-17. CRM OREAS 72a: Number of standard deviations difference for Co analysis from the Certified Value for various analytical runs. Samples specific to the East Zone are indicated by shaded rectangle.

### 11.3.2.2. Duplicate Samples – Analytical Duplicates

In general the duplicate material for the platinum group metals analyses has indicated good reproducibility of the assays (Figures 11-18 to 11-25).

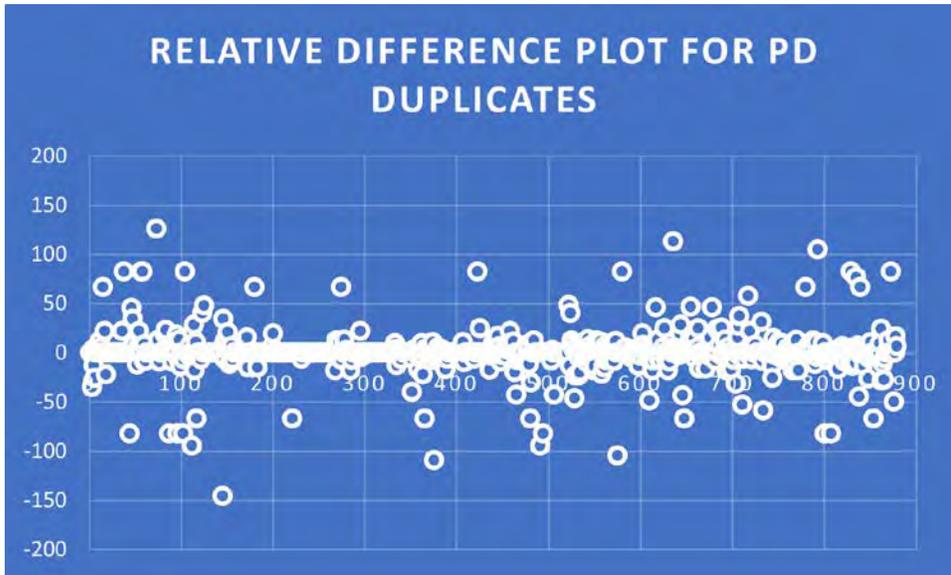


Figure 11-18. Relative % difference of pairs of duplicate samples analyzed for Pd.

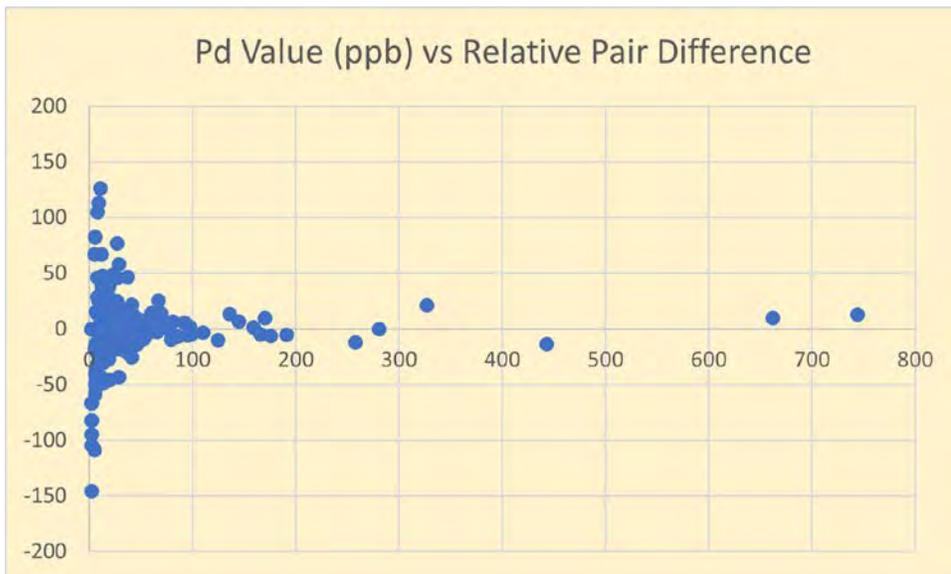


Figure 11-19. Relative % difference of pairs of duplicate samples analyzed for Pd vs the absolute concentration of the original analysis.

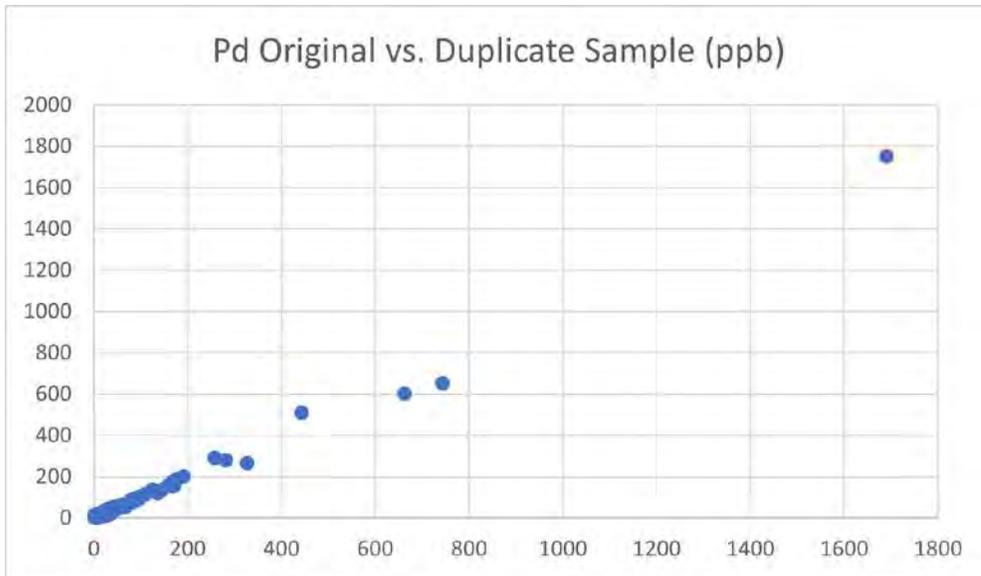


Figure 11-20. Plot of absolute concentrations of pairs of duplicate samples analyzed for Pd.

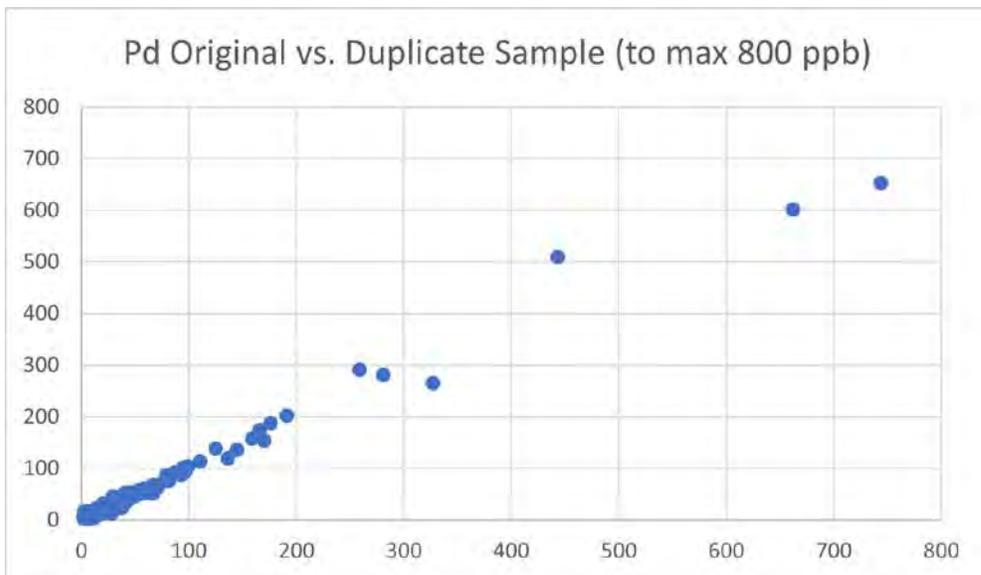


Figure 11-21. Plot of absolute concentrations of pairs of duplicate samples analyzed for Pd to a maximum of 800 ppb.

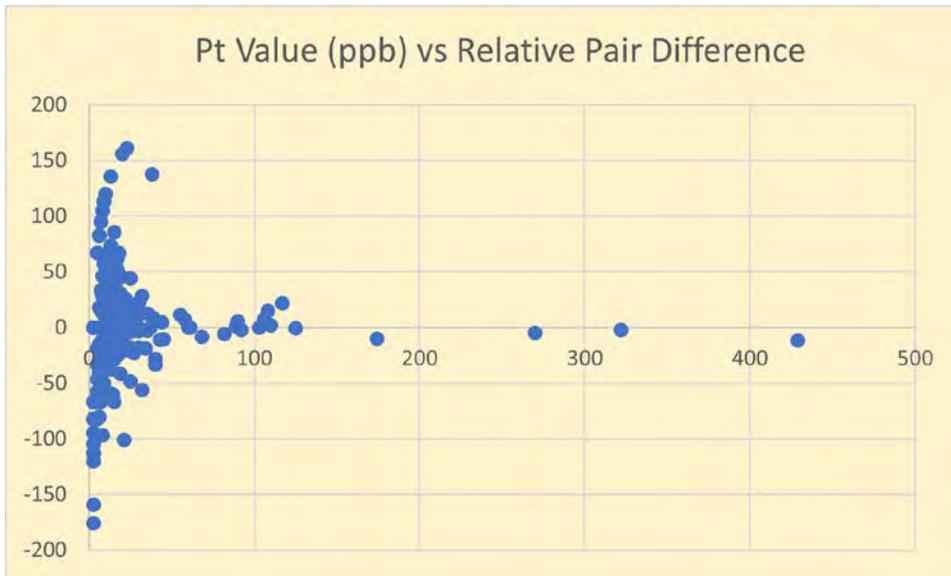


Figure 11-22. Relative % difference of pairs of duplicate samples analyzed for Pt.

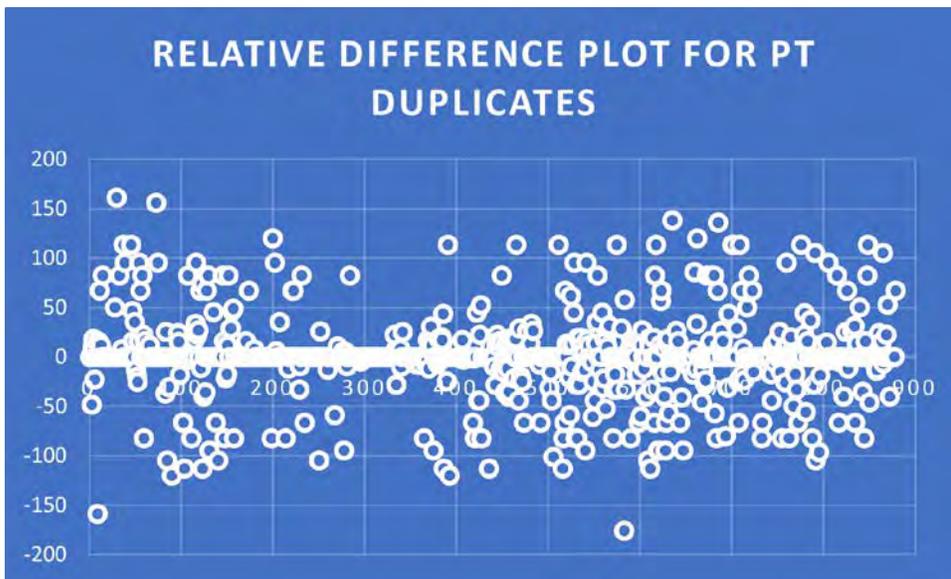


Figure 11-23. Relative % difference of pairs of duplicate samples analyzed for Pt vs the absolute concentration of the original analysis.

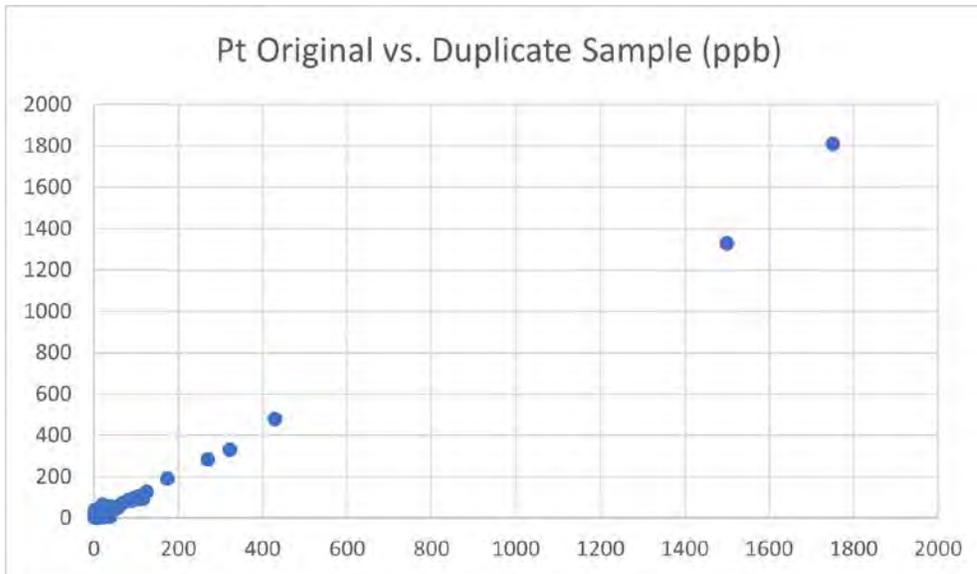


Figure 11-24. Plot of absolute concentrations of pairs of duplicate samples analyzed for Pt.

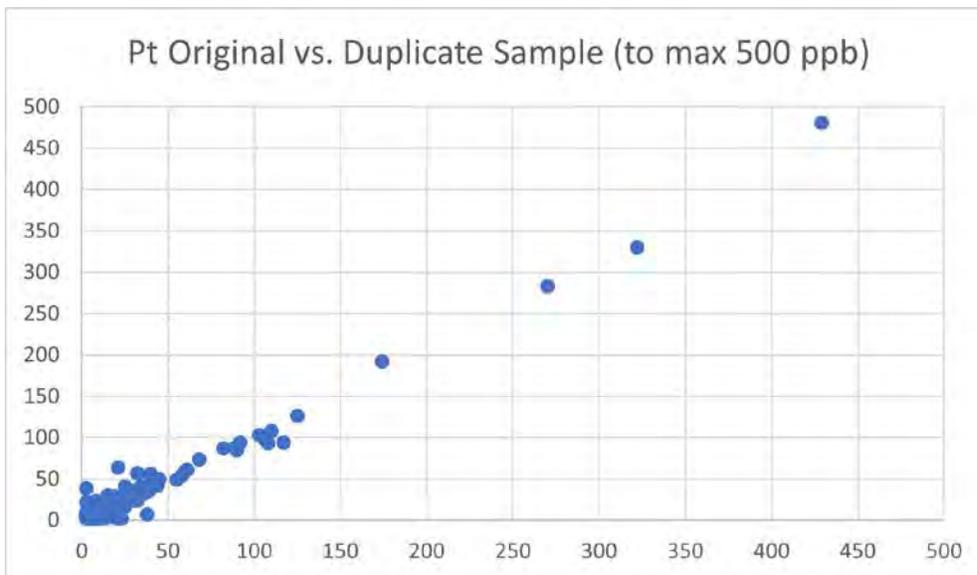


Figure 11-25. Plot of absolute concentrations of pairs of duplicate samples analyzed for Pt to a maximum of 500 ppb.

Where relative differences of over 100% are observed, sample pairs generally exhibit low absolute concentrations of the precious metals (see Figures 11-18 and 11-23); the order of magnitude difference at those levels is not considered to be of importance.

The relative differences for Ni, Co and S were generally under 20% with only a few exceptions (Figures 11-26 to 11-31). Again, this appears to be a case where exceptionally low Ni or Co values were returned and as such the relative difference is not considered to be of importance. The results for S were similar to those for the precious metals, i.e. where relative differences of over 100% are

observed, sample pairs generally exhibit low absolute concentrations of the precious metals and the order of magnitude difference at those levels is not considered to be of importance.

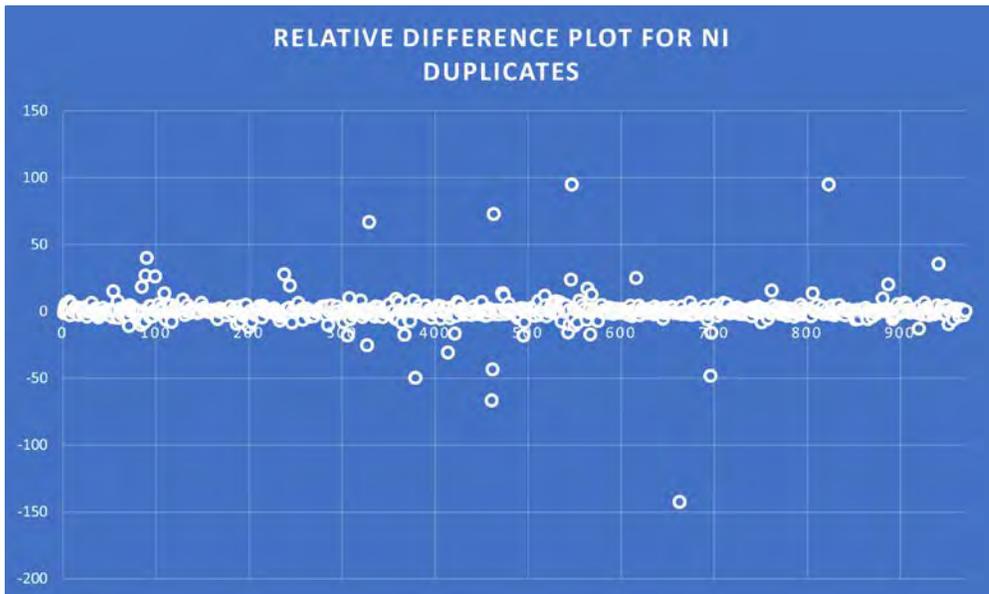


Figure 11-26. Relative % difference of pairs of duplicate samples analyzed for Ni.

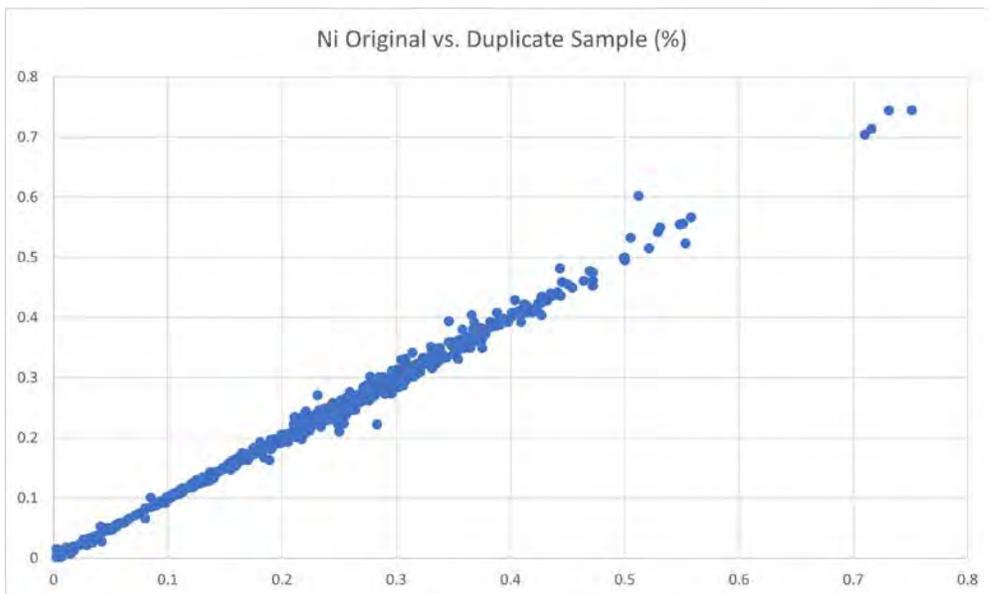


Figure 11-27. Plot of absolute concentrations of pairs of duplicate samples analyzed for Ni.

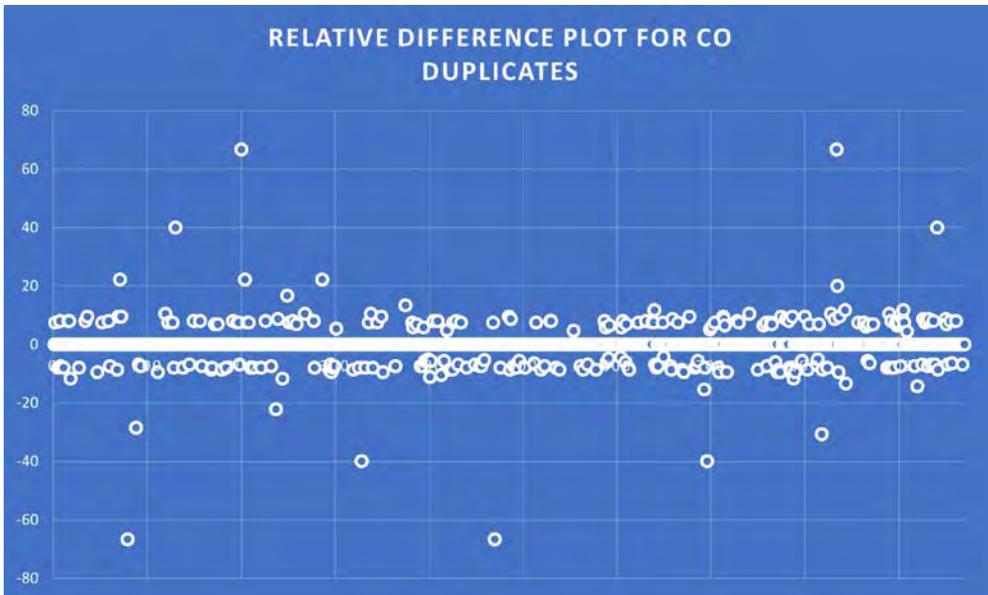


Figure 11-28. Relative % difference of pairs of duplicate samples analyzed for Co.

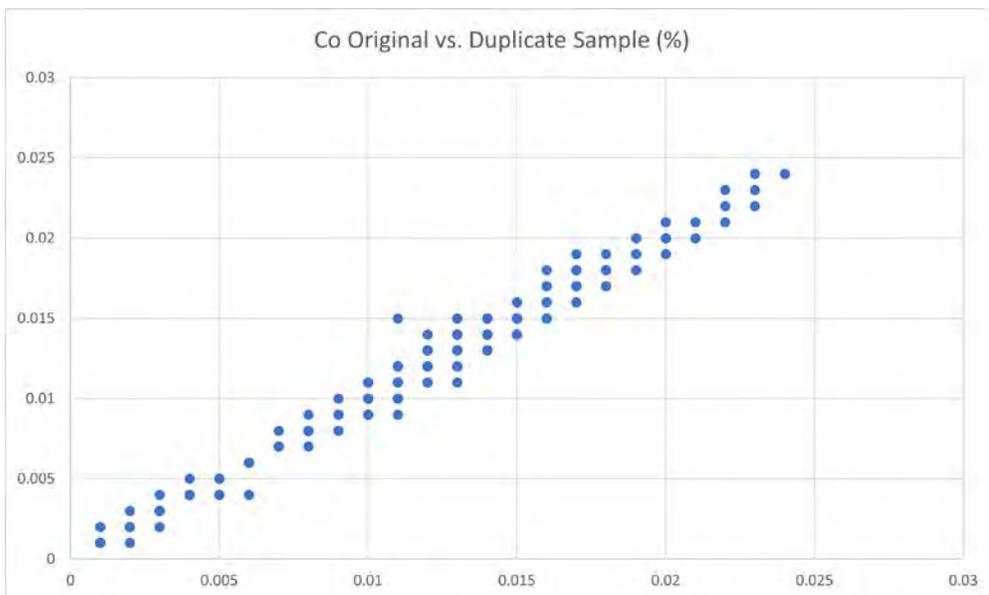


Figure 11-29. Plot of absolute concentrations of pairs of duplicate samples analyzed for Co.

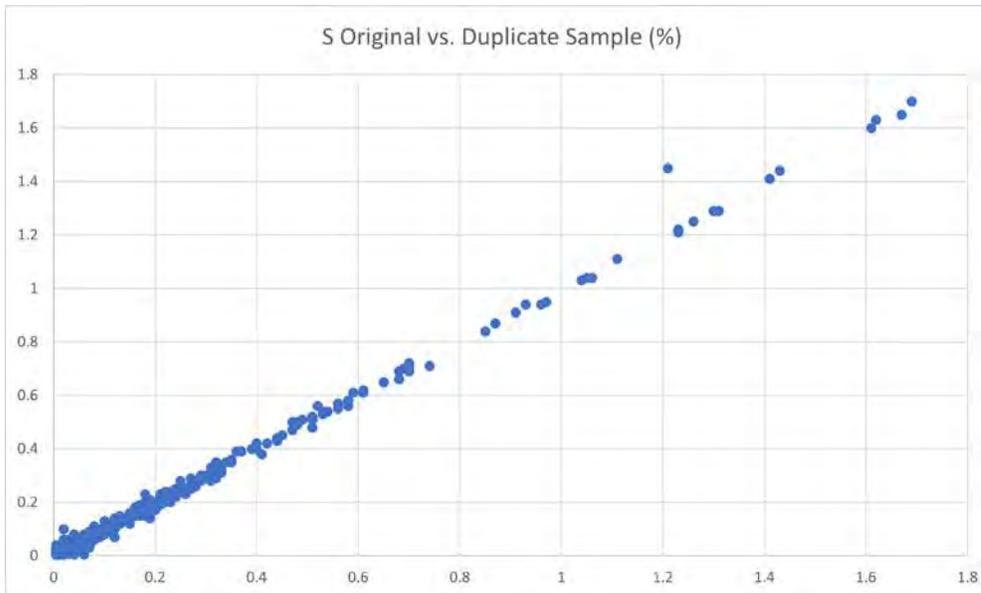


Figure 11-30. Relative % difference of pairs of duplicate samples analyzed for S.

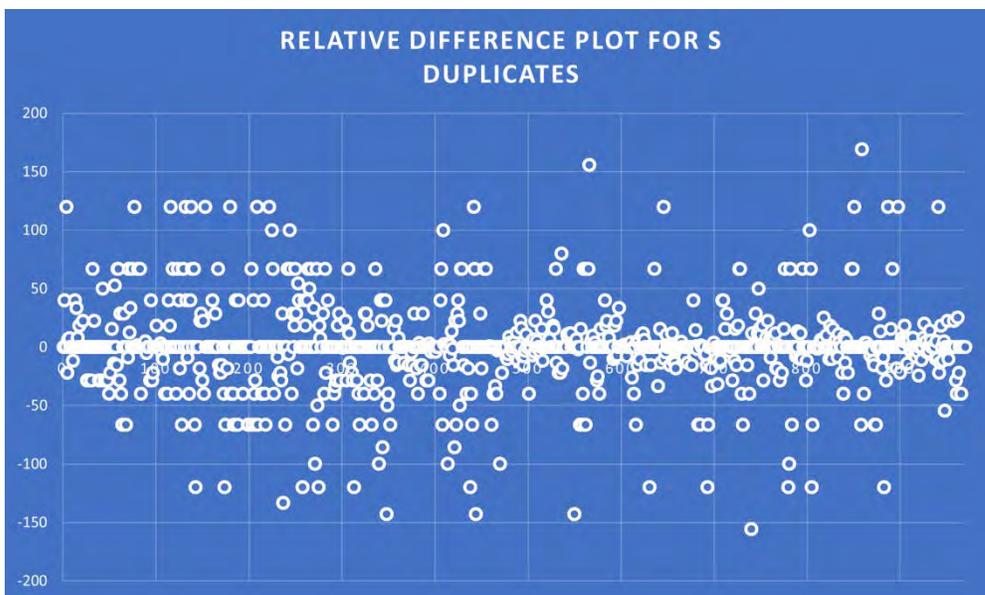


Figure 11-31. Plot of absolute concentrations of pairs of duplicate samples analyzed for S.

### 11.3.2.3. Replicate Samples – Preparation Duplicates

In general, the replicate material for the precious metal analyses has indicated reasonable reproducibility of the assays, though with some degree of a “nuggety” response especially for Pd (Figures 11-32 to 11-39). As is the case for the duplicate samples, where relative differences of over 100% are observed, sample pairs generally exhibit low absolute concentrations of the precious metals.

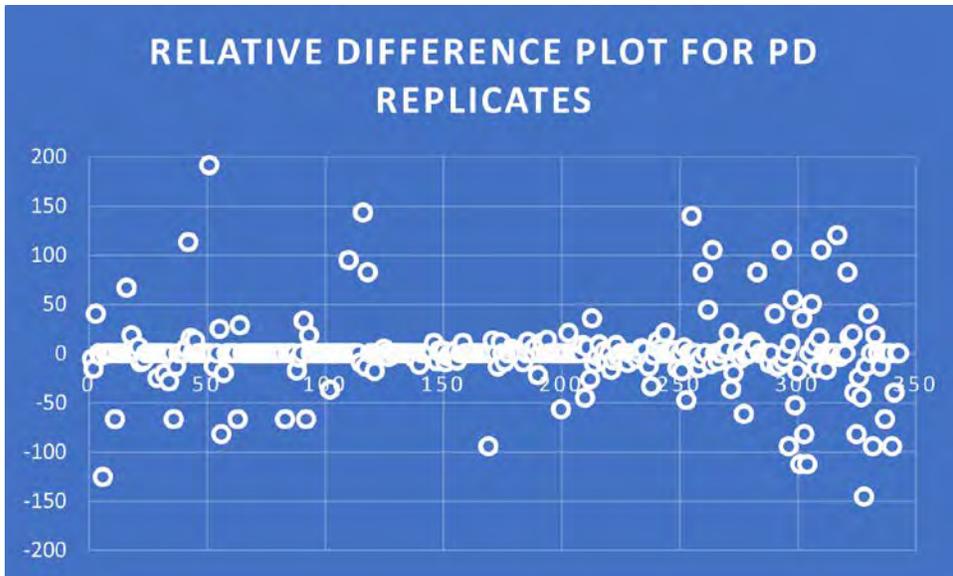


Figure 11-32. Relative % difference of pairs of replicate samples analyzed for Pd.

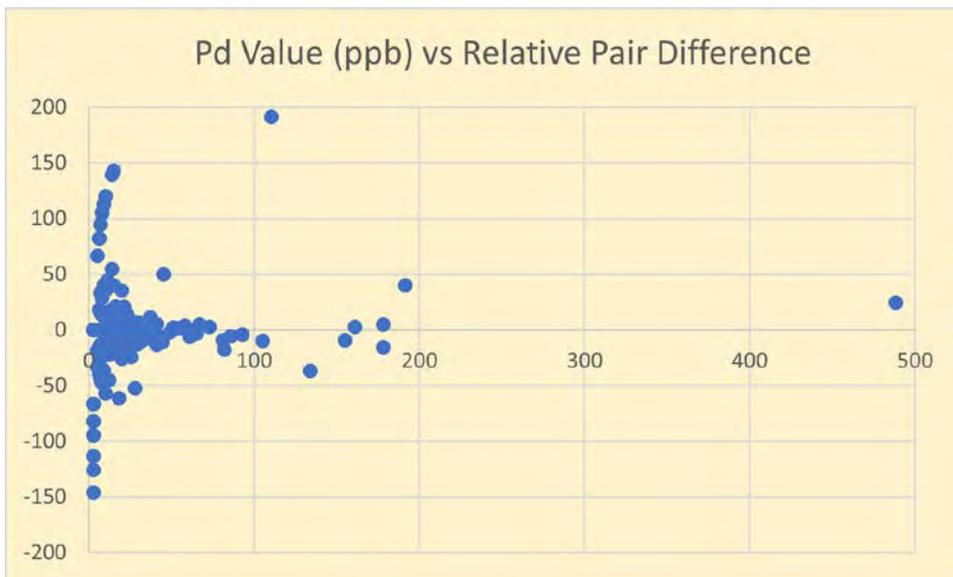


Figure 11-33. Relative % difference of pairs of replicate samples analyzed for Pd vs the absolute concentration of the original analysis.

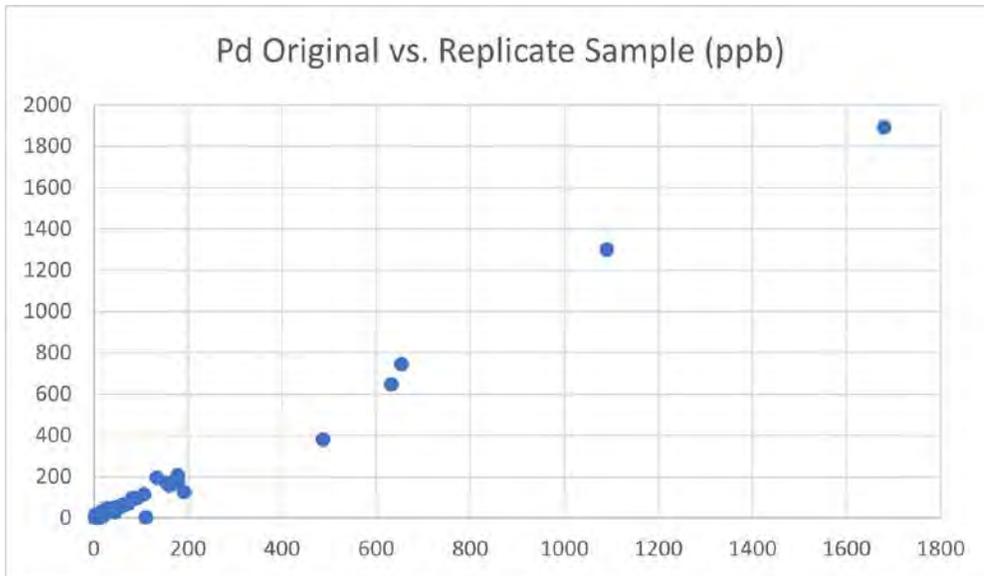


Figure 11-34. Plot of absolute concentrations of pairs of replicate samples analyzed for Pd.

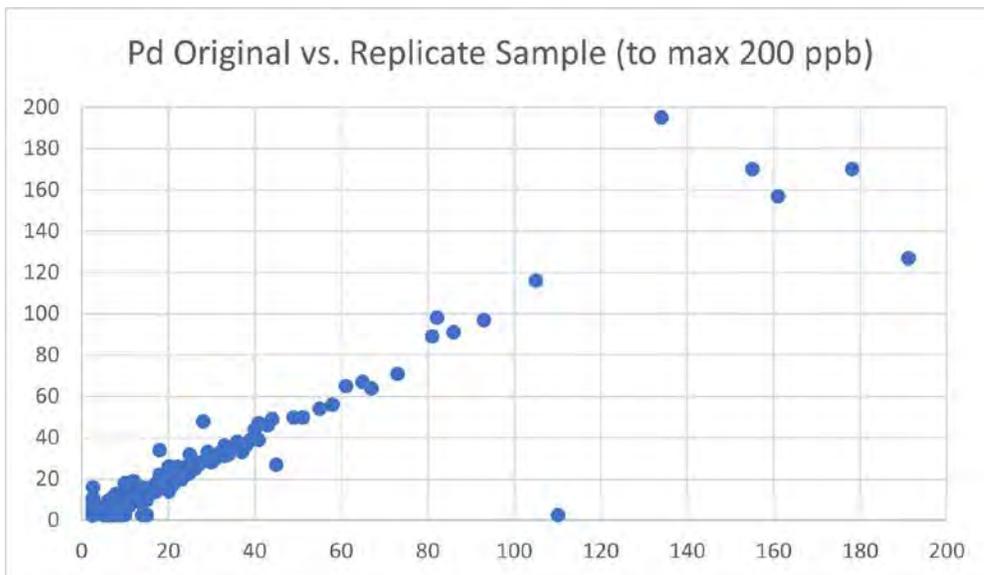


Figure 11-35. Plot of absolute concentrations of pairs of replicate samples analyzed for Pd to a maximum of 800 ppb.

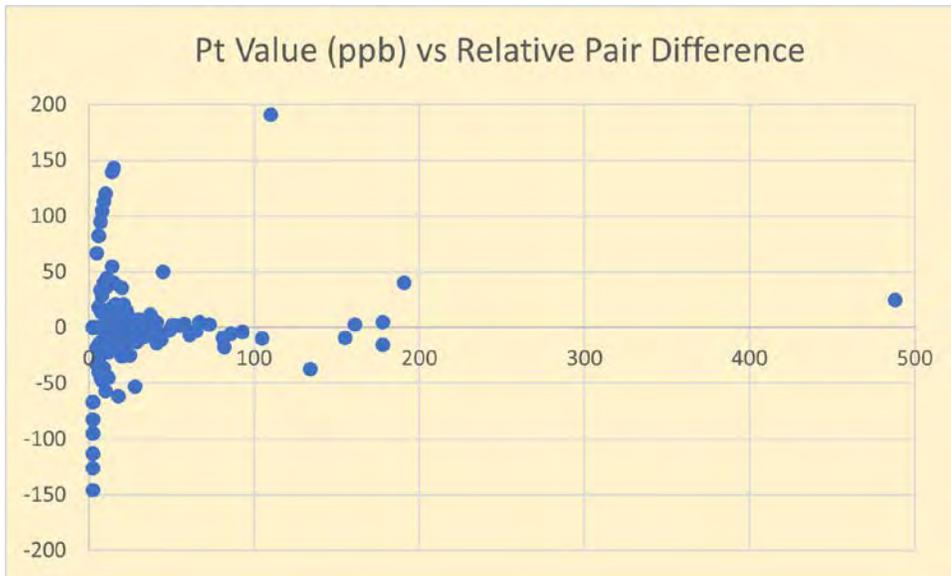


Figure 11-36. Relative % difference of pairs of replicate samples analyzed for Pt.

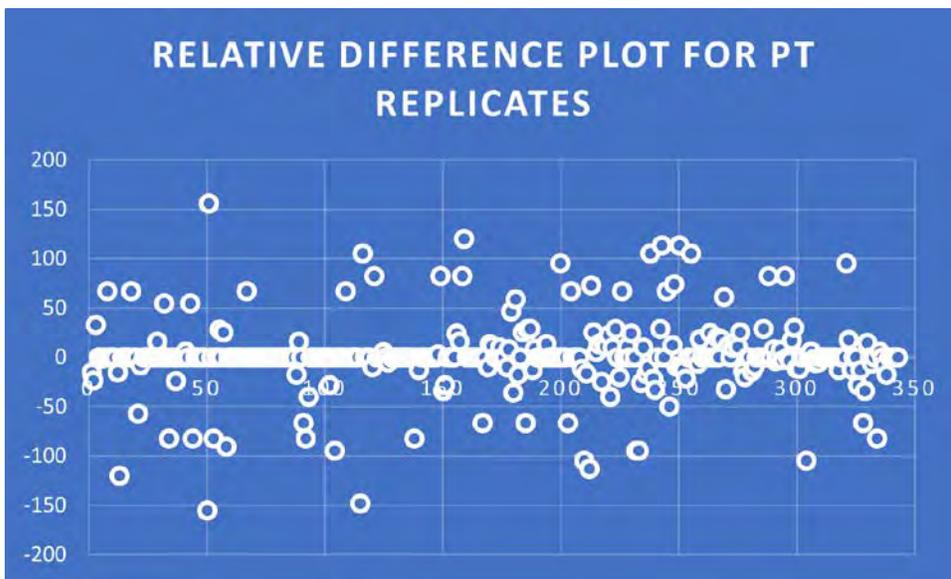


Figure 11-37. Relative % difference of pairs of replicate samples analyzed for Pt vs the absolute concentration of the original analysis.

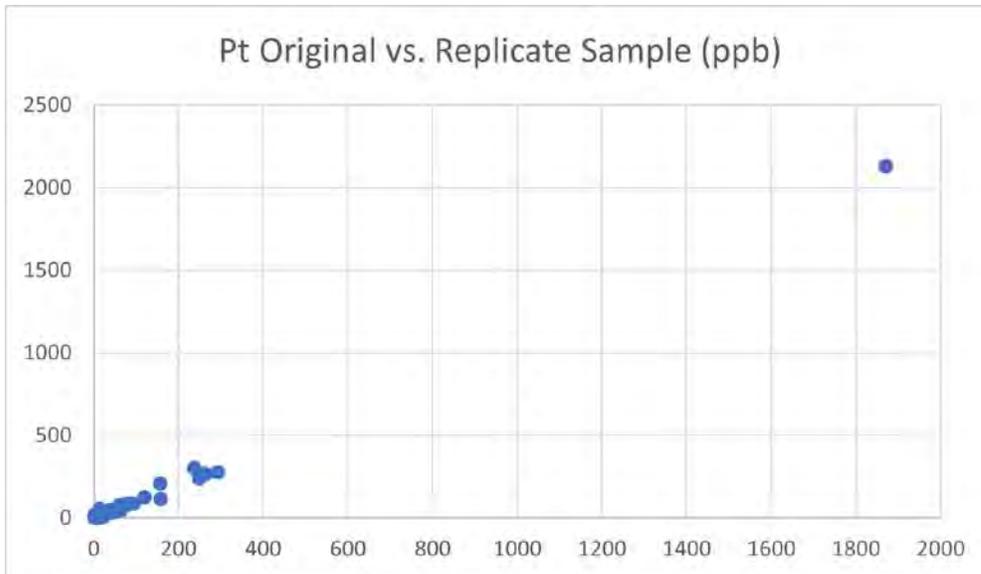


Figure 11-38. Plot of absolute concentrations of pairs of replicate samples analyzed for Pt.

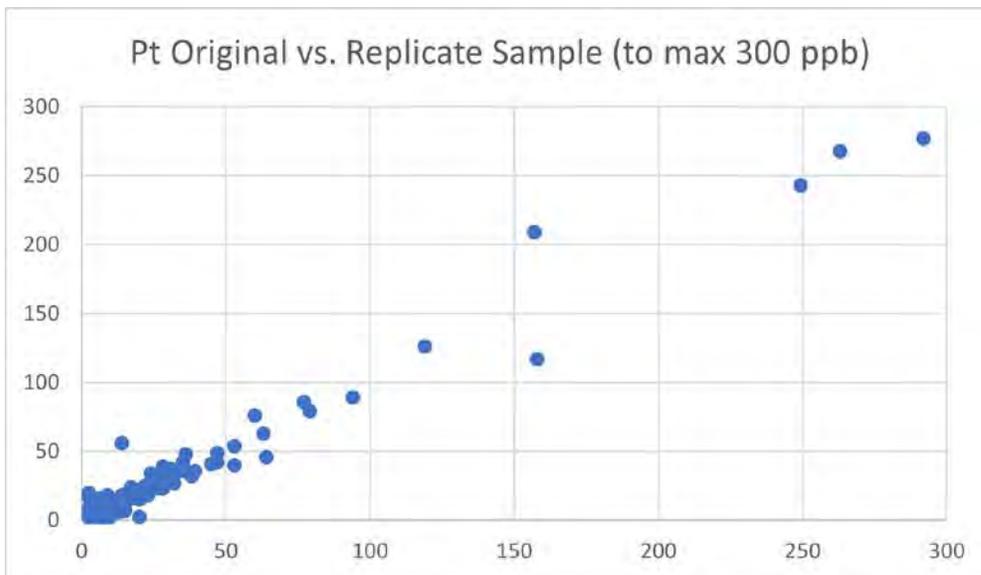


Figure 11-39. Plot of absolute concentrations of pairs of replicate samples analyzed for Pt to a maximum of 500 ppb.

The relative differences for Ni and Co were generally under 20% with only a few exceptions (Figures 11-40 to 11-43). Again, this appears to be a case where exceptionally low Ni or Co values were returned and as such the relative difference is not considered to be of importance. Extreme differences occur within the same time frame as the analysis of blank aliquots noted in the “Blanks” section below.

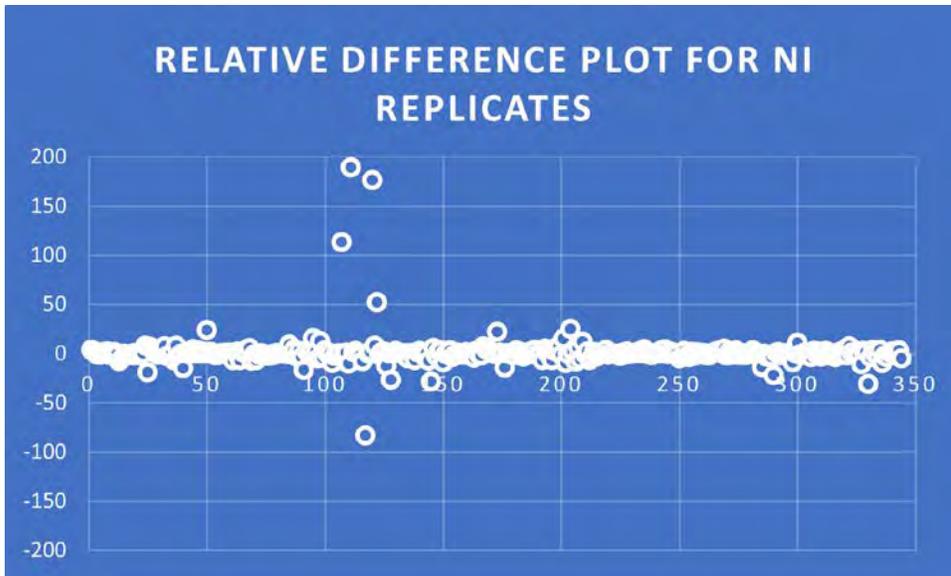


Figure 11-40. Relative % difference of pairs of replicate samples analyzed for Ni.

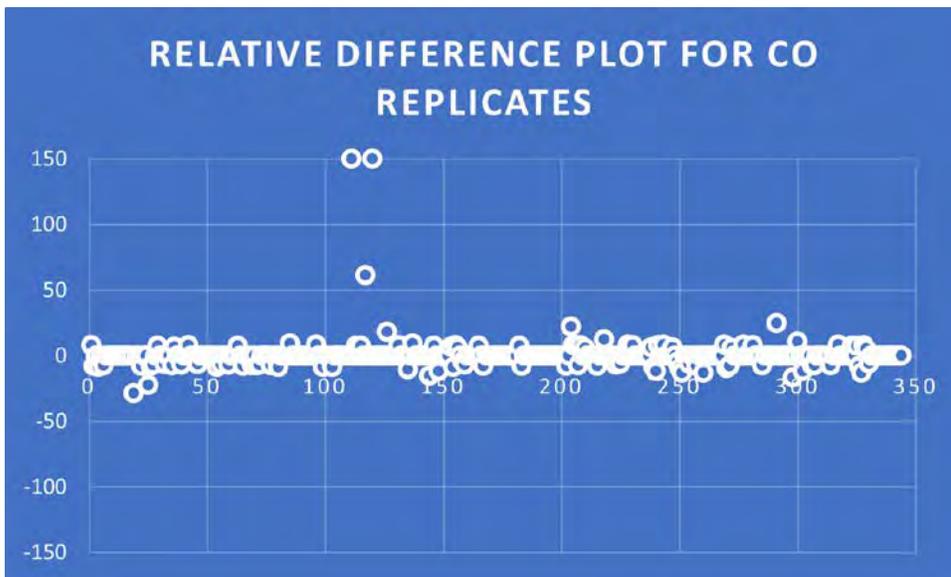


Figure 11-41. Plot of absolute concentrations of pairs of replicate samples analyzed for Ni.

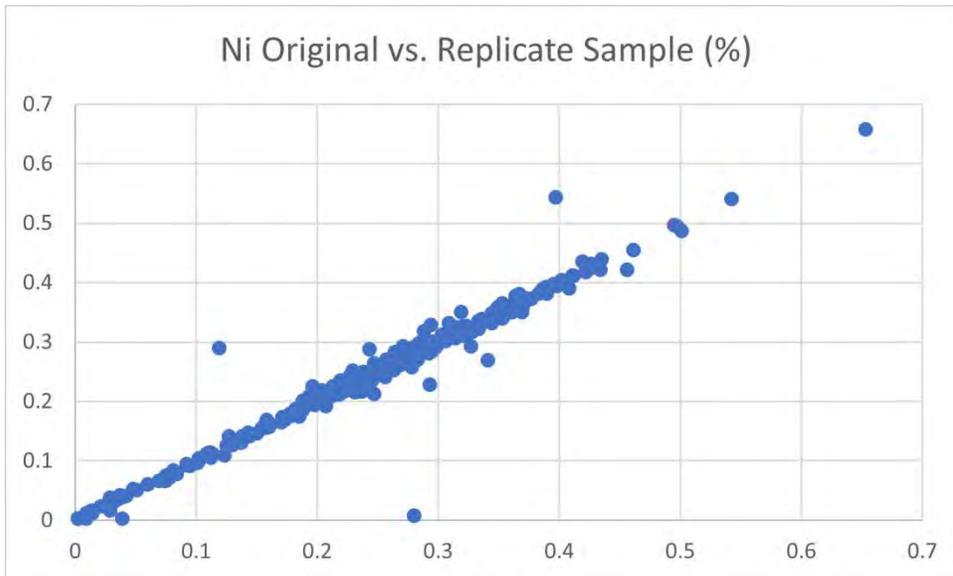


Figure 11-42. Relative % difference of pairs of replicate samples analyzed for Co.

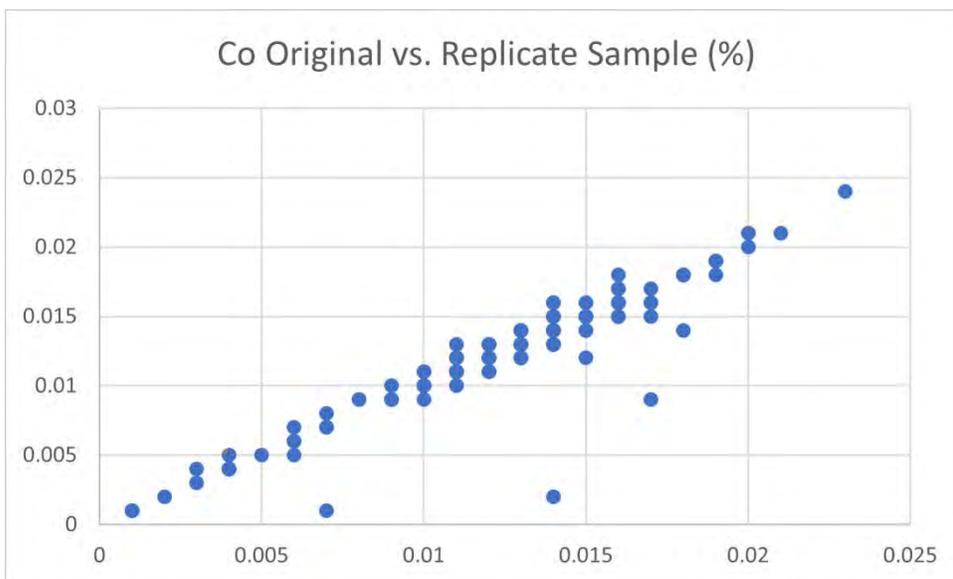


Figure 11-43. Plot of absolute concentrations of pairs of replicate samples analyzed for Co.

The results for S were similar to those for duplicate samples, *i.e.*, where relative differences of over 100% are observed, sample pairs generally exhibit low absolute concentrations of the precious metals and the order of magnitude difference at those levels is not considered to be of importance (Figures 11-44 and 11-45).

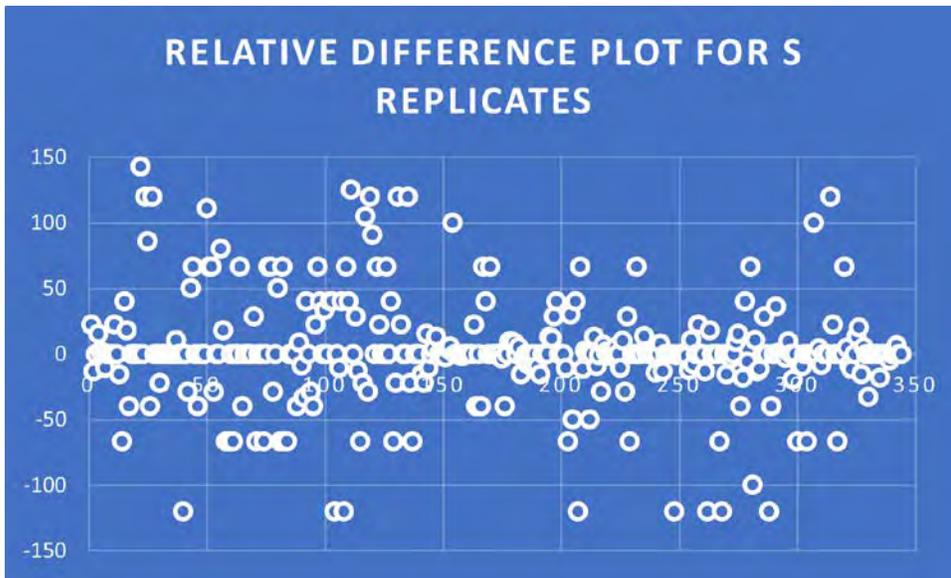


Figure 11-44. Relative % difference of pairs of replicate samples analyzed for S.

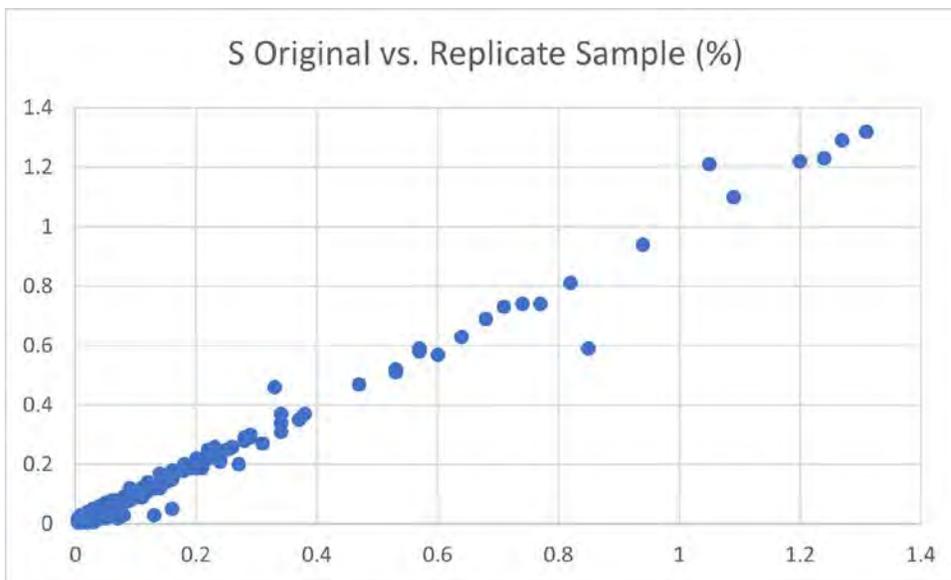


Figure 11-45. Plot of absolute concentrations of pairs of replicate samples analyzed for S.

#### 11.3.2.4. Duplicate Samples – Referee Analyses

Canada Nickel had a total of 30 sample pulps reanalyzed at an alternate laboratory (“Referee Lab”), specifically SGS Canada, located in Lakefield, Ontario. The analytical methods used for the referee analyses were essentially identical to the original methods though the suite of elements and detection limits varied slightly.

In general the duplicate material for the platinum group metal analyses has indicated good reproducibility of the assays though with some degree of a “nuggety” response. Where relative differences of over 100% are observed, sample pairs generally exhibit low absolute concentrations

of the precious metals; the order of magnitude difference at those levels is not considered to be of importance. Additionally, there is a difference between the instrumental detection limit at Actlabs and the Referee Lab; this can have a profound influence on the relative difference between analyses at low levels of elemental concentration.

The relative differences for Ni, Co and Fe were all under 20% (and mostly under 10%) indicating very good reproducibility of the original analyses.

**11.3.2.5. Blank Material**

All of the analyses performed by Actlabs on blank aliquots are considered to be acceptable as the majority of results were reported to be below the detection limits for each element examined. The minor discrepancies with respect to those elements of interest were: Au where 1.3% of the blank samples reported at the detection limit (2 ppb Au) or above (maximum 5 ppb Au); Pt where 0.2% of the blank samples reported at the detection limit (5 ppb Pt) or above (maximum 7 ppb Pt); Cr where 3.8% of the blank samples reported at the detection limit (0.01% Cr) or above (maximum 0.05% Cr); S where 8.4% of the blank samples reported at the detection limit (0.01% S) or above (maximum 0.05% S); and Mg where 2.8% of the blank samples reported at the detection limit (0.01% Mg) or above (maximum 0.07% Mg). These failure rates are all considered to be acceptable at the absolute concentrations being reported. There was no evidence of any systematic trend to the minor discrepancies.

It is noted that 5.9% of Ni analyses of the blank aliquots reported at the detection limit (0.005% Ni) or above (maximum 0.033% Ni). In particular, the highest values returned occurred in the sample batches processed between 2020/05/14 and 2020/05/27, one high value per sample batch. These anomalous values occurred during the period that samples from the East Zone were being processed (Figure 11-46). A similar trend (*i.e.*, higher reported Ni values) is also noted with regard to analyses of CRM DTS-2b during the same approximate time period (*see* Figure 11-1).

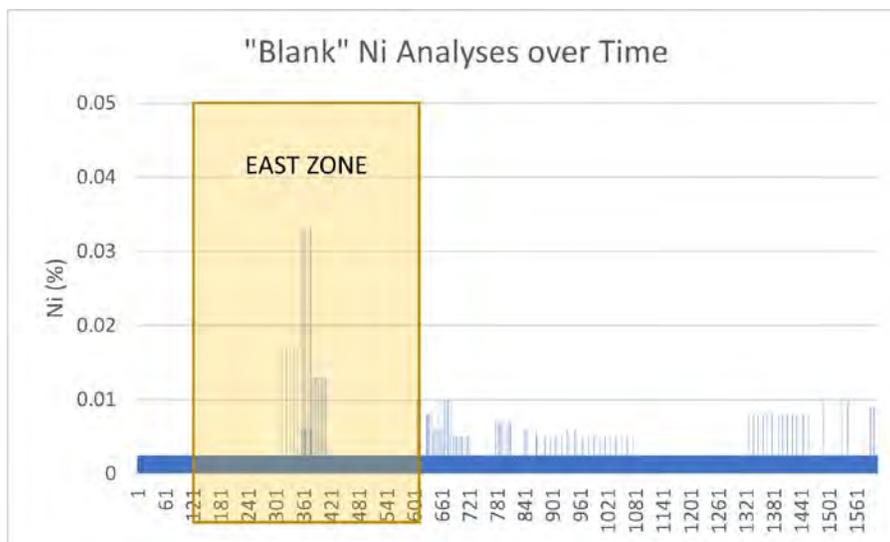


Figure 11-46. Plot of Ni vs Time in Blank Aliquots.

Due to the non-uniform nature of the “blank gravel” samples introduced by CNC into their QA/QC program, which appears to have two main provenances for the source of this material (Figure 11-47), these results have not been used on a strict basis in this evaluation; however, the results are considered to be acceptable as the results were observed to report low or negligible variance for each element examined.

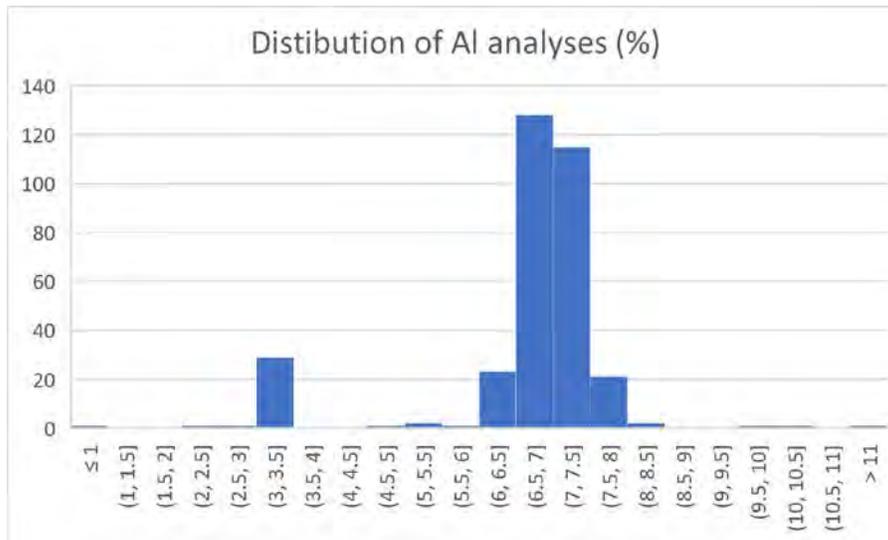


Figure 11-47. Distribution of aluminium (Al) analyses in “Blank” samples. Aluminium was used to crudely differentiate the rock-type populations.

***In the Authors’ opinion, the assay data is adequate for the purpose of verification of the drill core assays and for future calculations of mineral resource estimations; however, it is strongly recommended that an internal system of QA/QC including the monitoring of QA/QC results in “real-time”, adding sampling (“field”) duplicates and systematic referee analyses be introduced in conjunction with the on-going analytical work. The Authors are aware that CNC proposes to introduce the use of more relevant internal CRMs in the future.***

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## 12.0 DATA VERIFICATION

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The Authors have reviewed historical and current data and information regarding past and current exploration work on the Property. More recent exploration work (*i.e.*, 2018 to 2020), having complete databases and documentation such as assay certificates, was thoroughly reviewed. However, older historical records (in general, pre-2018) are not as complete and so the Authors do not know the exact methodologies used in the data collection. Nonetheless, the Authors have no reason to doubt the adequacy of the historical sample preparation, security and analytical procedures and have complete confidence in all historical information and data that was reviewed.

Mr. John Siriunas (M.A.Sc., P.Eng.) visited the Project on October 12, 2019 (one day), on February 3-4, 2020 (two days), and on September 10-11, 2020 (two days), accompanied during each site visit by Mr. William MacRae (M.Sc., P.Geo.), CNC's Project Manager. During the site visits, diamond drilling procedures were discussed and a review of the on-site logging and sampling facilities for processing the drill core were carried out.

As there is no outcrop on the Property, no surface grab samples of target mineralization/lithologies could be collected. After verification of existing core logs and assay results against drill core observations, Mr. Siriunas did not feel it necessary to re-sample the drill core. Photographs taken during the site visit are provided in Appendix 2. Dr. Scott Jobin-Bevans and Mr. Penswick have not visited the Project.

In the Authors' opinion, the procedures, policies and protocols for drilling verification are sufficient and appropriate and the core sampling, core handling and core assaying methods used at the Project are consistent with good exploration and operational practices such that the data is therefore reliable for the purpose of Mineral Resource estimation.

## 13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Canada Nickel completed three diamond drill holes using HQ size holes (core), which will be used for future metallurgical test work on Main Zone mineralization. CNC has metallurgical testwork underway with COREM, XPA, and SGS. In addition, Canada Nickel has carried out detailed mineralogical studies on drill core collected from the Property, as outlined below.

Historical mineralogical and liberation (assay) test work on mineralization in 2018 drill cores from the Project is reviewed in sections 6.3.2 and 6.3.3.

Results from this early stage mineralogical and liberation testwork and the mineralogical studies outlined below, offer preliminary information as to the recoverability of the main style of mineralization on the Property. Samples tested thus far are representative of the main style of mineralization on the Property. Additional mineralogical and metallurgical test work is ongoing.

### 13.1 Mineralogical Assessment

Canada Nickel reported on some initial mineral processing work based on the results of 89 samples from drill core, processed at both XPS Expert Process Solutions (“XPS”) and SGS Canada, in order to determine the mineralogy and proportion of nickel contained in nickel sulphide and nickel-iron alloy minerals (pentlandite, heazlewoodite, and awaruite). Over 600 samples have been shipped to both labs out of an initial 1,000 target samples (see Company news release dated March 12, 2020). Results are summarized in Tables 13-1, 13-2, and 13-3.

“Higher Grade Core” refers to the modelled domain from the Mineral Resource Estimate which contains >0.25% Ni and is referred to as the Higher Grade Zone. “Lower Grade Zones” refers to the regions within the >0.15% Ni domain that envelope the core (Low-Grade Zone) and are located to the northeast and to the southwest of the Higher Grade Core. In the Higher Grade Core, 89% of the nickel in the 44 samples tested was contained in nickel sulphide and nickel-iron alloy minerals with 11% in unrecoverable silicate minerals (Table 13-1).

Table 13-1. Mineralogical analysis from drill core collected from the Crawford Ultramafic Complex.

Mineral Resource Zone:	Higher Grade Core	Lower Grade Zones
No. Samples	44	45
<sup>(1)</sup> % Ni in nickel sulphide and nickel-iron alloy minerals	89	59
% Ni in silicates	11	41
<sup>(2)</sup> % Nickel	0.31	0.19
% Sulphur	0.14	0.03
% Magnetite	8.7	6.9

<sup>1</sup>calculated value based on the modal abundances of pentlandite (Pn), heazlewoodite (Hz) and awaruite (Aw) in the sample; calculated by: [(% Modal abundance of Pn) x (% Ni in Pn) + (% Modal abundance of Hz) x (% Ni in Hz) + (% Modal abundance of Aw) x (% Ni in Aw)].

<sup>2</sup>based on the average nickel content of the initial electron probe microanalysis on 12 samples presented in Table 13-3.

Given the relatively significant amount of sulphur (0.14% S) in the samples, 97% of the nickel was contained in the sulphide minerals (pentlandite and heazlewoodite) and only 3% in the nickel-iron alloy mineral awaruite (Table 13-2).

Table 13-2. Breakdown of nickel sulphide and nickel-iron alloy minerals.

Minerals	Higher Grade Core	Lower Grade Zones
Pentlandite (Pn)	40%	51%
Heazlewoodite (Hz)	57%	38%
Awaruite (Aw)	3%	11%

In the Lower Grade Zones, 59% of the nickel was contained in nickel sulphide and nickel-iron alloy minerals with 41% in unrecoverable silicate minerals (see Table 13-1). Eighty-nine percent of the nickel was contained in sulphide minerals (pentlandite and heazlewoodite) and, given the lower sulphur content (0.03% S), 11% of the nickel was in awaruite (see Table 13-2).

Both the higher and lower grade zones contain significant quantities of magnetite. In the Higher Grade Core, the magnetite content averaged 8.7% and in the Lower Grade Zones it averaged 6.9% (see Table 13-1).

The laboratories utilized Electron Probe Microanalysis to determine concentrations of nickel (%Ni), sulphur (%S), cobalt (%Co) and iron (%Fe) (Table 13-3). Modal abundances of magnetite (% magnetite), pentlandite, heazlewoodite and awaruite were determined from Backscatter Electron Imagery analysis.

Table 13-3. Concentrations of selected elements from 12 samples, Electron Probe Microanalysis.

Minerals	% Ni	% Co	% Fe
Pentlandite	35.0	5.1	27.0
Heazlewoodite	71.5	0.0	1.5
Awaruite	75.2	1.4	23.2
Magnetite	0.1	0.0	70.9

## 14.0 MINERAL RESOURCE ESTIMATES

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### 14.1 Introduction

Caracle Creek was retained by CNC to prepare two NI 43-101 compliant mineral resource estimates ("MRE"s) supported by one technical report, for the Crawford Nickel-Cobalt Sulphide Project, which incorporates all current diamond drilling for which the drill hole data could be confidently confirmed. Drill hole information up to 18 October 2020 was utilized in the preparation of the Mineral Resource Estimates.

The updated MRE for the Main Zone and the initial MRE for the East Zone, disclosed herein, were prepared under the direct supervision of Luis Oviedo (P.Ge.), using all available information. Luis also supervised the work completed by Miguel Vera and Mario Diaz.

The deposit type being considered for nickel mineralization discovered to date in the Crawford Ultramafic Complex, komatiite-hosted Ni-Cu-Co-(PGE), is comparable to the Dumont Nickel Deposit, located in Quebec, Canada. The host Archean Dumont Sill is about 7 km long, up to 1 km in width, and like the Crawford Ultramafic Deposit is located within the Abitibi Greenstone Belt.

The mineral resources herein are not mineral reserves as they do not have demonstrated economic viability. The results disclosed in the Report are nickel, cobalt, platinum, palladium, sulphur and iron mineral resources estimated to be contained within a large, relatively homogenous body of ultramafic rock, the Crawford Ultramafic Complex. The Mineral Resource Estimates include Indicated, Inferred and Measured Mineral Resources, interpreted on the assumption that the mineralization has reasonable prospects for eventual economic extraction, likely using open pit and bulk underground mining methods.

Selected plan maps and cross-sections with drill hole (lithology and assays) and mineral resource estimate (block and geological models) information and data are provided in Appendix 4.

### 14.2 Resource Database

#### 14.2.1 Main Zone

The drill hole and project database provided by CNC for the Main Zone contains the following:

- Collar: 49 holes drilled (plus two abandoned at shallow depth), amounting to 25,190.5 m, with an approximate mean depth of 500 metres.
- Survey: 47 holes measured, with two of them having their end-halves estimated due to blocking. The two shallow, abandoned holes were not measured.
- Lithology: 24 unique rock codes, grouped into 10 codes for modelling purposes (*see* Section 14.4).
- Assays: 15,098 core samples with a mean length of 1.5 m; 23 elements reported.
- Mag-Sus: 8,678 handheld magnetic susceptibility measurements on drill core, taken every 3 m on average.

- Specific Gravity: 3,929 SG (density) measurements made on drill core, taken every 4 m on average during the first drilling campaign, and every 17 m on average during the second drilling campaign.

Secondary data sources include alteration, mineralization and structural drill hole logs, historical geophysical surveys (magnetic susceptibility, EM and gravity), geological maps and various work reports.

### 14.2.2 East Zone

The drill hole and project database provided by CNC for the East Zone contains the following:

- Collar: 11 holes drilled, amounting to 5,329 m, with a mean depth of 485 metres.
- Survey: nine holes measured.
- Lithology: 11 unique rock codes, grouped into eight litho-codes for modelling purposes (see Section 14.4).
- Assays: 3,164 core samples with a mean length of 1.5 m; 23 elements reported.
- Mag-Sus: 1,609 handheld magnetic susceptibility measurements on drill core, taken every 3 m on average.
- Specific Gravity: 396 SG (density) measurements made on drill core, taken every 4 m on average during the first drilling campaign, and every 17 m on average during the second drilling campaign.

Secondary data sources include alteration, mineralization and structural drill hole logs, historical geophysical surveys (magnetic susceptibility, EM and gravity), geological maps and various work reports.

## 14.3 Methodology

The nickel resource area in the Main Zone measures approximately 1.8 km along strike, 280-440 m in width, and 650 m deep, while the nickel resource in the East Zone is approximately 2 km along strike (with a notable 800 m undrilled gap), 160-220 m in width, and 550 m deep. Estimates are based on a compilation of a few historical and numerous recent diamond drill holes, along with mineralized zones prepared by Caracle.

The main steps in the resource estimation methodology were as follows:

- Database compilation and validation of the diamond drill holes used in the mineral resource estimate;
- Modelling of 3D geological units and mineralized zones based on lithological units, densities, magnetic susceptibility and nickel/PGE concentrations;
- Generation of drill hole intercepts for each mineralized zone;
- Grade compositing and capping;
- Spatial statistics and semi-variogram modelling;
- Grade interpolations (kriging, IDW, NN) and classification; and
- Results validation.

The mineral resource estimates detailed in the Report was prepared using Micromine 2020.5 v.20.5.317.3 (“Micromine”) software. Statistical studies were done using Micromine and Microsoft Excel software. The estimation used 3D block modelling, applying the Ordinary Kriging (“OK”) and Inverse Distance Weighting (“IDW”) interpolation methods, depending on the zone and elements.

The 3D model was also generated in Micromine 2020.5, through the use of implicit modelling techniques (Cowan *et al.*, 2003). Implicit modelling uses interval and/or point data along with structural trends and other user-defined parameters to interpolate geological surfaces and volumes, which can then be improved through manual editing (Figure 14-1). In order to work with categorical data, the software converts it into distance points relative to a zero value that usually corresponds to a lithological contact. Volumes can then be extracted through Boolean operations against a primary model box or previous volumes. Micromine’s implicit modelling tools allow for relatively quick iteration, making it easier to obtain suitable results in less time than traditional geological modelling methods such as manual wireframing.

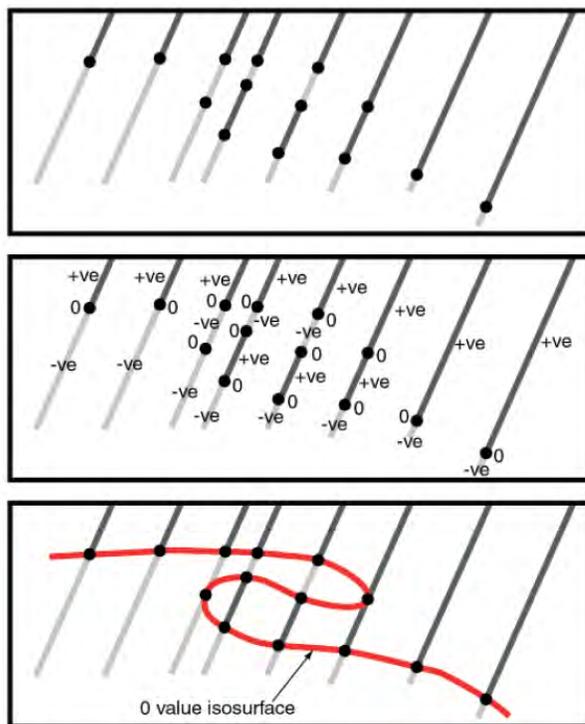


Figure 14-1. Implicit modelling technique. Two sets of intervals (upper panel) converted into positive (“+ve” or inside) and negative (“-ve” or outside) distance points (middle panel) and the resulting interpolation through zero distance (“0” or contact) value points (lower panel). Modified from Cowan *et al.* (2003).

## 14.4 Geological Interpretation

Lithologies identified in the Main and East zones of the CUC reveal several common features, the main one being a core of variably altered (mainly serpentinized) dunite, peridotite and pyroxenite which combined are referred to as the ultramafic unit (“UM”). Gabbroic (“GAB”) rocks define the northern contacts, while metavolcanic rocks (“MV”) of mafic/intermediate and lesser felsic

composition define the southern contact. Located at either side of a main regional fault and 1 km apart, with complementary geometries, these two zones are interpreted as once being part of the same body, now displaced by a regional northwest trending fault (Figure 14-2).

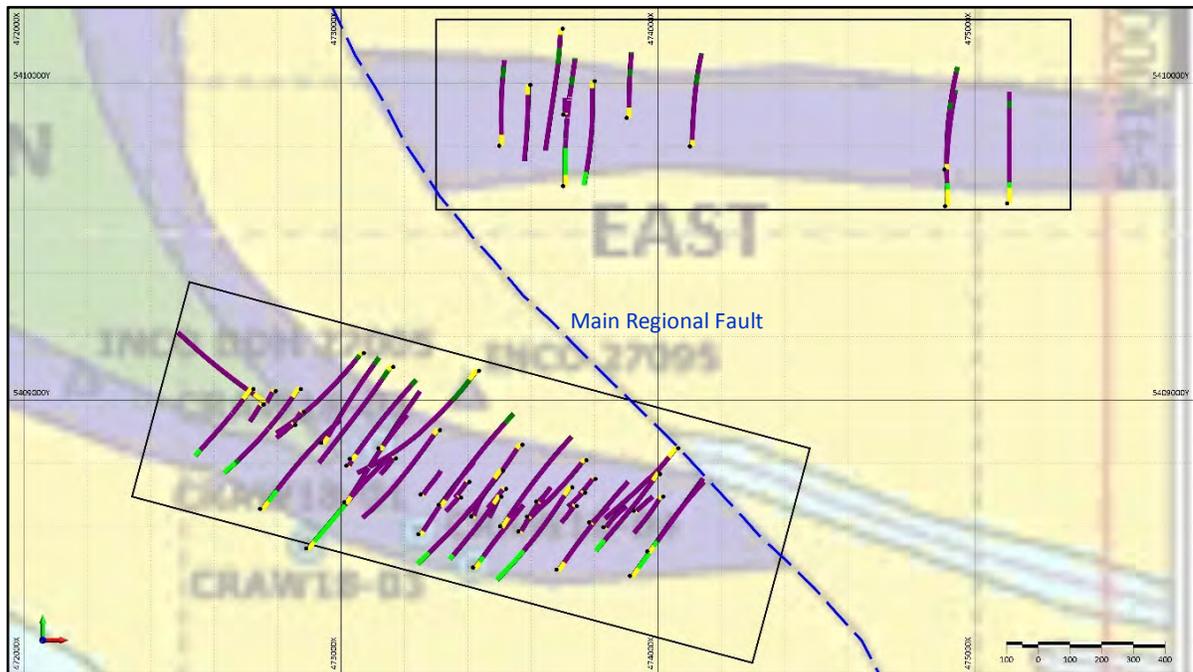


Figure 14-2. General view of the two CUC zones in study. Background geology from Ontario Geological Survey (MRD126) is shown matching drill hole lithology with respect to ultramafic rocks, shown in purple in both data sources.

In the Main Zone, lesser gabbroic rocks form very narrow dikes, sills and/or fractionated sequences related to the CUC, particularly in the northern contact region. A couple of lamprophyre intrusions have also been identified, as well as several isolated felsic and intermediate intrusions, without clear associations. While in the East Zone these occurrences are not present, there is a major gabbroic unit (mostly described as leucogabbro) running parallel and in-between ultramafic rocks in the northern region, with the actual gabbroic contact further to the north.

Lithologies from the Main and East zones were generalized and grouped into broad categories considering available core logging information and in order to simplify the modelling, resulting in a predominant ultramafic unit that serves as the resource estimation domain (Tables 14-1 and 14-2; Figures 14-3 and 14-4). Inside this unit, the three main ultramafic lithologies were modelled according to their distribution.

In the Main Zone, dunite is the central and most extensive occurrence, followed spatially (to the north and south) by peridotite with varying widths, while pyroxenite occurs sporadically though always associated to the northern and southern contacts (Table 14-1).

In the East Zone, ultramafic lithologies present themselves as well differentiated layers, with dunite as the south-central unit, bounded on its hangingwall and footwall by peridotite/pyroxenite layers,

with the leucogabbro unit further to the north, followed by another peridotite/pyroxenite occurrence before the definitive northern gabbroic contact (Table 14-2).

Complementary datasets (*i.e.*, assays) facilitated verification of the ultramafic unit’s northern and southern contacts when lithological boundaries were unclear. Nickel and iron grades often drop noticeably outside of the ultramafic unit, while PGE grades tend to show marked “spikes” right before the northern transition to gabbroic rocks (interpreted and modelled as PGE “reefs” or horizons; see Section 14.5, Geological Modelling). In addition, density (SG) differences between ultramafic and gabbroic rocks are apparent. Mag-sus discrimination, on the other hand, is not as clear with respect to the northern gabbroic rocks, but tends to work with respect to the southern metavolcanic rocks.

Finally, regional magnetic susceptibility grid, filtered according to drill hole lithologies, provided further information to delimit the eastern and western extents of the ultramafic unit, as well as confirmation of its overall shape and dimensions. The mag-sus measurements were derived from 3D-inversion modelling of a recent airborne magnetic survey (St-Hilaire, 2019).

Table 14-1. Main Zone lithologies with their respective original and model rock codes.

CODE	LITHOLOGY	LENGTH (m)	MODEL CODE	PCT
OVB	Overburden	2,172.30	OVB	8.62%
MP	Mafic Intrusive	15.55	GAB	1.21%
MP1	Gabbro	290.15		
MP7	Diabase	77.85	DIA	0.31%
UP2	Dunite	16,648.31	DUN	68.81%
UP2B	Bleached Dunite	476.65		
UP2C	Carbonatized Dunite	123.7		
UP2L	Laminated Dunite	55.11		
UP5	Serpentinite	28.9	DUN/PYX	UM Unit
UMT	Talcosse Ultramafics	78.50	DUN/PER	
UP1	Peridotite	3,272.05	PER	14.16%
UM	Ultramafic Metavolcanics	216.00	PER/PYX	2.58%
UPS	Poikilitic Ultramafic	113.5		
UP4	Pyroxenite	536.5	PYX	
VI	Intermediate Metavolcanics	211.9	MV	3.56%
VM	Mafic Metavolcanics	658.05		
FP14	Porphyry	27.5	FV	0.31%
VF	Felsic Metavolcanics	78.2		
AP2	Lamprophyre Dyke	6.95	FI	0.39%
AP3	Anorthosite	1.4		
IP1	Anorthosite	0.88		
FP	Felsic Intrusive	50.25		
IP	Intermediate Intrusive	38.7		
LC	Lost Core	8.6	LC	0.03%

Table 14-2. East Zone lithologies with their respective original and model rock codes.

CODE	LITHOLOGY	LENGTH (m)	MODEL CODE	PCT
OVB	Overburden	529.60	OVB	9.94%
MP1	Gabbro	53.8	GAB	1.01%
	Leucogabbro	349.9	LGAB	6.57%
UP2	Dunite	2,582.40	DUN	50.19%
UP2C	Carbonatized Dunite	92		
UP1	Peridotite	1,003.20	PER	18.83%
UP4	Pyroxenite	440.7	PYX	8.27%
AP3	Anorthosite	1.1	MV	4.88%
VI	Intermediate Metavolcanics	166.1		
VM	Mafic Metavolcanics	92.7		
FT	Fault	14.6	FT	0.33%
LC	Lost Core	2.9		

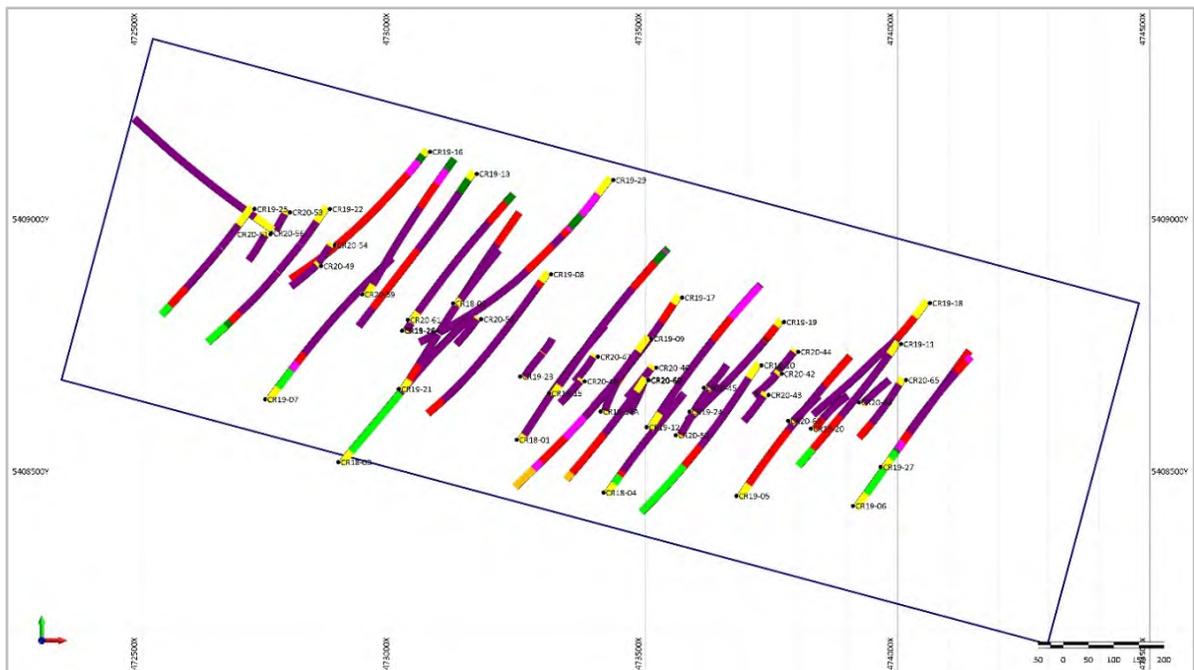


Figure 14-3. Main Zone plan view of drill hole intercepts showing grouped lithologies and modelling area (rectangle).

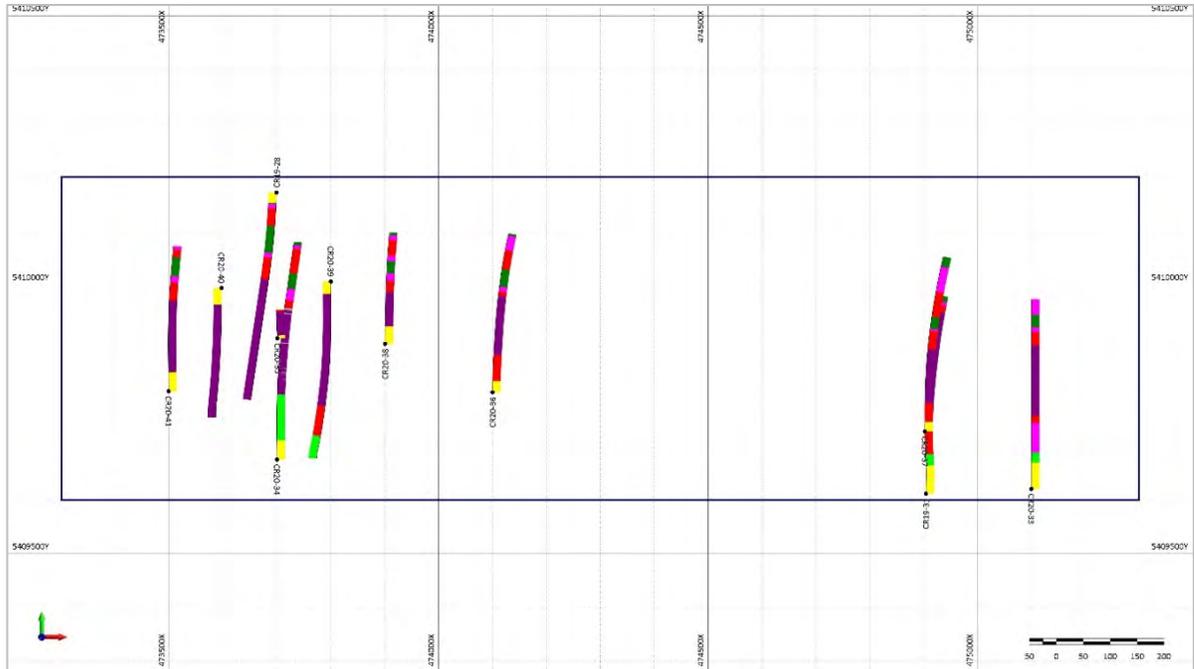


Figure 14-4. East Zone plan view of drill hole intercepts showing grouped lithologies and modelling area (rectangle).

#### 14.4.1 Overburden and Topography

Both zones are covered by a fairly thick mix of clay and gravels of over 40 m on average. Current topography consists of a NASA SRTM elevation grid, given that a topographic survey is yet unavailable. This surface provides the top limit for the overburden, while the bottom limit is another surface interpolated through the base of the “OVB” drill hole intervals. The volume contained between these two surfaces would become the overburden wireframe (Figure 14-5), obtained by intersecting them against the primary modelling volume.

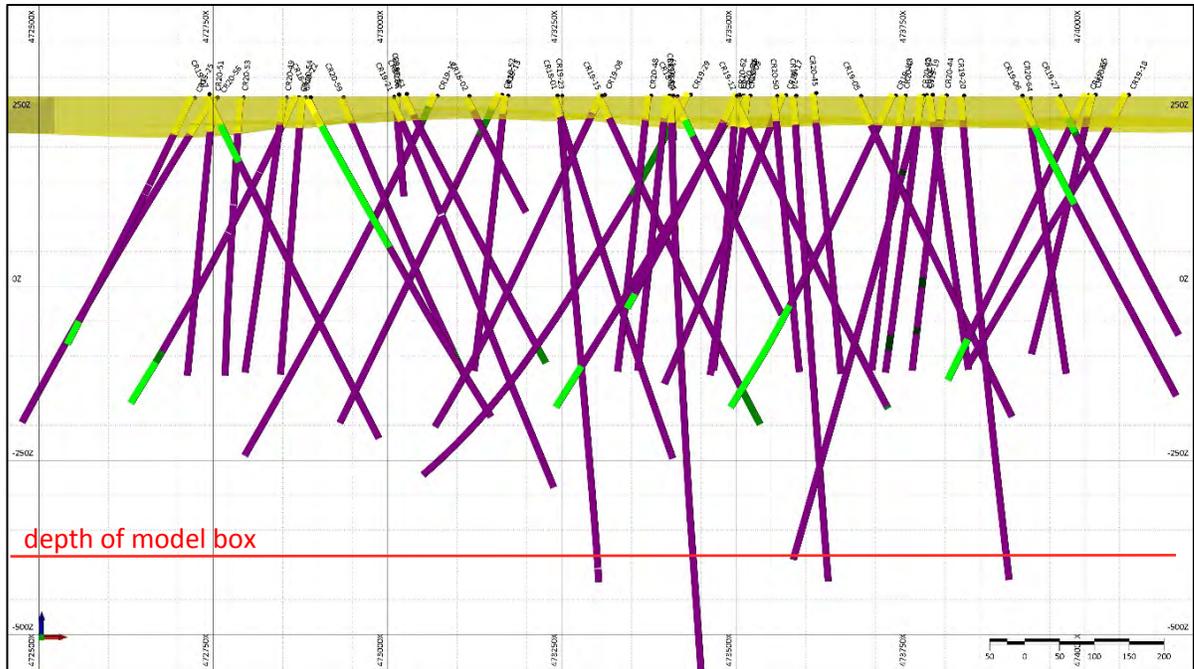


Figure 14-5. Main Zone longitudinal view (looking north) showing diamond drill holes and the OVB wireframe (olive). The ultramafic unit, coloured purple in the drill hole traces, is the target lithology that forms the bulk of the resource model area. Green intercepts are mafic volcanic and metavolcanic rocks.

## 14.5 Geological Modelling

Geological models for the Main and East Zones were developed by Caracle using mainly drill hole core logs (lithology, grades, density, mag-sus) with secondary references such as regional geological maps and magnetic susceptibility from 3D-inversion modelling along with other geophysical surveys. These models constitute the basis for the interpretation of mineralization within the resource block models.

### 14.5.1 Main Zone

The modelling area is 2 km long by 700 m wide, northwest-southeast oriented (105Az), following the approximate mineralization bearing and to make it compatible with drilling directions. The northern and southern limits of the area, therefore, are defined by the drilling extents. The western limit is an open boundary, determined by the extents of the westernmost reaching drill hole (CR20-56), the only hole with a northwest dip direction. The regional fault defines the eastern limit of the modelling area, though it was not intersected by any drill hole.

The depth of the area and geological model was constrained by applying a maximum vertical depth of 650 m below overburden (see “red line” in Figure 14-5). Although depth-constrained in the current model, the deposit is open at depth with at least three drill holes extending past the 650 m limit with intercepts containing >0.25% Ni.

The main ultramafic body was modelled by interpolating a contact surface that runs through both the southern MV-UM contact and the northern UM-GAB contact, enveloping the ultramafic lithologies. Some polylines were used to improve its shape, following the filtered 3D-inversion magnetic susceptibility data as a reference where drilling data was scarce. This geological “shell” was then intersected against the remaining modelling volume (after extracting the OVB) and restricted to the western wall of the main fault, resulting in the UM wireframe (Figure 14-6). By default, the remaining volume west of the fault and to the south became the MV wireframe, while the one in north became the GAB wireframe.

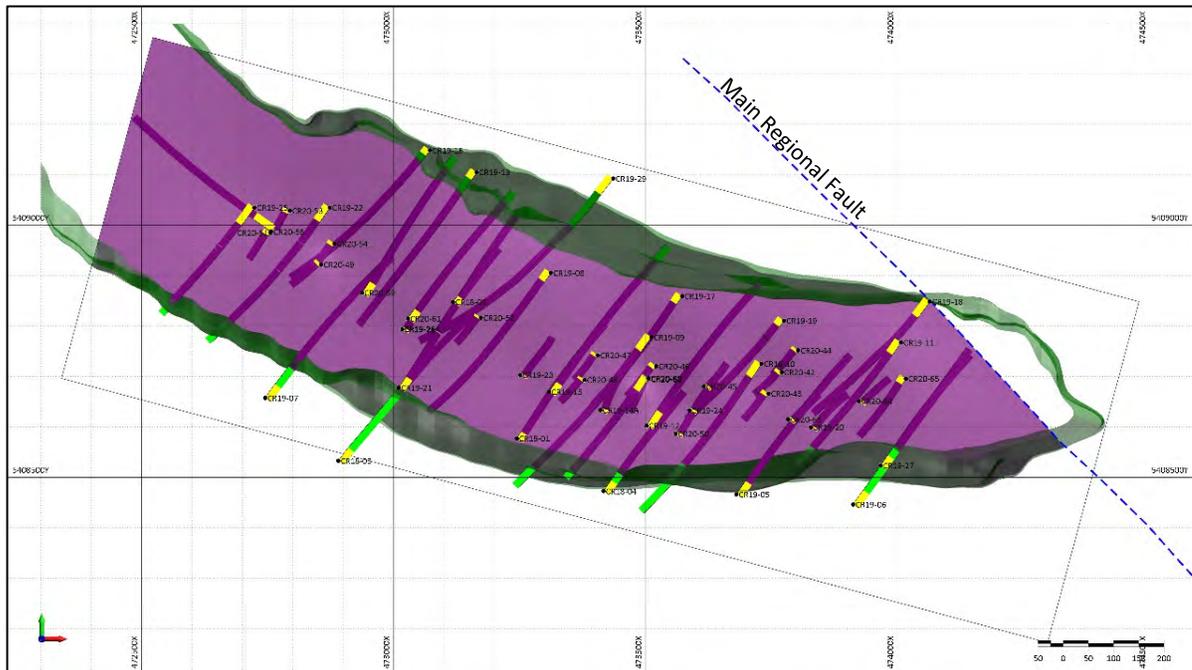


Figure 14-6. Main Zone plan map showing the modelled shell (green envelope) separating the ultramafic unit intervals (purple traces) from the metavolcanic rocks and gabbroic units intervals (light and dark green traces), and the final UM wireframe (purple volume).

Once the ultramafic unit was modelled, it was then subdivided into its three main lithologies, following the same method: First, a dunite shell was generated and then intersected with the UM wireframe to obtain the dunite wireframe, leaving the supplementary volume to then extract the peridotite wireframe using its corresponding shell, and lastly, the remaining volume becoming the pyroxenite wireframe (Figure 14-7).

A set of three diabase dikes were modelled as well and cut against the UM wireframe, given that their intersections in two contiguous drill holes in the eastern part of the project define 10-20 m gaps of barren grades, making their exclusion of the mineralization domain a necessity. They were interpreted as north-south striking, subvertical structures. More diabase intercepts are present in this sector, though with apparent lesser influence in the mineralization.

The rock volume east of the main fault was characterized as unknown, given that no drilling logs are available for this area. However, according to regional geological maps and geophysical surveys, it most likely corresponds to metavolcanic rocks, such as the ones south of the ultramafic unit.

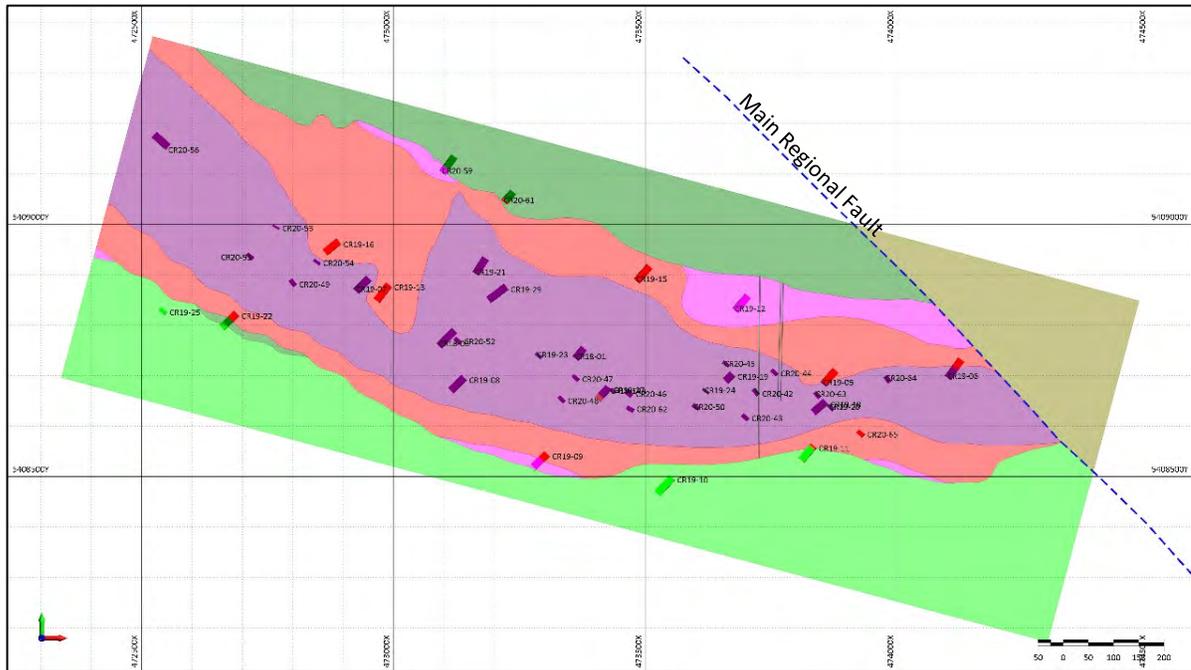


Figure 14-7. Main Zone plan section (-100 m) showing the drill hole traces and the final lithology wireframes (legend from Table 14-1).

### 14.5.2 East Zone

The modelling area is 2 km long by 600 m wide, east-west oriented, following the approximate mineralization bearing, and to make it compatible with drilling directions. The northern and southern limits of the area, therefore, are defined by the drilling extents. The western and eastern limits are open boundaries, established at 200 m from the respective nearest drill holes. Because of this, the western end does not reach the main regional fault, so the model was not affected by it, unlike in the Main Zone. The depth of the area and geological model was constrained by applying a maximum vertical depth of 560 m below overburden, and 80 m below the deepest drill hole. There is not enough information available to determine if the deposit is open at depth.

As in the Main Zone, the main ultramafic body of the East Zone was modelled by interpolating a contact surface that runs through both the southern MV-UM contact and the northern UM-GAB contact, enveloping the ultramafic lithologies. Some polylines were used to improve its shape, following the filtered 3D-inversion magnetic susceptibility data as a reference where drilling data was scarce. This geological “shell” was then intersected against the remaining modelling volume (after extracting the OVB), resulting in the UM wireframe (Figure 14-8). By default, the remaining volumes outside of it comprise the MV wireframe to the south and the GAB wireframe to the north.

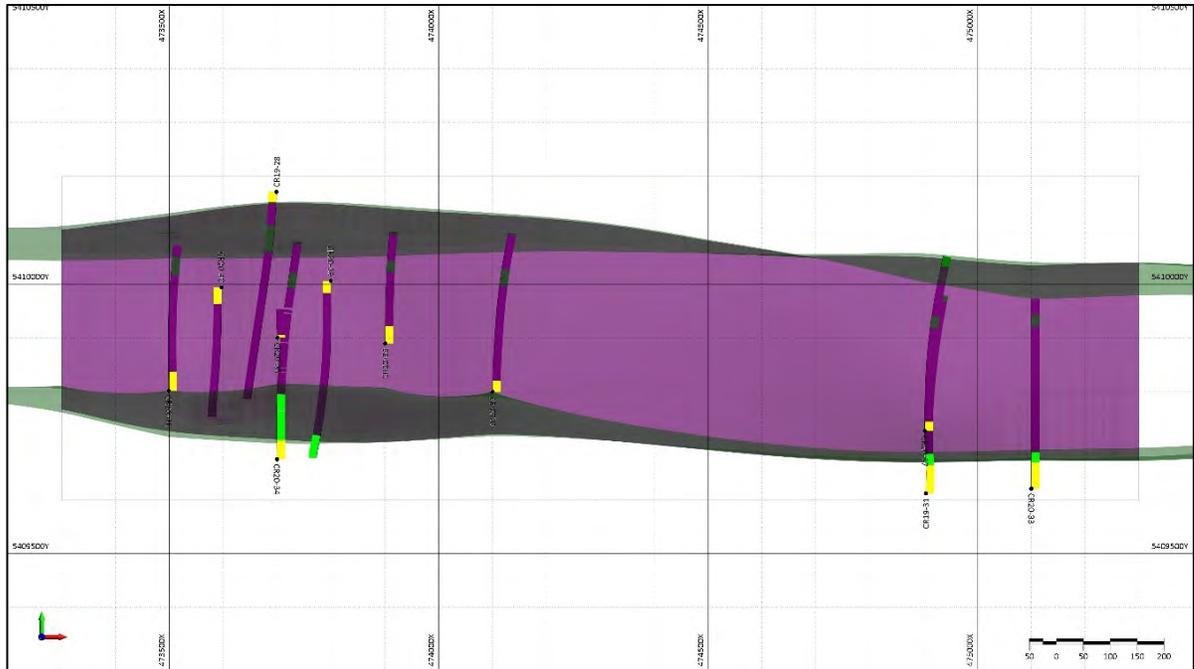


Figure 14-8. East Zone plan map showing the modelled shell (green envelope) separating the ultramafic unit intervals (purple traces) from the metavolcanic rocks and gabbroic units intervals (light and dark green traces), and the final UM wireframe (purple volume). There seems to be a slight but notorious change in the ultramafic body’s dip direction from west (dipping south) to east (dipping north), apparent in section view (see Figure 14-9). This could very well be a natural occurrence, more drilling in the gap area should provide further evidence.

The regularity and ordered appearance that the different ultramafic lithologies exhibit in the drilling logs across the deposit (Figure 14-9), akin to stratigraphic layering, allowed for individual modelling of each unit’s hangingwall and footwall contacts and helped improve the model’s predictability, compensating for the lack of information, to some extent, across the 800 m gap between drilling targets. From south to north, these “layers” were identified as follows:

- Pyroxenite (PYX-0): Present only in the easternmost drill hole.
- Peridotite (PER-0): Disappears towards the west.
- Dunite (DUN)
- Peridotite (PER-1)
- Pyroxenite (PYX-1)
- Leucogabbro (LGAB): Barren rock.
- Pyroxenite (PYX-1.5): Irregularly present in drill holes.
- Peridotite (PER-2)
- Pyroxenite (PYX-2)

Within this layered ultramafic unit, two domains can be differentiated (dashed black line in Figure 14-9): A nickel rich (though PGE poor) domain to the south, comprised mainly of dunite and

peridotite, and a nickel barren domain, comprised of peridotite and pyroxenite, with major PGE occurrences interpreted as horizons or “reefs” (see Section 14.6.2).

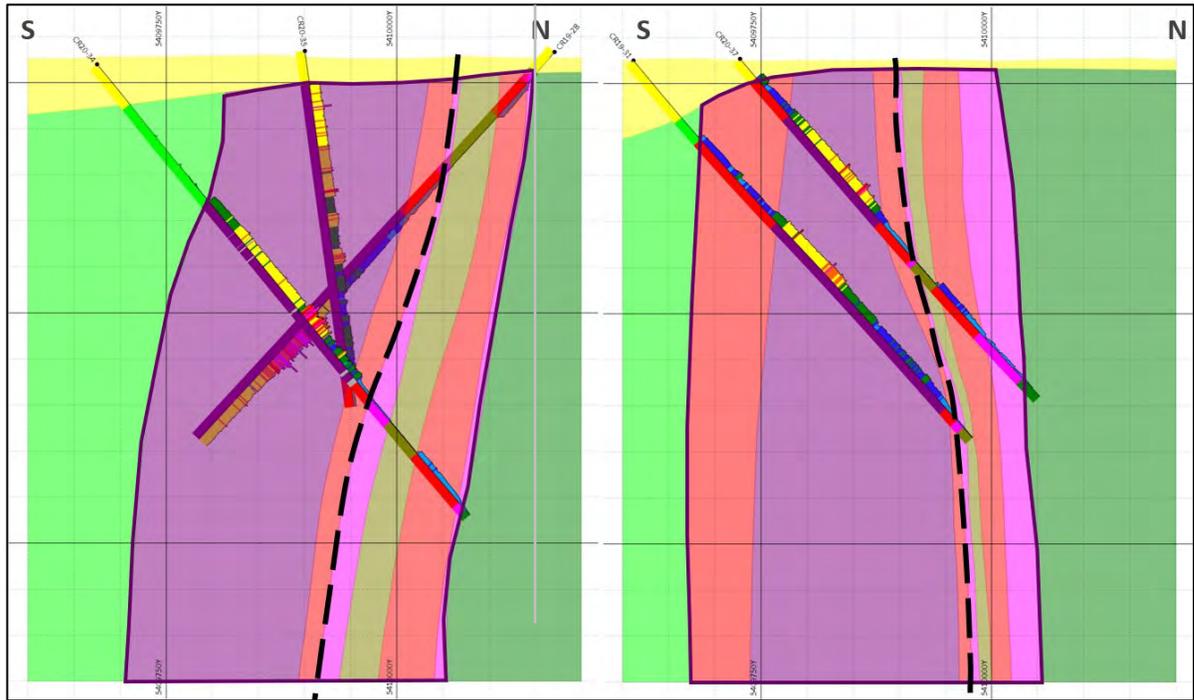


Figure 14-9. East Zone sections 473700N (left, west of the gap) and 474900N (right, east of the gap) showing the drill hole traces (legend from Table 14-2), and the final lithology wireframes displaying the “layering” of the ultramafic unit. The purple outline represents the limits of the UM wireframe, and the dashed black line shows the separation between the nickel domain to the south and the PGE domain to the north.

## 14.6 Data Analysis and Estimation Domains

### 14.6.1 Main Zone: Exploratory Data Analysis (EDA)

The Main Zone nickel assay database comprises laboratory results from 15,098 drill core samples. In order to work only with samples taken in ultramafic rock, the database was flagged with the UM wireframe, leaving 14,162 samples (94% of the database) for exploratory data analysis (“EDA”). A histogram of this dataset shows a bimodal distribution for nickel, with a lower-grade population of 0.20-0.24% Ni and a higher-grade population of 0.28-0.31% Ni (Figure 14-10).

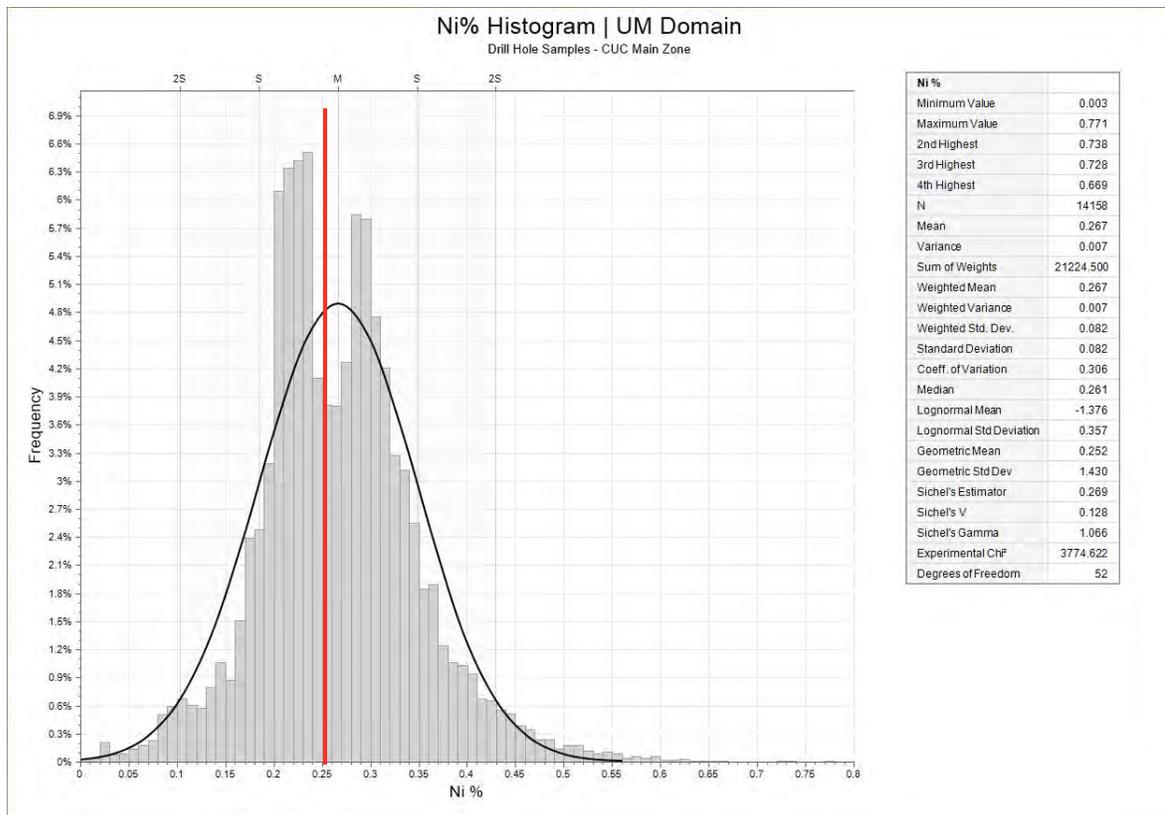


Figure 14-10. Main Zone histogram showing the bimodal distribution of nickel grades within the ultramafic unit, and the proposed 0.25% Ni cut-off (red line) to separate both populations.

This bimodal distribution is the result of having the highest nickel concentrations (>0.25% Ni) located approximately along the central axis of the ultramafic unit (the “core”), grading to more or less extensive medium concentrations to the north and south (the “halo”) and then quickly to low and almost barren concentrations (Figure 14-13). These two halo zones contribute enough nickel grades to shape the primary (left) population, while the core zone contributes to the secondary (right) population. This is tentatively an effect of differing serpentinization degrees within the general ultramafic unit, though a robust alteration study would be necessary to test this hypothesis.

It is possible, however, to test an association with ultramafic lithologies. A review of nickel grades separately for dunite, peridotite and pyroxenite (Figure 14-11) shows that the bimodal distribution persists within the predominant dunite unit, which contains over 80% of the samples, due to its central emplacement and ample extents within the ultramafic unit. Based on this analysis, it is fairly evident that using lithologies as estimation domains at this stage is not optimal, and given that an association with alterations is currently not possible, the use of grade shells as estimation domains remains the better alternative.

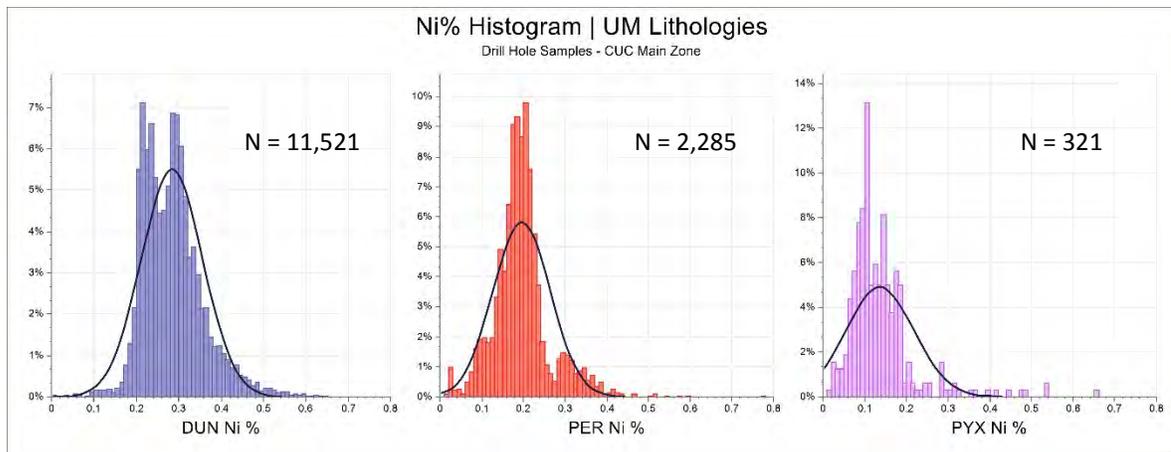


Figure 14-11. Main Zone nickel grade histograms with sample amounts for dunite (DUN), peridotite (PER) and pyroxenite (PYX) within the ultramafic unit.

A separate potential mineralization target within the ultramafic unit, though outside of the nickel rich zones, is the so-called PGE horizon or “reef”, containing medium (>0.25 Pd+Pt ppm) to high (>1 Pd+Pt ppm) grades. No EDA was performed to define this vein-like feature, as it was mostly inferred from the consistent occurrence of distinct PGE anomalies right before the ultramafic unit transitions to gabbroic rocks in the north (Figure 14-12).

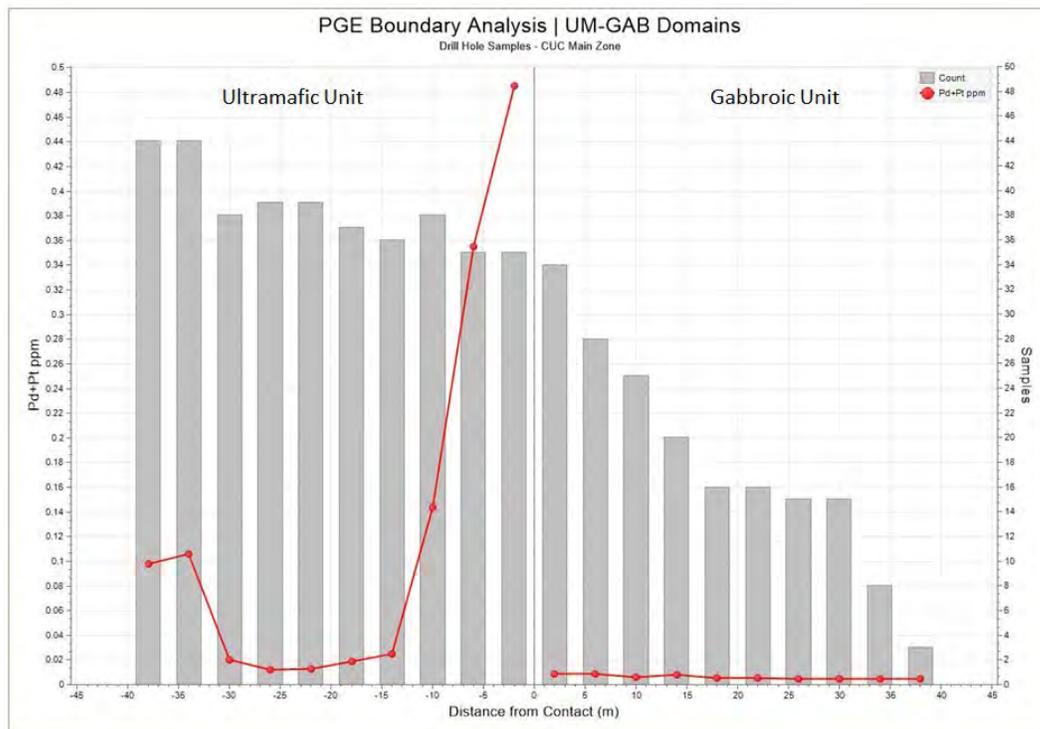


Figure 14-12. Main Zone boundary analysis of the PGE reef, showing PGE grades (Pd+Pt ppm, red line) at the modelled contact between the ultramafic (south) and gabbroic (north) units. A substantial grade increase is evident when approaching the boundary from the side of the ultramafic unit, and virtually no PGE content right after it, in the domain of the gabbroic unit. Grey bars represent the number of samples at each distance point.

The lack of EDA also responds to the scarce data that make up the structure, in this case 31 samples in seven (7) drill holes, selected after a 0.25 Pd+Pt ppm cut-off. A lower 0.1 Pd+Pt ppm cut-off was also tested, resulting in somewhat higher volumes but considerably lower averages, which supported the case for a higher cut-off. Therefore, all estimations carried out within this domain were deemed exploration targets.

### 14.6.2 Main Zone: Estimation Domains (Grade Shells)

The two nickel grade populations identified in the EDA were separated using a 0.25% Ni cut-off (red line in Figure 14-11) to first model the “core”, mostly comprised of high grades within dunite, and then a minimum 0.15% Ni cut-off as the base for the “halo”, comprised of medium to medium-low grades within a mix of dunite and peridotite. Both domains were generated by an interpolation process equivalent to the one used for the UM wireframe, intersecting them against the latter and each other to obtain the final higher-grade (inside the 0.25% Ni shell) and lower-grade (inside the 0.15% Ni shell, outside of the 0.25% Ni shell) estimation domains (Figure 14-13). It is important to note that the 0.15% Ni base cut-off left out 800 samples (with no economic interest), which is the reason for these domains not covering the entire UM wireframe.

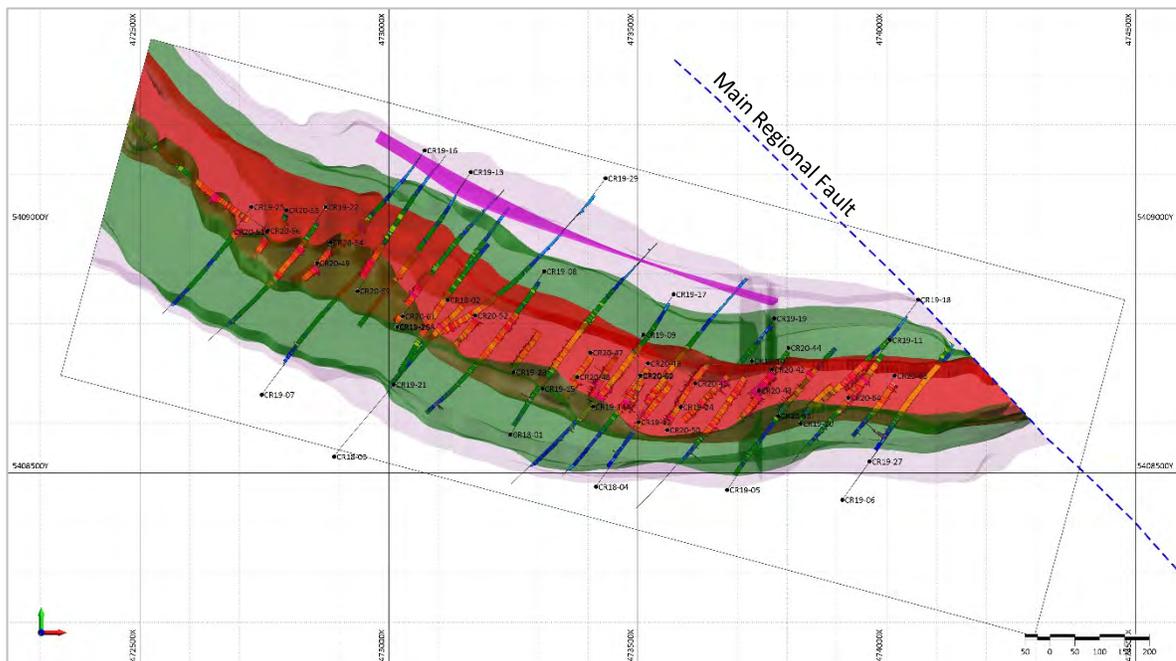


Figure 14-13. Main Zone plan map with nickel grade drill hole traces and estimation domains: Higher-grade (>0.25% Ni, red) and lower-grade (>0.15% Ni & <0.25% Ni, green) nickel domains, and the PGE reef (>0.25 ppm Pd+Pt, dark purple). UM wireframe for background (light purple).

Given that, in reality, the lower-grade domain comprises two independent zones, north and south of the higher-grade domain, the resource estimation corresponding to the “halo” was carried out separately within these two subdomains. It should also be mentioned that for elements like cobalt and iron, which show fairly stable concentrations across the ultramafic unit, a single estimation domain was used, corresponding to the combined higher and lower-grade domains volume.

The PGE reef, as previously stated, was modelled as a distinct layer or vein-like structure, using a 0.25 ppm Pd+Pt cut-off, constituting the estimation domain (see Figure 14-13). Due to the lack of evidence for the exact strike extension of the UM-GAB contact or the existence of significant PGE grades towards the western and eastern ends of the deposit, the PGE reef was restricted to the central section of the modelling area, within reasonable distance of the closest known composites.

Exploratory data analysis within the nickel domains, which together comprise 13,362 samples (88.5% of the database), shows an appropriate separation of the two nickel grade populations, evidenced by adequate distributions, statistical parameters and number of samples within each estimation domain (Figures 14-14 and 14-15).

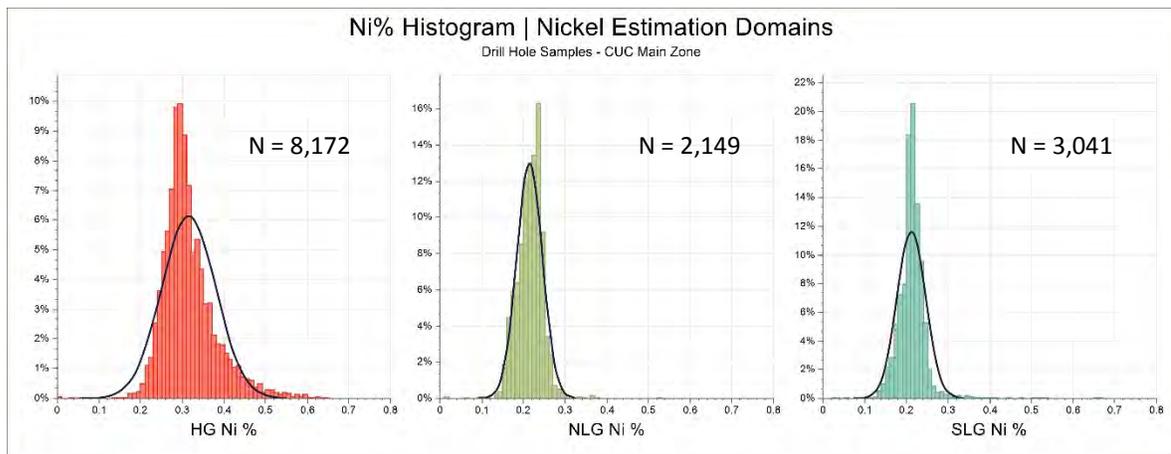


Figure 14-14. Main Zone nickel grade histograms with sample amounts for the higher-grade (HG), northern lower-grade (NLG) and southern lower-grade (SLG) nickel estimation domains.

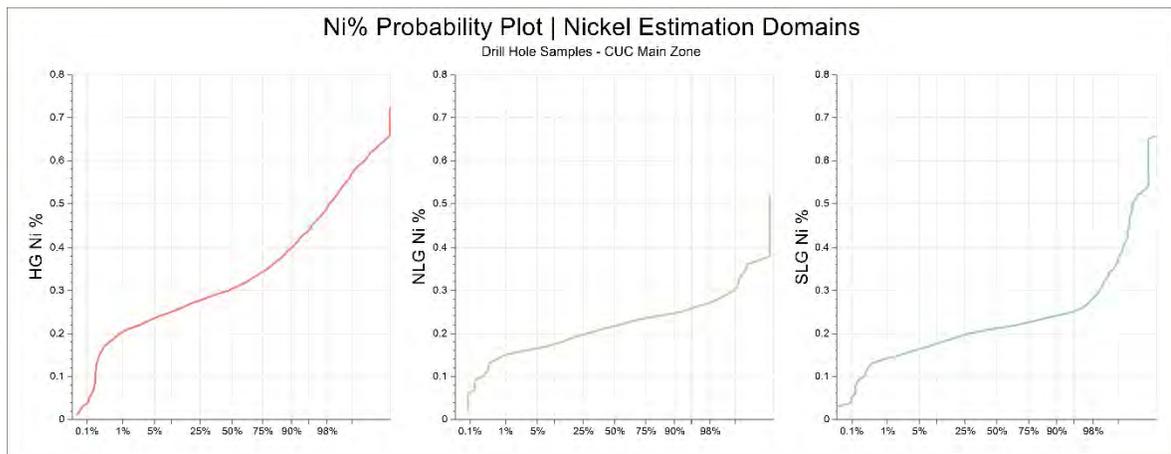


Figure 14-15. Main Zone nickel grade probability plots for the higher-grade (HG), northern lower-grade (NLG) and southern lower-grade (SLG) nickel estimation domains.

### 14.6.3 Main Zone: Compositing and Capping

Considering that over 99% of the drill hole samples are 1.5 m in length and blocks are 9.0 m in height (see Section 14.8, Block Modelling), composites of 3.0 m and 4.5 m were tested within the nickel estimation domains. After comparing them, the 4.5 m composites were retained, as they

yielded more optimal results during variography. Capping was evaluated on the basis of a combination of statistical plots and decile analyses and was not applied unless absolutely necessary.

The resulting 4.5 m capped composites for nickel and secondary elements such as cobalt, iron and sulphur, show generally adequate distributions and statistical parameters for OK resource estimation (Table 14-3). In the case of palladium and platinum, within the higher-grade domain they present sufficiently adequate distributions and parameters, while in the lower-grade domains, the high number of samples below detection limit coupled with very high statistical dispersion made them unsuitable for estimation at this stage.

Table 14-3. Main zone capping values and summary statistics of samples and composites by domain and element.

DOMAIN	ELEMENT	1.5 m Drill Hole Samples					CAP VALUE	4.5 m Capped Composites				
		COUNT	MEAN	STD DEV	CV	MED		COUNT	MEAN	STD DEV	CV	MED
Higher-Grade	Ni %	8172	0.315	0.065	0.207	0.303	NC	2720	0.315	0.056	0.177	0.307
	S %	8172	0.19	0.227	1.193	0.12	NC	2720	0.19	0.220	1.157	0.117
	Pd ppm	8172	0.028	0.054	1.962	0.019	0.263	2720	0.027	0.031	1.161	0.02
	Pt ppm	8172	0.011	0.019	1.755	0.008	0.118	2720	0.011	0.012	1.165	0.008
Northern Lower-Grade	Ni %	2149	0.215	0.031	0.143	0.218	NC	717	0.215	0.027	0.127	0.219
	S %	2149	0.043	0.049	1.12	0.03	0.3	717	0.043	0.043	1.005	0.027
	Pd ppm	2149	0.006	0.019	2.961	0.0025	NE	-	-	-	-	-
	Pt ppm	2149	0.005	0.009	1.767	0.0025	NE	-	-	-	-	-
Southern Lower-Grade	Ni %	3041	0.213	0.045	0.211	0.213	0.35	1012	0.212	0.026	0.123	0.214
	S %	3041	0.044	0.049	1.112	0.03	0.25	1012	0.043	0.043	0.986	0.03
	Pd ppm	3041	0.011	0.045	3.952	0.0025	NE	-	-	-	-	-
	Pt ppm	3041	0.01	0.027	2.672	0.0025	NE	-	-	-	-	-
Combined	Co %	13362	0.013	0.002	0.179	0.013	0.025	4448	0.013	0.002	0.149	0.013
	Fe %	13362	6.494	1.130	0.174	6.66	10	4448	6.493	1.037	0.16	6.69

NC = non-capped elements and NE = non-estimated elements.

Compositing within the PGE reef domain required a different approach. Given its narrow vein-like geometry, spanning widths at times close or even lower than the sampling length, samples within could not be composited in the traditional, regularized type of way. Instead, they were composited across their complete “piercing” length, leaving only one per drill hole. This resulted in seven (7) composites to work with for the PGE domain.

As previously noted, these composites do not have regularized lengths, as the domain may naturally vary in width and the drill holes cut through it at different angles, meaning that their estimation required some form of length weighting to compensate for this imbalance. Given that drilling lengths are most likely biased for the stated reasons, this weighting was based on the actual width of the structure relative to each composite, obtained from their corresponding wireframe (Table 14-4).

Table 14-4. Main zone PGE reef original and modified composite lengths, as well as composited values for each drill hole piercing the domain.

DRILL HOLE	Composite Length (m)	Domain Width (m)	Pd ppm	Pt ppm	PGE ppm	Ni %	Co %	Fe %	S %
CR19-12	13.5	7.7	0.315	0.493	0.807	0.06	0.013	7.38	0.04
CR19-13	7.5	4.9	0.735	1.012	1.747	0.05	0.012	7.00	0.03
CR19-15	1.5	0.9	0.298	0.058	0.356	0.04	0.007	4.87	0.01
CR19-16	7.5	5.0	0.772	0.958	1.730	0.06	0.013	7.10	0.04
CR19-29	4.5	2.8	0.349	0.484	0.834	0.05	0.011	4.81	0.16
CR20-59	10.5	6.6	0.540	0.772	1.313	0.04	0.01	5.86	0.08
CR20-61	1.5	0.9	0.127	0.200	0.327	0.08	0.016	7.70	0.03

#### 14.6.4 East Zone: Exploratory Data Analysis (EDA)

The East Zone nickel assay database comprises 3,164 results from drill core samples. In order to work only with samples taken in ultramafic rock, the database was flagged with the nickel domain portion of the UM wireframe, leaving 2,312 samples (73% of the database) for EDA. A histogram of this dataset shows a slight bimodal distribution for nickel, with a lower-grade population of 0.17-0.20% Ni and a higher-grade population of 0.23-0.29% Ni (Figure 14-16).

Somewhat similar to the Main Zone, this bimodal distribution is the result of a “core” of medium-high nickel concentrations (>0.21% Ni) grading to a not as extensive “halo” of medium-low concentrations to the north and south, quickly followed by low to barren concentrations. The two halo zones contribute in this case to a secondary population (left), as opposed to the major contribution of the core to the main population (right).

While a relationship with serpentinization cannot be proven here either, the association with lithologies seems more plausible, though not conclusive at this stage (Figure 14-17). Therefore, and to maintain consistency with the Main Zone work, grade shells were used as estimation domains.

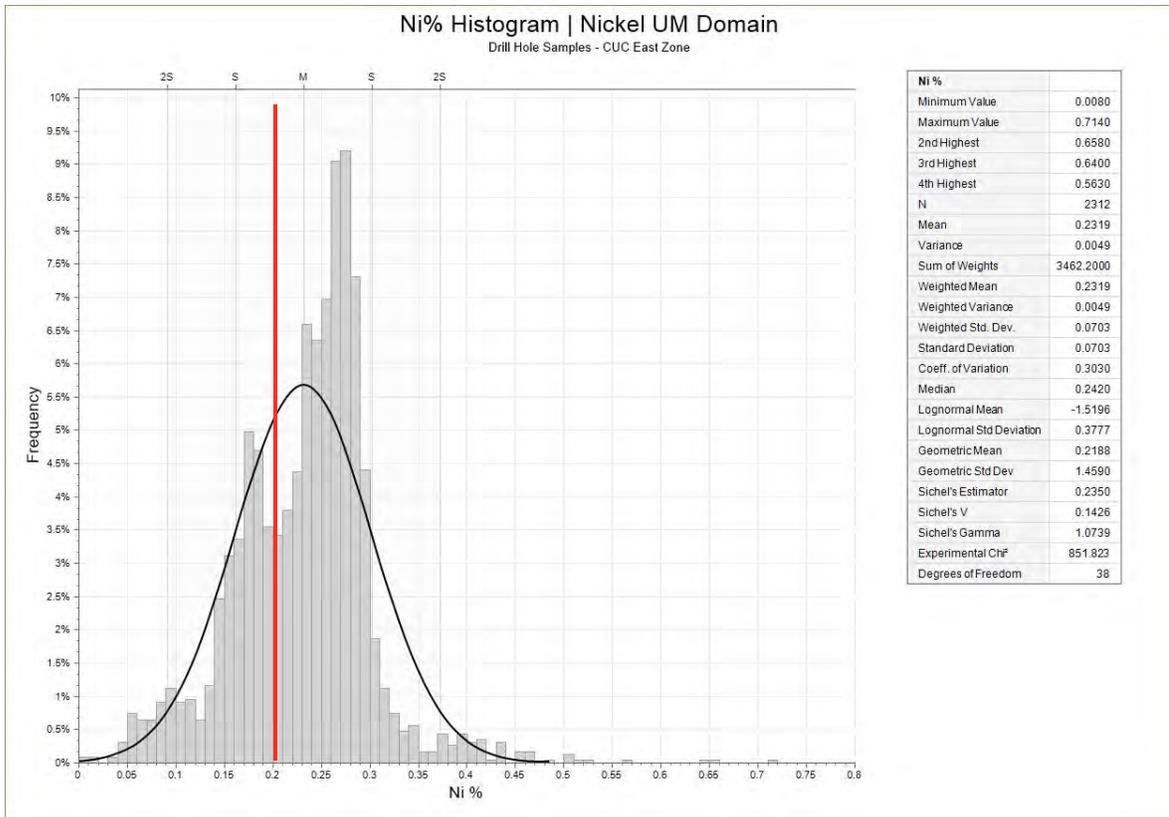


Figure 14-16. East Zone histogram showing the bimodal distribution of nickel grades within the nickel domain portion of the ultramafic unit, and the proposed 0.21% Ni cut-off (red line) to separate both populations.

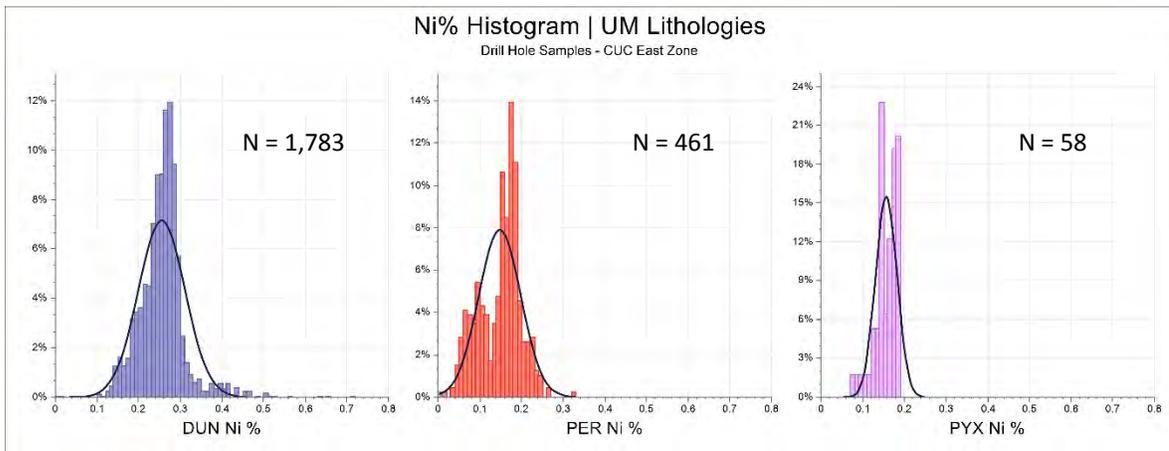


Figure 14-17. East Zone nickel grade histograms with sample amounts for dunite (DUN), peridotite (PER) and pyroxenite (PYX) within the nickel domain portion of the ultramafic unit.

Two PGE reefs with medium (>0.25 Pd+Pt ppm) to very high (>3 Pd+Pt ppm) grades could be identified in the data, each related to a specific peridotite-pyroxenite contact surface: The first (coded PGE-1) is located right at the northern end of the nickel domain, with 24 samples in 9 drill holes selected after a 0.50 Pd+Pt ppm cut-off, occurring at both sides of the contact (Figure 14-18);

while the second (PGE-2) is located near the northern end of the ultramafic domain, where it transitions to a gabbroic unit (similar to the Main Zone’s PGE reef), with 17 samples in 5 drill holes selected after a lower 0.25 Pd+Pt ppm cut-off, occurring only in the pyroxenite unit (Figure 14-19). Lower 0.1 Pd+Pt ppm cut-offs were tested, resulting in somewhat higher volumes but considerably lower averages, which supported the case for higher cut-offs. Again, these domains lack EDA due to the scarce data, and so all estimations carried out within them were deemed exploration targets.

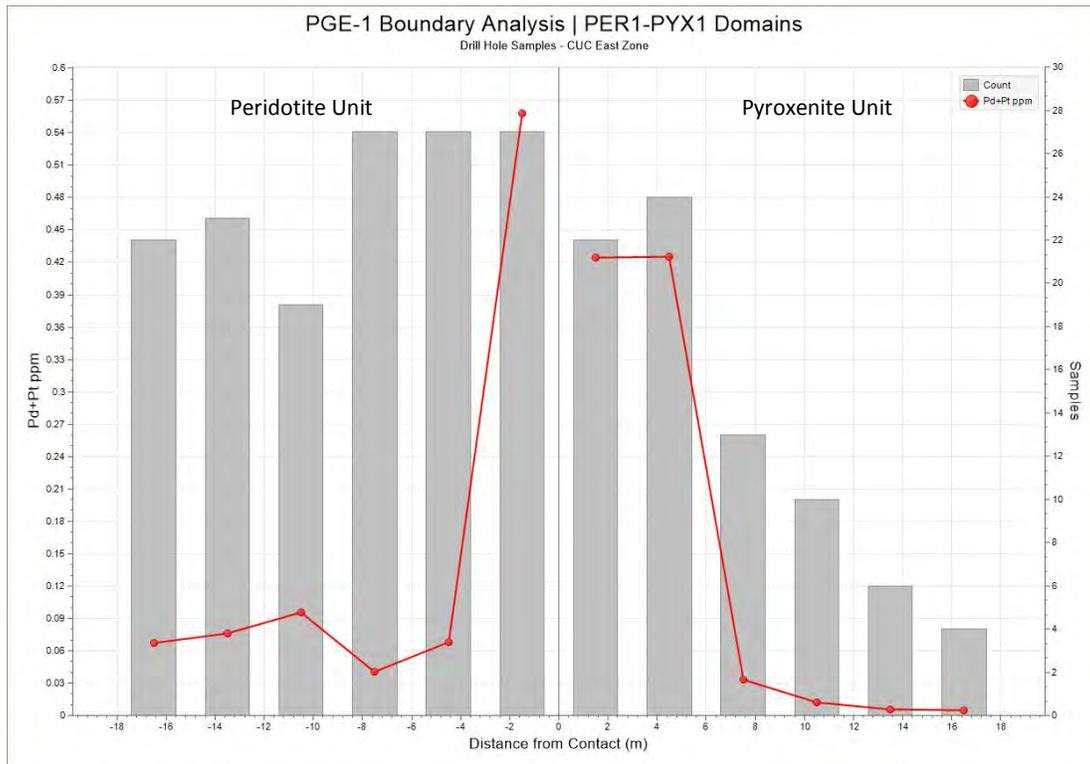


Figure 14-18. East Zone boundary analysis of the PGE-1 reef, showing PGE (Pd+Pt ppm) grades (red line) at the modelled contact between the central peridotite (PER-1) and pyroxenite (PYX-1) units or “layers”. A substantial grade increase is evident when approaching the boundary from both directions. Grey bars represent the number of samples at each distance point.

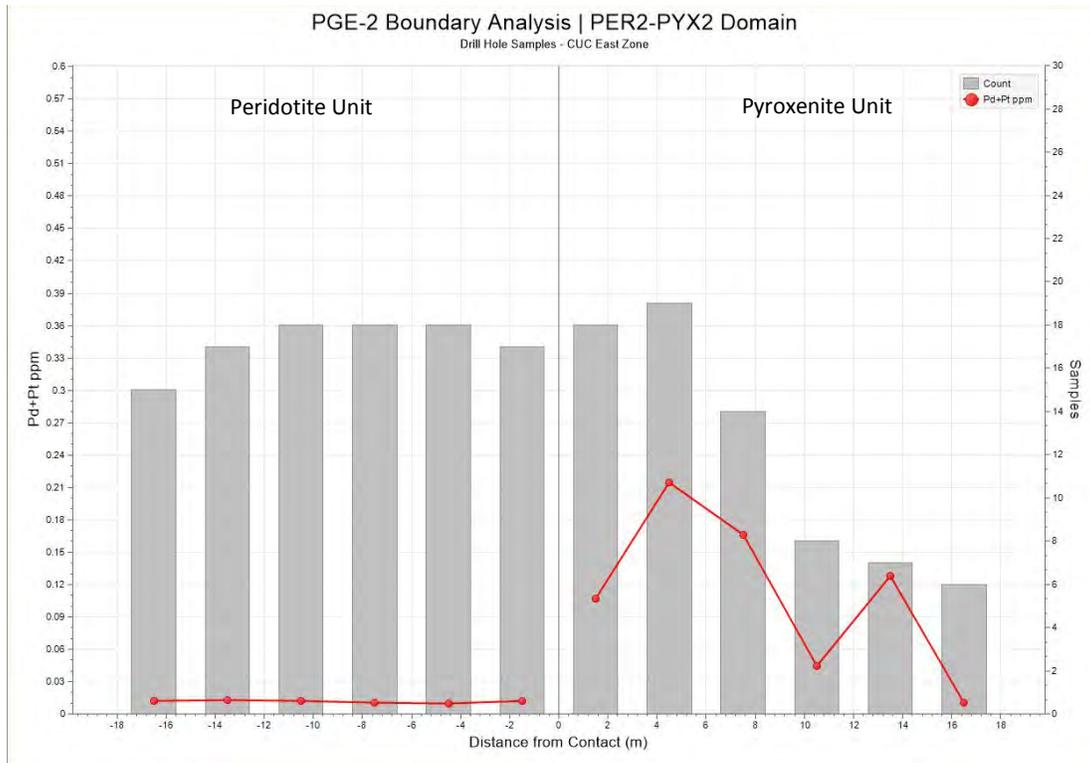


Figure 14-19. East Zone boundary analysis of the PGE-2 reef, showing PGE grades (Pd+Pt ppm, red line) at the modelled contact between the northern peridotite (PER-2) and pyroxenite (PYX-2) units or “layers”. A moderate grade increase is evident when approaching the boundary from the side of the pyroxenite unit, and virtually no PGE content right after it, in the domain of the peridotite unit. Grey bars represent the number of samples at each distance point.

#### 14.6.5 East Zone: Estimation Domains (Grade Shells)

The two nickel grade populations identified in the EDA were separated using a 0.21% Ni cut-off (red line in Figure 14-16) to first model the “core”, mostly comprised of medium-high grades within dunite, and then a minimum 0.15% Ni cut-off as the base for the “halo”, comprised of medium-low grades within a mix of dunite, peridotite and lesser pyroxenite. Both domains were generated by an interpolation process equivalent to the one used for the UM wireframe, intersecting them against the latter and each other to obtain the final higher-grade (inside the 0.21% Ni shell) and lower-grade (inside the 0.15% Ni shell, outside of the 0.21% Ni shell) estimation domains (Figure 14-13). It is important to note that the 0.15% Ni base cut-off left out 197 samples (with no economic interest), which is the reason for these domains not covering the entire nickel domain portion of the UM wireframe.

Given that, in reality, the lower-grade domain comprises two independent zones, north and south of the higher-grade domain, the resource estimation corresponding to the “halo” was carried out separately within these two subdomains.

The two PGE reefs, as previously stated, were modelled as vein-like structures using 0.5 and 0.25 Pd+Pt ppm cut-offs, constituting the PGE-1 and PGE-2 estimation domains respectively (Figure 14-20).

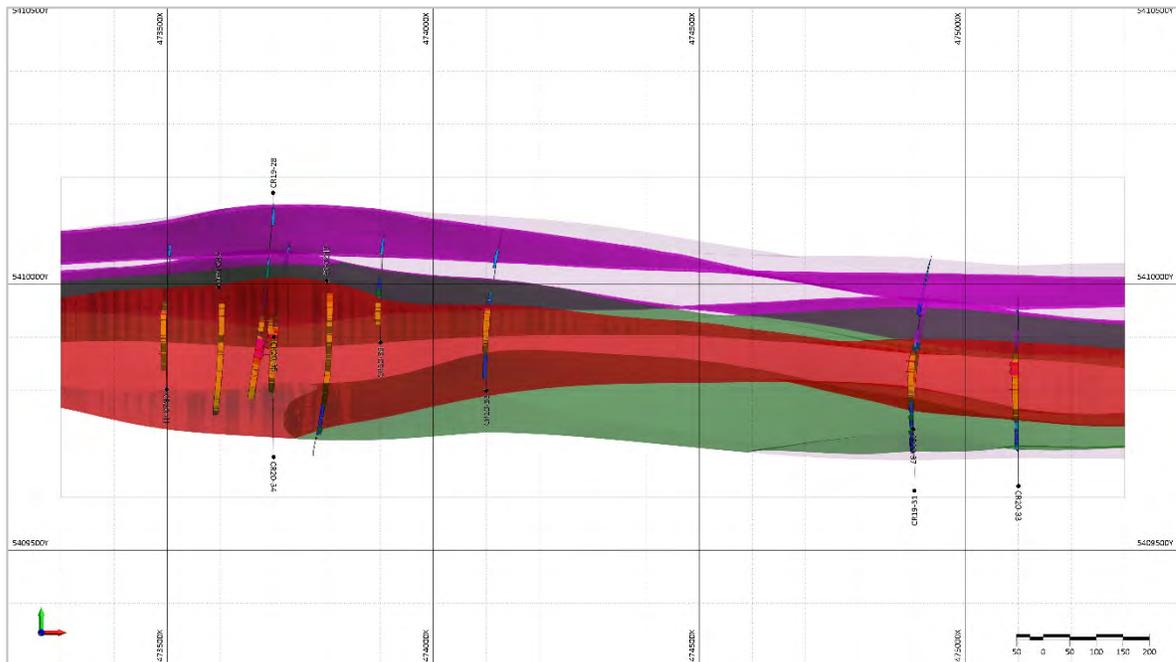


Figure 14-20. East Zone plan map with nickel grade drill hole traces and estimation domains: Higher-grade (>0.21% Ni, red) and lower-grade (>0.15% Ni and <0.21% Ni, green) nickel domains, and the PGE reefs (central >0.5 ppm and northern >0.25 ppm Pd+Pt, dark purple). UM wireframe for background (light purple).

Considering the geological consistency already described for this deposit (see Section 14.5.2, Geological Modelling), and the presence of high nickel and PGE grades in correlative units across the 800 m gap in drill hole data, all domains were extended to the full length of the modelling area. This will undoubtedly generate an important amount of exploration targets, mostly within the gap, which is to be expected at this stage.

Exploratory data analysis within the nickel domains, which together comprise 2,115 samples (67% of the database), shows an appropriate separation of the two nickel grade populations, evidenced by adequate distributions and statistical parameters for each estimation domain, though with relatively low sample numbers in the case of the lower-grade domains (Figures 14-21 and 14-22).

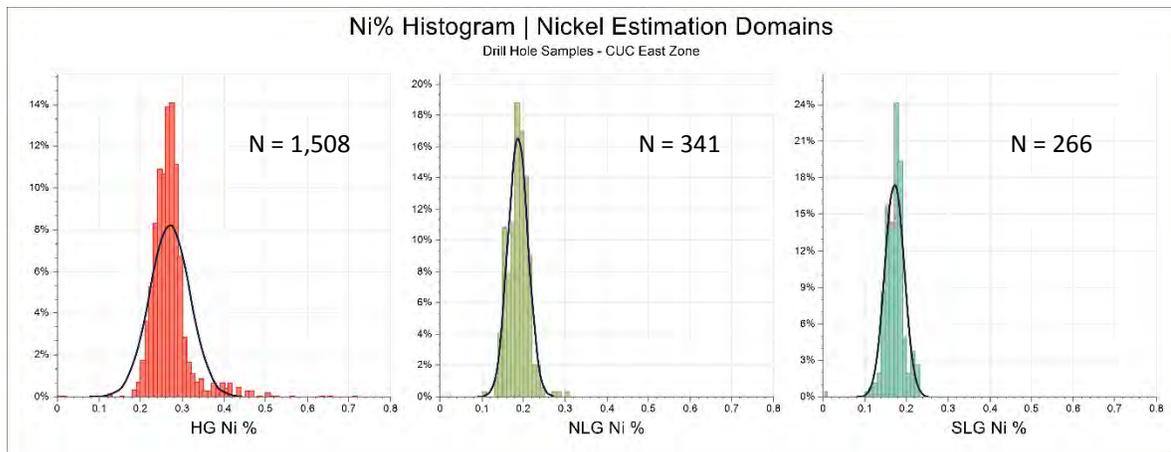


Figure 14-21. East Zone nickel grade histograms with sample amounts for the higher-grade (HG), northern lower-grade (NLG) and southern lower-grade (SLG) nickel estimation domains.

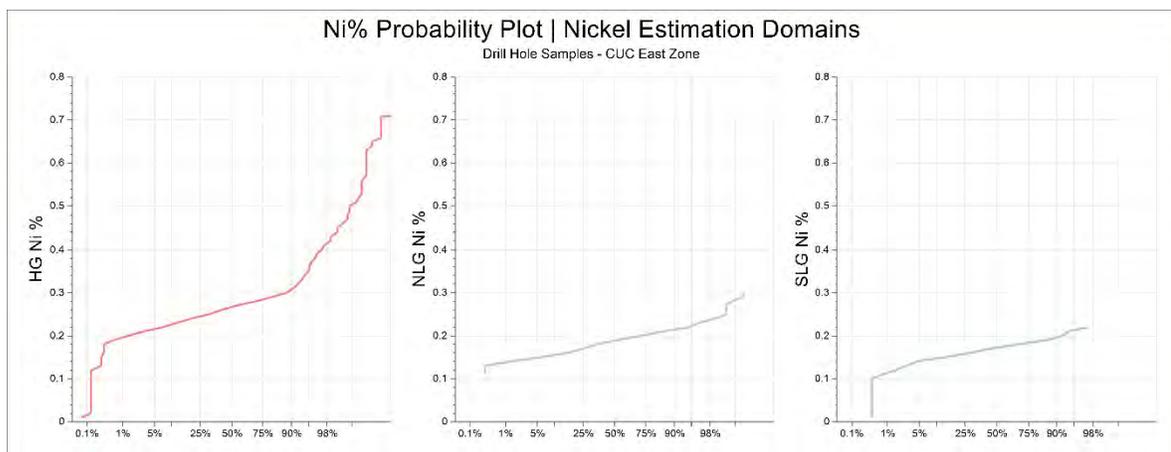


Figure 14-22. East Zone nickel grade probability plots for the higher-grade (HG), northern lower-grade (NLG) and southern lower-grade (SLG) nickel estimation domains.

#### 14.6.6 East Zone: Compositing and Capping

Considering that over 99% of the drill hole samples are 1.5 m in length, the 15.0 m height of the blocks (see Section 14.8, Block Modelling) and the sample database size, composites of 3.0 m were selected for the nickel estimation domains. Capping was evaluated on the basis of a combination of statistical plots and decile analyses and was deemed not necessary in any case.

The resulting 3.0 m composites for nickel and secondary elements such as cobalt, iron and sulphur, show sufficiently adequate distributions and statistical parameters for IDW resource estimation (Table 14-5). In the case of palladium and platinum, the high number of samples below detection limit coupled with very high statistical dispersion made them unsuitable for estimation at this stage.

Table 14-5. East Zone capping values and summary statistics of samples and composites by domain and element.

DOMAIN	ELEMENT	1.5 m Drill Hole Samples					CAP VALUE	3.0 m Composites				
		COUNT	MEAN	STD DEV	CV	MED		COUNT	MEAN	STD DEV	CV	MED
Higher-Grade	Ni %	1508	0.27	0.05	0.18	0.27	NC	754	0.27	0.04	0.16	0.27
	Co %	1508	0.013	0.002	0.13	0.012	NC	754	0.013	0.001	0.11	0.013
	Fe %	1508	6.05	0.79	0.13	5.94	NC	754	6.05	0.68	0.11	5.93
	S %	1508	0.04	0.04	1.10	0.03	NC	754	0.04	0.04	1.05	0.03
Northern Lower-Grade	Ni %	341	0.19	0.02	0.13	0.19	NC	172	0.19	0.02	0.12	0.19
	Co %	341	0.014	0.001	0.08	0.014	NC	172	0.014	0.001	0.07	0.014
	Fe %	341	7.11	0.82	0.12	7.06	NC	172	7.11	0.73	0.10	7.16
	S %	341	0.05	0.03	0.56	0.04	NC	172	0.05	0.03	0.54	0.05
Southern Lower-Grade	Ni %	266	0.17	0.02	0.13	0.17	NC	134	0.17	0.02	0.12	0.17
	Co %	266	0.013	0.001	0.10	0.013	NC	134	0.013	0.001	0.09	0.013
	Fe %	266	7.80	0.54	0.07	7.85	NC	134	7.80	0.44	0.06	7.84
	S %	266	0.01	0.01	0.86	0.01	NC	134	0.01	0.01	0.76	0.01

NC = non-capped elements and NE = non-estimated elements.

Compositing within the PGE reef domains followed the same approach as in the Main Zone (see Section 14.6.3, Main Zone: Compositing and Capping). This resulted in nine (9) composites to work with for the PGE-1 domain and 5 composites for the PGE-2 domain (Table 14-6).

Table 14-6. East zone PGE reefs original and modified composite lengths, as well as composited values for each drill hole piercing the two domains.

DOMAIN	DRILL HOLE	Composite Length (m)	Domain Width (m)	Pd ppm	Pt ppm	PGE ppm	Ni %	Co %	Fe %	S %
PGE-1	CR19-28	4.5	2.9	0.780	0.873	1.653	0.03	0.009	5.64	0.12
	CR19-31	3.0	1.7	0.737	0.849	1.586	0.03	0.009	6.51	0.02
	CR20-33	3.0	1.5	0.538	0.504	1.042	0.03	0.008	5.70	0.17
	CR20-34	4.5	4.3	0.865	0.891	1.755	0.06	0.014	8.18	0.06
	CR20-35	3.0	1.8	0.552	1.130	1.682	0.06	0.011	6.85	0.03
	CR20-36	3.0	2.1	0.037	0.065	0.101	0.05	0.01	6.30	0.06
	CR20-37	4.5	2.3	0.685	0.807	1.492	0.06	0.013	7.56	0.05
	CR20-38	4.5	3.3	0.836	0.988	1.824	0.03	0.008	6.01	0.17
	CR20-41	6.0	4.7	0.742	0.779	1.520	0.02	0.008	6.07	0.07
PGE-2	CR19-28	6.0	4.0	0.150	0.245	0.395	0.04	0.006	5.41	0.02
	CR20-34	4.5	3.4	0.171	0.275	0.445	0.04	0.006	5.67	0.04
	CR20-36	4.5	3.1	0.145	0.226	0.371	0.04	0.006	5.77	0.01
	CR20-37	6.0	2.7	0.162	0.253	0.415	0.04	0.006	5.74	0.01
	CR20-38	4.5	3.4	0.153	0.259	0.412	0.04	0.006	5.55	0.02

## 14.7 Specific Gravity

The specific gravity or rock densities are used to calculate tonnages for the estimated volumes derived from the resource-grade block model. These come from drill core SG measurements collected in the field as part of the core logging procedures.

### 14.7.1 Main Zone

The specific gravity database is comprised of 3,929 samples taken in every drill hole, with the exception of CR20-56, one of the westernmost holes and the only with a northwest dip direction. These were obtained during two drilling campaigns at different rates: The first campaign has 3,491 samples taken every 2-6 m, with the majority of them every 4 m, while the second campaign has 438 samples taken every 14-20 m, with no preference for a specific sampling rate. This sample density and distribution allowed for specific gravity estimation within the general ultramafic unit.

In order to work only with samples taken in ultramafic rock, the database was flagged with the lithology table, leaving 3,614 samples (92% of the database) for estimation. A histogram of this dataset shows a very good distribution (Figure 14-23), with a very small secondary population of higher values (>2.9 g/cm<sup>3</sup>) which does not merit domaining, given that a good amount of them are more or less scattered throughout the ultramafic unit.

No compositing was performed, since each sample represents a single point and not an interval. Capping was not deemed necessary either. Variography yielded appropriate ranges, and the estimation was carried out in a 12 m x 12 m x 9 m block model of the UM wireframe (matching the estimation domains block model), following similar parameters to the resource estimation (see Section 14.10, Estimation Strategy). Results were validated through visual, moving window and statistical approaches (Table 14-7), presenting no major issues.

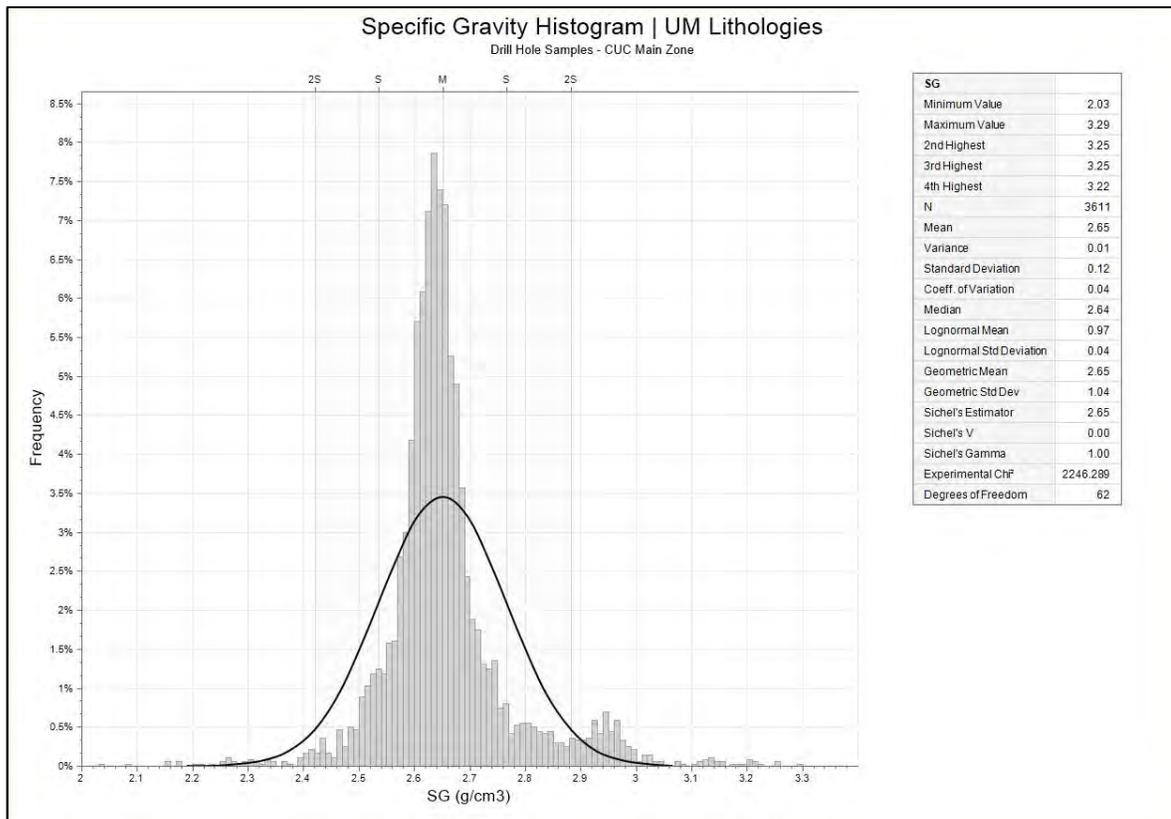


Figure 14-23. Main zone histogram of specific gravities within the ultramafic unit.

Table 14-7. Main Zone statistical validations of specific gravities by estimation domain and for the general UM wireframe.

DOMAIN	DATA	MEAN	BIAS	STD DEV	CV	MED
Higher-Grade	Samples	2.62	-	0.112	0.043	2.62
	OK	2.64	0.9%	0.089	0.034	2.64
	IDW	2.64	0.9%	0.091	0.035	2.64
	NN	2.66	1.3%	0.172	0.065	2.63
Northern Lower-Grade	Samples	2.62	-	0.076	0.029	2.63
	OK	2.65	1.1%	0.063	0.024	2.65
	IDW	2.65	1.0%	0.063	0.024	2.64
	NN	2.66	1.2%	0.100	0.038	2.64
Southern Lower-Grade	Samples	2.70	-	0.121	0.045	2.67
	OK	2.71	0.3%	0.092	0.034	2.71
	IDW	2.71	0.3%	0.096	0.036	2.70
	NN	2.72	0.8%	0.152	0.056	2.68
General Ultramafic	Samples	2.65	-	0.123	0.046	2.64
	OK	2.69	1.3%	0.095	0.035	2.68
	IDW	2.69	1.3%	0.098	0.037	2.68
	NN	2.70	1.8%	0.153	0.057	2.67

The final average specific gravity for the ultramafic unit is 2.69 g/cm<sup>3</sup>. Individual block values were assigned to each estimation domain for tonnage calculations. A quick review reveals similar averages for the HG and NLG domains of approximately 2.65 g/cm<sup>3</sup>, which agrees with the average specific gravity used in the previous resource estimate (Jobin-Bevans et al., 2020), while the SLG presents a slightly higher average of 2.71 g/cm<sup>3</sup>. The PGE reef domain was not covered by this estimation, as it was developed separately, instead using an average specific gravity of 2.83 g/cm<sup>3</sup> for tonnage calculations, calculated from samples contained within the domain.

Furthermore, and based only on drill hole values, metavolcanic rocks (MV) show an average specific gravity of 2.74 g/cm<sup>3</sup> in 231 samples, while gabbroic rocks (GAB) show a marked high specific gravity of 2.98 g/cm<sup>3</sup> in 79 samples, matching a strong regional gravity anomaly north of the resource area. These contrasting specific gravities also serve as a reference for the identification of the main northern and southern lithological contacts.

In order to check against the SG measurements being made in the field, 25 samples were selected for specific gravity measurements at the laboratory. Interestingly, the average SG for samples from the ultramafic unit returned a value of 2.69 g/cm<sup>3</sup>. These 25 samples, which were collected from a limited sample population (2 drill holes), are not reliably representative of the SG for the ultramafic unit but are in agreement with the average calculated specific gravity (see Table 14-7).

### 14.7.2 East Zone

The specific gravity database is comprised of 396 samples taken in every drill hole. These were obtained at two different average rates: The first group has 143 samples taken every 2-6 m, with the majority of them every 4 m, while the second campaign has 253 samples taken every 14-20 m, with no preference for a specific sampling rate. At this stage, and with this sample density and distribution, it was not possible to carry out an specific gravity estimation within the nickel domain

of the ultramafic unit. Instead, average values were calculated from drill hole samples for each estimation domain (Figure 14-24).

The average specific gravities of the estimation domains reveal more or less similar results to the Main Zone, with 2.62 g/cm<sup>3</sup> for the HG domain, 2.66 g/cm<sup>3</sup> for the NLG domain and 2.74 g/cm<sup>3</sup> for the SLG domain, which were used for tonnage calculations. The final average specific gravity for the nickel domain of the ultramafic unit is also similar to the Main Zone, with 2.65 g/cm<sup>3</sup>. This comparison further reinforces the interpretation of both zones as part of the same system.

The PGE reefs also used average specific gravities for tonnage calculations, calculated from samples within the domains, with 2.83 g/cm<sup>3</sup> for the PGE-1 domain and 3.0 g/cm<sup>3</sup> for the PGE-2 domain.

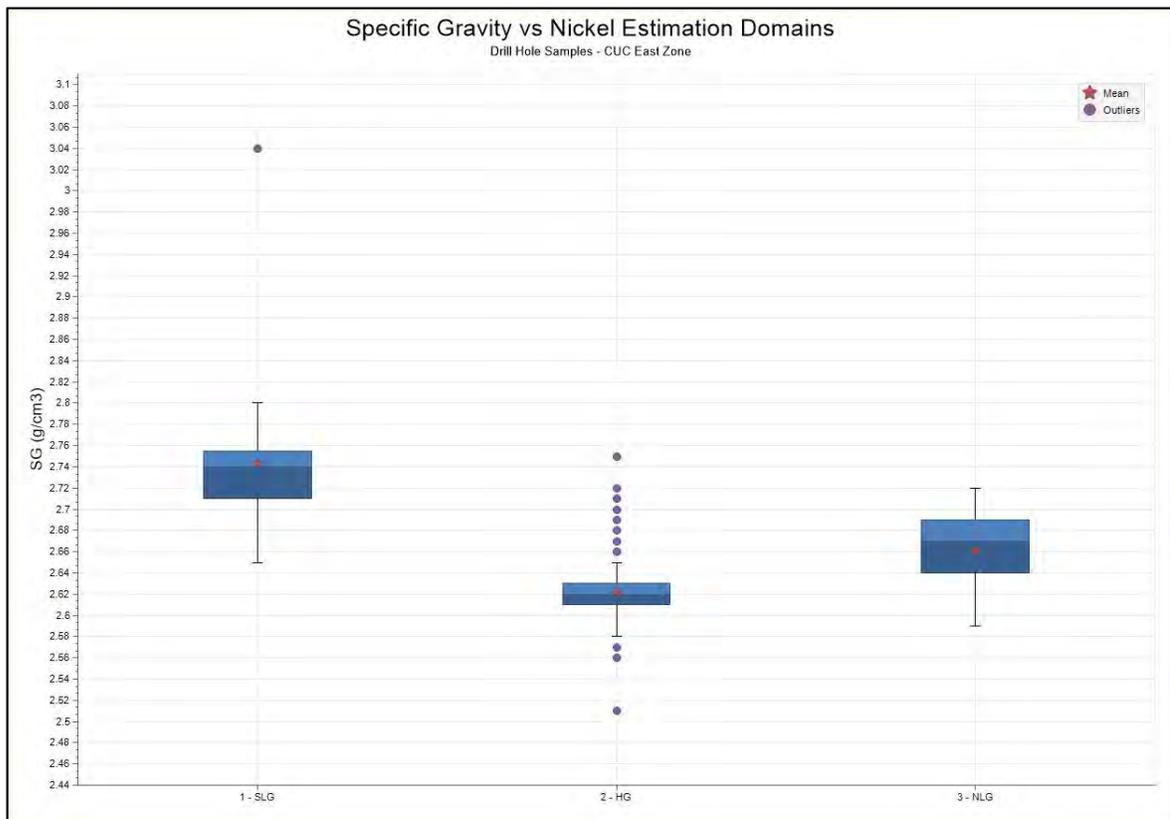


Figure 14-24. East Zone box plot of specific gravity by nickel estimation domain, from south (left) to north (right), showing the southern lower-grade (SLG), higher-grade (HG) and northern lower-grade (NLG) domains.

An analysis of specific gravities applied to the lithological units or layers, modelled within the UM wireframe (see Section 14.5.2, Geological Modelling), provided valuable insights during geological interpretation and domaining, the most outstanding being the clear divide (black line in Figure 14-25) between a southern nickel rich domain (approx. 2.7 g/cm<sup>3</sup>) and a northern nickel barren one with major PGE occurrences (approx. 3.0 g/cm<sup>3</sup>). The PGE reefs in the latter are also associated to sharp specific gravity changes (red outlines in Figure 14-25).

Like in the Main Zone, the higher values north of the resource area match a strong regional gravity anomaly. However, it's difficult to derive from specific gravity the contacts of the ultramafic unit with the gabbroic rocks to the north and metavolcanic rocks to the south (purple lines in Figure 14-25), as they are pretty similar across the boundary.

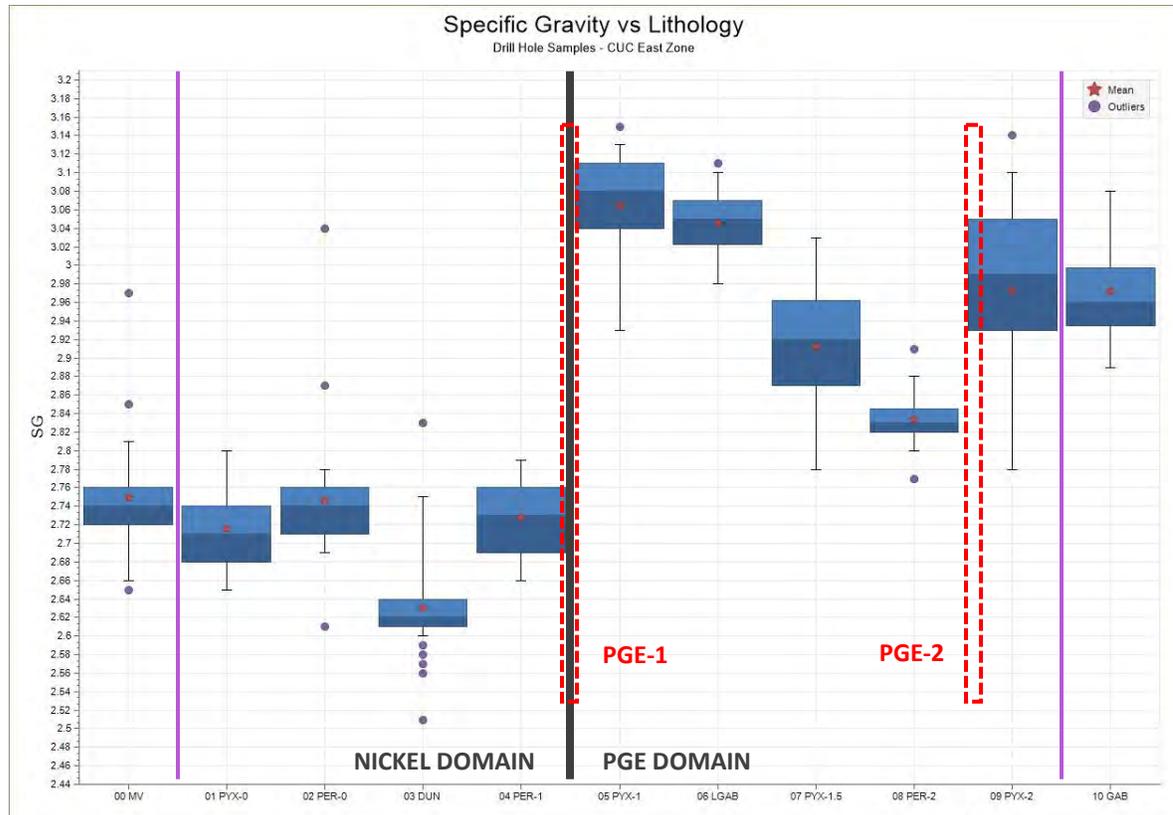


Figure 14-25. East Zone box plot of specific gravity by lithology unit or “layer”, from south (left) to north (right). The black line represents the limit between the southern nickel domain and the northern PGE domain, the segmented red outlines mark the location of the PGE reefs, and the purple lines are the limits of the ultramafic unit, specifically the MV-UM (south) and UM-GAB (north) contacts.

## 14.8 Block Modelling

### 14.8.1 Main Zone

For the purpose of the nickel resource and specific gravity estimates, a parent block model was set up to populate the complete UM wireframe and, by extension, the estimation domains within it. Following the work done during the previous resource estimate (Jobin-Bevans et al., 2020) and considering the relative homogeneity and volume of the deposit, as well as the infill campaign that improved the density of the drilling grid, a block model of 12 m x 12 m x 9 m was deemed appropriate.

Given that it matches the UM wireframe, the model reaches a depth of 650 m below the overburden-basement rock contact, approximately 40 m below surface, and it has been rotated to a

285 azimuth, roughly in the direction of the main nickel mineralization trend (Table 14-8). Sub-blocks were not defined, instead a column of fill percentage was used for tonnage calculations.

The resulting estimation block models come from the same blocking parameters, changing only the wireframe that would be filled. This approach ensures coherency in order to share or compare data from matching blocks, and also to combine them for classification purposes and grade analyses. The area covered by these models is sufficiently large to host a theoretical open pit.

For the purpose of the Main Zone PGE reef exploration targets estimation, a separate block model was set up. Considering the narrow nature of this structure, and in order to maintain the size ratio of the nickel resource block model in case larger parent blocks need to be used, an 8 m x 8 m x 6 m block model was selected, also rotated to a 285Az.

Table 14-8. Main Zone parent block model properties for the nickel resource and PGE reef.

<b>Nickel Block Model</b>	<b>X</b>	<b>Y</b>	<b>Z</b>	<b>PGE Block Model</b>	<b>X</b>	<b>Y</b>	<b>Z</b>
<b>Minimum Centroid Coordinates</b>	472400	5408450	-406.5	<b>Minimum Centroid Coordinates</b>	472700	5408600	-406.5
<b>Box Extents</b>	1956	948	729	<b>Box Extents</b>	1760	752	726
<b>Block Size</b>	12	12	9	<b>Block Size</b>	8	8	6
<b>Number of Blocks</b>	145	97	81	<b>Number of Blocks</b>	193	121	121
<b>Rotation (Azimuth)</b>	15° (285°)		-	<b>Rotation (Azimuth)</b>	15° (285°)		-

#### 14.8.2 East Zone

For the purpose of the nickel resource estimate, a parent block model was set up to populate the complete UM wireframe and, by extension, the estimation domains within it. Following similar work done at the analogous Dumont Sill (e.g., Ausenco, 2019) and the previous mineral resource estimate of the Main Zone (Jobin-Bevans et al. 2020), considering the volume and homogeneity of the deposit, as well as the stage of the Project, a block model of 20 m x 20 m x 15 m was deemed appropriate.

Given that it matches the UM wireframe, the model reaches a depth of 560 m below the overburden-basement rock contact, approximately 40 m below surface, with no rotation (Table 14-9).

Table 14-9. East Zone parent block model properties for the nickel resource and PGE reefs.

<b>Nickel Block Model</b>	<b>X</b>	<b>Y</b>	<b>Z</b>	<b>PGE Block Model</b>	<b>X</b>	<b>Y</b>	<b>Z</b>
<b>Minimum Centroid Coordinates</b>	473000	5409600	-406.5	<b>Minimum Centroid Coordinates</b>	473286	5409846	-327
<b>Box Extents</b>	2720	620	735	<b>Box Extents</b>	2072	392	654
<b>Block Size</b>	20	20	15	<b>Block Size</b>	8	8	6
<b>Number of Blocks</b>	136	31	49	<b>Number of Blocks</b>	259	49	109
<b>Rotation (Azimuth)</b>	-		-	<b>Rotation (Azimuth)</b>	-		-

Sub-blocks were not defined, instead a column of fill percentage was used for tonnage calculations. The resulting estimation block models come from the same blocking parameters, changing only the

wireframe that would be filled. The area covered by these models is sufficiently large to host a theoretical open pit which will be considered in future work.

The PGE reefs models followed the same approach as in the Main Zone, selecting 8 m x 8 m x 6 m block models for the corresponding estimates.

## 14.9 Variography

### 14.9.1 Main Zone

Variograms were modelled for the six studied elements in each of the nickel estimation domains, depending on the spatial distribution and variability of their grades within the ultramafic unit:

- Higher-grade domain (HG): Nickel, sulphur, platinum and palladium (Figure 14-26).
- Northern lower-grade domain (NLG): Nickel and sulphur (Figure 14-27).
- Southern lower-grade domain (SLG): Nickel and sulphur (Figure 14-28).
- Combined estimation domain (EST): Cobalt and iron (Figure 14-29).

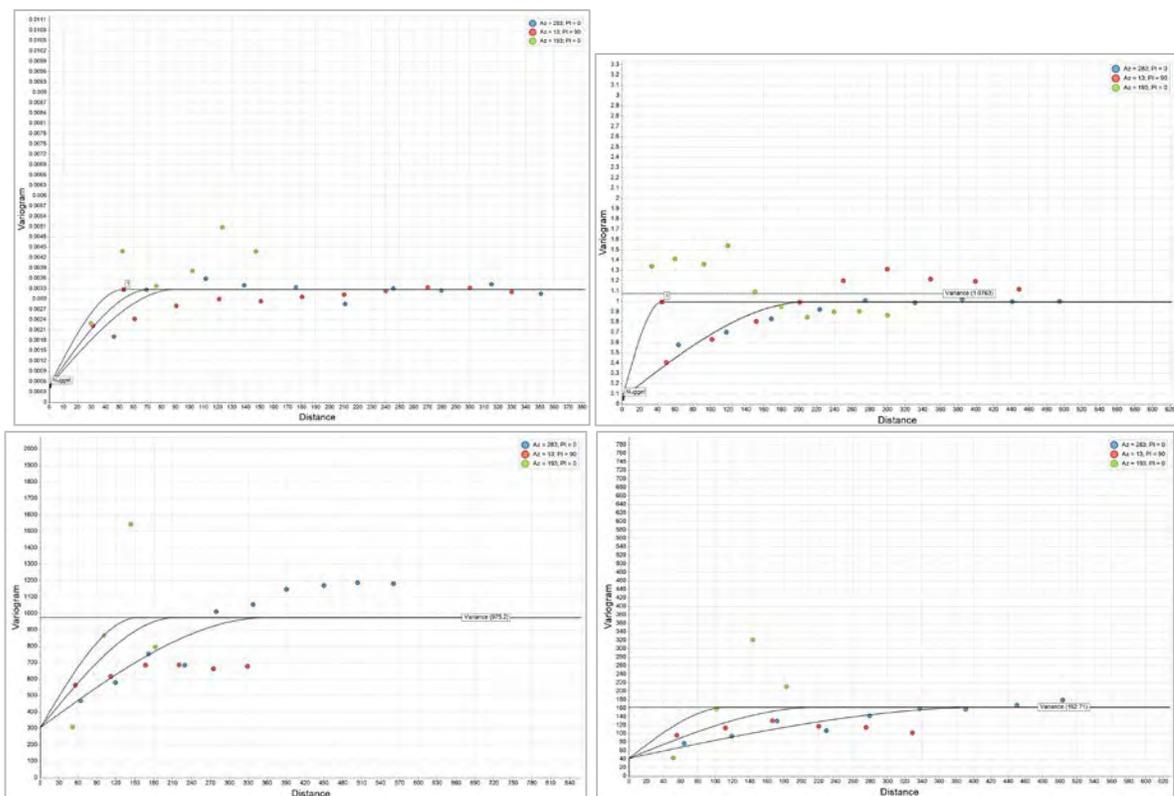


Figure 14-26. Main Zone higher-grade domain variograms for nickel (upper left), sulphur (upper right), palladium (lower left) and platinum (lower right).

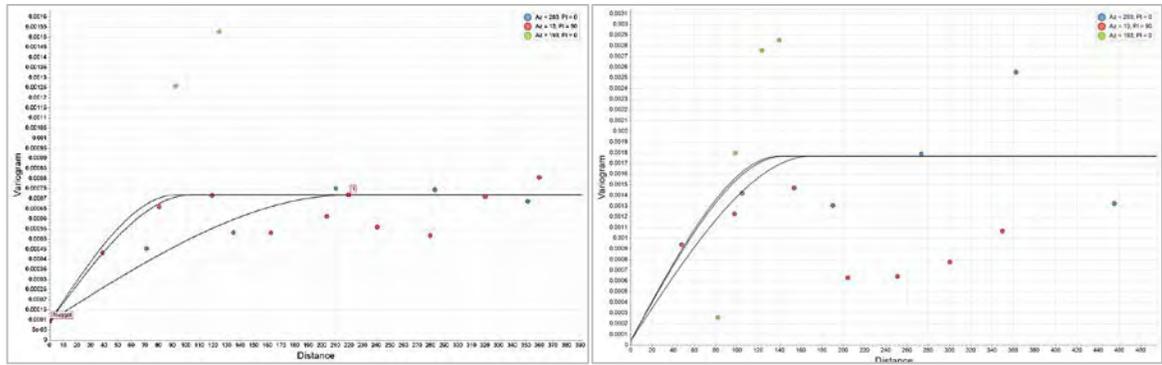


Figure 14-27. Main Zone northern lower-grade domain variograms for nickel (left) and sulphur (right).

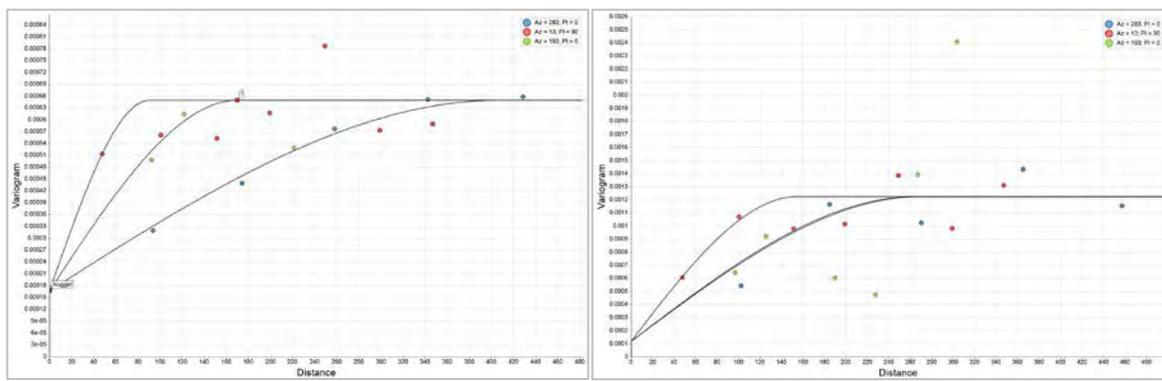


Figure 14-28. Main Zone southern lower-grade domain variograms for nickel (left) and sulphur (right).

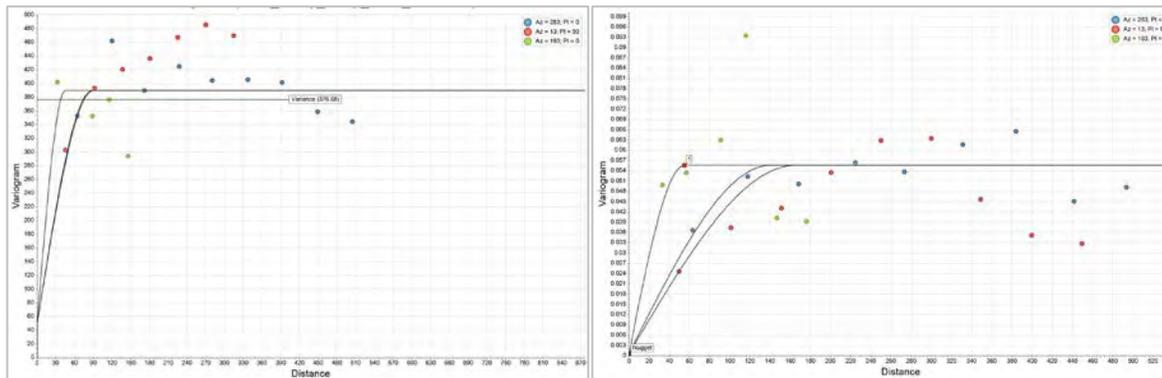


Figure 14-29. Main Zone combined estimation domain variograms for cobalt (left) and iron (right).

As previously mentioned, given that cobalt and iron show fairly stable concentrations across the ultramafic unit, they were modelled and estimated as if the three estimation domains were a single one. Platinum and palladium only met the criteria for OK estimation in the HG domain and were disregarded from the NLG and SLG domains due to unfavorable statistical parameters (see Section 14.6.3, Compositing and Capping).

Variogram directions for strike and dip were decided based on the nickel mineralization trend and drilling direction. The third direction, or pitch, was obtained by examination of variogram maps for each element. A down-the-hole variogram was also modelled in each case to obtain the nugget value.

Due to the low sample amounts, narrow intersections, and the estimation methodology employed for the PGE reef exploration target estimation, no variography was carried out.

#### **14.9.2 East Zone**

Insufficient drilling and sample density for variography, coupled with the 800 m data gap between drilling targets, meant OK estimation was not an option at this stage. Nevertheless, a variogram modelling exercise was performed with nickel grades within the higher-grade domain, in order to obtain experimental ranges for search ellipsoids in an IDW estimation, especially along the main east-west mineralization trend.

Due to the low sample amounts, narrow intersections and the estimation methodology employed for the PGE reefs exploration targets estimation, no variography was carried out either in this case.

### **14.10 Estimation Strategy**

#### **14.10.1 Main Zone: Estimation Methodology**

Following the decisions made during compositing (*see* Section 14.6.3, Main Zone: Compositing and Capping) and variography (*see* Section 14.9.1, Main Zone Variography), all estimations within the nickel domains were carried out using ordinary kriging.

The PGE reef domain, being a different structure type with single drill hole composites, would typically require a two-step process of grade\*width estimation and width estimation, after which actual grades could be obtained through a simple division operation in the block model. However, as the majority of the reef model is the result of loose geological inference and extrapolation of the modelling algorithm, using its widths for estimation against a grade\*width estimation of only a few composites could bias the final grades by putting the weight of the results mainly on the theoretical model instead of the drill hole data.

Hence, direct grade estimation was considered more appropriate, using inverse distance weighting with a power value 3 (IDW-3). The real domain width assigned to each composite was used in this case as a weighting factor, to provide further support to the interpolation.

#### **14.10.2 Main Zone: Estimation Parameters**

In the nickel estimation domains, search radii were based on the variogram ranges ("VR") modelled for each element, while interpolation parameters were replicated (Table 14-10). A three-pass strategy was implemented, each with successively larger search radii and more relaxed parameters.

In the PGE reef domain, since no variograms were modelled, a two-pass strategy was implemented, with the initial search radius based on average distances between composites, to estimate blocks in

the immediate vicinity of 3 or more composites, and the second having more relaxed parameters and double the initial search radius (Table 14-10).

Table 14-10. Main Zone search and estimation parameters for all elements in the nickel and PGE domains.

PARAMETER	NICKEL DOMAIN			PGE DOMAIN	
	1st	2nd	3rd	1st	2nd
Pass	1st	2nd	3rd	1st	2nd
Sector Search	Octant	Quadrant	Single	Single	Single
Minimum Sectors	NO			NO	
Maximum Points per Sector	4	4	16	NO	3
Minimum Total Points	4	4	1	3	1
Maximum Points per Drill Hole	4	4	8	NO	
Minimum Points per Drill Hole	2	2	1	1	1
Minimum Drill Holes	2	2	1	1	1
Search Radius Directions	283° Az / 90° Dip / 13° DipDir			290° Az / 90° Dip / 20° DipDir	
Ni/S Search Radius Criteria	VR	2x VR	5x VR	Axis 1: 300 m	Axis 1: 600 m
Pd/Pt Search Radius Criteria	0.5x VR	VR	2.5x VR	Axis 2: 350 m	Axis 2: 700 m
Co/Fe Search Radius Criteria	VR	2x VR	10x VR	Axis 3: 150 m	Axis 3: 300 m

#### 14.10.3 East Zone: Estimation Methodology

Following the decisions made during compositing (see Section 14.6.6, East Zone Compositing and Capping) and variography (see Section 14.9.2, East Zone Variography), all estimations within the nickel domains were carried out using inverse distance weighting, with a power value 2 (IDW-2).

The two PGE reef domains exploration targets estimation followed the same approach as in the Main Zone PGE Reef, with a direct grade estimation using inverse distance weighting with a power value 3 (IDW-3), and the real domain width as a weighting factor to the interpolation.

#### 14.10.4 East Zone: Estimation Parameters

In the nickel estimation domains, search radii were based on experimental ranges obtained in a variogram modelling exercise for nickel as well as geological continuities inferred from the lithological modelling, and were replicated for all elements along with other interpolation parameters (Table 14-11). A four-pass strategy was implemented, each with successively larger search radii and more relaxed parameters.

In the PGE reef domains, since no variograms were modelled, a two-pass strategy was implemented, with the initial search radius based on average distances between composites, to estimate blocks in the immediate vicinity of 3 or more composites, and the second having more relaxed parameters and double the initial search radius (Table 14-11).

Table 14-11. East Zone search and estimation parameters for all elements in the nickel and PGE domains.

PARAMETER	NICKEL DOMAIN				PGE DOMAIN	
	1st	2nd	3rd	4th	1st	2nd
Pass	1st	2nd	3rd	4th	1st	2nd
Sector Search	Single	Single	Single	Single	Single	Single
Minimum Sectors	NO				NO	
Maximum Points per Sector	24	24	24	24	NO	3
Minimum Total Points	1	1	1	1	3	1
Maximum Points per Drill Hole	4	4	6	6	NO	
Minimum Points per Drill Hole	2	2	2	2	1	1
Minimum Drill Holes	2	2	1	1	1	1
Search Radius Directions	93° Az / 90° Dip / 183° DipDir					
Search Radius Axis 1	120	150	200	700	400	750
Search Radius Axis 2	80	100	130	500	200	550
Search Radius Axis 3	40	50	75	300	150	350

## 14.11 Block Model Validation

Nickel resource estimates were validated by three methods: (1) Visual; (2) Statistical; and, (3) Moving Window Mean Plots (or Swath Plots). PGE exploration target estimates were validated solely by statistical parameters, as other methods proved unpractical. Validations are shown mainly for the corresponding main elements, and only when possible for other elements.

### 14.11.1 Main Zone: Visual Validation

Predefined sections (Figure 14-30), based on drill hole direction and location, were used for visual comparison of block models and composites, as well as plan views (Figure 14-31). These show generally good consistency between estimates and composites.

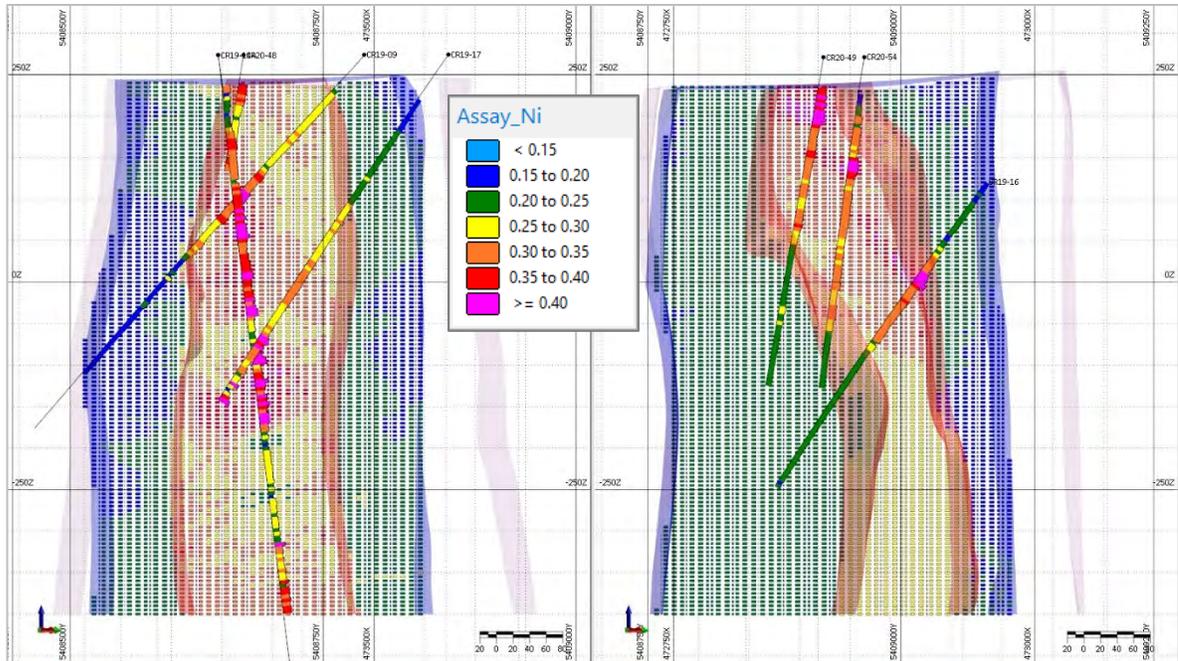


Figure 14-30. Main Zone cross-sections looking WNW along drill hole section lines 100E (left: CR19-14A, CR20-48, CR19-09, CR19-17) and 500W (right: CR20-49, CR20-54, CR19-16), comparing block models against nickel composites for all estimation domains. The UM wireframe is also shown as a transparent purple coloured outer shell.

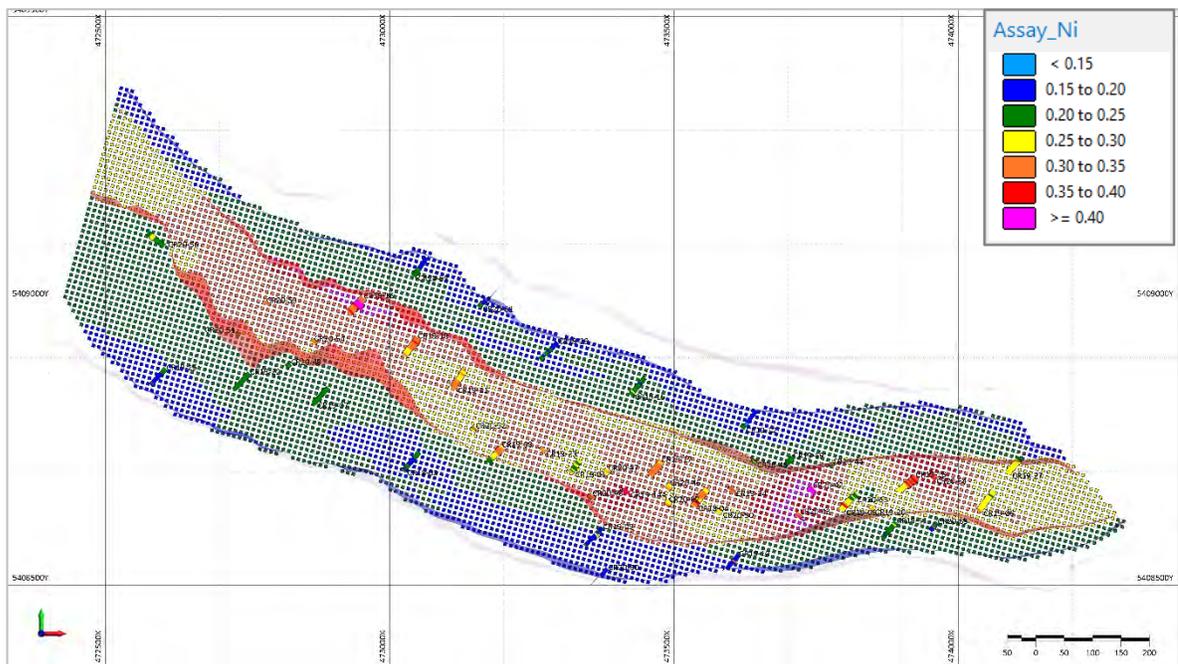


Figure 14-31. Main Zone plan cross-section looking down at 0 elevation, comparing block models against nickel composites for all estimation domains. The UM wireframe is also shown as a transparent purple outer shell.

### 14.11.2 East Zone: Visual Validation

Predefined sections (Figure 14-32), based on drill hole direction and location, were used for visual comparison of block models and composites, as well as plan views (Figure 14-33). These show generally good consistency between estimates and composites.

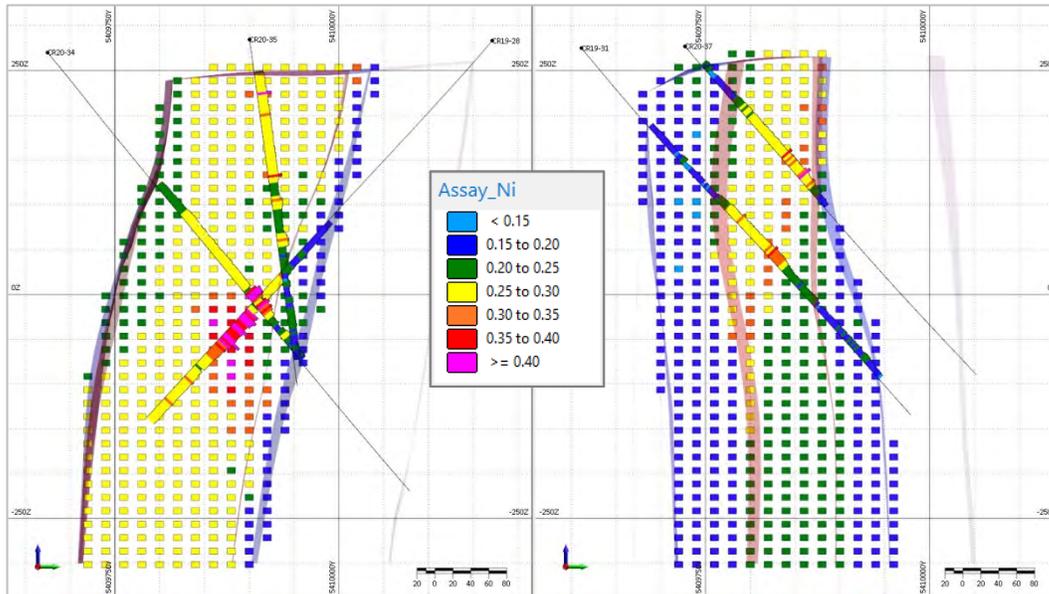


Figure 14-32. Main Zone cross-sections looking west along drill hole section lines 800W (left: CR20-34, CR20-35, CR19-28) and 400E (right: CR19-31, CR20-37), comparing block models against nickel composites for all estimation domains. The UM wireframe is also shown as a transparent purple coloured outer shell.

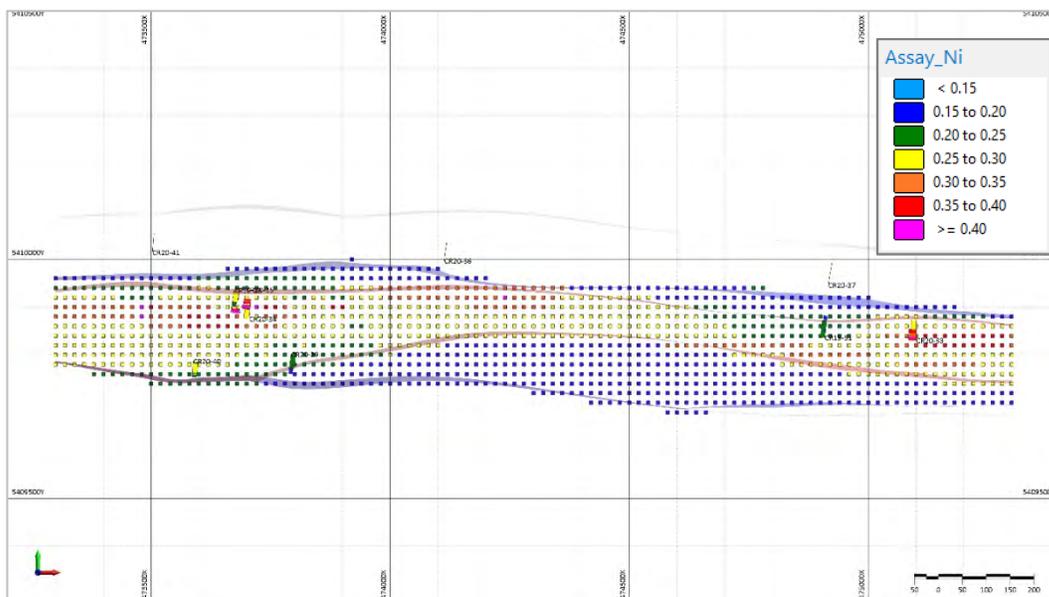


Figure 14-33. East Zone plan cross-section looking down at 0 elevation, comparing block models against nickel composites for all estimation domains. The UM wireframe is also shown as a transparent purple outer shell.

### 14.11.3 Main Zone: Statistical Validation

Global bias measures the percentage difference, which preferably should not exceed 5%, between estimates and composites. Statistical parameters for all studied elements are also presented for comparison. It should be noted that even though values are rounded, calculations are based on non-rounded values, and that very low grades tend to produce large percentage differences.

Most elements in the nickel domains (Table 14-12), specially nickel, show generally good consistency between estimates and composites, with sulphur as a notable exception, though not as significant.

Table 14-12. Main Zone global statistical comparisons between estimates and composites in nickel domains.

ELEMENT	DOMAIN	DATA	MEAN	BIAS	STD DEV	CV	MED
Ni %	HG	OK	0.30	-	0.03	0.11	0.30
		Composites	0.32	4.4%	0.06	0.18	0.31
		IDW	0.30	-0.6%	0.03	0.12	0.30
		NN	0.29	-2.4%	0.06	0.19	0.29
	NLG	OK	0.21	-	0.02	0.09	0.21
		Composites	0.21	2.1%	0.03	0.13	0.22
		IDW	0.21	-0.3%	0.02	0.10	0.21
		NN	0.21	-1.7%	0.03	0.16	0.20
	SLG	OK	0.21	-	0.01	0.07	0.22
		Composites	0.21	-0.8%	0.03	0.12	0.21
		IDW	0.21	0.1%	0.01	0.07	0.22
		NN	0.22	1.6%	0.03	0.13	0.22
Co %	EST	OK	0.013	-	0.001	0.08	0.013
		Composites	0.013	-0.1%	0.002	0.15	0.013
		IDW	0.013	-0.3%	0.001	0.09	0.013
		NN	0.013	-0.7%	0.002	0.14	0.013
Fe %	EST	OK	6.72	-	0.76	0.11	6.93
		Composites	6.49	-3.4%	1.04	0.16	6.69
		IDW	6.74	0.3%	0.77	0.11	6.92
		NN	6.76	0.6%	0.99	0.15	6.94
S %	HG	OK	0.15	-	0.15	1.01	0.10
		Composites	0.19	29.4%	0.22	1.16	0.12
		IDW	0.14	-4.9%	0.15	1.06	0.09
		NN	0.13	-9.5%	0.18	1.37	0.07
	NLG	OK	0.06	-	0.04	0.76	0.05
		Composites	0.04	-25.2%	0.04	1.01	0.03
		IDW	0.05	-8.0%	0.04	0.77	0.04
		NN	0.06	1.1%	0.06	1.07	0.03
	SLG	OK	0.04	-	0.03	0.74	0.03
		Composites	0.04	14.1%	0.04	0.99	0.03
		IDW	0.04	-1.9%	0.03	0.76	0.03
		NN	0.04	0.0%	0.04	1.03	0.03
Pd ppm	HG	OK	0.026	-	0.020	0.75	0.022
		Composites	0.027	0.2%	0.031	1.16	0.020
		IDW	0.026	-1.0%	0.021	0.82	0.021
		NN	0.026	-2.1%	0.032	1.24	0.018
Pt ppm	HG	OK	0.012	-	0.009	0.74	0.009
		Composites	0.011	-11.7%	0.012	1.17	0.008
		IDW	0.012	-1.5%	0.009	0.79	0.008
		NN	0.012	-2.2%	0.013	1.15	0.007

Small differences in very low grades, as previously explained, seem to be the cause of bias in domains NLG and SLG, while in the HG domain, the large bias is likely less due to the prior effect, and more to an overrepresentation of very high grades in the eastern section of the deposit, with much lower grades in the rest.

The PGE reef domain shows sufficiently good consistency between estimates and composites, here presented only for the main elements palladium and platinum (Table 14-13).

Table 14-13. Main Zone global statistical comparisons between Pd/Pt estimates and composites in the PGE domain.

ELEMENT	DOMAIN	DATA	MEAN	BIAS	STD DEV	CV	MED
Pd ppm	PGE	IDW	0.444	-	0.150	0.34	0.349
		Composites	0.448	1.0%	0.241	0.54	0.349
		NN	0.426	-3.9%	0.173	0.46	0.315
Pt ppm	PGE	IDW	0.617	-	0.199	0.37	0.492
		Composites	0.568	-7.9%	0.365	0.64	0.493
		NN	0.573	-7.2%	0.267	0.60	0.493

#### 14.11.4 East Zone: Statistical Validation

Statistical parameters for all studied elements are presented for comparison. It should be noted that even though values are rounded, calculations are based on non-rounded values, and that very low grades tend to produce large percentage differences. Notably, all elements in the nickel domains (Table 14-14) show good consistency between estimates and composites.

The PGE reef domains show sufficiently good consistency between estimates and composites, here presented only for the main elements palladium and platinum (Table 14-15).

Table 14-14. East Zone global statistical comparisons between measured, indicated and inferred blocks and composites in nickel domains.

ELEMENT	DOMAIN	DATA	MEAN	BIAS	STD DEV	CV	MED
Ni %	HG	IDW	0.27	-	0.03	0.13	0.26
		Composites	0.27	-0.1%	0.04	0.16	0.27
		NN	0.27	-0.5%	0.05	0.17	0.27
	NLG	IDW	0.18	-	0.01	0.08	0.18
		Composites	0.19	3.5%	0.02	0.12	0.19
		NN	0.18	-0.8%	0.02	0.12	0.18
	SLG	IDW	0.17	-	0.01	0.17	0.17
		Composites	0.17	-0.1%	0.02	0.12	0.17
		NN	0.17	1.1%	0.02	0.11	0.18
Co %	HG	IDW	0.013	-	0.001	0.06	0.013
		Composites	0.013	-1.2%	0.001	0.11	0.013
		NN	0.013	0.4%	0.001	0.10	0.013
	NLG	IDW	0.013	-	0.001	0.05	0.014
		Composites	0.014	0.1%	0.001	0.07	0.014
		NN	0.014	1.2%	0.001	0.08	0.014
	SLG	IDW	0.013	-	0.001	0.01	0.013
		Composites	0.013	0.6%	0.001	0.09	0.013
		NN	0.013	-0.3%	0.001	0.09	0.013
Fe %	HG	IDW	6.09	-	0.52	0.09	6.08
		Composites	6.05	-0.7%	0.68	0.11	5.93
		NN	6.17	1.2%	0.76	0.13	6.03
	NLG	IDW	7.33	-	0.50	0.07	7.31
		Composites	7.11	-3.0%	0.73	0.10	7.16
		NN	7.44	1.4%	0.82	0.11	7.30
	SLG	IDW	7.77	-	0.30	7.75	7.78
		Composites	7.80	0.3%	0.44	0.06	7.84
		NN	7.69	-1.1%	0.45	0.06	7.77
S %	HG	IDW	0.039	-	0.035	0.91	0.030
		Composites	0.039	0.3%	0.041	1.05	0.030
		NN	0.040	2.4%	0.042	1.07	0.030
	NLG	IDW	0.051	-	0.029	0.59	0.044
		Composites	0.049	-4.4%	0.026	0.54	0.045
		NN	0.050	-1.2%	0.035	0.70	0.045
	SLG	IDW	0.010	-	0.006	0.01	0.008
		Composites	0.011	10.6%	0.008	0.76	0.007
		NN	0.010	-0.7%	0.008	0.79	0.005

Table 14-15. East Zone global statistical comparisons between measured, indicated and inferred blocks and composites in nickel domains.

ELEMENT	DOMAIN	DATA	MEAN	BIAS	STD DEV	CV	MED
Pd ppm	PGE-1	IDW	0.621	-	0.179	0.30	0.682
		Composites	0.641	3.2%	0.253	0.40	0.737
		NN	0.559	-10.0%	0.288	0.53	0.685
	PGE-2	IDW	0.157	-	0.007	0.04	0.157
		Composites	0.156	-0.6%	0.010	0.07	0.153
		NN	0.157	0.1%	0.009	0.06	0.162
Pt ppm	PGE-1	IDW	0.719	-	0.209	0.30	0.788
		Composites	0.765	6.3%	0.312	0.41	0.849
		NN	0.686	-4.6%	0.356	0.54	0.807
	PGE-2	IDW	0.251	-	0.011	0.05	0.253
		Composites	0.251	0.1%	0.018	0.07	0.253
		NN	0.251	-0.2%	0.016	0.06	0.253

**14.11.5 Main Zone: Moving Window Validation**

Swath plots allow for localized statistical comparisons by averaging grades in sequential slices (or windows) through the estimated resource. Slice directions were aligned with the blocks, which means they were rotated 15°, and the slice width was selected depending on sample distribution in each direction. Nickel estimate plots (Figures 14-34 through 14-36) show composite count (grey bars), OK mean (dotted red line), IDW mean (green line), NN mean (blue line) and composite mean (black line).

All elements in the nickel domains show generally good consistency between estimates and composites, especially in windows with high composite counts. Some notable deviations between composites and/or estimates tend to occur, but these are usually in windows with low composite counts or with unusually high/low grades compared to the estimation trend.

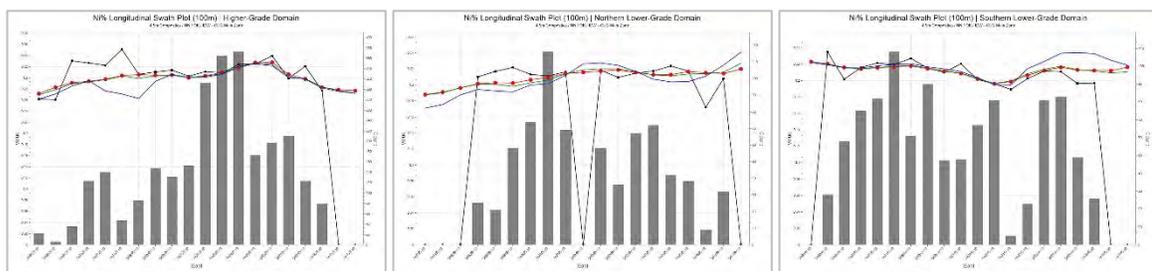


Figure 14-34. Main Zone 100-metre-spaced longitudinal swath plots for higher-grade (left), northern lower-grade (center) and southern lower-grade (right) domains.

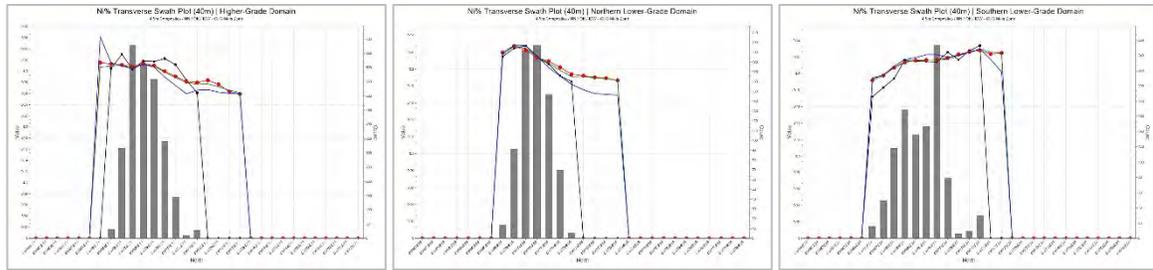


Figure 14-35. Main Zone 40-metre-spaced transverse swath plots for higher-grade (left), northern lower-grade (center) and southern lower-grade (right) domains.

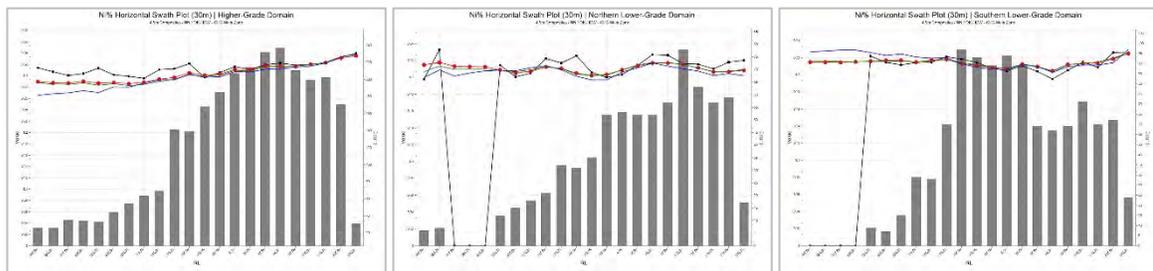


Figure 14-36. Main Zone 30-metre-spaced horizontal swath plots for higher-grade (left), northern lower-grade (center) and southern lower-grade (right) domains.

#### 14.11.6 East Zone: Moving Window Validation

Slice directions were aligned with the blocks (no rotation) and the slice width was selected depending on sample distribution in each direction. Nickel estimate plots (Figure 14-37) show composite count (grey bars), OK mean (dotted red line), IDW mean (green line), NN mean (blue line) and composite mean (black line).

Measured, indicated and inferred blocks within the higher-grade domain were considered for this validation. Lower-grade domains do not contain enough classified blocks for this type of validation. All elements evaluated under the prior conditions show generally good consistency between estimates and composites, especially in windows with high composite counts.

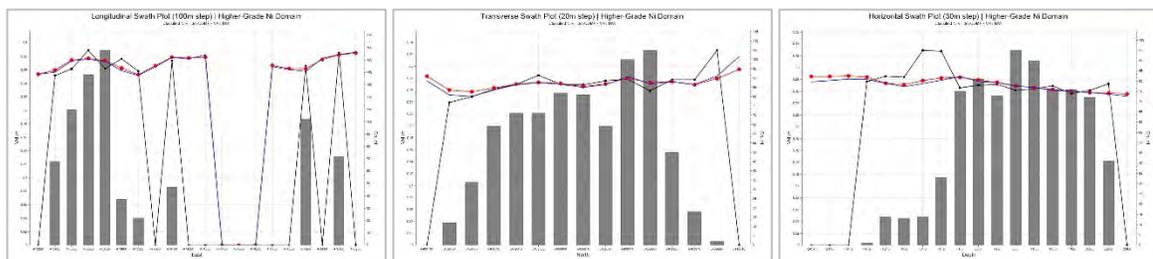


Figure 14-37. East Zone swath plots for classified blocks within the higher-grade domain: 100-metre-spaced longitudinal (left), 20-metre-spaced transverse (center) and 30-metre-spaced horizontal (right).

## 14.12 Mineral Resource Classification and Estimate

The mineral resources for the Project were classified in accordance with the most current CIM Definition Standards (CIM, 2014). The “CIM Definition Standards for Mineral Resources and Reserves” prepared by the CIM Standing Committee on Resource Definitions and adopted by the CIM council on May 19, 2014, provides definitions and standards for the classification of Mineral Resources and Mineral Reserves estimates as follows:

### ***Inferred Mineral Resource:***

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.

An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

### ***Indicated Mineral Resource:***

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 and is sufficient to assume geological and grade or quality continuity between points of observation.

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 Mineral Reserve.

### ***Measured Mineral Resource:***

A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit.

Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.

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

### 14.12.1 Main Zone: Mineral Resource Classification

Resource classification was based, as a first step, on the search ellipsoids from the higher-grade domain estimation passes (see Section 14.10.2, Estimation Strategy), given that it is the better informed of the three nickel domains, comprising almost two thirds (61%) of the drill hole samples valid for resource estimation. Specifically, this meant that measured resources would be limited to the first pass search radius, roughly equivalent to a 70-75 m grid, and 2 minimum drill holes; indicated resources would come from the second pass parameters, with a search radius roughly equivalent to a 140-150 m grid and 2 minimum drill holes, and finally inferred resources replicating the third pass parameters.

This classification criteria was applied separately within each of the nickel estimation domains. Once this initial step was completed, the three block models were merged, prioritizing blocks with higher fill percentage values when overlaps occurred. Then, in order to generate a coherent class distribution and reduce possible issues like artifacts, arbitrary shapes, isolated class blocks or very small block groups, block model shells were manually generated by going through the complete model from top to bottom, generating polylines which would then be turned into a wireframe, starting with indicated and then measured. Finally, these wireframes were flagged against the estimation domains to generate the final classification field (Figure 14-38).

As previously stated, the PGE reef domain in the Main Zone contains only exploration targets (see Section 14.15).

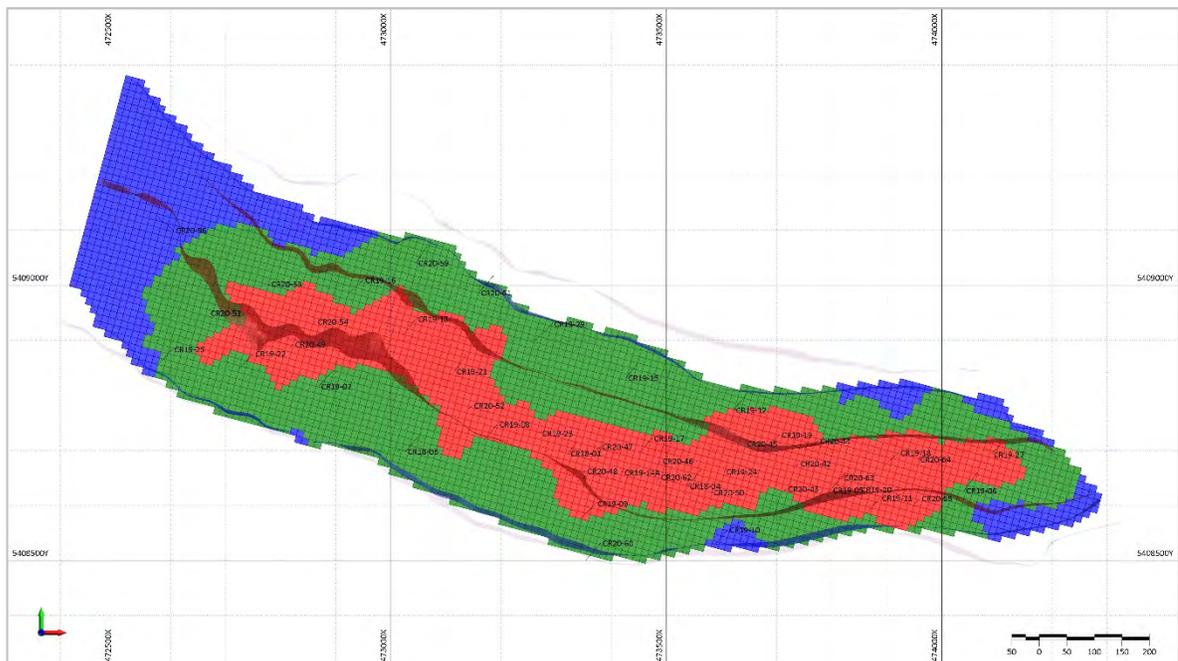


Figure 14-38. Main Zone plan cross-section looking down at 0 elevation, showing measured (red), indicated (green) and inferred (blue) blocks for all estimation domains. The UM wireframe is shown as a transparent purple outer shell, along with the lower- and higher-grade domains as dark blue and dark red inner shells.

### 14.12.2 East Zone: Mineral Resource Classification

Resource classification was based on the search ellipsoids defined for the estimation strategy of the deposit (see Section 14.10.4, Estimation Strategy). Specifically, this meant that measured resources would be limited to the first pass search radius, very roughly equivalent to a 80 m grid, and 2 minimum drill holes; indicated resources would come from the second pass parameters, with a search radius very roughly equivalent to a 100 m grid and 2 minimum drill holes, and finally inferred resources replicating the third pass parameters.

This classification criteria was applied separately within each of the nickel estimation domains (Figure 14-39). The eastern section of the deposit was not classified above inferred, given that it was only supported by three drill holes at the moment. No further refinements were carried out, as they were deemed unnecessary for a project at this stage.

As previously stated, the two PGE reef domains in the East Zone contain only exploration targets (see Section 14.15).

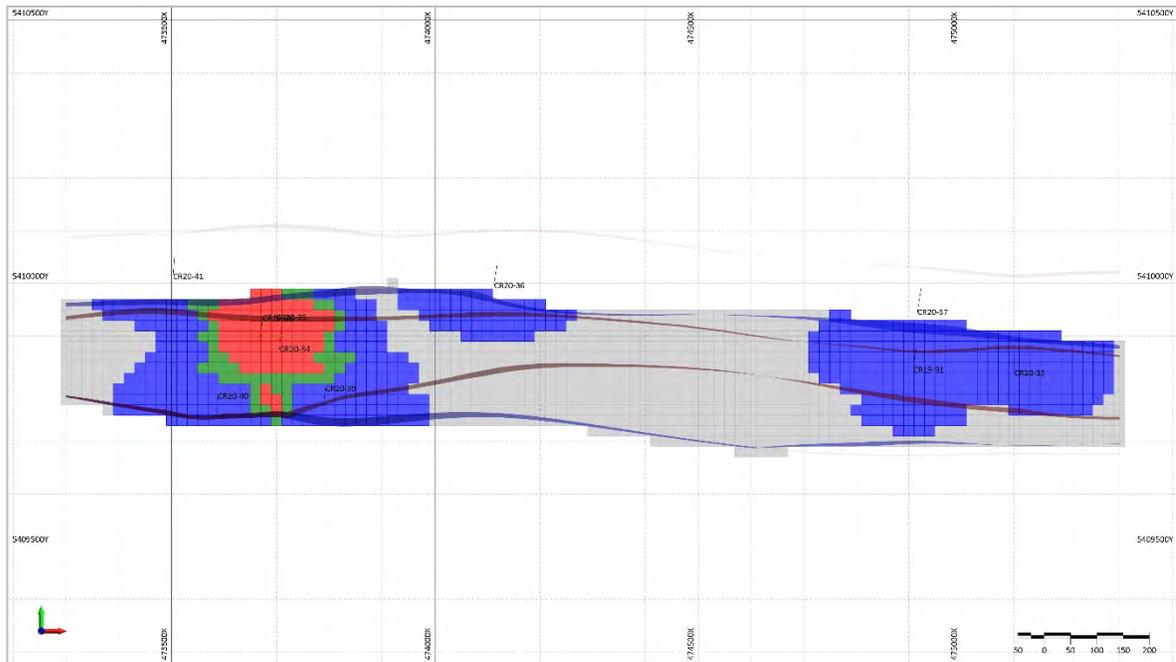


Figure 14-39. East Zone plan cross-section looking down at 0 elevation, showing measured (red), indicated (green), inferred (blue) and exploration target (grey) blocks for all estimation domains. The UM wireframe is shown as a transparent purple outer shell, along with the lower- and higher-grade domains as dark blue and dark red inner shells.

### 14.13 Pit Optimization and Cut-off Grade

According to CIM (2014) and CIM (2019), in order for a mineral deposit to be considered a Mineral Resource it must be shown that there are “reasonable prospects for eventual economic extraction”. This requirement implies that the quantity and grade estimates meet certain economic thresholds and that the Mineral Resources are reported at an appropriate cut-off grade that takes into account extraction scenarios and processing recoveries. In order to determine the quantity of mineralization

that shows a “reasonable prospect for eventual economic extraction” using open pit mining methods, Independent Consultant David Penswick (PEng) (“Penswick”), carried out a pit optimization using Datamine NPVS, which employs the Lerchs-Grossmann (“LG”) algorithm. This algorithm uses the net value of every block in the model to determine the ultimate extent of an open pit that maximizes overall project value.

It is important to note that the results from the pit optimization exercise are used solely for testing the “reasonable prospects for eventual economic extraction” by open pit mining methods and do not represent an economic study.

Figures 14-40 and 14-41, show 3D views of the generated pits around the Main Zone and East Zone mineral resource estimates.

#### **14.13.1 Techno-Economic Parameters**

Given the lithological, geological, mineralogical and geographic similarities between the Crawford Ni-Co Sulphide Project and the Dumont Nickel Project, concepts that had been established for the latter, as a result of extensive studies over a period exceeding a decade, are currently being assumed for Crawford. Pit optimization parameters are based on discussions with CNC and benchmarking against the Dumont Nickel Deposit and the experience gained by Penswick through his work on the Dumont Nickel Deposit.

The mineral resource estimates have been revised to include a conceptual pit envelope constraint that was developed using the following optimization parameters. Metal prices used were US\$7.75/lb nickel, US\$15/lb cobalt, US\$200/tonne Fe recovered to magnetite, US\$1,600/oz Pd, and US\$800/oz Pt. Different pit slopes were used for each layer (in degrees): 9.5 in clay, 21.8 in gravel, and 45 in rock. Exchange rate utilized was US\$/C\$ at \$0.75. Mining costs utilized different values for overburden (clay, gravel), selective mining, and bulk mining, ranging from C\$1.75 to C\$3.15/t mined. Processing costs and general and administration costs for a 100 ktpd operation (similar to Dumont) were C\$6.18/t. Selling costs are expected to be C\$0.85/lb nickel.

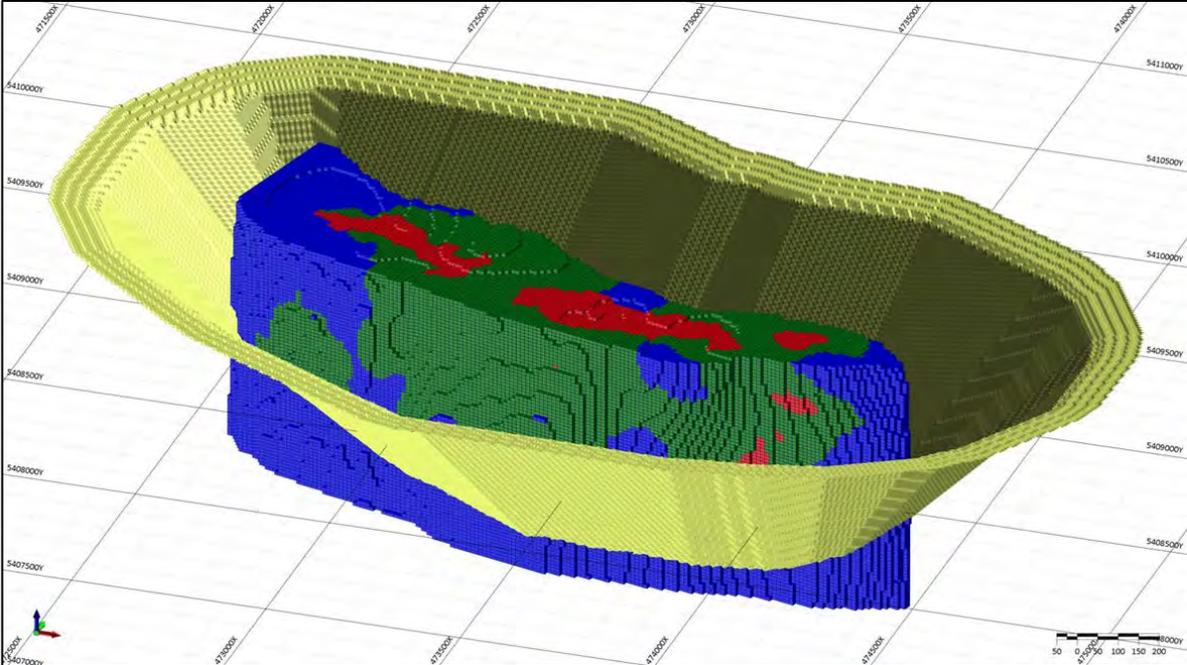


Figure 14-40. Main Zone 3D view looking north-northwest, showing the theoretical pit surface against Measured (red), Indicated (green) and Inferred (blue) blocks for all estimation domains.

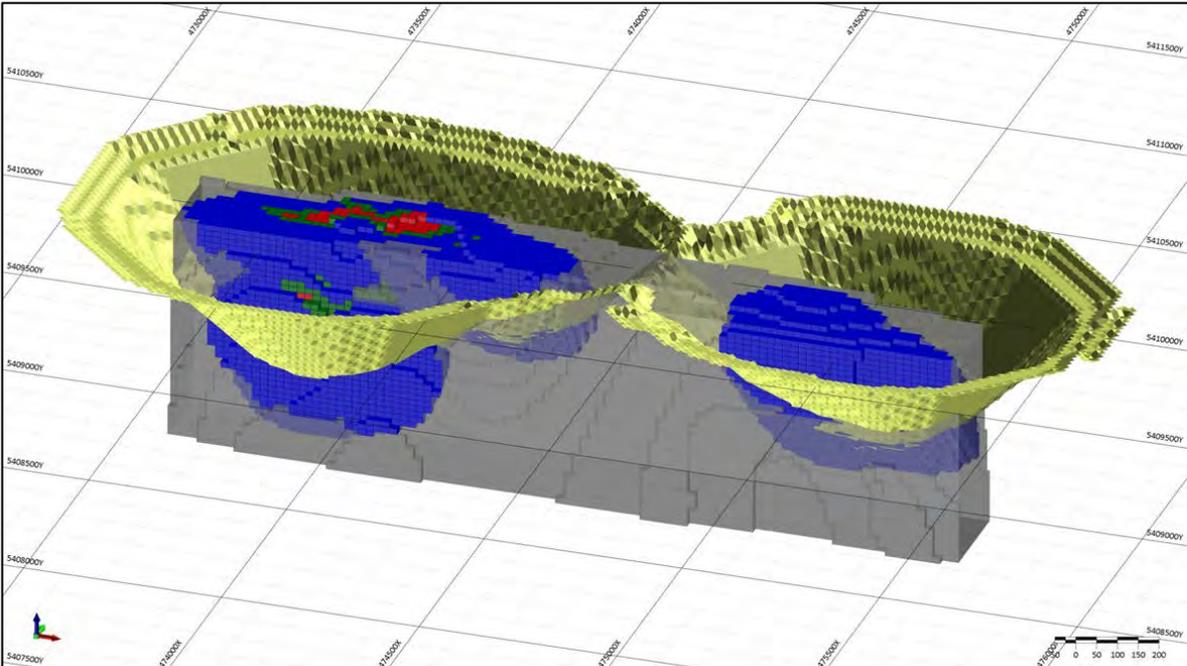


Figure 14-41. East Zone 3D view looking north-northwest, showing the theoretical pit surfaces against Measured (red), Indicated (green) and Inferred (blue) blocks for all estimation domains. The semi-transparent grey area represents the calculated exploration targets.

### 14.13.2 Conceptual Mining Process

At this stage of study, three distinct fleets of mining equipment have been contemplated:

- The first fleet would comprise small backhoe excavators matched with 40-tonne articulated trucks that and be used to strip clay overlying the starter pit as well as some gravel at the lower contact. Longer term, this fleet would continue to strip clay overlying subsequent phases of the pit development as well as being used for construction of the Tailings Storage Facility (TSF). The steady and ongoing work for this fleet of equipment would make it most economical to be Owner- operated rather than contracted out.
- The gravel not mined with backhoes and the initial bench of rock below that, which would require pioneering techniques, would be mined on 5m benches with a fleet of 300-tonne class excavators matched with 90-tonne trucks. This fleet would also be available to selectively mine resources lying on the contacts, so as to minimize dilution and maximize mining recovery.
- The bulk of rock would be mined on 15 m benches using highly productive rope shovels matched with 290-tonne trucks. As trolley-assist and automation are now “off-the-shelf” options for haul trucks and Crawford is in close proximity to a major centre and thus able to access the skilled personnel and infrastructure required for these technologies, inclusion of these technologies has been assumed.

The cost structure for the fleets described above has been estimated as per the parameters outlined above, in Section 14.13.1. It is anticipated that between 10 – 15% of total rock will be mined using the selective fleet.

### 14.13.3 Processing and Recovery Assumptions

The metallurgical recovery for Crawford has been estimated on initial mineralogy and metallurgy work based on the reported and forecast performance of benchmarks. Based on the range of grade and ratio of sulphur to nickel at Crawford, recovery could be expected to range from 10% - 60%. Given the current terms for treatment and refining, it has currently been assumed material would be roasted, resulting in higher payables for Ni but no contribution from by-products.

It may prove economically viable to smelt the concentrate produced from higher Co and PGE-content mineralization, particularly the peripheral PGE reef deposits. This would allow for a contribution from by-product non-ferrous metals.

Based on initial mineral processing work underway, and performance of benchmarks, it has been assumed that 30 – 40% of total iron would recovered to a saleable magnetite concentrate.

### 14.13.4 Cost Assumptions

The estimated cost structure for mining takes account of the pits extending to a maximum ultimate depth of approximately 600m and the anticipated ultimate scale of approximately 300 ktpd mined. The estimated cost structure for processing takes account of the difference in electricity rates for Quebec (that would be applied to Dumont) and Ontario, along with the anticipated ultimate scale of

Crawford of approximately 100 ktpd milled. The estimated cost structure for G&A takes into account the total complement for, and the local taxes and insurance liabilities associated with, an operation of the scale outlined above

**14.13.5 Cut-off Grade: Calculated**

Based on the techno-economic parameters described above, the marginal cut-off can be achieved with less than 1 lb of payable Ni per tonne of ore processed.

With the current techno-economic parameters, the calculated cut-off approximates 0.10% Ni and is thus lower than the 0.15% Ni cut-off that has been used as the basis for the Mineral Resource Statement (see Section 14.14). The 0.15% Ni cut-off was selected as a conservative cut-off given the early stage nature of the Project’s development.

It is the QP David Penswick’s opinion that the calculated cut-off grade of 0.10% Ni from pit optimization is relevant to the grade distribution of this Project and that the mineralization exhibits sufficient continuity for economic extraction under this cut-off value.

**14.13.6 Grade Sensitivity Analysis: Main Zone**

Based on the combined block model from Section 14.12.1 (Mineral Resource Classification), a grade-tonnage curve was calculated for the nickel domains (Figure 14-42), marking a nickel cut-off grade of 0.267% Ni, included as a data point in the grade sensitivity analysis (Table 14-17). The reader is cautioned that the numbers presented in the following figures and tables should not be misconstrued with a mineral resource statement (see Section 14.14).

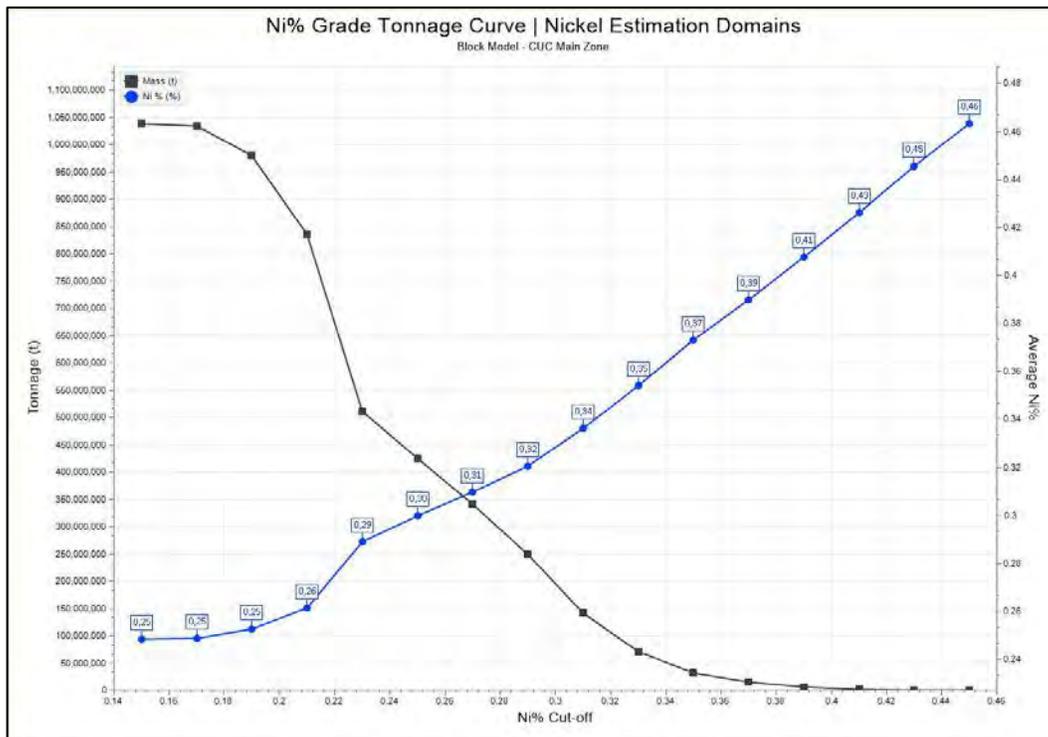


Figure 14-42. Main Zone grade-tonnage curves for nickel grades.

Table 14-17. Main Zone grade sensitivity analysis for nickel.

CUT-OFF	TONNAGE	Ni (%)	METAL CONTENT (t)
0.15	1,038,152,354	0.25	2,580,231
0.16	1,037,904,423	0.25	2,579,843
0.17	1,034,435,077	0.25	2,574,080
0.18	1,010,654,260	0.25	2,532,308
0.19	980,511,010	0.25	2,476,579
0.2	928,332,982	0.26	2,375,007
0.21	835,240,436	0.26	2,184,338
0.22	630,717,697	0.28	1,745,262
0.23	510,545,095	0.29	1,476,075
0.24	447,271,006	0.30	1,328,175
0.25	424,283,389	0.30	1,272,075
0.26	383,858,118	0.30	1,168,770
0.267	353,268,360	0.31	1,088,570
0.27	341,265,125	0.31	1,056,373
0.28	299,800,562	0.31	942,555
0.29	249,433,374	0.32	799,258
0.3	194,985,070	0.33	638,819
0.33	70,726,665	0.35	250,460
0.35	32,414,926	0.37	120,939

#### 14.13.7 Grade Sensitivity Analysis: East Zone

Based on the combined block model from Section 14.12.2 (Mineral Resource Classification), a grade-tonnage curve was calculated for the nickel domains (Figure 14-43), marking a nickel cut-off grade of 0.259% Ni, included as a data point in the grade sensitivity analysis (Table 14-18). The reader is cautioned that the numbers presented in Figure 14-43 and Table 14-18 should not be misconstrued with a mineral resource statement (see Section 14.14). It is important to note that this grade-tonnage curve is mostly referential, as exploration targets were not considered for its calculation due to their significantly high uncertainty.

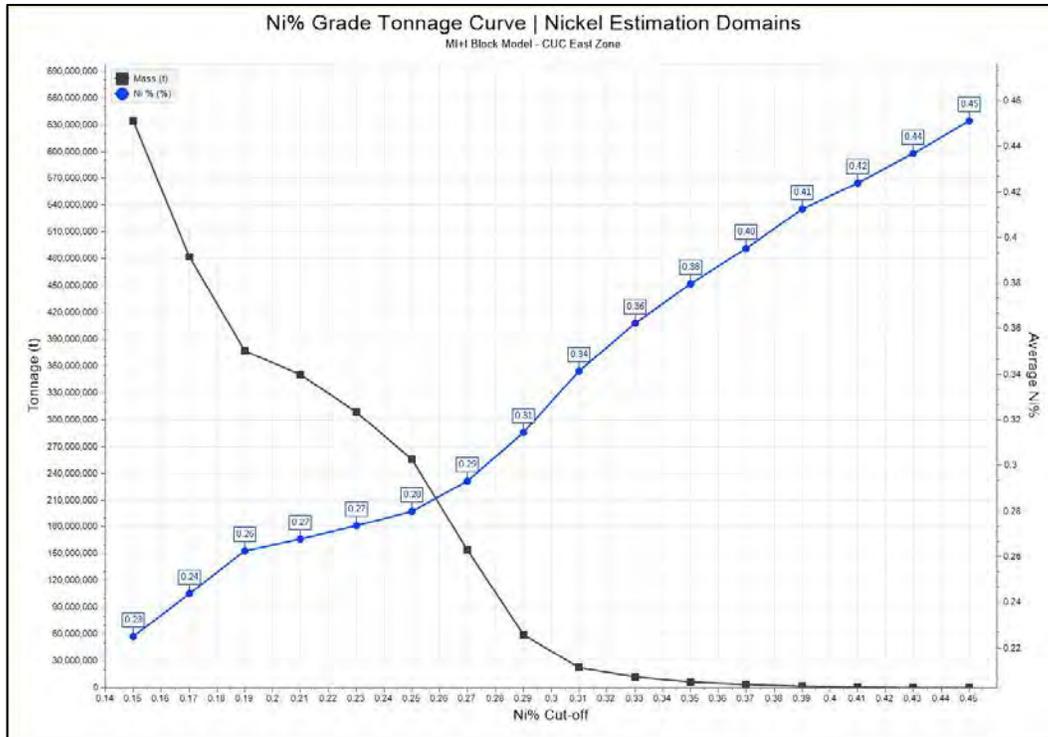


Figure 14-43. East Zone grade-tonnage curves for nickel grades.

Table 14-18. East Zone grade sensitivity analysis for nickel.

CUT-OFF	TONNAGE	Ni (%)	METAL CONTENT (t)
0.15	260,049,007	0.24	626,635
0.16	250,366,424	0.24	611,383
0.17	228,364,120	0.25	575,561
0.18	210,655,470	0.26	545,394
0.19	193,436,510	0.27	513,997
0.2	185,140,287	0.27	497,846
0.21	180,635,780	0.27	488,652
0.22	173,589,305	0.27	473,343
0.23	162,711,177	0.28	449,208
0.24	148,558,712	0.28	415,929
0.25	128,691,263	0.28	367,099
0.259	110,148,827	0.29	318,953
0.26	108,489,577	0.29	314,647
0.27	81,512,488	0.30	243,153
0.28	60,415,719	0.31	185,236
0.29	33,495,189	0.32	108,415
0.3	23,062,382	0.34	77,717
0.33	11,533,581	0.36	41,862
0.35	6,546,028	0.38	24,857

## 14.14 Mineral Resource Statement

The Measured (“Mea”), Indicated (“Ind”) and Inferred (“Inf”) Mineral Resource Estimates presented herein, are constrained within pit shells developed for the Main and East zones from the pit optimization analysis discussed above. The Effective Date of the Mineral Resource Estimates is December 11, 2020.

### 14.14.1 Main Zone: Mineral Resource Estimate

Pit constrained, class-characterized mineral resources for the three estimation domains within the Main Zone are presented for all elements studied in Table 14-19.

Table 14-19. Pit-constrained Main Zone mineral resources by domain, class and element, and summary contents.

DOMAIN	CLASS	TONNES (Mt)	Ni (%)	Ni CONTENT (kt)	Co (%)	Co CONTENT (kt)
Higher-Grade	Measured	151.7	0.32	482.2	0.013	19.9
	Indicated	128.6	0.30	391.8	0.013	16.5
	Mea+Ind	280.2	0.31	873.9	0.013	36.4
	Inferred	109.9	0.29	315.0	0.013	14.0
Northern Lower-Grade	Measured	24.8	0.22	54.4	0.013	3.2
	Indicated	109.7	0.21	232.8	0.013	14.0
	Mea+Ind	134.5	0.21	287.2	0.013	17.1
	Inferred	90.4	0.21	187.4	0.013	11.3
Southern Lower-Grade	Measured	37.6	0.21	80.7	0.014	5.1
	Indicated	153.5	0.21	324.2	0.013	20.7
	Mea+Ind	191.1	0.21	404.9	0.013	25.7
	Inferred	119.9	0.21	257.5	0.013	15.8
DOMAIN	CLASS	TONNES (Mt)	Fe (%)	Fe CONTENT (Mt)	S (%)	S CONTENT (kt)
Higher-Grade	Measured	151.7	6.25	9.5	0.20	298.8
	Indicated	128.6	6.37	8.2	0.16	202.5
	Mea+Ind	280.2	6.31	17.7	0.18	501.3
	Inferred	109.9	6.66	7.3	0.09	103.8
Northern Lower-Grade	Measured	24.8	6.15	1.5	0.05	12.0
	Indicated	109.7	6.40	7.0	0.05	55.9
	Mea+Ind	134.5	6.35	8.5	0.05	67.9
	Inferred	90.4	6.59	6.0	0.07	62.0
Southern Lower-Grade	Measured	37.6	7.28	2.7	0.04	16.4
	Indicated	153.5	7.27	11.2	0.04	57.5
	Mea+Ind	191.1	7.27	13.9	0.04	73.9
	Inferred	119.9	7.08	8.5	0.05	54.6
DOMAIN	CLASS	TONNES (Mt)	Pd (g/t)	Pd CONTENT (koz)	Pt (g/t)	Pt CONTENT (koz)
Higher-Grade	Measured	151.7	0.029	141	0.012	57
	Indicated	128.6	0.027	111	0.013	52
	Mea+Ind	280.2	0.028	252	0.012	108
	Inferred	109.9	0.026	93	0.013	47
SUMMARY						
DOMAIN	CLASS	TONNES (Mt)	Ni (%)	Ni CONTENT (kt)	Co (%)	Co CONTENT (kt)
Total Grade	Mea+Ind	605.9	0.26	1,566.0	0.013	79.2
	Inferred	320.1	0.24	759.8	0.013	41.2
DOMAIN	CLASS	TONNES (Mt)	Fe (%)	Fe CONTENT (Mt)	S (%)	S CONTENT (kt)
Total Grade	Mea+Ind	605.9	6.62	40.1	0.11	643.1
	Inferred	320.1	6.80	21.8	0.07	220.5
DOMAIN	CLASS	TONNES (Mt)	Pd (g/t)	Pd CONTENT (koz)	Pt (g/t)	Pt CONTENT (koz)
Higher-Grade	Mea+Ind	280.2	0.028	252	0.012	108
	Inferred	109.9	0.026	93	0.013	47

### 14.14.2 East Zone: Mineral Resource Estimate

Pit constrained, class-characterized mineral resources for the three estimation domains within the East Zone are presented for all elements studied in Table 14-20.

Table 14-20. Pit-constrained East Zone mineral resources by domain, class and element, and summary contents.

DOMAIN	CLASS	TONNES (Mt)	Ni (%)	Ni CONTENT (kt)	Co (%)	Co CONTENT (kt)
Higher-Grade	Measured	22.5	0.27	60.9	0.012	2.8
	Indicated	19.5	0.27	51.9	0.012	2.4
	Mea+Ind	41.9	0.27	112.8	0.012	5.2
	Inferred	119.5	0.27	324.3	0.013	15.2
Northern Lower-Grade	Measured	3.3	0.20	6.5	0.013	0.4
	Indicated	2.3	0.19	4.3	0.014	0.3
	Mea+Ind	5.6	0.19	10.8	0.013	0.8
	Inferred	22.8	0.18	41.0	0.013	3.1
Southern Lower-Grade	Measured	0	-	-	-	-
	Indicated	0	-	-	-	-
	Mea+Ind	0	-	-	-	-
	Inferred	34.4	0.17	58.2	0.013	4.3
DOMAIN	CLASS	TONNES (Mt)	Fe (%)	Fe CONTENT (Mt)	S (%)	S CONTENT (kt)
Higher-Grade	Measured	22.5	5.91	1.3	0.04	9.3
	Indicated	19.5	6.09	1.2	0.04	7.5
	Mea+Ind	41.9	6.00	2.5	0.04	16.8
	Inferred	119.5	6.18	7.4	0.04	48.6
Northern Lower-Grade	Measured	3.3	6.78	0.2	0.05	1.7
	Indicated	2.3	7.09	0.2	0.05	1.2
	Mea+Ind	5.6	6.91	0.4	0.05	2.9
	Inferred	22.8	7.30	1.7	0.06	12.7
Southern Lower-Grade	Measured	0	-	-	-	-
	Indicated	0	-	-	-	-
	Mea+Ind	0	-	-	-	-
	Inferred	34.4	7.76	2.7	0.01	3.5
SUMMARY						
DOMAIN	CLASS	TONNES (Mt)	Ni (%)	Ni CONTENT (kt)	Co (%)	Co CONTENT (kt)
Total Grade	Mea+Ind	47.5	0.26	123.6	0.013	6.0
	Inferred	176.7	0.24	423.5	0.013	22.6
DOMAIN	CLASS	TONNES (Mt)	Fe (%)	Fe CONTENT (Mt)	S (%)	S CONTENT (kt)
Total Grade	Mea+Ind	47.5	6.11	2.9	0.04	19.7
	Inferred	176.7	6.63	11.7	0.04	64.8

### 14.15 Exploration Targets

Despite having been quantified by the same methodologies used for classified resources, as has been thoroughly described in the Report, tonnages and grades of exploration targets are conceptual in nature. Insufficient geological and sampling data prevents the definition of a mineral resource, and as such it is uncertain if further exploration will confirm the calculations presented in this section, or if the targets will be effectively delineated as mineral resources.

Tonnage and grade ranges in Pd and Pt (together “PGE”) exploration targets from the Main Zone PGE reef domain are presented in Table 14-21 and from the East Zone’s two PGE reef domains in Table 14-22. Tonnages and grades in Ni exploration targets from the East Zone nickel domains,

mainly located in the central approximately 800 m gap area and at great depths, are presented in Table 14-23.

Table 14-21. Ranges for exploration targets in the Main Zone PGE reef domain.

DOMAIN	TONNES (Mt)	Pd (g/t)	Pt (g/t)	PGE (g/t)
PGE	5 - 6	0.4 - 0.5	0.5 - 0.6	1.0 - 1.1

Table 14-22. Ranges for exploration targets in the two East Zone PGE reef domains.

DOMAIN	TONNES (Mt)	Pd (g/t)	Pt (g/t)	PGE (g/t)
PGE-1	8 - 12	0.5 - 0.6	0.6 - 0.7	1.1 - 1.3
PGE-2	9 - 13	0.1 - 0.2	0.2 - 0.3	0.3 - 0.5
TOTAL	17 - 25	0.3 - 0.4	0.4 - 0.5	0.7 - 0.9

Table 14-23. Ranges for exploration targets in the East Zone nickel domains.

DOMAIN	TONNES (Mt)	Ni (%)
HG	120 - 170	0.24 - 0.27
NLG	30 - 50	0.18 - 0.20
SLG	110 - 160	0.17 - 0.20
TOTAL	260 - 380	0.20 - 0.23

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## **15.0 MINERAL RESERVE ESTIMATES**

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This section is not relevant at this stage of the Property.

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## **16.0 MINING METHODS**

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This section is not relevant at this stage of the Property.

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## **17.0 RECOVERY METHODS**

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This section is not relevant at this stage of the Property.

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## **18.0 PROJECT INFRASTRUCTURE**

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This section is not relevant at this stage of the Property.

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## **19.0 MARKET STUDIES AND CONTRACTS**

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This section is not relevant at this stage of the Property.

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## **20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT**

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This section is not relevant at this stage of the Property.

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## **21.0 CAPITAL AND OPERATING COSTS**

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This section is not relevant at this stage of the Property.

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## **22.0 ECONOMIC ANALYSIS**

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This section is not relevant at this stage of the Property.

## **23.0 ADJACENT PROPERTIES**

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There are no adjacent properties that are actively being explored that would materially affect the Authors' understanding of the Project or the interpretations and conclusions presented in the Report.

## 24.0 OTHER RELEVANT DATA AND INFORMATION

On March 4, 2020, Canada Nickel announced that it had entered into a Memorandum of Agreement with Noble Mineral Resources to option five properties near the Crawford Project (Figure 24-1).

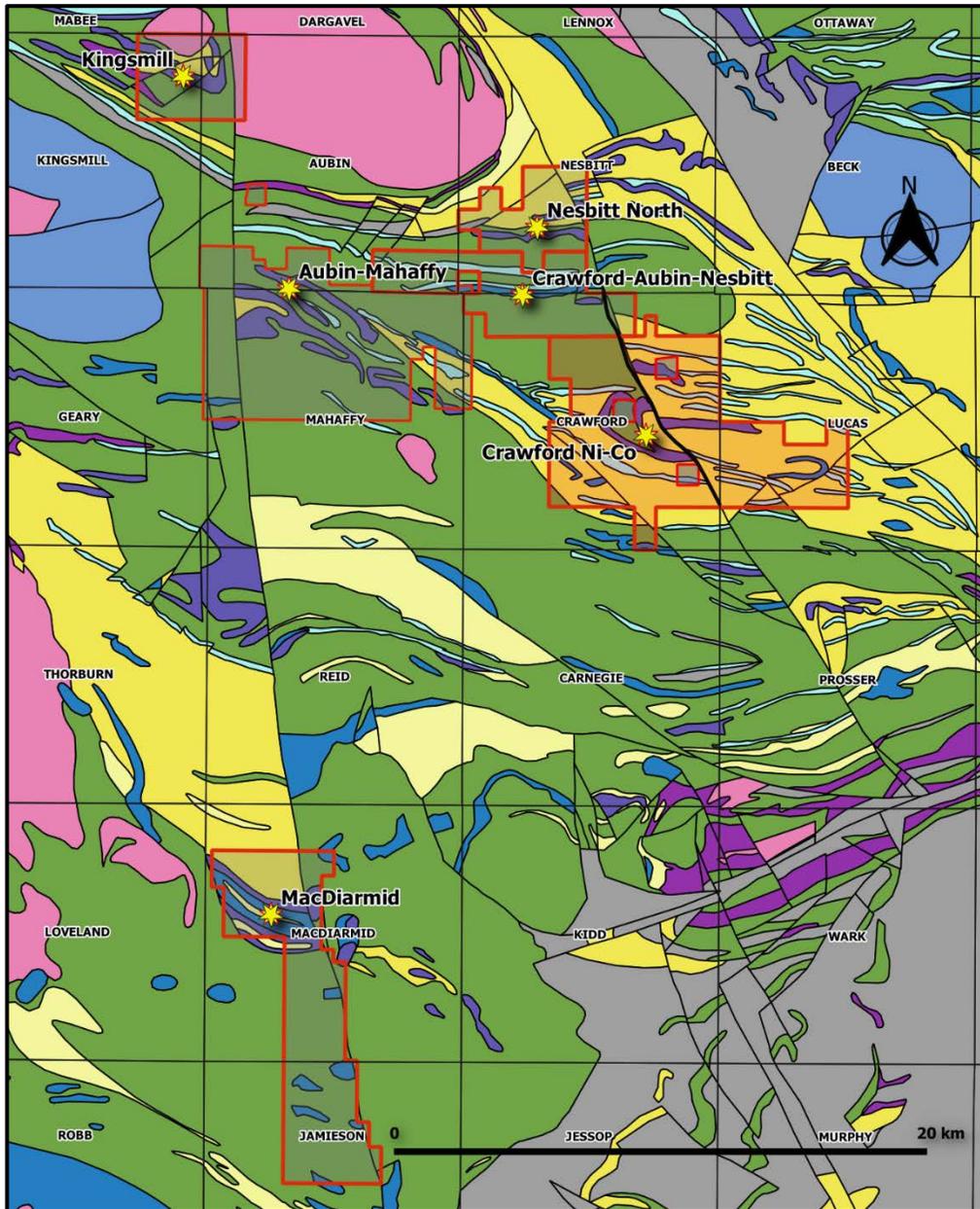


Figure 24-1. Locations of the five optioned properties relative to the main Crawford Ni-Co Sulphide Project in Crawford and Lucas townships. All properties cover targets that are similar in mineralization style and host ultramafic-mafic intrusive rocks (yellow stars). The general regional geology base map (MRD 126, 2011) includes ultramafic (purple) and mafic (dark blue) intrusive rocks, felsic (yellow) and mafic (green) volcanic extrusive rocks, sedimentary rocks (dark grey and light blue), and intrusive granitic rocks (pink).

The acquisition was approved and closed May 2020 (see Noble news releases 12 and 22 May 2020). The five nearby properties have similar geology, mineralization and deposit model targets as the CUC (see Canada Nickel news release dated 13 July 2020). On the 23 September 2020, the Company announced that it had begun detailed airborne magnetic and gravity surveys, similar to what was successfully utilized at the Company's flagship Crawford Nickel-Cobalt Sulphide Project, on its Option Properties.

Given the extensive overburden in the region, many of these komatiitic-hosted nickel sulphide targets were defined using a combination of survey techniques, including geophysical surveys (airborne and ground), bedrock till sampling surveys, overburden/reverse circulation ("RC") drilling, and diamond core drilling. Historical diamond drilling, prior to 2018, does not report any assay results for cobalt, platinum or palladium.

The Qualified Persons of the Report have been unable to independently verify the following information and the information presented herein is not necessarily indicative of the mineralization on the Property that is the subject of the Report.

#### **24.1 Crawford-Nesbitt-Aubin**

The Crawford-Nesbitt-Aubin property ("CNA"), comprising 22 SCMCs and 31 patented lands covering approximately 2,113 ha in parts of Crawford, Nesbitt and Aubin townships, is centred about 8.5 km northwest of and contiguous with the Crawford Project.

The CNA covers east-west trending ultramafic-mafic rocks hosted by volcano-sedimentary sequences. The CNA boundary encompasses at least 19 historical drill holes of which at least three, Inco 1965, Temco 1975, and McIntyre 1973, targeted nickel in ultramafic-mafic rocks ([www.geologyontario.mndm.gov.on.ca/index.html](http://www.geologyontario.mndm.gov.on.ca/index.html)).

#### **24.2 Nesbitt North**

The Nesbitt North nickel target ("Nesbitt"), comprising 31 SCMCs and 14 patented lands covering approximately 1,222 ha, is located in the southwest quadrant of Nesbitt Township, about 9.5 km north-northwest of the CUC.

The Nesbitt covers east-west trending ultramafic-mafic rocks hosted by volcano-sedimentary sequences. The Nesbitt boundary encompasses at least 6 historical drill holes by Chevron 1984, Inco 1964/1966, and Rio Algom 1991, which all targeted nickel in ultramafic-mafic rocks ([www.geologyontario.mndm.gov.on.ca/index.html](http://www.geologyontario.mndm.gov.on.ca/index.html)). Historical diamond drilling reported broad intercepts of 535 m grading 0.28% Ni in serpentinized peridotite and individual samples up to 0.39% Ni (e.g., INCO Canada Ltd., 1966).

#### **24.3 Aubin-Mahaffy**

The Aubin-Mahaffy nickel target ("Aubin"), consists of two separate properties, a small 57 ha area in the north ("Aubin North") in Aubin Township and a larger 5,324 ha area in the south ("Aubin South") in Aubin and Mahaffy townships. Together, the two properties comprise 235 SCMCs and 11

patented lands covering approximately 5,381 ha. The Aubin is located about 14 km west-northwest of the CUC.

Aubin North covers east-west trending ultramafic-mafic rocks while Aubin South covers an extensive band of northwest-southeast trending ultramafic-mafic rocks. The Aubin boundaries encompass at least 4 historical drill holes by Inco 1966, which targeted nickel in ultramafic-mafic rocks ([www.geologyontario.mndm.gov.on.ca/index.html](http://www.geologyontario.mndm.gov.on.ca/index.html)). Historical diamond drilling reports broad intercepts of 418 m grading 0.24% Ni in serpentinized peridotite and individual samples up to 0.36% Ni (e.g., INCO Canada Ltd., 1966).

## 24.4 Kingsmill-Aubin

The Kingsmill-Aubin property (“Kingsmill”), located in the northeast quadrant of Kingsmill Township and the northwest quadrant of Aubin Township, is about 23 km northwest of the CUC. The property consists of 24 SCMCs and 17 patented lands covering approximately 1,311 ha.

The Kingsmill covers folded and faulted, generally northwest-southeast trending ultramafic-mafic rocks. The Kingsmill boundaries encompass at least 20 historical drill holes by Inco 1964-65-66, Hudbay Mining 1974, and Noble Mineral Exploration 2012 ([www.geologyontario.mndm.gov.on.ca/index.html](http://www.geologyontario.mndm.gov.on.ca/index.html)).

The larger Kingsmill target area which includes historical work completed immediately west of the Kingsmill-Aubin property, was first drilled by INCO Canada Ltd. in 1964, 1965, and 1966 (at least 23 drill holes) intersecting serpentinized peridotite in several drill holes (e.g., DDH 27090: 385.57 m grading 0.36% Ni and DDH 25064: 190.20 m grading 0.28% Ni) and explaining the strong, regional magnetic anomaly. McIntyre Porcupine Mines Ltd. completed at least four drill holes on the Kingsmill target in 1974, intersecting serpentinized peridotite.

In January 2012, Ring of Fire Resources Inc. (now Noble Mineral Exploration Inc.) began its first phase of drilling on the Kingsmill and announced final drill core assay results on April 12, 2012 (Figure 24-2). The objective of the drilling program was to determine the size of the intrusive body and the extent of recoverable low-grade but potentially economic nickel mineralization. The Kingsmill Nickel Deposit was modeled similar to Dumont Nickel’s Dumont Nickel Deposit in Quebec. Results from the 2012 diamond drilling campaign are provided in Table 24-1.

Table 24-1. Summary of drill core assays from 2012 diamond drilling on the Kingsmill Ni Target.

Drill Hole	From (m)	To (m)	Int (m)	Ni (%)	Comments
KML-12-01	111.00	548.60	437.60	0.28	west line; large magnetic anomaly; 60m overburden
KML-12-02	118.00	620.60	502.60	0.25	west line; large magnetic anomaly; 60m overburden
KML-12-03	14.00	264.40	250.40	0.17	west line; large magnetic anomaly; 14m overburden
KML-12-04	314.00	428.20	114.20	0.22	west line; large magnetic anomaly; south contact of body
KML-12-05	58.00	159.00	101.00	0.23	east line; large magnetic anomaly
KML-12-06	54.70	551.00	496.30	0.18	east line; large magnetic anomaly
KML-12-07	80.00	546.20	466.20	0.18	east line; large magnetic anomaly
KML-12-09	221.00	653.00	432.00	0.20	east line; large magnetic anomaly
KML-12-10	78.00	307.50	229.50	0.21	east line; large magnetic anomaly
KML-12-11	108.00	308.00	200.00	0.20	east line; large magnetic anomaly
KML-12-12	175.00	272.00	97.00	0.16	east line; large magnetic anomaly

Eleven of the 12 drill holes intersected serpentinized peridotite (one hole was abandoned) which was interpreted to be part of a high-angle ultramafic sill with the top of the sill in the south and the bottom of the sill in the north (Figure 24-3). The ultramafic body is reported as being depleted in sulphur with distinct zones of native copper. Mineralization zonation was also reported, with a distinct increase in nickel grades toward a central core and in general as you move from top (south) to bottom (north).

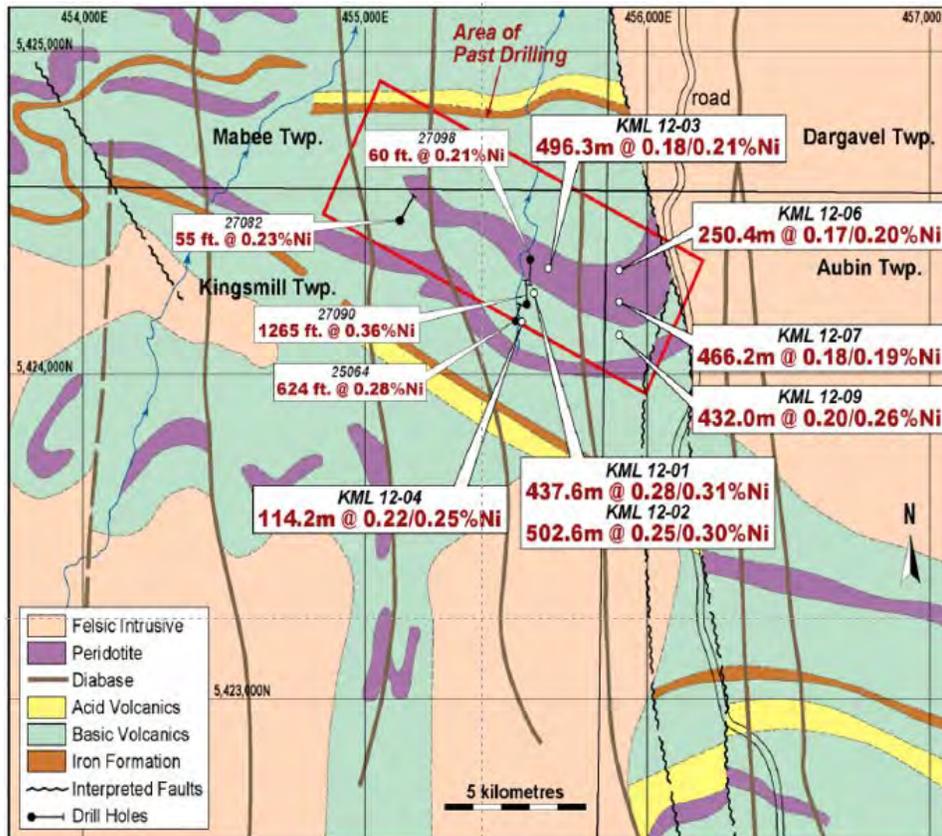


Figure 24-2. Plan map showing the location of historical diamond drilling targeting the Kingsmill Ni Target in Kingsmill Township (Noble Mineral Exploration, 2013).

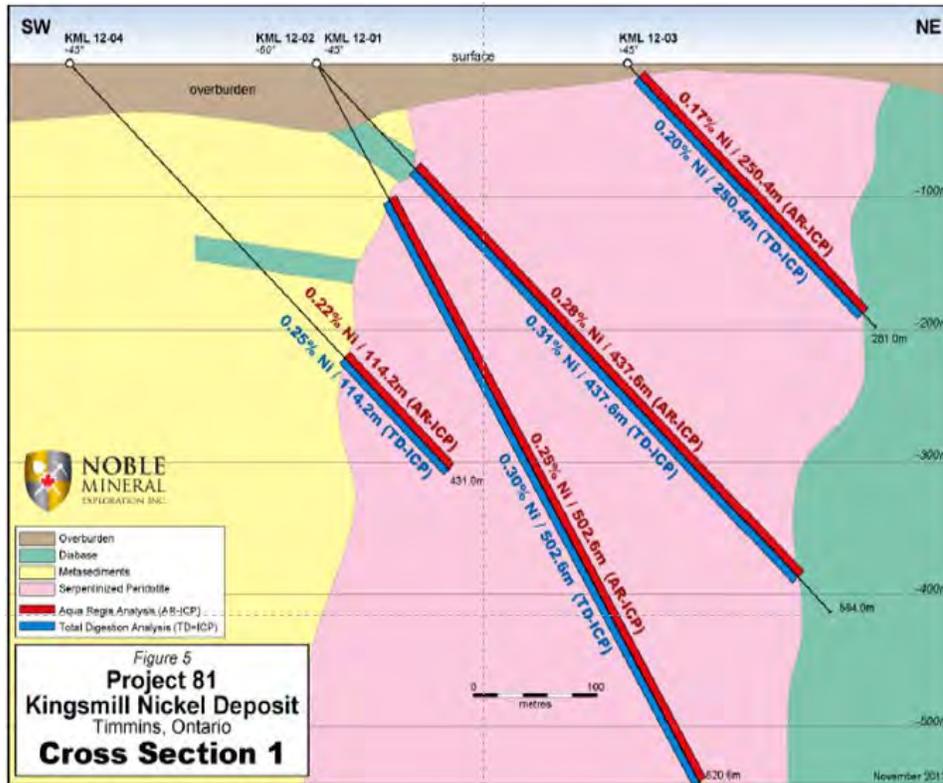


Figure 24-3. Idealized cross-section through the Kingsmill Nickel Deposit, Noble Mineral Exploration (2013).

#### 24.4.1 Metallurgical Studies – Kingsmill Target

Twenty samples with elevated nickel concentrations and low sulphur content, determined from original geochemical analyses were collected from the Kingsmill target ultramafic rocks. This sample set was submitted to Activation Laboratories or “Actlabs” (Ancaster, Ontario) for Davis Tube separation in order to determine the presence of magnetically upgradeable nickel and to identify the presence of Ni-Fe alloy (awaruite). Samples of the Davis Tube concentrates were characterized by Scanning Electron Microscope equipped with back scattered electron (“BSE”) detection and Energy Dispersive (“EDS”) X-Ray capability. Seven of the 20 samples were from the east side of the Kingsmill intrusive body (holes KML-12-07 to KML-12-10) and 13 samples from the west side of the intrusive body (holes KML-12-01 to KML-12-04).

Awaruite, a naturally occurring alloy of nickel and iron, was identified in every sample, along with heazlewoodite, a rare sulphur-poor nickel-rich sulphide, and cobaltian pentlandite, an iron-nickel-cobalt sulphide (Phung and Hamilton, 2012; Singh and Lahti, 2013). Preliminary modal analysis, using a Mineral Liberation Analyser (“MLA”), was performed on the seven samples from the east side of the ultramafic body. The MLA results suggest an antipathetic relationship between nickel sulphide and awaruite where samples with higher nickel sulphide mineralogy have lower or no awaruite.

A second metallurgical study utilizing 239 reject samples from the 12 drill holes and weighing approximately 456 kg (final test-weight 200 kg), was undertaken by G&T Metallurgical Services (Kamloops, British Columbia). The objective of this study, a Particle Mineral Analysis (“PMA”) using QUEMSCAN X-Ray processing techniques, was to better understand the characteristics (grindability, sizing and particle size distribution) and recoverability of nickel sulphides from the serpentinized ultramafic rocks (Johnston and Ma, 2012; Singh and Lahti, 2013). The final 200 kg composite sample graded 0.3% Ni and 0.06% total sulphur.

About 0.07% of the sample was in the form of sulphide minerals (copper, nickel and iron sulphides) with the bulk of the sample containing magnesium silicate minerals serpentine (54.1%) and olivine (37.6%). About 84% of the nickel was found within the olivine and serpentine and spectra collected for the mineral olivine indicated that this mineral consistently graded about 0.4% nickel. The nickel content of serpentine varied substantially from 0% to about 0.2% nickel. Extraction of the nickel from within the olivine and serpentine would not be possible via flotation nor magnetic separation and therefore extraction of most of the nickel (84%) in the rocks represented by this sample would be considered difficult at best. The remaining 16% of nickel was contained either in nickel sulphide (6%) (*i.e.*, heazlewoodite, pentlandite), nickel-iron alloy (6%) (*i.e.*, awaruite), or Cr-magnetite (4%) forms. Extraction of such forms of nickel in the rocks represented by this sample might be possible by flotation for nickel sulphides or magnetic separation for nickel-iron alloy (Johnston and Ma, 2012; Singh and Lahti, 2013).

Metallurgical results from the Kingsmill Ni target are not necessarily indicative of the results that can be expected from the Crawford Ni-Co Sulphide Project.

## 24.5 MacDiarmid-Jamieson

The MacDiarmid-Jamieson nickel target (“MacDiarmid”), comprising 176 SCMCs covering approximately 3,753 ha in parts of MacDiarmid Township and Jamieson Township to the south, is about 23 km southwest of the CUC.

The northern portion of the MacDiarmid covers west-northwest trending ultramafic-mafic rocks which are hosted by volcano-sedimentary sequences. Lesser geological information is available for the southern portion of the property, but historical exploration work indicates it is also underlain by ultramafic-mafic rock units.

The MacDiarmid boundary encompasses at least 94 historical diamond drill holes by Amax Minerals 1979, Asarco 1967/1976, Bruce-Presto mines 1964, Canada Nickel 1960, Cdn Johns-Manville 1973, Cominco 1973, Falconbridge 1988, 1996/98/99, 2001, Geoph Eng 1977, Hollinger Mines 1973, Mepsi Mines 1967/68, North Rankin Nickel Mines 1965, Northgate Exploration 1990, Silver Miller Mines 1965, Texas Gulf Sulphur 1961, and White Star Copper 1965. Historical drilling targeted various commodities including nickel in ultramafic-mafic rocks and base/precious metals in felsic-mafic volcanic sequences ([www.geologyontario.mndm.gov.on.ca/index.html](http://www.geologyontario.mndm.gov.on.ca/index.html)).

## 25.0 INTERPRETATION AND CONCLUSIONS

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The objectives of the Report was to prepare an updated Mineral Resource Estimate for the Main Zone and an initial Mineral Resource Estimate for the East Zone on the Crawford Ni-Co Sulphide Project, along with a supporting independent NI 43-101 Technical Report, capturing historical information available from the Project area, evaluating this information with respect to the prospectivity of the Project, and presenting recommendations for future exploration and development on the Project.

The Crawford Nickel-Cobalt Sulphide Project is located in Crawford and Lucas townships, about 42 km north of the City of Timmins. The Project comprises approximately 5,384 ha (53.84 km<sup>2</sup>), consisting of a combination of 72 patented lands (Crown Patents) and 64 unpatented mining claims (SCMCs). The Project is easily accessible from Ontario Highway 655, a main paved highway which cuts through the Project area, and work can continue year-round.

### 25.1 Crawford Ultramafic Complex

The main target on the Property is the Archean-age Crawford Ultramafic Complex, a differentiated ultramafic to mafic komatiitic flow (sill) that is hosted by the Deloro Assemblage of the AGB and comprises mainly dunite (+90% olivine) and peridotite (+40% olivine), which have undergone extensive serpentinization, along with minor gabbro and pegmatite which have all been cut by late felsic (aplite) and mafic dikes. The CUC is completely covered and as such is currently mainly defined by its geophysical signature (strong magnetic highs), a few historical diamond drill holes dating back to 1964, the more recent 2018 drilling by Spruce Ridge, and the current 2019-2020 (ongoing) drilling by Canada Nickel.

The ultramafic rocks (peridotite-dunite) from the CUC intersected in drill core have, for the most part, undergone intense serpentinization resulting in a substantial volume increase and the liberation of nickel and iron. This pervasive serpentinization process creates a strongly reducing environment where the nickel released from the decomposition of olivine is partitioned into low-sulphur sulphides like heazlewoodite and into the nickel-iron alloy, awaruite.

### 25.2 Deposit Model

Sulphide mineralization discovered to date on the Crawford Project can be characterized as Komatiite-hosted Ni-Cu-Co-(PGE) deposit type and most similar to the sub-type Mt. Keith style (Leshner and Keays, 2002). Of the five major volcanic facies for komatiitic flow fields suggested by Barnes et al (2004), the CUC is interpreted to be most similar to the dunitic compound sheet flow (DCSF), the same flow field facies interpreted for Mt. Keith (*see* Table 8-1). The DCSF facies represent high-flow volume magma pathways characterized by thick olivine-rich cumulates. Ultramafic rocks in the CUC are komatiitic, having magnesium oxide contents that range from 18.43 to 46.81wt% MgO (determined by ICP Peroxide Fusion) and average 39.3wt% MgO (937 samples).

The geological analogue for the CUC is the Dumont Nickel Deposit, hosted by the Dumont Sill in the Abitibi Greenstone Belt of north-central Quebec (Duke, 1986), some 220 km east of the CUC. Stratigraphic studies in the AGB suggest that the host rocks of the Dumont Sill are correlative with

the Deloro Assemblage, the same stratigraphy in which the CUC is hosted. Like the CUC, the thick olivine-rich cumulates in the Dumont are suggestive of DCSF komatiite volcanic flow facies.

### 25.3 Recent and Current Diamond Drilling

The 2018 diamond drilling program (Spruce Ridge) marked the first work on the CUC target since the 1960s. The first four drill holes completed in late 2018, were reported by Spruce Ridge and Noble (March 2019) to have broad intersections of pervasively serpentinized, low-sulphur dunite and peridotite with nickel concentrations ranging from 0.224% to 0.339% Ni over intervals ranging from 130.5 to 558 metres.

As of the Effective Date of the Report (December 12, 2020), a total of 76 drill holes totalling approximately 32,293 metres (up to hole CR20-73), have been completed by Canada Nickel and Spruce Ridge (see Figure 10-1 and Table 10-1). This includes drilling metres (635 m) from six abandoned holes (CR19-14, CR19-26, CR19-26A, CR20-30, CR20-40, CR20-70). Three of the 76 drill holes, CR20-55, CR20-57, and CR20-58, were HQ size, completed for metallurgical testwork, whereas the remaining 67 holes used NQ size.

At the Main Zone, drilling to date has defined ultramafic hosted nickel mineralization within an ultramafic body with a minimum strike length of 1.8 km, 330 to 500 m wide, and at least 650 m deep. Mineralization remains open along strike to the northwest and at depth. In addition, a PGE reef (approx. 860 m in strike length) has begun to be defined within the northern margin of the ultramafic body (see Figure 10-1).

At the East Zone, drilling to date has defined ultramafic hosted nickel mineralization within an ultramafic body with a minimum strike length of 2.0 km, 310 to 375 m wide, and at least 650 m deep. Mineralization remains open along strike to the east and west and at depth. In addition, two distinct PGE reefs have begun to be defined within the northern margin of the ultramafic body (see Figure 10-1).

Initial drilling at the West Zone, about 850 m west-northwest of the western end of the Main Zone, has intersected nickel sulphide mineralization hosted by olivine-rich rocks, similar to that found at the Main and East zones. Drilling at the Thumb Zone, the interpreted northern extension of the Main Zone located about 825 m west-northwest of the East Zone and about 1 km north of the west end of the Main Zone, has intersected nickel sulphide mineralization hosted by olivine-rich rocks, similar to that found at the other zones.

### 25.4 Metallurgy

In 2019, Spruce Ridge commissioned a mineralogical study of ultramafic rock material collected from drill core samples (2018 diamond drilling) in order to determine whether nickel (and other elements) could be economically extracted from altered ultramafic host rocks of the CUC. The study identified several nickel- and cobalt-bearing minerals (in order of decreasing abundance): pentlandite (50%: iron-nickel sulphide), heazlewoodite (35%: sulphur poor, nickel-rich sulphide), awaruite (15%: nickel-iron alloy) and minor godlevskite (nickel-iron sulphide). The pentlandite, which dominates the nickel-bearing mineral assemblage, is considered most promising for

economic nickel extraction. Heazlewoodite, one of the most nickel rich sulphide (low) minerals, is generally thought to be of hydrothermal origin and contains potentially recoverable nickel.

Also, in 2019, Noble commissioned selective leach analytical tests on pulp samples from the 2018 diamond drilling program. All 2018 drill core samples had been initially analysed by ICP after sample preparation using sodium peroxide fusion for total digestion (palladium, platinum and gold were determined by fire assay). Pulps from the same 12 sample intervals selected for SEM analysis were re-analysed using the same ICP procedure, after digestion using aqua regia, which does not attack silicate minerals to any significant degree. This provided a semi-quantitative estimate of the amount of nickel and cobalt that had been liberated from their parent olivine by serpentinization. After eliminating the one sample that showed much lower liberation, the average overall nickel liberation was 62%, and the average cobalt liberation was 77 percent.

Recently (March 2020), the Company reported on initial mineral processing work (mineralogical studies) based on the results of 89 samples from drill core. The samples were processed at both XPS Expert Process Solutions and SGS Canada labs in order to determine the mineralogy and proportion of nickel contained in nickel sulphide and nickel-iron alloy minerals (pentlandite, heazlewoodite, and awaruite). Initial results suggest that the nickel mineralization within the Higher Grade Core and Low-Grade Zone (envelope) of the deposit could be amenable to magnetic separation and sulphide flotation processes. Canada Nickel is continuing with this work having planned on about 1,000 samples being analyzed.

The Dumont Ni Deposit in Quebec is considered to be comparable to the nickel mineralization hosted by the Crawford Ultramafic Complex. Metallurgical test work by RNC on the Dumont Nickel Deposit has yielded concentrates with over 29% Ni and 1% Co. The high concentrate grade is a function of the very low sulphur content of the rock, so that most of the recoverable nickel is in low-sulphur minerals like heazlewoodite, or sulphur-free minerals like awaruite, a nickel-iron alloy (Ausenco, 2013 and 2019).

It should be noted that exploration of the CUC is early-stage and as such mineralization hosted by the Feasibility Study stage Dumont Nickel Project is not necessarily indicative of mineralization hosted on the Company's Crawford Nickel-Cobalt Sulphide Project.

## 25.5 Resource Database

The updated Main Zone MRE and initial East Zone MRE are supported by a database that consists of a total of 60 surface drill holes (49 in the Main Zone and 11 in the East Zone) with a total of 28,354.5 core assays (including QAQC samples).

The QPs have reviewed the drilling, logging and sampling, quality assurance-quality control, analytical and security procedures for the 2018 to 2020 drilling programs and concluded that the observed failure rates are within acceptable ranges and that no significant assay biases or issues are present.

The QPs are of the opinion that the protocols in place are adequate and in general, to industry standards. The database for the Crawford Ni-Co Project is of good overall quality and is appropriate

for the purposes of the Mineral Resource Estimation. The measured density of the host ultramafic rock units and sampling density allows for a reliable estimate to be made of the size, tonnage and grade of the mineralization in accordance with the level of confidence established by the Mineral Resource categories in the CIM Definition Standards (CIM, 2014).

## 25.6 Mineral Resource Estimates

Current Mineral Resources for the Project are constrained by theoretical open pit models. An updated Main Zone Mineral Resource Estimate (Main Zone Deposit) and initial East Zone Mineral Resource Estimate (East Zone Deposit) have been completed on the Crawford Project using all available information and data (Tables 25-1 and 25-2). The Mineral Resources for the Project were classified in accordance with the most current CIM Definition Standards (CIM, 2014).

In order to determine the quantity of mineralization that shows a “reasonable prospect for eventual economic extraction” using open pit mining methods, Independent Consultant David Penswick (PEng), carried out a pit optimization using Datamine NPVS, which employs the Lerchs-Grossmann algorithm. This algorithm uses the net value of every block in the model to determine the ultimate extent of an open pit that maximizes overall project value.

The mineral resource estimates have been revised to include a conceptual pit envelope constraint that was developed using the following optimization parameters. Metal prices used were US\$7.75/lb nickel, US\$15/lb cobalt, US\$90/tonne magnetite, US\$1,600/oz Pd, US\$800/oz Pt. Different pit slopes were used for each layer (in degrees): 9.5 in clay, 21.8 in gravel, and 45 in rock. Exchange rate utilized was US\$/C\$ at \$0.75. Mining costs utilized different values for overburden (clay, gravel), selective mining, and bulk mining, ranging from C\$1.75 to C\$3.15/t mined. Processing costs and general and administration costs for a 100 ktpd operation (similar to Dumont) were C\$6.18/t. Selling costs are expected to be C\$0.85/lb nickel.

It is important to note that the results from the pit optimization exercise are used solely for testing the “reasonable prospects for eventual economic extraction” by open pit mining methods and do not represent an economic study.

It is the opinion of the QPs that both the updated Main Zone (Table 25-1) and initial East Zone (Table 25-2) Mineral Resource Estimates, completed in accordance with the requirements of the NI 43-101, reasonably reflect the mineralization that is currently known on the Crawford Ni-Co Sulphide Project and that there are reasonable prospects for future economic extraction, likely using open pit and/or bulk underground mining methods.

The Mineral Resources are not mineral reserves as they do not have demonstrated economic viability. The estimate is categorized as Inferred, Indicated and Measured resources based on data density, geological and grade continuity, search ellipse criteria, drill hole density and specific interpolation parameters. The Effective Date of the mineral resource estimates is 11 December 2020, based on the drill hole data compilation status, cut-off grade parameters and pit optimization.

Table 25-1. Summary of the pit-constrained updated Main Zone Mineral Resource Estimate.

DOMAIN	CLASS	TONNES (Mt)	Ni (%)	Ni CONTENT (kt)	Co (%)	Co CONTENT (kt)
Higher-Grade	Measured	151.7	0.32	482.2	0.013	19.9
	Indicated	128.6	0.30	391.8	0.013	16.5
	Mea+Ind	280.2	0.31	873.9	0.013	36.4
	Inferred	109.9	0.29	315.0	0.013	14.0
Northern Lower-Grade	Measured	24.8	0.22	54.4	0.013	3.2
	Indicated	109.7	0.21	232.8	0.013	14.0
	Mea+Ind	134.5	0.21	287.2	0.013	17.1
	Inferred	90.4	0.21	187.4	0.013	11.3
Southern Lower-Grade	Measured	37.6	0.21	80.7	0.014	5.1
	Indicated	153.5	0.21	324.2	0.013	20.7
	Mea+Ind	191.1	0.21	404.9	0.013	25.7
	Inferred	119.9	0.21	257.5	0.013	15.8
DOMAIN	CLASS	TONNES (Mt)	Fe (%)	Fe CONTENT (Mt)	S (%)	S CONTENT (kt)
Higher-Grade	Measured	151.7	6.25	9.5	0.20	298.8
	Indicated	128.6	6.37	8.2	0.16	202.5
	Mea+Ind	280.2	6.31	17.7	0.18	501.3
	Inferred	109.9	6.66	7.3	0.09	103.8
Northern Lower-Grade	Measured	24.8	6.15	1.5	0.05	12.0
	Indicated	109.7	6.40	7.0	0.05	55.9
	Mea+Ind	134.5	6.35	8.5	0.05	67.9
	Inferred	90.4	6.59	6.0	0.07	62.0
Southern Lower-Grade	Measured	37.6	7.28	2.7	0.04	16.4
	Indicated	153.5	7.27	11.2	0.04	57.5
	Mea+Ind	191.1	7.27	13.9	0.04	73.9
	Inferred	119.9	7.08	8.5	0.05	54.6
DOMAIN	CLASS	TONNES (Mt)	Pd (g/t)	Pd CONTENT (koz)	Pt (g/t)	Pt CONTENT (koz)
Higher-Grade	Measured	151.7	0.029	141	0.012	57
	Indicated	128.6	0.027	111	0.013	52
	Mea+Ind	280.2	0.028	252	0.012	108
	Inferred	109.9	0.026	93	0.013	47
SUMMARY						
DOMAIN	CLASS	TONNES (Mt)	Ni (%)	Ni CONTENT (kt)	Co (%)	Co CONTENT (kt)
Total Grade	Mea+Ind	605.9	0.26	1,566.0	0.013	79.2
	Inferred	320.1	0.24	759.8	0.013	41.2
DOMAIN	CLASS	TONNES (Mt)	Fe (%)	Fe CONTENT (Mt)	S (%)	S CONTENT (kt)
Total Grade	Mea+Ind	605.9	6.62	40.1	0.11	643.1
	Inferred	320.1	6.80	21.8	0.07	220.5
DOMAIN	CLASS	TONNES (Mt)	Pd (g/t)	Pd CONTENT (koz)	Pt (g/t)	Pt CONTENT (koz)
Higher-Grade	Mea+Ind	280.2	0.028	252	0.012	108
	Inferred	109.9	0.026	93	0.013	47

Table 25-2. Summary of the pit-constrained initial East Zone Mineral Resource Estimate.

DOMAIN	CLASS	TONNES (Mt)	Ni (%)	Ni CONTENT (kt)	Co (%)	Co CONTENT (kt)
Higher-Grade	Measured	22.5	0.27	60.9	0.012	2.8
	Indicated	19.5	0.27	51.9	0.012	2.4
	Mea+Ind	41.9	0.27	112.8	0.012	5.2
	Inferred	119.5	0.27	324.3	0.013	15.2
Northern Lower-Grade	Measured	3.3	0.20	6.5	0.013	0.4
	Indicated	2.3	0.19	4.3	0.014	0.3
	Mea+Ind	5.6	0.19	10.8	0.013	0.8
	Inferred	22.8	0.18	41.0	0.013	3.1
Southern Lower-Grade	Measured	0	-	-	-	-
	Indicated	0	-	-	-	-
	Mea+Ind	0	-	-	-	-
	Inferred	34.4	0.17	58.2	0.013	4.3
DOMAIN	CLASS	TONNES (Mt)	Fe (%)	Fe CONTENT (Mt)	S (%)	S CONTENT (kt)
Higher-Grade	Measured	22.5	5.91	1.3	0.04	9.3
	Indicated	19.5	6.09	1.2	0.04	7.5
	Mea+Ind	41.9	6.00	2.5	0.04	16.8
	Inferred	119.5	6.18	7.4	0.04	48.6
Northern Lower-Grade	Measured	3.3	6.78	0.2	0.05	1.7
	Indicated	2.3	7.09	0.2	0.05	1.2
	Mea+Ind	5.6	6.91	0.4	0.05	2.9
	Inferred	22.8	7.30	1.7	0.06	12.7
Southern Lower-Grade	Measured	0	-	-	-	-
	Indicated	0	-	-	-	-
	Mea+Ind	0	-	-	-	-
	Inferred	34.4	7.76	2.7	0.01	3.5
SUMMARY						
DOMAIN	CLASS	TONNES (Mt)	Ni (%)	Ni CONTENT (kt)	Co (%)	Co CONTENT (kt)
Total Grade	Mea+Ind	47.5	0.26	123.6	0.013	6.0
	Inferred	176.7	0.24	423.5	0.013	22.6
DOMAIN	CLASS	TONNES (Mt)	Fe (%)	Fe CONTENT (Mt)	S (%)	S CONTENT (kt)
Total Grade	Mea+Ind	47.5	6.11	2.9	0.04	18.0
	Inferred	176.7	6.63	11.7	0.03	55.0

## 25.7 Exploration Targets

Despite having been quantified by the same methodologies used for classified resources, as has been thoroughly described in the Report, tonnages and grades of exploration targets are conceptual in nature. Insufficient geological and sampling data prevents the definition of a mineral resource, and as such it is uncertain if further exploration will confirm the calculations presented in this section, or if the targets will be effectively delineated as mineral resources.

Tonnage and grade ranges in Pd and Pt exploration targets from the Main Zone PGE reef domain are presented in Table 25-3 and from the East Zone's two PGE reef domains in Table 25-4. Tonnage

and grades in Ni exploration targets from the East Zone nickel domains, mainly located in the central approximately 800 m gap area and at great depths, are presented in Table 25-5.

Table 25-3. Ranges for exploration targets in the Main Zone PGE reef domain.

DOMAIN	TONNES (Mt)	Pd (g/t)	Pt (g/t)	PGE (g/t)
PGE	5 - 6	0.4 - 0.5	0.5 - 0.6	1.0 - 1.1

Table 25-4. Ranges for exploration targets in the two East Zone PGE reef domains.

DOMAIN	TONNES (Mt)	Pd (g/t)	Pt (g/t)	PGE (g/t)
PGE-1	8 - 12	0.5 - 0.6	0.6 - 0.7	1.1 - 1.3
PGE-2	9 - 13	0.1 - 0.2	0.2 - 0.3	0.3 - 0.5
TOTAL	17 - 25	0.3 - 0.4	0.4 - 0.5	0.7 - 0.9

Table 25-5. Ranges for exploration targets in the East Zone nickel domains.

DOMAIN	TONNES (Mt)	Ni (%)
HG	120 - 170	0.24 - 0.27
NLG	30 - 50	0.18 - 0.20
SLG	110 - 160	0.17 - 0.20
TOTAL	260 - 380	0.20 - 0.23

## 25.8 Risks and Opportunities

Caracle is not aware of any known environmental, permitting, legal, title, taxation, socio-economic, marketing, political or relevant issues could be expected to materially affect the reliability or confidence in the exploration information and Mineral Resource discussed herein or the right or ability to perform future work on the Crawford Ni-Co Sulphide Project.

External risks are, to a certain extent, beyond the control of the Project proponents and are much more difficult to anticipate and mitigate, although, in many instances, some risk reduction can be achieved. External risks are things such as the political situation in the Project's region, metal prices, exchange rates and government legislation. These external risks are generally applicable to all mining projects. Negative variance to these items from the assumptions made in the economic model would reduce the profitability of the mine and the mineral resource estimates.

As with all mineral exploration projects, there is an inherent risk associated with mineral exploration. Many of these risks are based on a lack of detailed knowledge and can be managed as more sampling, testing, design, and engineering are conducted at each of the next study stages. The mineral resources may be affected by a future conceptual study assessment of mining, processing, environmental, permitting, taxation, socio-economic, and other factors.

Excluding opportunities that are universal to all mining projects, such as improvements in grade and tonnage, higher metal prices, improved exchange rates, etc., there are several opportunities, mostly technical, that could enhance the Project. The Crawford Ultramafic Complex offers good potential for developing a low-grade, large tonnage nickel (Co, Pt, Pd, Fe) resource and should be investigated further. It's analogue, the Dumont Nickel Deposit (Dumont Sill) in Quebec, shares many similarities to the CUC and extensive exploration work at Dumont, largely diamond drilling, has resulted in the

delineation of large tonnage, low-grade nickel resources and the delivery of a positive Feasibility Study (Ausenco, 2019).

Whether an economic size and grade of deposit can be developed from the CUC will be predicated largely on the success of metallurgical test work and the price of nickel and other recoverable metals. The Crawford Nickel-Cobalt Sulphide Project is still early-stage, but initial metallurgical work and mineralogical studies have shown that the nickel contained within the serpentized ultramafic rocks of the CUC can be liberated. Critical to the success of this Project is completing further thorough metallurgical test work to determine if the nickel could be economically extracted.

Given that the CUC is completely covered by 10 m (or more) of overburden, and with some 20 historical drill holes (including CR18-01 to 04) and 72 current drill holes (CR19-05 to CR20-73) targeting the CUC itself, there is much additional sampling (*i.e.*, diamond drilling) required in order to understand the geology, mineralization, geochemistry, and geometry of the ultramafic body.

It is the opinion of the Authors, that at this stage of the Project, there are no reasonably foreseen contributions from risks and uncertainties identified in the Report that could affect the Project's continuance at its current stage of exploration.

## 26.0 RECOMMENDATIONS

It is the opinion of the Authors that additional exploration expenditures are warranted on the Crawford Nickel-Cobalt Sulphide Project, particularly in view of the recently acquired additional mining lands (see CNC news release 13 July 2020).

### 26.1 Preliminary Economic Assessment

Based on the results of the current Main and East zone Mineral Resource Estimates, Caracle concurs with the Company's decision to rapidly advance the Project into the Preliminary Economic Assessment ("PEA") stage (see CNC news release 9 June 2020). Presented in Table 26-1 is a high level cost estimate to be considered for the completion of a PEA, with expenditures estimated at C\$1,600,000. This is not a phased work program.

Table 26-1. Estimated costs for PEA, Crawford Nickel Project.

Work Item	Amount (C\$)
Engineering and Testwork	\$700,000
Metallurgical Testwork	\$500,000
Report Development	\$200,000
Other	\$200,000
<b>Total (C\$):</b>	<b>\$1,600,000</b>

Earlier in 2020, the Company announced that it had commenced the PEA for the Project and retained Ausenco Engineering Canada Inc. as the lead study consultant (see CNC news release 9 June 2020). Since that time, the Company has been working on the PEA (expending funds related to Table 26-1), with the aim to complete the PEA by the end of 2020. As of the Effective Date of the Report, the drilling required for the PEA has been completed and as such is not included in the above cost estimate.

Initial metallurgical work and mineralogical studies have shown that the nickel contained within the serpentized ultramafic rocks of the CUC can be liberated. At this stage, the Company should be considering very robust mineral processing and metallurgical test work given the importance of these parameters to the success of the Project. Expanded metallurgical test work, including grinding, flotation and magnetic separation tests, should be done on a series of composites at various nickel grades, extracted from the main ultramafic bodies (>0.15% Ni) at the Main and East zones in order to determine the magnitude of recoverable nickel. Lessons learned from metallurgical tests completed on the Dumont Nickel Deposit (e.g., pre-treatment/de-fibered, wet grinding and de-sliming) should also be considered in the design of these metallurgical tests. In addition, bulk sample reconciliation and block model calibration can be completed against the new mineral resource estimates and appropriate adjustments made.

Caracle is of the opinion that the character of the Project and results to date are of sufficient merit to justify the recommended program and to move the Project through the PEA stage. Furthermore,

the proposed budget reasonably reflects the type and amount required for the activities being contemplated.

## 26.2 Drilling and Core Logging Procedures

Several general recommendations should be considered by the Company in their current and future exploration programs:

- Rock Quality Designation measurements should be collected from the drill core as part of the geotechnical logging process. These measurements will provide valuable information useful in the evaluation of the possible future exploitation of the mineral resources described herein;
- Specific Gravity determinations should be completed routinely by an analytical laboratory in order to verify the accuracy of the specific gravity measurements being made as part of the in-field geotechnical logging. In the field, care should be taken to ensure that clean water (distilled de-ionized water preferred) at a constant temperature be used for the measurements (change as often as needed). The selected core should be clean and free of any drilling additives (grease and oil) and other possible contaminants. It would also be useful to calibrate and/or correct the field measurements by the regular determination of a “standard” sample; and,
- Drill hole collar surveys should be made using a DGPS system in order to collect, at a maximum, sub-decimetres accuracy on all collar locations.

It is beneficial to future mineral resources estimates to have a database of specific gravity measurements collected on core intervals where the level of serpentinization (alteration) is clearly understood and described, and where the concentration of nickel, cobalt, platinum, palladium, sulphur and iron are known.

## 26.3 QA/QC Program

The Company started an internal program of QA/QC early in the project’s history (i.e., starting with drill hole CR19-11). For the first ten (10) drill holes of the overall program, the Company relied upon Actlabs’ own use of internal monitoring of quality control to service the overall quality control of the project. Since that point, to the time of the Report, a total of 1,357 samples (983 for this portion of the program, including 308 related to analyses for the East Zone) were included in the overall sample submissions at the approximate rate of three samples per batch of 35 samples shipped to the lab. This included the introduction of certified reference materials, “blank” material and requests for the re-analysis of sample pulps into the sample stream. While the Company’s efforts have gone a long way to ensuring that the quality of the procedures, policies and protocols for the sampling, sample preparation, analytical/assaying techniques and security systems are appropriate and adequate at the Project, there are several recommendations which the Company should consider implementing to provide a more robust internal QA/QC process.

### **26.3.1 Standard QA/QC Procedures**

Referee analyses should be performed at an alternate laboratory on a regular schedule at the suggested rate of one sample (prepared pulp) per analytical report to monitor the analytical results at Actlabs (or whatever laboratory the Company uses on a going-forward basis).

Anomalous results should be regularly checked by setting thresholds for Ni, Pd and Pt above which the lab should routinely re-analyze the coarse reject material to confirm those results.

### **26.3.2 Standard Sampling Procedures**

QA/QC samples should be included at the rate of three (3) samples per group of 20 samples. Ideally these would be inserted into the sample stream on a random basis per group, but a regular routine of sample insertion can be advantageous for administrative control purposes. These QA/QC samples should include the following.

### **26.3.3 Certified Reference Material (CRM)**

One sample of CRM should be included per group of twenty samples. A suggestion is to use OREAS-70b (peroxide fusion/ICP with certified analyses of 0.222% Ni and 83 ppm Co) and OREAS-72b (peroxide fusion/ICP with certified analyses of 0.705% Ni and 138 ppm Co) to evaluate the nickel and cobalt analytical accuracy and to use OREAS-74a for the PGM results (certified analyses by fire assay/ICP are 172 ppb Pd, 223 ppb Pt and 21 ppb Au). All of the aforementioned CRMs were prepared from komatiite-hosted nickel sulphide ores. Insertion of the different CRMs into the sample stream would be instituted on a regular alternating basis.

“OREAS” CRMs are produced by ORE Research & Exploration Pty. Ltd. of Australia ([www.ore.com.au](http://www.ore.com.au)) and distributed in Canada by Analytical Solutions Ltd. Other suppliers of suitable CRMs are available; the preceding is only provided as a suggestion to the Company, not an endorsement of any particular product. Other suppliers include CDN Resource Laboratories Ltd. (CDN; [www.cdnlabs.com](http://www.cdnlabs.com)), African Mineral Standards (AMIS; [www.amis.co.za](http://www.amis.co.za)), Geostats Pty. Ltd. (GST; [www.geostats.com.au](http://www.geostats.com.au)), Rocklabs (RLB; [www.rocklabs.com](http://www.rocklabs.com)), Natural Resources Canada (CANMET; [www.nrcan.gc.ca](http://www.nrcan.gc.ca)) and the United States Geological Survey (USGS; [www.usgs.gov](http://www.usgs.gov)).

### **26.3.4 Blanks**

One sample of blank material should be included per group of 20 samples. Material that has a very high silica content (e.g., silica sand, quartzite, quartz arenite/sandstone, silicic acid) and known and documented limits of low-level impurities should be used to monitor possible contamination during sample preparation at the laboratory. Blanks included as part of a laboratory’s QA/QC program typically represent the analysis of blank aliquots that will be used to monitor the stability of the analytical equipment; these do not address issues that may arise during the preparation of samples at the laboratory.

### **26.3.5 Sampling or “Field” Duplicates**

One sampling duplicate should be included in each group of 20 samples. The sample duplicate should be generated by halving the cut sample of the chosen sample interval to generate a sampling duplicate (producing two, one quarter portions of the core as the original and duplicate samples, or the a priori method). These samples will be used to evaluate the reproducibility of the sampling procedures.

## **26.4 Lithochemical and Petrological Studies**

In order to better characterize the specific komatiite volcanic flow facies and deposit sub-type, the Company should consider a targeted lithochemical and petrological study to determine the character of the cumulate igneous rocks which define the CUC which hosts sulphide mineralization.

## **26.5 Carbon Sequestration Potential**

CNC plans to investigate carbon sequestration or carbon dioxide removal (“CDR”), also known as carbon capture and storage (“CCS”), which is the long-term removal, capture or sequestration of carbon dioxide from the atmosphere. It is believed that geologic carbon sequestration could contribute significantly to the worldwide and multidisciplinary efforts to slow or reverse atmospheric carbon dioxide pollution and to mitigate or reverse global warming (*e.g.*, Duncan and Morrissey, 2011).

The USGS considers two main types of carbon dioxide trapping: (1) Buoyant trapping, where the pore space in the rock (*e.g.*, sandstone) is filled with carbon dioxide that is then held in place by seal formations on the top and sides of the porous rock. This type of trapping is somewhat analogous to how oil and gas are trapped in rock formations and structures; and, (2) Residual trapping, which occurs as injected carbon dioxide passes through the storage formation and leaves some carbon dioxide behind; the carbon dioxide is held in place by surface tension in pore spaces. The second type of trapping retains less carbon dioxide per given rock volume, but there is much more rock for which this type of trapping can apply (Duncan and Morrissey, 2011).

Although typical studies focus on the capture and storage of carbon dioxide in deep geologic formations there has been research looking at using mining waste rock and tailings to the same end. Ultramafic rock mine waste has an inherent capacity to permanently trap carbon dioxide gas thus affording environmental and regulatory benefits through greenhouse gas offsets or trading credits. The Mineral Deposit Research Unit (“MDRU”) at the University of British Columbia is exploring how to accelerate direct capture of carbon dioxide from the atmosphere and documenting how to incorporate carbon sequestration activities into mine operations from planning to comminution to tailings storage ([www.mdru.ubc.ca/projects/co2-sequestration/](http://www.mdru.ubc.ca/projects/co2-sequestration/)). Additional references are provided in Section 27.2, Website references.

### **26.5.1 Zero-Carbon Metals**

On 27 July 2020, Canada Nickel announced the creation of a wholly-owned subsidiary, NetZero Metals, to begin the research and development of a processing facility that would be located in the

Timmins, Ontario region with the goal of utilizing existing technologies to produce zero-carbon nickel, cobalt and iron products (see CNC news release 27 July 2020). As part of the research to be undertaken by NetZero Metals, CNC plans to investigate carbon sequestration or carbon dioxide removal and storage technologies.

The Company, citing the preference, if not the need by the electric vehicle industry and many other consumer sectors for zero-carbon metals within this decade, intends to take advantage of the Timmins' region and its close proximity to zero-carbon hydroelectricity and the potential of the Crawford Nickel-Cobalt Sulphide Project, comprised largely of serpentine rock that naturally absorbs carbon dioxide when exposed to air, to develop zero-carbon products.

The nickel industry faces a number of challenges as the current processing approach of laterite and sulphide ores generate a significant environmental footprint in the form of sulphur dioxide and Carbon dioxide emissions. These environmental challenges will only worsen given the industry supply profile with the bulk of recent nickel supply growth and the main source of future production growth being nickel pig iron production in Indonesia, which, according to industry sources, uses 25-30 tonnes of coal to produce each tonne of nickel, which when combined with other sources of carbon dioxide, generates nearly 90 tonnes of carbon dioxide emissions per tonne of nickel produced (see CNC news release 27 July 2020).

For an electric vehicle battery pack that contained 50 kg of nickel from this source, it would represent approximately 4 tonnes of carbon dioxide emissions for that vehicle. Other sources of nickel supply growth that have additional environmental footprint issues are high-pressure leach (HPAL) projects in Indonesia that are considering technologies such as deep-sea discharge of tailings which would result in ocean discharge of approximately 100 tonnes of material per tonne of nickel. Further discussion about Canada Nickel's plans for the use of various alternatives to achieve its objectives around the mining, milling and processing stages of mining are provided in CNC's news release dated 27 July 2020.

## 27.0 REFERENCES

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### 27.1 References Cited

- Arndt, N.T, Leshar, C.M. and Barnes, S.J. (2008): Komatiites. Cambridge University Press, 469p.
- Ausenco (2019): Technical Report on the Dumont Ni Project, Launay and Trecesson Townships, Quebec, Canada. Prepared for Royal Nickel Corporation by Ausenco Solutions Canada Inc. in conjunction with SRK Consulting (Canada) Inc., Golder Associates Ltd., Wood, and WSP, 425p.
- Ausenco (2013): Technical Report on the Dumont Ni Project, Launay and Trecesson Townships, Quebec, Canada. Prepared for Royal Nickel Corporation by Ausenco Solutions Canada Inc. in conjunction with SRK Consulting (Canada) Inc., 432p.
- Ayer, J.A., Thurston, P.C., Bateman, R., Dubé, B., Gibson, H.L., Hamilton, M.A., Hathway, B., Hocker, S.M., Houlié, M.G., Hudak, G., Ispolatov, V.O., Lafrance, B., Leshar, C.M., MacDonald, P.J., Péloquin, A.S., Piercey, S.J., Reed, L.E. and Thompson, P.H. (2005): Overview of results from the Greenstone Architecture Project: Discover Abitibi Initiative; Ontario Geological Survey, Open File Report 6154, 175p.
- Ayer, J.A., Amelin, Y., Corfu, F., Kamo, S.L., Ketchum, J.W.F., Kwok, K. and Trowell, N.F. (2002a): Evolution of the southern Abitibi greenstone belt based on U-Pb geochronology: autochthonous volcanic construction followed by plutonism, regional deformation and sedimentation; Precambrian Research, v115, pp. 63-95.
- Ayer, J.A., Ketchum, J.W.F. and Trowell, N.F. (2002b): New geochronological and neodymium isotopic results from the Abitibi greenstone belt, with emphasis on the timing and the tectonic implications of Neoproterozoic sedimentation and volcanism; In Summary of Field Work and Other Activities 2002, Ontario Geological Survey, Open File Report 6100, pp. 5-1 to 5-16.
- Balch, S.J. (2017): Report on a helicopter-Borne Time Domain Electromagnetic and Magnetic Survey at Crawford Township, Project 2017-0317. Prepared for Noble Mineral Exploration Inc. by BECI Exploration Consulting Inc., October 2017, 38p.
- Barnes, S.J., Hill, R.E.T., Perring, C.S., and Dowling, S.E. (2004): Lithochemical exploration of komatiite-associated Ni-sulphide deposits: strategies and limitations: Mineralogy and Petrology, v. 82, pp.259–293.
- Burley, L.L. and Barnes, S.J. (2019): Komatiite characteristics of the Fisher East nickel sulfide prospects: implications for nickel prospectivity in the northeastern Yilgarn Craton: Geological Survey of Western Australia, Report 198, 20p.
- Butt, C.R.M. and Brand, N.W. (2003). Mt. Keith Nickel Sulphide Deposit, Western Australia. Cooperative Research Centre for Landscape Environments and Mineral Exploration (CRCLEME), 3p.
- CIM (2019): CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines. Prepared by the CIM Mineral Resource & Mineral reserve Committee, Adopted by CIM Council November 29, 2019.

CIM (2014): CIM Definition Standards for Mineral Resources & Mineral Reserves. Prepared by the CIM Standing Committee on Reserve Definitions, Adopted by CIM Council May 19, 2014.

CGG Canada Services Ltd. (2018): FALCON Airborne Gravity Gradiometer Survey, Crawford Township, Ontario, Project 802606. Prepared for Noble Mineral Exploration Inc., 34p.

Cowan, Jun & Beatson, Rick & Ross, H.J. & Fright, W.R. & McLennan, T.J. & Evans, T.R. & Carr, J.C. & Lane, R.G. & Bright, D.V. & Gillman, A.J. & Oshurst, P.A. & Titley, M. (2003): Practical Implicit Geological Modelling. 5th International Mining Geology Conference.

Duke, J.M. (1986): Petrology and economic geology of the Dumont Sill: an Archean intrusion of komatiitic affinity in northwestern Quebec. Geological Survey of Canada, Economic Geology Report, v35, 56p.

Duncan, D.W. and Morrissey, E.A. (2011): The Concept of geologic Carbon Sequestration, USGS, 2p.

Eckstrand, O.R. (1975): The Dumont Serpentinite: A model for control of nickeliferous opaque mineral assemblages by alteration reactions in ultramafic rocks. Economic geology, 70, pp. 183-201.

George, P.T. (1970): Crawford-Nesbitt Compilation Project for McIntyre Porcupine Mines Limited by Shield Geophysics Limited, Timmins, Ontario, April 1970, 21p. Ontario Assessment File Research Image (AFRI) database 42A14NW0010.

Houle, M.G., Leshner, C.M., and Prefontaine, S. (2017): Physical Volcanology of Komatiites and Ni-Cu-(PGE) Deposits of the Southern Abitibi Greenstone Belt; In Archean Base and Precious Metal deposits, Southern Abitibi Greenstone Belt, Canada, Reviews in Economic Geology, v19, pp. 103-132.

Houle, M.G. and Leshner, C.M. (2011): Komatiite-Associated Ni-Cu-(PGE) Deposits, Abitibi Greenstone Belt, Superior Province, Canada; Reviews in Economic Geology, v17, pp. 89-121.

Jackson, S.L. and Fyon, A.J. (1991): The western Abitibi Subprovince in Ontario; In Geology of Ontario, edited by P.C. Thurston, H.R. Williams, R.H. Sutcliffe and G.M. Stott, Ontario Geological Survey, Special Volume 4, pp. 405-482.

Jobin-Bevans, S., Siriunas, J., and Oviedo, L. (2020): Independent Technical Report and Mineral Resource Estimate, Crawford Nickel-Cobalt Sulphide Project, Timmins-Cochrane Area, Ontario, Canada: Unpublished report prepared for Canada Nickel Company Inc. by Caracle Creek International Consulting Inc., April 9, 2020, 147p.

Johnston, H. and Ma, W. (2012): Mineralogical Assessment of Project 81 Ore (KM3461). Prepared for Noble Mineral Exploration Inc. by ALS Metallurgy and G&T Metallurgical Services, Kamloops, BC, 42p.

Layton-Matthews, D., Leshner, C.M., Burnham, O.M., Hulbert, L., Peck, D.C., Golightly, J.P., and Keays, R.R. (2010): Exploration for Komatiite-Associated Ni-Cu-(PGE) Mineralization in the Thompson Nickel Belt, Manitoba; In The Challenge of Finding New Mineral Resources: Global Metallogeny, Innovative Exploration, and New Discoveries, Goldfarb R.J., Marsh, E.E., and Monecke, T, Society of Economic Geologists, 300p.

Leshner, M. and Keays, R. (2002). Komatiite-associated Ni-Cu-PGE deposits: Geology, mineralogy, geochemistry and genesis. *The Geology, Geochemistry Mineralogy and Mineral Beneficiation of Platinum Group Elements*.

MEGATEM II (2002): Timmins Area MEGATEM: Ontario Airborne Geophysical Surveys, Magnetic and Electromagnetic Data, Geophysical Data Set 1041, Ontario Geological Survey Data Set 1041, 48p.

MERC (2017): 2017 Field Trip Guide, Transects: Malartic - Rouyn Noranda - Larder Lake – Swayze, 76p.

Mercier-Langevin, P., Goutier, J., and Dubé, B. (ed.) (2017): Precious- and base-metal deposits of the southern Abitibi greenstone belt, Superior Province, Ontario and Quebec: 14th Biennial Society for Geology Applied to Mineral Deposits meeting field trip guidebook; Geological Survey of Canada, Open File 8317, 86p. <https://doi.org/10.4095/306250>.

Monecke, T., Mercier-Langevin, P., Dube, B., and Frieman, B.M. (2017): Geology of the Abitibi Greenstone Belt (Chapter 1); In *Archean Base and Precious Metal deposits, Southern Abitibi Greenstone Belt, Canada, Reviews in Economic Geology*, v19, pp. 7-49.

MDI (2020): Mineral Deposit Inventory; Ontario Geological Survey, online database.

MRD 126 (2011): Miscellaneous Release—Data 126 - Revision 1; Ontario Geological Survey, 1:250 000 scale bedrock geology of Ontario, Ontario Geological Survey.

MRD 155 (2005): Miscellaneous Release - Data - Digital Compilation of Maps and Data from the Greenstone Architecture Project in the Timmins-Kirkland Lake Region, Ontario Geological Survey.

Naldrett, A. J. (1989): *Magmatic Sulphide Deposits*: Oxford, Oxford University Press, 196p.

ODHD (2020): Ontario Drill Hole Database; Mines and Minerals Division, online database.

Ontario Geological Survey (1998): *Geological Compilation of the Timmins Area, Abitibi Greenstone Belt, Precambrian Geology*, Map P.3379.

Orix Geoscience Inc. (2019): Drill hole compilation report for Crawford Township (excel spreadsheet).

Renaud, J. (2019): Electron Probe Micro-Analysis (EPMA), Backscattered Electron Imagery and Energy-Dispersive X-ray (EDS) mineralogical studies on the Crawford Township Project. Prepared by Renaud geological Consulting Ltd. for Spruce Ridge Resources Ltd., 451p.

Ross, P.-S., Goutier, J., Legault, M., Grunsky, E., and Dube, B. (2009): New volcanological and geochemical observations from the Blake River Group, Abitibi Greenstone Belt, Ontario and Quebec: Tannahill Township and Lake Labyrinth Area. *Geological Survey of Canada, Current Research 2009-8*, 26p.

Sciortino, M., Mungall, J.E., and Muinonen, J. (2015): Generation of high-Ni sulfide and alloy phases during serpentinization of dunite in the Dumont Sill, Quebec. *Economic Geology*, 110, pp. 733-761.

Singh, R. and Lahti, H. (2013): Project 81 Technical Report: 2012-Diamond Drilling & metallurgical Studies, Kingsmill Nickel Deposit, Kingsmill Township, Timmins Area, Northern Ontario Canada. Prepared for Noble Mineral Exploration Inc., 30p.

Skrecky, A. (1971): Inter-Office Correspondence, McIntyre Porcupine Mines Limited, February 15, 1971, 3p. Ontario Assessment File Research Image (AFRI) database 42A14SW0026.

Sproule, R.A., Leshner, C.M., Houle, M.G., Keays, R.R., Ayer, J.A., and Thurston, P.C. (2005): Chalcophile Element Geochemistry and Metallogenesis of Komatiitic Rocks in the Abitibi Greenstone Belt, Canada. *Economic Geology*, v100, pp. 1169-1190.

Sproule, R.A., Leshner, C.M., Ayer, J.A. and Thurston, P.C. (2003): Geochemistry and Metallogenesis of Komatiitic Rocks in the Abitibi Greenstone Belt, Ontario. Ontario Geological Survey, Open File Report 6073, 119p.

St-Hilaire, C. (2019): Crawford Nickel Project: Interpretation Report 3D-Inversion of magnetic and Gravity Data, Reference P19-07-25. Prepared for Spruce Ridge Resources Ltd. by Geophysique Camille St-Hilaire Inc., August 2019, 53p.

Thurston, P.C., Ayer, J.A., Goutier, J., and Hamilton, M.A. (2008): Depositional Gaps in Abitibi Greenstone Belt Stratigraphy: A Key to Exploration for Syngenetic Mineralization. *Economic Geology* v103, pp. 1097-1134.

## 27.2 Website References

Canada Nickel Company Inc.:

[www.canadanickel.com](http://www.canadanickel.com)

Noble Mineral Exploration Inc:

[www.noblemineralexploration.com](http://www.noblemineralexploration.com)

Spruce Ridge Resources Ltd.:

[www.spruceridgeresources.com](http://www.spruceridgeresources.com)

Annual Precipitation and Temperatures:

<https://en.climate-data.org/north-america/canada/ontario/timmins-875010/>

Physiography:

<https://atlas.gc.ca/phys/en/>

Government of Ontario, Ministry of Energy, Northern Development and Mines:

[www.mndm.gov.on.ca/en/news/mines-and-minerals/exploration-plans-and-permits-table](http://www.mndm.gov.on.ca/en/news/mines-and-minerals/exploration-plans-and-permits-table)

[www.mndm.gov.on.ca/en/mines-and-minerals/mining-act](http://www.mndm.gov.on.ca/en/mines-and-minerals/mining-act)

Government of Ontario – Land Information Administration:

[www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=0ba17c47-6951-4ca2-99b7-137ce183ac81](http://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home?uuid=0ba17c47-6951-4ca2-99b7-137ce183ac81)

Canadian Ecozones:

<http://ecozones.ca/english/zone/index.html>

Ontario Mining Exploration Database – PUB, OAFD, AMIS, ODHD, MDI (2019):

[www.geologyontario.mndm.gov.on.ca/index.html](http://www.geologyontario.mndm.gov.on.ca/index.html)

System for Electronic Document Analysis and Retrieval ("SEDAR"):

[www.sedar.com](http://www.sedar.com)

Mining Lands Administration System (MLAS):

[www.mndm.gov.on.ca/en/mines-and-minerals/applications/mining-lands-administration-system-mlas-map-viewer](http://www.mndm.gov.on.ca/en/mines-and-minerals/applications/mining-lands-administration-system-mlas-map-viewer)

ServiceOntario/Ontario Land Registry Access:

[www.onland.ca](http://www.onland.ca)

Teranet Express:

[www.teranetexpress.ca](http://www.teranetexpress.ca)

Carbon Sequestration Potential:

[www.nrcan.gc.ca/science-data/funding-partnerships/funding-opportunities/current-investments/carbon-capture-utilization-and-storage-mine-tailings/22222](http://www.nrcan.gc.ca/science-data/funding-partnerships/funding-opportunities/current-investments/carbon-capture-utilization-and-storage-mine-tailings/22222)

<https://climatechangeconnection.org/solutions/carbon-sequestration/geological-sequestration/>

[www.usgs.gov/news/making-minerals-how-growing-rocks-can-help-reduce-carbon-emissions](http://www.usgs.gov/news/making-minerals-how-growing-rocks-can-help-reduce-carbon-emissions)

[www.mdru.ubc.ca/projects/co2-sequestration/](http://www.mdru.ubc.ca/projects/co2-sequestration/)

### 27.3 References (not cited)

Ayer, J.A., Trowell, N.F., Amelin, Y. and Corfu, F. (1999a): Geological compilation of the Abitibi greenstone belt in Ontario: toward a revised stratigraphy based on compilation and new geochronology results; In Summary of Field Work and Other Activities 1998, Ontario Geological Survey, Miscellaneous Paper 169, pp. 14-24.

Ayer, J.A., Trowell, N.F., Madon, Z., Kamo, S., Kwok, Y.Y. and Amelin, Y. (1999b): Compilation of the Abitibi greenstone belt in the Timmins–Kirkland Lake area: revisions to stratigraphy and new geochronological results; in Summary of Field Work and Other Activities 1999, Ontario Geological Survey, Open File Report 6000, pp. 4-1 to 4-14.

Barrie, C.T. (1999) editors: The Giant Kidd Creek Volcanogenic Massive Sulfide Deposit, Ring of Fire Resources Inc., Report on Project “81”, Timmins Area, Ontario 30 Western Abitibi Subprovince, Canada. Economic Geology Monograph 10, Economic Geology Publishing Company, pp. 577-592.

Butler, H. (2007): Technical (Geological) Report on the Texmont and Bartlett-English properties. Prepared for Fletcher Nickel Inc., 75p.

Jobin-Bevans, S. and Siriunas, J. (2020): Independent Technical Report on the Crawford Nickel-Cobalt Sulphide Project, Timmins-Cochrane Area, Ontario, Canada. Prepared for Canada Nickel Company Inc. and Noble Mineral Exploration Inc. by Caracle Creek International Consulting Inc., Effective Date December 10, 2019, 124p.

Naldrett, A. J. (2010): Secular variation in magmatic sulfide deposits and their source magmas. Economic Geology, 105, pp. 669-688.

Sciortino, M. (2014): Generation of high-Ni sulfide and alloy phases during serpentinization of the Dumont Dunite, Quebec. MSc Graduate Department of Geology, University of Toronto, 87p.

**APPENDIX 1 - Certificates of Authors**  
[3 pages]

## CERTIFICATE OF AUTHOR

**Scott Jobin-Bevans (P.Geo.)**

I, Scott Jobin-Bevans, P.Geo., do hereby certify that:

1. I am an independent consultant of Caracle Creek International Consulting Inc. (Caracle) and have an address at 1545 Maley Drive, Ste. 2018, Sudbury, Ontario, Canada, P3A 4R7.
2. I graduated from the University of Manitoba (Winnipeg, Manitoba) with a B.Sc. Geosciences (Hons) in 1995 and from the University of Western Ontario (London, Ontario) with a Ph.D. (Geology) in 2004.
3. I am a member, in good standing, of Association of Professional Geoscientists of Ontario, License Number 0183.
4. I have practiced my profession continuously for more than 25 years and have been involved in mineral exploration, mine site geology, mineral resource and reserve estimations, preliminary economic assessments, pre-feasibility studies, due diligence, valuation and evaluation reporting, and have authored or co-authored numerous NI-43-101 reports on a multitude of commodities including nickel-copper-platinum group elements, base metals, gold, silver, vanadium, and lithium projects in Canada, the United States, China, Central and South America, Europe, Africa, and Australia.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
6. I am responsible for all sections, except Section 2.3 and Sections 14.13.1 to 14.13.5, in the technical report titled "Independent Technical Report and Mineral Resource Estimates, Crawford Nickel-Cobalt Sulphide Project: Main Zone (Update) and East Zone (Initial) Deposits, Timmins-Cochrane Area, Ontario, Canada" (the "Technical Report"), with an Amended Report Date of December 31, 2020, a Report Effective Date of December 12, 2020, and a Mineral Resource Estimate Effective Date of December 11, 2020.
7. I have not visited the Crawford Nickel-Cobalt Sulphide Project.
8. I am independent of Canada Nickel Company Inc. applying all of the tests in Section 1.5 of NI 43-101.
9. I have had no prior involvement with the Project that is the subject of the Technical Report.
10. I have read NI 43-101, Form 43-101F1 and confirm the Technical Report has been prepared in compliance with that instrument and form.
11. As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, the Sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed at Toronto, Ontario, Canada this 31<sup>st</sup> day of December 2020.

(signed) "Scott Jobin-Bevans"

Scott Jobin-Bevans (Ph.D., PMP, P.Geo.)

## CERTIFICATE OF AUTHOR

**John M. Siriunas (P.Eng.)**

I, John M. Siriunas, P.Eng., do hereby certify that:

1. I am an associate independent consultant of Caracle Creek International Consulting Inc. (Caracle) and have an address at 25 3<sup>rd</sup> Side Road, Milton, Ontario, Canada, L9T 2W5.
2. I graduated from the University of Toronto (Toronto, Ontario) with a B.A.Sc. (Geological Engineering) in 1976 and from the University of Toronto (Toronto, Ontario) with an M.A.Sc. (Applied Geology and Geochemistry) in 1979.
3. I have been a member, in good standing, of the Association of Professional Engineers of Ontario since June 1980 (Licence Number 42706010) and possess a Certificate of Authorization to practice my profession.
4. I have practiced my profession continuously for 40 years and have been involved in mineral exploration, mine site geology, mineral resource and reserve estimations, preliminary economic assessments, pre-feasibility studies, due diligence, valuation and evaluation reporting, and have authored or co-authored numerous reports on a multitude of commodities including nickel-copper-platinum group element, base metals, precious metals, lithium, iron ore and coal projects in the Americas.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
6. I am responsible for Sections 2.3, 6.4, and 11 in the technical report titled "Independent Technical Report and Mineral Resource Estimates, Crawford Nickel-Cobalt Sulphide Project: Main Zone (Update) and East Zone (Initial) Deposits, Timmins-Cochrane Area, Ontario, Canada" (the "Technical Report"), with an Amended Report Date of December 31, 2020, a Report Effective Date of December 12, 2020, and a Mineral Resource Effective Date of December 11, 2020.
7. I personally visited the Crawford Nickel-Cobalt Sulphide Project on October 12, 2019, on February 3 and 4, 2020 and on September 10 and 11, 2020.
8. I am independent of Canada Nickel Company Inc. applying all of the tests in Section 1.5 of NI 43-101.
9. I have had no prior involvement with the Project that is the subject of the Technical Report.
10. I have read NI 43-101, Form 43-101F1 and confirm the Technical Report has been prepared in compliance with that instrument and form.
11. As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, the Sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed at Milton, Ontario this 31<sup>st</sup> day of December 2020.

*(signed) "John M. Siriunas"*

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John M. Siriunas (M.A.Sc., P.Eng.)

## CERTIFICATE OF AUTHOR

**David Penswick (P.Eng.)**

I, David Penswick, P.Eng., do hereby certify that:

1. I am self-employed as an independent consultant. The operating name of my consultancy is Gibsonian Inc., and it is located in Toronto, Canada.
2. I graduated from Queens' University in Kingston Canada with a BSc – Mining Engineering in 1989. I graduated from University of Witwatersrand in Johannesburg, South Africa with a MSc – Mining Engineering in 1993.
3. I am a professional engineer in good standing with the Professional Engineers Ontario (PEO) in Canada (license# 100111644).
4. I have practiced my profession continuously as a mining engineer in various capacities since 1989. I have been continuously self-employed as a consultant since 2002.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
6. I am responsible for Sections 14.13.1 to 14.13.5, in the technical report titled "Independent Technical Report and Mineral Resource Estimates, Crawford Nickel-Cobalt Sulphide Project: Main Zone (Update) and East Zone (Initial) Deposits, Timmins-Cochrane Area, Ontario, Canada" (the "Technical Report"), with an Amended Report Date of December 31, 2020, a Report Effective Date of December 12, 2020, and a Mineral Resource Estimate Effective Date of December 11, 2020.
7. I have not visited the Crawford Nickel-Cobalt Sulphide Project.
8. I am independent of Canada Nickel Company Inc. applying all of the tests in Section 1.5 of NI 43-101.
9. I have had no prior involvement with the Project that is the subject of the Technical Report.
10. I have read NI 43-101, Form 43-101F1 and confirm the Technical Report has been prepared in compliance with that instrument and form.
11. As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, the Sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed at Toronto, Ontario, Canada this 31<sup>st</sup> day of December 2020.

(signed) "David Penswick"

David Penswick, BSC, MSC, P.Eng.

**APPENDIX 2 – Photographs from Crawford Project Site Visit**  
[3 pages]

Coordinates in NAD83 Zone 17N

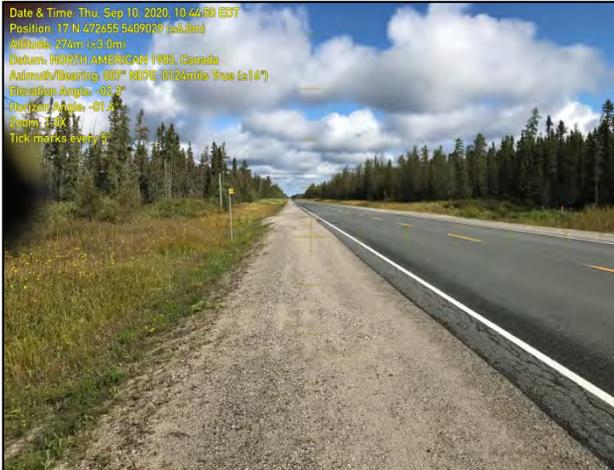


Photo 1. Access point from km 34 on Hwy 535 looking north up the highway.



Photo 2. Access trail in the East Zone area.



Photo 3. Collar at drill hole CR20-34.



Photo 4. Collar at drill hole CR20-35.



Photo 5. Collar at drill hole CR20-36.



Photo 6. Collar at drill hole CR20-57. This drill hole (HQ-size core) was put down in the Main Zone to acquire sample material for metallurgical testing.



Photo 7. Expanded core storage facilities with core shack in the background.



Photo 8. Expanded office facilities within the core shack.



Photo 9. Drill hole CR20-35, Box 77, field box markings.



Photo 10. Drill hole CR20-35, Box 77, archive tag markings.

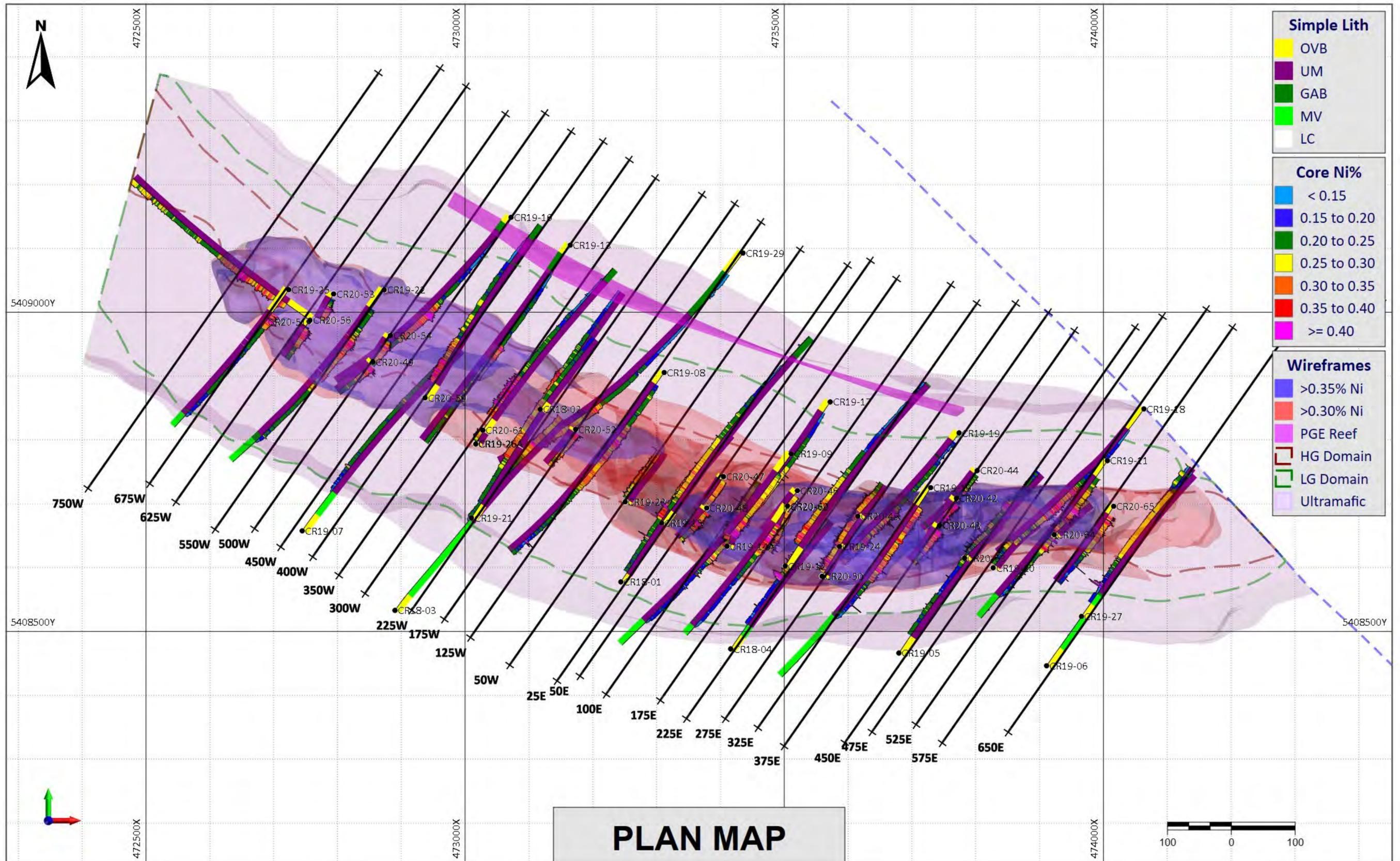


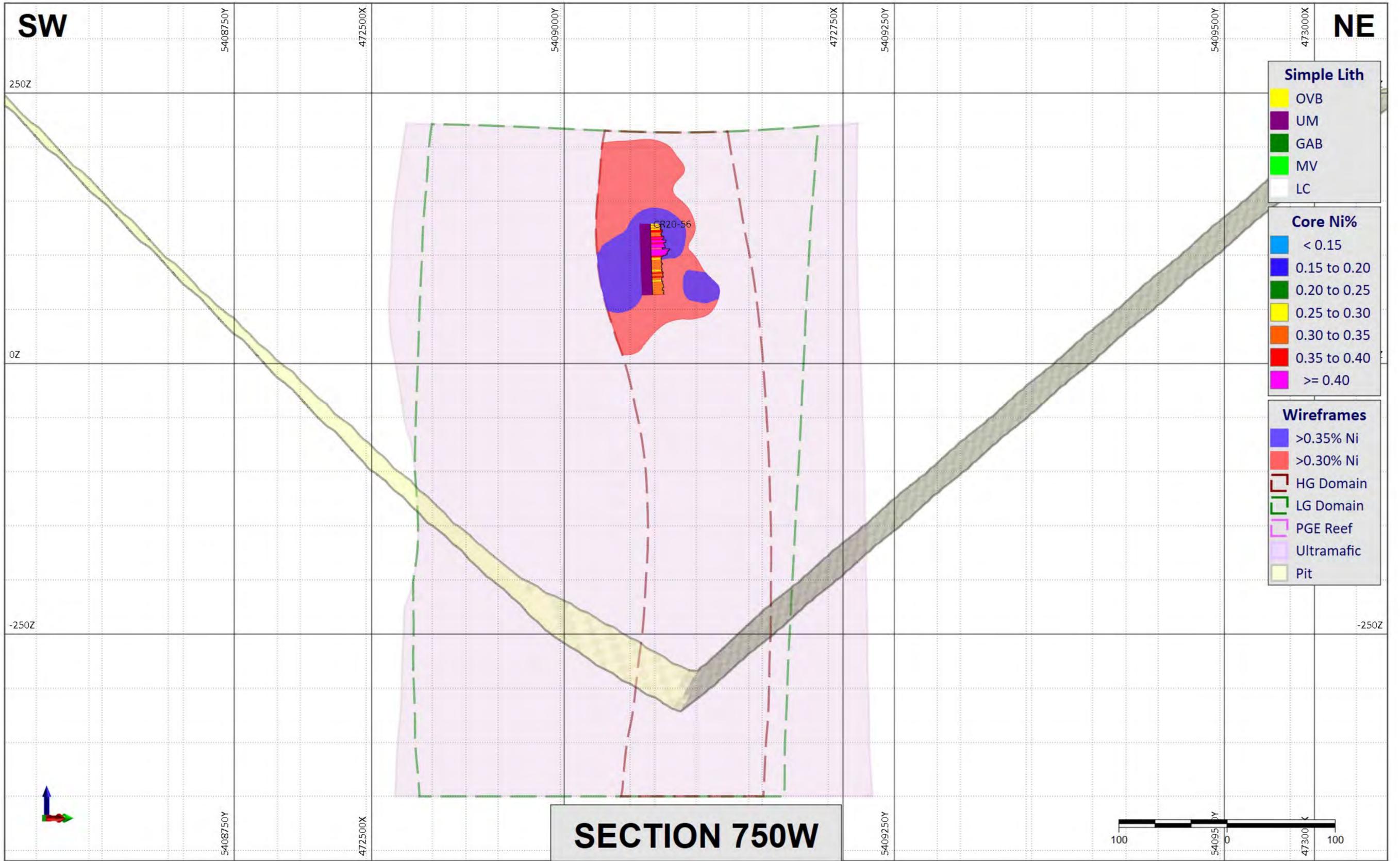
Photo 11. Drill hole CR20-35, Box 77, example of sampling. Sample A0977462 returned 0.176% Ni.

**APPENDIX 3 – Plan Maps/Cross Sections Main and East Zones**  
[36 pages]

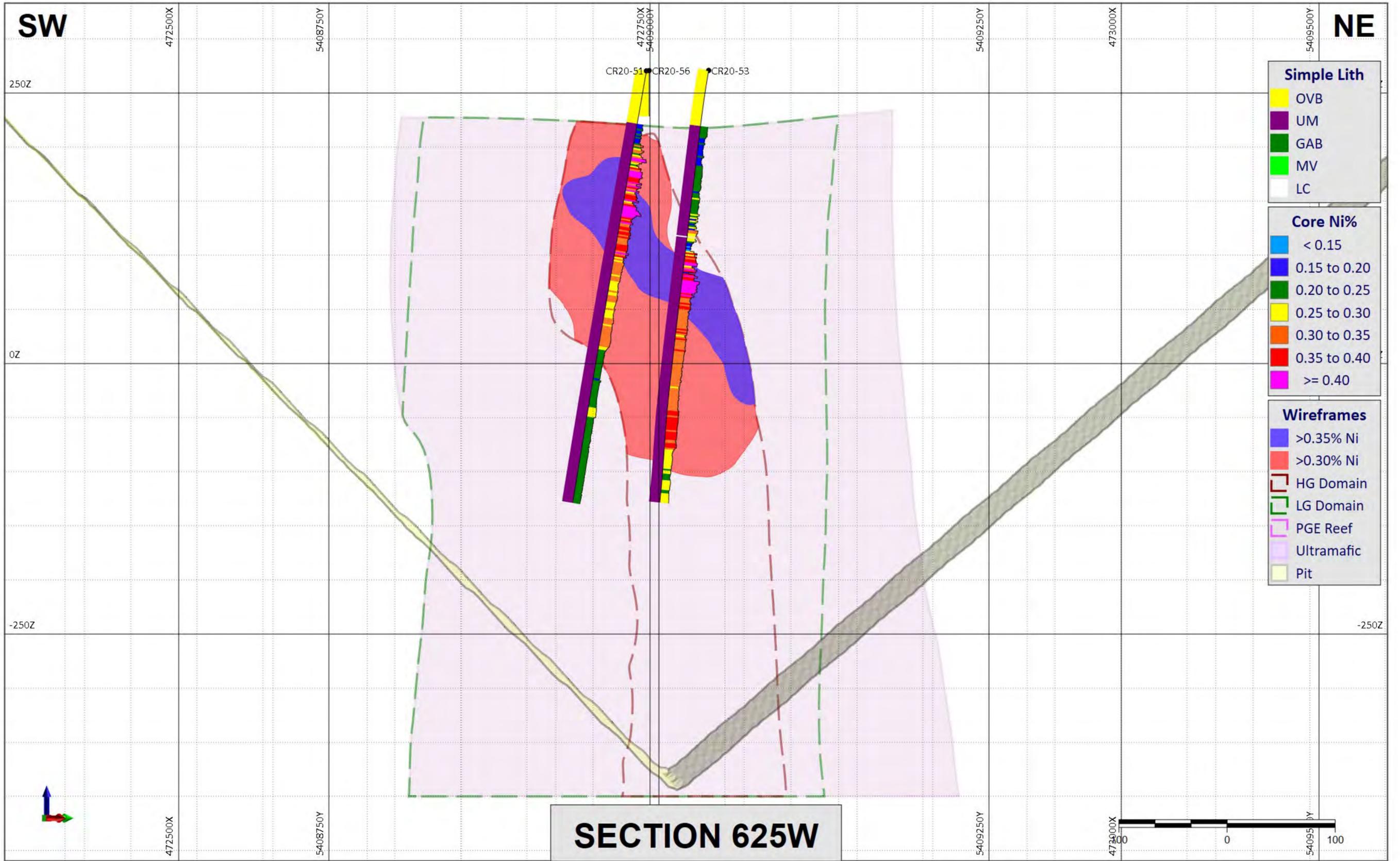
Main Zone: looking northwest at 305Az

East Zone: looking west at 270Az









**Simple Lith**

Yellow	OVB
Purple	UM
Green	GAB
Light Green	MV
White	LC

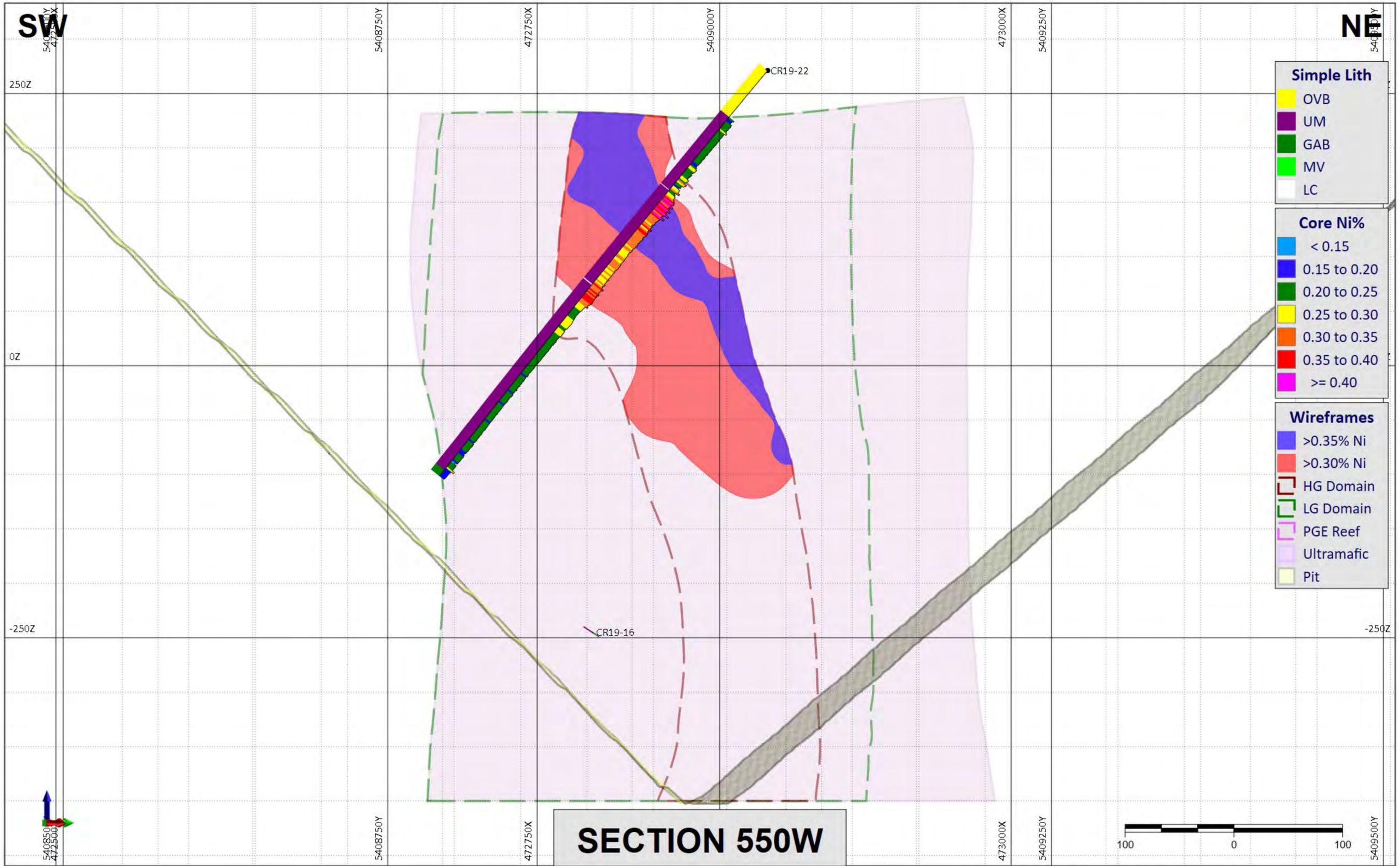
**Core Ni%**

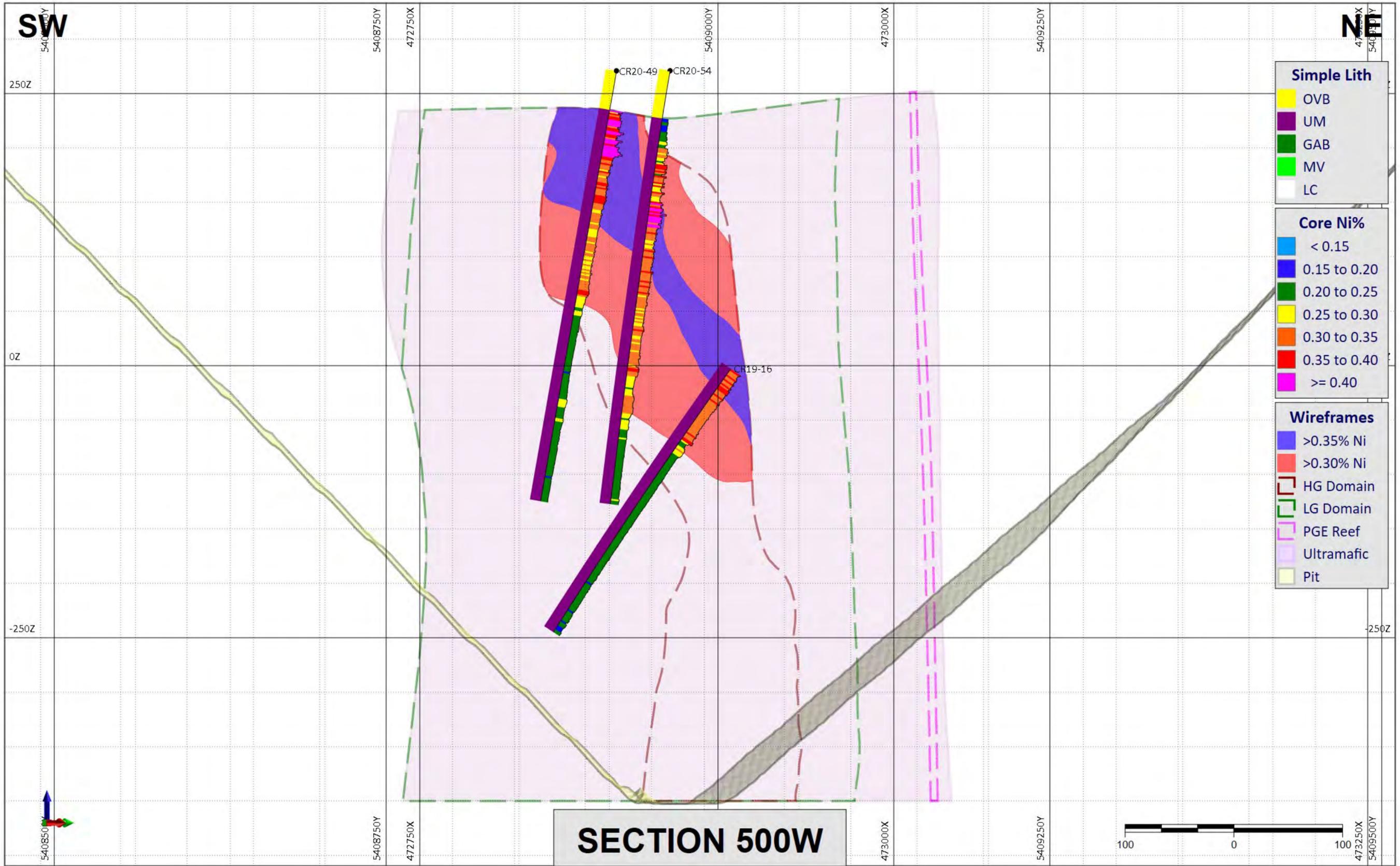
Light Blue	< 0.15
Blue	0.15 to 0.20
Dark Green	0.20 to 0.25
Yellow	0.25 to 0.30
Orange	0.30 to 0.35
Red	0.35 to 0.40
Magenta	>= 0.40

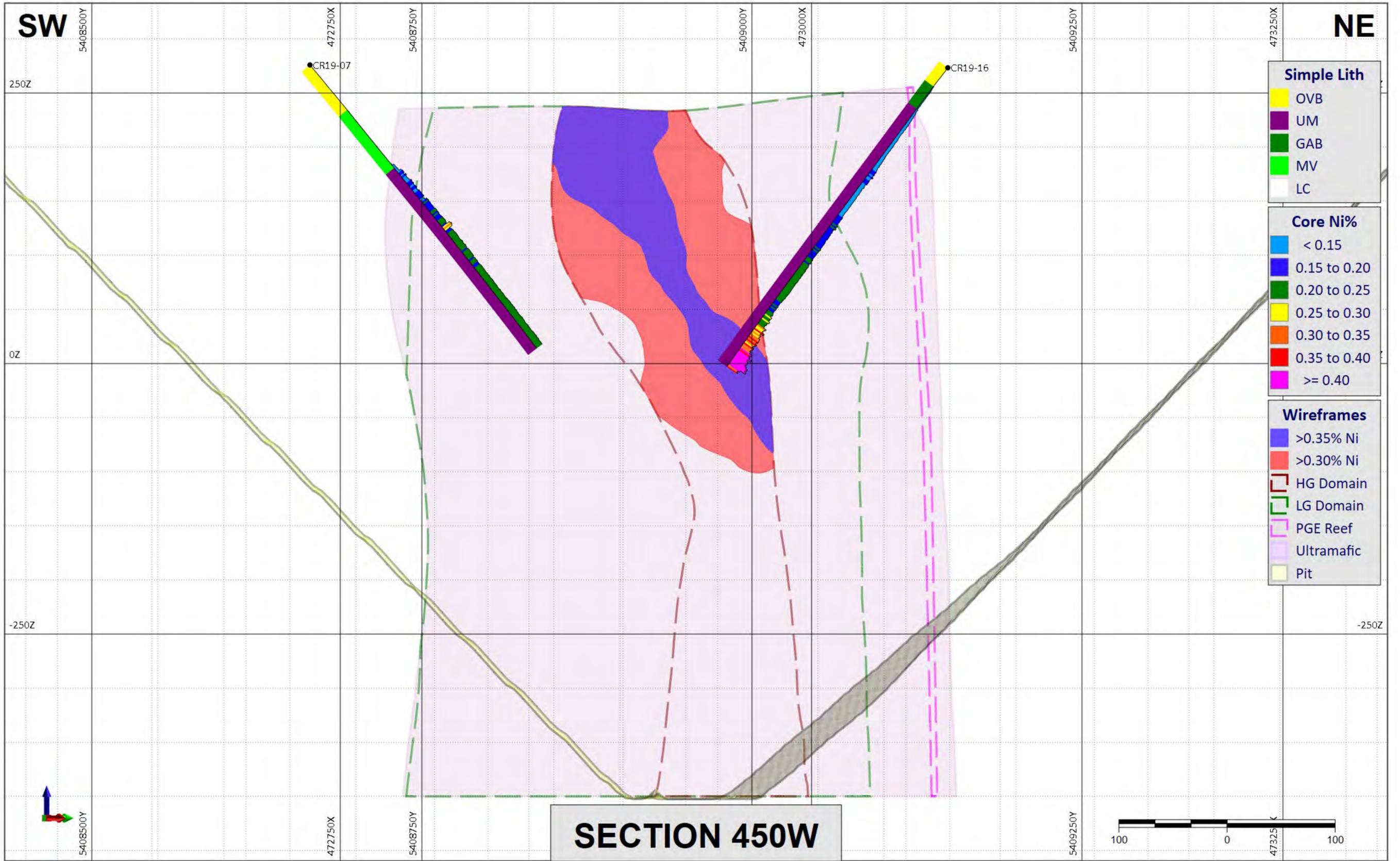
**Wireframes**

Blue	>0.35% Ni
Red	>0.30% Ni
Red dashed line	HG Domain
Green dashed line	LG Domain
Purple dashed line	PGE Reef
Light Purple	Ultramafic
Yellow	Pit

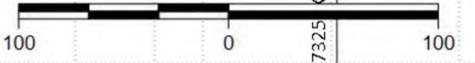


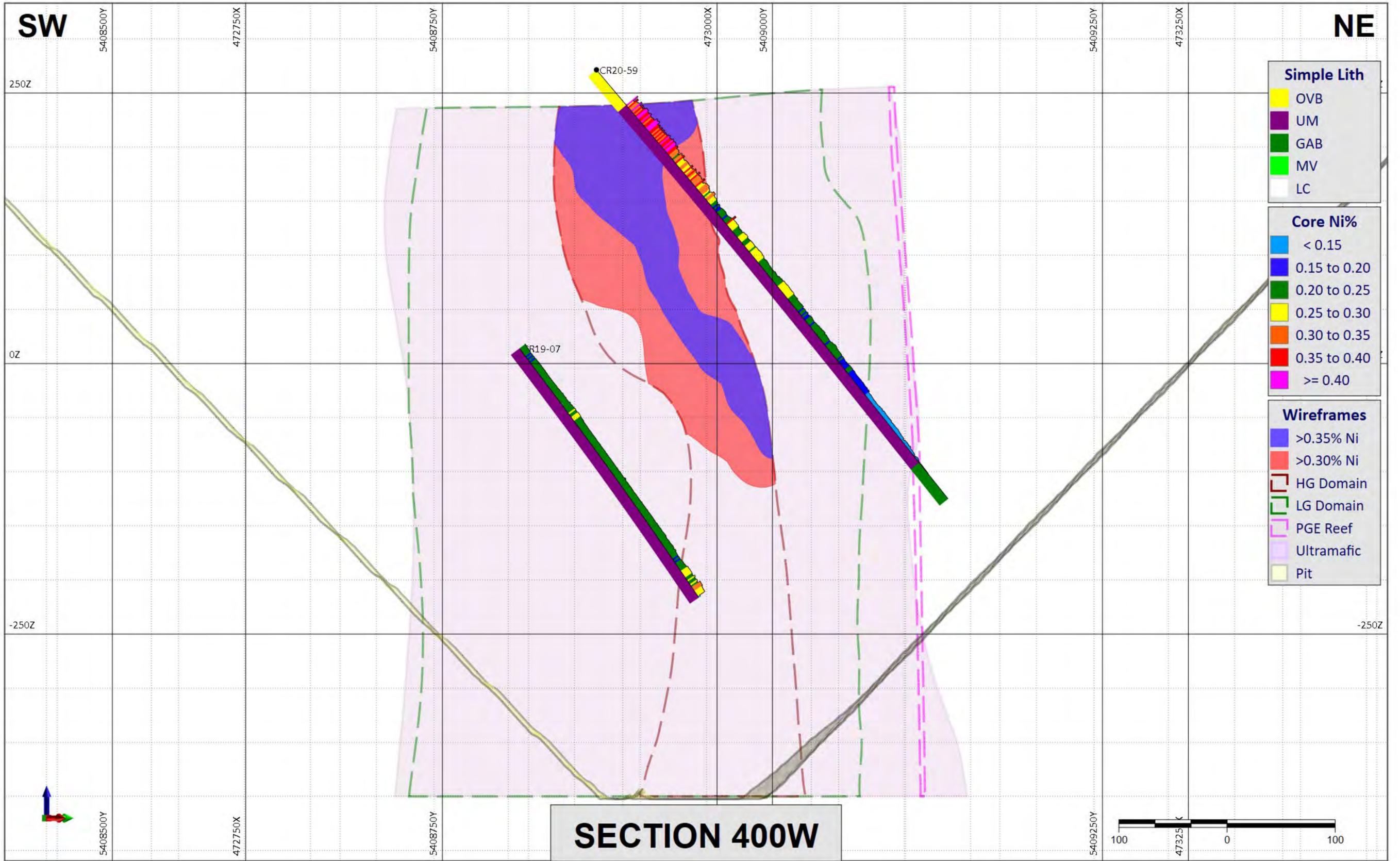






**SECTION 450W**





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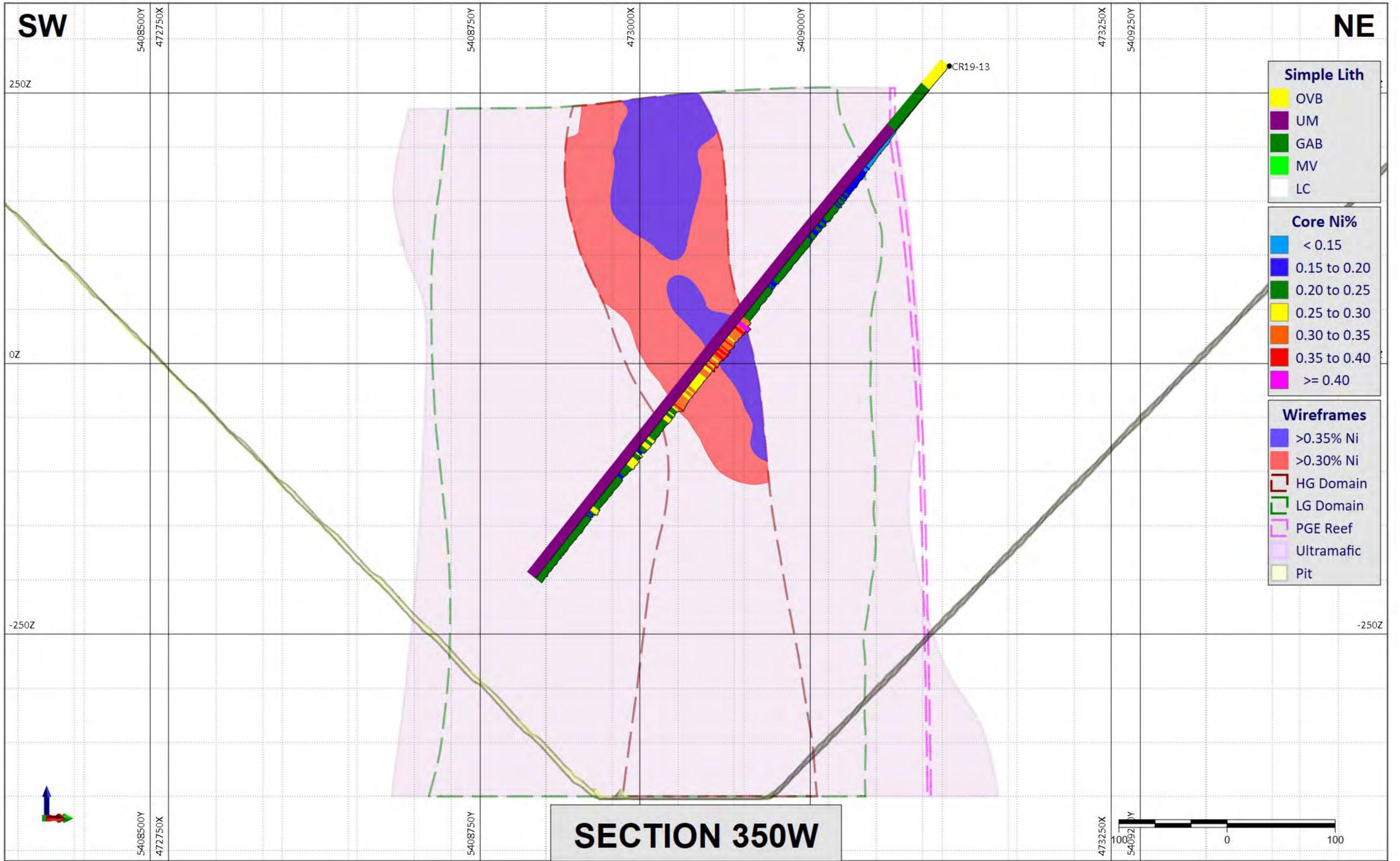
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- UM
- GAB
- MV
- LC

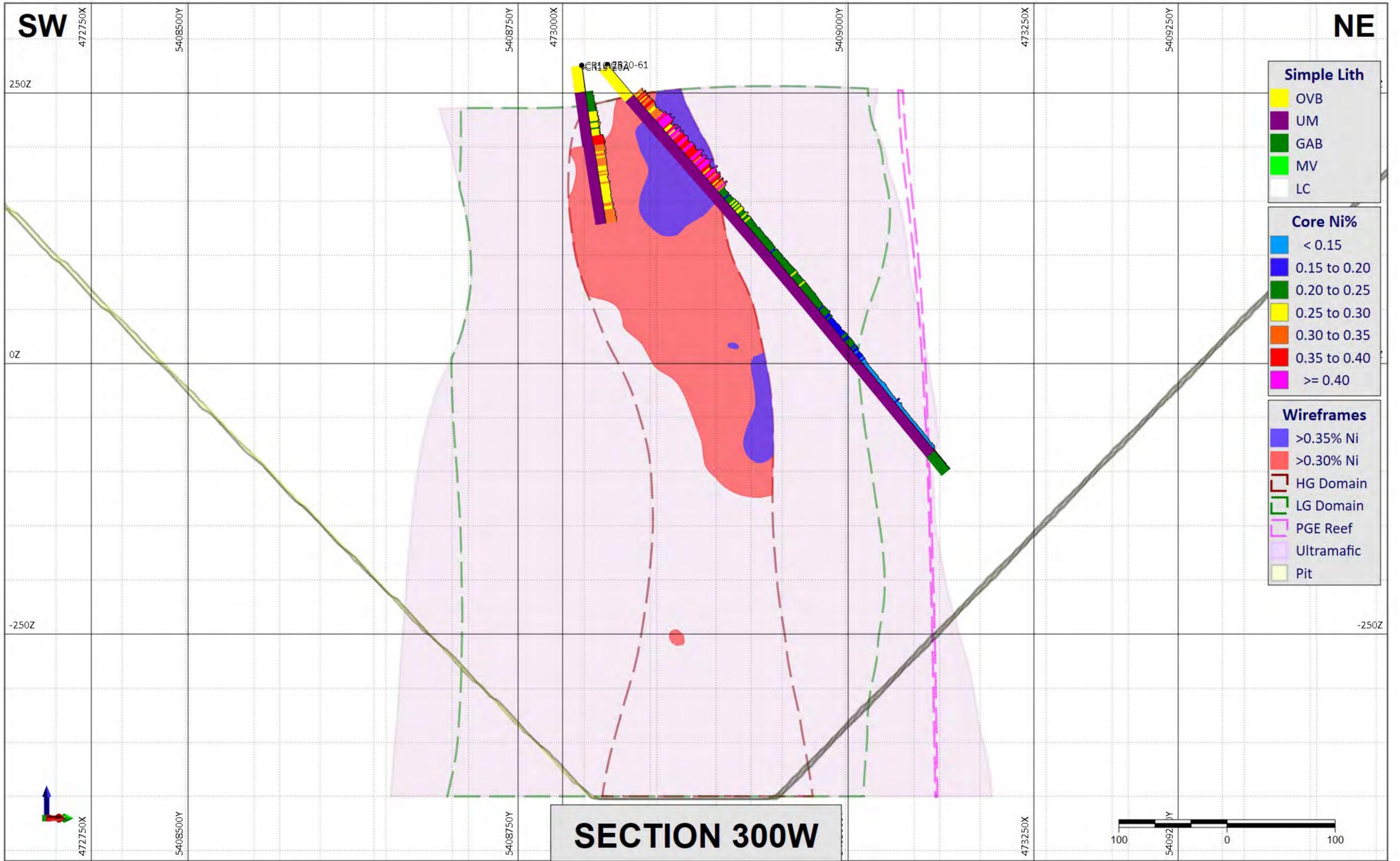
**Core Ni%**

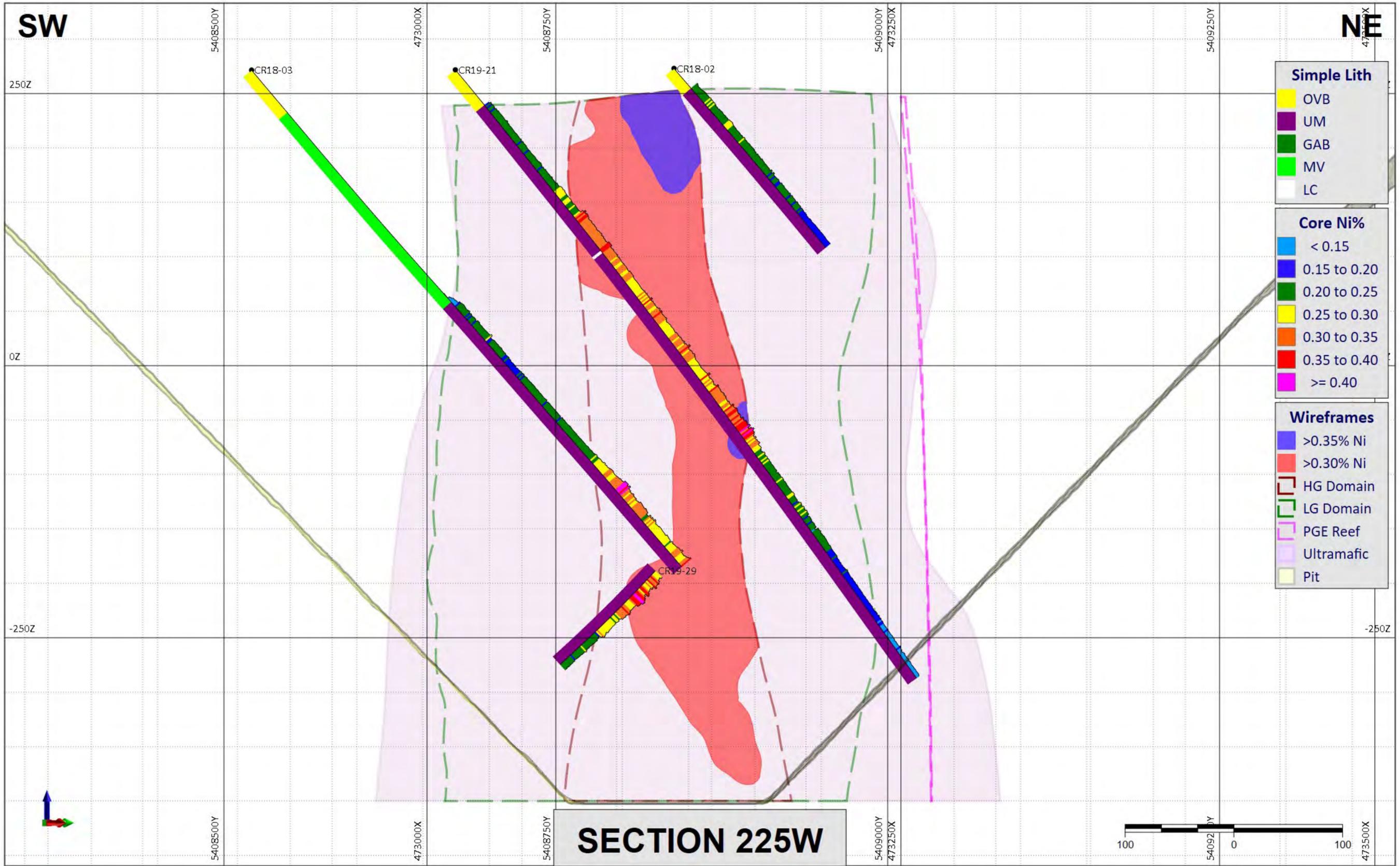
- < 0.15
- 0.15 to 0.20
- 0.20 to 0.25
- 0.25 to 0.30
- 0.30 to 0.35
- 0.35 to 0.40
- >= 0.40

**Wireframes**

- >0.35% Ni
- >0.30% Ni
- HG Domain
- LG Domain
- PGE Reef
- Ultramafic
- Pit







**Simple Lith**

- OVB
- UM
- GAB
- MV
- LC

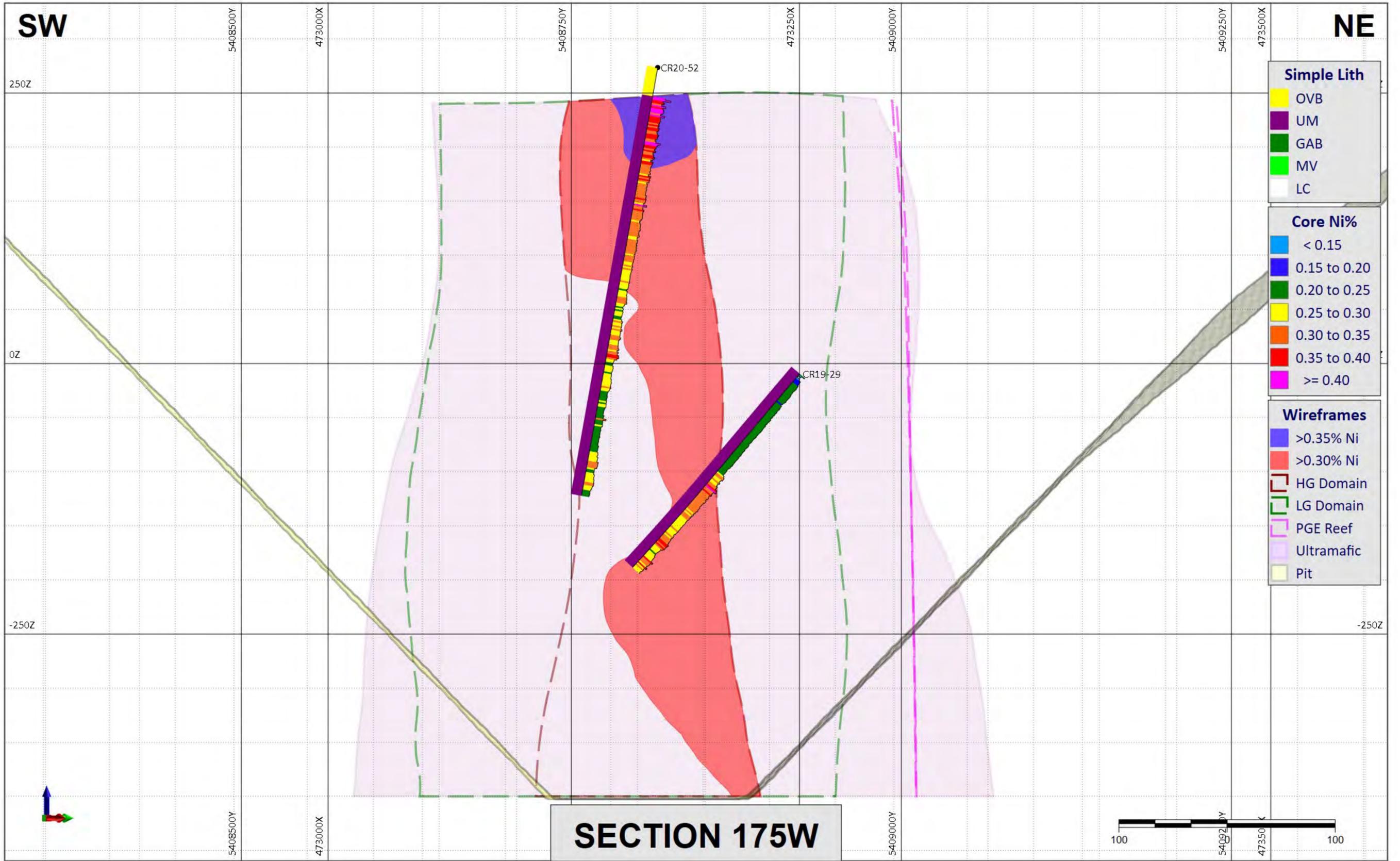
**Core Ni%**

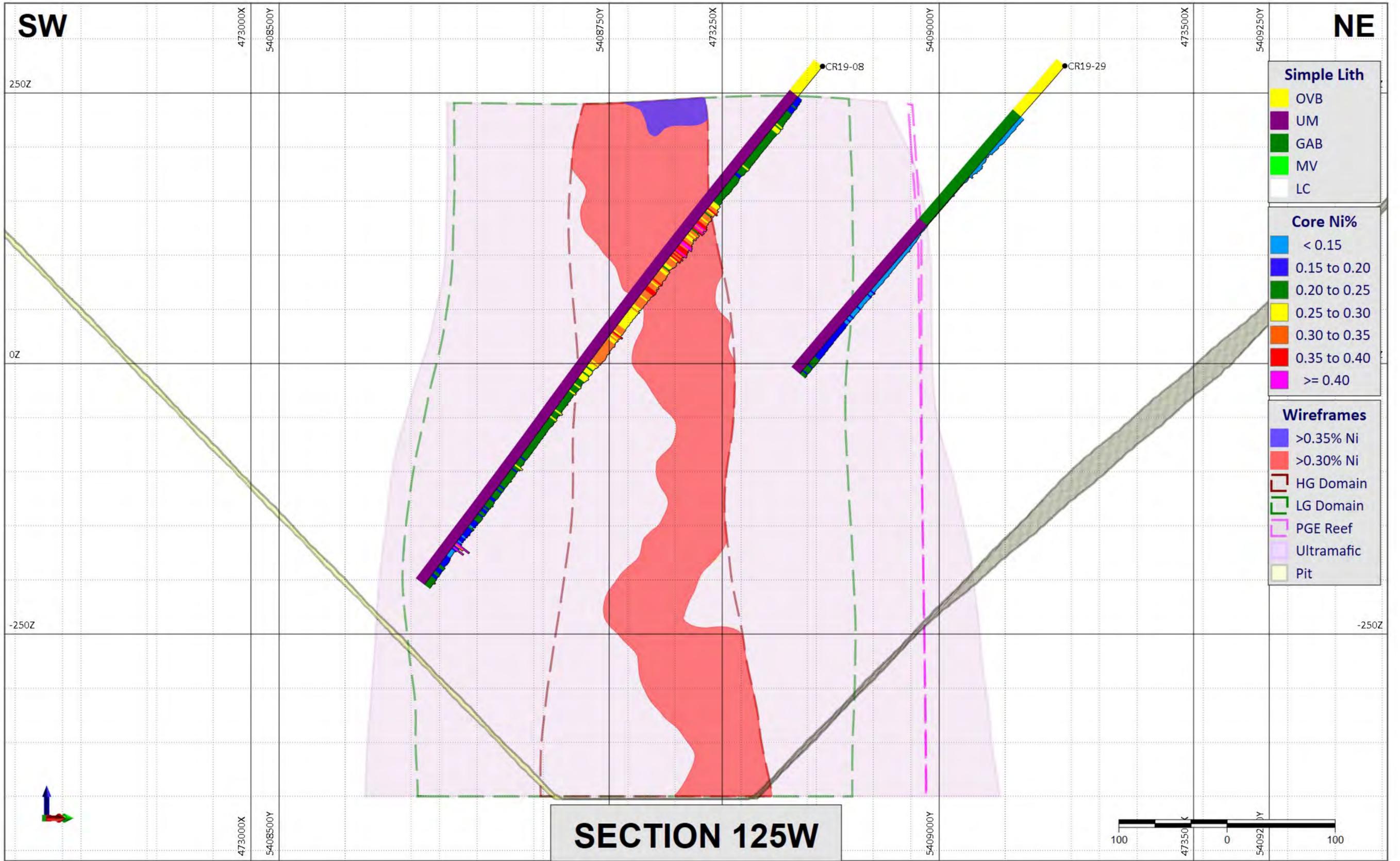
- < 0.15
- 0.15 to 0.20
- 0.20 to 0.25
- 0.25 to 0.30
- 0.30 to 0.35
- 0.35 to 0.40
- >= 0.40

**Wireframes**

- >0.35% Ni
- >0.30% Ni
- HG Domain
- LG Domain
- PGE Reef
- Ultramafic
- Pit







SW

NE

250Z

0Z

-250Z

473000X

5408500Y

5408750Y

473250X

5409000Y

473500X

5409250Y

473000X

5408500Y

5409000Y

**SECTION 125W**

**Simple Lith**

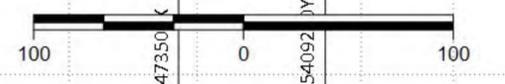
- OVB
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- MV
- LC

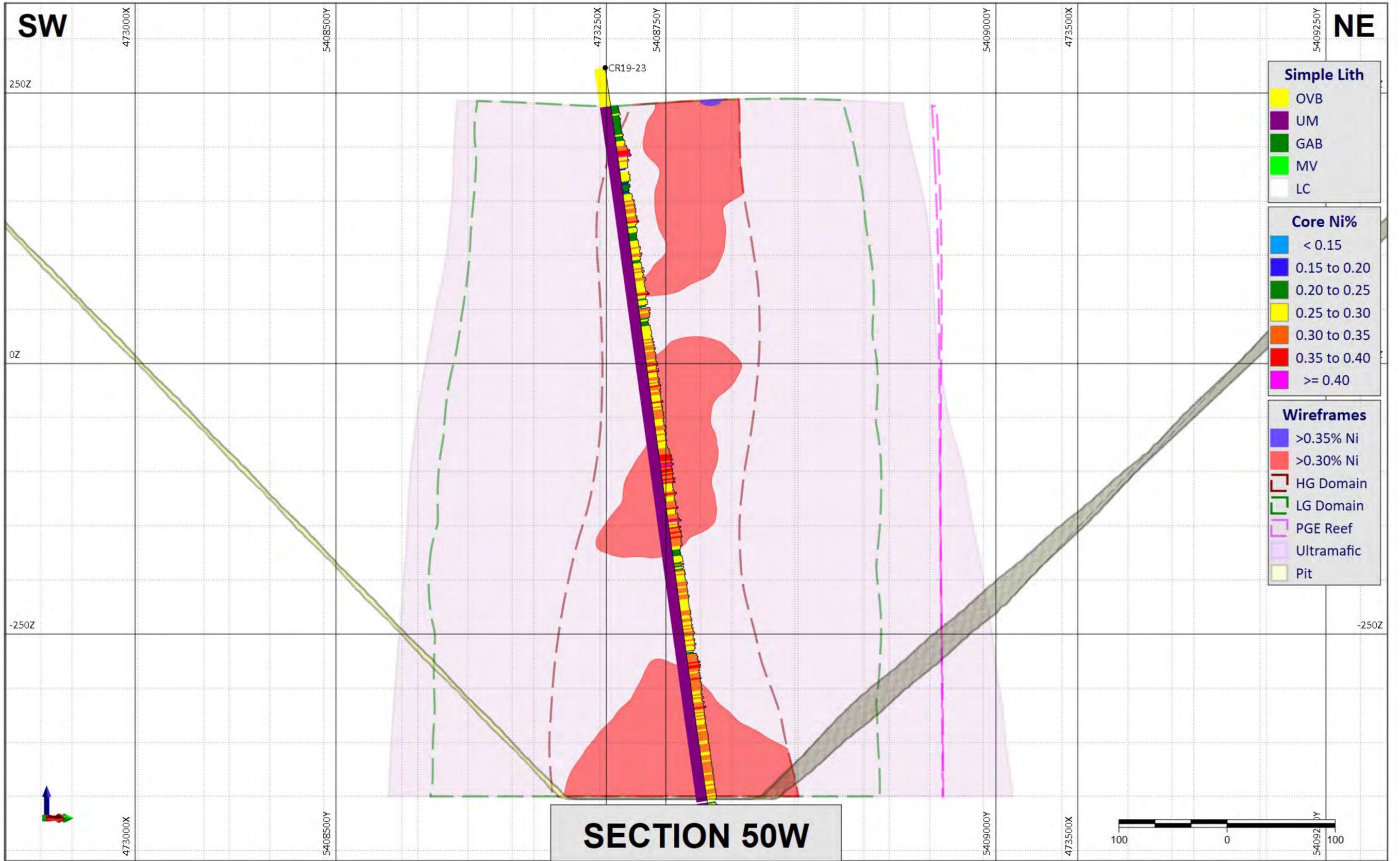
**Core Ni%**

- < 0.15
- 0.15 to 0.20
- 0.20 to 0.25
- 0.25 to 0.30
- 0.30 to 0.35
- 0.35 to 0.40
- >= 0.40

**Wireframes**

- >0.35% Ni
- >0.30% Ni
- HG Domain
- LG Domain
- PGE Reef
- Ultramafic
- Pit





SW

NE

250Z

0Z

-250Z

-250Z

CR19-23

**SECTION 50W**

**Simple Lith**

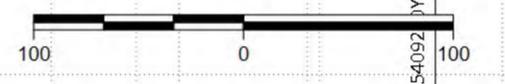
- OV
- UM
- GAB
- MV
- LC

**Core Ni%**

- < 0.15
- 0.15 to 0.20
- 0.20 to 0.25
- 0.25 to 0.30
- 0.30 to 0.35
- 0.35 to 0.40
- >= 0.40

**Wireframes**

- >0.35% Ni
- >0.30% Ni
- HG Domain
- LG Domain
- PGE Reef
- Ultramafic
- Pit



473000X

5408500Y

473250X

5408750Y

5409000Y

473500X

5409250Y

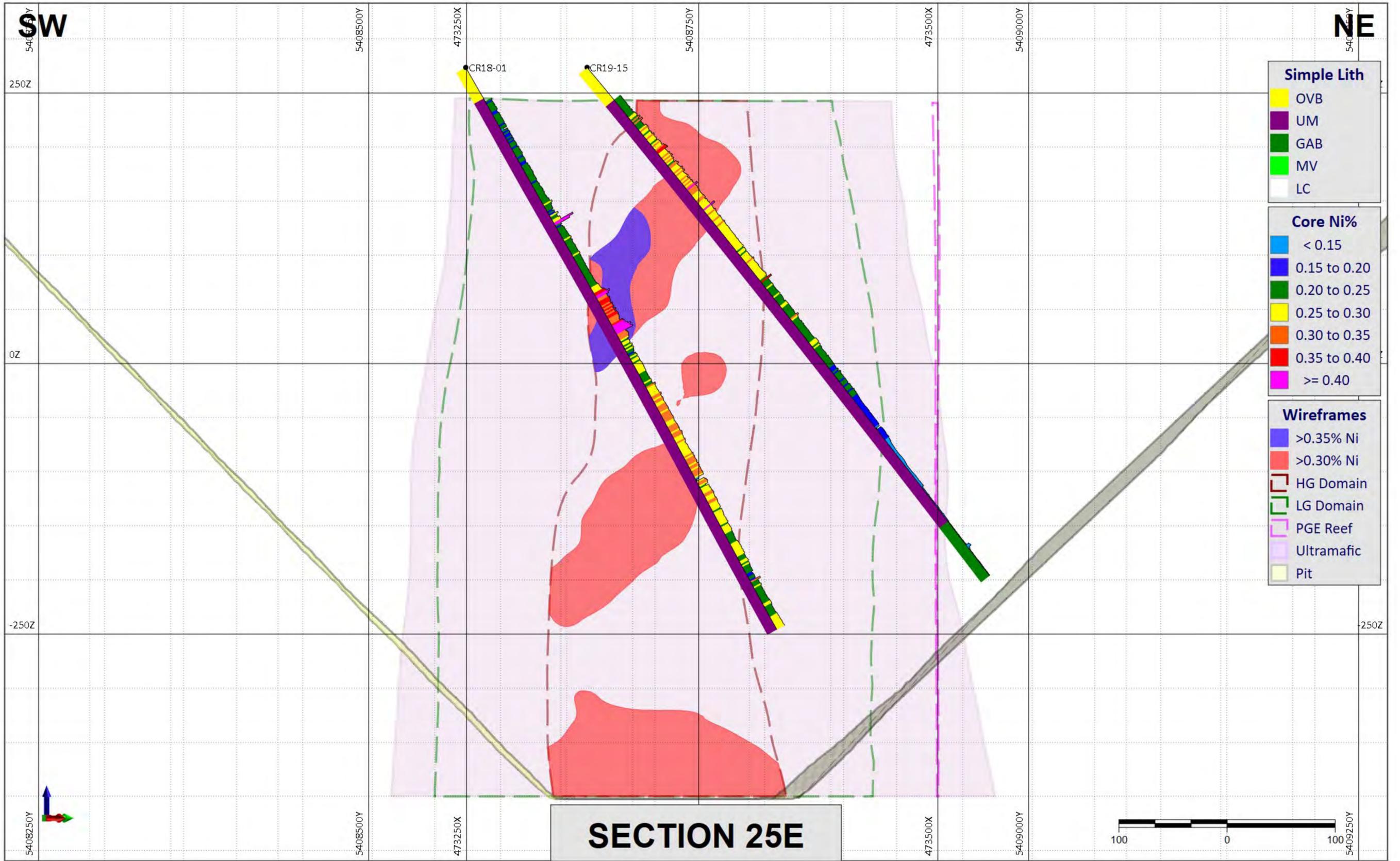
473000X

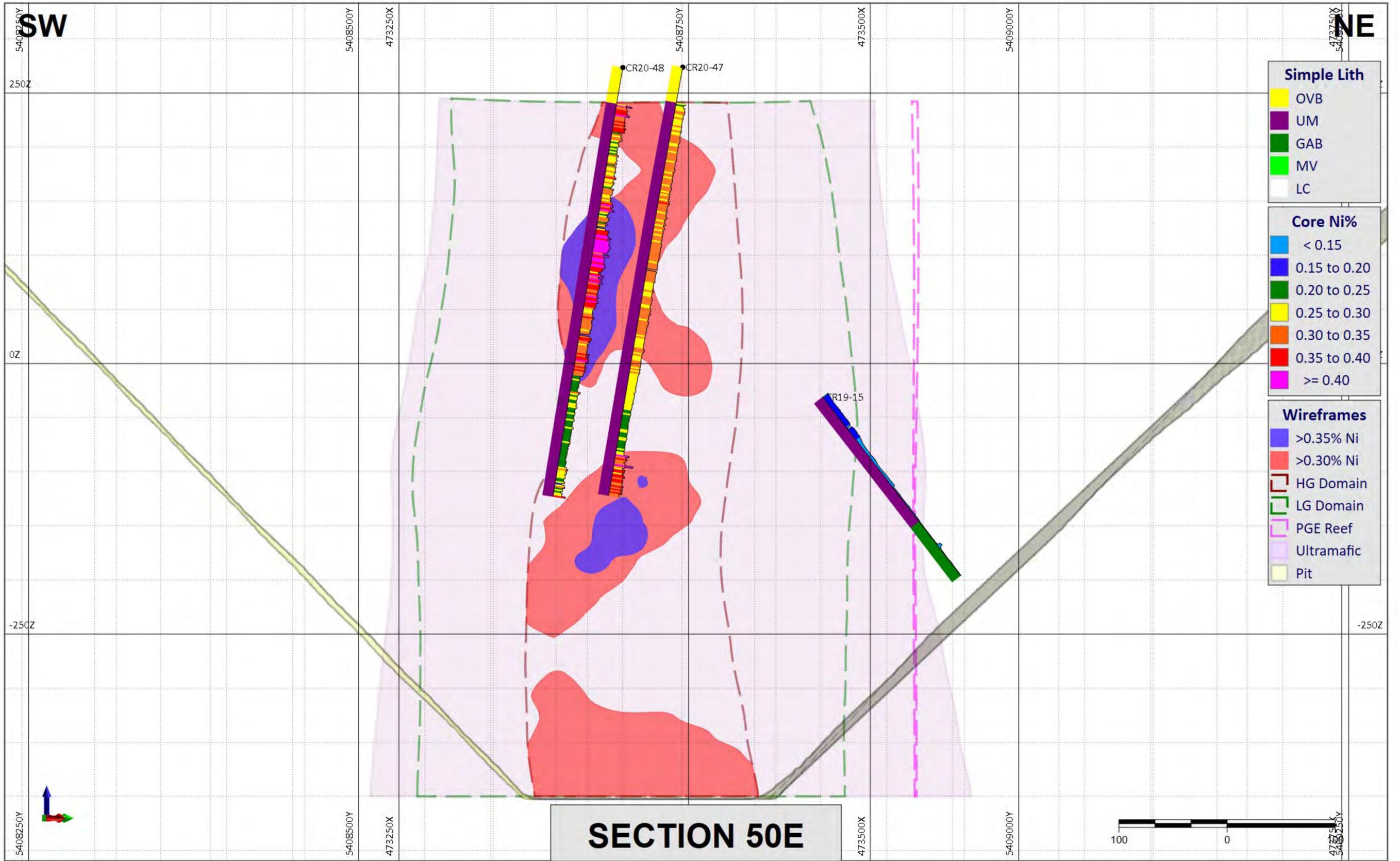
5408500Y

5409000Y

473500X

5409250Y





**Simple Lith**

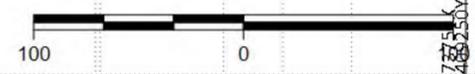
- OVB
- UM
- GAB
- MV
- LC

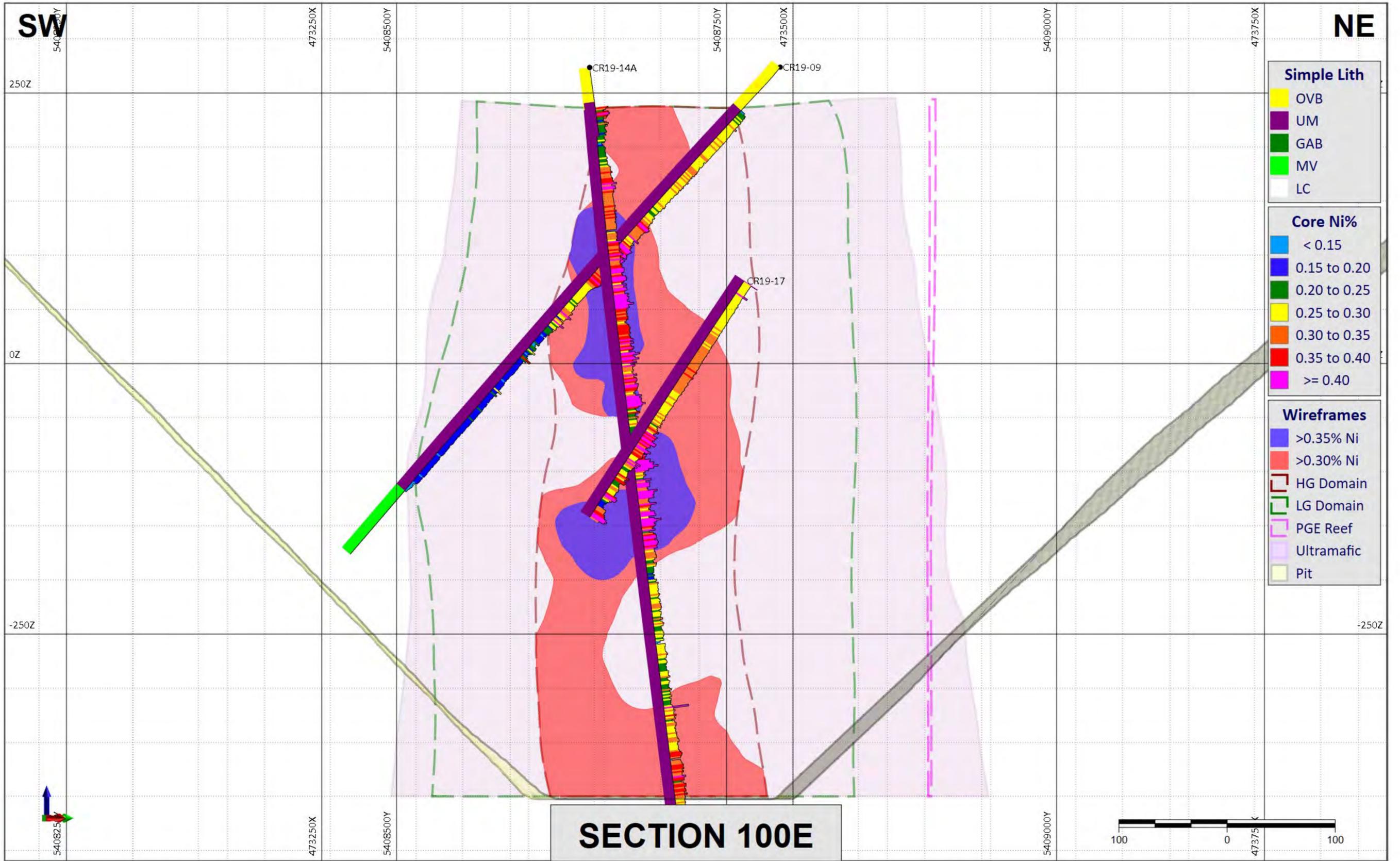
**Core Ni%**

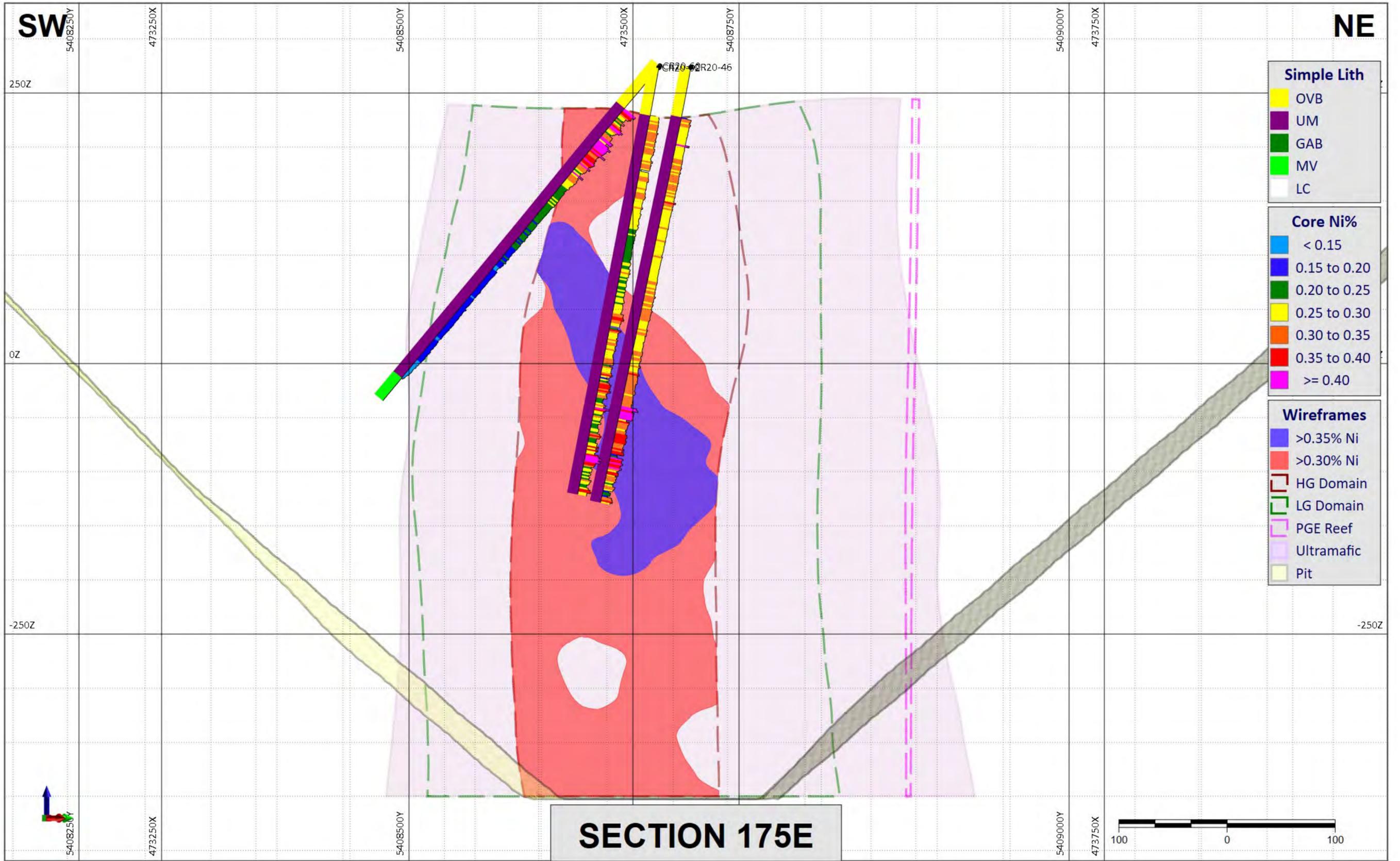
- < 0.15
- 0.15 to 0.20
- 0.20 to 0.25
- 0.25 to 0.30
- 0.30 to 0.35
- 0.35 to 0.40
- >= 0.40

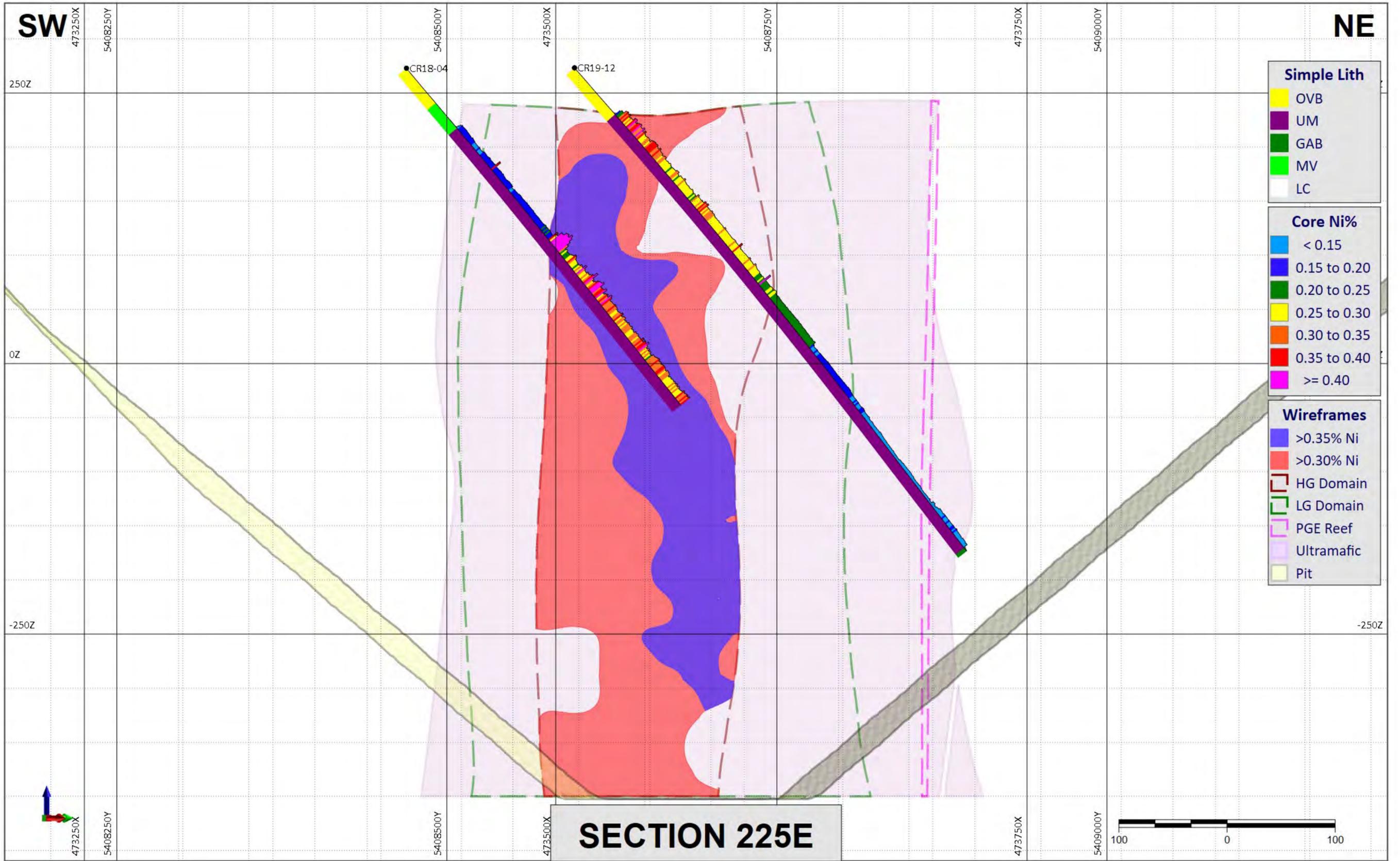
**Wireframes**

- >0.35% Ni
- >0.30% Ni
- HG Domain
- LG Domain
- PGE Reef
- Ultramafic
- Pit









SW

NE

250Z

0Z

-250Z

-250Z

473250X

5408250Y

5408500Y

473500X

**SECTION 225E**

473750X

5409000Y

100 0 100

**Simple Lith**

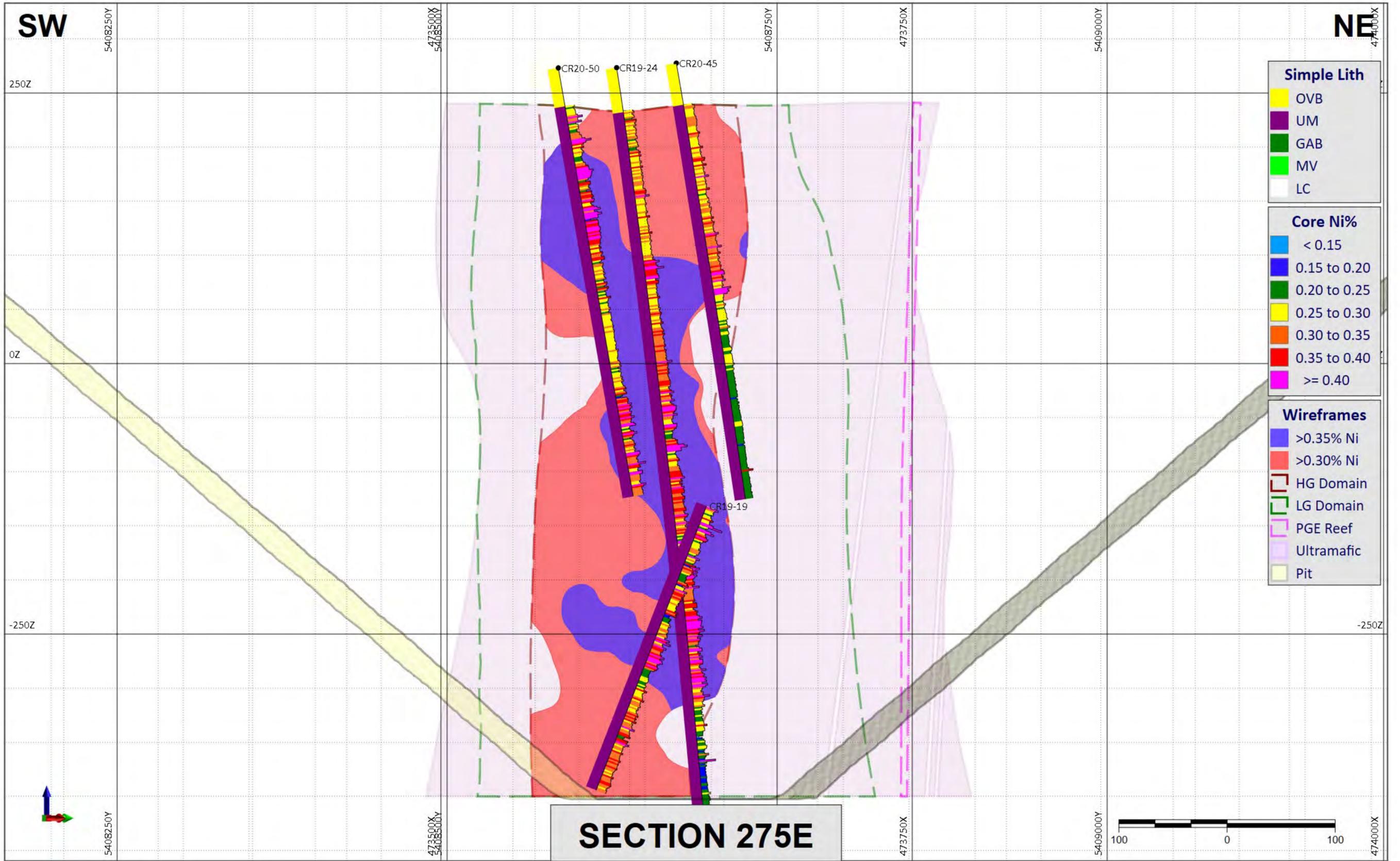
- OVB
- UM
- GAB
- MV
- LC

**Core Ni%**

- < 0.15
- 0.15 to 0.20
- 0.20 to 0.25
- 0.25 to 0.30
- 0.30 to 0.35
- 0.35 to 0.40
- >= 0.40

**Wireframes**

- >0.35% Ni
- >0.30% Ni
- HG Domain
- LG Domain
- PGE Reef
- Ultramafic
- Pit



**Simple Lith**

Yellow	OVB
Purple	UM
Green	GAB
Light Green	MV
White	LC

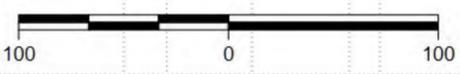
**Core Ni%**

Light Blue	< 0.15
Blue	0.15 to 0.20
Dark Green	0.20 to 0.25
Yellow	0.25 to 0.30
Orange	0.30 to 0.35
Red	0.35 to 0.40
Magenta	>= 0.40

**Wireframes**

Blue	>0.35% Ni
Red	>0.30% Ni
Red dashed line	HG Domain
Green dashed line	LG Domain
Purple dashed line	PGE Reef
Light Purple	Ultramafic
Yellow	Pit

**SECTION 275E**



SW 5408250Y 473500X 5408500Y 5408750Y 473750X 5409000Y 474000X NE

250Z

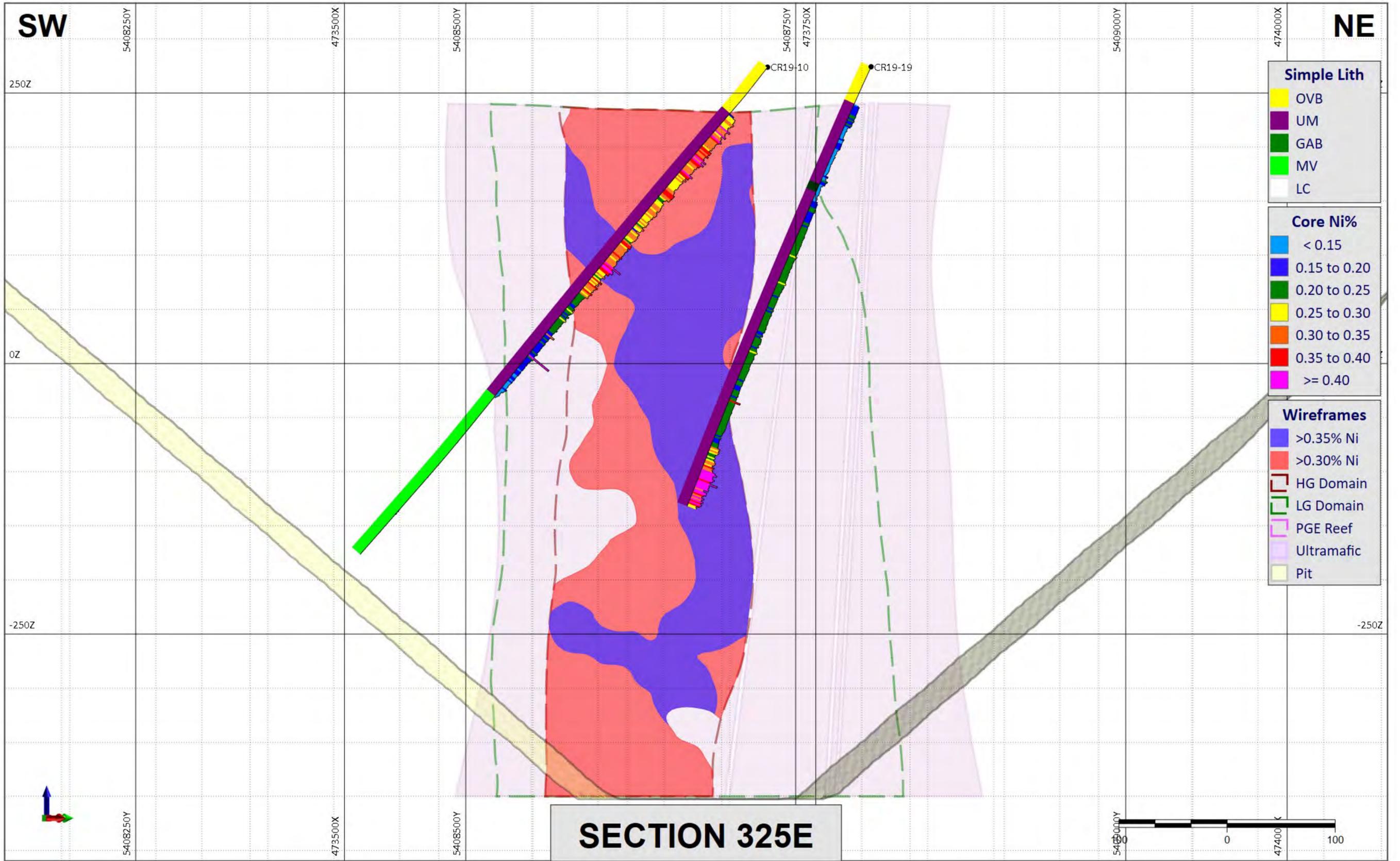
0Z

-250Z

5408250Y 473500X 5408500Y 473750X 5409000Y 474000X

CR20-50 CR19-24 CR20-45

CR19-19



SW

NE

250Z

0Z

-250Z

-250Z

5408250Y

473500X

5408500Y

5408750Y

473750X

5409000Y

474000X

5408250Y

473500X

5408500Y

5409000Y

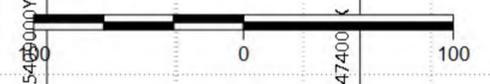
474000X

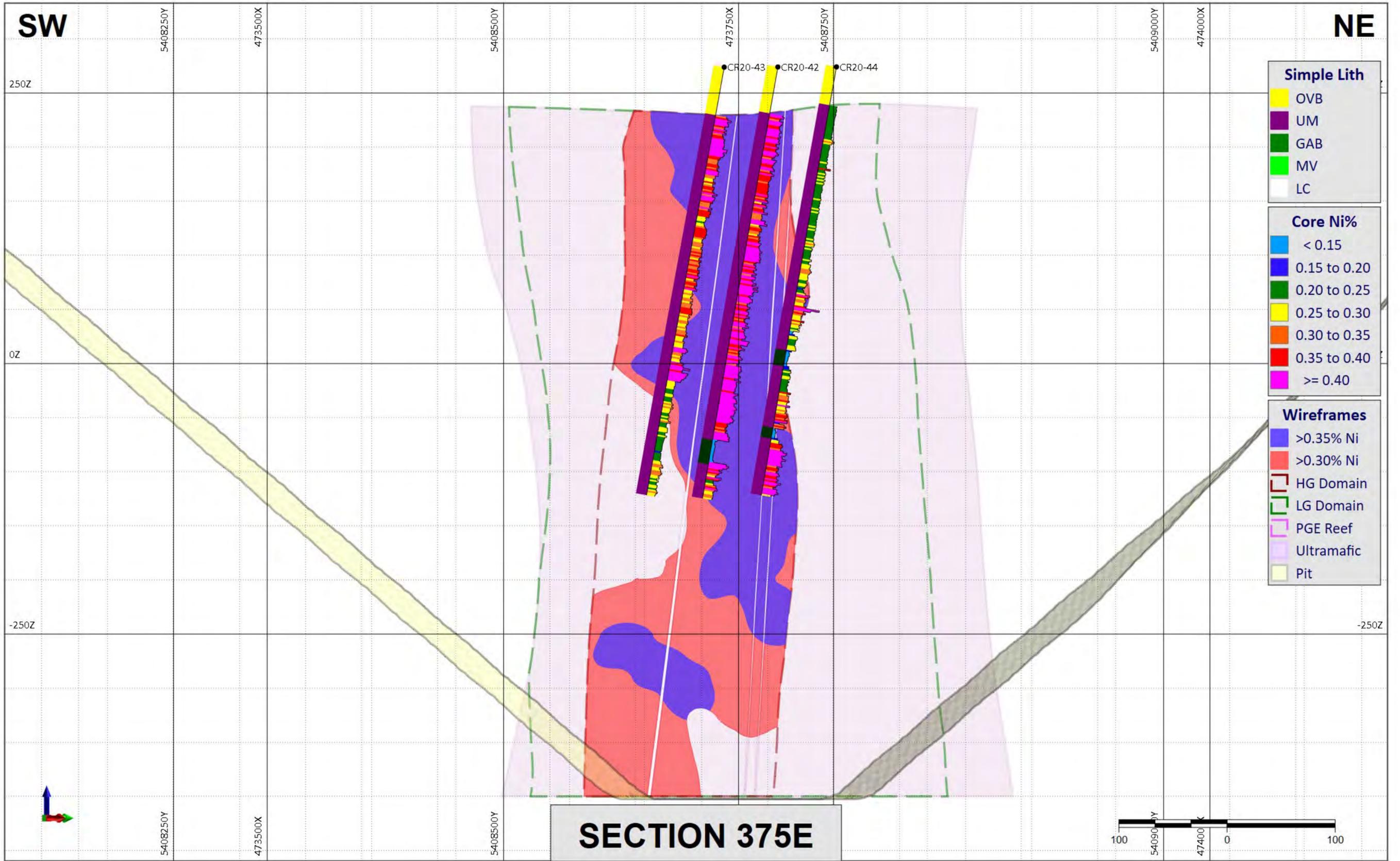
CR19-10

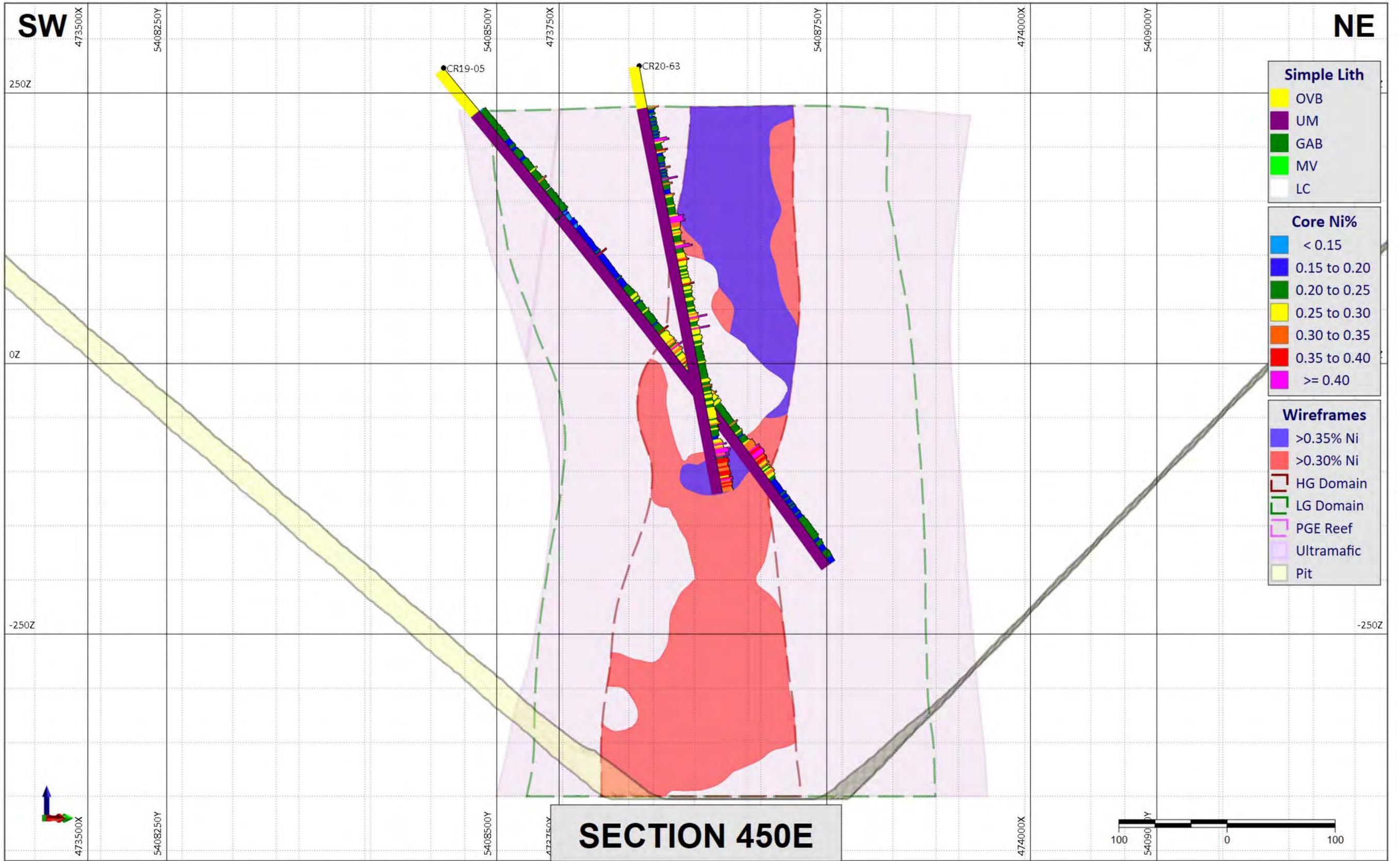
CR19-19

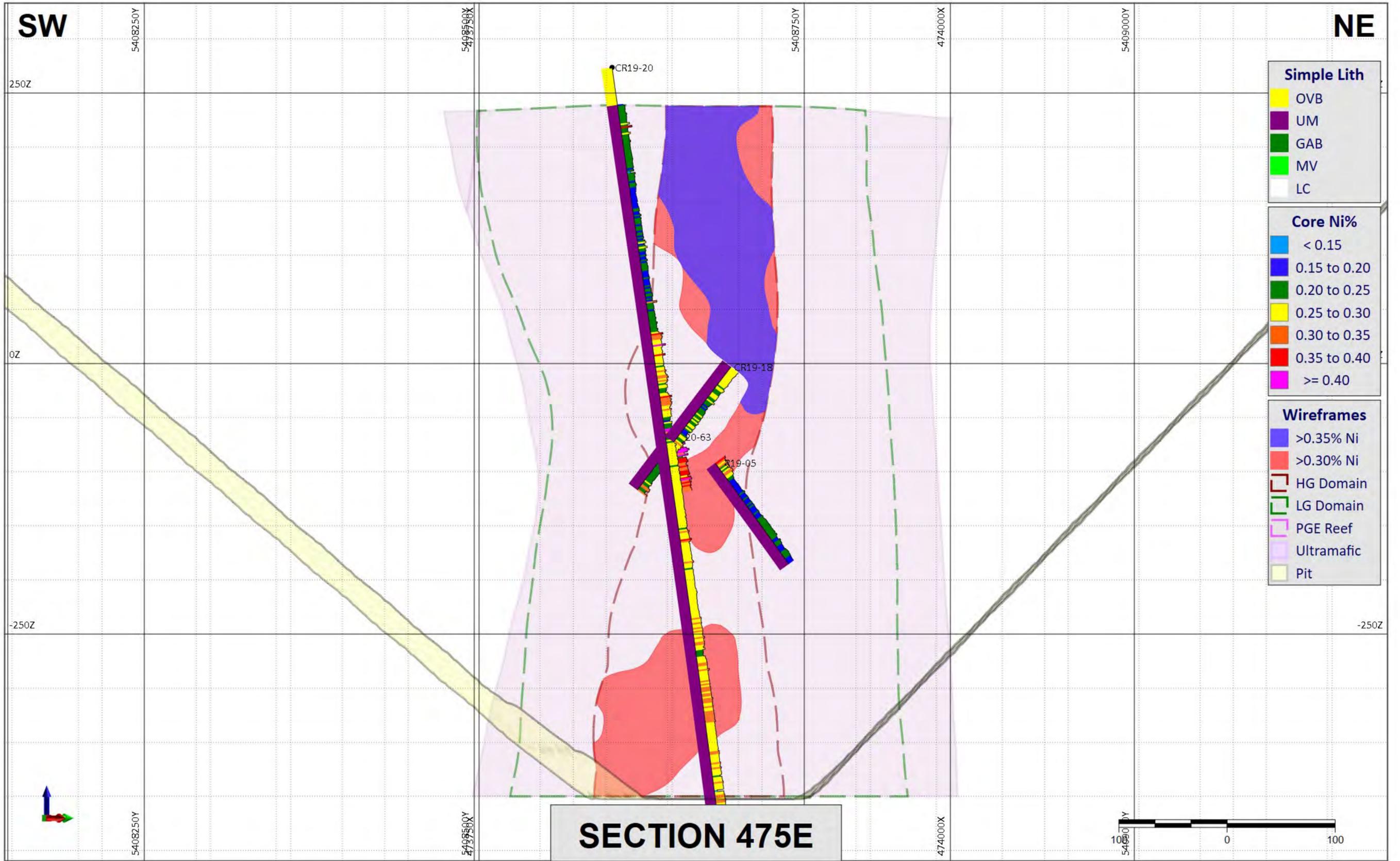
**SECTION 325E**

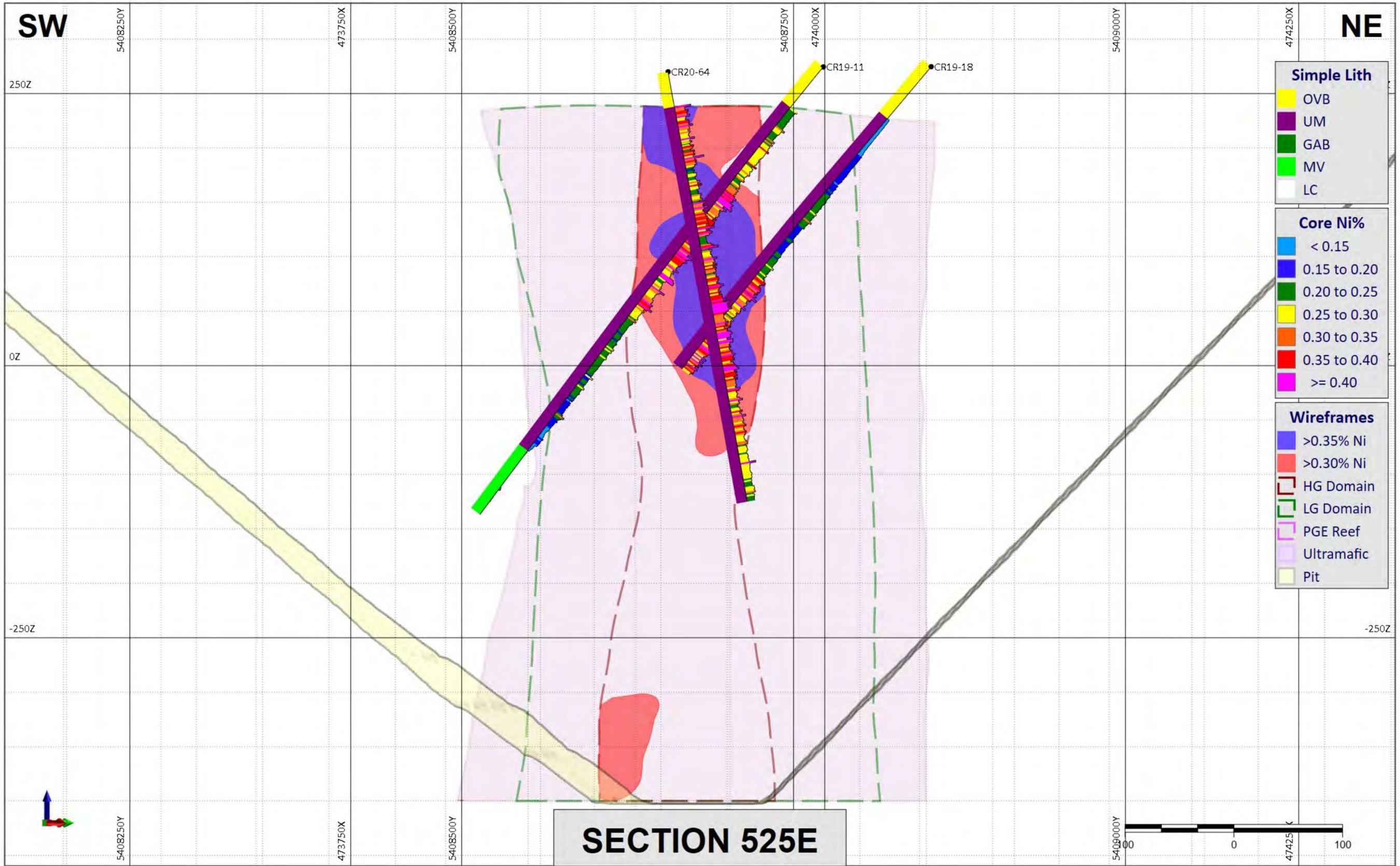
- Simple Lith**
- OVB
  - UM
  - GAB
  - MV
  - LC
- Core Ni%**
- < 0.15
  - 0.15 to 0.20
  - 0.20 to 0.25
  - 0.25 to 0.30
  - 0.30 to 0.35
  - 0.35 to 0.40
  - >= 0.40
- Wireframes**
- >0.35% Ni
  - >0.30% Ni
  - HG Domain
  - LG Domain
  - PGE Reef
  - Ultramafic
  - Pit

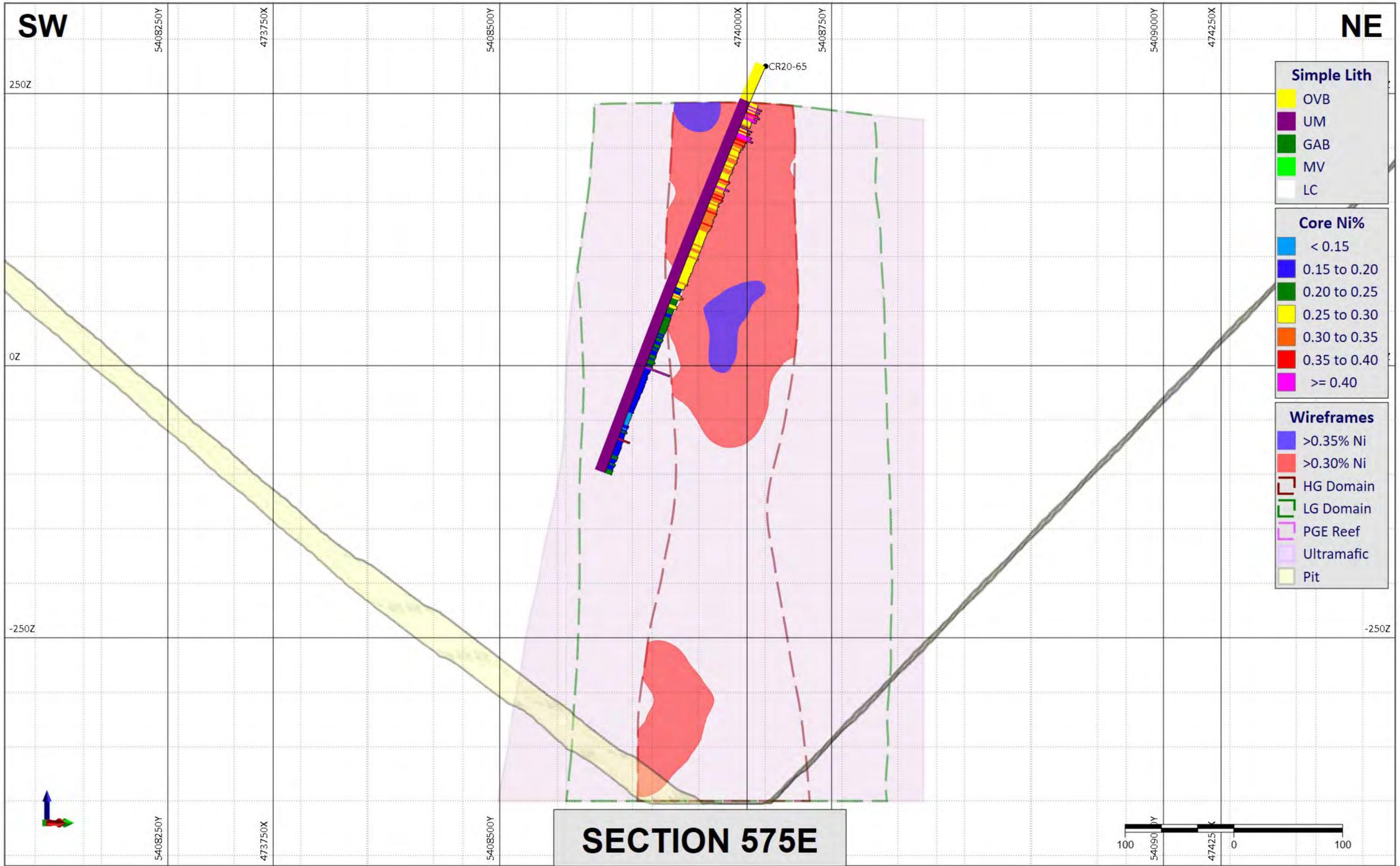


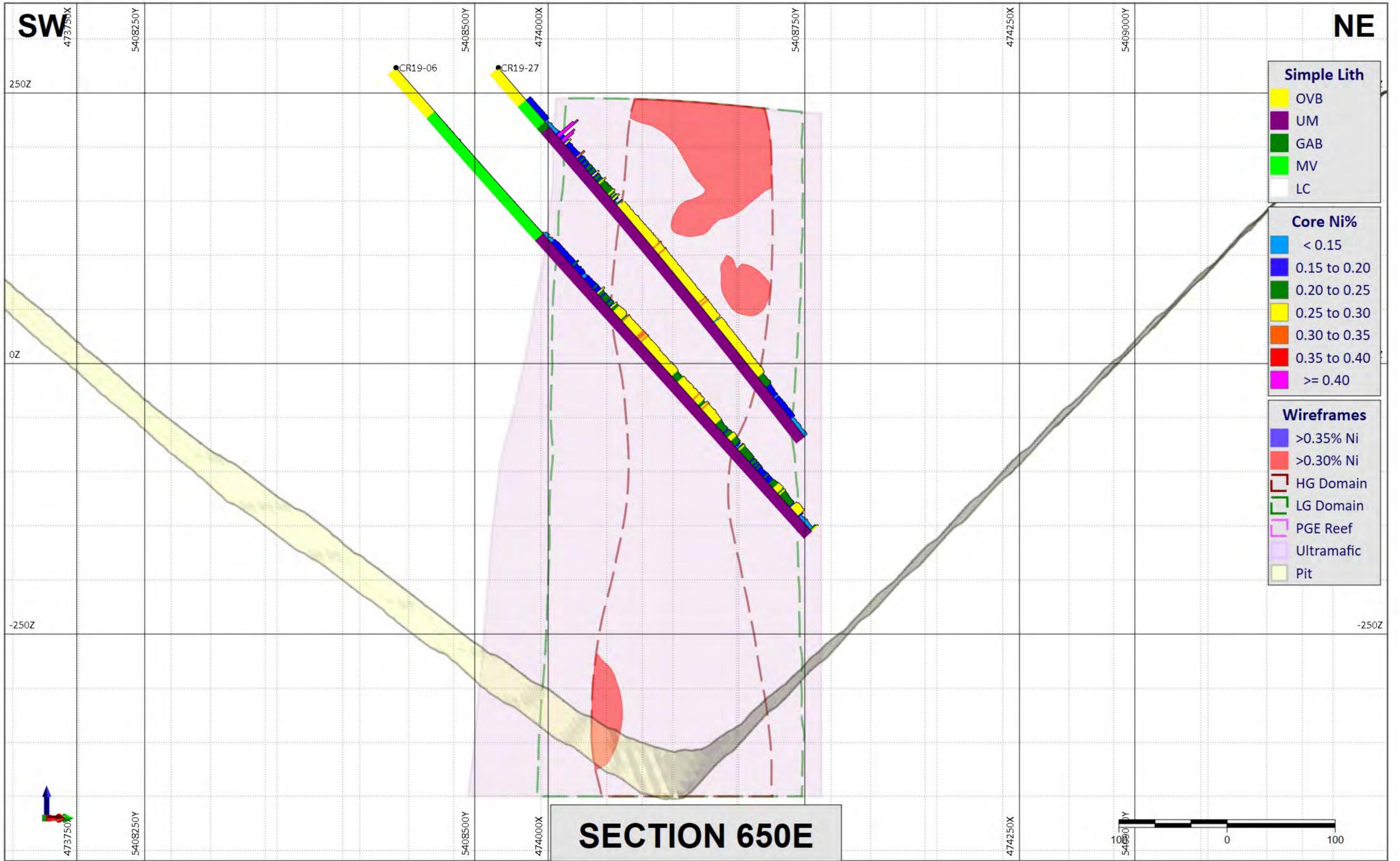






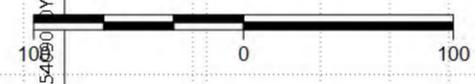


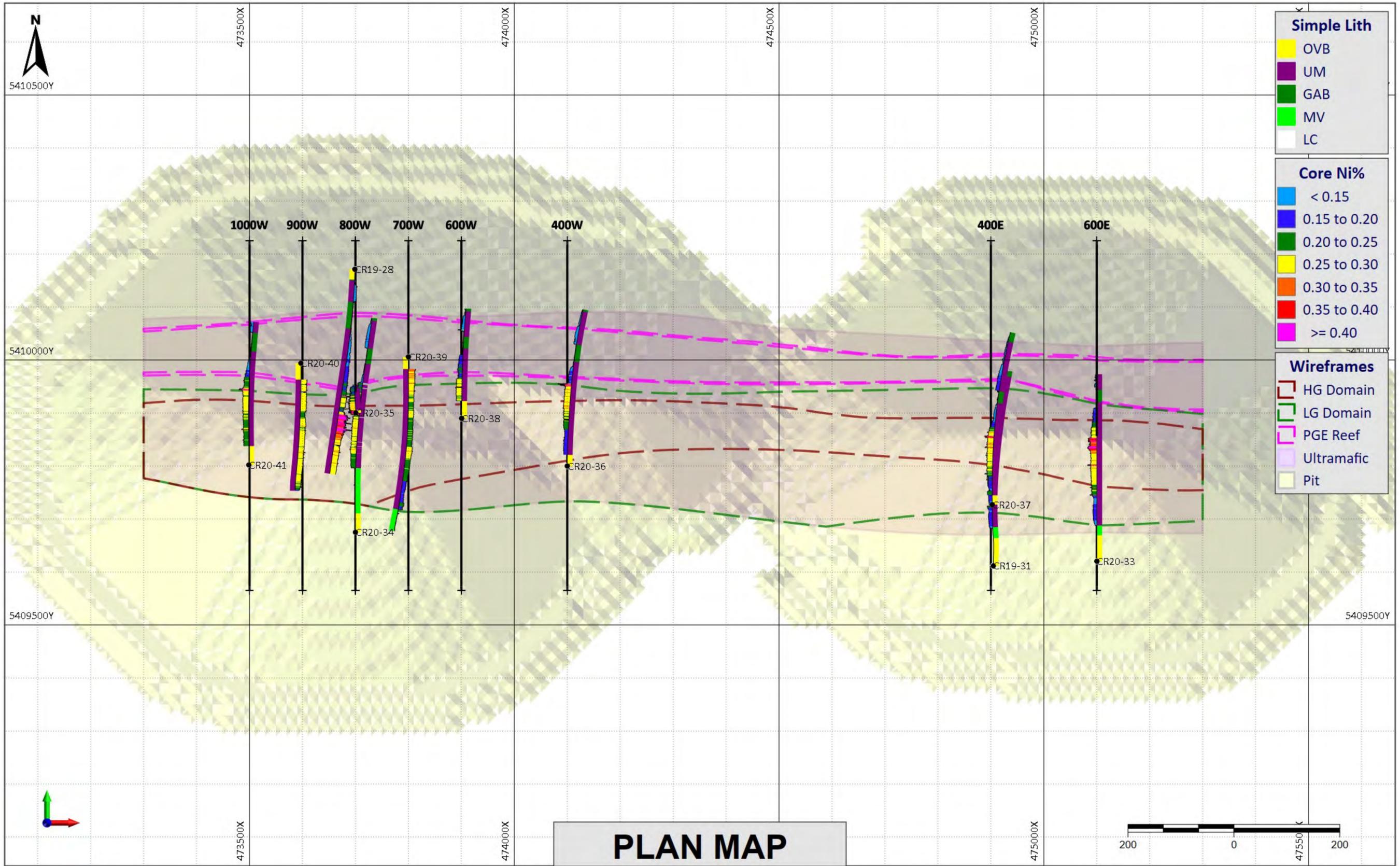


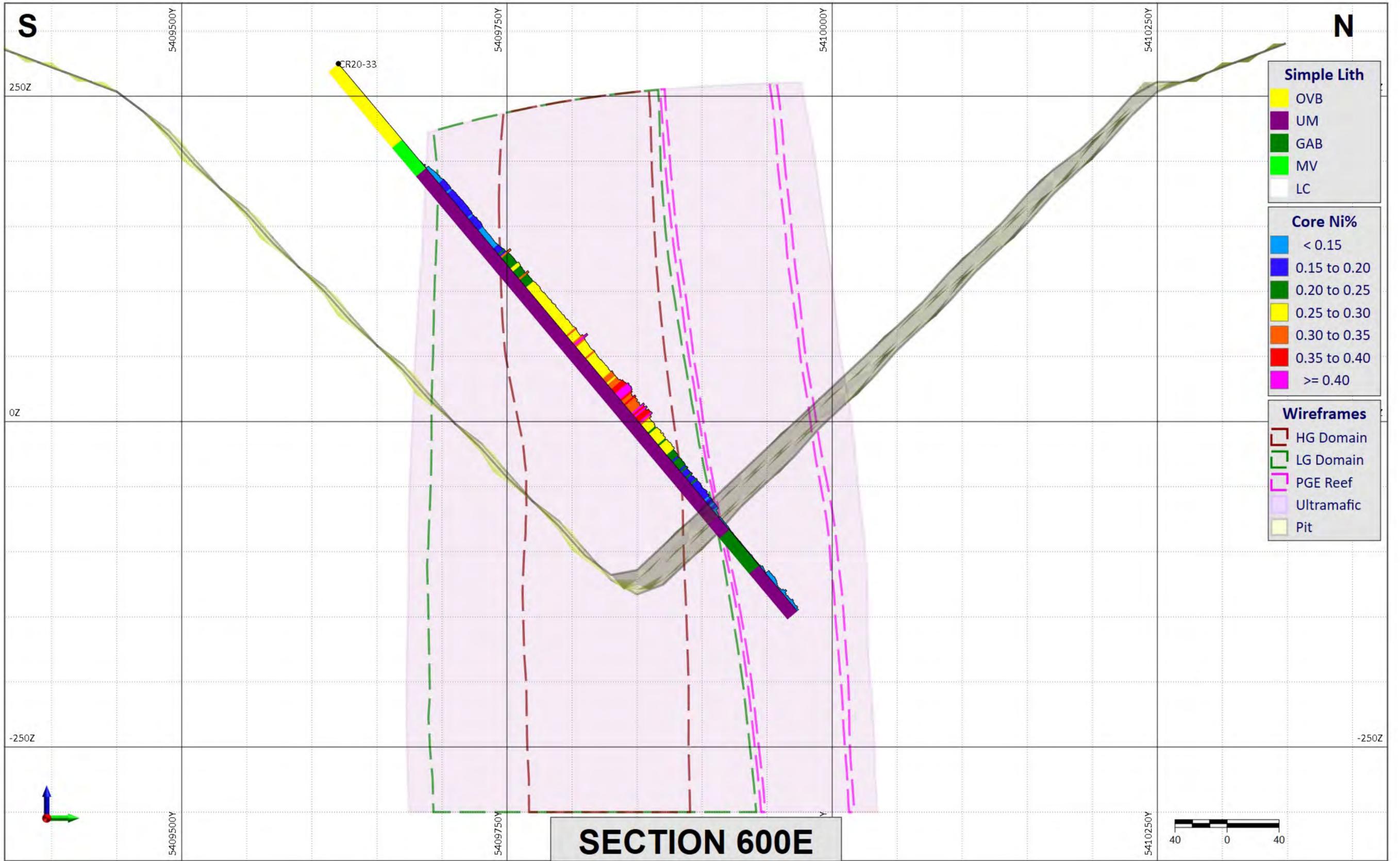


**SECTION 650E**

- Simple Lith**
- OVB
  - UM
  - GAB
  - MV
  - LC
- Core Ni%**
- < 0.15
  - 0.15 to 0.20
  - 0.20 to 0.25
  - 0.25 to 0.30
  - 0.30 to 0.35
  - 0.35 to 0.40
  - >= 0.40
- Wireframes**
- >0.35% Ni
  - >0.30% Ni
  - HG Domain
  - LG Domain
  - PGE Reef
  - Ultramafic
  - Pit

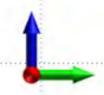
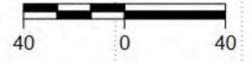


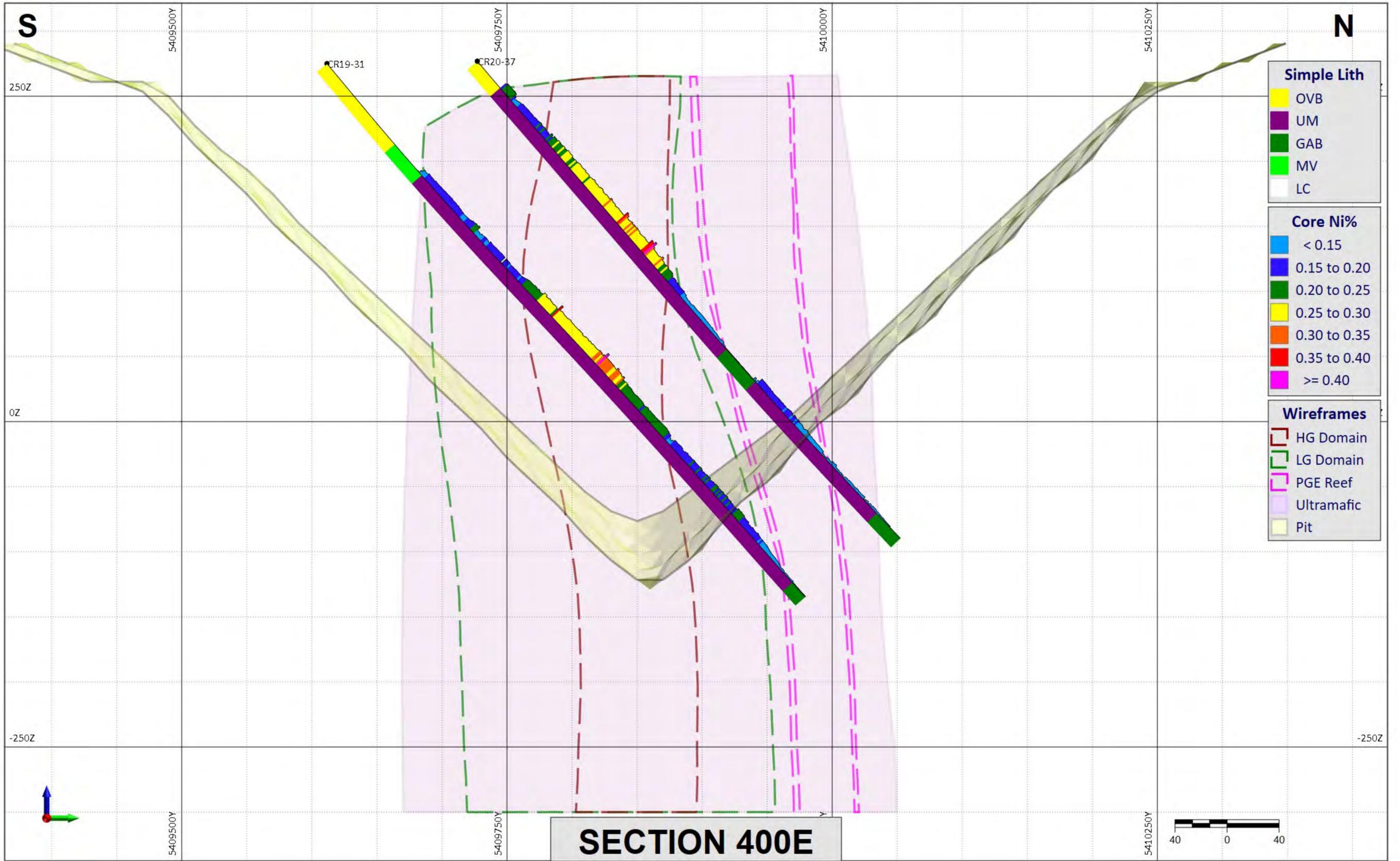


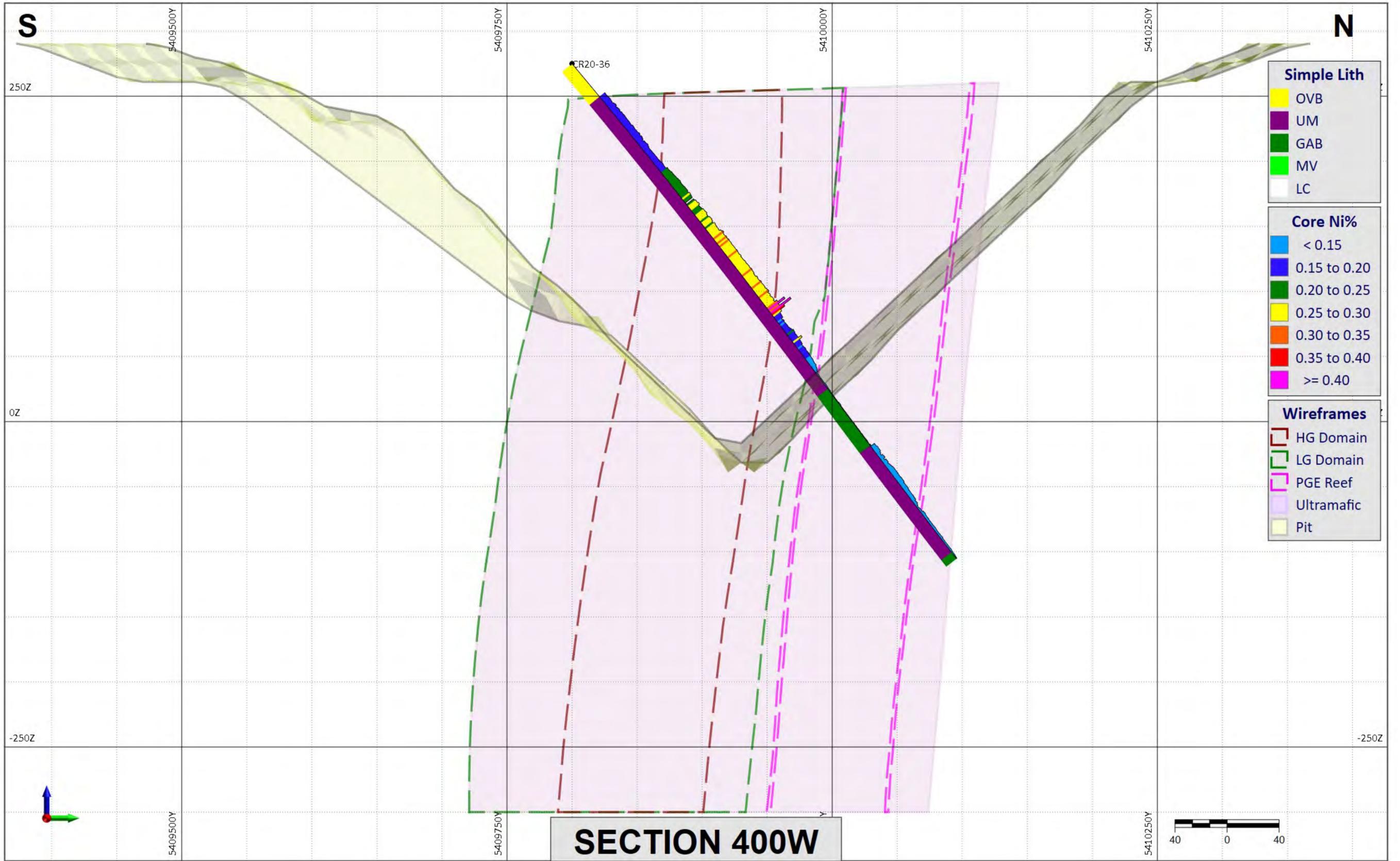


**SECTION 600E**

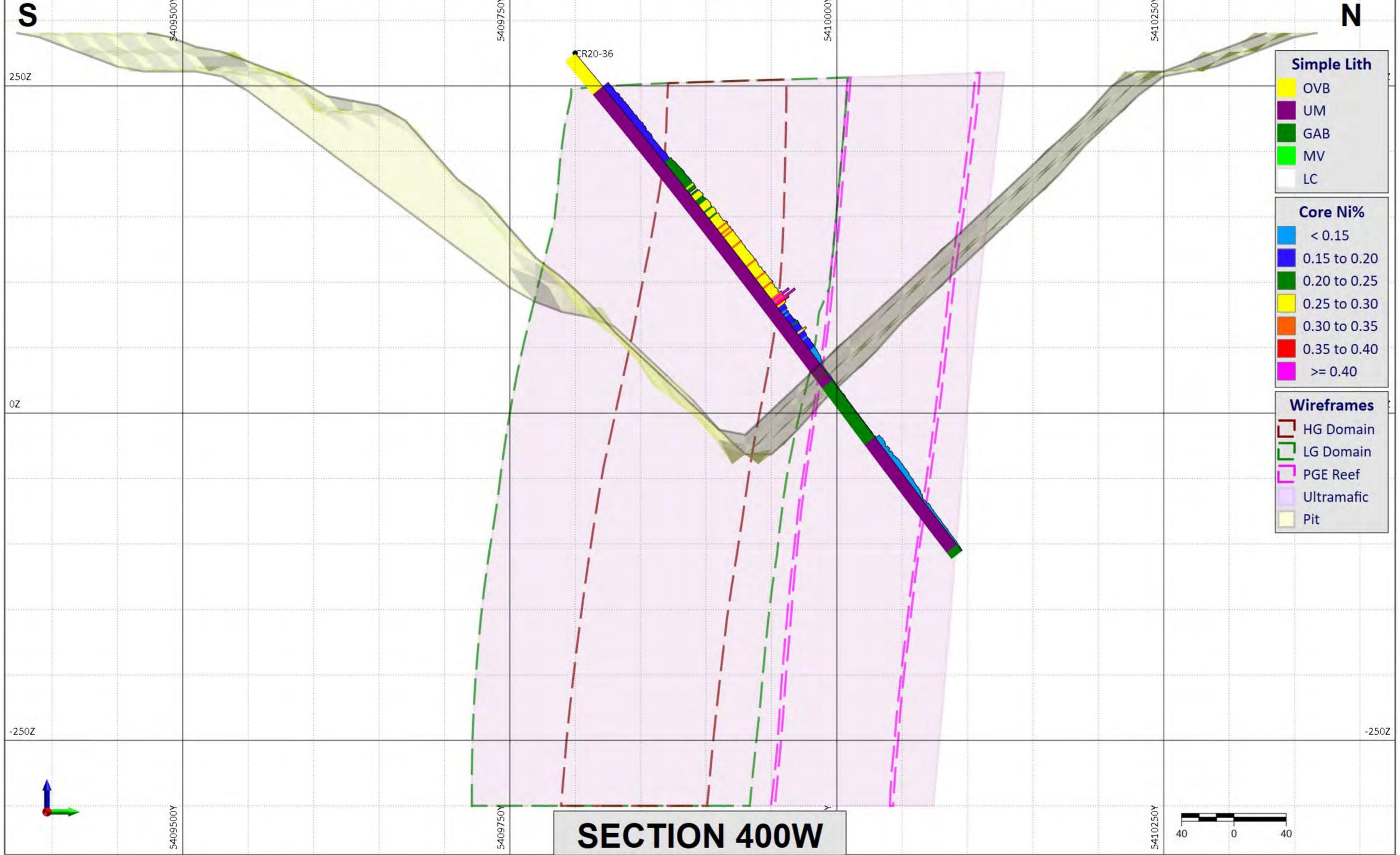
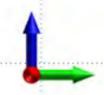
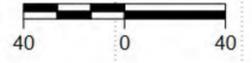
- Simple Lith**
- OVB
  - UM
  - GAB
  - MV
  - LC
- Core Ni%**
- < 0.15
  - 0.15 to 0.20
  - 0.20 to 0.25
  - 0.25 to 0.30
  - 0.30 to 0.35
  - 0.35 to 0.40
  - >= 0.40
- Wireframes**
- HG Domain
  - LG Domain
  - PGE Reef
  - Ultramafic
  - Pit

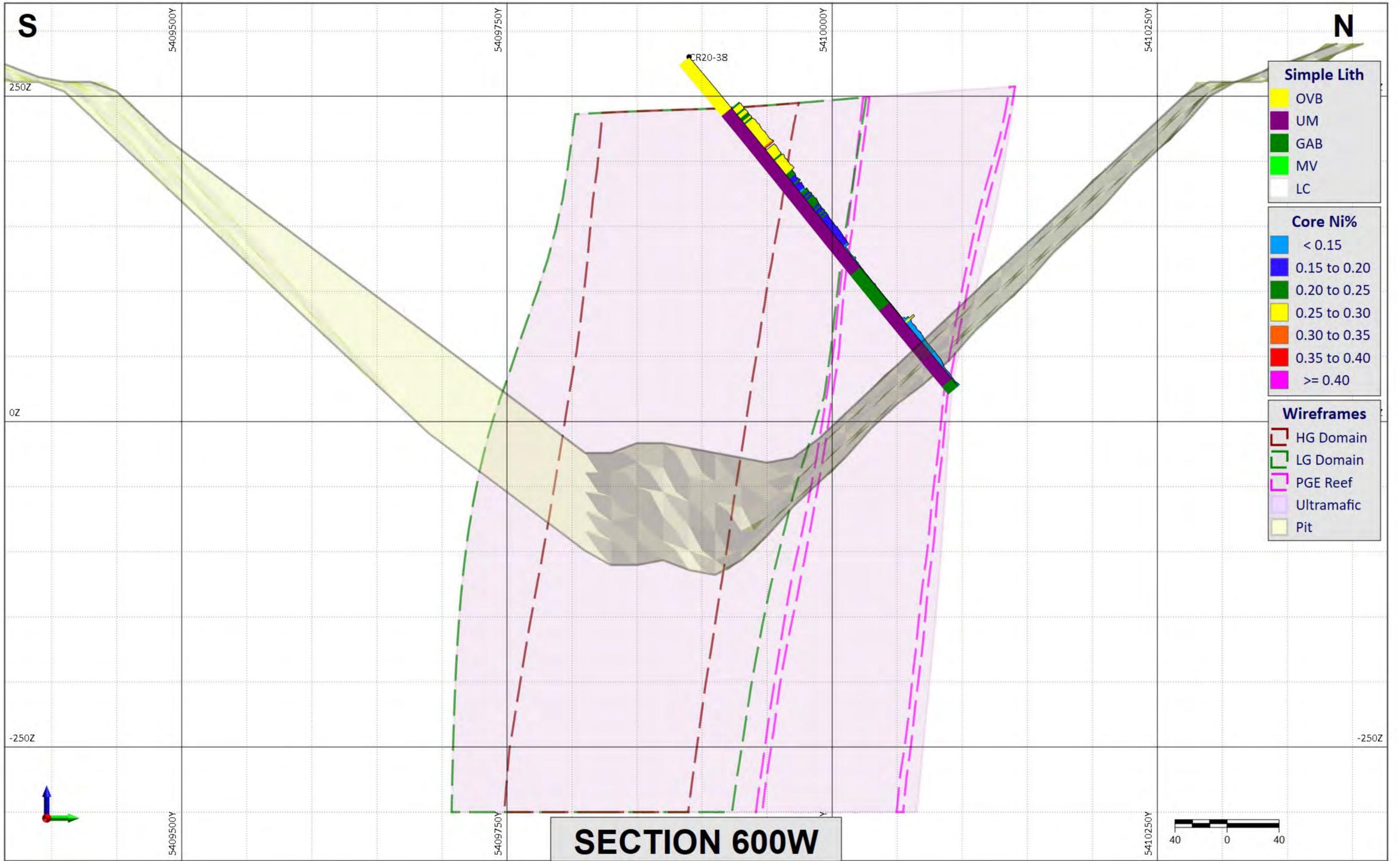






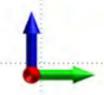
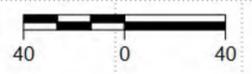
**SECTION 400W**

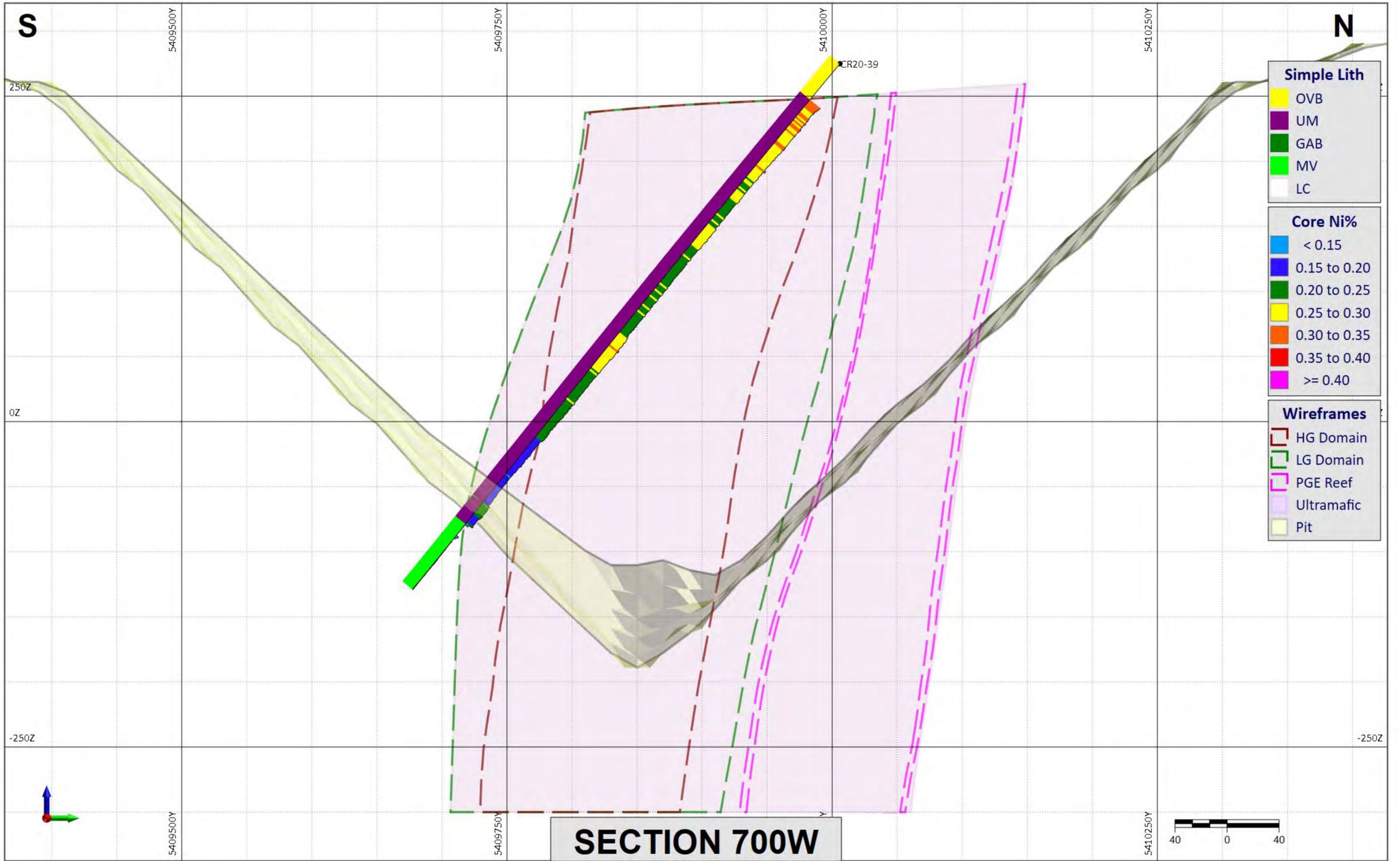




**SECTION 600W**

- Simple Lith**
- OVB
  - UM
  - GAB
  - MV
  - LC
- Core Ni%**
- < 0.15
  - 0.15 to 0.20
  - 0.20 to 0.25
  - 0.25 to 0.30
  - 0.30 to 0.35
  - 0.35 to 0.40
  - >= 0.40
- Wireframes**
- HG Domain
  - LG Domain
  - PGE Reef
  - Ultramafic
  - Pit





**Simple Lith**

Yellow	OVB
Purple	UM
Green	GAB
Bright Green	MV
White	LC

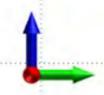
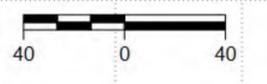
**Core Ni%**

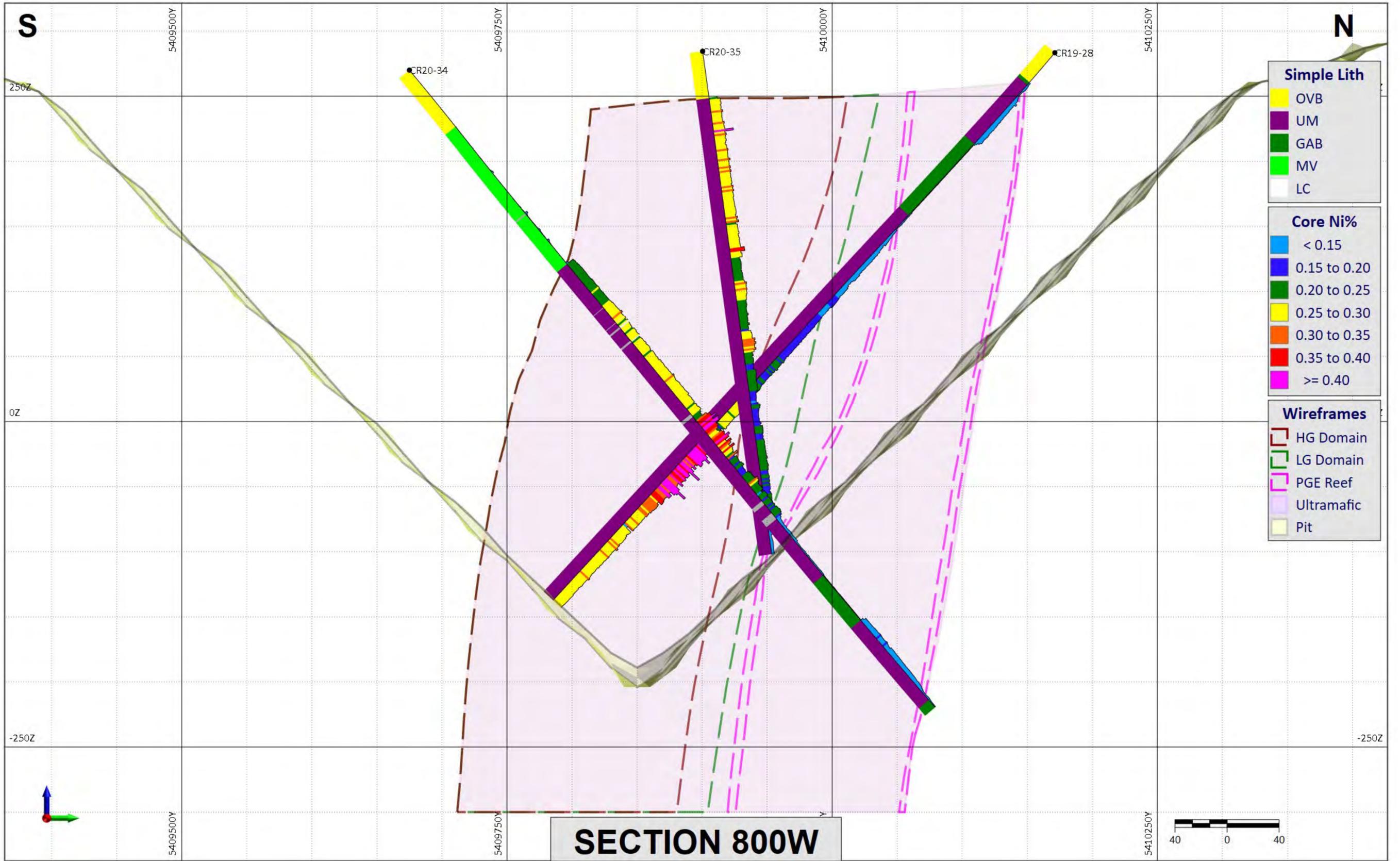
Light Blue	< 0.15
Blue	0.15 to 0.20
Dark Green	0.20 to 0.25
Yellow	0.25 to 0.30
Orange	0.30 to 0.35
Red	0.35 to 0.40
Magenta	>= 0.40

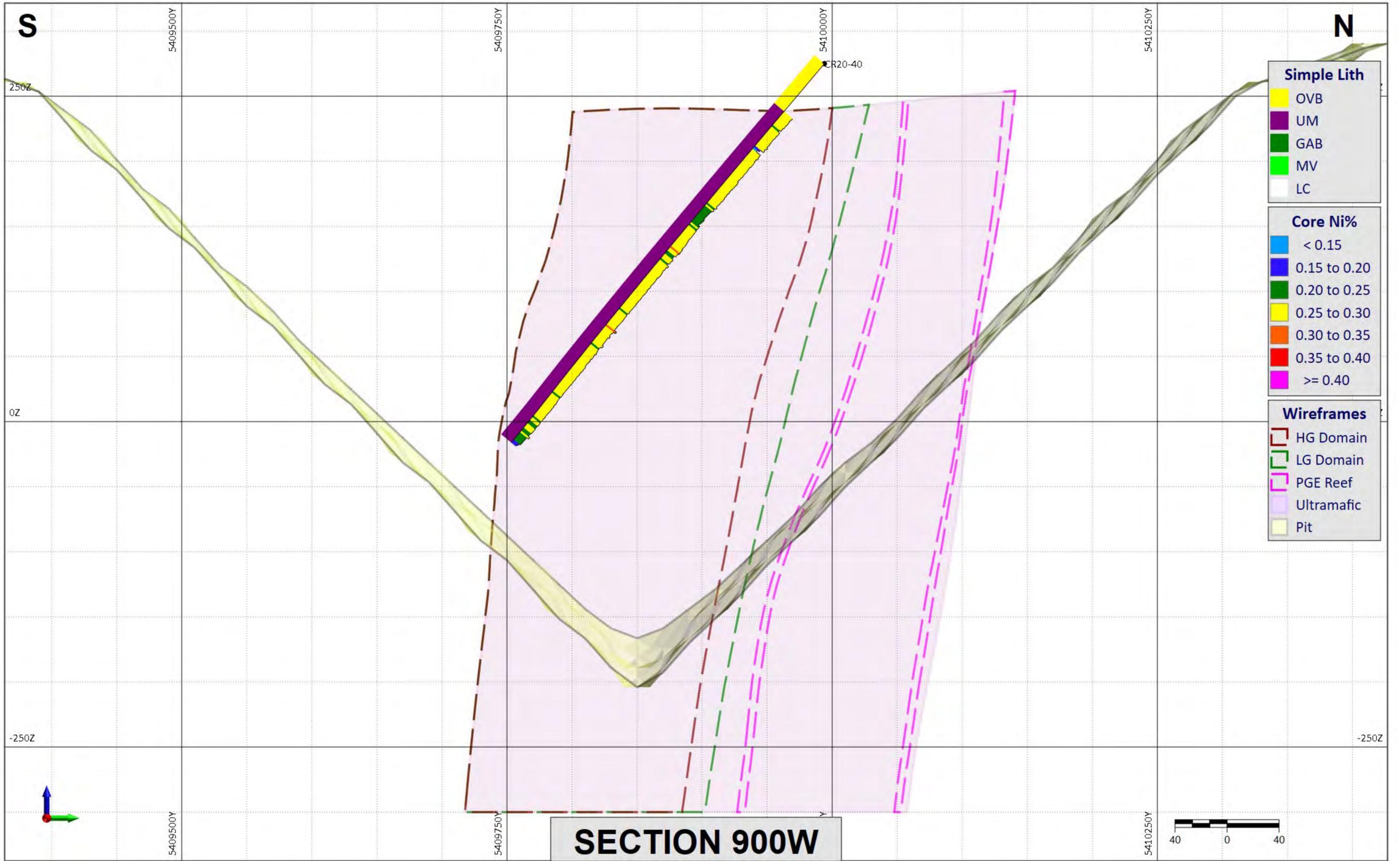
**Wireframes**

Brown dashed line	HG Domain
Green dashed line	LG Domain
Magenta dashed line	PGE Reef
Light purple shaded area	Ultramafic
Yellow shaded area	Pit

**SECTION 700W**







**SECTION 900W**

- Simple Lith**
- OVB
  - UM
  - GAB
  - MV
  - LC
- Core Ni%**
- < 0.15
  - 0.15 to 0.20
  - 0.20 to 0.25
  - 0.25 to 0.30
  - 0.30 to 0.35
  - 0.35 to 0.40
  - >= 0.40
- Wireframes**
- HG Domain
  - LG Domain
  - PGE Reef
  - Ultramafic
  - Pit

S

N

250Z

0Z

-250Z

-250Z

5409500Y

5409750Y

5410000Y

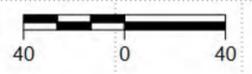
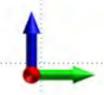
5410250Y

5409500Y

5409750Y

5410250Y

CR20-40





**Simple Lith**

- OVB
- UM
- GAB
- MV
- LC

**Core Ni%**

- < 0.15
- 0.15 to 0.20
- 0.20 to 0.25
- 0.25 to 0.30
- 0.30 to 0.35
- 0.35 to 0.40
- >= 0.40

**Wireframes**

- HG Domain
- LG Domain
- PGE Reef
- Ultramafic
- Pit

**SECTION 1000W**

