MINING PLUS

# NICKEL ONE RESOURCES INC.

## NI 43-101 Technical Report

## LÄNTINEN KOILLISMAA PROJECT, FINLAND

# A TECHNICAL REPORT ON THE

# LÄNTINEN KOILLISMAA PROJECT, FINLAND

# FOR NICKEL ONE RESOURCES INC.

Located in Central Finland, south of the village of Posio

Centre of the Property near
28° 10' 29" E 65° 56' 46" N

By
**Sean Butler, P.Geo.**
**and**
**Ville-Matti J. Seppä, EurGeol.**

Effective Date: November 17, 2017
Vancouver, BC

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**Certificate of Author – Sean Butler, P.Geo.**

**I Sean P. Butler, P.Geo., do hereby certify that:**

1. I am currently employed as Senior Geology Consultant by Mining Plus Canada Consulting Ltd., Suite 440 - 580 Hornby St., Vancouver, BC, V6C 3B6
2. I am a graduate with a Bachelor of Science, in Geology from the University of British Columbia in 1982
3. My professional affiliation is member of the Association of Professional Engineers and Geoscientists of British Columbia, Canada, Member # 19,233, Professional Geoscientist
4. I have not visited the Läntinen Koillismaa property
5. I have co-authored an NI 43-101 report with Marek Mroczek, on the property that is the subject of this technical report in 2013. I have no other involvement in this project. I have no controlling or monetary interest involving Nickel One Resources Inc. or the Läntinen Koillismaa property
6. I have been professionally active in the mining industry for approximately 25 years since graduation from university. I have worked extensively exploring for both base and precious metals from early stage programs up to advanced underground exploration and mining
7. I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101
8. I am responsible for Sections 1 to and 27 in the report titled "A Technical Report on the Läntinen Koillismaa Project, Finland for Nickel One Resources Inc." with effective date of November 17, 2017 (the "Technical Report")
9. That as of the effective date of the Technical Report , to the best of the my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading
10. I am independent of Nickel One Resources Inc., Finore Mining Inc. (now Micron Waste Technologies), and Nortec Minerals Corp. applying all of the tests in Section 1.5 of NI 43-101
11. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form
12. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report

**Dated this 30th day of November, 2017.**

"Signed and sealed"

**Signature of Qualified Person**
**Sean P. Butler**

**Certificate of Author – Ville-Matti Seppä, EurGeol.**

**I Ville-Matti J. Seppä, EurGeol., do hereby certify that:**

1. I reside at Aarnipolku 2, FI-01820 Klaukkala, Finland
2. I am currently employed as a Department Manager of Geology & Mine Design Department by Pöyry Finland Oy. Jaakonkatu 3, FI-01621 Vantaa, Finland
3. This certificate is to accompany the report " A Technical Report on the Läntinen Koillismaa Project, Finland for Nickel One Resources Inc." with effective date November 29, 2017
4. I am a graduate from the University of Turku with a M.Sc. Degree in 2009 and have been professionally active since my graduation. I have experience in Ni-Cu-PGE ores as well as other base metals and industrial minerals
5. I am a European Geologist (#1286) licensed by the European Federation of Geologists
6. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purpose of NI 43-101
7. I visited Nickel One Resource's Läntinen Koillismaa property in Finland on November 29, 2017
8. I am responsible for Section 2.4 and as a co-author for all other Sections excluding Sections 4.3, 11 and 13.
9. I am independent of Nickel One Resources Inc., Finore Mining Inc. (now Micron Waste Technologies), and Nortec Minerals Corp. applying all of the tests in Section 1.5 of NI 43-101
10. I do not have any prior involvement to the property that is subject of the technical report
11. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form
12. As of the date of the technical report, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading

**Dated this 30th day of November 2017**

"Signed"

**M.Sc. Ville-Matti Seppä, EurGeol**

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# 1 SUMMARY

Nickel One Resources Inc. (Nickel One) contracted with Mining Plus to complete an NI 43-101 compliant technical report on the Läntinen Koillismaa ("LK") property.

Ville-Matti Seppä, EurGeol., from Pöyry Finland Oy made a site visit for the preparation of this report for Nickel One Resources Inc. on November 29, 2017. The purpose of the visit was to check the drill core, core logging facilities and sample storage facilities condition in Taivalkoski.

The LK Project is located in north central Finland approximately 60 km north of the company's exploration office in the municipality centre of Taivalkoski. The property is 130 km ESE of the town of Rovaniemi and 160 km NE of the port town of Oulu. The central point of the LK Project is located at longitude 28°10'29.13"E; latitude 65°56'46.36"N. The project is accessed by major paved roads and local access on gravel or dirt roads to the individual drill site areas.

The project titles consist of two separate groups of exploration permits. They are 3,845.1 hectares in area in registered and pending exploration permits. These exploration permits cover the structurally separated sections of the mineral deposits.

Climate in the property is a northern Scandinavian climate with cold winters down to about minus 30 °C and summers up to about plus 25 °C. The rivers, lakes and bogs are frozen for several months in the winter making drill access easier. There are roads, power and local residents in the property area. There is a history of mining in the region with the former Mustavaara open pit vanadium-iron-titanium mine about 1.6 kilometres to the south of Haukiaho.

The elements platinum, palladium, gold, copper, cobalt and nickel are known to be present and have been analysed in drilling and surface sampling in the property. The deposit type is a basal accumulation of base metal sulphides including PGE metals in Koillismaa layered mafic intrusion. This is part of the 2.5-2.4 Ga Tornio-Näränkävaara Layered Intrusion Belt that is roughly east west across Finland and into Russia.

Mining Plus Canada Consulting completed a resource estimate report and technical report on September 19, 2013 for Finore Mining (Mroczek and Butler, 2013).

Wireframes were created to constrain the zones for this study. The following parameters were used in the resource estimate, using Ordinary Kriging estimation method, a cut-off grade of 0.1 g/t Pd with a density used of 2.9 t/cm$^3$ at Kaukua and 2.89 t/cm$^3$ at Haukiaho.

The 2013 estimate of the mineral content of the deposit is an historical estimate in that it was prepared before Nickel One entered into an agreement to acquire an interest in the property and the estimate has not been verified by Nickel One as a current mineral resource; and Nickel One should not treat the historical estimate as a current mineral resource.

This now historic Mineral Resource Estimate for these deposits as prepared by Mining Plus is summarized below in **Table 1-1** and **Table 1-2**:

**Table 1-1 MP 2013 Historic Haukiaho Resource Estimate at 0.1 g/t Pd cut-off grade**

| Category | Tonnage Mt | Pd g/t | Pt g/t | Cu % | Ni* % | Au g/t |
|---|---|---|---|---|---|---|
| **Inferred** | 23.2 | 0.31 | 0.12 | 0.21 | 0.14 | 0.10 |

*Total Nickel

**Table 1-2 MP 2013 Historic Kaukua Resource Estimate at 0.1 g/t Pd cut-off grade**

| Category | Zone | Tonnage Mt | Pd g/t | Pt g/t | Cu % | Ni* % | Au g/t |
|---|---|---|---|---|---|---|---|
| **Indicated** | Main | 10.4 | 0.73 | 0.26 | 0.15 | 0.1 | 0.08 |
| **Inferred** | Main | 13.2 | 0.63 | 0.22 | 0.13 | 0.1 | 0.06 |

*Total Nickel

It is the opinion of Mining Plus that further exploration work on the Läntinen Koillismaa property to determine the extent of the mineralization and work is justified to add to the zone. Previous drilling programs have increased the known extents of the mineralized zones and the zones are currently not closed off, with potential to extend them.

The recommendation is made for a drilling program designed to add additional information on the Haukiaho and Kaukua zones. There is also a need for some review of the other zones and further metallurgy. The budget for this project is estimated to be about C$3,000,000 that has been phased. The first phase is a $100,000 program of data compilation and consolidation, data review and drill planning stage budget to optimize the subsequent drilling program. The second phase is the drilling program. The definition and understanding of the mineralized zones can also be added to by infill drilling that will better define the variation of the zones.

# 2 INTRODUCTION AND TERMS OF REFERENCE

## 2.1 Introduction

Nickel One contracted Mining Plus Canada (MP) to complete a National Instrument 43-101 (NI 43-101) technical report on the Läntinen Koillismaa Project, Finland. The elements platinum, palladium, gold, copper, cobalt and nickel are known to be present and have been analysed in drilling and surface sampling of the property.

Nickel One has made an agreement with Finore Mining Inc. (Finore) who has an underlying option agreement with Nortec Minerals Inc. (Nortec) to explore the LK Project. The property consists of 3,845.1 hectares in area in registered and pending exploration permits. These exploration permits cover the structurally separated sections of the mineral deposits.

Finore has recently changed its name on October 20, 2017 to Micron Waste Technologies Inc., but continues to be referred to as Finore throughout this report for consistency.

The deposits are located in the Koillismaa Layered Igneous Complex ("KLIC"), which is a 2.4 to 2.5 Ga Fennoscandian (Early Palaeoproterozoic) layered complex. These layered intrusives have a high propensity to host deposits containing the metals found here.

## 2.2 Terms of Reference

Terms of Reference are the preparation of a report compliant with NI 43-101 to summarize the previous work at the LK Project for release to the public. Ville-Matti Seppä, EurGeol. completed a site visit to the project in November 2017 as part of the Terms of Reference.

## 2.3 Source of Data

The drill sampling and location data that was used in previous studies was supplied by the management of Nortec and Finore Mining.

A review of this data provided, previous reports and studies by miming professionals was made to compile this report.

## 2.4 Site Visit

Ville-Matti Seppä, EurGeol., from Pöyry Finland Oy made a site visit for the preparation of this report for Nickel One Resources Inc. on November 29, 2017. The purpose of the visit was to check the drill core, core logging facilities and sample storage facilities condition in Taivalkoski. On the same visit also Kaukua 1 and 2 drill sites were visited in Posio (Photo 2-1).

**Photo 2-1 Drill site KAU08-036**

Haukiaho properties could not be visited as the road to the site was not cleaned of snow. During the field visit no visible development was observed in the infrastructure, houses or roads that could be considered to be made since Finore ceased works on the present Nickel one properties. At the time of the site visit local weather conditions prevented more detailed inspections of the Nickel One properties.

The Town Plan of Posio was also checked and it did not have any area reservations that could endanger usage of exploration areas discussed in this report.

**Photo 2-2 Core logging table**

The drill core logging and sampling facilities are located in a warehouse area on the north side of Taivalkoski town. The core logging office including the office room and rock splitting facilities are rented from the municipally of Taivalkoski. The field office and core logging facilities have not been used since Finore stopped their work at the property. The drill core logging facility is equipped with about a 25 meter long logging table with rotating rollers (Photo 2-1).

The logging room is evenly lighted and has neutral coloured walls to help prevent any colour cast during sample observation. The logging table has a digital camera mounted above the table enabling to take photographs of the drill core boxes.

The core logging facility is equipped also with a core saw which has seemingly been unused for years (Photo 2-2).


**Photo 2-3 Core splitting saw**

Operation of the saw was not tested. The saw and the table were in good condition even though they have not been used in years. The logging facility also includes an office room which offers simple working stations for one or two persons. The logging room and the office are equipped with heating and the facilities have been heated without any break since previous work. The facilities were locked.

Some drill core boxes and field samples were stored at the logging facilities.

Drill core along with the assay rejects and other field samples are stored in a warehouse about 500 meters from the core logging facilities (Photo 2-4). The ware house is unheated and it is shared with another tenant who owns the warehouse.

**Photo 2-4 Drill core storage facility**

The drill core boxes were arranged in pallets each holding roughly 20 dill core boxes. The pallets were stacked into piles over 3-4 meters high (Photo 2-5).

**Photo 2-5 Stacked drill core boxes**

Approximately 4,000 drill core boxes were stored inside the warehouse. The estimated amount of drill core boxes can contain roughly 20,000 meters of drill core samples, which is close to the reported past drilling of 21,000 meters by Nortec and Finore. The visible drill core boxes were from drilling campaigns from years 2008 and 2012. No indexed-list of the core boxes or the locations at the warehouse was found.

## 2.5 Field Work Since 2012

No field work has been done on the Läntinen Koillismaa properties since 2012.

Personal communication between the co-author Mr. Butler and Mohan Vulimiri, P.Geo., a director and the QP of Finore confirmed that no further work was done since 2013. Personal communication by Mr. Butler with Scott Jobin-Bevans, officer and QP of Nickel One and having made a site visit in 2016 also confirmed that no recent work since 2012 was done.

A review was completed by the author on May 25, 2017 of the financial reports and management discussions of Finore as posted on SEDAR. It shows no further drilling and no expenditures for exploration on the project since 2012.

Each year a summary of exploration expenditures on Finnish mining permits is required to be filed by permit holders with the Finnish government. Filings by Finore with the Finnish government, as confirmed and provided by KallioLaw, show that no field work was done from 2013 to 2016. There is a report of some non-field; office based work being completed in 2014. The work that was reported to the Finnish government in 2013 is the preparation of the MP report (Mroczek and Butler, 2013) that included the property visit in June 2013 by Mr. Mroczek.

The 2017 site visit to the core storage facility visually estimated the number of boxes in the facility and determined that there has been no further core added since 2012. Mr. Seppä also checked the registry of the region for development plans and found none. No sign of recent work or use since 2012 was also confirmed during the visit at the core logging facility.

# 3 RELIANCE ON OTHER EXPERTS

Mr. Butler has depended on the Finnish Government online mineral title web site at http://gtkdata.gtk.fi/kaivosrekisteri/ for mineral title information as viewed on November 16, 2017.

# 4 PROPERTY DESCRIPTION AND LOCATION

## 4.1 Location

The LK Project is in north central Finland approximately 60 km north of the exploration office managed by Finore in 2012, and now Nickel One, in the municipality centre of Taivalkoski. The property is 130 km ESE of the town of Rovaniemi and 160 km NE of the port town of Oulu. The central point of the LK Project is located at longitude 28°10'29.13"E; latitude 65°56'46.36"N See Figure 4-1.


**Figure 4-1 Location Map (source Finore, 2012)**

## 4.2 Property Description

Nickel One's LK property consists of two groups or areas of Exploration Permits, Kaukua area, covering the Kaukua and Murtolampi targets and Haukiaho area on the Haukiaho and Haukiaho East targets. These are separated due to the broken up nature of the intrusives in this area that hosts the metal bearing horizons that are the focus of this review. See **Figure 4-2** below:

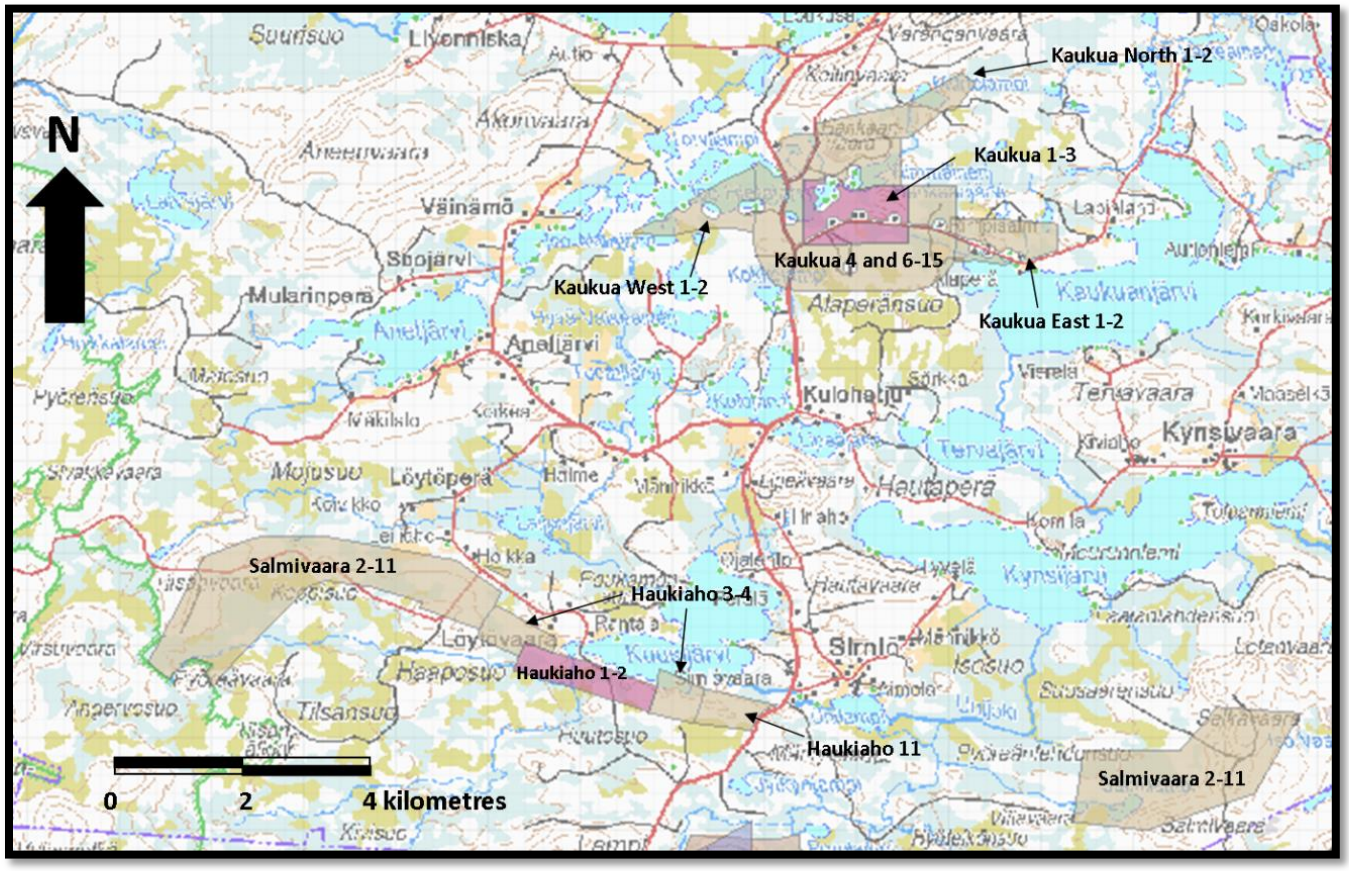


**Figure 4-2 Exploration Permit Map** (from Tukes, 2017)

Akkerman Exploration bv ("AEbv") acquired the original claims by map-staking.

Various agreements now registered by Nortec and Finore presently number two valid Exploration Permits and seven applied Exploration Permits, covering a total area of 3,845.1Hectares See **Table 4-1**. In February, 2017 KallioLaw on behalf of the underlying owners applied for an extension of the title to beyond the expiry dates on the permits. These will all be processed in accordance with the 2011 revised mining law. The maximum duration of Exploration Permit is 15 years including possible preceding comparable permit called Claim in the old Mining Act. Due to an office backlog the extension applications are estimated that it will not be confirmed until 2018 unless specifically requested for field work requirements. (Personal email communication with KallioLaw on October 11, 2017)

**Table 4-1 Exploration Permits**

| Licence ID | Name of licence | Status | Original Claim registered | Extension Application registered | Permit registered | Expiry date | Area (Ha) |
|---|---|---|---|---|---|---|---|
| ML2012:0198 | Kaukua 1-3 | Approved | 2008-07-11 | 2012-11-02 | 2015-04-22 | 2018-05-23 | 229.17 |
| ML2012:0199 | Haukiaho 1-2 | Approved | 2008-10-21 | 2012-11-02 | 2015-04-22 | 2018-05-23 | 184.95 |
| ML2014:0012 | Haukiaho 3-4 | Extensions applied for | 2009-04-07 | 2014-02-05 | | | 187.11 |
| ML2016:0021 | Salmivaara 2-11 | New application | | 2016-03-24 | | | 1,776.49 |
| ML2017:0016 | Haukiaho 11 | Extensions applied for | 2012-04-13 | 2017-02-13 | | | 93.12 |
| ML2017:0024 | Kaukua East 1-2 | Extensions applied for | 2012-05-14 | 2017-03-10 | | | 158.18 |
| ML2017:0025 | Kaukua North 1-2 | Extensions applied for | 2012-05-14 | 2017-03-10 | | | 189.89 |
| ML2017:0039 | Kaukua 4 ja 6-15 | Extensions applied for | 2012-05-14 | 2017-03-10 | | | 864.00 |
| ML2017:0026 | Kaukua West 1-2 | Extensions applied for | 2012-05-14 | 2017-03-10 | | | 162.21 |
| **Total (Ha)** | | | | | | | **3845.12** |

None of Nickel One's properties are located on nature conservation areas, however, applied Exploration Permit of Salmivaara 2-11 has approx. 2.3 km of common border with a Natura 2000 area. Natura 2000 is a nature conservation program established according to Finnish national legislation and in accordance to directives given by the European Union.

There is no requirement to legally survey the boundaries of exploration permits in Finland; instead they are assigned Finnish map coordinates by the Registry authority.

The Lipeävaara group of concessions formerly held by Finore and various concessions on the east side of the major trends are no longer valid and not part of this report.

A test mine pit exists at Haukiaho that was operated by Outokumpu Oy ("Outokumpu") in the 1960s. The minerals mined here were brought to a concentrator located seven kilometers to the south. Several trenches made by Outokumpu (c.1960-1990) exist on Nickel One's property. Many of these have been reclaimed.

The now closed, fresh water canal, for the Mustavaara Fe-Ti-V mine runs through Nickel One's property. Financing in 2013 was being pursued to complete a feasibility study to re-open the Mustavaara mine by Mustavaaran kaivos Oy. The latest news found from this company indicates that project is still under consideration. The project is awaiting the development of a third party processing plant. In the Environmental Impact Assessment (ympäristövaikutusten arviointimenettely, YVA) the process water intake

for the Mustavaara mine is from the River Sirniönjoki, which is located outsde the Nickel One permit areas. MP is not aware of any environmental liabilities associated with the project.

Three types of licenses are necessary to bring a mine from exploration to production in Finland.

- a mining permit
- An environmental permits (for rights to water supply and waste management)
- Building permits (for project infrastructure)

In addition to these a number of other permits are necessary before the start of mining operations.

## 4.3 Option and Joint Venture Agreements

### 4.3.1 Nickel One and Finore Agreements

Nickel One announced on February 1, 2017 (new release dated February 1, 2017) that it had completed an agreement with Finore to acquire a 100% interest in the LK project. This was effected by Nickel One purchasing Nortec Minerals Oy from Finore Mining. Nortec Mineral Oy was originally a wholly owned Finnish subsidiary of Nortec that had been previously transferred to Finore. The terms of this agreement include:

- Nickel One will issue 5 million common shares to Finore
- Nickel One will issue 2.5 million common share purchase warrants exercisable at $0.12 for 24 months from the date of closing to Finore

Nickel One will abide by all the underlying agreements with respect to ownership of the LK Project. These are outlined below.

### 4.3.2 Finore and Nortec Agreements

The following Option and Joint Venture agreements, in chronological order, are documented by Finore for their properties:

- Earn-in agreements between Nortec Ventures Corp. and Akkerman Exploration bv (Kaukua property) dated on July 26, 2007, and July 29, 2008.
- Sale and purchase agreement between Nortec Ventures Corp. and Kylylahti Copper oy (Vulcan Resources Ltd) dated on October 7, 2009.
- Option and Joint Venture Agreement between Nortec Minerals Corp. and Otterburn Ventures Inc. dated August 24th, 2011 and amended twice after.

Since these agreements were signed, Nortec Ventures Corp. has changed its name to Nortec Minerals Corp. and Otterburn Ventures Inc. changed its name to Finore Mining Inc. Since the second agreement, Vulcan Resources Ltd. has merged with Universal Resources Ltd.

While MP has no reason to doubt the validity of information on the Option and Joint Venture agreements provided by Finore, MP has not and is not qualified to conduct a legal search of these agreements.

### 4.3.3 Agreement between Nortec and Akkerman

A Memorandum of Understanding ("MOU") dated July 26, 2007 between Akkerman Exploration bv ("AEbv") and Nortec Ventures Corp. (later Nortec Minerals Corp.) as amended October 26, 2007, January 29, 2008, March 26, 2008 and May 28, 2008, AEbv granted Nortec the exclusive right to enter into an Option Agreement ("Kaukua OA") dated July 29, 2008 pursuant to which Nortec had the option to earn a seventy percent (70%) participation interest in the Kaukua Property. As part of the MOU, Nortec had to incur Initial Exploration Expenditures (the "Minimum Expenditure") of €150,000 on or before July 29, 2008 and to earn its 70% interest in the Kaukua property it must have incurred a further €450,000 in exploration expenditures, for a total of €600,000, before July 29, 2011. MP understands that all these expenditures have been made.

In addition to incurring the Exploration Expenditures above, Nortec paid AEbv each of the following option premium amounts during the Earn in Period:

1. within 15 days from the date the Licences were issued: €30,000 in cash;
2. within 15 days from the first anniversary of the MOU Date: €60,000; and,
3. On or before the second anniversary of the MOU Date: €100,000.

Nortec completed the required minimum expenditures before the second anniversary of the MOU date, and therefore was not required to make the second Annual Payment.

In the event that Nortec completed a Bankable Feasibility Study or incurred additional Exploration Expenditures in the amount of €2,500,000, within the following three year period, Nortec was deemed to hold a 80% Participation Interest and AEbv will be deemed to hold the remaining 20% Participation Interest.

By the end of August 2009, Nortec had incurred over C$3 million in exploration expenses on the Kaukua Property. This equated to an earn-in interest for Nortec of 74.2% and a holding interest for AEbv of 25.8%.

In September 2009, Nortec signed an addendum to the current Kaukua OA with AEbv. The addendum stipulated that AEbv will transfer all of its remaining equity interest to Nortec. In exchange for the additional 20% ownership AEbv was granted a 2% Net Smelter Royalty ("NSR") on any future production from the property and retains the pending value added tax ("VAT") refunds applied by AEbv on VAT paid by Nortec on the expenditures incurred on the Property since 2007. Nortec has the option to purchase 1% of the NSR from AEbv for €1 million.

Based on the encouraging results from the Kaukua Main Zone, Nortec decided to proceed with the full 100% acquisition of the Kaukua Property. The 100% interest in the Kaukua Property has now been transferred to the Finland registered company, Nortec Minerals Oy, which is a 100%-owned subsidiary of Nortec Minerals Corp.

### 4.3.4 Agreement between Nortec and Vulcan

As part of its ongoing consolidation of PGE+Au+Cu+Ni projects in north central Finland, Nortec signed a sale and purchase agreement with Vulcan Resources Ltd ("Vulcan"). This agreement has allowed Nortec to acquire 100% of the Haukiaho Property in exchange for ten million (10,000,000) common shares in Nortec Ventures. Transfer of eight million have been executed for the transaction of Claims Haukiaho 1-4 from

Vulcan to Nortec and the remaining two million will be transferred, when the application for Claim Haukiaho 11 is granted by the Ministry and transferred to Nortec.

### 4.3.5 Agreements between Nortec and Finore

The Option and Joint Venture Agreement ("OA") between Nortec Minerals Corp. and Finore Mining (formerly Otterburn Ventures Inc. at time of the first agreement) amended on September 10, 2012 and again on February 19, 2013 gave Finore the option to earn up to 100% interest (non-joint-venture) in Nortec's LK Project..

**Table 4-2 Schedule of Payments by Finore**

| Dates | Cash | Shares (C$ value or share number) | Result |
|---|---|---|---|
| Within 5 days of the effective date | $900,000 | $500,000 | Paid |
| On or before 6th month anniversary | $1,000,000 | $500,000 | Paid |
| Within 3 days of the 1st revised agreement (Sep 10 2012) | | 27M Shares | Received |
| Within 5 days of the second revised agreement (Feb 19 2013) | | 41M Shares | Received |

Nortec will retain a 2% Net Smelter Royalty (NSR) on the Haukiaho and Haukiaho East claims. Nickel One (through Finore) has the right to purchase 1% of the NSR for €1,000,000. All currency above is stated in Canadian dollars unless noted.

## 4.4 Finnish Mining Act

On the 1st of July 2011 a new Mining act, defining an Exploration Permit' (malmietsintälupa) and 'Mining Permit' (kaivoslupa) was passed. Prior to acquiring an Exploration Permit a company can do a 'Reservation notification' (varausilmoitus) and can be granted the Reservation Decision (varauspäätös). The Reservation Decision gives a priority right to the company to apply for an Exploration Permit. Reservation Decisions also allow the company to conduct diamond drilling and light exploration field work with the landowner's prior consent.

The fees of the Exploration Permit include €20 /hectare/year (for the first four years) for landowner compensation; there are no charges to the State. The full cost of the Exploration Permit is decided by the Registry authority. The Exploration Permit gives to the company the full rights to do heavier exploration work including test mining and construction of temporary roads and buildings if so permitted in the Exploration Permit granted by the Registry authority.

# 5 ACCESS, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

## 5.1 Access

The Kaukua, Haukiaho, Haukiaho East and Murtolampi claim areas are located in the municipality of Posio, Finland between the town centers of Posio and Taivalkoski. All targets are accessible by main public road and gravel roads. Many access roads reach most corners of the property. Public roads are kept open all year round and the forest roads are maintained only during periodic logging activities. The main road between Posio and Taivalkoski is paved.

## 5.2 Climate

Weather conditions are characteristic of the northern Fennoscandian climate with temperate summers and cold winters. During the summer months (June-August), temperatures range from 10°C to 25°C, and during the winter months (November-April) between -5°C to -30°C. The terrain is often snow covered (0.6 to 1.2 m) in winter. The bogs, lakes and rivers freeze every year for 4 to 5 months. The annual precipitation is 550 mm, distributed evenly throughout the year. Weather conditions do not interfere with open pit or underground mining anywhere in Finland. Water is plentiful around the properties, but permission must be obtained to use it.

## 5.3 Local Resources and Infrastructure

The nearest major city is Oulu (some 190,000 inhabitants), which is about 200 km away, and the towns of Rovaniemi and Kuusamo are located about 150 and 100 km from the permit areas, respectively. These three centers are served by airports with daily scheduled flights to Helsinki, the capital of Finland. The nearest major railway station is located in Rovaniemi. High voltage power line (110 kV) crosses the Haukiaho group of claims and runs for 4.5 km on the western side of the Kaukua mineralized body.

The region has a mining heritage since the nearby Mustavaara Fe-Ti-V mine was in operation from 1974 to 1985. This operation generated mining related industry, including Telatek oy's factory. Telatek oy is a producer of installation, maintenance, quality control and workshop services.

## 5.4 Physiography

The Haukiaho and Haukiaho East permit areas are mainly flat, boggy land, approximately 240 m asl, best accessed using crawler vehicles and forest tractors. The Taivalkoski to Posio main road crosses the property along the border between the Haukiaho 11 and Haukiaho East 1 permits. The rivers Suojoki, Haukijoki and Löytöjoki cross the claim area and are wide and difficult to cross using vehicles even during the winters. The majority of the permit areas are easily accessible by trails and nearby forest roads.

The Kaukua permit area is hilly about 200 to 260 m (asl) and partially crossed by an approximately 700 m long, glaciofluvial erosional channel with steep walls 35 m high and a pond in the depression. The terrain on

either side of the channel is easily accessed by tracked vehicles or forest tractors. Eastern Kaukua and the Murtolampi permits areas are flat forests while large portions of western Kaukua permit area is covered by lakes.

Vegetation is typical of the pine-tree dominated Fennoscandian coniferous forest belt. Spruce and birch are present in smaller amounts. The forest ground is covered by thin moss while the bogs are covered by a layer of peat.

## 5.5 Land Use on the Properties

The great majority the property areas are uninhabited forest subjected to logging from time to time. The Haukiaho and Haukiaho East targets are wholly devoid of habitation. Some agriculture is taking place in the other target areas.

# 6 HISTORY

This Section describes the exploration activities undertaken prior to Nickel One's acquisition of the properties by Finore's project partner Nortec Minerals Corp. in 2007.

## 6.1 Project History

Copper and nickel showings hosted by the marginal series of the Western Intrusion of the KLIC were first documented by the Geological Survey and Outokumpu in the early 1960s. The latter also carried out extensive drilling, consisting of 75 holes and about 12 km of core. Twenty four of these holes were drilled on Nortec's Haukiaho properties (approved or applied) where a small scale test mining operation was also undertaken. The original exploration carried out by Outokumpu located sulphide minerals in the Haukiaho and Haukiaho East areas.

PGE-focused exploration started in the early 1980s, when highly anomalous PGE-enriched boulder samples (PGE+Au >10 ppm) were reported from the Haukiaho area. This was followed by detailed mapping, surface sampling, geophysical surveys, but no further drilling.

In 1996, GTK (Finland Geological Survey) started an extensive research and exploration program of the entire Koillismaa Complex. In the course of this program, drilling was done on all of the current Nickel One properties.

In 2000, the Swedish junior exploration company North Atlantic Natural Resources AB ("NAN") signed a contract with GTK and the Ministry of Trade and Industry (predecessor of TEM) of Finland ("KTM") optioning the claims. NAN conducted geophysical ground surveys on Nortec's present Haukiaho, Murtolampi, and Kaukua claim areas, but only drilled the Haukiaho area. Fugro Ltd flew a low-altitude aerial geophysical survey covering the area of Haukiaho, Haukiaho East and Kaukua. NAN also sent a 50 kg sample of Haukiaho mineralization (surface boulders) for metallurgical tests to Lakefield Research Ltd in Canada before withdrawing from the Koillismaa project in late 2002.

Detailed magnetic surveys have outlined the principal segments or blocks of this portion of the basal KLIC, and helped determine probable continuity and offsets. Induced Polarization (IP) surveys have outlined a consistent chargeable unit which correlates with the mineralization encountered by the drilling.

The Kaukua, gradient IP and ground magnetic surveys have outlined the mineralized marginal units well as a persistent, linear feature of moderately high magnetic susceptibility and moderate chargeability. This is consistent with the descriptions of typical disseminated Cu-Ni-Fe sulphide mineralization seen in drill core. There is some variability displayed along strike, which may indicate thinner and/or disseminated mineralization, or minor disruptions related to post emplacement cross faults.

The research and exploration program, by GTK and NAN (1996-2002), resulted in the delineation of two highly mineralized areas in the marginal series. These two areas, Haukiaho and Kaukua, were subjected to further exploration activity in 2004 including 2,628 metres of diamond drilling.

Historical mineralogical and metallurgical studies show a strong correlation between the sulphide content and the Ni, Cu and PGE tenor.

Nortec completed drill core relogging and sampling of historic drill core in 2008 to 2010 in 68 previous holes. This work included using the Nortec logging data format, confirmation of the high quality work done in previous studies and the creation of a modern electronic database in Access format. This work as summarized meets or exceeds present industry standards.

In June, 2008 Nortec contracted SJ Geophysics, a geophysical contracting and consultancy firm from Vancouver, BC, Canada, to conduct a three-dimensional ground based Induced Polarization (3DIP) test survey over the Kaukua property. The purpose of this ground geophysical test survey was to determine if IP could locate and trace potential sulphide mineralization and differentiate between possible similar responses from fine grained magnetite known to be present in the area. Data collection was carried out on a grid with lines spaces at 100 m, amounting to 20-line kilometres of survey.

The computed inverted chargeability sections calculated from the 3DIP survey outline several anomalous sources which were generally observed to correlate with known and projected Cu- Ni mineralization as determined from drilling, and as seen in compiled cross-sections.

Following is quotation from the report by SJ Geophysics:

> *"Comparison of the resistivity and the chargeability shows that the chargeability is associated with a relatively low resistivity zone but right at a very high resistivity contact making it appear as though the high chargeability is sitting in a type of basin. With the exception of the area around the power line near the south of the grid the data collected in the survey grid was of very good quality and could differentiate between the very low background chargeabilities and only slightly elevated anomalous chargeabilities. The spherics which was bad during the survey period did hamper the quality somewhat but not sufficient to delay the survey and only a few parts of the survey were resurveyed to check quality. The data indicated that there was an elevated chargeability zone striking northwest to southeast across the central part of the survey area. Inside this elevated chargeability zone there were two distinct higher chargeability trends separated by a very high resistivity zone. The bottom and lateral extents of the anomalous chargeability also seemed to be marked by higher resistivity making it appear like a type of basin which contained the higher chargeabilities. The historic drilling which had anomalous results in sulphur, copper etc. all seemed to correlate well with the higher chargeability anomaly in the northeast part of the anomalous zone. The high chargeability to the south appeared to have been barely missed by previous drilling therefore it is recommended to drill more into the central part of this anomaly. It is recommended that drilling be confined to the higher chargeability values and that the grid is extended to the south-east and possibly to the north-west on the northern side of the lake."*

There have been several drill campaigns initially by Nortec, then most recently Finore. Historic drilling is summarized in Section 10.

## 6.2 Historic Mineral Resource Estimates

All resource estimates completed on this project as summarized below are now historic resource estimates. The public and Nickel One management should not depend on these estimates. They are provided for reference purposes only.

Watts Griffis and McOuat (WGM) completed two mineral resource estimates on the LK project area for Nortec in 2011 and an updated study for Finore on January 24, 2012. The WGM resource estimate was based on data before the 2011 and 2012 drilling program by Finore.

Cut-off grade was determined at $50/tonne based on a value determined by the following formula:

$$\frac{(\text{Co ppm}*\$45)+(\text{Cu ppm}*\$7.5)+(\text{Ni ppm}*\$21)+(\text{Au ppm}*42000)+(\text{Pd ppm}*17500)+(\text{Pt ppm}*52000)}{1000}$$

The estimation methods of Ordinary Kriging was used for the Kaukua deposit and Inverse Distance Squared at the Haukiaho deposit. Wireframes were created to constrain the mineral zones and a density of 2.93 was used at Kaukua and 2.83 at Haukiaho.

The 2012 study by Wats, Griffis and McOuat for Finore is now considered an historic resource estimate having been replaced by the 2013 MP resource estimate noted below. The public and Nickel One management should not depend on these estimates. They are provided for reference purposes only.

The now historic resource estimate from January 2012 (Iljina, Duke and Hinzer, 2012) is listed below in **Table 6-1**.

**Table 6-1 Watts, Griffis and McOuat Historic Mineral Resource Estimate of January 2012**

**Mineral Resources Estimate Kaukua Deposit**

| Classification | Lower Cutoff | Density T/m³ | Tonnes T x 1000 | Ni (ppm) | Cu (ppm) | Co (ppm) | Au (ppm) | Pd (ppm) | Pt (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| Indicated | > $50 | 2.93 | 2,605 | 1,164 | 1,734 | 65 | 0.07 | 0.67 | 0.22 |
| Inferred | > $50 | 2.93 | 8,486 | 1,057 | 1,582 | 55 | 0.08 | 0.76 | 0.27 |

**Mineral Resources Estimate Haukiaho Deposit**

| Lower Cutoff C$ per Tonne | Volume (m³ x 1,000) | Density T/m³ | Tonnes T x 1000 | Ni (ppm) | Cu (ppm) | Co (ppm) | Au (ppm) | Pd (ppm) | Pt (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| > $50 | 5,863 | 2.86 | 16,768 | 1,518 | 2,418 | 59 | 0.11 | 0.28 | 0.1 |

**Mineral Resources Estimate Haukiaho 11 Permit Deposit**

| Lower Cutoff C$ per Tonne | Volume (m³ x 1,000) | Density T/m³ | Tonnes T x 1000 | Ni (ppm) | Cu (ppm) | Co (ppm) | Au (ppm) | Pd (ppm) | Pt (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| > $50 | 979 | 2.87 | 2,811 | 1,630 | 2,180 | 73 | 0.05 | 0.14 | 0.05 |

Mining Plus Canada Consulting completed a resource estimate report on September 19, 2013 for Finore Mining (Mroczek and Butler, 2013). It is based on increased drill data completed by Finore from the drilling programs in 2011 and 2012 not available in the previous WGM estimate plus the historical data.

Wireframes were created to constrain the zones. The following parameters were used in the resource estimate, using Ordinary Kriging estimation method, a cut-off grade of 0.1 g/t Pd with a density of 2.9 t/m³ at Kaukua and 2.89 t/m³ at Haukiaho.

The 2013 estimate of the mineral content of the deposit is an historical estimate in that it was prepared before Nickel One entered into an agreement to acquire an interest in the property and the estimate has

not been verified by Nickel One as a current mineral resource; and Nickel One should not treat the historical estimate as a current mineral resource.

This now historic Mineral Resource Estimate for these deposits as prepared by Mining Plus is summarized below in **Table 6-2** and **Table 6-3**:

**Table 6-2 MP 2013 Historic Haukiaho Resource Estimate at 0.1 g/t Pd cut-off grade**

| Category | Tonnage Mt | Pd g/t | Pt g/t | Cu % | Ni* % | Au g/t |
|---|---|---|---|---|---|---|
| **Inferred** | 23.2 | 0.31 | 0.12 | 0.21 | 0.14 | 0.10 |

*Total Nickel

**Table 6-3 MP 2013 Historic Kaukua Resource Estimate at 0.1 g/t Pd cut-off grade**

| Category | Zone | Tonnage Mt | Pd g/t | Pt g/t | Cu % | Ni* % | Au g/t |
|---|---|---|---|---|---|---|---|
| **Indicated** | Main | 10.4 | 0.73 | 0.26 | 0.15 | 0.1 | 0.08 |
| **Inferred** | Main | 13.2 | 0.63 | 0.22 | 0.13 | 0.1 | 0.06 |

*Total Nickel

# 7 GEOLOGICAL SETTING AND MINERALIZATION

## 7.1 Geology of Finland

Finland lies within the predominantly Neoarchaean and Palaeoproterozoic Fennoscandian Shield. The Fennoscandian Shield bedrock is subdivided into three broad domains, which consist of three crustal units:

- a Neoarchaean cratonic nucleus
- the Karelian Craton
- Palaeoproterozoic mobile belts flanked, on either side

To the NE of the Karelian Craton, several distinct crustal units of both Proterozoic and Archean age (Kola-Lapland domain) record the amalgamation of the Lapland granulite belt and greenstone belts to the Karelian Craton at around 1.9 Ga as a collisional tectonic regime. In contrast, the Svecofennian domain, to the southwest of the Karelian Craton, is entirely Palaeoproterozoic in age, and indicates relatively rapid formation and accretion of new crust between about 1.97-1.80 Ga.

The Karelian Craton is characterized by extensive granitoids and higher grade gneiss domains surrounding narrow northerly trending greenstone belts. The major magmatic and metamorphic events had taken place around 2.84 Ga, although rocks up to 3.5 Ga are present in the craton. Greenstone sequences of lower metamorphic grade were formed after this event. These greenstone sequences were subsequently deformed and intruded by tonalitic to granitic magmas between 2.75-2.69 Ga. The Kuhmo and Suomussalmi greenstone belts are the most extensive and well preserved supracrustal units in the Archean of Finland, outcropping over a strike length of nearly 200 km, though seldom exceeding 10 km in width. Both greenstone belts contain abundant tholeiitic and komatiitic volcanic rocks, together with related intrusive and subvolcanic cumulates, and lesser felsic volcanic and volcanoclastic units.

The northern part of the Karelian Craton, records a prolonged and episodic history of sedimentation, rifting and magmatism throughout the Early Palaeoproterozoic. The Central Lapland greenstone belt is the largest mafic-dominated province preserved in the entire shield. A sequence of bimodal mafic and felsic volcanics dated at around 2.5 Ga unconformably overlie the Archean basement and represent the onset of rifting. Continued rifting of the Archean crust resulted in the widespread emplacement of mafic and ultramafic layered intrusions between 2.5-2.4 Ga clustered to form Tornio-Näränkävaara Layered Intrusion Belt ("TNB") in Finland. These TNB intrusions host the important Kemi chromite mine, and also contain widespread PGE-Ni-Cu enrichment including the Nickel One permit groups. Clastic sediments discordantly overlie these layered intrusions, with further episodes of mafic magmatism recorded as sporadic lavas and sills dated at around 2.2 Ga, 2.10 Ga, and 2.05 Ga. The latest stage includes the Sakatti and Kevitsa Ni-Cu-PGE deposit and coincided with rifting and subsidence of the Karelian Craton margin.

## 7.2 Regional Geology of the Koillismaa Layered Igneous Complex

The KLIC of north central Finland (**Figure 7-1**) is part of the 2.5-2.4 Ga Fennoscandian Early Palaeoproterozoic layered complexes that were emplaced as part of a globally recognized episode of igneous activity that introduced layered intrusions and mafic dyke swarms worldwide. These igneous formations have

been found to have potential for Cr, Cu-Ni-PGE sulphide, PGE and Fe-Ti-V oxide mineralization. Examples of well-known economic deposits of these types are the ones hosted by the South- African Bushveld, Russian Monchegorsk and Finnish Tornio-Näränkävaara belt of intrusions (Iljina and Hanski 2005).

The KLIC makes up the eastern most portion of the TNB and consists of two main sectors, the Näränkävaara Intrusion (**Figure 7-1** insert map A) in the east and the Western Intrusion. These two intrusions are likely connected by an unexposed connecting dyke, which is indicated by a strong magnetic and gravity anomaly (Alapieti, 1982).

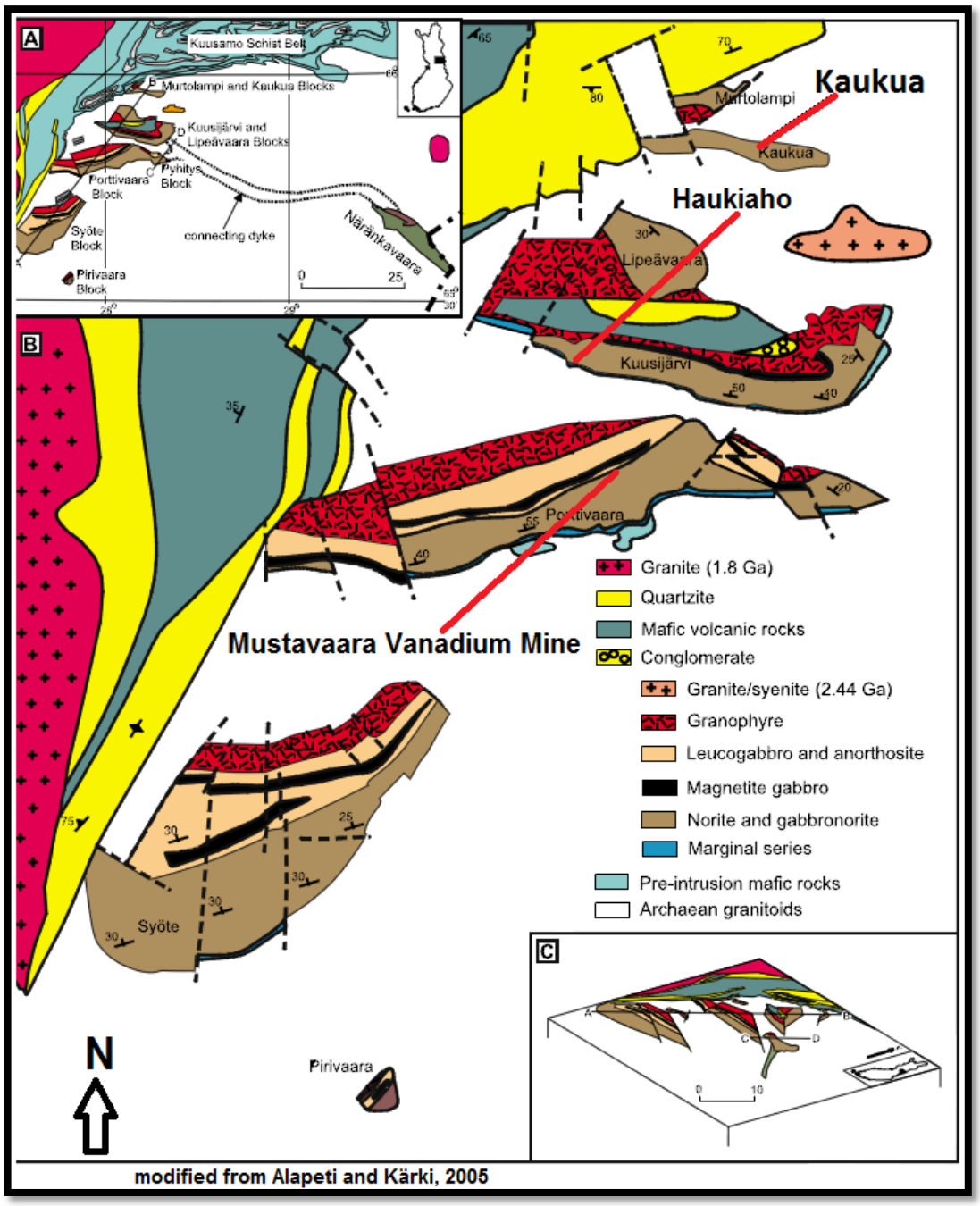


**Figure 7-1 Regional Geology (modified after Alapeti and Kärki, 2005)**

The Western Intrusion is thin despite its greater surface area with an average vertical thickness for the three major blocks of only 1-3 km, but the exposed igneous stratigraphy is as much as 3 km. The Western Intrusion is overlain with felsic volcanic rocks that have recrystallized to form a granophyre unit up to 1 km in thickness. In contrast, the footwall granite gneisses at the base of the intrusion have been partially melted and pervasively metasomatically altered to albite-quartz rock. Gabbroic igneous rocks, chemically different than the layered sequence, form the footwall locally such as underneath the Porttivaara, Tilsa, and Kaukua Blocks.

The Western Intrusion has been uplifted and broken into a number of blocks (**Figure 7-1**) due to multiphase tectonic events. The Western Intrusion has been folded slightly and possibly even collapsed during the earliest, extensional, tectonic regime to form a synclinal structure between the Kuusijärvi and Lipeävaara Blocks (Karinen, 2010). The supracrustal sequence deposited along this structure is known as the Kuusijärvi synform. The igneous layering of the intrusive blocks to the south of the synform, dips to the north, (Tilsa to the NW) while the northern blocks dip to the south (Kaukua and Murtolampi).

The cumulus stratigraphy of the Western Intrusion is divided into the Marginal Series and the overlying Layered Series. The Marginal Series can be up to a couple of hundred metres in thickness and be made up of differentiated cumulates ranging from gabbros and pyroxenites to peridotites. The Marginal Series can be repeated on surface due to tectonic movements at Porttivaara and Tilsa Blocks, in particular. The Layered Series is composed entirely of mafic cumulates.

### 7.2.1 Economic Geology of the Koillismaa Complex

All mineralization types characteristic of layered mafic intrusions can be found in the TNB. These include layered accumulations of chromite and PGE-enriched base metal sulphides in the lowest parts of the intrusions (contact-type PGE deposits), stratiform PGE, chromite and magnetite enrichments higher in the cumulate sequences, and offset PGE-base metal deposits below the intrusions (Iljina and Hanski 2005).

A world-class chrome deposit is located at the base of the Kemi intrusion. A magnetite gabbro layer of the KLIC has been exploited for vanadium as well. Potentially world-class reef-type PGE deposits are distributed among the intrusions named Penikat and Narkaus (Portimo Complex). Contact-type PGE deposits show exceptionally high PGE concentrations locally, relative to what is typically found in basal sulphide mineralization. The location of the reefs and better grade contact-type deposits appear to be controlled by the megacyclic structure of the intrusions and/or periodic addition of magma of slightly variable compositions.

There are three principal mineralization types in the Western Intrusion.

- The Rometölväs Reef in the layered series, forms erratic and low-grade base metal and PGE zones, of approximately 20 m in thickness. These also contain fine-grained xenoliths (microgabbronorites), gabbropegmatites and anorthositic segregates, all in a gabbronoritic adcumulate.
- A thick (200 m) magnetite gabbro layer is found higher up in the sequence, and this layer has been exploited for its vanadium content at the Mustavaara Mine.
- The contact-type sulphide-PGE deposits, at the bottom and margins of every intrusive block of the Western Koillismaa Intrusion have the largest areal extent (**Figure 7-1**). Due to tectonic sinking of the central part of the original Western Intrusion, the bottom parts of the intrusion and related base metal - PGE enrichment zones are exposed on the southern margins of the intrusive blocks of

Pirivaara, Syöte, Porttivaara, and Kuusijärvi and on the northern to northeastern margins of the Kaukua and Murtolampi blocks. Total strike length of the marginal zone is on the order of 100 km (Iljina 2004).

## 7.3 Property Geology

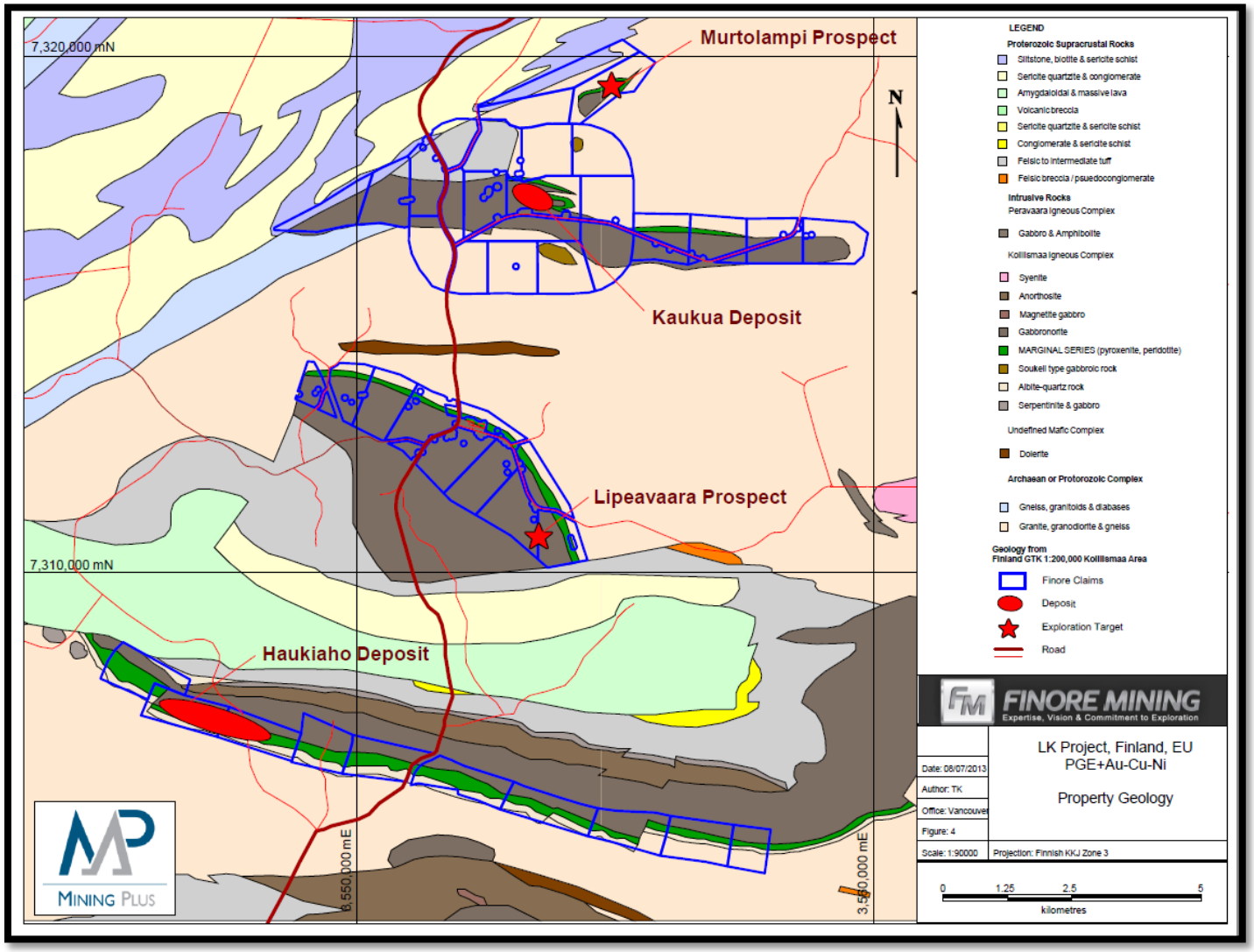


**Figure 7-2 Local Regional / Property Geology (source Finore, 2012)**

### 7.3.1 Quaternary Geology

Glacial till covers most of the property and only a small proportion of the bedrock outcrops to surface. The till ranges from 2-7 m thickness, although the overburden in the NE corner of the Kaukua deposit was approximately 30 m thick.

The bedrock underneath the till is generally fresh; only one historic Haukiaho drillhole (3543/04/R393) encountered deeply weathered rock, due to local fracture zones which cut the Kuusijärvi intrusive block in the west.

The glacial transport is from west and WNW and the transportation distances are short, being only a few hundred of metres in the Haukiaho area as indicated by the numerous mineralized boulders. On the other hand, sorted glaciofluvial sands are also found in the Kaukua area in addition to the till.

### 7.3.2 Haukiaho and Haukiaho East

The Haukiaho property **Figure 7-2** is situated 12 km SSW from Kaukua and is hosted by the Kuusijärvi intrusive block, which itself is part of the Koillismaa Western Intrusion. The igneous stratigraphy of the Haukiaho is similar to that of the Kaukua although the repetition of pyroxenite and peridotite is less common in Haukiaho. The stratigraphic units are the same as is the metamorphic alteration of primary igneous minerals. Originally gabbroic plagioclase-pyroxene cumulates are now composed of (metamorphic) plagioclase and pale amphibole (tremolite-actinolite). Pyroxene cumulates are presently chlorite- amphibole rocks, often schistose, while the decomposition of the igneous olivine has given rise to serpentine, talc and magnetite. Minor metamorphic minerals include epidote, hornblende and biotite.

The granodioritic Archaean gneiss below the layered intrusion has been pervasively metasomatized and is mineralogically albite-quartz rock, which often retains primary textures and structures (banding). This albite-quartz rock contains irregular patches, sometimes several metres thick, of mafic enclaves or dykes. Due to this the lower contact of the layered intrusion is sometimes impossible to map accurately. In the permit area, the albite-quartz rock is hundreds of metres thick (true thickness) and the unaltered footwall rock has not been pierced by any historic drill hole.

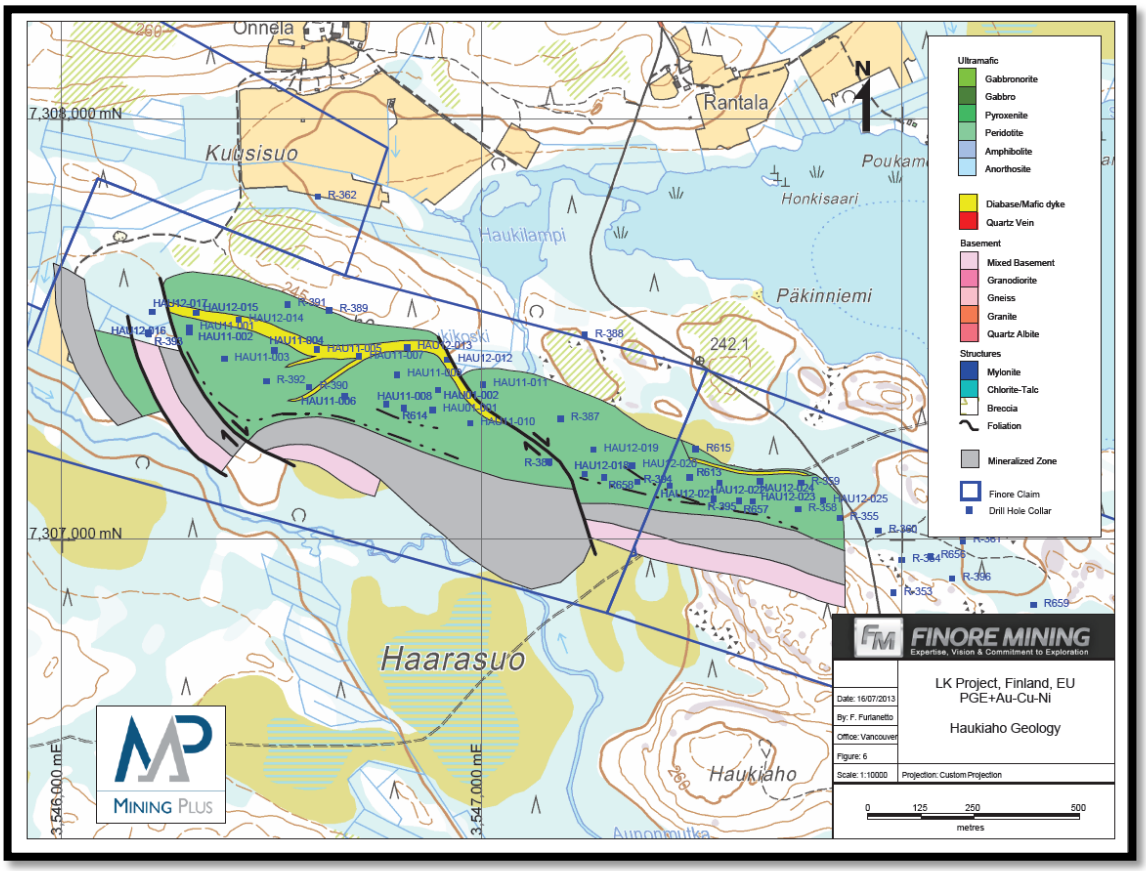


**Figure 7-3 Haukiaho Geology (source Finore, 2012)**

The footwall contact and the igneous layering are subvertical and dip NNE. The distance between the marginal series and the magnetite gabbro of the layered series, narrows towards the west in the Kuusijärvi block and the two units actually are in contact in the westernmost of the property.

The Haukiaho mineralization resembles Kaukua, both mineralogically and in probable origin. The Haukiaho mineralization is hosted mainly by pyroxenitic and gabbroic cumulate lithologies. It is steeply dipping to the NNE and is generally 15 to 40 metres thick.

Continuity along strike is very consistent. Like Kaukua, the mineralization is disseminated in character, but includes a few narrow massive sulphide veins. Pyrrhotite, pentlandite, chalcopyrite, and also pyrite in lesser amount, are the main sulphide minerals.

### 7.3.3 Kaukua

The Kaukua Block is about 8 km² and is situated in the northern part of the Western Intrusion. The stratigraphy consists of a thick layered series dominated by mottled gabbronorites with sub-horizontal layering overlying a sequence of gabbro, pyroxenite and peridotite of the marginal series that are preferentially mineralized **Figure 7-2**.

Syn-formational, east-west trending diabase dykes follow the sub-vertical cleavage plane, occasionally flexing and thickening along a shallow dipping contact between the upper mottled gabbronorites and lower pyroxenite and peridotite.

The Kaukua deposit has a strike length of approximately 1,000 m. The deposit dips south at 20° to 30°. The Kaukua Fault divides the Kaukua main block in the south from the smaller northern block. The Kaukua Fault is a normal fault, bringing the northern mineralized succession located at depth in the southern block back to the surface in the north. **Figure 7-4**

The stratigraphy of the Kaukua deposit is traditionally divided into layered series gabbronorites and marginal series pyroxenite and peridotite. In gabbronorites subhedral augite grains, up to several cm in diameter, are the main cumulus phase with plagioclase of unknown composition as an intercumulus phase. Quartz is also discovered as an intercumulus mineral, primarily due to assimilation of basement granitoids or syn-formational silicification. Gabbronorites of the layered series contain xenoliths of hybrid gabbro/anorthosite several centimetres in diameter. Mineralization of the layered series is usually weak with occasional, chalcopyrite and pyrrhotite dominating dissemination (reef-type). Cumulus phase augite has been partly altered into chlorite, muscovite, tremolite and epidote.

The contact between the layered series and the marginal series is generally sharp, occasionally sheared. The upper most rock type of the marginal series is usually intensely sheared pyroxenite which exhibits strong signs of hydrothermal alteration (retrograde metamorphism).

This particular sheared pyroxenite has altered into chlorite schist and/or clay minerals. The presence of sulphides in this rock type is sporadic. When present they occur as fracture fill. Sulphides consist of elongated intergrown chalcopyrite and pyrrhotite aggregates with pentlandite inclusions in pyrrhotite. Chalcopyrite also occurs as independent grains/aggregates.

Below the sheared pyroxenite the middle part of the marginal series has varying units of pyroxenite and peridotite. To date three different types of pyroxenite and two different types of peridotite have been identified by Nortec and Finore.

Pyroxenite can be divided into three different sub-types which all are perceived to contain sulphides. None of these three sub-types are identified as the most common:

- The first sub-type is a fine grained and massive pyroxenite with possible sulphides as fine dissemination of chalcopyrite and pyrrhotite. Chalcopyrite is the dominant sulphide. Aggregates of chalcopyrite and pyrrhotite with varying diameters have been discovered
- The second sub-type is a foliated pyroxenite, similar to one in the contact of the layered and marginal series
- The third sub-type is augite adcumulate, with sulphides as very fine dissemination and occasional aggregates of chalcopyrite and pyrrhotite, chalcopyrite is the dominant sulphide

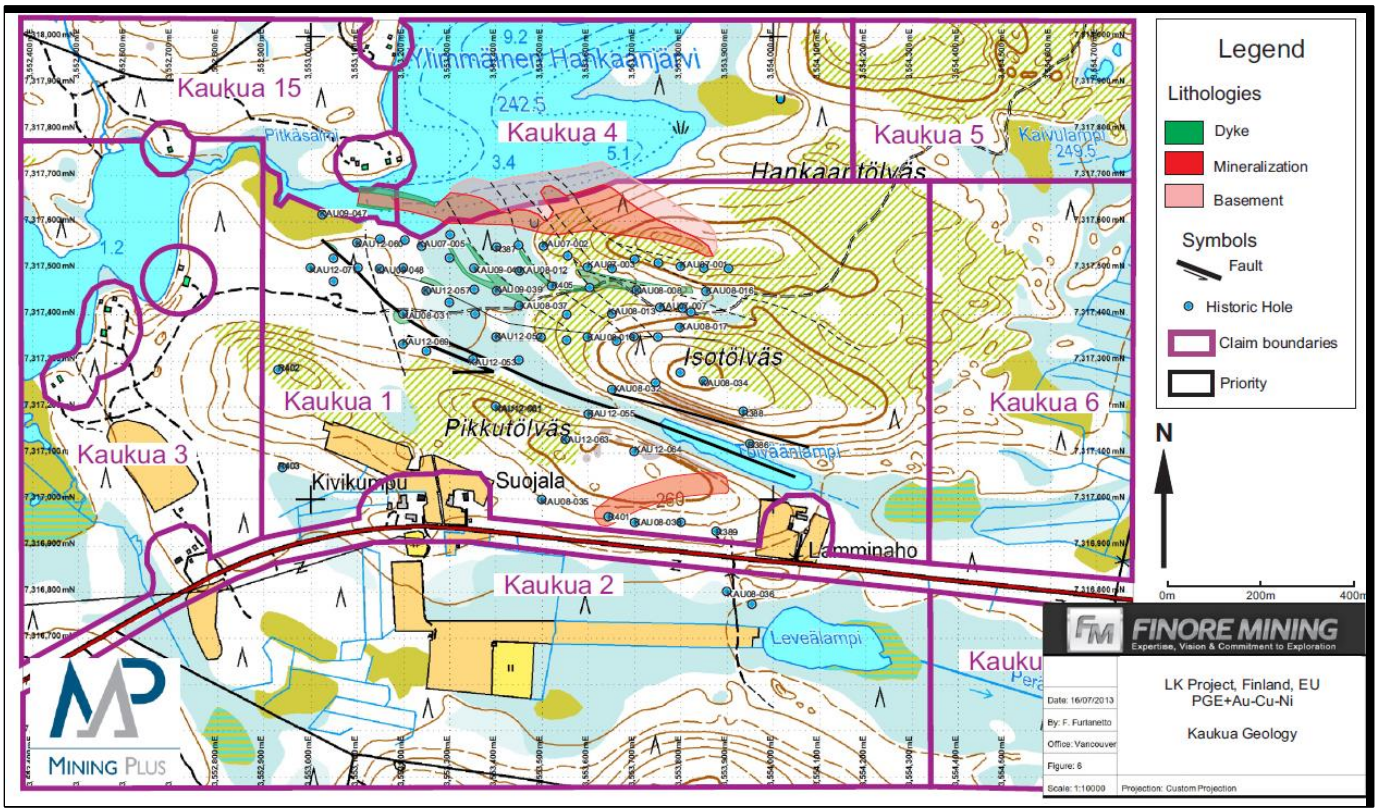


**Figure 7-4 Kaukua Geology (source Finore, 2012)**

Hydrothermal alteration can be identified in all of the three pyroxenite sub-types. Chlorite and talc alteration is the most apparent visual clue that primary augite has been replaced by secondary chlorite, talc, epidote or clay minerals of unknown composition. Pyroxenite locally contains basement fragments as xenoliths; contacts between the xenoliths and the pyroxenite are sharp or gradational depending on the degree of partial melting of the xenoliths. In some parts of the Kaukua deposit pyroxenite is influenced by peridotite veins which are, according to present assumption, interpreted to represent a possible secondary pulse of ultramafic magma into a slowly cooling primary intrusion.

Peridotite is divided into two sub-types. The first one is very fine grained, almost aphanitic, massive peridotite which is usually barren. The second one is foliated and fine grained and occasionally sulphide bearing. The main mineralization types vary from fine dissemination and fracture fill to aggregates up to several centimetres in diameter. Sulphides appear as pseudomorphs of olivine grains. The peridotite sections are not reported to contain any basement xenoliths. Both peridotite sub-types are intensely talc altered.

The mixed basement (basal gabbro) is located between the marginal series and basement granodiorite. The thickness of mixed basement/basal gabbro ranges from 5 m to over 30 m. This sequence consists of remnants of the marginal series and molten basement material, sometimes sections of augen pyroxenite. Sulphides are sporadically present as chalcopyrite and pyrrhotite disseminations and aggregates.

Basement rocks around the Kaukua deposit are in most cases granodiorite and granite in addition to mafic rock chemically different from the main Kaukua intrusion. Granitic basement is limited to the northern part of the Kaukua deposit whereas granodiorite is the most common basement rock in the remaining part of the intrusion. The granodiorite is granular with approximately even sized grains of plagioclase, quartz and potassium feldspar with minor amounts of biotite.

### 7.3.4 Murtolampi

Kaukua type of mineralization is encountered also in Murtolampi in terms of style and grade. The above information is based on the published reports of GTK (Iljina, 2004).

## 7.4 Mineralization

### 7.4.1 General

Four principal types of base metal - PGE mineralization have been identified within the Kaukua block. The available data for Haukiaho and Murtolampi has identified all but the first type:

1. Hangingwall-type Mineralization (contact-type, see section 8. 'Deposit types').
2. Marginal Series-type Mineralization (contact-type).
3. Mixed Zone-type Mineralization (contact-type).
4. Reef-type Mineralization.

The Hangingwall-type mineralization is hosted in a strongly foliated gabbronorite of the layered series just above the marginal series. It is classified as Contact-type because it does not have the characteristics of reef-type mineralization (high PGE, low base metals), but shares metal ratios and absolute metal grades similar to mineralization hosted by the marginal series proper.

Marginal Series-type mineralization makes up over 70% of the metal deposition at Kaukua. The Marginal Series is dominated by pyroxenite that hosts sulphide assemblages comprised of pyrrhotite-chalcopyrite-pentlandite. The sulphide assemblage also occurs as medium-grained, disseminated aggregations. Sulphide content increases towards the base of the Marginal Series, which often indicates an increase in grade for both PGE and base metals. There are occasional thin (<3 m wide) transition zones between the mineralized pyroxenite (Marginal Series) and the sulphide-bearing Mixed Zone that have low-grade or barren PGE mineralization.

Sulphide mineralization in the Mixed Zone at Kaukua varies in thickness between 30 and 40 metres. The Mixed Zone is dominated by xenoliths of granodiorite and quartzo-feldspathic gneisses partially assimilated into Marginal Series. Sulphides usually occur as fine-medium grained chalcopyrite and pyrrhotite disseminations in the basement unit and in cross-cutting gabbroic-pyroxenitic intrusives. Pyrite is also present. PGE are associated with the sulphides, and the highest values occur in chalcopyrite-rich domains. Upon moving deeper into the basement, pyrite becomes a dominant sulphide and PGE values decrease below detection limits.

The Kaukua PGE - base metals sulphide reef shares many similar features with the Rometölväs Reef described in the Syöte and Porttivaara blocks of the Koillismaa Intrusion. This Rometölväs Reef at Kaukua appears as low-grade, erratic enrichment within a 20 m thick gabbronorite adcumulate zone containing fine-grained xenoliths (known as microgabbronorites), gabbropegmatites and anorthositic segregates (Iljina, 2004; Karinen, 2010). The characteristic feature of the reef in Kaukua is frequent basement xenoliths. In the northern Kaukua this reef appears to come into contact to the marginal series due to angular discordance between the marginal series and layered series. When occurring right above the marginal series the reef is actually determined as Hangingwall-type mineralization described above.

The metal ratios and chondrite normalized patterns identified by GTK show a steady, moderately positive slope for PGE; at Haukiaho with higher normalized Au content.

The typical sulphide assemblage is pyrrhotite-chalcopyrite-pentlandite and accessory sulphides include pyrite, sphalerite, galena and molybdenite. The main oxides are magnetite and ilmenite, with chromite present in trace amounts. The grades of PGE mineralization roughly correlate with the abundance of sulphides, particularly chalcopyrite.

The four principal types of mineralization have different fundamental mineral forming processes including syn- to post-genetic hydrothermal activity. Therefore, a polygenetic model is needed to explain the presence of PGE and base metal mineralization rather than a simple magmatic sulphide model. High grade zones are concentrated largely within the lower (marginal) gabbro and lower transitional (assimilation) zones. The granodioritic basement rocks immediately below the mafic-ultramafic intrusion are typified by a prominent hydrothermally altered low-grade mineralized section. Below this zone, the granodiorite is only sporadically altered and is largely barren, except where discrete chalcopyrite-rich quartz veins and sulphidized amphibolitic zones occur.

## 7.5 Petrography

There have been three petrological and microanalytical studies carried out by GTK on selected samples from the Kaukua drill core.

- The first study was an in-house GTK study done in 2002 on core samples taken from the GTK holes drilled in 1999
- In 2008, Nortec contracted GTK to perform a petrological and microanalytical study on samples from holes KAU07-002 and KAU07-007 drilled during Nortec's Phase I drill campaign. This study involved both a polarized light microscope and a Scanning Electron Microscope with Energy Dispersive Spectroscopy analysis ("SEM-EDS")

- An internal petrographic study conducted by Nortec began in October 2008 and was completed in the second quarter of 2009

SEM-EDS studies reveal that most of the platinum-group minerals (PGM) at Kaukua are arsenides, bismutotellurides, and arsenoantimonides (Johanson and Pakkanen 2008). Native forms and alloys are absent. PGM are included in base metal sulphides, magnetite, and silicates and also occur along gangue mineral grain boundaries. Palladium-bearing minerals include isomertieite ($Pd11Sb_2As_2$), members of the kotulskite-sobolevskite solid-solution (PdBi-PdSb), palladoarsenide ($Pd_2As$), majakite (PdNiAs), and paolovite ($Pd_2Sn$). The principal platinum carrying mineral is sperrylite ($PtAs_2$) while Bi-bearing moncheite ($PtTe_2$) is also present. Platinum-group sulphides are rare and those that have been identified belong to the vysotskite (PdS) - braggite ([Pd,Pt]S) series.

PGM mineralogy of Kaukua is practically identical to that observed from Haukiaho, where the following has been stated (Kojonen and Iljina 2001):

"Most of the grains found occur within silicates as discrete grains. To lesser extent, the PGM are intergrown on the grain borders of sulphides. The grain size is less than 40 µm, and most of the grains were 5-10 µm in diameter. The major part of the PGM found belongs to the system (Pd+Ni)-Bi-Te including minerals merenskyite (62%), michenerite (1.3%), kotulskite (5%) and Pd-rich melonite (25.3%). Other PGM found were sperrylite (6%) and PGE-rich cobaltite which was observed within sulphides."

The common feature for all the rock types examined by Nortec was the varying degree of hydrothermal overprinting. Hydrothermal alteration was seen in all samples. The main alteration types were chlorite alteration of pyroxenes and olivine, talc alteration and serpentinization of peridotites, epidotization of pyroxenites, albitization and K-metasomatic alteration of mafic units (gabbronorite and diabase). Nortec interpreted these as evidence to suggest that the whole intrusion had undergone retrograde metamorphism of greenschist/low amphibolite facies. K-metasomatism was found to be epigenetic and associated with late presence of Na-K-Ca enriched fluids/phase (epidotization, K-metasomatism and albitization).

Sulphide mineralization was found to consist mainly of chalcopyrite, pyrrhotite, pyrite, and pentlandite of which the chalcopyrite was predominant. Sulphides were discovered as dissemination, aggregates and stringers. Disseminations were usually in the intercumulus phase in pyroxenites, and peridotites, sometimes as pseudomorphs of cumulus minerals. Pentlandite was found as inclusions in pyrrhotite or as rims around pyrrhotite grains.

Based on the above findings Nortec concluded that the parental magma of the Kaukua deposit reached the point of sulphur saturation for sulphides to precipitate. However, it is improbable that parental magma itself contained enough sulphur to reach sulphur saturation through fractional crystallization. The source of additional sulphur still remains unknown.

# 8 DEPOSIT TYPES

Platinum-Group Elements ("PGE") are a general reference to six metals: platinum (Pt), palladium (Pd), rhodium (Rh), iridium (Ir), ruthenium (Ru), and osmium (Os). Economic PGE deposits are primarily hosted by mafic and ultramafic igneous rocks.

On the basis of relative amounts (in economic value) of PGE and other metals, PGE deposits can be classified to 'PGE only' type of deposits, and deposits, in which PGE's are enriched along with the base metal sulphides or chromite. PGE deposits of intracontinental layered intrusions are classified on their structural position in the intrusion.

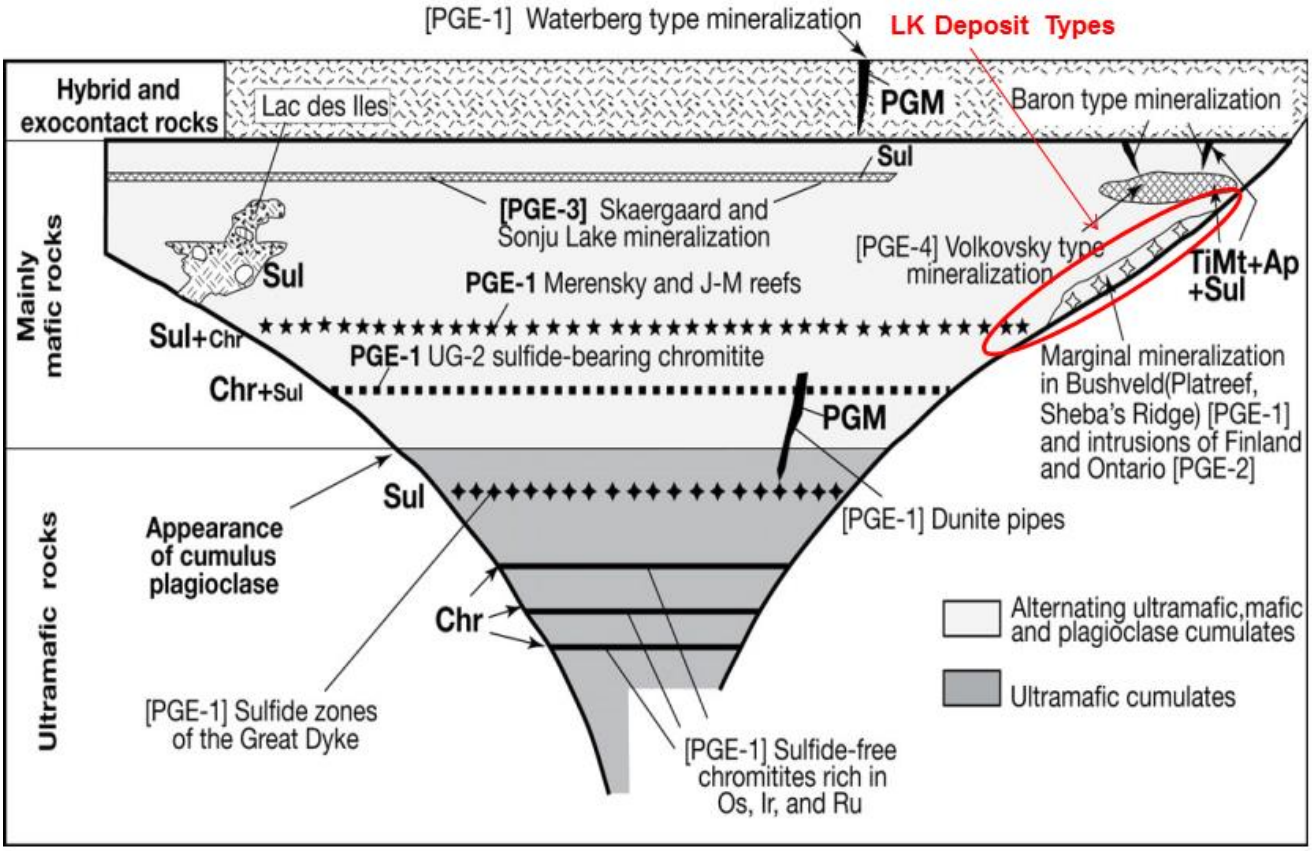


**Figure 8-1 Schematic Section of magmatic CU, Ni, PGE Deposits Types (MP modified from Finore 2013 supplied image)**

'Contact-type' deposits are generally zones within the Marginal Series, which are tens to over a hundred metres wide and have developed at the base or sides of mafic layered intrusions. The PGE concentration is lower than in 'reef-type' deposits and the economic exploitability is based on large tonnage bulk mining methods. Contact-type mineralization is erratic in nature and in individual drillholes the highest PGE values can be found tens of metres above or below the contact of the intrusion; they are also variable along strike. High-grade PGE enrichments, contact-type and others seem to be related to larger igneous events, but the size of the hosting intrusion is not necessarily a controlling factor. (Iljina and Lee, 2005).

# 9 EXPLORATION

Nickel One has completed no work on the LK project. Finore has completed no work on the LK since the report of Mroczek and Butler, 2013.

Previous exploration work is summarized in Section 6 of this report.

# 10 DRILLING

Nickel One has done no work on the LK project.

## 10.1 Historic Drilling Summary

A partial history of drilling on the project is summarized in Chapter 6. A more detailed description of the historic drilling on the property is summarized below in **Table 10-1**.

**Table 10-1 Drilling History Summary**

| Company / Year | Number of Holes Drilled | Zone Drilled | Meters Drilled |
|---|---|---|---|
| Outokumpu | 24 | Haukiaho | 3,595.2 |
| GTK (Finnish Geological Survey) | 42 | Haukiaho | 5,852.2 |
| GTK | 10 | Kaukua | 1,482.1 |
| GTK | 6 | Murtolampi | 301.9 |
| North Atlantic Natural Resources / 2001 | 7 | Haukiaho | 893.6 |
| Nortec / 2007-2009 | 50 | Kaukua | 10,292.8 |
| Finore / 2011-2012 | 25 | Haukiaho | 4,668.8 |
| Finore / 2012 | 23 | Kaukua | 6,116.2 |
| | | **Total Meters** | 33,202.8 |

Finore undertook a diamond drilling program from October, 2011 to April 2012. There was a total of 10,785.0 meters of drilling in 48 drillholes in this program, testing the Kaukua Target and the Haukiaho Target at both the Melaräme and the Torkoaho zones. The core size was NQ2.

Finore's core logging, sample processing and custody program follows the principles used by Nortec in their previous drilling. These included a standard, spreadsheet-based logging format with validated fields, core cutting by company staff and submitting samples to the ALS Chemex facility in the town of Outokumpu. Holes are surveyed by Reflex Maxibor II ® gyro instrument by the drilling company, Nivalan Timanttikairaus oy. Only the logging and sample preparation facility are different, they now use facilities shared with Mustavaaran kaivos oy. Core is stored in the same location as the Nortec core.

Finore's QAQC program comprises inserting sample blanks, and standard reference samples similar to Nortec's program. Inter-laboratory check assays were made at the Finnish accredited geochemical laboratory Labtium. Standards inserted in the sample flow include AMIS (African Mineral Standards) standards AMIS 0056 and AMIS 0064 for PGE and base metals, and an in-house created olivine diabase for precious metal blank. These same standards were also used by Nortec in previous drilling phases. The interval of inserting is about 1/25 samples.

Nortec has conducted four phases of exploration drilling over the Kaukua property since October 2007, for a total of 16,409meters of drilling **Table 10-1**. The drilling programs explored for shallow dipping PGE+Au-Cu-Ni mineralization, which trends east-west, dips to the south and plunges to the WSW.

The Phase I exploration drilling program by Nortec was carried out by the GTK Technical Services Group using a GM-100 based rig and BQTK equipment for 40.7 mm diameter core. From Phase II forward swivel drive drill rigs were used to produce NQ2 size core (50.7 mm). Downhole surveys were done by Nivalan Timanttikairaus oy using the Reflex Maxibor II ® gyro instrument for the hole KAU08-017 and later.

# 11 SAMPLE PREPARATION, ANALYSES AND SECURITY

Nickel One has completed no work on the LK project.

The following is a description of the Finore 2011 and 2012 work as prepared and/or reviewed by the First author in 2012 and 2013 as part of the previous MP report team for Finore. This previous review continues to be considered valid and relevant by the author. It is included to confirm the quality of previous sampling and the historic database.

## 11.1 Chain of Custody, Sample Preparation and Security

Finore staff was responsible for transportation of the drill core from the drill site to the core storage and logging facility in Taivalkoski, about 70 km from the drill site. During the logging stage, the core was measured and sample intervals selected by Finore staff. These intervals were marked on the core and on the core boxes. Finore staff members cut the core samples in half with a diamond saw. The half core samples from the drillholes were sent to ALS Chemex Laboratory (ALS Chemex) in the town of Outokumpu. Standards were inserted into the sample flow by Finore staff.

Coarse rejects and pulps not used for assay were sent, back to the issuer, which stores them in its core farm at Taivalkoski.

## 11.2 Sample and Core Security

Finore's Taivalkoski core storage facilities consist of heated 'warm' and unheated 'cold' storages in two separate buildings about 500 m apart. The 'warm' storage sample logging and prep area was shared by Finore like the 'cold' one which is also shared with another tenant. Both storage areas are locked.

All project data is stored on Finore's office server in Vancouver, with data backup. Nickel One and Mining Plus also has a copy of the data.

## 11.3 Sample Analysis

Based on mineralogical studies the base metals, except Ni, are practically exclusively carried by sulphides like pyrrhotite, chalcopyrite, pentlandite, and pyrite. The Ni is distributed between Ni-sulphides and Ni-bearing mafic silicates. The Ni in silicates is not practical to recover in the anticipated mining methods.

## 11.4 Sample Analysis Description

The standard preparation for drill samples by ALS Labs at Outokumpu, Finland, starts with the log in of the sample into the tracking system, adding a barcode, weighing, drying, fine crushing the entire sample to >70% less than 2 mm. It is then riffle split off up to 1 kg and the split is pulverized to >85% passing 75 um. It is then labelled, packed and a 100g lab split is shipped by courier to the ALS Chemex Lab in Vancouver, BC, Canada for analysis.

Analysis of Pt (0.005-10 ppm), Pd (0.001-10 ppm), Au (0.001-10 ppm) is by the PGMICP23 analysis package using lead fire assay (30g nominal charge weight) with ICP-AES detection finish.

"Ore grade" Pt (0.03-100 ppm), Pd (0.03-100 ppm), Au (0.03-100 ppm) package by lead fire assay (30g nominal sample weight) with ICPAES finish was used for over limit Pt, Pd and Au values reported by method PGM-ICP23.

Trace element analysis for 35 elements is conducted by the ME-ICP41 package, using Aqua Regia acid digestion and ICP-AES detection. Quantitatively dissolves base metals for the majority of geological materials; however, major rock forming elements and more resistive metals are only partially dissolved.

Copper assay was determined by the Cu-OG46 "ore grade" package (0.001ppm-40%) of Aqua Regia digestion and ICP or AAS detection for over limit copper values.

Over limit analysis by the ME-OG46 package - Ag (1-1,500 ppm), Cu (0.01-40%), Mo (0.00110%), Pb (0.001-20%), Zn (0.001-30%) uses aqua-regia digestion and ICP-AES detection. Above detection limit values from ME-ICP41 are also automatically re-analysed using this package.

## 11.5 Check Analysis

The Labtium laboratory in Rovaniemi, Finland was used for check samples. Labtium is an independent, fully State owned laboratory outsourced from GTK in 2007

The samples were dried and sent for detection. Detection of base metals used the 720P package, which is sodium peroxide fusion and 27 element detection by ICP-AES. The Au, Pt and Pd detection are by the 704P package which is a 25 g lead fire assay charge with ICP-AES detection.

Select samples were analysed for nickel in sulphide by selective digestion.

A limited number of samples were checked by sending the rejects from the core facility to the Labtium Laboratory for analysis as a check of the values. These interlab tests are meant to determine the consistency of the laboratory with another laboratory and uncover biases. If the two laboratories values agreed fully they would plot on the line indicated in **Figure 11-1** to **Figure 11-4**.

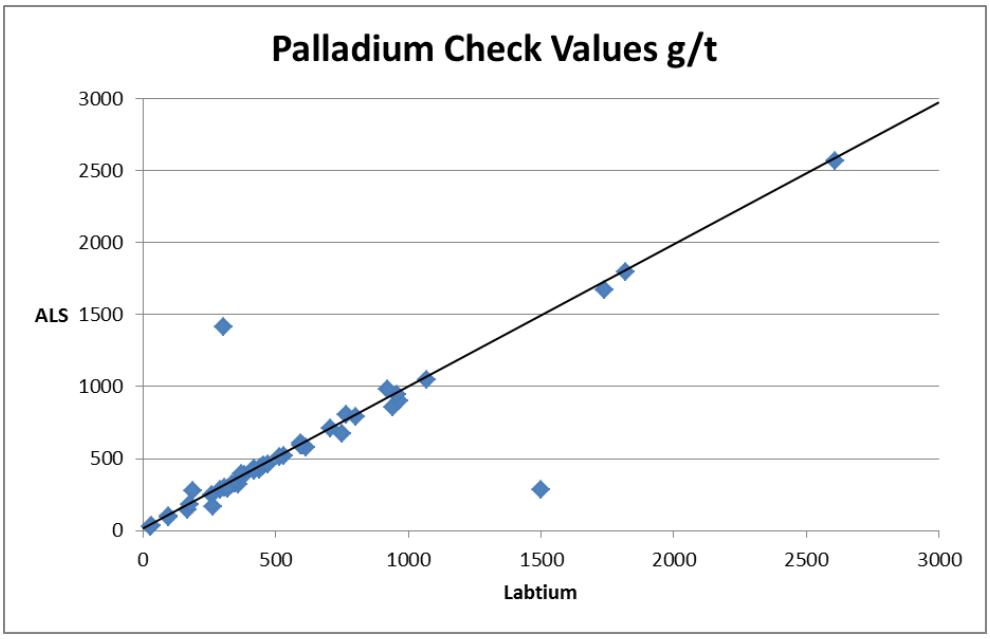


**Figure 11-1 Palladium Interlab values**

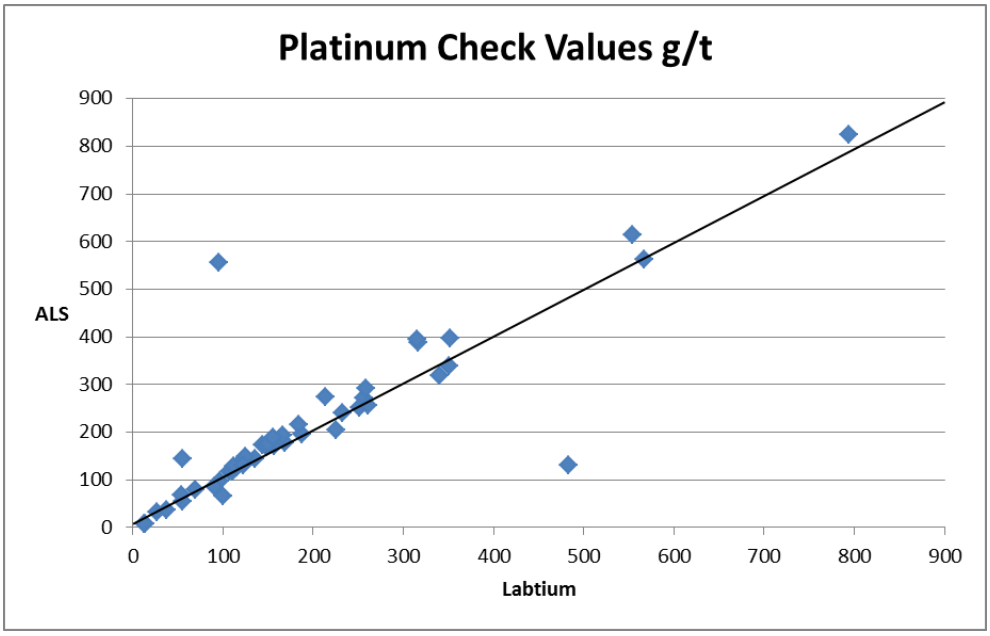


**Figure 11-2 Platinum Interlab values**

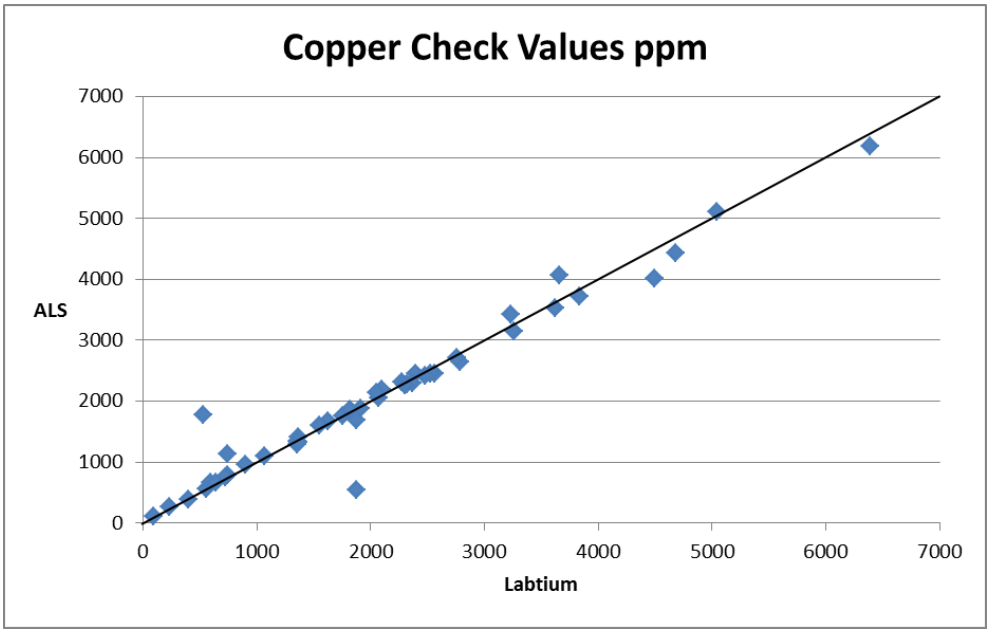


**Figure 11-3 Copper Interlab values**

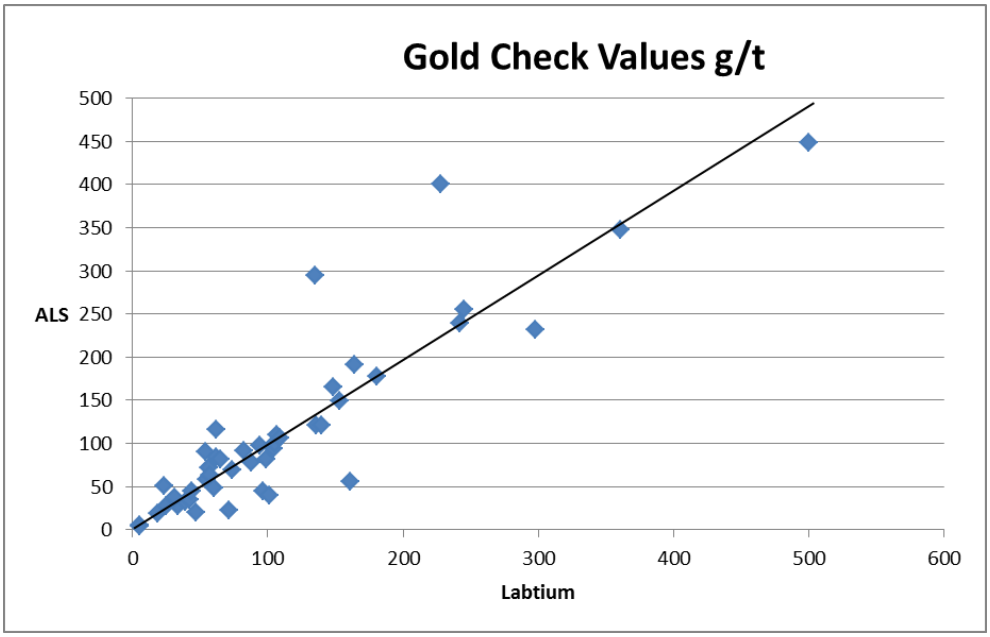


**Figure 11-4 Gold Interlab values**

The values returned from the separate various labs are generally consistent with a few outlier values. Although not ideal, these results are consistent with results from other deposits with this lower grade tenor. This is referred to as the "nugget effect" and it caused by small differences or "nuggets" between the samples.

For the purposes of this study the results are acceptable.

## 11.6 Sample Blanks

A very limited number of the total sample blanks and reference samples analyzed for the Finore 2011 and 2012 drilling program were identifiable in the data provided by Finore and possible to compare and evaluate.

Finore inserted sample blanks into the sample stream reviewed at the frequency of about 1/65 of the total samples. Finore used an olivine diabase prepared by Nortec for blank material. This has not been sent for round robin analysis so the standard values of this diabase are unknown. These types of samples are a good check of the sample preparation system of the laboratory. The results returned were highly consistent values between the samples and indicated that the diabase is well suited for use as a field blank. The consistency of values indicates little or no cross contamination was detected in the limited number of samples reviewed.

## 11.7 Reference Samples

Reference samples were inserted in the sample stream to check the accuracy of the assay laboratories. Reference material was purchased from African Mineral Standards (AMIS) and comprised of two different certified standards prepared from Platreef (AMIS 0056) and Merensky Reef (AMIS 0064) PGE and base metal deposits of the Bushveld Layered Complex, South Africa.

The standards used in this project were AMIS 0056 and AMIS 0064. The ranges of samples two standard deviations from the norm are:

**Table 11-1 Standards used and two Standard Deviation Range**

| | Au (ppm) | Pt (ppm) | Pd (ppm) | Cu (ppm) |
|---|---|---|---|---|
| AMIS 0056 Platreef | 0.11-0.19 | 0.71-0.91 | 0.82-0.94 | 1218-1584 |
| *AMIS 0064 Merensky Reef* | 0.072-0.128 | 1.12-1.36 | 0.52-0.64 | 570-702 |

Detection limits of the laboratories were:

**Table 11-2 Laboratory lower detection limit**

| | Au (ppb) | Pt (ppb) | Pd (ppb) | Cu (ppm) |
|---|---|---|---|---|
| ALS Chemex | 1 | 5 | 5 | 1 |
| Labtium | 1 | 10 | 10 | 1 |

The number of standard samples submitted by Finore in the 2011 and 2012 drilling is limited, due to the small total sample size in the program. The average sample density is about one sample standard or olivine blank in every 25 samples. All standards and blanks that were analyzed by ALS Chemex were returned with values within two standard deviations of the expected average value. A visual confirmation of the values was made, but no graphing completed due to the limited numbers. There appears to be very positive consistency in the values returned, with limited bias.

**Table 11-3 ALS Chemex Variance from AMIS Standard Averages**

| Standard Used and Element | Average and 2 SD Range (ppm) | ALS Chemex Average (ppm) | Difference (ppm) |
|---|---|---|---|
| AMIS 0056 Copper | 1377±107 | 1417 | +40 |
| AMIS 0064 Copper | 664±49 | 652 | -12 |
| AMIS 0056 Gold | 0.16±0.02 | 0.147 | -0.013 |
| AMIS 0064 Gold | 0.11±0.02 | 0.104 | -0.006 |
| AMIS 0056 Platinum | 0.81±0.10 | 0.826 | +0.016 |
| AMIS 0064 Platinum | 1.24±0.14 | 1.254 | +0.014 |

The copper and platinum values used are certified concentrations while gold is indicated by AMIS to be a provisional concentration value.

Watts Griffis and McOuat (2012) (WGM), completed sample analysis and variance comparisons for the Nortec drilling and found the standards used in the earlier drilling campaign to be within industry acceptable ranges.

MP reviewed the sample analysis of the 2011 and 2012 Finore drilling and the First author concludes that the methods used for verification, sample collection, security and data control are within industry standards and adequate for this level of study.

# 12 DATA VERIFICATION

Nickel One has completed no work on the property.

Ville-Matti Seppä, EurGeol. conducted a site visit to Nickel One's LK Project area, now optioned to Nickel One, on November 29, 2017. During this time he:

- saw the drill core in the storage facilities
- looked at drill collars that were left at logging facility
- checked the registry of the region for development plans
- looked at the state of the core logging facilities

Mining Plus went through an extensive data verification process in 2012 of which the first author was one of the co-authors and assisted with various parts and was aware of all data review and the author agrees with the findings of this review.

During the 2012 review the biggest issues revolved around drill collar surveys. The recommendations section of this report contains suggestions for future programs to resolve and avoid these issues.

Data verification is concluded by Mining Plus that at this stage of exploration the quality control of the data collected in the past is adequate for use in project planning and future mining studies.

# 13 MINERAL PROCESSING AND METALLURGICAL TESTING

Mineral processing and metallurgical tests were done by Nickel One's project partner Nortec Minerals Corp in 2009 and 2010 on drill core from the Kaukua deposit. The PGE enriched Cu-Ni sulphide deposits at Haukiaho and Kaukua are believed to host mineralization with a similar metallurgy. Preliminary metallurgical work was carried out on the Haukiaho deposit by North Atlantic Natural Resources in 2005 using surface bolder material as samples. Similar results between the 2005 and 2010 work programs were received.

Preliminary metallurgical tests were carried out by Lakefield Research for North Atlantic Research on the Haukiaho deposit in 2005 on surface sample material to assess bulk sulphide flotation. A summary of these results were documented by GTK in 2005 in a report entitled "The Haukiaho and Kaukua PGE-Cu-Ni-Au prospects in Koillismaa Layered Igneous Complex, Finland".

SGS Metallurgical Lab in Vancouver received two shipments totalling 161 samples from drill core on the project (SGS Lab, 2010) from Nortec Minerals in Finland. The first shipment was various different lithological units. It was used to prepare a Master Composite for flotation tests, as well as separately to test comminution and variability. The second shipment was used to create another Master Composite for Platsol™ metallurgical testing.

Physical testing used to predict the grindability of the various rock units and the power used developed a SAG Power Index (SPI) and Bond BWI for the gabbronorite, peridotite, pyroxenite, and mixed basement composites. These tests showed some variability and more grinding tests are recommended before final design of a mill.

Batch rougher flotation testwork focused on improving copper and nickel performance and investigated the primary grind size and the effect of various reagents. Testing indicates a primary grind size of 80% passing 80 microns and the recommended reagents, SIPX and Danafloat 245 (Dithiophosphate), are adequate for optimum rougher flotation recovery. Further optimizations test were undertaken. Regrind was found to not be beneficial in improving the grades. Guar gum addition was shown to improve the concentrate grade by suppressing non-sulphide gangue flotation.

Results showed that the Master Composite could generate a final concentrate grading 16-17% Cu+Ni and 4% MgO, recovering 86-89% of the Cu, 35-37% of the Ni, 44-50% of the Pt, 68-69% of the Pd and 70-76% of the Au.

The type of concentrate produced could result in limited smelter capability opportunities to enable a high return on concentrate sales. In addition to the copper and nickel grades the MgO content can have a negative impact on potential smelters and the return. Test work on the Kaukua deposit demonstrated that the MgO in the bulk concentrate can be maintained in the acceptable 4% range with the use of depressants. Separation of the concentrates into a copper concentrate and nickel concentrate may result in a nickel concentrate with a grade too low to market due the low head in the deposit that occurs as a recoverable nickel sulphide. Indications from the test work are that a saleable concentrate can be produced by bulk sulphide flotation.

Platsol™ testing on the bulk concentrate was tested to extract the metals. Platsol™ is a single step, pressure leaching process to recover platinum group metals (PGMs), gold and base metals such as Cu, Ni and Co from a variety of high and low grade ores. Initial Platsol™ testing on a bulk concentrate assaying 7.8% Cu, 3.9% Ni, 0.15% Co, 3.3g/t Au, 6.1g/t Pt and 22.8g/t Pd produced extraction efficiencies of 99.8%, 98.8%, 95.8%, 98.6%, 90%, and 98% respectively for Cu, Ni, Co, Au, Pt and Pd under typical Platsol™ conditions: 225°C, 120 minutes retention time, 10 g/l NaCl, and 100 psi oxygen overpressure. Platsol™ is an option if selling the concentrate proves difficult.

# 14 MINERAL RESOURCE ESTIMATES

There is no resource estimate conducted as part of this report.

# 15 MINERAL RESERVE ESTIMATES

Without a mineral resource estimate and advanced economic study reserves cannot be calculated. There are no reserves declared on this project presently.

# 16 MINING METHODS

This is not an advanced stage property report and mining methods are outside the scope of this study. None were reviewed.

# 17 RECOVERY METHODS

This is not an advanced stage property report and recovery methods are outside the scope of this study. None were reviewed.

# 18 PROJECT INFRASTRUCTURE

This is not an advanced stage property report and project infrastructure is outside the scope of this study. None were reviewed.

# 19 MARKET STUDIES AND CONTRACTS

This is not an advanced stage property report and market studies and contracts are outside the scope of this study. None were reviewed.

# 20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL IMPACT

This is not an advanced stage property report and environmental studies are outside the scope of this study, but a summary review of general requirements and a description of the region are added for reference.

Permanent residents inhabit the area of several of the areas including the Kaukua mineralized zones. There are permanent residents within the property boundary and they will be compensated within Finnish legislation.

None of Nickel One's properties are located on nature conservation areas, , however, applied Exploration Permit of Salmivaara 2-11 has approx. 2.3 km of common border with a Natura 2000 area. Natura 2000 is a nature conservation program established according to Finnish national legislation and in accordance to directives given by the European Union.

An Environmental Impact Assessment (ympäristövaikutusten arviointimenettely, YVA) procedure as defined by Finnish national legislation and regulations forms the basis for the environmental permitting process. Nickel One or any preceding property owners have not done base line or other environmental studies to document the present conditions and status of the environment, which would form the first step in the YVA procedure.

# 21 CAPITAL AND OPERATING COSTS

This is not an advanced stage property report and capital and operating costs are outside the scope of this study. None were reviewed.

# 22 ECONOMIC ANALYSIS

This is not an advanced stage property report and economic analysis is outside the scope of this study. No economic analysis was done.

# 23 ADJACENT PROPERTIES

A review of the Finnish government online map was used to check for nearby mineral titles. There were no adjoining properties known to MP in October 2017.

The nearby Mustavaara open pit mine is a different geologically unrelated vanadium-iron-titanium deposit.

# 24 OTHER RELEVANT DATA AND INFORMATION

No other relevant data or information is known to MP.

# 25 INTERPRETATION AND CONCLUSIONS

The KLIC in Finland, hosting Nickel One's LK Project, is one of the largest among the approximately 2.45 Ga old Fennoscandian mafic layered complexes worldwide. The Koillismaa complex has an estimated magma volume greater than 2,000 km$^3$. These volumes of basic magma provide large reservoirs of metal for deposit forming processes and the Fennoscandian complexes are host to a number of known mines including, chrome (Kemi), Fe-Ti-V oxides (Mustavaara) and Ni-Cu-PGE sulphides (Monchegorsk).

The KLIC has a significant potential for economic deposits of the contact-type base metal -PGE type. Nickel One's properties cover about one quarter of the approximate 100 km length of the favourable contact horizon which varies in thickness from metres to several tens of metres.

Higher grade zones can occur where the marginal series mineralization occurs coincidentally with reef style PGE mineralization. The potential for this type of mineralization occurs in the northern Kaukua intrusive block and possibly near the Haukiaho deposit.

The potential for gold mineralization associated with the PGM is good. Historic analysis indicates a significant gold enrichment and could add to the economics of this deposit. This enrichment has been suggested by previous operators to be derived from the underlying metasomatized Archean bedrock.

MP concludes, based on previous exploration results, interpretation and observations, that, further exploration is warranted on the LK project areas. There is a good opportunity to increase the size of the mineralization to an economically positive size.

# 26 RECOMMENDATIONS

## 26.1 Phase 1 Recommendations

**Compilation, research, review and plan:**

- Data Compilation and Review (to be sure we have all the existing data compiled and confirmed for the project and immediate area)
- Technical Review (geophysics and geology; preliminary structural review)
- Exploration Planning (developing specific targets for the recommended diamond drilling)
- Land Tenure Review (review new areas to acquire proximal to the project including areas dropped prior to acquisition)

Based on positive results in the Phase 1 planning Phase 2 to be started:

## 26.2 Phase 2 Recommendations

**The following recommendations for future exploration on the Haukiaho Zone:**

Drilling and further studies:

- The drillhole collars should be surveyed soon after finishing the drill campaign
- Twinning at least three historical drillholes and comparison of analyses is necessary
- Complete detail structural interpretation of the faults, dykes and extension of the mineralization is required
- Drillholes are needed to confirm interpreted structure locations, deposit continuity to surface and the mineralization contact with overburden
- Explore the East zone and include core recovery in the database
- Conduct assay analyses for sulphide nickel
- There is a need to estimate magnesia (MgO) content, magnesia is an impurity for possible nickel grade
- 50 m drillhole spacing is necessary to define the deposit boundary
- Focus of the drilling should be to extend the West Block in a westerly direction and the shallow higher grade area in the eastern side of the Central Block

**The following recommendations for future exploration on the Kaukua Zone:**

- The drillhole collars should be surveyed soon after completing a drill campaign
- Drill deeper holes in the zone beyond ~250 m depth to extend the deposit and possibly increase the overall grade by extending the drilling below the wider and higher grade holes in the existing mineralized area
- Twinning at least three historical drillholes and comparing analyses is necessary
- Complete a detailed structural interpretation of the faults, dykes and extension of mineralization
- Surface sampling or shallow drilling to extend the zone to surface or overburden boundary

- Infill drilling to 25 m centres in the higher grade areas
- Explore the East zone
- Include core recovery in the database
- Conduct assay analyses for sulphide nickel

**The recommended future work should include the following recommendations outside the two defined zones;**

- Indexing and organization of the existing past core boxes in the warehouse to allow quicker access and review for future sampling and independent reviews
- A review of the geology of the other zones, in particular Murtolampi
- Further metallurgical studies
- Insertion of certified samples, blanks and duplicate samples more frequently

A recommended budget in Canadian dollars (C$) is attached below:

**Table 26-1 Budget for Recommended Future Work**

| Recommended Future Work Budget | | | | |
|---|---|---|---|---|
| **Phase 1** | | | | |
| Compilation, research, review and plan | | | | **$100,000** |
| **Phase 2** | | | | |
| Drilling plus study | | | | |
| **Kaukua Zone** | | | | |
| | metres | $ per metre | | |
| Core Drilling | 8,000 | $140 | $1,120,000 | |
| Contingency ~20% | | | $225,000 | |
| Geology and Assays | | | $160,000 | |
| **Sub Total Kaukua** | | | | **$1,505,000** |
| | | | | |
| **Haukiaho Target** | | | | |
| | metres | $ per metre | | |
| Core Drilling | 7,000 | $140 | $980,000 | |
| Contingency ~20% | | | $195,000 | |
| Geology and Assays | | | $160,000 | |
| **Sub Total Haukiaho** | | | | **$1,335,000** |
| | | | | |
| **Other Zones and General studies** | | | | |
| Metallurgy | | | $40,000 | |
| Geology, assays of other zones | | | $20,000 | |
| **Sub Total of Further studies** | | | | **$60,000** |
| **Total** | | | | **$3,000,000** |

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