AN INDEPENDENT COMPETENT PERSONS REPORT ON THE RÖNNBÄCKEN PROJECT IN SWEDEN HELD BY NICKEL MOUNTAIN RESOURCES AB

Prepared For

Nickel Mountain Resources AB

Report Prepared by

srk consulting

SRK Consulting (Sweden) AB

SE514

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AN INDEPENDENT COMPETENT PERSONS REPORT ON THE RÖNNBÄCKEN PROJECT IN SWEDEN HELD BY NICKEL MOUNTAIN RESOURCES AB

Executive Summary

This Competent Persons Report (report or CPR) comprises SRK Consulting (Sweden) AB (SRK)'s independent technical review of the Rönnbäcken Nickel Project (the Project) held by Nickel Mountain Resources AB (Nickel Mountain or the Company). SRK has been mandated to prepare this CPR on behalf of the Company and its advisors in connection with the proposed admission of the Company to trading on the Nordic Growth Market (NGM) owned by Börse Stuttgart.

In addition to the Rönnbäcken Nickel Project, SRK understands the Company owns two exploration permits covering early stage exploration properties in the municipalities of Lycksele and Storuman. These exploration assets have not been reviewed by SRK as part of this CPR.

The Company is a subsidiary of Archelon AB, an exploration company focused on building a portfolio of early stage exploration assets. Archelon AB is listed on AktieTorget, ticker symbol ALON B.

The Project is located in the northwest part of Sweden, about 20 km to the south of the village of Tärnaby, Västerbotten County. The Project comprises three discrete sulphide nickel deposits; Rönnbäcknäset, Vinberget and Sundsberget.

The Project is at an early stage of development, having been the subject of an independent scoping level study (Preliminary Economic Assessment), prepared by SRK in December 2011. Sufficient drilling has been undertaken on the Project to support the estimation of Mineral Resources in the Measured, Indicated and Inferred categories.

The Company has completed a significant amount of well-considered and systematic exploration and engineering on the Project, but has suspended further work in light of recent metallurgical testwork results and current market conditions.

In this report, SRK presents a review of work undertaken by the Company on the Project, including:

- Current land tenure;
- The 2011 PEA; and
- Certain technical studies carried out on the Project since completion of the 2011 PEA.

The observations, comments and results of technical analyses presented in this report represent SRK's opinions as of August 2016 and are based on the information currently available and the work as described in this report.

SRK notes however that the economic analysis as presented in this section is an extract from the 2011 PEA and in particular, the capital and operating costs, metal price and exchange rate assumptions reflect SRK's opinion as at December 2011. These assumptions and the resulting Project valuation have not been updated to today's terms as part of this report.

Further, the 2011 PEA economic analysis was partially based on Inferred Mineral Resources, and was preliminary in nature. Inferred Mineral Resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves. There is no certainty that the production and economic forecasts on which this Preliminary Assessment is based will be realised.

Since 2011, the Company has undertaken several separate technical studies focused primarily on improving confidence in geology, process metallurgy and environmental issue, as part of the initial stages of a PFS. SRK has reviewed these studies and considers the most material of these to be the Tata Steel report (May 2015). The findings of this work suggest that significant additional capital expenditure may be required in order to derive revenue from the sale of by-product magnetite concentrate.

SRK considers that further work would be required to update the 2011 economic analysis to today's terms and to assess the impact of revised technical, cost and revenue assumptions on the Project's overall viability. SRK understands that since 29 June 2015, the Company has suspended work on the Project until further notice.

1 INTRODUCTION

1.1 Background

This Competent Persons Report (report or CPR) comprises SRK Consulting (Sweden) AB (SRK)'s independent technical review of the Rönnbäcken Nickel Project (the Project) held by Nickel Mountain Resources AB (Nickel Mountain or the Company). SRK has been mandated to prepare this CPR on behalf of the Company and its advisors in connection with the proposed admission of the Company to trading on the Nordic Growth Market (NGM) owned by Börse Stuttgart.

In addition to the Rönnbäcken Nickel Project, SRK understands the Company owns two exploration permits covering early stage exploration properties in the municipalities of Lycksele and Skellefteå. These exploration assets have not been reviewed by SRK as part of this CPR.

The Company is a subsidiary of Archelon AB, an exploration company focused on development of the Project and other early stage exploration assets. Archelon AB is listed on AktieTorget, ticker symbol ALON B.

The licences that contain the Project are wholly owned by Nickel Mountain.

The Project is at an early stage of development, having been the subject of an independent scoping level study (Preliminary Economic Assessment), prepared by SRK in December 2011. Sufficient drilling has been undertaken on the Project to support the estimation of Mineral Resources in the Measured and Indicated categories.

The Company has completed a significant amount of well-considered and systematic exploration and engineering on the Project, but has suspended further work in light of recent metallurgical studies, market research and current market conditions.

In this report, SRK presents a review of work undertaken by the Company on the Project, including recent studies undertake since the 2011 PEA.

1.2 Basis of Opinion

This report is dependent upon technical, financial and legal input. The technical information provided to and taken in good faith by SRK has, unless where explicitly stated by SRK, not been independently verified by it by means of re-calculation. SRK has, however, conducted a review and assessment of all technical issues material to the project, specifically:

- An SRK authored PEA completed in December 2011; and
- Desktop based reviews undertaken by SRK on behalf of the Company in March 2014 and subsequently October 2015, to assess work completed on the Project subsequent to completion of December 2011 PEA.

SRK notes that whilst the Company has advanced certain technical aspects of the Project subsequent to completion of the PEA (mainly with regards to metallurgical testwork), the impact of this work has not been integrated into an updated financial model and/or assessed in the context of the Project as a whole.

Much of the background information used to create this report was sourced from data made available by the Company and discussions with directors, employees and consultants of the Company. At the time of writing, SRK is not aware of any material changes to the Project or of the availability of any additional information that is not captured as part of this CPR. SRK's most recent site visit was undertaken in February 2011.

1.3 Qualifications of Consultants

SRK is part of the international consulting group, SRK Consulting (Global) Limited (the SRK Group). The SRK Group comprises some 1,500 staff, offering expertise in a wide range of resource engineering disciplines.

The SRK Group's independence is ensured by the fact that it holds no equity in any project and that its ownership rests solely with its staff. The SRK Group has a demonstrated track record in undertaking independent assessments, project evaluations and audits, Mineral Experts Reports, Competent Persons' Reports, Independent Valuation Reports and independent feasibility studies to bankable standards on behalf of exploration and mining companies and financial institutions worldwide. This report is based on work carried out by a team of consultants based at the SRK Group offices in Skellefteå (Sweden) and Cardiff (United Kingdom). These consultants are specialists in the fields of mineral exploration, resource estimation, mining, processing and in the development of mining projects.

Neither SRK nor any of its employees employed in the preparation of this report have any beneficial interest in the assets of the Company. SRK will be paid a fee for this work in accordance with normal professional consulting practice.

The individuals responsible for this report have extensive experience in the mining industry and are members in good standing of appropriate professional institutions.

The key members of SRK's Project Team comprised:

- Mr Johan Bradley, FGS CGeol, EurGeol, MSc, Principal Geologist with SRK; and
- Dr Mike Armitage, C Eng, C Geol, MIMMM, FGS, Corporate Geologist and Chairman of the SRK Group.

The Competent Person for this report is Mr Johan Bradley, a Chartered Geologist and Fellow of the Geological Society of London. Mr. Bradley is a full time employee of SRK and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration. Mr. Bradley was the main author of the 2011 PEA and acted as a Qualified Person for the purposes of National Instrument 43-101, with responsibility for the sections concerning geology and economic analysis. National Instrument 43-101 ("NI 43-101") is a national instrument for the Standards of Disclosure for Mineral Projects within Canada. The Instrument is a codified set of rules and guidelines for reporting and displaying information related to mineral properties owned by, or explored by, companies which report these results on stock exchanges within Canada.

1.4 Limitations, Reliance on Information, Declaration, Consent, Copyright and Cautionary Statements

1.4.1 Introduction

This report has been prepared by SRK and will be included in an information memorandum to be published by the Company in connection with the Listing.

SRK is responsible for this report and declares that it has taken all reasonable care to ensure that the information contained in this report is to the best of its knowledge, in accordance with the facts and contains no material omissions.

While SRK has confirmed that the details of the Company's licences correspond with records published by the Mining Inspectorate, it has accepted this information in good faith and has not conducted any legal due diligence on the ownership of the licences themselves or considered any appeal processes that may be on-going.

The work completed to date by the Company on the Project has not included the completion of a pre-feasibility study (PFS) or feasibility study (FS). No Mineral Reserves have been delineated as approved by the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") and adopted by NI 43-101.

1.4.2 Limitations

SRK does not assume any responsibility and will not accept any liability to any other person other than the addressees for any loss suffered by any such other person as a result of, arising out of, or in connection with the CPR or statements contained therein, required by and given solely for the purpose of complying with European Securities and Markets Authority (ESMA) recommendations and consenting to inclusion of the CPR in the information memorandum.

1.4.3 Reliance on Information

SRK believes that its opinion must be considered as a whole and that selecting portions of the analysis or factors considered by it, without considering all factors and analyses together, could create a misleading view of the process underlying the opinions presented in this CPR. The preparation of a CPR is a complex process and does not lend itself to partial analysis or summary.

1.4.4 Declaration

SRK will receive a fee for the preparation of this report in accordance with normal professional consulting practice. This fee is not contingent on the outcome of the Listing and SRK will receive no other benefit for the preparation of this report. SRK does not have any pecuniary or other interests that could reasonably be regarded as capable of affecting its ability to provide an unbiased opinion in relation to the Project and the projections and assumptions included in the various technical studies completed by the Company, opined upon by SRK and reported herein.

Neither SRK, the SRK Competent Person who is responsible for authoring this CPR, nor any Directors of SRK have at the date of this report, nor have had within the previous two years, any shareholding in the Company or advisors of the Company. Consequently, SRK, the SRK Competent Person and the Directors of SRK consider themselves to be independent of the Company.

1.4.5 Copyright

Copyright of all text and other matter in this document, including the manner of presentation, is the exclusive property of SRK. It is an offence to publish this document or any part of the document under a different cover, or to reproduce and/or use, without written consent, any technical procedure and/or technique contained in this document. The intellectual property reflected in the contents resides with SRK and shall not be used for any activity that does not involve SRK, without the written consent of SRK.

2 LOCATION, PROPERTY DESCRIPTION AND MINERAL TENURE

2.1 Location

The Rönnbäcken Nickel Project is located 40 km by road south-southeast of Tärnaby, Storuman Municipality, Västerbotten County, as illustrated in Figure 2-1. The properties are centred at approximately:

- RT 90 2.5 gon v; 148200E, 726600N
- SWEREF 99 lat long (WGS84); north latitude 65°29'43"; west longitude 15°24'58"

Figure 2-1: Rönnbäcken property location in Scandinavia

The nearest airport to the Project is Hemavan Tärnaby Airport in Hemavan, 15 km northwest of Tärnaby and roughly 40 km from the project area. The airport has daily flights to and from Stockholm depending on the season. The Project can be accessed from both north and south from highway E12. From the north via the town Tärnaby (E12), it is necessary to travel west for 9 km and then on gravel roads approximately 31 km passing the community of Ängesdal on the way to the project site. From the E12 in the south, over the Ajaure hydro dam, it is approximately 14 km of gravel road to the Project site.

The elevation within the exploration permits ranges from 395 metres above sea level (masl) to 666 masl; that is, a difference of about 270 m from the lowest to the highest point. The exploration permits are in low mountain terrain which for the most part is covered by coniferous forest, principally spruce and pine trees, except for some higher areas in which birch trees predominate.

2.2 Mineral Tenure

2.2.1 Swedish Mining Law

The Mining Inspectorate of Sweden (Sw: Bergsstaten) (the “Mining Inspectorate”) is the authority responsible for the administration of mineral resources in Sweden, and comes under the Ministry of Enterprise, Energy and Communications. It reports to and receives administrative and other support from the Geological Survey of Sweden (the central government agency responsible for questions relating to soil, bedrock and groundwater in Sweden). The head of the Mining Inspectorate is the Chief Mine Inspector, who is appointed by the Government. The functions of the Mining Inspectorate are to issue permits under The Minerals Act (1991:45) (the “Minerals Act”) for the exploration and exploitation of mineral deposits and to ensure compliance with the Minerals Act.

The right to dispose of “concession minerals” in Sweden is governed by the Minerals Act. The minerals referred to in the Minerals Act, about 69 in number, are those usable industrially and of economic importance, as well as those requiring extensive, systematic and often scientifically based prospecting methods. Minerals not governed by the Minerals Act, such as quartz, olivine and limestone, are the property of the landowner. The purpose of the Minerals Act is to define the preconditions for the exploration and extraction of concession minerals, regardless of land ownership. The Minerals Act is based on the concession system, but also incorporates significant elements of the claim system.

Exploration is subject to the grant of an exploration permit (Sw: undersökningstillstånd), and the extraction/exploitation of concession minerals is subject to the grant of an exploitation concession (Sw: bearbetningskoncession). Any area of land above ground needed for a mine, whether open pit or for underground extraction, needs to be designated for this purpose in a special land designation procedure (Sw: markanvisning). The granting of permits under the Minerals Act is an administrative process in which the Mining Inspectorate is the official body granting permits. The initiative in the permit granting process lies wholly with the applicant under the specified application procedure. All land, regardless of type of ownership, is, in principle, open for exploration permit applications. Prospecting or exploration may not, however, be conducted in certain areas, for example national parks. A number of “impediment provisions” requiring special exemptions also apply in a number of areas specifically protected under the Swedish Environmental Code (Sw: Miljöbalken) (the “Environmental Code”), such as virgin mountain areas and Natura 2000 areas.

There are four types of permits necessary to develop a deposit from the exploration stage to the development stage in Sweden. These are: **exploration permits**, **exploitation concessions**, **environmental permits**, and **building permits**.

The requirements for an **exploration permit** to be granted include that there is reason to assume that exploration of the area may lead to a finding of concession minerals and that the applicant does not obviously lack capacity or intent to carry out suitable exploration and has not previously been deemed unsuitable to carry out exploration.

An exploration permit is valid for a period of three years. It can then be extended for a maximum of a further three years, provided that the Mining Inspectorate is satisfied that suitable exploration work has been carried out or the exploration permit holder has acceptable reasons for not having carried out exploration work and makes it probable that the area will be explored during the additional time applied for. After the first extension, it can be extended again for another maximum period of four years, if there are special reasons to support such an extension. Thereafter, it can be extended for another maximum of five years, if there are particular reasons therefore; for example that the exploration permit holder shows that significant exploration work has been carried out and that further exploration is likely to lead to the granting of an exploitation concession. The maximum licensing time is 15 years. The area covered by the exploration permit must not be so large that suitable exploration is not feasible. If more than one party has applied for an exploration permit for the same area, the party that first applied has precedence on the principle of first-come, first-served as found in the claim system.

When an exploration permit has been granted, the landowners and other claimholders affected must be served with, and acknowledge receipt of, a copy of the decision. If the exploration permit is not granted, the applicant has a right to appeal. If the exploration permit is granted, affected landowners and other right holders (such as lessees or holders of reindeer herding rights) have a right to appeal.

The holder of an exploration permit has an exclusive right of exploration for the minerals included in the exploration permit in the area covered by the exploration permit. Before exploration can be started, the exploration permit holder must have a valid work plan, describing the planned exploration work, a timetable for the work and an assessment of the impact it may have on public interests and private rights. The work plan must be notified to affected landowners and other right holders and becomes valid if no objections are raised to the exploration permit holder within three weeks. If the exploration permit holder and the landowners/right holders cannot agree on the work plan, the matter can be decided upon by the Chief Mine Inspector.

Exploitation of concession minerals requires granting of an **exploitation concession** under the Minerals Act. Exploitation is defined in the Minerals Act as the extraction and utilization of a concession mineral. An exploitation concession shall be granted provided that, among other things, a mineral deposit that can likely be exploited commercially has been discovered and the location and nature of the deposit does not make an exploitation concession unsuitable.

If there is more than one applicant for an exploitation concession for an area, the holder of an exploration permit for the area gets priority if the exploration permit and the exploitation concession application concern the same minerals.

An Environmental Impact Assessment ("EIA") concerning issues defined in 3rd and 4th chapter of the Swedish Environmental Code (1998:808) must be submitted together with an exploitation concession application. In the exploitation concession procedure, provisions concerning the use of land and water areas that are of national interest under the Environmental Code are examined. The Chief Mine Inspector decides upon the compatibility of mining operations with national interests after a consultation with the County Administrative Board. The decision by the Chief Mine Inspector in this matter is binding for subsequent assessments of the mining operations under the Environmental Code, which means that the impact on national interests is not re-examined in the procedure to obtain an environmental permit ("Environmental Permit"). An exploitation concession is granted for a maximum of 25 years. The exploitation concession can then be renewed for ten years at a time, provided that regular exploitation is in progress. It can also be renewed if preparation of the mine, exploration or development work is being undertaken, or if there is a public interest in such renewal.

Under the Minerals Act, the holder of an exploitation concession must pay an annual minerals fee (royalty) amounting to 0.2% of the value of the minerals extracted during the year. Three quarters of the fee will accrue to landowners within the exploitation concession area and one quarter will accrue to the State to be used for research and development in the field of sustainable development of mineral resources. If there are two or more real properties within the exploitation concession area, the fee payable to the property owners is determined according to each property's share of the area. In comparison to the royalties levied in other countries with developed mining industries, Sweden's rate is very low.

After being granted an exploitation concession, the next step in developing a mine is to apply to the Environmental Court (*Sw: Miljödomstolen*) for an **Environmental Permit** under the Environmental Code. The Environmental Permit will define the conditions for the design, building, operation and closure of the mine. The application must be supported by a comprehensive EIA and formal consultations with concerned authorities and stakeholders must take place. When the application is submitted, the Environmental Court will send it together with the EIA to authorities and stakeholders for comments. The Swedish Environmental Protection Agency, the County Administrative Board and the local municipality are normally among the authorities consulted. If construction works affecting water (such as tailings dam, clarification pond) will be included in the Environmental Permit application, the applicant must have a right of disposition of the water before the application is submitted. Right of disposition of the water is normally obtained through an acquisition of the land where the water works will be undertaken or through an easement granted either by the landowner or by an authority.

Land has to be designated for exploitation above ground. The **land designation** procedure takes place at the request of the exploitation concession holder, by way of special application to the Mining Inspectorate. The procedure defines the land within the exploitation concession area that the exploitation concession holder may use for exploiting the mineral deposit. Land outside the exploitation concession area may also be designated for activities connected with mining operations, including among other things, for plants, roads, buildings and structures for divesting water from the mine. If the exploitation concession holder, the landowners and other right holders can agree, land is to be designated in accordance with their agreement. If no agreement is reached, the Chief Mine Inspector will decide which land should be designated.

A **building permit** for building infrastructure is needed under The Planning and Building Act for the development of a mine. The local municipal authority has authority to issue such permit.

2.2.2 Current Mineral Tenure

This section discusses the licences currently held by the Company. While SRK has confirmed that the details of the Company's licences correspond with records published by the Mining Inspectorate, it has accepted this information in good faith and has not conducted any legal due diligence on the ownership of the licences themselves or considered any appeal processes that may be on-going.

The Project currently comprises three discrete deposits: from south to north Vinberget, Rönnbäcknäset and Sundsberget. These deposits are covered by three non-contiguous exploitation concessions and three exploration permits (Figure 2-2).

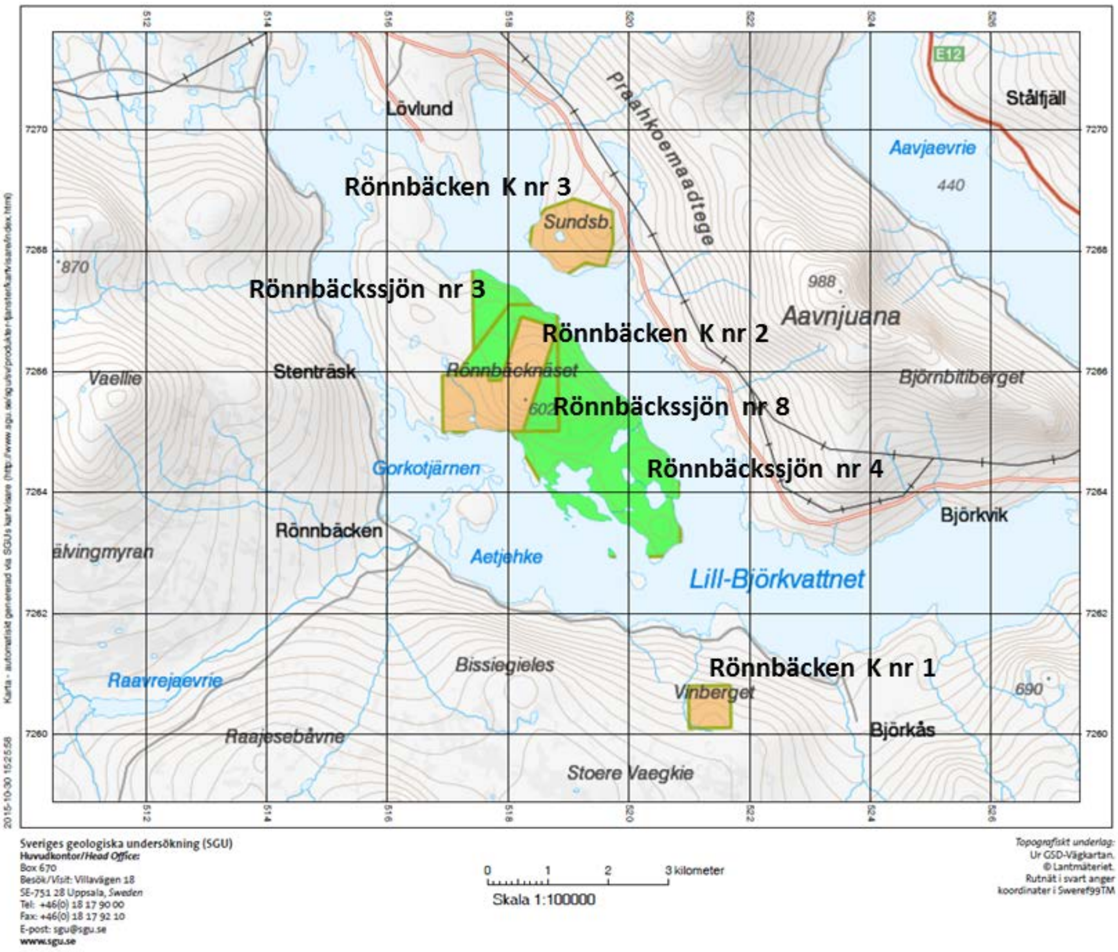


Figure 2-2: Rönnbäcken exploitation concessions (orange polygons) and exploration permits (green polygons).

Table 2-1 and Table 2-2 summarize the status of the Project exploration permits and exploitation concessions. SRK notes the expiry dates of these exploration permits and understands the Company's intention is to let these lapse at the end of 2016. Notwithstanding this, the Mineral Resources for the Project are contained within the existing exploitations concessions and the reduction in ground holding is not considered to be material.

Table 2-1: Exploration permit summary table

Exploration Permit Number	Permit Name	Grant Date	Expiry Date	Area (ha)
2007:339	Rönnbäcksjön nr 3	2007-12-11	2016-12-11	72
2007:340	Rönnbäcksjön nr 4	2007-12-11	2016-12-11	642
2010:163	Rönnbäcksjön nr 8	2010-11-04	2016-11-04	130

Table 2-2: Exploitation concession summary details

Exploitation concession	Application Date	Grant Date	Expiry Date	Area (ha)
Rönnbäcken K nr 1	2010-02-12	2010-06-23	2035	49
Rönnbäcken K nr 2	2010-02-12	2010-06-23	2035	196
Rönnbäcken K nr 3	2011-12-23	2012-01-01	2037	144

2.2.3 SGU Classification

Notably, the Geological Survey of Sweden (SGU) classified the Rönnbäcken nickel deposits as "an Area of National Interest for Mineral Extraction" on 25 August 2010. Deposits of national interest are assessed and selected by SGU with reference to certain criteria relating to, for example, community development and emergency supply preparedness. Chapter 3, Section 7, paragraph 2, of the Environmental Code states that for such areas, the extraction interest shall be protected against measures that may be prejudicial to extraction.

2.2.4 Additional Permits and Payments

SRK is not aware of any special royalties in addition to the 0.20% royalties prescribed by the Swedish Mining Act, back-in-rights, payments or any other agreements associated with the Rönnbäcken Project. SRK is not aware of any environmental liabilities associated with the Rönnbäcken project.

2.2.5 Surface Rights

For the purposes of this report, the exploration permits and exploitation concessions (Table 2-1 and Table 2-2) are all that are required to provide the Company with exclusive mineral rights to the Project. Notwithstanding this, SRK notes that final access to land and water areas is a process of negotiation that the Company will need to undertake and must be finalized before filing an application for an environmental permit. No estimate of the cost of this has been included in the Project valuation prepared as part of the 2011 PEA.

3 GEOLOGICAL SETTING

The Project is located in the Swedish Caledonian mountains and is hosted by rocks which formed between 400 and 510 million years ago. The geology in the Rönnbäcken area is dominated by the Köli Nappe consisting of phyllite and felsic to mafic metavolcanics and nickel bearing ultramafic rocks Figure 3-1. The ultramafic rocks occur as lenses of various sizes over the Project area together covering an area of roughly 15 km^2.

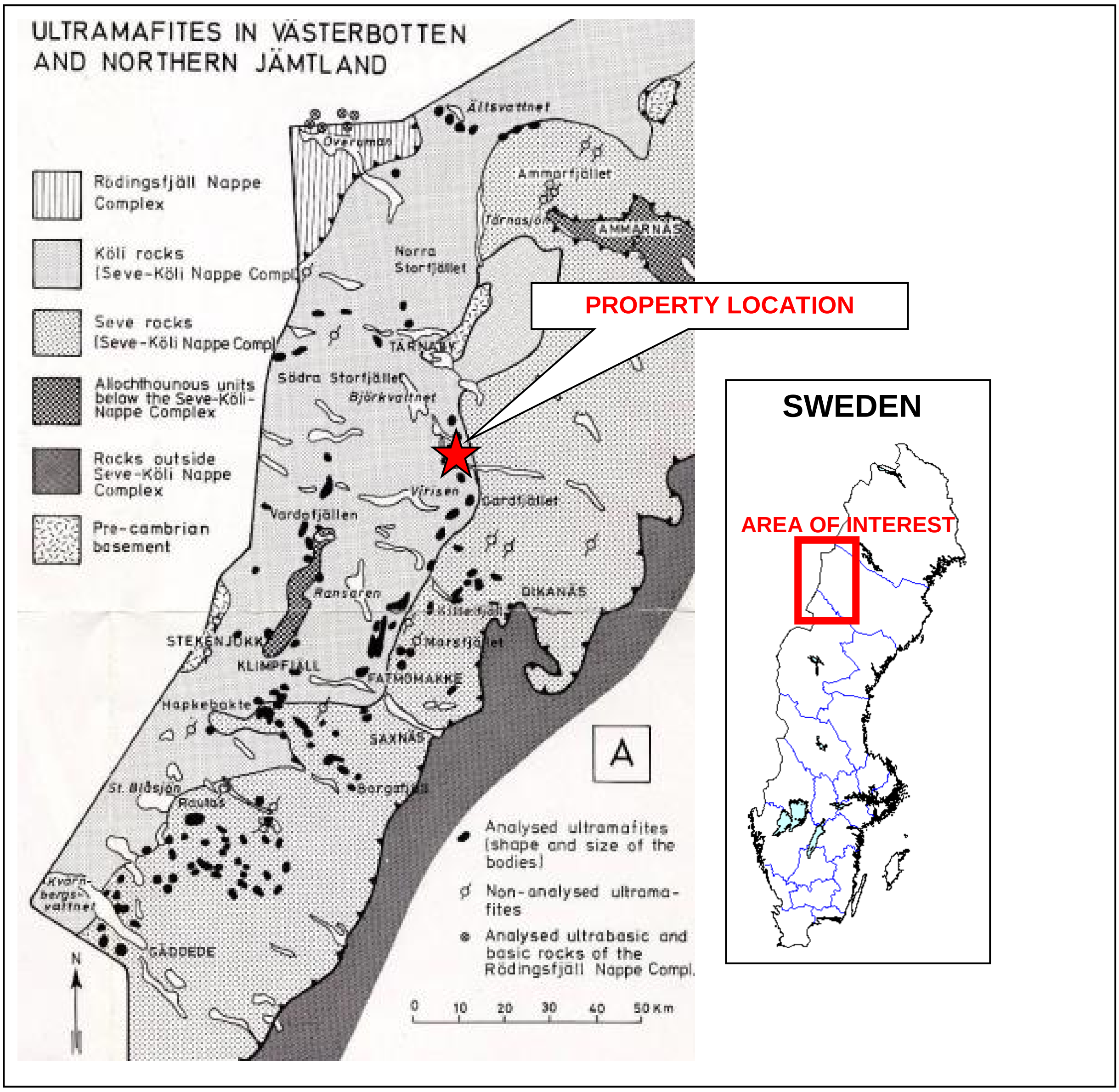


Figure 3-1: Location of the Rönnbäcken ultramafics and other ultramafics in Västerbotten and Northern Jämtland County

The nickel-sulphide mineralization which is the target of the proposed mining operation is hosted by serpentines, tectonically displaced from the mantle into the crust, and is considered to be of epigenetic origin and to have formed during the release of nickel from olivine through a process of alteration and serpentinization of the precursor dunite and peridotite rocks.

The Rönnbäcknäset deposit comprises two separate serpentinized orebodies separated by between 80 m and 140 m of chloritic phyllite. The orebodies dip at approximately 45° west in the north and flatten out into a bowl shaped geometry to a dip of roughly 30° north in the southwest. The deposit has a strike length of roughly 2.4 km and a width of up to 400 m at its widest point.

The Vinberget deposit comprises a single homogeneous serpentinized tabular-shaped orebody (up to 350 m thick, 300 m wide and 700 m long) which dips steeply to the northeast and plunges to the northwest.

The Sundsberget deposit consists of a single serpentinite body that strikes in a north-northeast to south-southwest orientation and dips at roughly 30° to the west northwest. The deposit extends for roughly 1.2 km along strike and is between 500 m and 600 m in width.

4 SUMMARY OF 2011 PEA

4.1 Introduction

This section of the CPR presents a summary of the results of the PEA produced in 2011.

SRK notes that the economic analysis as presented in this section is an extract from the 2011 PEA and in particular, the capital and operating costs, metal price and exchange rate assumptions reflect SRK's opinion as at December 2011. These assumptions and the resulting Project valuation have not been updated to today's terms as part of this report.

4.2 Exploration and Drilling

Exploration programmes carried out to date at the Project have comprised geological mapping, outcrop sampling, ground magnetic surveys, magnetic susceptibility surveys and drilling programmes.

A summary of drillholes, total metres drilled and associated total number of nickel assays (ammonium citrate method) used to derive the Mineral Resource estimates presented in this report is summarised in Table 4-1 below.

Table 4-1: Summary of drillholes by deposit used in this Mineral Resource estimate (Ni_AC = Nickel in sulphide by ammonium citrate leach and ICP-AES finish)

Deposit	Number of drill holes	Metres drilled	Metres assay by Ni_AC method
Rönnbäcknäset	54	7,770	5,124
Vinberget	38	7,602	6,723
Sundsberget*	33	7,111	5,856

The core was photographed and logged at the Company's logging facility by staff geologists and technicians. All of the Company's drill cores were logged by staff members or sub-contractors to capture relevant geological and geophysical (susceptibility logs) information. The geologic logging intervals were based on lithological variations in the rock though a qualitative estimate of fibrous asbestiform mineral content was also noted.

Rock Quality Designation (RQD) measurements were taken on the basis of the assay intervals (roughly every 2 m).

Density measurements were carried out by Company staff members or sub-contractors at the core logging facility using the water immersion method on unsealed drill core. Within the serpentinite, density measurements were taken at every assayed interval (every 2 m). Representative density measurements were also taken for the main waste rock lithologies. The Company database contains a total of 2,701 measurements for Rönnbäcknäset, 3,416 measurements for Vinberget and 2,972 measurements for Sundsberget.

All core logging data was recorded onto paper and later entered into Microsoft Excel spreadsheets. A hardcopy check list was prepared and completed as standard for each drillhole by the supervising geologist / technician to maintain data capture protocols.

On the basis of the Company's drilling, mineralisation wireframes were digitized by SRK for Rönnbäcknäset and Vinberget using Datamine software.

Rönnbäcknäset is the larger of the two mineralised wireframes and contains the most drillhole intercepts. It measures 2.5 km along strike, 1.6 km on a 16^0 azimuth, in the northwest, and 1.2 km along strike on an 85^0 azimuth in the southeast. The south-eastern portion has a maximum true thickness of roughly 350 m and dips at 25^0 towards the north-northwest, while the northeast portion has a maximum true thickness of roughly 60m and dips at 40^0 towards the west-northwest.

The Rönnbäcknäset wireframe was modelled to an elevation of -1m (ASL), and contains 337.4 Mm^3 of material.

Vinberget measures 686 m along strike, on an azimuth of 321º, and 300 m across strike at the widest point. It was modeled to a depth of 307m (ASL), with a sub-vertical dip. The Vinberget wireframe contains 22.3 Mm^3 of material.

On the basis of the Company's drilling, a single mineralisation wireframe was digitized by the Company for Sundsberget again using Datamine software. Sundsberget measures 1,200 m along strike on an azimuth of 10º, and 500 to 600 m across strike at the widest point. It was modeled to a maximum down dip depth of approximately 500 m from surface, with a dip of 40° to the west and contains 183.5 Mm^3 of material.

4.3 Sample Preparation, Analyses, and Security

4.3.1 Samples for Assay

All serpentinite core intersections were sampled, along with most of the weakly mineralised mafic unit at Rönnbäcknäset to ensure that all sulphide nickel mineralisation was entirely captured.

The core was marked for sampling by Company staff geologists or sub-contracting technicians, starting at the contact of the mineralization and then at two metre intervals beginning at the first even numbered metre. Consequently every sample at the footwall and hanging wall of the mineralized material represents a non-regular length.

Two metre sample intervals were initially selected to better understand the distribution of the accessory mineralization and to provide sufficient detail to correlate possible layered ultramafics. Sample intervals and numbers were either recorded onto paper and then entered into a Microsoft Excel spreadsheet, or entered directly into Microsoft Excel. Once assay results were issued by the laboratory (Labtium) in Excel format, they were merged with the sample interval data in Excel by either the Company's exploration manager or the project geologist. The merged files were imported into Micromine and validated.

4.3.2 Sample preparation

The sample preparation was conducted by a company independent of the Company, namely ALS Chemex in Piteå, Sweden.

The aim of the sampling has been to delineate mineralization that could be recovered by established metallurgical methods, i.e., flotation of sulphide minerals. The adapted assay technique was therefore a partial-leach that selectively dissolves nickel in sulphides and leaves the nickel bearing silicates and oxides unaffected. As the sulphur content is low, analyses of sulphur must be performed by methods with low detection limits, better than or equal to 0.01% S.

As the selective nickel leaching technique is not an accredited method for assaying nickel in sulphides, other accepted methods were included in the assay package such as Aqua Regia leach and Near Total Four Acid Leach. To support the values of the grades of nickel in sulphides, mineralogical studies and metallurgical tests were also carried out by the Company and are discussed elsewhere in this report.

Sulphur assays from Four Acid and Aqua Regia digestion give higher sulphur values, when compared with associated sulphur-AC results. Sulphur assays using the ammonium citrate technique are thought to dissolve the free milled and the exposed sulphides at oxide and silicate mineral surfaces and thereby present a better indication of the nickel sulphides amenable to recovery by conventional milling and flotation techniques.

4.3.3 Chain of Custody and Sample Preparation

The drill contractor was responsible for transportation of the drill core from site to the Company's core archive and logging facility in Skellefteå.

During the logging stage, the core was measured and sample intervals selected by staff geologists or sub-contracting technicians for sample analyses. These intervals were marked on the core and on the core boxes.

ALS Sweden AB, a subsidiary of ALS Chemex (ALS), was contracted to split the core and carry out the sample preparation. A separate room for sample preparation was set up for the Project as a precaution against the health risks associated with asbestos.

The samples were logged in the tracking system, weighed, and split with a diamond saw (Almonte Core Saw). One half of the sawed core was treated according to ALS code PREP-31, which included drying and crushing to 70% -2 mm (Tyler 9 mesh, US Std Nr 10). A split of up to 300 g was taken and pulverized to 85% -75 µm (Tyler 200 mesh, US Std Nr 200). The 300 g sample pulp was then split in two or three subsamples and sent to two different primary assay laboratories (Labtium and ALS Chemex). A third laboratory (ACME) was used for the control assays.

4.4 Sample Analysis

Two assay laboratories were contracted for the analyses: Labtium in Rovaniemi, Finland, and ALS in Vancouver, Canada. Check analyses were mainly performed by Acme Analytical Laboratories Ltd (Acme) in Vancouver, Canada. The analyses carried out by the three laboratories are summarised and Table 4-2 below.

Table 4-2: Analytical methods 2008-2009, Vinberget & Rönnbäcknäset

Lab	Lab code	Sample digestion	Type	Sample size (g)	No. Analyses	Main interest	Use
ALS Chemex	ME-MS81	Four-acid	Near total	0.25	38	Ni, Co, S	Original
	ME-4ACD81	Four-acid	Near total	0.25	9	Ni, Co	Original
	ME-ICP06	Four-acid	Near total	2	14	Major Element	Original
	ME-ICP61	Four-acid	Near total	0.25	33	Ni, Co, S	Original
	PGM-ICP23	Fire Assay	Total	30.00	3	Au, Pt, Pd	Original
Labtium	240P	H2O2+NH4 citrate	Sulphides	0.15	3	Ni, Co	Original
	510P	Aqua regia	Partial	0.15	14	Ni, S	Original
Acme	G7TD	Hot four-acid	Near total	0.50	23	Ni, S	QC
	8NiS	H2O2+NH4 citrate	Sulphides	1.00	1	Ni	QC
Labitum	307P	HF +HClO4	Near total	0.20	13	Ni	QC
	720P	Na2O2 Fusion	Total	0.20	12	NI, S	QC

Table 4-3: Analytical methods 2009-2010, Sundsberget

Lab	Lab code	Sample Digest	Digest Type	Analysis method	Samp. size (g)	No. Analyses	Main interest	Use
ALS Chemex	ME-4ACD81	Four acid	Near total	ICP-AES	0.25	9	Ni, Cu, Co	Original
	ME-MS81	Lithium borate fusion	Total	ICP-MS	0.2	38	Ni, Cu, Co	Original
	ME-ICP06	Lithium borate fusion	Total	ICP-AES	0.2	13	Whole rock	Original
	ME-MS42	Aqua regia	Near total	ICP-MS	0.5	6	As, Bi, Hg, Sb, Se, Te	Original
	OA-GRA05	Fusion	Total	Gravimetric	1	1		Original
	TOT-ICP06	Calculation based on LOI and ME-ICP06				1		Normal
	PGM-ICP23	Fusion	Total	Fire Assay (ICP-AES)	30	3	Au, Pd, Pt	Original
	C-IR07	High temp evolution	Total	Leco furnace		1	C	Original
	S-IR08	High temp evolution	Total	Leco furnace		1	S	Original
Labtium	240P	H2O2 + NH4 citrate	Sulphides	ICP-AES	0.15	4	Ni-AC, S-AC	Original
Acme	7TD	Hot four acid	Near total	ICP-AES	0.5	22	Ni, Cu, Co	QC
	8NiS	H2O2 + NH4 citrate	Sulphides	ICP-AES	1	1	Ni-AC, S-AC	QC

The database received by SRK from the Company, contained a total of 6,747 analyses, of which 6,125 related to primary core samples while 622, or 10%, comprised a variety of QA/QC analyses. This is considered by SRK to be a reasonable number of check assays. A summary of the analyses is presented in Table 4-4 below. MRG report a total of 293 QA/QC analyses, being 10% of the assays, for Sundsberget.

Table 4-4: Analysis Summary

Deposit	Core	Duplicates	UM-4 (reference material)	Blank	Acme check	Coarse reject	Sub-total QC	Total assay	Labtium internal duplicates
VIN	3419	107	68	76	68	15	334	3753	130
RON	2706	94	58	66	56	14	288	2994	105
Total	6125	201	126	142	124	29	622	6747	235
SUN*	2934	116	72	72	33	-	293	2934	-

**MRG data*

SRK notes that for low grade sulphide deposits such as Rönnbäcken, the silicate nickel contribution to the nickel assay can be significant. For this reason the Company has elected to characterise both the total nickel content and the nickel content in sulphide, the latter by partial leach methods, namely Labtium's 240P method (ammonium citrate and hydrogen peroxide).

4.5 Quality Assurance and Quality Control (QAQC)

The Company Quality Control/Quality Assurance (QA/QC) programme comprised submitting sample blanks, standard reference samples, sample duplicates, and inter-laboratory check samples. The approximate rate of sample submissions is summarized in Table 4-5 below.

Table 4-5: QC Sample Frequency

Sample Type	Frequency
Blank	1/50
UM-4 (Reference material)	1/50
Duplicate	1/25
Interlab Check Assays	1/50

Additional checks were done on near total and total nickel on coarse rejects. In addition, the laboratories performed analyses of duplicates, in-house standards, etc, which were also forwarded to the Company. The QA/QC results from the laboratory were checked as they were returned.

With regards overall data quality, in SRK's opinion, the Company has developed appropriate logging and sample preparation procedures that enable the logical flow of the core from the drill rig through to sample dispatch; the core shed, logging, sampling and preparation facilities are clean, organised and appear well managed; appropriate security procedures are in place and the assaying has been carried out using appropriate techniques and by qualified laboratories. Further, the assay and density information made available is of sufficient quality to support the estimates of mineral resources presented later in this report.

4.6 Mineral Resources

4.6.1 Introduction

Mineral Resources for the Project were estimated by SRK in 2011, based on the data collected by the Company and as discussed above. For full details of the estimation process, the reader is directed to the 2011 PEA. For the purposes of this CPR, the procedures undertaken by SRK in estimating Mineral Resources for the Project are summarised below.

4.6.2 Statistical Analysis and Geological Domaining

A statistical study of the data made available for the Rönnbäcknäset, Vinberget and Sundsberget deposits was undertaken to determine suitable geological domains to be used. It was clear that the dominant Ni mineralisation is limited to the serpentinite bodies in each case and that there is a hard contact between these and the host rock metasediments. Internal mafic units also contain low levels of Ni mineralisation that are present at Rönnbäcknäset and Sundsberget in addition to internal zones of non-mineralised serpentinite that are present at Rönnbäcknäset and Sundsberget. The Vinberget deposit is a single body of serpentinite that does not contain any inclusions of mafics or internal non mineralised zones within the serpentinite.

In all cases, the geological modelling involved the following steps:

- importing the collar, survey, assay and geology data into Datamine to create a desurveyed drillhole file;

- importing the topography data file;
- the creation of mineralisation wireframes based on the logged serpentinite body and the grade domains outlined above; and
- the creation of an empty block model coded by zone to distinguish the different geological domains identified.

The empty block model created used a parent cell size of 50mN by 50mE by 10mZ for the Rönnbäcknäset deposit and a 25mN by 25mE by 10mZ for the Vinberget deposit and a 50mN by 50mE by 10mZ for the Sundsberget deposit, representing a division of the current drillhole spacing observed at each deposit.

The Rönnbäcknäset deposit consists of a single serpentinite body that strikes in an east-west orientation in the south-western portion of the deposit and a north-south orientation in the north-eastern portion of the deposit. Figure 4-1 shows the drillhole distribution and solid wireframe created for the serpentinite body and Figure 4-2 shows the histogram of Ni-AC assays associated with the mineralised serpentinite body. As shown in Figure 4-2, two clear populations of data exist in the Rönnbäcknäset deposit. Figure 4-3 shows the probability plot for Ni-AC for the same data with grade breaks being evident at 0.04% Ni-AC, 0.08% Ni-AC and 0.15% Ni-AC. When applying the identified grade breaks to the drillhole file, it is clear that a low grade domain exists in the north-eastern portion of the Rönnbäcknäset deposit on the hanging wall side of the serpentinite body. Figure 4-4 shows a cross section containing drillholes RON54, RON53 and RON64 with the low grade Ni-AC domain being highlighted. The section shown also highlights the mafic units within the serpentinite.

The Ni-AC distribution of the identified grade domains for the Rönnbäcknäset deposit are shown in Figure 4-5 to Figure 4-8. The histograms show a near normal distribution within the mineralised serpentinite with the exception of a small low grade tail within the high grade population. This is related to individual low grade samples that cannot be domained out. Conversely, the mafic domain and internal waste domain show a high grade tail where individual samples occur within the larger modelled domain.

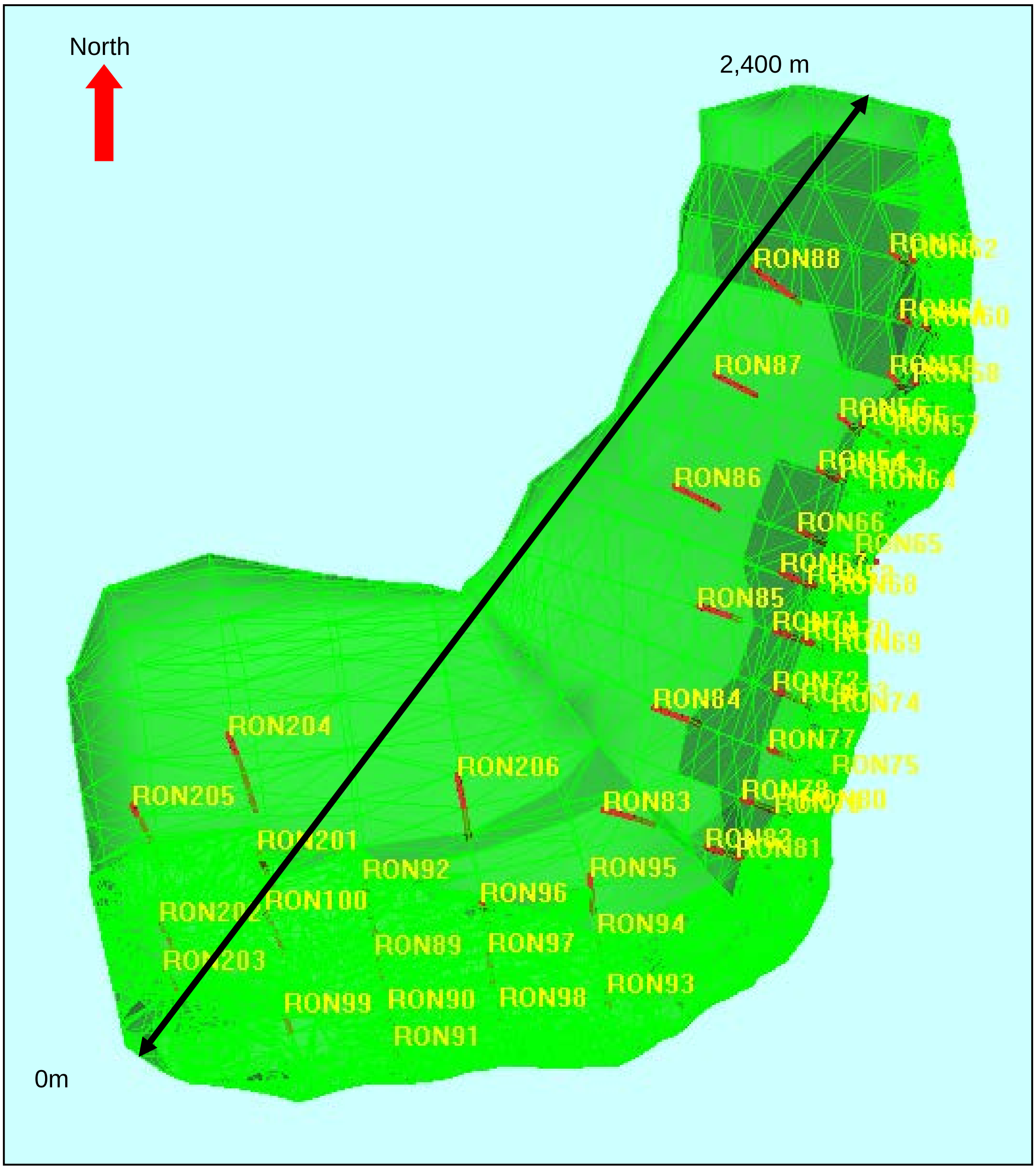


Figure 4-1: Rönnbäcknäset serpentinite body and drillhole locations

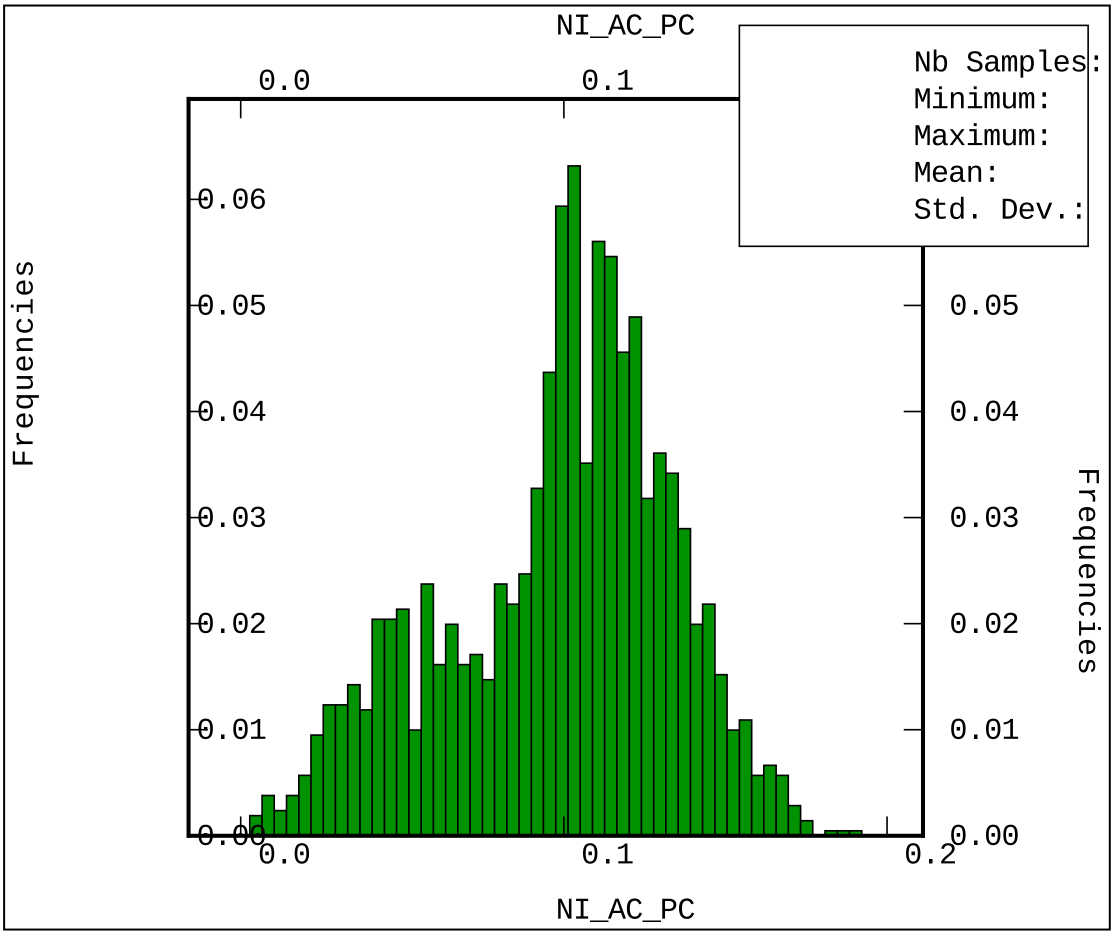


Figure 4-2: Ni-AC histogram for the Rönnbäcknäset serpentinite

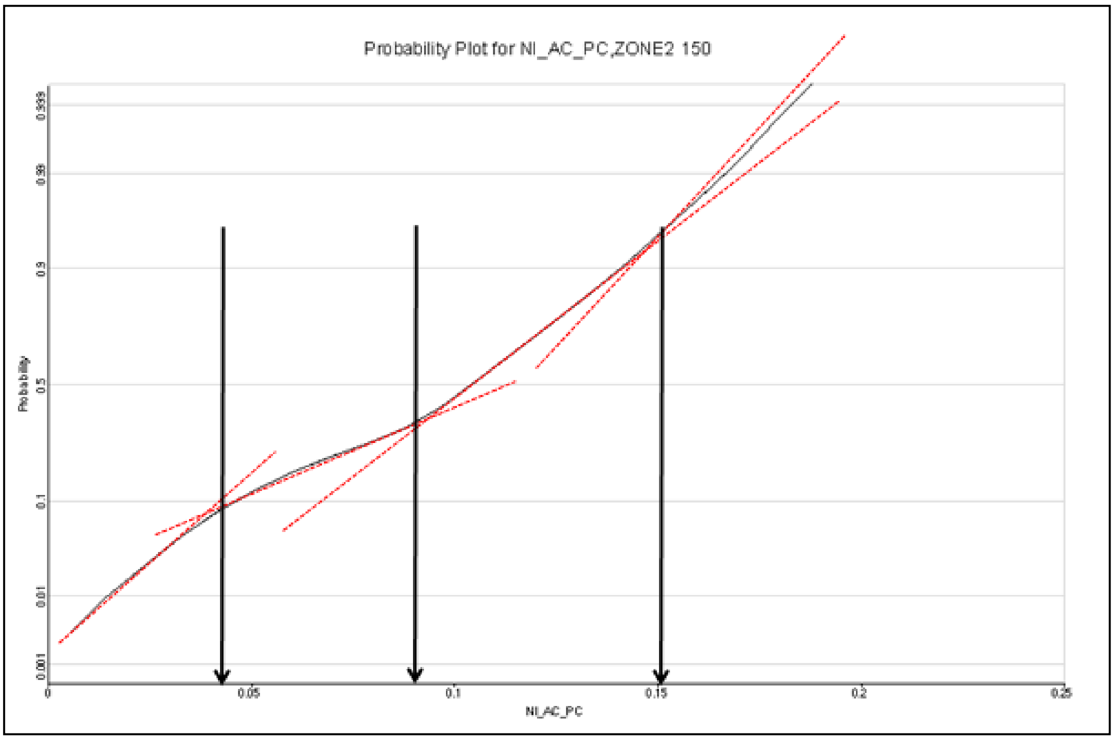


Figure 4-3: Probability plot for the Rönnbäcknäset serpentinite

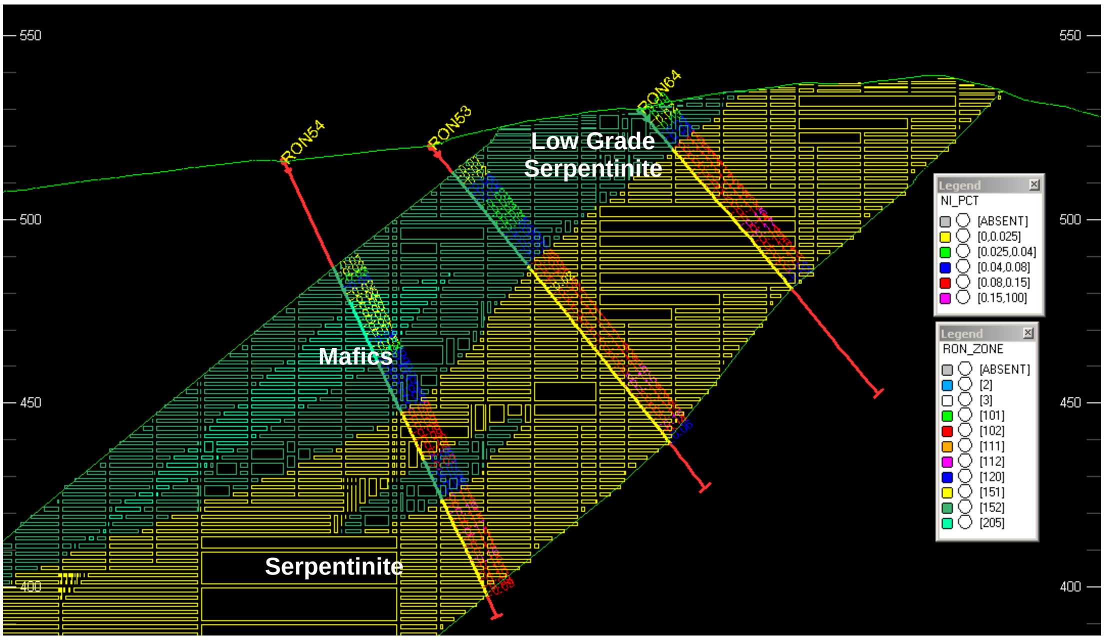


Figure 4-4: **Cross section showing low grade Ni-AC domain on the hangingwall side of the serpentinite body (view looking north)**

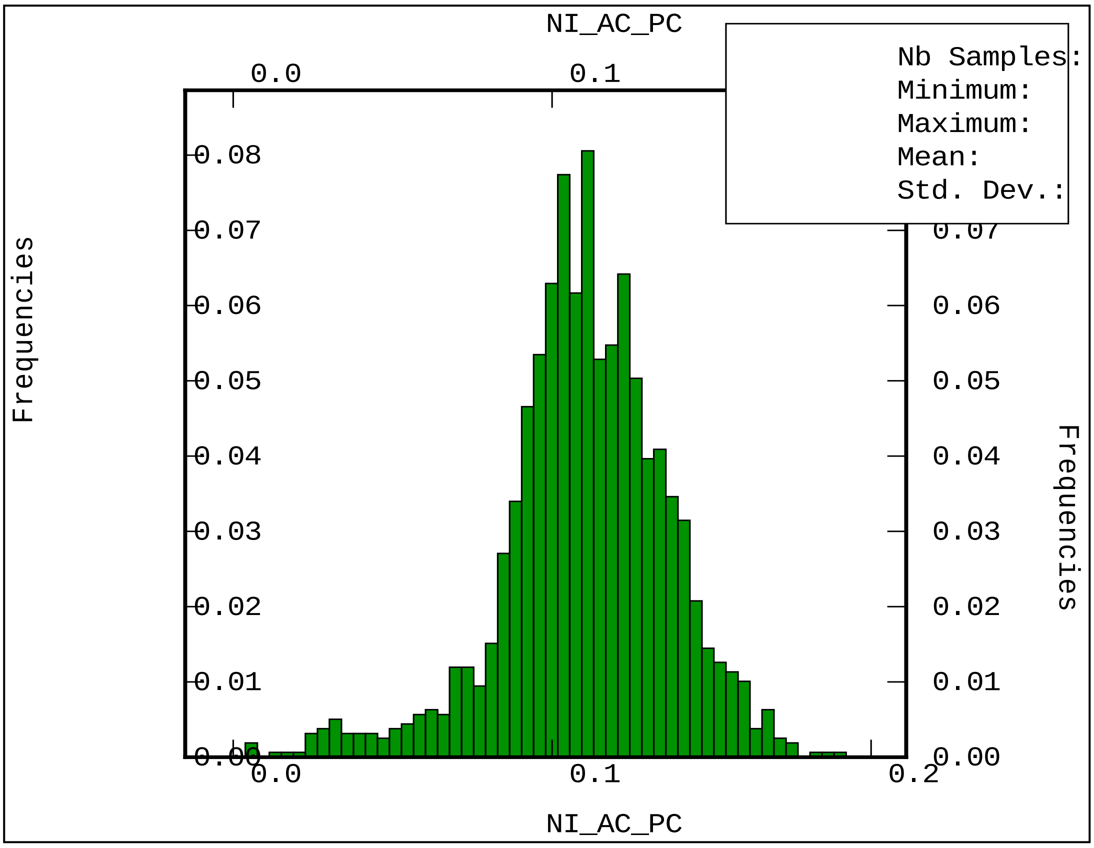


Figure 4-5: **Ni-AC distribution of the high grade serpentinite**

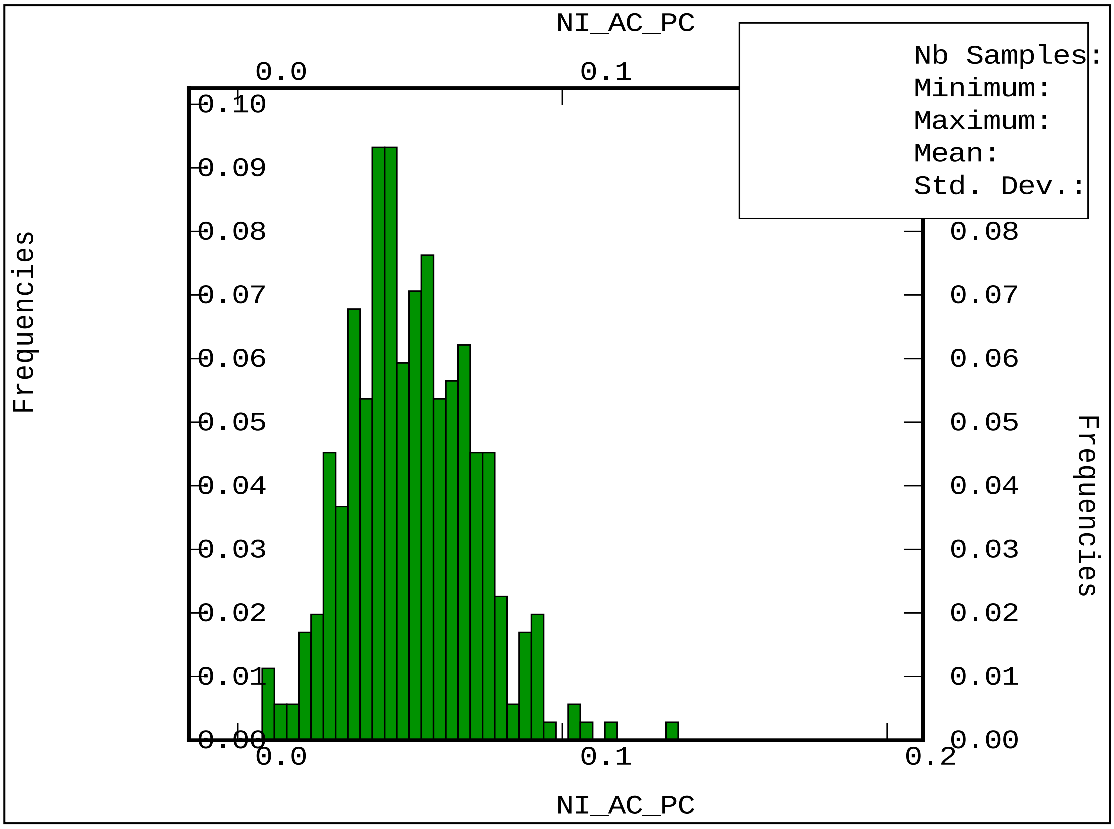


Figure 4-6: Ni-AC distribution of the low grade serpentinite

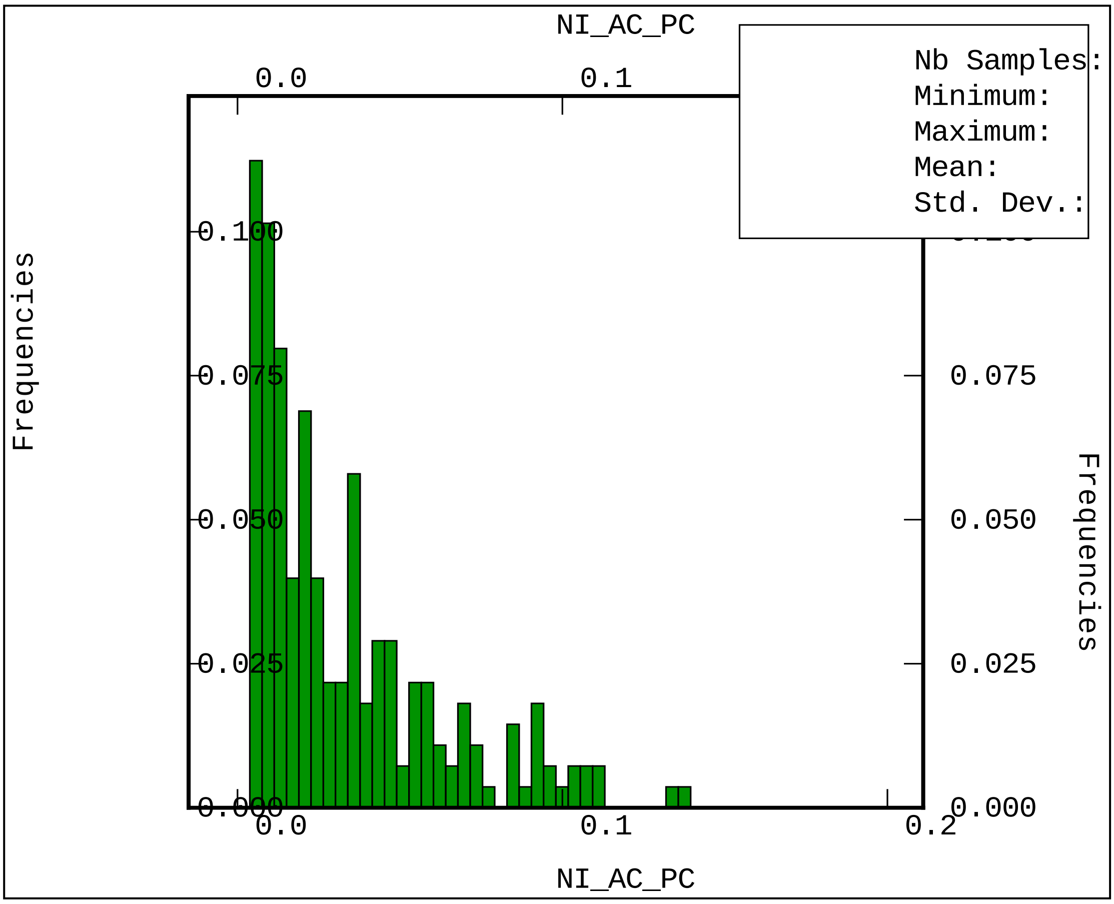


Figure 4-7: Ni-AC distribution of the mafic unit

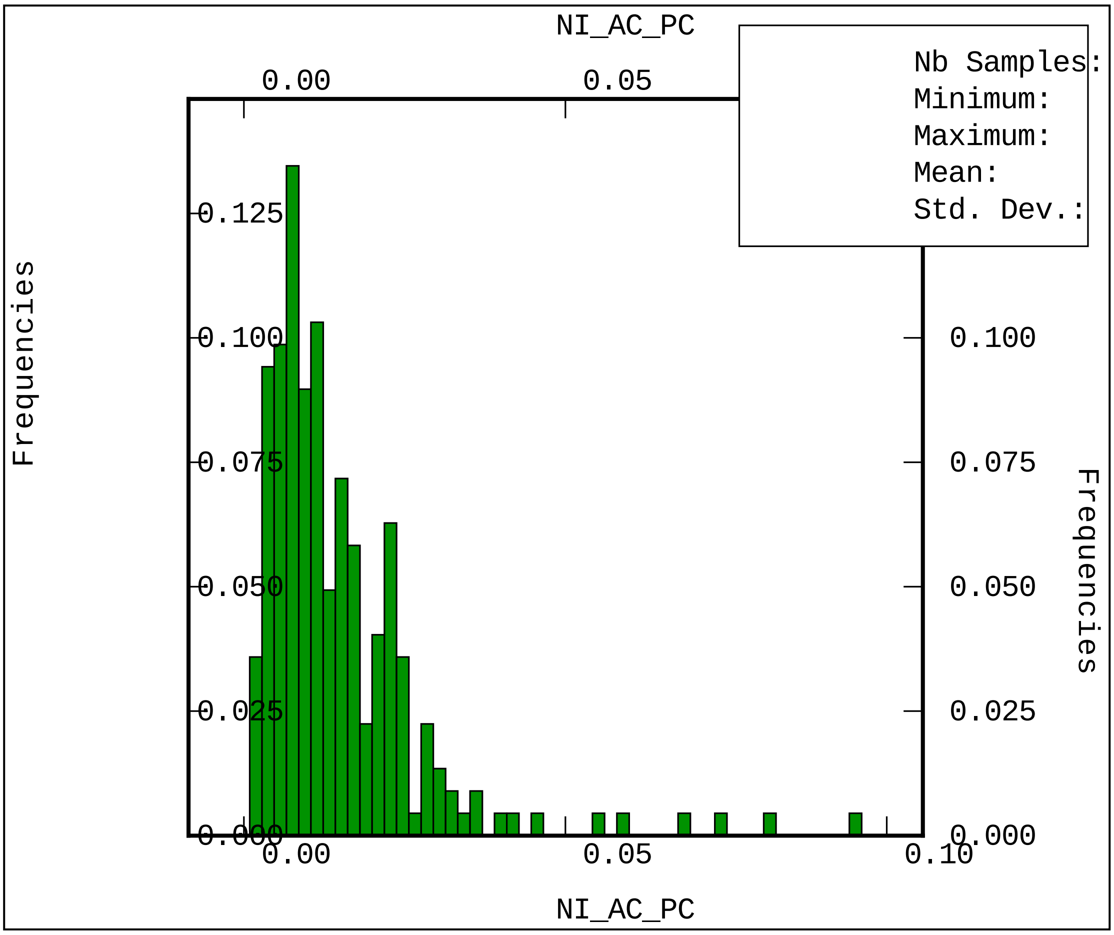


Figure 4-8: Ni-AC distribution of the internal waste domain

4.6.3 Vinberget

The Vinberget deposit consists of a single serpentinite body that strikes in a northwest-southeast orientation. Figure 4-9 shows the drillhole distribution and solid wireframe created for the serpentinite body and Figure 4-10 shows the histogram of Ni-AC assays associated with the mineralised serpentinite body. As shown in Figure 4-10, a near normal population of data exists in the Vinberget deposit. Figure 4-11 shows the probability plot for Ni-AC for the same data with subtle grade breaks being evident at 0.075% Ni-AC and 0.12% Ni-AC. When applying the identified grade breaks to the drillhole file, no clear trends in the mineralisation are observed. This is shown in Figure 4-12. The serpentinite body has therefore not been domained in any greater detail.

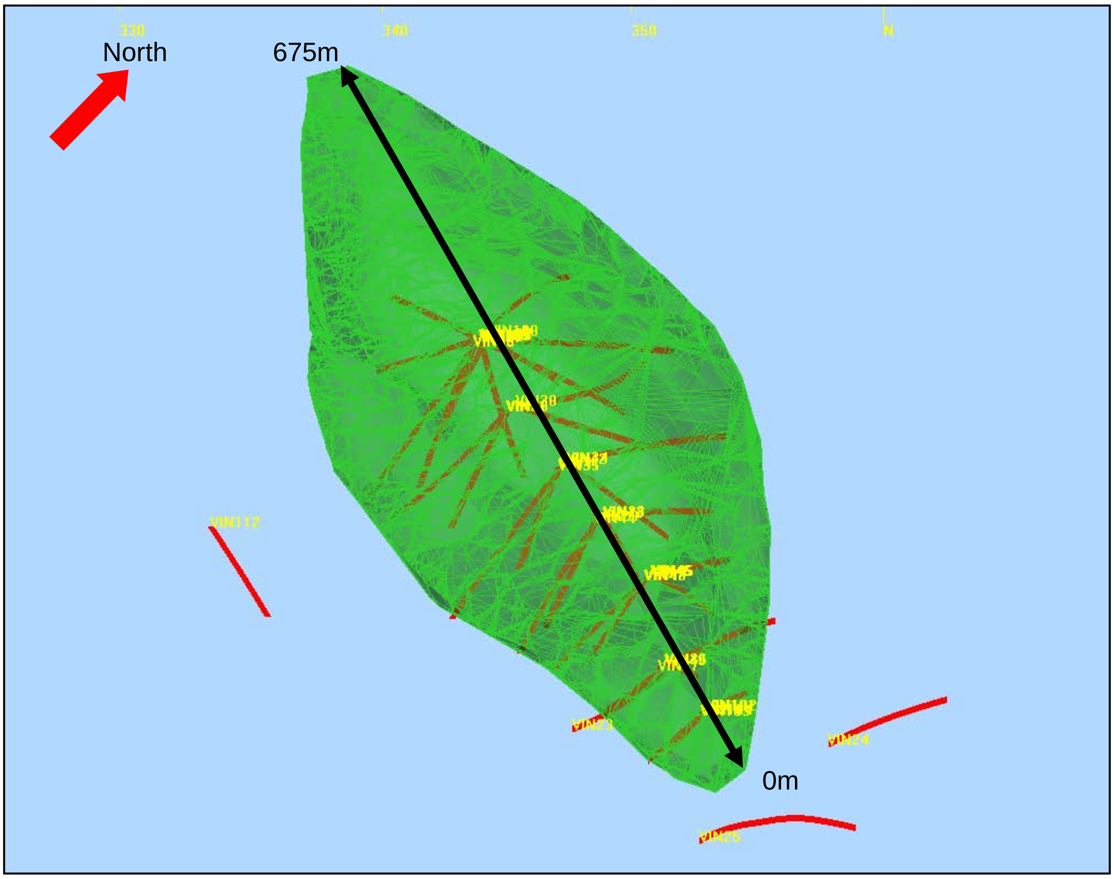


Figure 4-9: Vinberget serpentinite body and drillhole locations

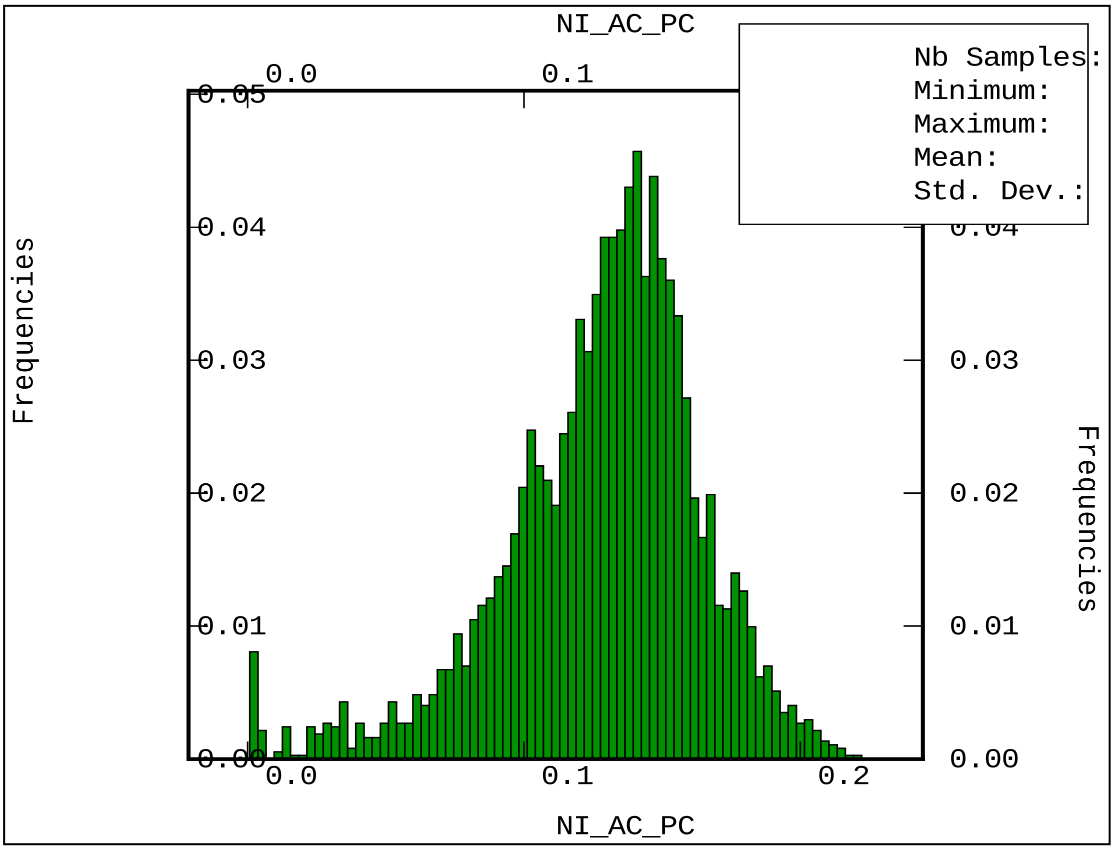


Figure 4-10: Ni-AC histogram for the Vinberget serpentinite

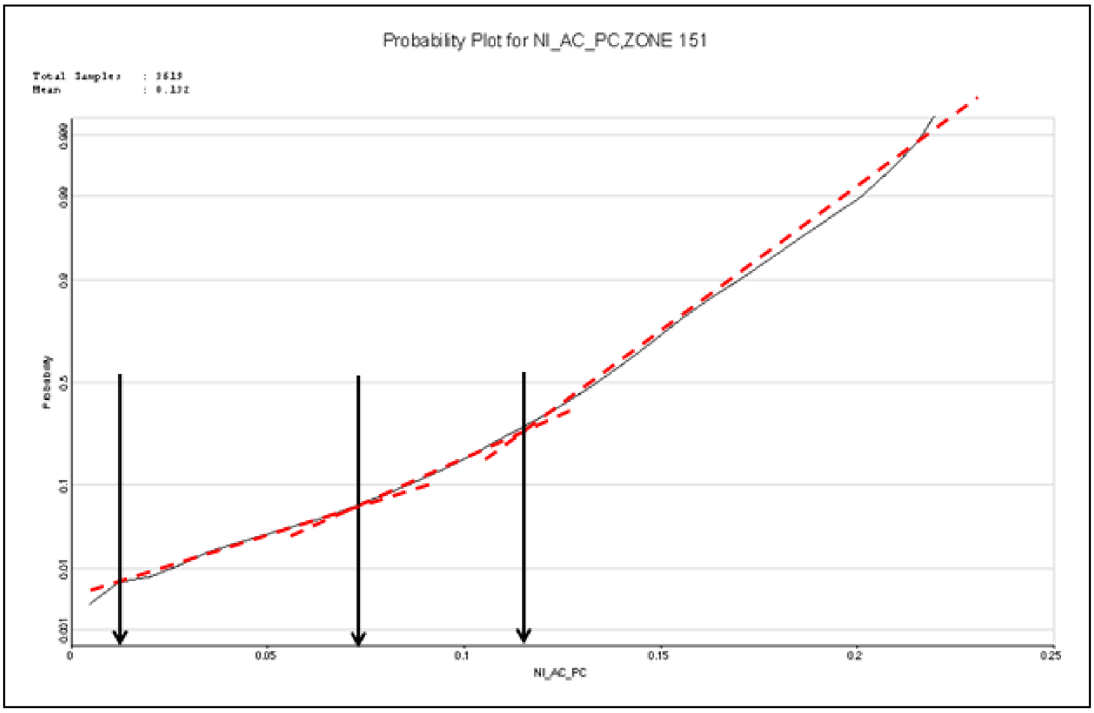


Figure 4-11: Probability plot for the Vinberget serpentinite

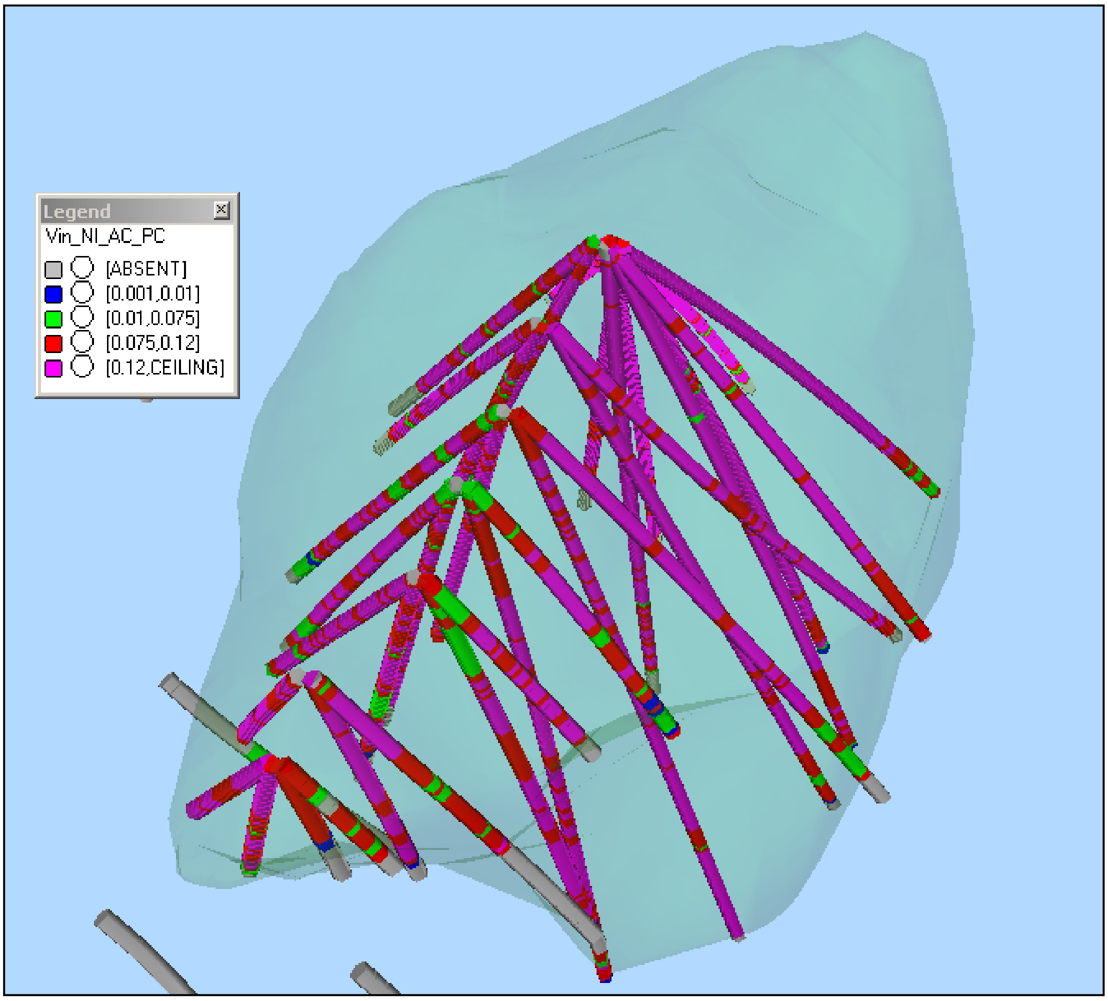


Figure 4-12: Vinberget drillhole file coloured by grade domains identified (looking west-northwest)

4.6.4 Sundsberget

The Sundsberget deposit consists of one main mineralised serpentinite body and a smaller unit towards the east. The main serpentinite unit contains a non-mineralised mafic unit as well as two lower grade areas. The main unit strikes in a north-northeast to south-southwest orientation and dips at roughly 30° to the west northwest. The deposit extends for roughly 1.2 km along strike and is between 500 m and 600 m in width.

Figure 4-13 shows the drillhole distribution along with the mineralised serpentinite solid wireframes and mafic unit.

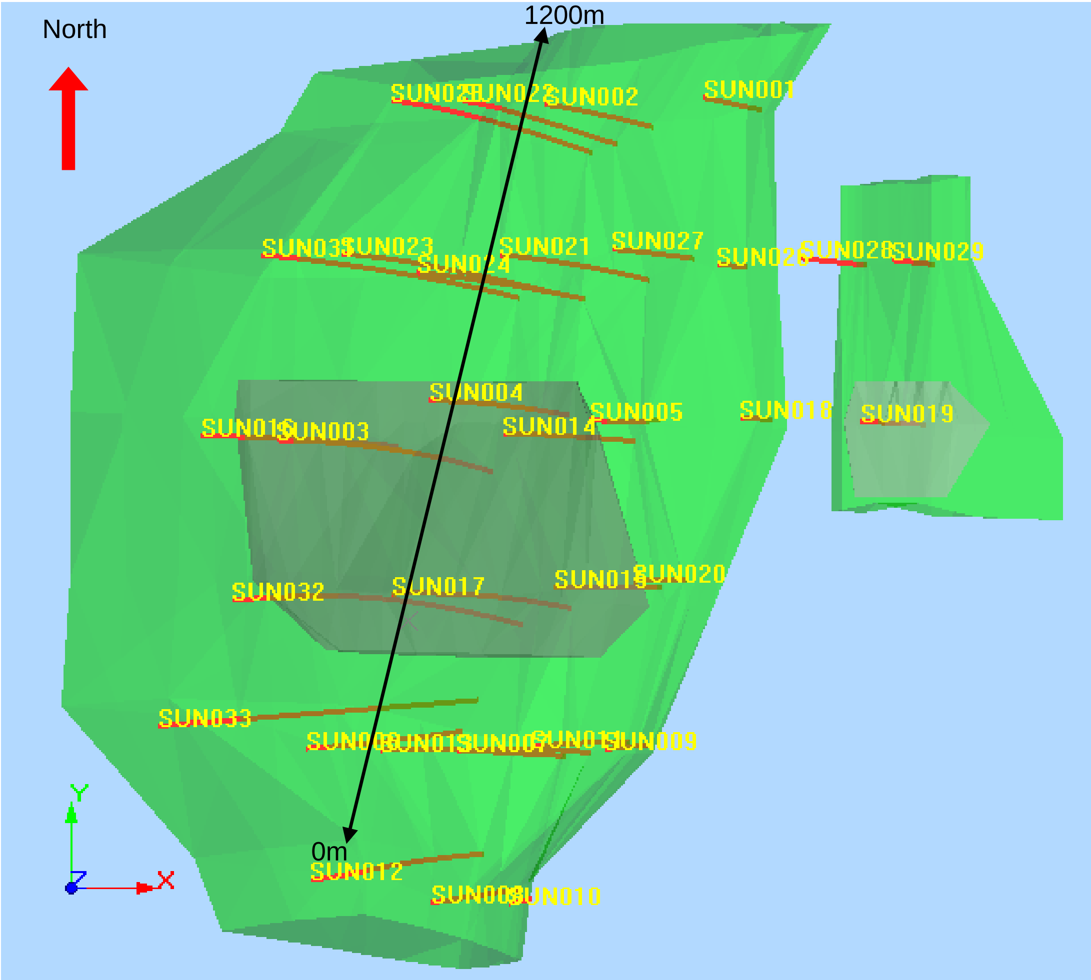


Figure 4-13: Sundsberget mineralised body and internal mafic unit with drillhole locations. Plan view.

Figure 4-14 shows the probability plot for Ni-AC at the Sundsberget deposit. It shows a smooth population, with very minor population breaks, which was difficult to use for domaining. Figure 4-15 shows the probability plot for Ni PCT (Ni tot) for the Sundsberget deposit, which defines clear population breaks at 0.07% Ni-PCT and 0.16% Ni-PCT. These separate populations can be identified in Figure 4-16 which shows a scatterplot of Ni-AC against Ni PCT (Ni total). These appear to be different Ni sulphide mineral species, and so Ni PCT was used to create unique domains to control the estimation.

When the domaining criteria was applied, the two populations identified above were captured (high grade Ni PCT Zone 151, low grade Ni PCT Zone 153), along with the low grade mafic unit within the high grade serpentenite zone (Zone 205). When the statistics were re-run using these domains, it was evident that a low-grade Ni AC zone was also present along the footwall of the deposit. This was domained separately using a 0.05% Ni AC cut-off grade (Zone 152).

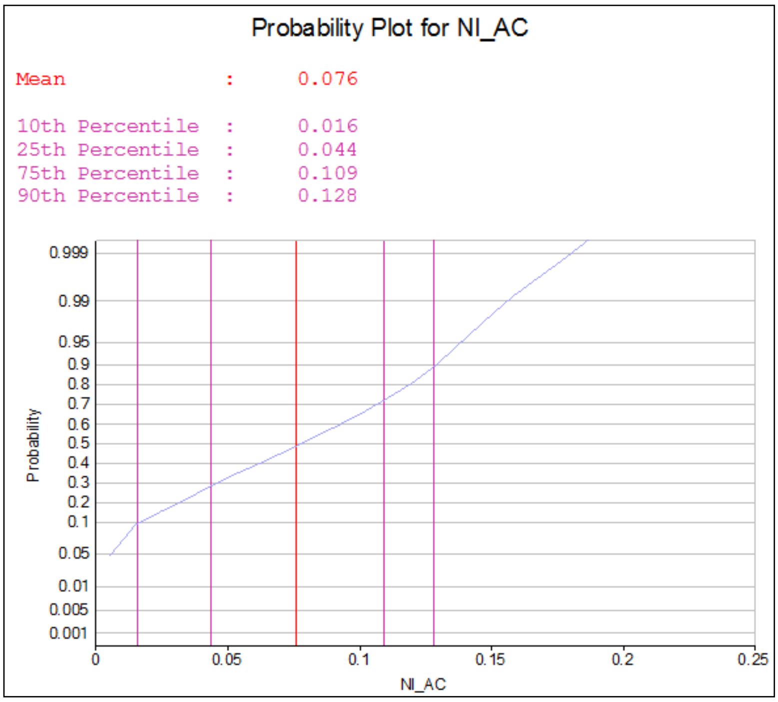


Figure 4-14: Probability plot for Ni-AC for the Sundsberget deposit.

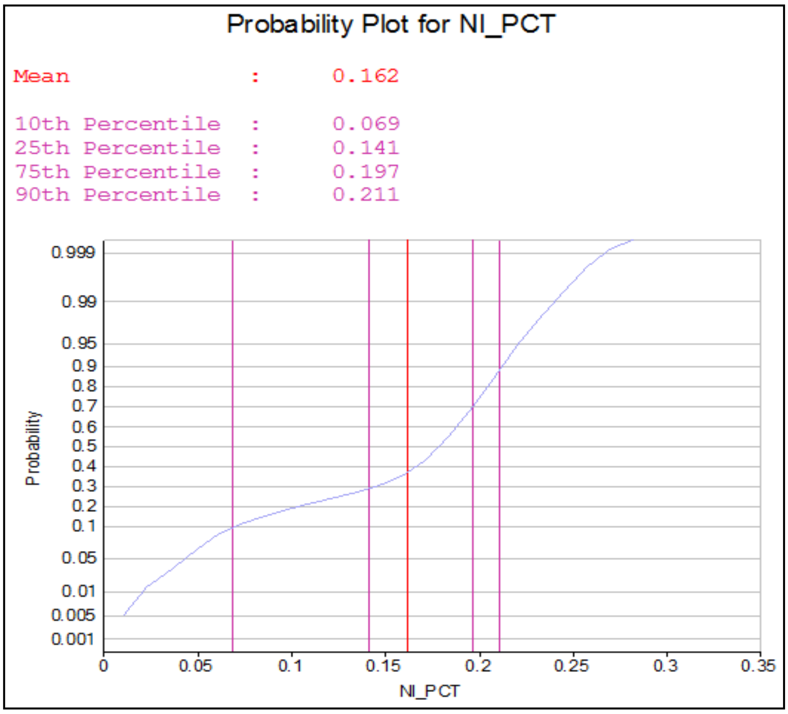


Figure 4-15: Probability plot for Ni% for the Sundsberget deposit.

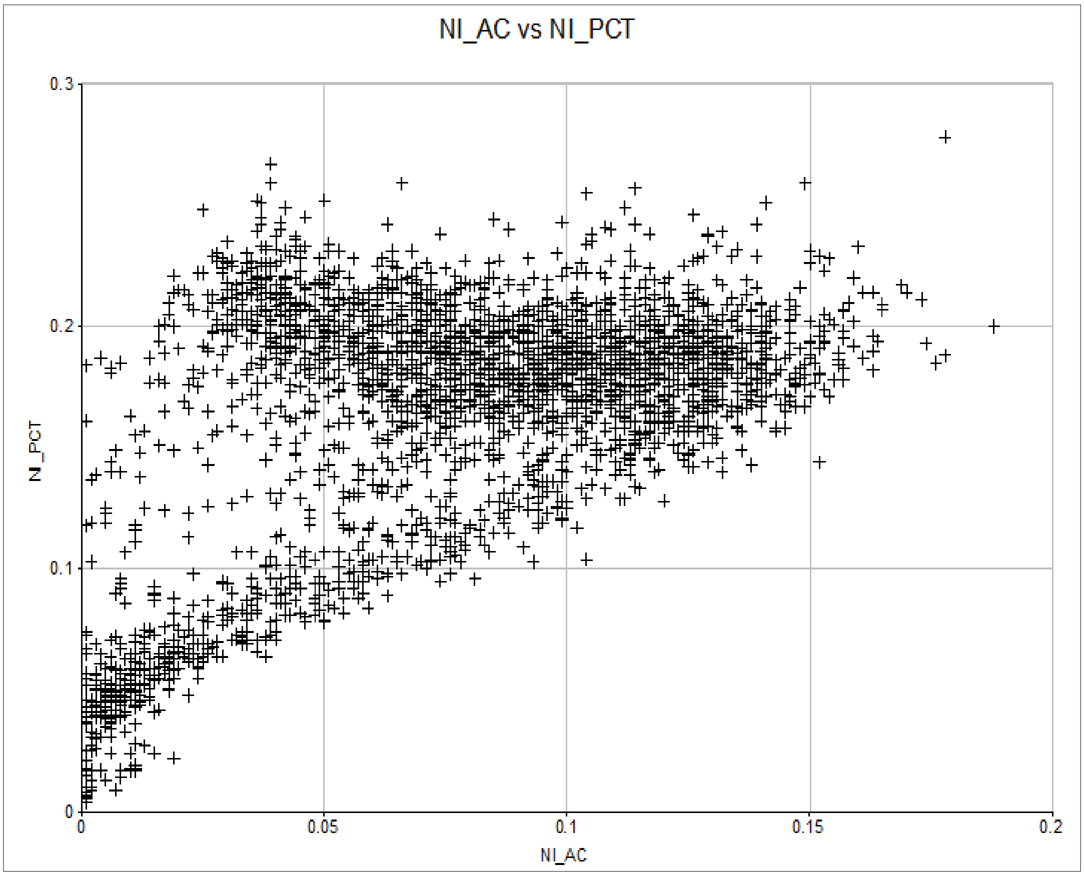


Figure 4-16: Scatterplot of Ni-AC vs Ni Total (Ni PCT)

The Ni-AC distribution of the identified grade domains for the Sundsberget deposit are shown in Figure 4-17 to Figure 4-20. The histograms show near normal distributions of Ni AC within the domains. The scatterplots of Ni AC against Ni PCT shown in Figure 4-21 and Figure 4-22, confirms the domaining strategy adopted.

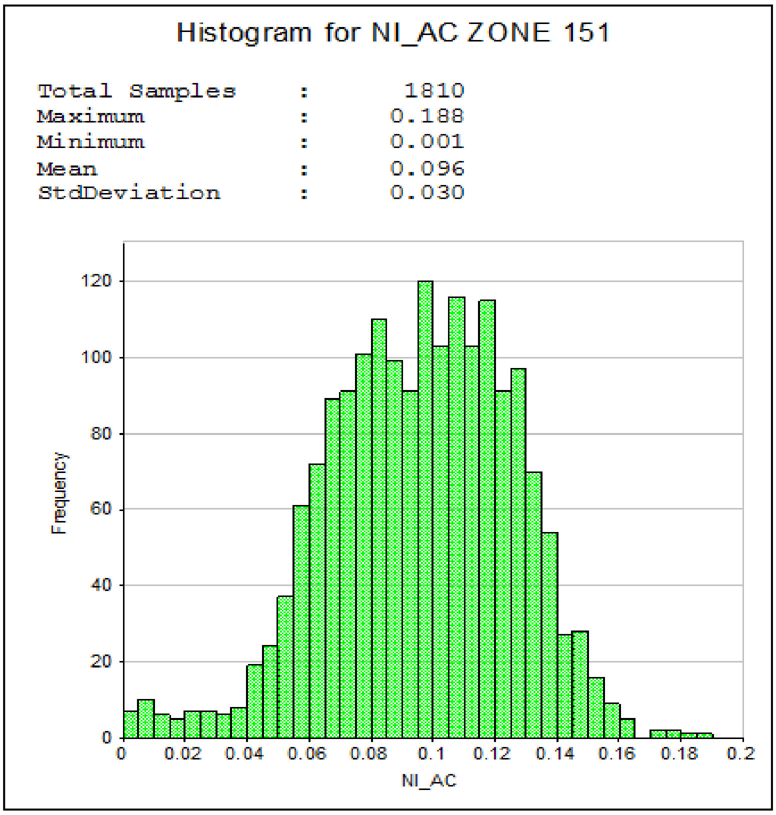


Figure 4-17: Ni-AC histogram for zone 151, high Ni-AC grade.

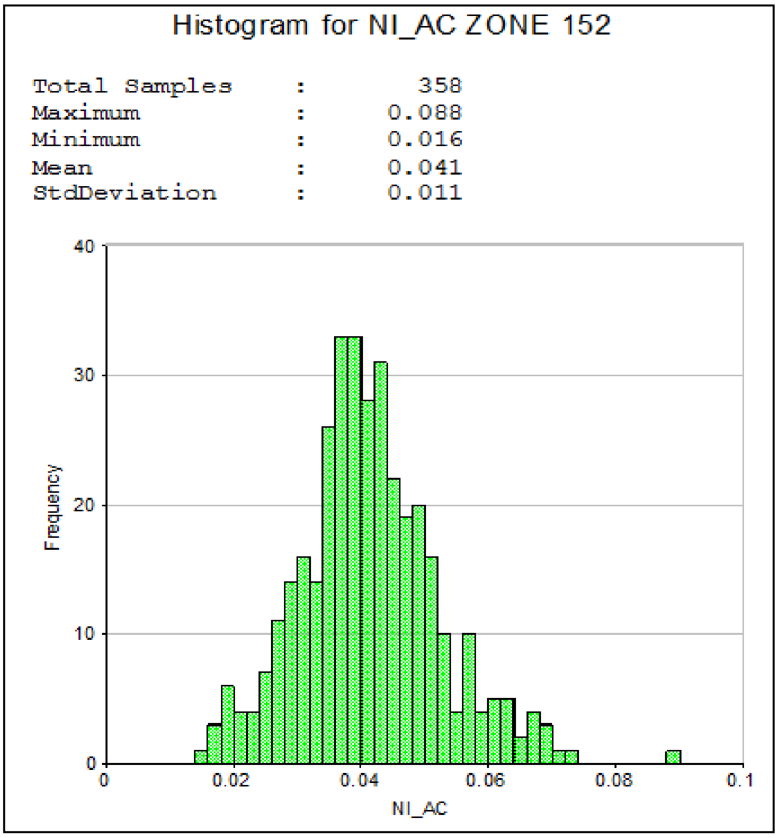


Figure 4-18: Ni-AC histogram for zone 152, low Ni-AC grade.

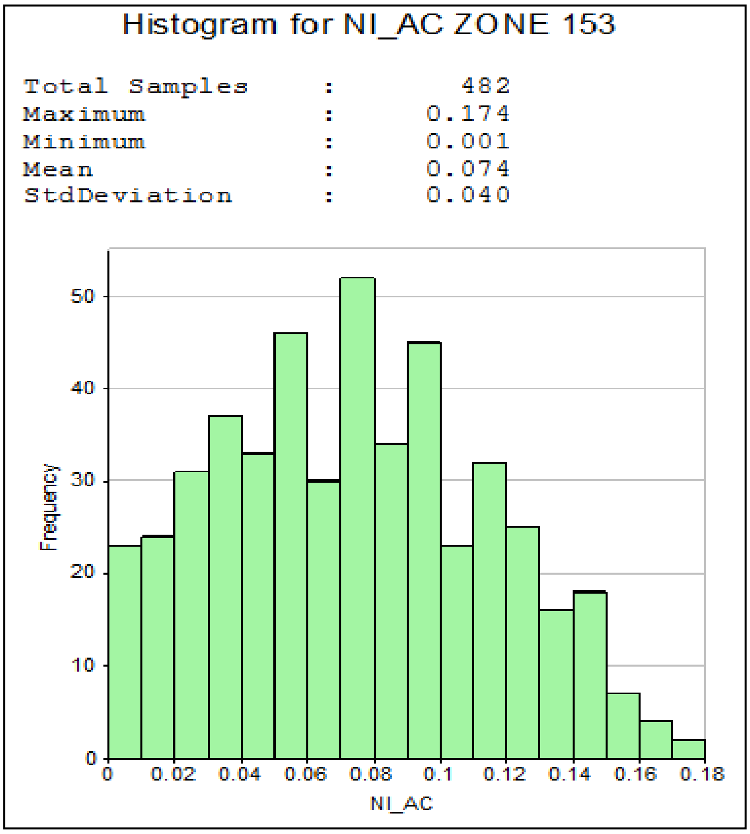


Figure 4-19: Ni-AC histogram for zone 153, high total Ni, low Ni-AC.

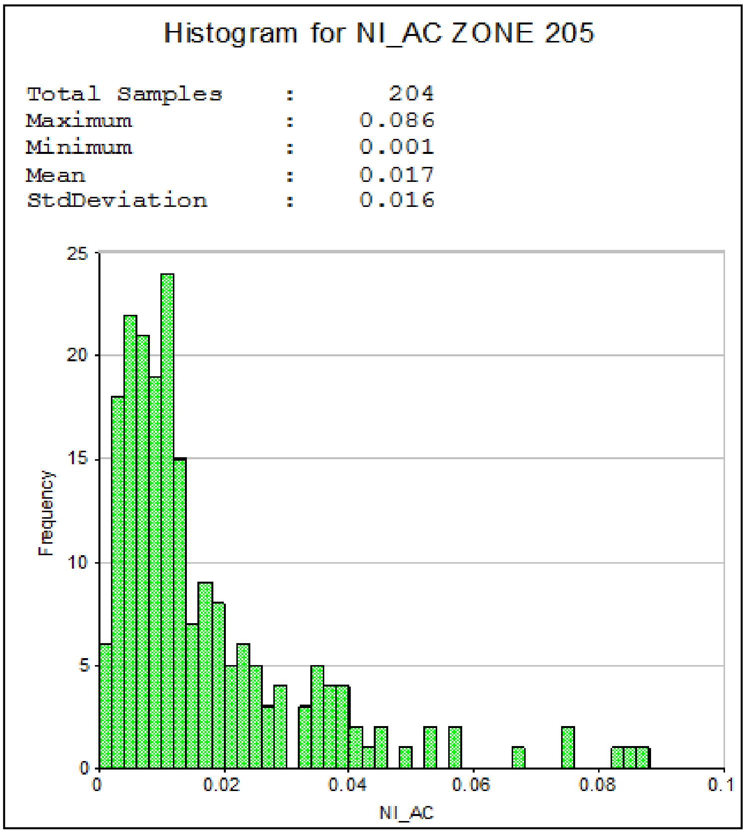


Figure 4-20: Ni-AC histogram for zone 205; internal waste.

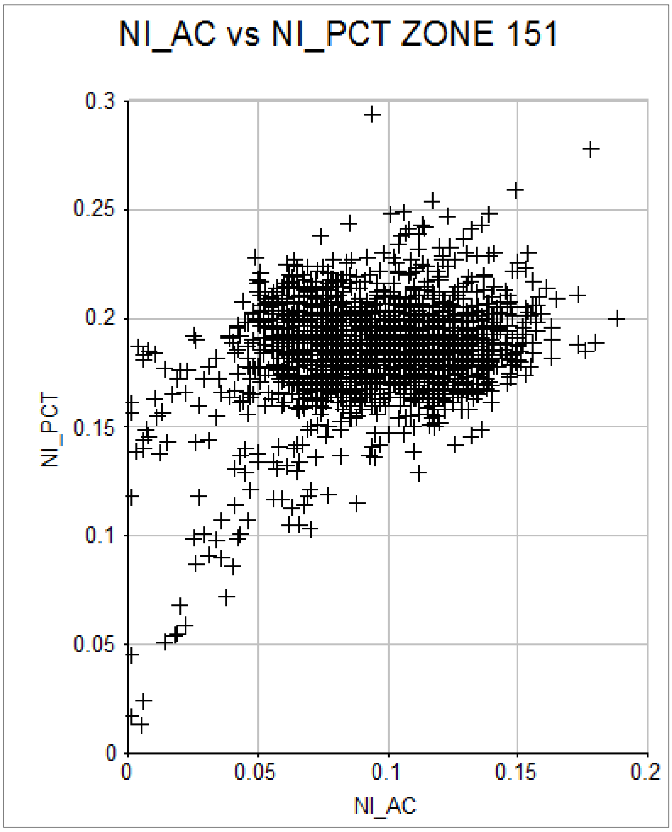


Figure 4-21: Scatterplot of Ni AC vs Ni PCT for Zone 151

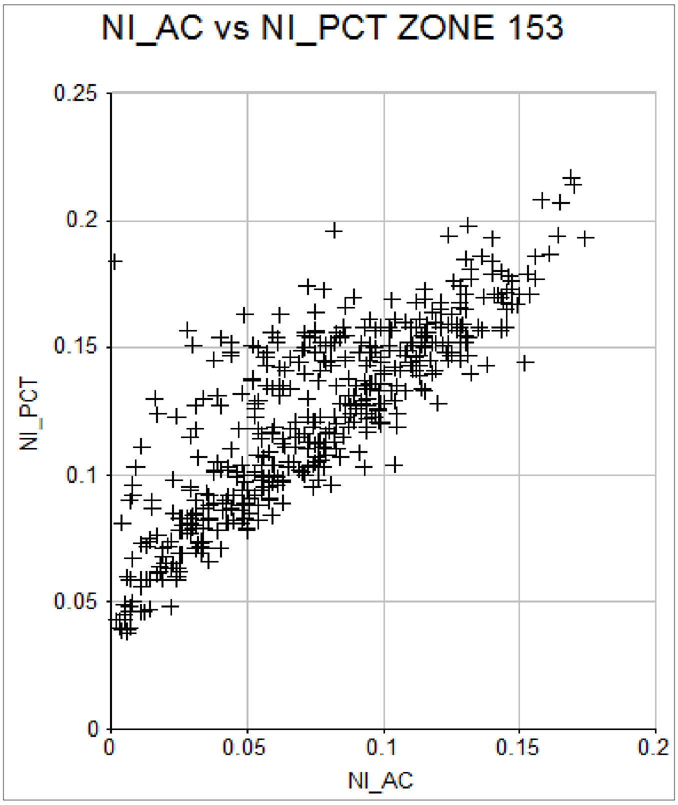


Figure 4-22: Scatterplot of Ni AC vs Ni PCT for Zone 152

Figure 4-23 shows a cross section with high and low grade Ni-AC domains, internal waste as well as a domain with high total Ni, but low grade Ni-AC.

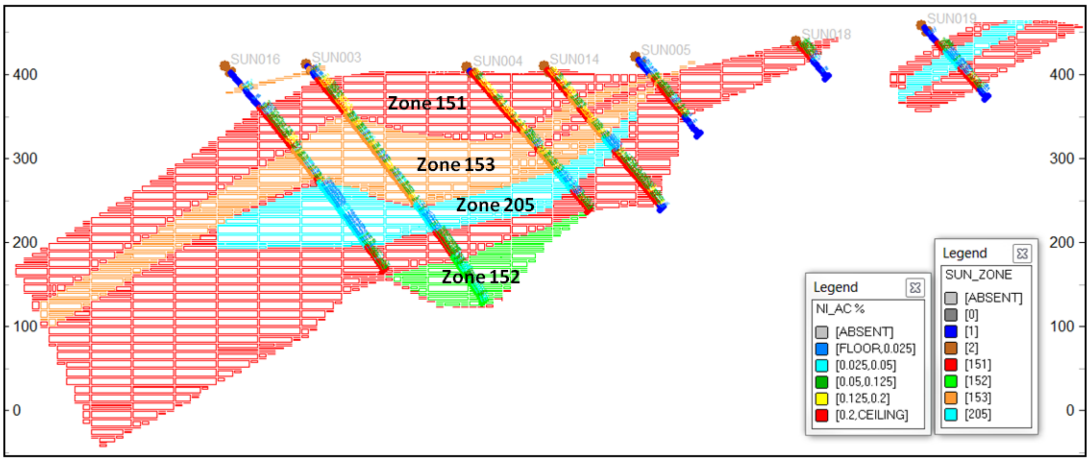


Figure 4-23: Cross section showing zone 151, 152, 153, and 205. (view looking north)

4.6.5 Available Data

The Rönnbäcknäset deposit consists of 54 diamond drillholes for a total of 7,770 drilled meters. Of this, 5,124 drilled meters have been assayed for Ni-AC. The Vinberget deposit consists of 38 diamond drillholes for a total of 7,602 drilled meters. Of this, 6,723 drilled meters have been assayed for Ni-AC. The Sundsberget deposit consists of 32 diamond drillholes for a total of 6,888 drilled meters. Of this, 5,856 drilled meters have been assayed for Ni-AC. This is summarised in Table 4-6 below.

Table 4-6: Available data

DEPOSIT	Nr. of drillholes	Total Meters Drilled	Ni-AC Assayed Meters
Rönnbäcknäset	54	7,770	5,124
Vinberget	38	7,602	6,723
Sundsberget	32	6,888	5,856

4.6.6 Data Validation

All available data was validated through the production of histograms and scatterplots and the use of the Datamine drillhole validation tools upon creation of a de-surveyed drillhole file. Twenty drillholes were removed from the database (17 drillholes from Vinberget and three from Rönnbäcknäset) due to a lack of associated survey, assay and/or geological data, but no additional errors were found in the data files provided. SRK is satisfied that the resulting data is suitable to be used in the Mineral Resource Estimate.

4.6.7 Raw Statistics

Table 4-7 shows the raw statistics for the domains modelled at the Rönnbäcknäset, Vinberget and Sundsberget deposits. The main serpentinite zones are highlighted in red. As shown, the mean Ni-AC grade of the Rönnbäcknäset high grade serpentinite is 0.111% and the mean grade of the low grade serpentinite is 0.054%. The mean grade of the Vinberget serpentinite is 0.131% Ni-AC. The mean Ni-AC grade of the Sundsberget high Ni PCT grade serpentinite (Zone 151) is 0.096% and the mean Ni-AC grade of the lower grade Ni PCT serpentinite (Zone 153) is 0.074%.

The Coefficient of Variation (CoV) can be used to describe the shape of the distribution and is defined as the ratio of the standard deviation to the mean. A CoV greater than one indicates the presence of some erratic high values that may have a significant impact on the final estimation. Within the main serpentinite domains, Table 4-7 shows that CoV values are very low, being 0.23, 0.25 and 0.32 respectively and indicating the low variability of the data.

Table 4-7: Length weighted Ni-AC statistics for the Rönnbäcknäset Vinberget and Sundsberget deposits

DEPOSIT	ZONE	NSAMPLES	MIN	MAX	RANGE	MEAN %	VAR	SDEV	CoV
Ron	102	131	0.001	0.081	0.08	0.015	0	0.012	0.8
	112	104	0.002	0.096	0.094	0.016	0	0.014	0.88
	120	67	0.002	0.116	0.114	0.037	0.001	0.033	0.89
	151	**1,684**	**0.003**	**0.192**	**0.189**	**0.111**	**0.001**	**0.026**	**0.23**
	152	**410**	**0.004**	**0.154**	**0.15**	**0.054**	**0**	**0.02**	**0.37**
	205	315	0.001	0.139	0.138	0.03	0.001	0.029	0.97
Vin	**151**	**3,632**	**0.001**	**0.222**	**0.221**	**0.131**	**0.001**	**0.033**	**0.25**
Sun	**151**	**1 941**	**0.0005**	**0.206**	**0.206**	**0.096**	**0.001**	**0.031**	**0.32**
	152	374	0.0159	0.088	0.072	0.041	0.000	0.011	**0.26**
	153	**596**	**0.0005**	**0.174**	**0.174**	**0.074**	**0.002**	**0.040**	**0.55**
	205	221	0.0005	0.126	0.126	0.017	0.000	0.016	0.97

4.6.8 Compositing

Data compositing is commonly undertaken to reduce the inherent variability that exists within the population and to generate samples more appropriate to the scale of the mining operation envisaged. It is also necessary for the estimation process, as all samples are assumed to be of equal weighting, and should therefore be of equal length.

The majority of samples in all the Rönnbäcknäset, Vinberget and Sundsberget drillhole files are 2 m in length with smaller samples being present at the geological contacts. Due to the very low CoV observed in the database and the near normal populations shown in the histograms of the raw data, all samples have been composited to 2 m as increasing the sample to a larger composite length has little impact on the variability of the database.

Table 4-8: 2 m composite Ni-AC statistics for the Rönnbäcknäset, Vinberget and Sundsberget deposits

DEPOSIT	ZONE	NSAMPLES	MIN	MAX	RANGE	MEAN %	VAR	SDEV	CoV
Ron	102	109	0.001	0.077	0.076	0.015	0.000	0.011	0.73
	112	103	0.004	0.075	0.071	0.016	0.000	0.013	0.81
	120	67	0.002	0.100	0.098	0.037	0.001	0.033	0.89
	151	**1 589**	**0.004**	**0.192**	**0.188**	**0.111**	**0.001**	**0.026**	**0.23**
	152	**354**	**0.008**	**0.135**	**0.127**	**0.054**	**0.000**	**0.019**	**0.35**
	205	250	0.001	0.139	0.138	0.029	0.001	0.029	1.00
Vin	**151**	**3 275**	**0.001**	**0.215**	**0.214**	**0.131**	**0.001**	**0.032**	**0.24**
Sun	**151**	**1 810**	**0.001**	**0.188**	**0.188**	**0.096**	**0.001**	**0.030**	**0.31**
	152	358	0.016	0.088	0.072	0.041	0.000	0.011	0.26
	153	**482**	**0.001**	**0.174**	**0.174**	**0.076**	**0.002**	**0.040**	**0.53**
	205	204	0.001	0.086	0.086	0.017	0.000	0.016	0.96

4.6.9 Density Analysis

A comprehensive density dataset has been generated by the Company using the Archimedes method. In total, 2,701 density measurements are available for the Rönnbäcknäset domains and 3,416 density measurements are available for the Vinberget domains and 3,291 density measurements are available for the Sundsberget domains. Density measurements have also been acquired for the waste domains allowing accurate tonnages to be determined for all material types.

4.6.10 Geostatistical Analysis

The directional experimental semi-variograms produced for Rönnbäcknäset northeast allowed very robust variogram models to be generated in the downhole and down-dip directions (40° to the west) for Ni-AC and Co-AC. Along strike (016°) variograms were however poor, with little or no structure being observed.

The directional experimental semi-variograms produced for Rönnbäcknäset southeast allowed very robust variogram models to be generated in the downhole and down-dip directions (25° to the north) for Ni-AC and Co-AC. Along strike (085°) variograms were also modelled for Ni-AC with a simple two structure spherical model. Co-AC variograms were however poor in the along strike direction.

The directional experimental semi-variograms produced for Sundsberget allowed very robust variogram models to be generated in the along strike (195°), downhole and down-dip directions (35° to the west) for Ni-AC, Co-AC, Fe-PCT and SG.

The omni directional experimental semi-variograms produced for Vinberget allowed very robust variogram models to be generated for Ni-AC and Co-AC.

Similarly, the omni directional experimental semi-variograms produced for Rönnbäcknäset and Vinberget allowed very robust variogram models to be generated for density.

The results of the variography were used in the interpolation to assign the appropriate weighting to the samples pairs being utilised to calculate the block model grade. The total ranges modelled have also been used to help define the optimum search parameters and the search ellipse dimensions used in the interpolation. Ideally, sample pairs that fall within the range of the variogram where a strong covariance exists between the sample pairs should be utilised if the data allows. Applying a 2/3rd rule to the total range of the variograms in the search ellipse dimensions forces the interpolation to use samples where covariance between samples exists. As a result of the variography, ordinary kriging (OK) was deemed the most appropriate interpolation technique to be applied to Ni-AC, Co-AC and density.

Table 4-9: Ranges and 2/3rd ranges for Rönnbäcknäset

Deposit	Parameter	Along Strike	Down Dip	Across Strike
Rönnbäcknäset (Directional)	Average Total Range	338m	325m	60m
	2/3 Average Range	225m	217m	40m
	Search Ellipse Chosen	225m	217m	20m
Vinberget (Omni Directional)	Average Total Range	200m	200m	200m
	2/3 Average Range	133m	133m	133m
	Search Ellipse Chosen	100m	100m	100m
Sundsberget	Average Total Range	375m	425m	110m
	2/3 Average Range	250m	283m	73m
	Search Ellipse Chosen	250m	280m	70m

4.6.11 Quantitative Kriging Neighbourhood Analysis (QKNA)

To better define the ideal search parameters used in the interpolation, Quantitative Kriging Neighbourhood Analysis (QKNA) was also undertaken on the data.

4.6.12 Block Modelling

An empty block model was generated using the lithology wireframes with block dimensions as shown in Table 4-10. These block dimensions approximate half the drillhole spacing at Rönnbäcknäset northeast and at Vinberget. Due to the low nugget effect observed at the Rönnbäcknäset and Sundsberget deposits, it is deemed appropriate to use blocks smaller than half the drillhole spacing as it is assumed that blocks that are not supported by drillhole intersections are supported by data within the short scale range observed in the variograms. The results of the QKNA study also highlight that the blocks in the Rönnbäcknäset southwest deposit are well supported by data. A block height of 10 m was chosen, being the assumed working bench height of the operating pit. Table 4-10 summarizes the block model parameters.

Table 4-10: Block Model Framework

DEPOSIT	DIRECTION	ORIGIN	BLOCK SIZE	NR. OF BLOCKS
Rönnbäcknäset	X	1479250	50	55
	Y	7267000	50	60
	Z	0	10	75
Vinberget	X	1483600	25	50
	Y	7262200	25	50
	Z	250	10	100
Sundsberget	X	8550	50	45
	Y	8180	50	55
	Z	-300	10	110

Grades of Ni-AC, Co-AC and Ni-Total were interpolated into the model using OK. Ni-Total was interpolated using the Ni-AC kriging parameters and represents the nickel present in both silicate and sulphide phases.

All domains were interpolated using OK, with the mafic units and internal waste domains at Rönnbäcknäset utilising the variography data determined for the main serpentinite domain.

Table 4-11 shows the search ellipse parameters used for the three estimation runs.

Table 4-11: Search ellipse parameters

ZONE	STRIKE	DIP	RUN	ALONG STRIKE RADII	DOWN DIP RADII	ACROSS STRIKE RADII	MIN SAMPS	MAX SAMPS
	(°)	(°)						
Rönnbäcks-näset	Defined by dynamic anisotropy		1	225	217	20	6	12
			2	450	450	40	6	12
			3	2250	2250	200	3	12
Vinberget	Isotropic		1	100	100	100	12	24
			2	200	200	200	12	24
			3	1000	1000	1000	12	24
Sundsberget (Zone 151)	Defined by dynamic anisotropy		1	250	280	70	6	36
			2	500	560	140	6	36
			3	2500	2800	700	3	36
Sundsberget (Zone 152, 153, 205)	Defined by dynamic anisotropy		1	250	280	35	6	36
			2	500	560	70	6	36
			3	2500	2800	350	3	36

The resulting block model has been validated using the following techniques:

- visual inspection of block grades in plan and section and comparison with drillhole grades;
- comparison of global mean block grades and sample grades.

Overall, SRK is confident that the interpolated grades are a reasonable reflection of the available sample data with the key grade fields being well within acceptable limits.

4.6.13 Mineral Resource Classification

To classify the Rönnbäcknäset, Vinberget and Sundsberget deposits, the following key indicators were used:

- geological complexity;
- quality of data used in the estimation:
- QAQC, density analysis
- results of the geostatistical analysis
- variography, and
- QKNA results; and
- quality of the estimated block model.

Geological Complexity

Due to the large amount of drill data, it is possible to see clear geological continuity between sections and deduce a clear geological model for the Rönnbäcknäset, Vinberget and Sundsberget deposits with all of the mineralisation occurring within the serpentinite body. The drill spacing has allowed for the interpretation of a continuous zone of mafic material with a low associated Ni-AC grade. Internal waste pods have been interpreted that are harder to join from adjacent sections, but these are limited in number and form a small part of the overall serpentinite body.

A statistical study of the Rönnbäcknäset, Vinberget and Sundsberget data shows a very low variability in the grade distribution with near normal populations of data being present. A continuous low grade serpentinite unit has been identified from the statistical study that was subsequently domained as a separate unit.

It is the opinion of SRK that the associated risk relating to geological complexity is low.

Quality of the Data used in the Estimation

Quality assurance and quality control (QAQC) checks were implemented throughout the assaying period that included the insertion of standards, blanks, laboratory duplicates and the use of an umpire laboratory. Overall SRK is confident that the results of the QAQC analysis have validated the accuracy of the database being used to generate the Mineral Resource Estimate.

A comprehensive dataset of density has also been generated by the Company throughout the sampling period that has enabled SRK to estimate density into the model using OK. SRK is therefore confident that the associated tonnages estimated for the Rönnbäcknäset, Vinberget and Sundsberget deposits should be reasonable.

Results of the Geostatistical Analysis

The data used in the geostatistical analysis resulted in robust variogram models being produced for all three deposits. This enabled the nugget and short-scale variation in grade to be determined with a high level of confidence. The detailed variography allowed for the determination of appropriate search ellipse parameters to be determined through the application of multiple QKNA tests prior to the grade interpolation.

Quality of the Estimated Block Model

The validation tools show that the input data used to estimate the model is replicated in the estimation. Mean grades of the block model and composites are comparable for all modelled domains.

Classification Approach

All three deposits have been classified as containing Indicated and Inferred Resources. Only Rönnbäcknäset has been classified as containing Measured Resources due to the closer spaced drilling of 100 m section lines.

Measured Resources at Rönnbäcknäset have been assigned where the following criteria have been met:-

- very low geological complexity;
- drillhole spacing of much less than the 2/3rd geostatistical range;
- all blocks were estimated in search volume one, using the optimum search parameters determined; and
- slope of regression values dominantly greater than 0.8.

At Sundsberget and Vinberget the same criteria as explained above for Measured Resources have been used to assign Indicated Resources with the exception that the minimum slope of regression was set at 0.5. Indicated Resources at Rönnbäcknäset have been extended approximately 100 m down dip of the last drillhole intersection on the section line.

Inferred Resources at Rönnbäcknäset and Viberget have been calculated by extending the Indicated boundary 50 m down-dip and by including areas where internal waste pods are defined and unsupported by more than two drillholes on a section line. Due to the regular drilling pattern and the simple geometry at Sundsberget, the Indicated blocks account for all the well-informed blocks, therefore no Inferred Resources were assigned.

In all cases, the above have been used to model zones for the each of the classification categories for each deposit rather than to assign this on a block by block basis.

Figure 4-24, Figure 4-25 and Figure 4-26 show the block models coloured by classification for Rönnbäcknäset, Vinberget and Sundsberget, respectively.

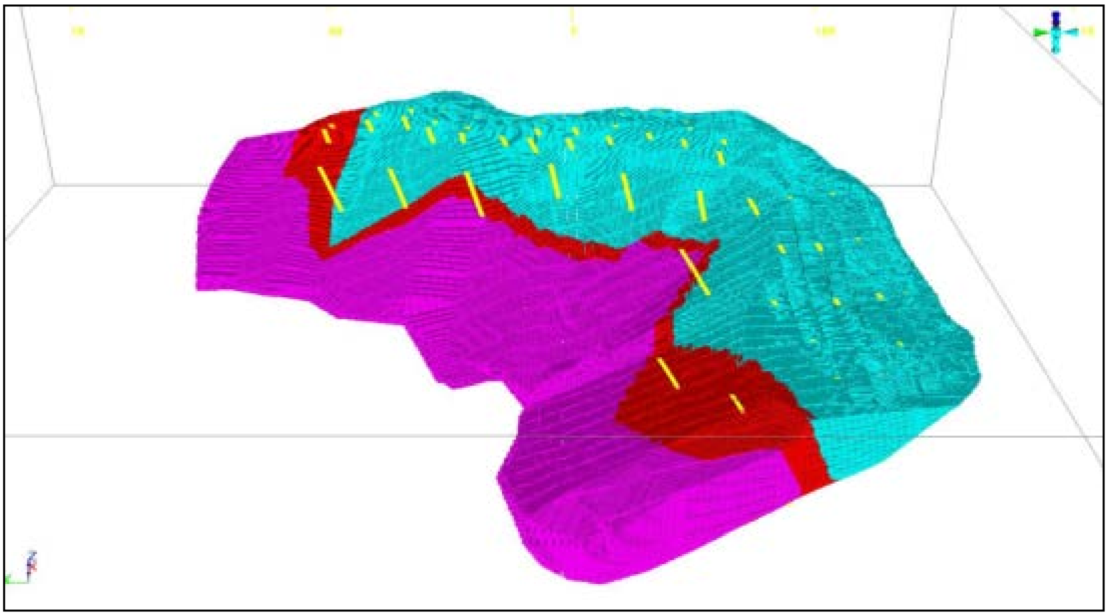


Figure 4-24: Rönnbäcknäset classification. Blue = Indicated; Red = Inferred; Purple = Unclassified (looking east)

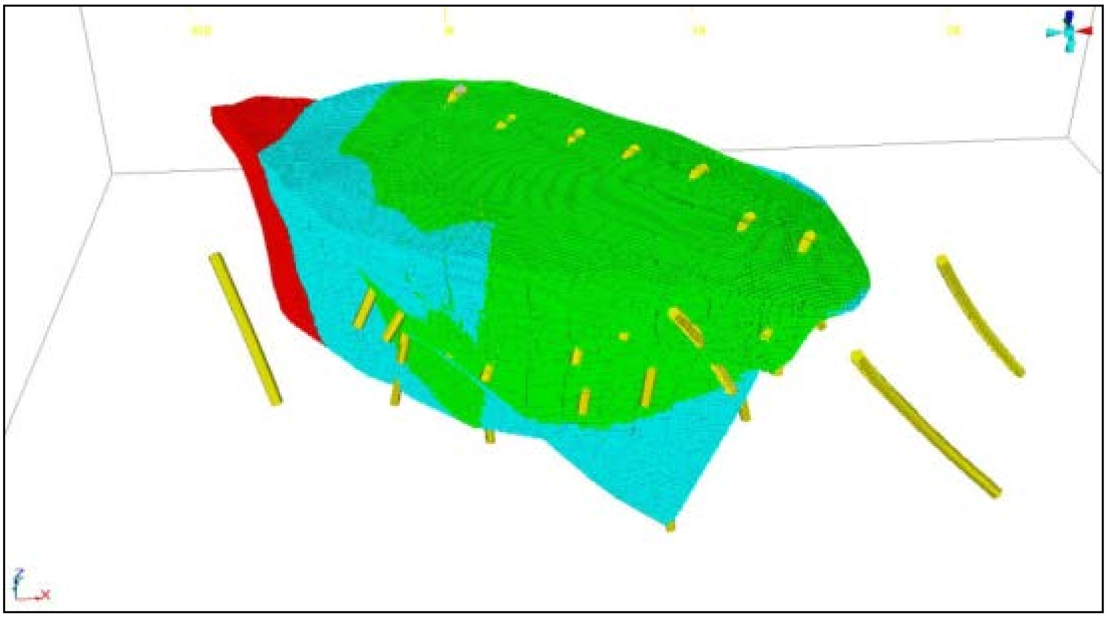


Figure 4-25: Vinberget classification. Green = Measured; Blue = Indicated; Red = Inferred (looking north)

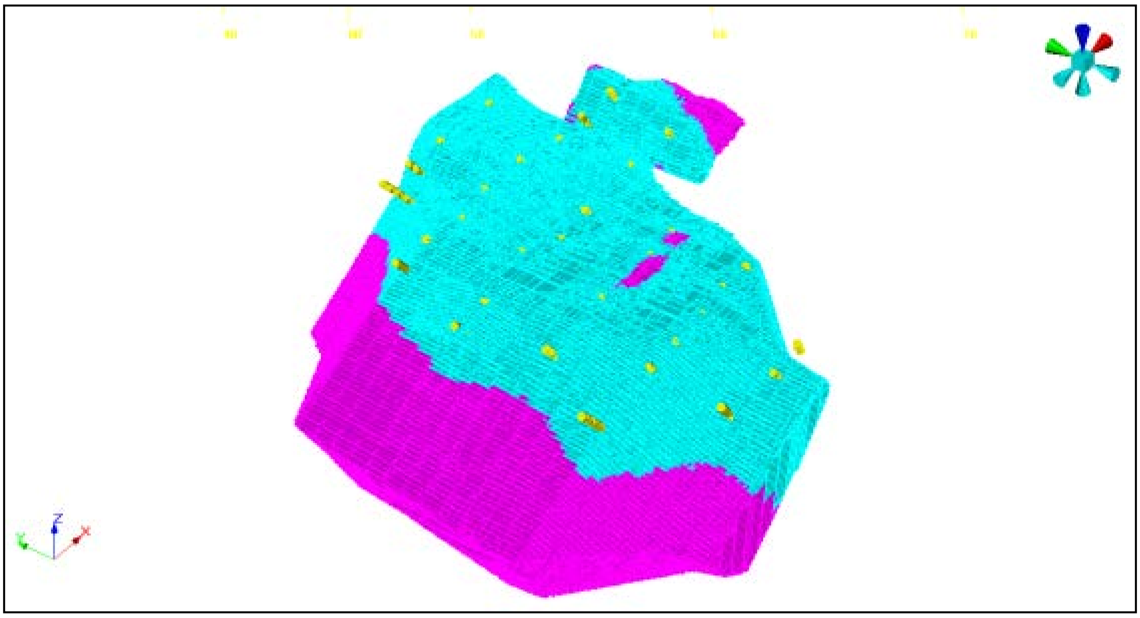


Figure 4-26: Sundsberget classification. Blue = Indicated; Purple = Unclassified (looking north)

4.6.14 Pit Optimisation

In order to derive the final Mineral Resource Statement, and so as to comply with the requirement that the resulting Mineral Resource must have reasonable prospects of economic extraction, the resulting blocks have been subjected to a Whittle pit optimisation exercise.

The Whittle optimisation requires the input of reasonable processing and mining cost parameters in addition to appropriate pit slope angles and processing recoveries.

Table 4-12 shows the assumptions applied in the Whittle optimisation.

The Whittle optimisation has assumed that the serpentinite domains are to be treated as the key potential ore material types.

Table 4-12: Whittle parameters

Revenue	
Ni Price	USD 11/lb
Govt Royalty	0.05%
Private Royalty	0.15%
Discount Rate	0%
Process and Mining Statistics	
Overall Slope Angle	48° (Ronn), 50° (Vin), 49° (Sun)
Mining Recovery	95%
Mining Dilution	2.5%
Process Recovery	80%
OP Base Mining Cost	1.35 USD/tonne
Incremental Mining Cost above surface	0.05 USD/tonne/10m
Incremental Mining Cost below surface	0.07 USD/tonne/10m
Processing Cost	4.96 USD / ore tonne
Effective charges per lb Ni in smelter feed	1.14 USD / lb
General & Administration	0.4 USD / ore tonne processed
Rail / Road Transport Cost	0.1 USD / ore tonne processed
Concentrate Grade	25.0%

4.6.15 Mineral Resource Statement[1]

The Mineral Resource Statement generated by SRK has been restricted to all classified material falling within the Whittle shell representing a metal price of USD11/lb and through the application of the parameters outlined above. SRK assumed a nickel price of USD11.00/lb in a Whittle open pit optimisation exercise to limit the material reported to that which SRK considers has reasonable prospects for eventual economic extraction and applied a cut-off grade of 0.031% Ni-AC representing the calculated marginal cut-off grade for the deposits. The USD11.00/lb nickel price includes a 30% premium above the consensus long-term nickel price, determined from over 30 market forecasts.

Table 4-13 shows the resulting Mineral Resource Statement for Ni, Co and Fe Total, for Rönnbäcknäset, Vinberget and Sundsberget. Due to the large relative proportion of non-sulphide nickel in the Rönnbäcken ores, resources are reported in terms of sulphide (AC) nickel along with the more conventional total nickel. A high proportion of the sulphide nickel is recovered in the flotation process whereas the non-sulphide nickel reports predominantly to tailings.

Mineral resources that are not mineral reserves do not have demonstrated economic viability. Notwithstanding this, neither SRK nor the Company are aware of any factors (environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other relevant factors) that could materially affect the potential of these to be exploited. Table 4-13 below presents the Mineral Resource Statements for the Project as a whole, combining the SRK statements for Rönnbäcknäset, Vinberget and Sundsberget. The Resources are presented according to CIM Guidelines for the reporting of Mineral Resources.

[1] *See also Section 5.2 for SRK's update to the Rönnbäcknäset MRE, effective date January 2012.*

Table 4-13: Rönnbäcken Mineral Resource Statement

DEPOSIT	CLASSIFICATION	TONNES (Mt)	Ni-Total %	Sulphide Ni (Ni-AC)	Sulphide Co (Co-AC)	Fe-Total %	Ni-Total ktonnes	Sulphide Ni ktonnes
Rönnbäcknäset	Measured							
	Indicated	225.4	0.176	0.101	0.003	5.41	397	227
	Measured + Indicated	225.4	0.176	0.101	0.003	5.41	397	227
	Inferred	86.5	0.177	0.100	0.003	5.17	153	86
Vinberget	Measured	28.3	0.188	0.132	0.006	5.19	53	37
	Indicated	23.3	0.183	0.133	0.006	5.14	43	31
	Measured + Indicated	51.5	0.186	0.133	0.006	5.14	96	68
	Inferred	6.8	0.183	0.138	0.007	5.58	12	9
Sundsberget	Measured							
	Indicated	296.9	0.170	0.088	0.003	5.93	505	260
	Measured + Indicated	296.9	0.170	0.088	0.003	5.93	505	260
	Inferred							
TOTAL (Measured & Indicated)	**Measured**	**28.3**	**0.188**	**0.132**	**0.006**	**5.19**	**53**	**37**
	Indicated	**545.6**	**0.173**	**0.095**	**0.003**	**5.68**	**945**	**519**
	Measured + Indicated	**573.9**	**0.174**	**0.097**	**0.003**	**5.66**	**998**	**556**
TOTAL (Inferred)	**Inferred**	**93.2**	**0.177**	**0.103**	**0.003**	**5.55**	**166**	**96**

(1) The effective date of the Mineral Resource Statement for Rönnbäcknäset and Vinberget is February 25, 2011. The effective date of the Mineral Resource Statement for Sundsberget is 28 October 2011.

(2) The Mineral Resource reported for Rönnbäcknäset, Vinberget and Sundsberget was constrained within a Lerchs-Grossman pit shell defined by a marginal cut-off-grade of 0.031% Ni-AC, a metal price of USD11/lb; slope angles of 50, 48º and 49° respectively; a mining recovery of 95%; a mining dilution of 2.5%; a base mining cost of USD1.35/tonne and an incremental mine operating costs of USD0.07/tonne/10 m below the 450m reference RL and USD0.05/tonne/10m above the 450m reference RL); process operating costs of USD4.96/tonne ore; an effective charge per lb Ni in smelter feed of USD1.14, G&A costs of USD0.40/tonne ore and concentrate transport cost USD0.10/tonne.

4.6.16 Grade Tonnage Curves

Grade-tonnage curves for Rönnbäcknäset, Vinberget and Sundsberget are shown in Figure 4-27, Figure 4-28 and Figure 4-29 for Ni-AC%. The curve shows the relationship between the modelled tonnage and grade at increasing Ni-AC% cut-offs.

The Rönnbäcknäset grade-tonnage curve shows a gentle decreasing tonnage with an associated gentle increasing Ni-AC% grade up to a Ni-AC cut off of approximately 0.09%. This low grade material relates to the low grade serpentinite unit at Rönnbäcknäset northeast. Above a cut off of 0.09% Ni-AC, the tonnage drops from approximately 225 Mt with an associated sharp increase in Ni-AC%.

The Vinberget grade-tonnage curve shows that all material is above the marginal cut-off grade of 0.031% Ni-AC with a steadily dropping tonnage and increasing Ni-AC% from approximately 0.1% Ni-AC cut off.

The Sundsberget grade-tonnage curve shows a gentle decreasing tonnage with an associated gentle increasing Ni-AC% grade up to a Ni-AC cut off of approximately 0.06%. Above 0.06% the tonnage drops steadily associated with increasing Ni-AC% grade.

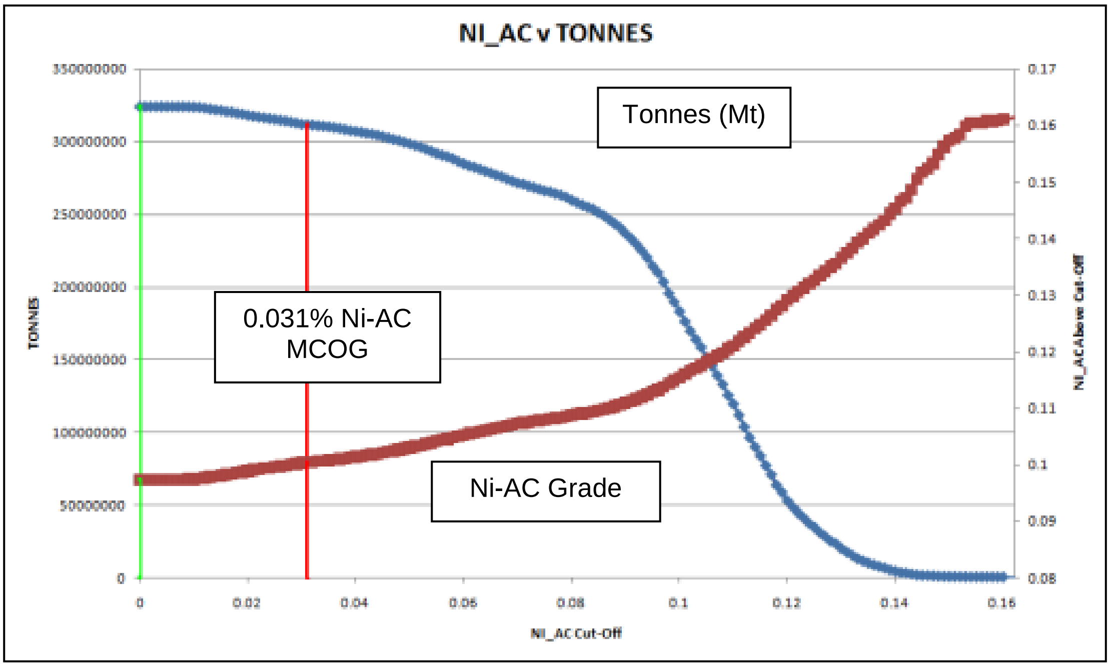


Figure 4-27: Rönnbäcknäset Grade Tonnage Curve – All classification categories above Whittle pit shell (green line marks 0.031% marginal cut off grade)

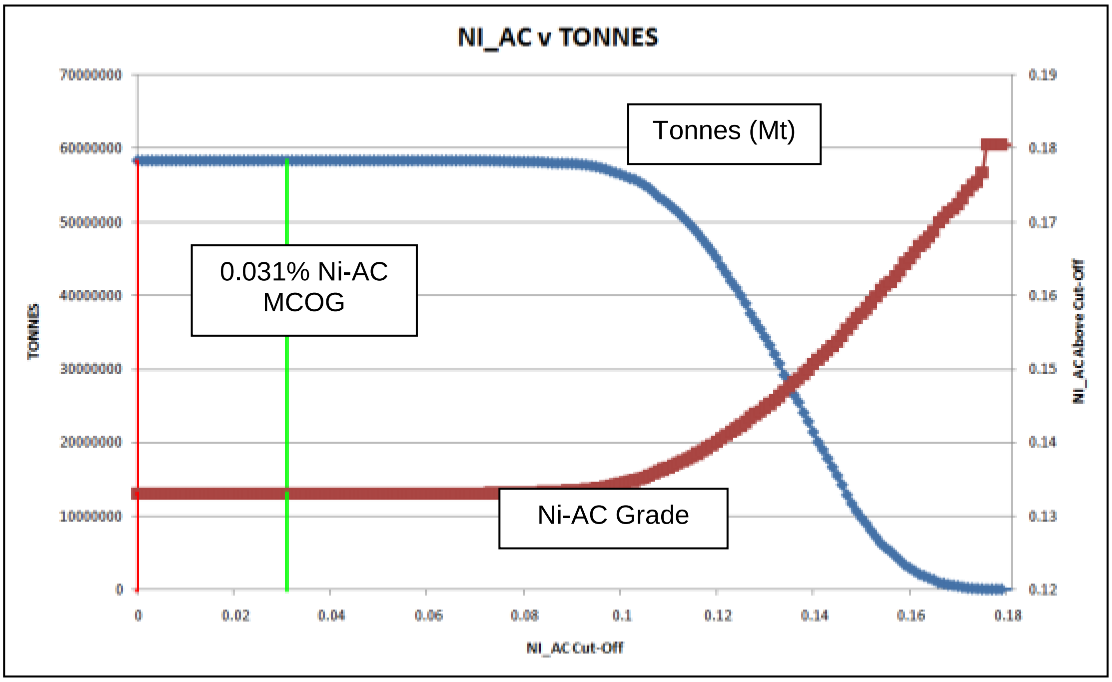


Figure 4-28: Vinberget Grade Tonnage Curve – All classification categories above Whittle pit shell (green line marks 0.031% marginal cut-off grade)

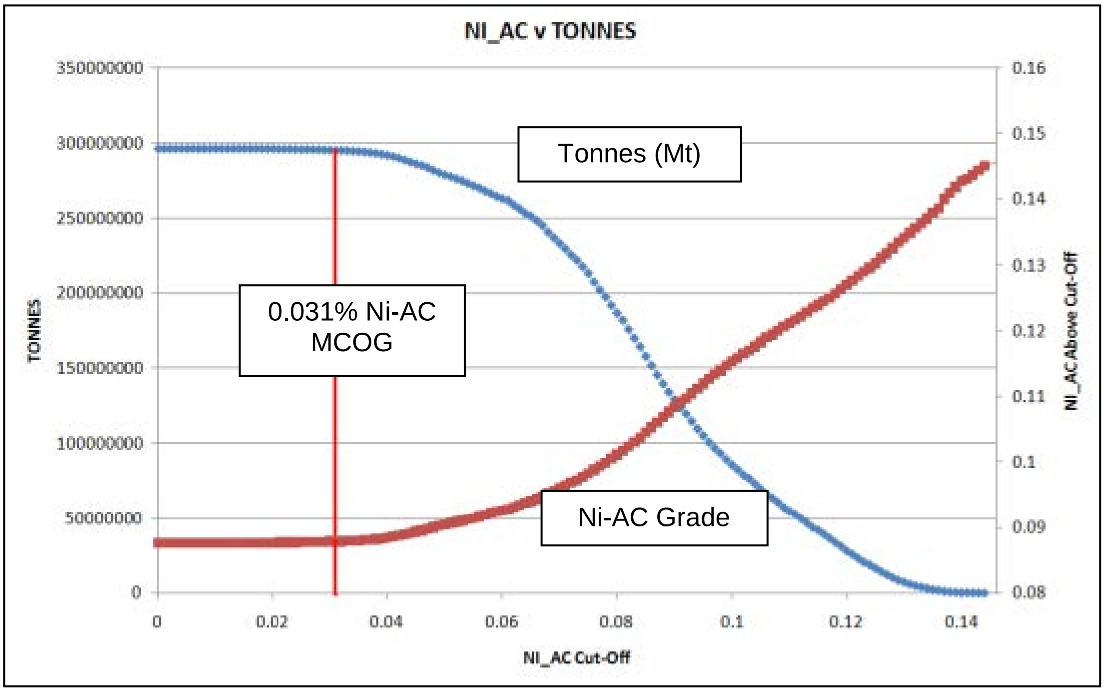


Figure 4-29: Sundsberget Grade Tonnage Curve – All classification categories above Whittle pit shell (red line marks 0.031% marginal cut-off grade)

4.7 Mine Optimisation, Design and Scheduling

SRK generated pit tonnages and grades for scheduling purposes for each of the three deposits. The following key parameters were used in the optimisation process.

Table 4-14: Pit optimisation parameters

Description	Unit	Value
Nickel Price	(USD / lb)	9
Base Mining Cost (at Reference Block - RFBK)	(USD / t)	1.35
Mining Recovery	(%)	95
Mining Dilution	(%)	2.5
Ni Processing Recovery	(%)	80
Processing Cost	(USD / t)	4.96

In addition, indicative overall slope angles on a lithology basis were estimated using rock mass classification ratings derived from photologging of selected borehole core carried out by Gary Dempers of Dempers and Seymour Pty Ltd (D&S) and reviewed by SRK.

As a result of this the maximum overall footwall and hangingwall slope angles for pit optimisation were:

- Rönnbäcknäset – 48°
- Vinberget – 50°
- Sundsberget – 49°

The mining schedules themselves were developed by Ritzén Consult and reviewed by SRK. It is currently envisaged that ore production will commence simultaneously at Rönnbäcknäset and Vinberget, with full production achieved in Year 2. Mining at Sundsberget will then commence in Year 5 and reach full production by the time the Vinberget deposit is depleted. The overall strip ratio is 0.72 (waste:ore).

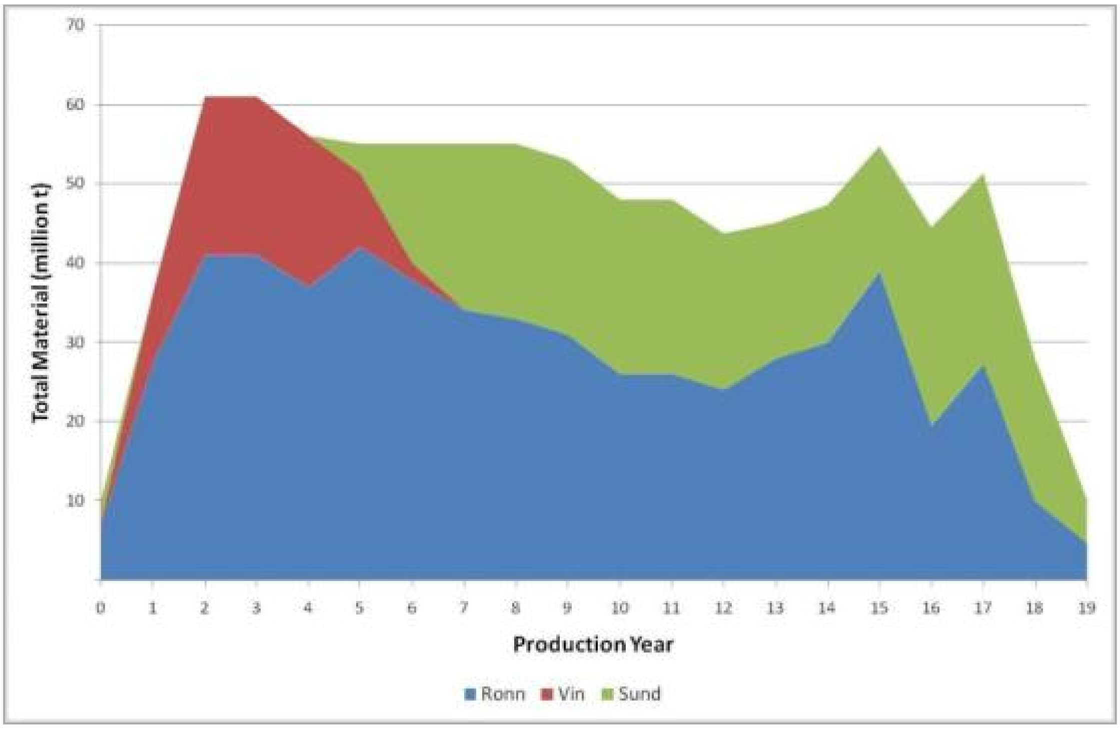


Figure 4-30: Production schedule

Rolf Ritzen of Ritzen Consult has prepared a mining equipment list on behalf of the Company. The current study assumes contract mining using 700 t hydraulic shovels with 34 m^3 buckets and 225 t haul trucks.

Ritzen Consult also carried out a preliminary waste rock dump (WRD) design which assumed that the WRD will have an average height of 50 to 70 m and a slope angle of 1:5. The proposed locations of the WRD in proximity of each of the proposed pits is considered by SRK to be reasonable.

4.8 Metallurgical Testwork

Metallurgical testwork has been undertaken on samples of the nickel sulphide ores from Rönnbäcken to determine the mineralogical, comminution and metallurgical properties of the various mineralised zones within the deposits.

The purpose of the test work programme was to develop a process flow sheet that maximises recovery of nickel and cobalt whilst minimising the incorporation of penalty elements (eg magnesia) at the lowest achievable project risk.

Historical testwork was initially carried out by Boliden during the 1970s where a lab and large scale 4000t pilot program, facilitated by test pit mining, achieved 26 to 34% nickel grade and 67 to 73% sulphide nickel recovery. Typically a primary grind of P_{80} 44µm was required. Autogenous grinding was used, comparing favourably to rod and ball milling.

Phases 1-3 of laboratory based test work conducted by the Company, largely at Outotec Finland’s Research Center in Pori, indicated that a closed circuit recovery of 78% was possible yielding a concentrate with a grade of 28% nickel. Composites representing the first few years of production were used and ground to a P_{80} of 50µm. This was demonstrated through minipilot operation which produced a concentrate with a grade of 22% nickel at 80% recovery using the flowsheet in Figure 4-31.

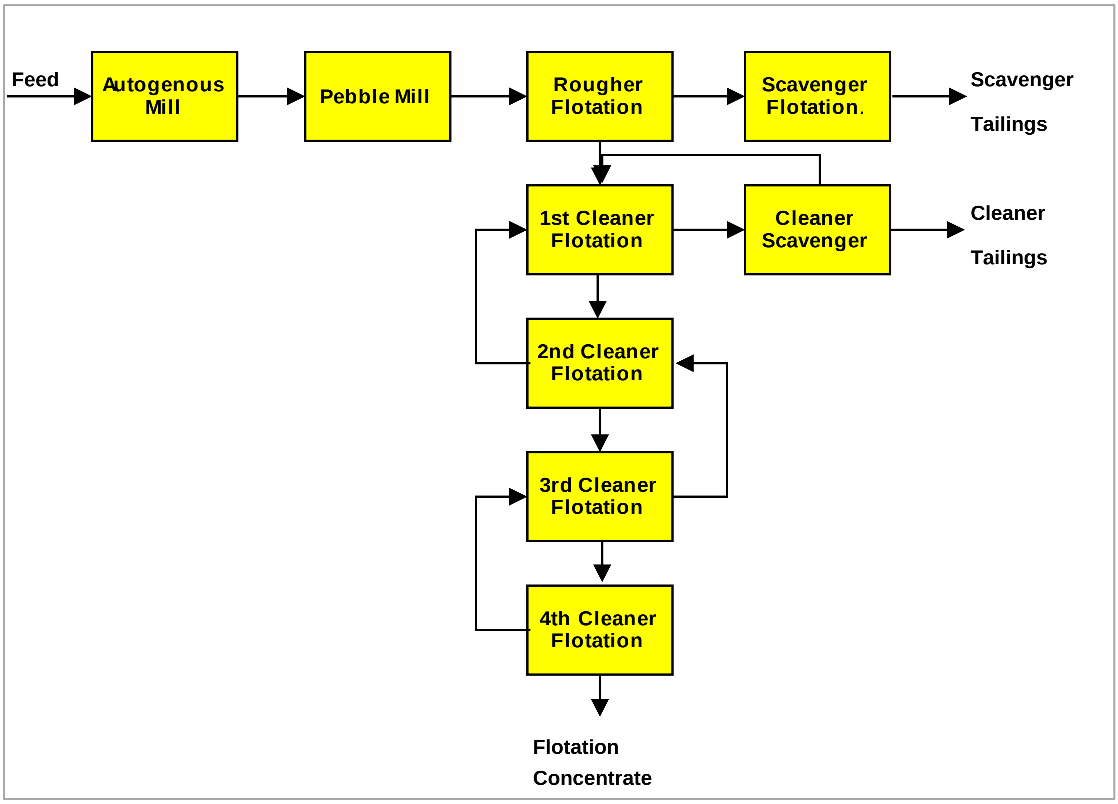


Figure 4-31: Simplified flow sheet

More recent laboratory-scale testwork based at Outotec has indicated that concentrates with an increased grade of 28% nickel at 80% sulphide nickel recovery could be produced from the same composite samples used in the minipilot operation. This grade was realised by introducing a new combination of flotation variables, most significantly a new reagent regime, along with slight changes to the flowsheet and, typically, a primary grind of P_{80} 50µm.

Based on the testwork performed, the flowsheet developed for the Rönnbäcken concentrator (Figure 4-32) consists of crushing, grinding, flotation, and dewatering steps, typical of many concentrator operations elsewhere in Sweden and Finland. SRK notes that the engineering company has recently been involved in the development of a similar concentrator in the region and is familiar with the associated costs of such a project. This plant, now operational, is similar in terms of capital expenditure and process route.

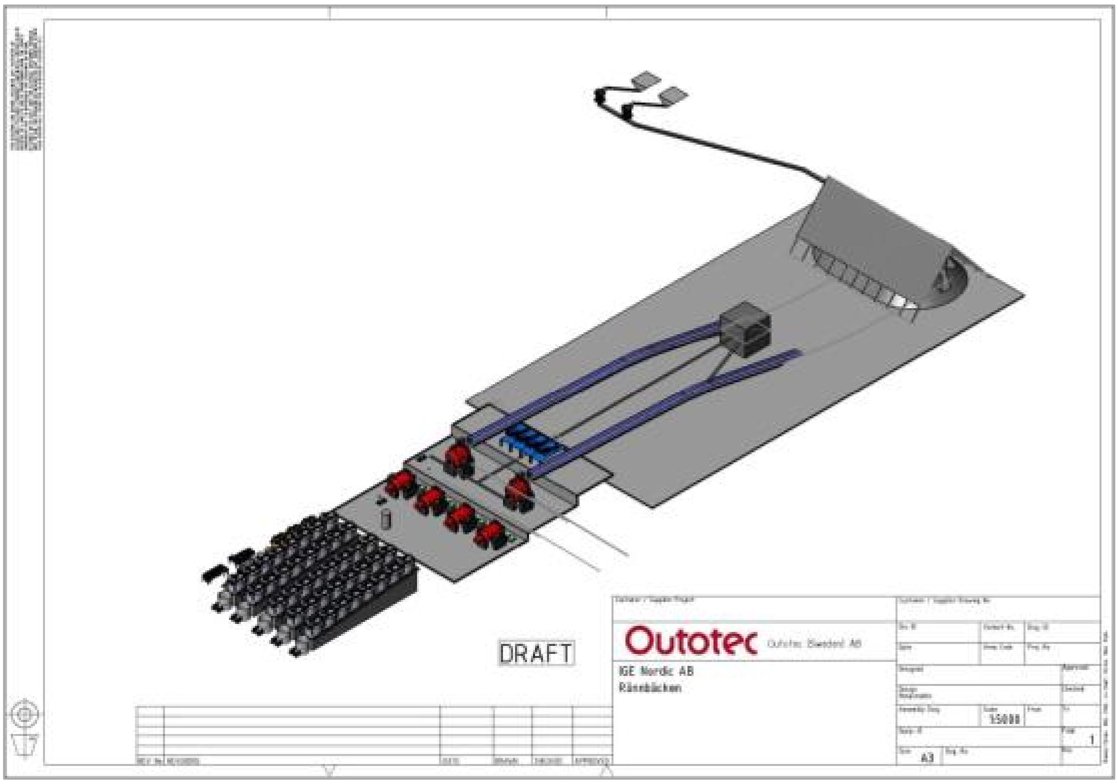


Figure 4-32: Concentrator layout, Oblique View

The conceptual concentrator design is derived from a conventional flowsheet, similar to that in other operations which successfully treat disseminated low-grade nickel sulphides. This design, together with capital and operating cost estimates for the concentrator, has been prepared by Outotec AB (Sweden). The mill will have a capacity of 30 million tonnes per annum (Mtpa) or 3,750 tonnes per hour (tph), and would produce approximately 95,000 tpa of nickel concentrate at 28% Ni.

The processing plant site location has been selected to be in close proximity to the Rönnbäcknäset deposit and the planned tailings management facility. The plant layout has been chosen to utilize the natural geography and topography of the area (Figure 4-33).

Further metallurgical testwork was performed by Outotec at GTK's facilities in Finland in October 2011 to evaluate the potential for the recovery of a saleable magnetite concentrate from the nickel flotation tailings stream. Fifteen batch tests were performed on the tailings from the mini-pilot plant work performed in March 2010 to evaluate the recovery and grade of magnetite concentrate that can be produced using flowsheets comprising desliming, magnetic separation, concentrate regrinding, flotation and product classification. The testwork demonstrated that a saleable magnetite concentrate could be produced using multiple stages of low intensity magnetic separation. A magnetite recovery of 90.3% at a grade of 66.2% Fe was achieved in open circuit batch tests. The level of chrome impurity in the concentrate was acceptable at around 2.2%. This represents a mass yield of 5 to 6 % or an annual magnetite concentrate tonnage of 1.6 million tonnes from 30 million tonnes of ROM ore. The concentrate produced was very fine, nominally minus 20 µm, and further testwork is required to optimise this parameter and to establish if it will be necessary to pelletize the product.

Adding a magnetite concentrate circuit to the current plant configuration is estimated to cost US$87 million, which together with a US$12 million increase in working capital, raises the start-up capital expenditure for the Project from US$1,161 to US$1,260 million.

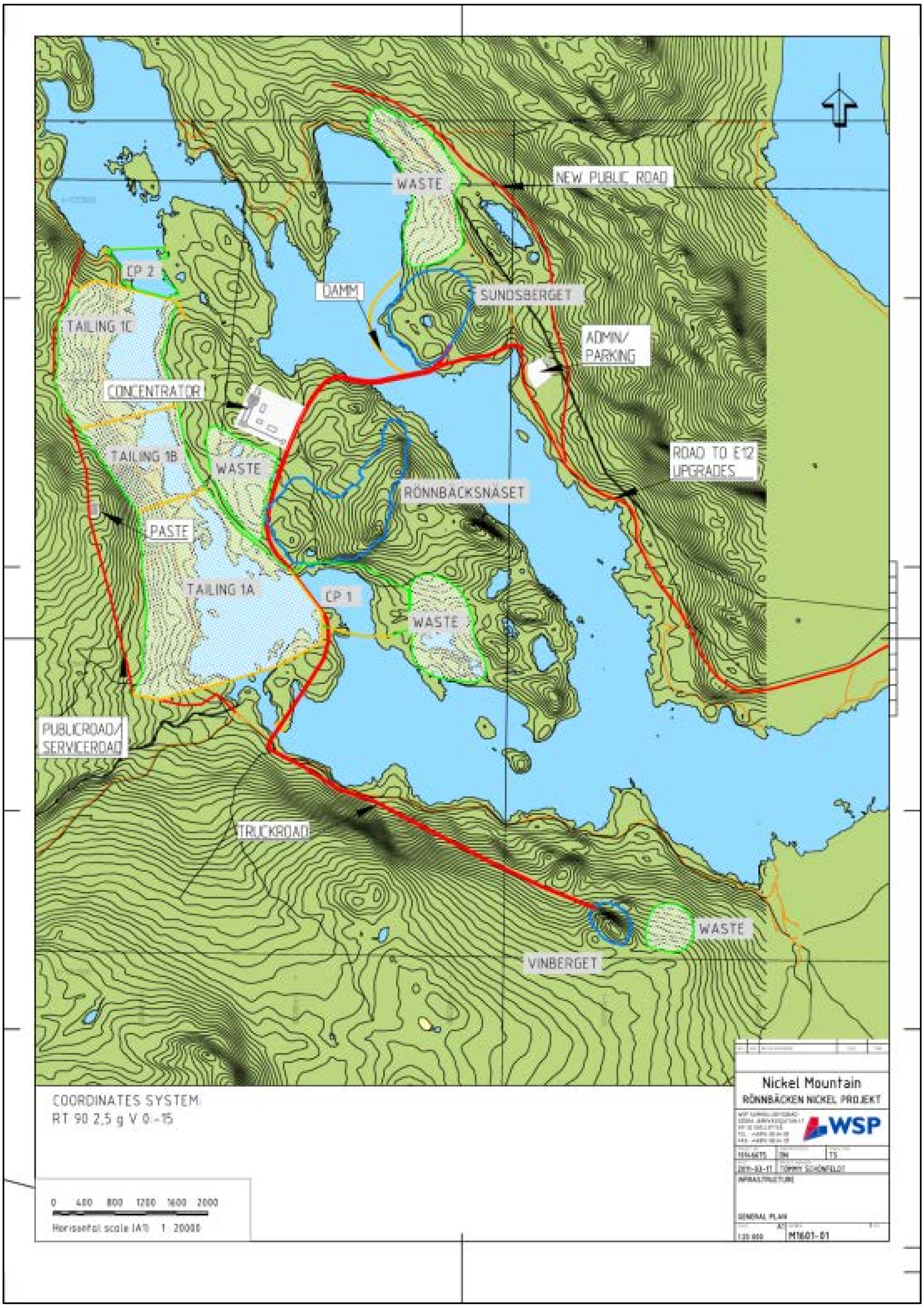


Figure 4-33: Proposed Site Layout

4.9 Project Infrastructure

The key infrastructure required to support the Project as currently envisaged will comprise:

- 14 km of access road upgrading from the E12 highway to the project site. The associated costs will be negotiated with the Swedish Transport Administration;
- 4 km of 144kV power line to tie into the external grid, plus a 160 MW receiving main station 220 V (four transformers), with internal electrical grid and substations to service the process plant, tailings area and mines;
- mine roads connecting to the concentrator, waste dumps and tailings dam, including two causeways across the Gardiken reservoir;
- a 15 ha industrial pad for the process plant site;
- a 2 km coffer dam protecting the Sundsberget pit from the reservoir;
- buildings inclusive of changerooms, offices, restaurants, mechanical and electrical workshops, truck workshops, heated and cold storage facilities; and
- a sewage treatment plant and recycling facilities.

Figure 4-34 illustrates the Project site location relative to local infrastructure with a photograph of the Ajaure hydropower plant as inlay.

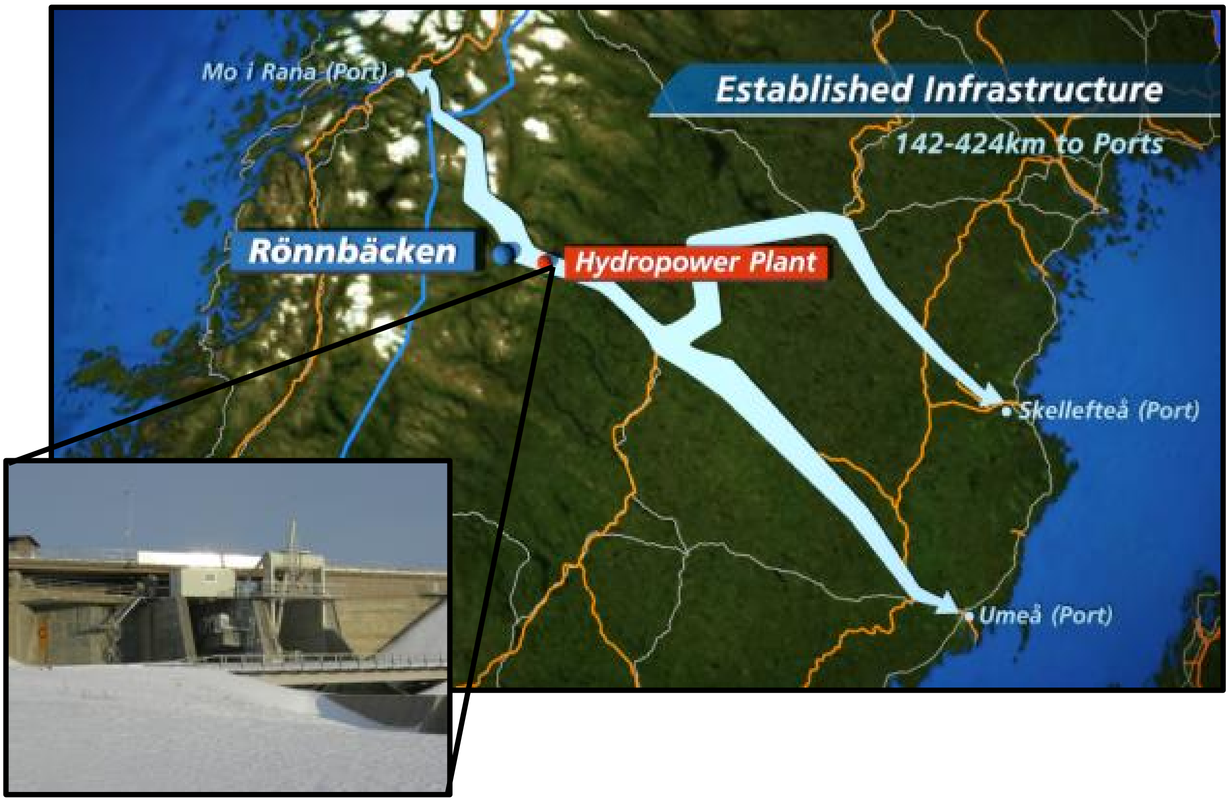


Figure 4-34: Rönnbäcken relative to existing infrastructure and a photo of the Ajaure hydropower plant.

4.10 Tailings Management

The proposed design for the tailings management facility (TMF) is to construct a cluster of three cells that will require the construction of four dams, south of the Rönnbäcknäset pit in Lake Gardiken, a hydro-electric reservoir. Deposition of the tailings will be achieved by spigotting the tailings over the TMF to maximise the storage capacity. Two clarification ponds will be constructed at both ends of the TMF. Tailings will be subject to a thickening process to produce a bulk dry density estimated at 1550 kg/m^3 and a top surface sloping of 4^o, producing a tailings volume of up to 340 Mm^3.

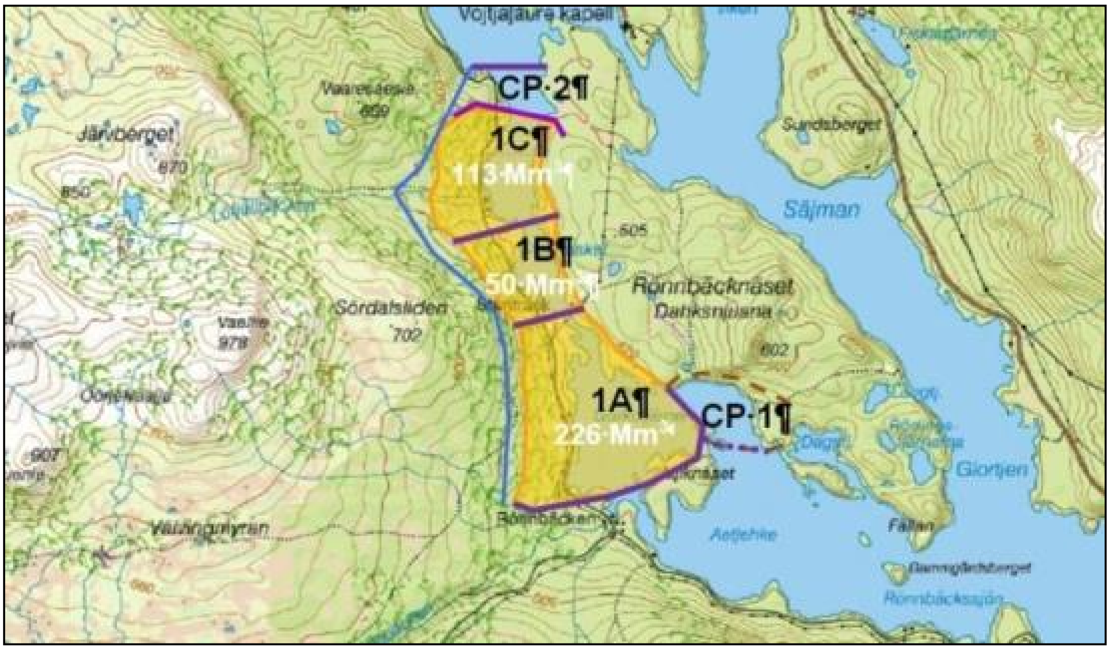


Figure 4-35: Proposed layout of the Project TMF

Preliminary investigations on the waste rock and tailings indicate that there is low potential for development of acid rock drainage, although further testwork is required to confirm this.

4.11 Environmental Studies, Permitting and Social Impacts

Accepting the level of study and available information, the environmental impacts of the proposed project are not deemed significant. Following cessation of operations, the area is expected to be returned to a prior-to-intervention state except for the presence of pit lakes and new topographic highs from the storage facilities for waste rock and tailings, which shall be rehabilitated.

Social and economic impacts will largely be positive particularly through new job creation, increased economy of the region and increased tax revenue to local authorities. Potential negative impacts stem from loss of land for other uses, e.g. reindeer herding, dwellings, recreational activities, fishing, and hunting. A present, artificial hydro-electric water reservoir will partly be occupied by tailings and embankments resulting in a slight loss of storage capacity, which reduces the ability to keep water volume from summertime to wintertime, with a limited loss of power value (SEK 3M annually) for the producer as power in wintertime is priced higher than in summertime. However, the overall annual power production is not expected to be reduced. Eventual compensation measures will be negotiated with affected parties.

4.12 Capital and Operating Costs

The capital and operating costs derived by the Company as part of this study were reviewed by SRK and adjusted where appropriate to reflect SRK's views. These costs total USD 1 668M. SRK notes the following:

- contingencies of between 20% and 25% were applied to capital cost associated with the process plant and infrastructure (roads, buildings and electrical);
- capital costs were profiled with roughly 75% of expenditure occurring in pre-production years and the remaining 25% occurring in the first year of production; and
- no capital costs were assumed for mining equipment.

Figure 4-36 illustrates a breakdown of the envisaged capital expenditure over the life of mine as presented in the PEA and split between the major cost centres. The total provision for sustaining capital over the LoM was USD 280M.

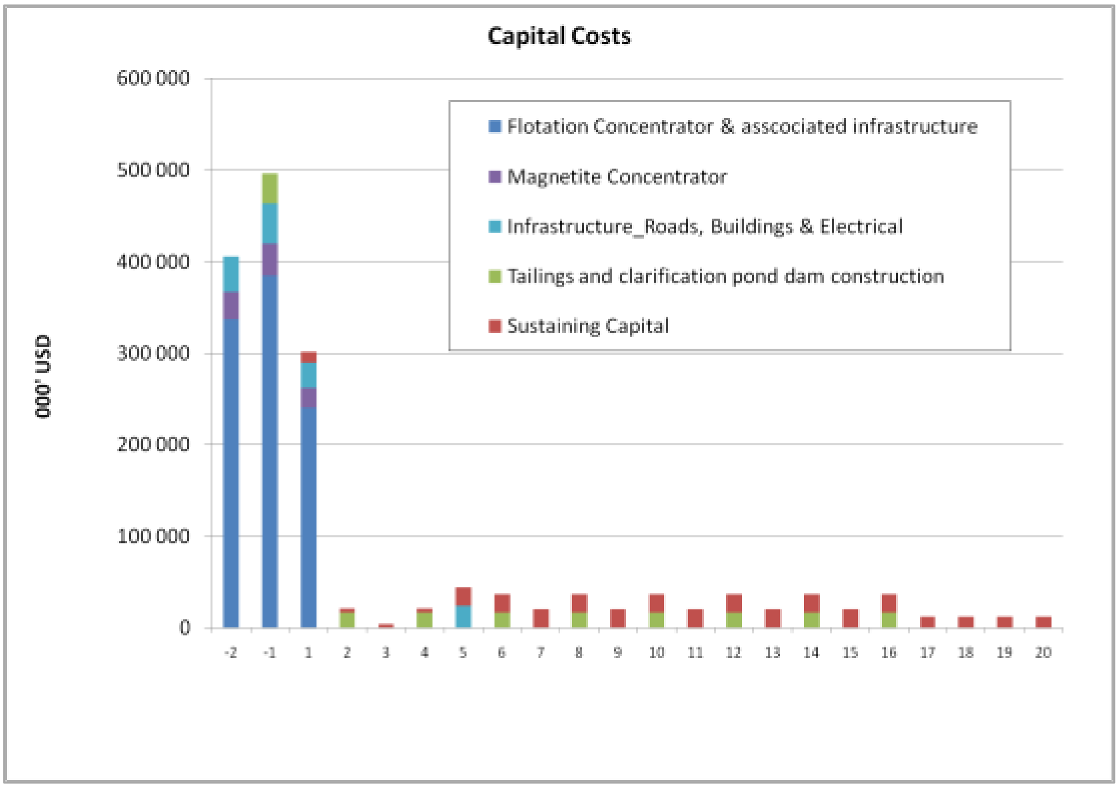


Figure 4-36: Summary of capital cost assumptions by major cost centre

Table 4-15 presents a summary of the capital cost assumptions the Project for start-up capital over Years -2 to 1 and also sustaining and remaining infrastructure capital required over the remaining LoM.

Table 4-15: Capital cost assumptions

Description	Unit	Value
Flotation Concentrator	(USDM)	962
Magnetite Concentrator	(USDM)	87
Infrastructure	(USDM)	150
Working Capital	(USDM)	59
Start-up Capital[1]	**(USDM)**	**1 258**
Infrastructure (Ongoing)	(USDM)	156
Sustaining	(USDM)	254
Total	**(USDM)**	**1 668**

[1] Includes contingency of 23.5% based on 20% for quoted costs on major equipment items and 25% on general items.

Table 4-16: Operating cost assumptions

	USD/t moved	USD/t milled	USD/lb contained Ni	USD/lb payable Ni
Mining	1.79	3.10	1.61	1.73
Processing	2.89	5.03	2.61	2.80
General & Administration	0.22	0.38	0.20	0.21
On-going rehabilitation	0.07	0.13	0.07	0.07
Operating Cost at Mine Gate[1]	**4.97**	**8.64**	**4.48**	**4.82**
ConcentrateTransport				0.96
TC/RC's				1.20
By-product Credits				-3.42
C1 Cash Cost[2]				**3.55**

[1] Mine Gate operating costs per pound of nickel recovered to concentrate

[2] C1 costs include mining, processing, site admin, transportation, smelting and refining, net of byproduct credits.

The total unit operating costs amount to USD4.97/t of total material mined. The total cash cost is USD3.55/lb Ni, net of both cobalt in the sulphide concentrate and the magnetite concentrate. Net C1 cash costs are illustrated below in Figure 4-37 over the life of mine.

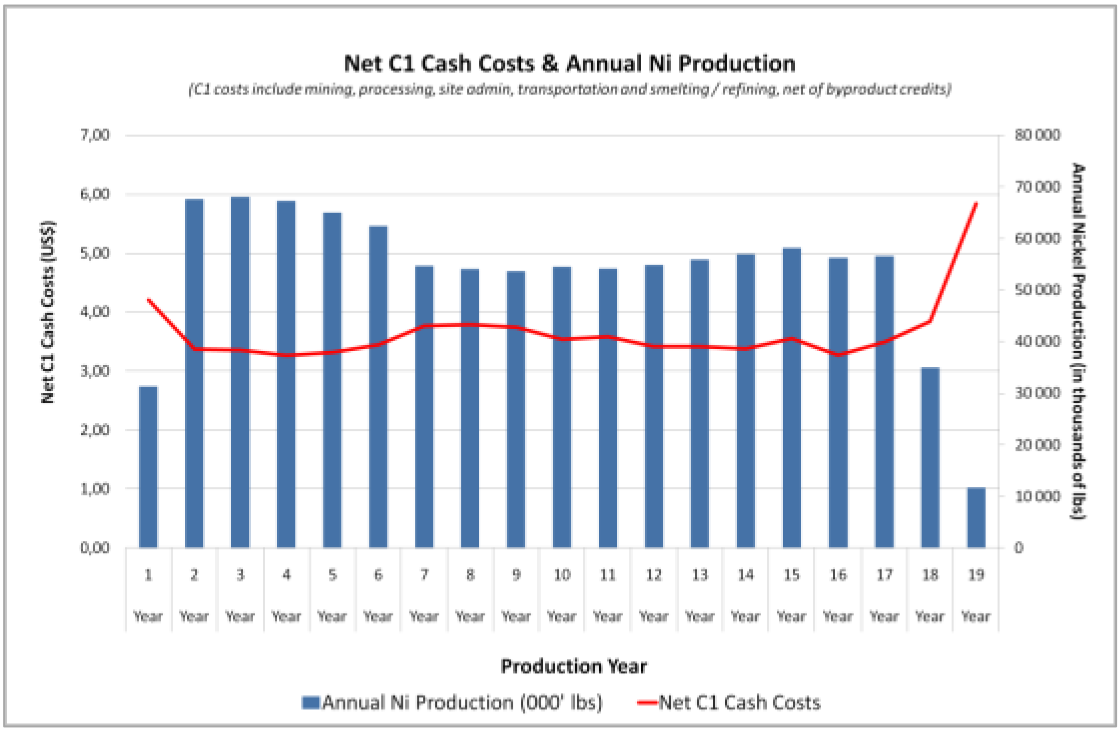


Figure 4-37: Net C1 cash costs over the LoM

4.13 Economic Analysis

SRK's PEA presented a pre-tax, pre-finance Technical Economic Model (TEM) which was used to derive a Net Present Value (NPV) for the Project. The TEM was based on the technical assumptions developed from work undertaken by SRK and the Company, which SRK has reviewed and adjusted where appropriate.

The economic analysis was partially based on Inferred Mineral Resources, and was preliminary in nature. Inferred Mineral Resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves. There is no certainty that the production and economic forecasts on which this Preliminary Assessment is based will be realised.

The economic analysis was undertaken using the US Dollar (USD) as the base currency. Any Swedish Krona (SEK) or Euro (EUR) derived costs were converted at the exchange rates indicated in the Table 4-17 below, which summarises all of the key financial assumptions made. Table 4-17 to Table 4-19 similarly summarise the technical and cost assumptions made and derived by SRK.

Table 4-17: Economic assumptions. Magnetite Iron Concentrate Prices 65% Fe FOB Mo i Rana (Norway).

Description	Unit	Value
SEK:USD exchange rate	(unit)	8:1
USD:EUR exchange rate	(unit)	1.125:1
Base case discount rate	(%)	8
Base case nickel price	(USD / lb)	9
Base case cobalt price	(USD / lb)	15
Fe price (Year 1)	(USD / t)	110
Fe price (Year 2 & onwards)	(USD / t)	104
LoM	(years)	19

Table 4-18: Physical assumptions

Description	Unit	Value
Total ore mined	(k tonnes)	528 030
Total waste mined	(k tonnes)	379 943
Strip ratio	(w:o)	0.72

Table 4-19: Process, smelting and refining assumptions

Description	Unit	Total
LoM feed tonnage	('000 tonnes)	528 030
Plant through-put per day	(tonnes/day)	90 000
Flotation concentrate (Ni-Co)		
Ni recovery	(%)	80%
Ni concentrate Ni grade	(%)	28%
Co recovery	(%)	70%
Ni concentrate Co grade	(%)	0.90%
LoM Contained Ni	(tonnes)	462 000
LoM Contained Ni	(M lb)	1 018
LoM Contained Co	(tonnes)	13 000
LoM Contained Co	(M lb)	29
LoM Ni concentrate tonnage	(000' tonnes)	1 649
Magnetite concentrate		
Magnetite recovery	(%)	90%
Fe grade	(%)	66%
LoM Magnetite concentrate tonnage	(000' tonnes)	29 000

Figure 4-38 below illustrates Net C1 cash costs over the life of mine.

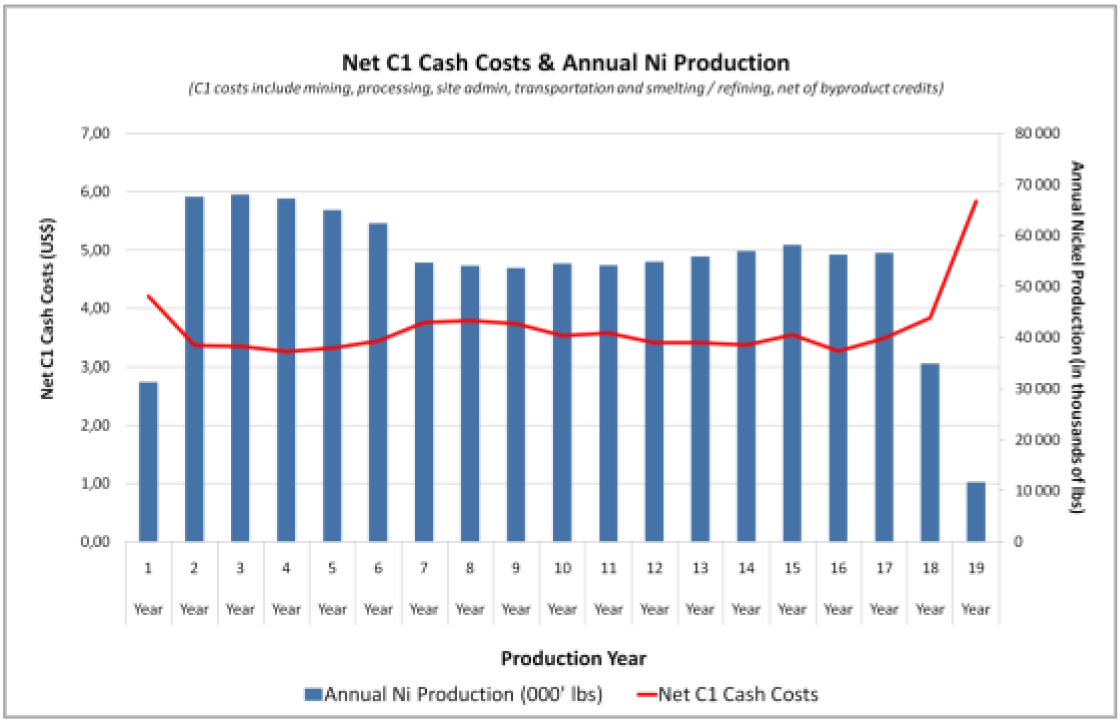


Figure 4-38: Net C1 cash costs over the LoM

SRK's NPV was derived by the application of Discounted Cash Flow (DCF) techniques to the pre-tax, pre-finance cash flow. In summary, at a Ni price of USD9/lb and an 8% discount rate the Project has an NPV of USD1 045M. A summary of the results of the cash flow modelling and valuation are presented in Table 4-20 and Figure 4-39.

Table 4-20: DCF modelling and valuation (December 2011 terms)

Description	Unit	Value
Ni price	(USD / lb)	9
Net pre-tax cashflow	(USDM)	3 468
Payback period	(Production years)	4.4
Pre-tax pre-finance NPV (8%)	(USDM)	1 045
IRR	(%)	19.9

Figure 4-39 below illustrates the undiscounted net pre-tax cashflow over the LoM.

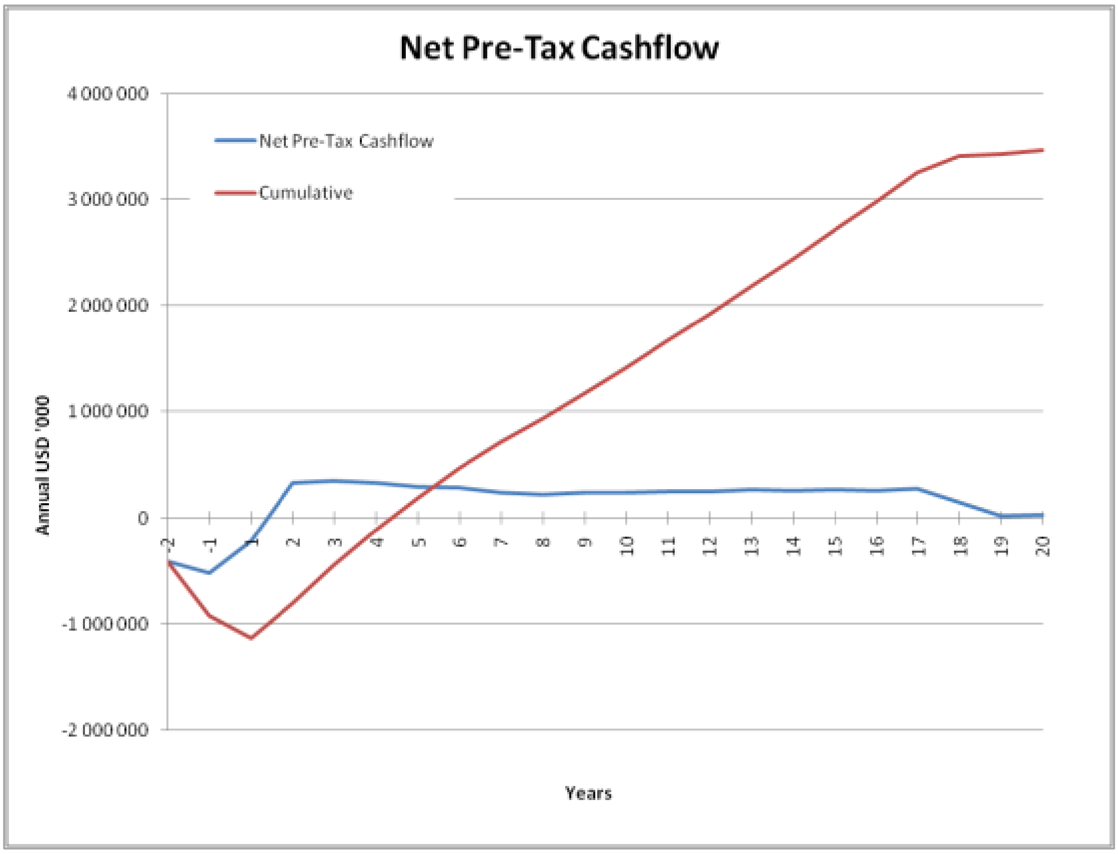


Figure 4-39: Net pre-tax cashflow

Figure 4-40 below presents single parameter NPV sensitivities at an 8% discount rate for commodity price, operating costs, capital costs, SEK:USD exchange rate and Ni recovery. In addition, Table 4-21 presents the sensitivity of the NPV to various nickel price assumptions.

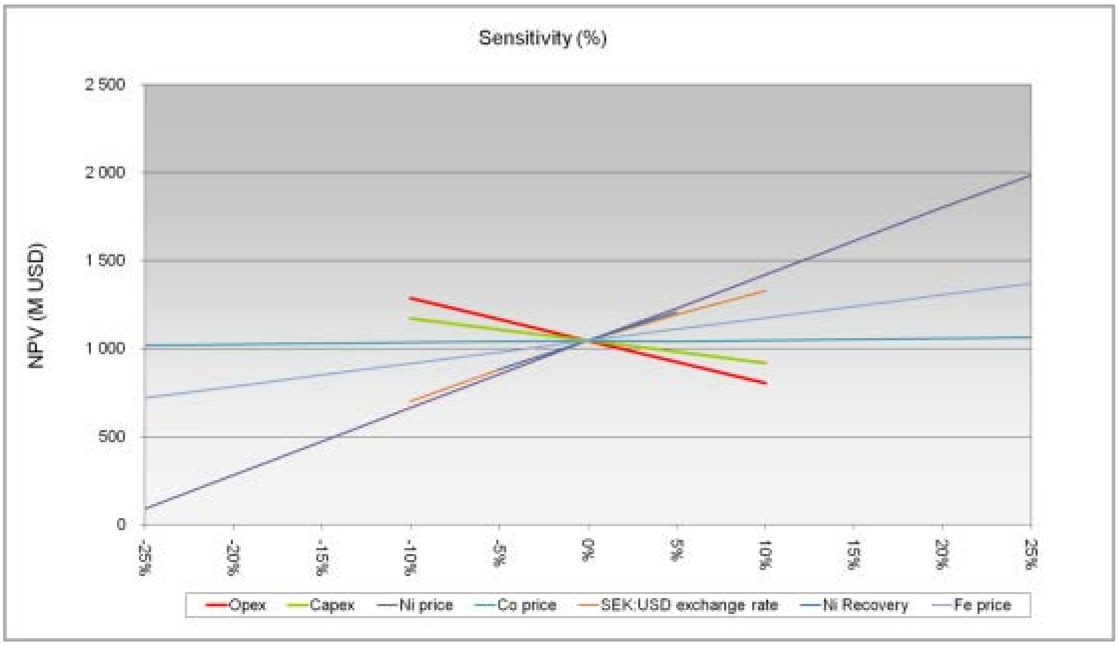


Figure 4-40: NPV sensitivity to multiple variables

Table 4-21: NPV sensitivity under different nickel price scenarios

Nickel Price (USD / lb)								
Description	Unit	7	8	9 base case	10	11	12	13
Net pre-tax cashflow	(MUSD)	1,577	2,522	3,467	4,393	5,338	6,264	7,208
NPV (@ 8% Discount Rate)	(MUSD)	195	620	1,045	1,461	1,885	2,301	2,726
IRR	(%)	10.5	15.4	19.9	24.0	27.9	31.6	35.2
Payback	(Production Years)	7.5	5.4	4.4	3.8	3.3	3.0	2.7

4.14 Risks and Opportunities

In undertaking the technical and economic appraisal of the Project, certain risks and opportunities relating to the development of the project were identified, the most material of which are commented on below.

4.14.1 Risks

There are a number of risks inherent to the mining industry, including the stability of the markets, uncertainties related to Mineral Resource and Ore Reserve estimation, equipment and production performance. The specific risks SRK has identified relating to Rönnbäcken are summarised below.

Deposition of tailings into an existing lake, the Gardiken hydroelectric reservoir, will involve technical challenges during design and construction of the tailings dam, given the seasonal oscillations of the lake water level. These lake level oscillations will also present challenges during operation and post closure, to ensure that any flushing of pore water within the permeable dam wall does not results in the transport of contaminants and excess suspended solids into the lake. Further, it is not clear at this stage how re-habilitation of the tailings area will be carried out and it is suspected by the Company that this may require new and innovative methods.

The edges of the Sundsberget and Rönnbäcknäset open pits will lie close to the edge of the lake. Geotechnical and hydrogeological studies of the charater of the bedrock in these areas is at an early stage and hence water influx and effect on pit slope stability are as yet poorly understood.

There may be certain technical challenges with transporting a magnetite concentrate of the fineness considered as part of this study. It may be necessary to consider a pelletizing the magnetite concentrate, which could involve considerable additional capital cost.

Public roads between the mine site and port will be subject to intensive use for sulphide and magnetite concentrate transport. The Company have estimated that 130-140 truck round-trips will be required per, implying a truck passing every fifth to sixth minute. This level of public road use will require negotiation with local stakeholders and permitting authorities and also upgrade and continual maintenance of roads.

The mine road between the Sundsberget pit and the process plant on Rönnbäcknäset Island, will pass over the lake at a narrow point, where the rate of water through-flow is highest. The road will be constructed using a series of culverts, which will be required to withstand seasonal flooding.

Additional specific risks to the Project include:

- Presence of arsenic in the Ni-Co flotation concentrate which may attract smelter penalties;
- The presence of fibres as a potential health and safety issue; and
- Protection of Sami interests.

4.14.2 Opportunities

SRK consider there to be specific opportunity to improve project economics as follows:

- Exploration drilling should be progressed to evaluate the potential that still exists within the existing exploration permit areas.
- Metallurgical performance could be improved to produce a higher grade Ni concentrate, which may attract improved smelter terms.
- As tailings design is at an early stage, optimisation could further reduce capital cost requirements.

5 RECENT STUDIES

5.1 Introduction

SRK has carried out a high-level desktop review of certain recent studies undertaken by the Company and its consultants since completion of the 2011 PEA. The findings of this work have not been integrated into an updated financial model and/or assessed in detail in the context of the Project as a whole.

The following list presents an overview of these studies, along with the authoring group:

1. Updated Mineral Resource Estimate for Rönnbäcknäset (SRK Consulting);
2. PFS planning and budgeting (SRK Consulting);
3. Desktop metallurgical and marketing study for iron products (Tata Steel UK Consulting Ltd);
4. Environmental studies, including waste rock characterisation and dust emission modelling (Golder Associates);
5. Review of flotation testwork (Eurus Mineral Consultants);
6. Petrography (Vancouver Geotech Labs); and
7. Systematic re-logging of drill core (Nickel Mountain).

With the exception of certain items as discussed below, SRK considers the findings of studies undertaken since 2011 to be either non-material or broadly support the assumptions made as part of the 2011 PEA.

5.2 Updated Mineral Resource Estimate for Rönnbäcknäset

In January 2012, SRK prepared an update to the Mineral Resource for the Rönnbäcknäset deposit, which incorporated data from an additional six strategically placed drillholes targeting down-dip mineralisation. The revised estimate is the latest estimate for the Rönnbäcknäset deposit and has an effective date of 23 January 2012.

In total, Rönnbäcknäset has an Indicated Resource of 319.9 Mt grading 0.103% Ni-AC, 0.003% Co-AC and 5.50% Fe. In addition, 12.2 Mt grading 0.085% Ni-AC, 0.004% Co-AC and 5.11% Fe is in the Inferred category (Table 5-1).

Table 5-1: Updated Mineral Resource for the Rönnbäcknäset (23 January 2012)

DEPOSIT	CLASSIFICA-TION	TONNES (Mt)	Ni-Total %	Sulphide Ni (Ni-AC) %	Sulphide Co (Co-AC) %
Rönnbäcknäset	Measured				
	Indicated	319.9	0.179	0.103	0.003
	Measured + Indicated	319.9	0.179	0.103	0.003
	Inferred	12.2	0.166	0.085	0.004

(1) The effective date of the Mineral Resource Statement for Rönnbäcknäset is January 23, 2012.

(2) The Mineral Resource reported for Rönnbäcknäset was constrained within a Lerchs-Grossman pit shell defined by a marginal cut-off-grade of 0.0323% Ni-AC, a metal price of USD11/lb; slope angles of 48°; a mining recovery of 95%; a mining dilution of 2.5%; a base mining cost of USD1.35/tonne and an incremental mine operating costs of USD0.07/tonne/10 m below the 450m reference RL and USD0.05/tonne/10m above the 450m reference RL); process operating costs of USD4.96/tonne ore; an effective charge per lb Ni in smelter feed of USD1.14, G&A costs of USD0.40/tonne ore and concentrate transport cost USD0.10/tonne.

5.3 Desktop Metallurgical & Marketing Study: Tata Steel

In May 2015, the consulting group of Tata Steel (Tata Steel UK Consulting Ltd) issued a report entitled *“Techno-Economic Study relating to the Production of HBI or Pig Iron using a magnetite by-product from the Rönnbäcken Nickel Deposit”*.

The report presented the results of a desktop metallurgical and marketing study. SRK has précised the main conclusions from this report below:

- The tailings from Rönnbäcken nickel sulphide flotation can be processed to generate a magnetite concentrate containing just over 66% Fe;
- At a grind of 99% passing 0.020mm (20 microns), the mineralogy of the concentrate produced by low grade magnetic separation also contains high levels of MgO, Cr and Ni;
- The potential market for such a concentrate is considered to be limited;
- A desktop metallurgical study was undertaken to determine the viability of converting the Rönnbäcken magnetite concentrate into direct reduced iron (DRI) / hot briquetted iron (HBI) or pig iron;
- The AusIron process route was recommended as the most attractive solution for downstream processing of Rönnbäcken magnetite concentrate;
- Whilst potential economic returns were deemed excellent, this was mainly due to credit obtained from selling electricity produced from the steam generated in the AusIron process;
- It was recommended to investigate further, the price assumptions for selling excess electricity to Mo I Rana;
- AusIron is not yet proven commercially and pilot scale testing was recommended; and

- Further investigation into production of merchant pig iron and semi-finished steel products was also recommended.

On the basis of the findings of this report, Company suspended further work on the Project (Company press release issued 29 June, 2015). In this press release, the Company indicated the following:

- The most favourable option would be to construct a plant for production of merchant pig iron (MPI);
- The expected production from such a facility would likely be in the region of 1.1 Mt per annum MPI, corresponding to roughly 10% of the global market;
- The estimated capital expenditure requirement would be USD 800M, which would be in addition to that estimated as part of the 2011 PEA (USD 1 668M, Section 4.12).

5.4 SRK Comments

The findings from the Tata Steel report are considered material and would require further work to assess the impact on the Project’s overall viability. This work casts some doubt over revenue assumptions derived through the sale of magnetite concentrates, without significant additional capital expenditure, which may negatively impact on the overall economic viability of the Project.

6 CONCLUDING REMARKS

The Company has completed a significant amount of well-considered and systematic exploration and engineering on the Project which has enabled the reporting of a Mineral Resource and the completion of a PEA in 2011.

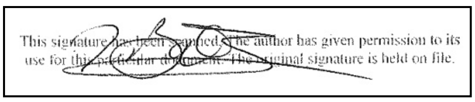
Since 2011, the Company has undertaken several separate technical studies focused primarily on improving confidence in geology, process metallurgy and environmental issue, as part of the initial stages of a PFS. SRK has reviewed these studies and considers the most material of these to be the Tata Steel report (May 2015). The findings of this work suggest that significant additional capital expenditure may be required in order to derive revenue from the sale of magnetite concentrate.

SRK considers that further work would be required to update the 2011 economic analysis to today's terms and to assess the impact of revised technical, cost and revenue assumptions on the Project's overall viability.

7 WARRANTY

The observations, comments and results of technical analyses presented in this report represent SRK's opinions as of August 2016 and are based on the information currently available and the work SRK has completed as described in this report. While SRK is confident that the opinions presented are reasonable, a certain amount of data has been accepted in good faith. SRK cannot therefore accept any liability, either direct or consequential, for the validity of such information accepted in good faith.

For and on behalf of SRK Consulting (Sweden) AB



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Principal Consultant (Geology)
SRK Consulting (Sweden) AB

APPENDIX

A GLOSSARY OF TERMS

Glossary of Terms

Ag	Chemical symbol for silver.
Airborne survey	A technique of geophysical exploration of an area using airborne equipment to survey that area.
Allocthonous	Refers to rocks found in a location other than where they were formed.
Allocthon	A block of rock which has been moved from the location in which it was formed.
Alteration	Physical or chemical changes in a rock or mineral subsequent to its formation.
Amphibolite facies	One of the major divisions of metamorphic mineral assemblages, the rocks of which form under conditions of moderate to high temperatures and pressure.
Anomalous	Value of a given property that is deemed to be above or below the background or normal value.
Anthophyllite	An amphibole mineral with the general formula $(Mg, Fe)_7Si_8O_{22}(OH)_2$.
Anticline	A '∩' shaped fold or structure in stratified rocks with the oldest rocks in the centre.
Antigorite	A polymorph of serpentine that most commonly forms during metamorphism of wet ultramafic rocks and is stable at the high temperatures—to over 600 °C at depths of 60 km or so.
Archaean	An early part of geological time dating from <4,000 to 2,500 million years ago.
Arkose	A sedimentary rock with a fragmental texture, mainly composed of quartz and feldspar, varying from sand- to gravel-sized grains; rocks generally accepted as arkose usually have a feldspar content greater than 25%.
Assay	The analysis of minerals, rocks and mine products to determine and quantify their ingredients.
Assemblage (rock)	A group of rocks that vary in composition and geologic age.
Assimilation (of country rock)	The process in which country rock (surrounding an igneous intrusion) are incorporated into the magma.
Au	Chemical symbol for gold.
Autochthonous	A body of rocks that remains at its site of origin, where it is rooted to its basement. Although not moved from their original site, autochthonous rocks may be mildly to considerably deformed
Basalt	A fine grained, dark coloured mafic igneous rock.
Base metal	The more common and chemically active non-precious metals, such as lead, copper, zinc, nickel.
Basement (rock)	Generally refers to the older rocks below the sedimentary base or solid rock underlying superficial weathered rock or soil.
Bedrock	Unweathered rock below soil and cover.
Bioleaching	A metallurgical practice to leach minerals from rock using biological processes
Calc-silicate (rock)	A metamorphic rock consisting mainly of calcite and calcium-bearing silicates.
Carbonate	A mineral containing the elements carbon and oxygen in the form $(CO_3)^{2-}$. Also refers to rocks containing $(CO_3)^{2-}$ and which are often rich in calcium and/or magnesium.
Chalcophile elements	Elements that combine readily with sulphur, for example copper, lead and silver.
Chalcopyrite	A sulphide of copper and iron, $CuFeS_2$, which is brass-yellow in colour with bluish tarnish. The most important source of copper.
Chlorite	A representative of a group of greenish silicate clay minerals, often formed by hydrothermal alteration of tuffs, andesites and sediments.
Claim	Type of exploration licence (under previous Mining Act) which could cover a maximum area of 1 km^2 and was granted for a period of five years.
Claim Reservation	Type of exploration licence (under previous Mining Act) which could cover a maximum area of 9 km^2 and was granted for a period of one year.
Co	Chemical symbol for cobalt.

Conglomerate	A coarse grained sedimentary rock in which rounded to sub-angular fragments greater than 2 mm in diameter are cemented in a fine-grained matrix.
Contact zone (of intrusion)	The place or surface where an igneous intrusion meets the host rock.
Core logging	Recording geological, geotechnical and other information from drill core.
Core	A solid, cylindrical sample of rock produced by diamond drilling.
Country rock	The rock enclosing or traversed by a mineral deposit. Originally a miners' term, it is somewhat less specific than host rock.
CPR	Competent Persons Report
Craton	A part of the continental crust that has been stable for at least 1,000 million years.
Cross-section	A diagram or drawing that shows features transected by a vertical plane drawn at right angles to the longer axis of a geologic feature.
Crustal	Referring to the earth's crust - the outermost layer of rock, above the mantle, between 5 km and 50 km in thickness.
Crystal pile (in magma)	Accumulation of crystals that have settled to the base of a body of magma.
Cu	Chemical symbol for copper.
D5 (deformation structures)	Indicates the fifth deformation event in the area. Deformation can be brittle (producing faulting/fracturing for example) or ductile (causing features such as folding).
Decline (of mine)	Downward sloping tunnel providing road access from the surface to underground mine operations.
Deformation structure	Structure formed by alteration such as faulting, folding, shearing, compression or extension of rock formations by tectonic forces.
Deformed	When a rock layer of other feature has undergone a change in volume and/or shape it is said to have been deformed.
Deposit	An anomalous occurrence of a specific mineral or minerals within the earth's crust.
Diabase	Igneous rock of mafic composition, typically formed in shallow intrusive bodies.
Diamond drilling	Drilling method, which obtains a cylindrical core of rock by drilling with an annular bit set with diamonds.
Differentiated	Said of an igneous intrusion in which there is more than one rock type formed from the same magma body.
Dip	Inclination of a geological feature/rock from the horizontal (perpendicular to strike).
Direct-reduced iron (DRI)	A metallic material produced from iron oxide fines or iron oxide pellets and/or lump ores that have been reduced (oxygen removed) without reaching the melting point of iron.
Disseminated	Descriptive term, of mineral grains which are scattered throughout the host rock.
Dolomite	Mineral composed of carbonate of calcium and magnesium, $CaMg(CO_3)_2$. Also used as a name for a rock composed largely of the mineral dolomite.
Down-hole deviation survey	The measurement of a drillhole's departure from the vertical, measured in degrees (°).
Down-hole geophysics	Geophysical survey undertaken in drillhole.
Downhole survey	A collection of measurements taken in a drillhole.
Drill intercepts	The intersections (usually of the target mineralisation) made within an exploration drill hole.
EM	Electromagnetic.
En-echelon	Parallel structural features (veins, faults, etc) that are offset from each other.
Enstatite	A translucent crystalline mineral of the pyroxene group, commonly occurring in mafic igneous rocks.
Fault	A fracture in a rock along which there has been displacement of the two sides relative to one another.
Feasibility Study (FS)	A detailed study of the economics of a project based on technical calculations and specific mine designs undertaken to a sufficiently high degree of confidence to justify a decision on construction.
Felsic	Applied to light-coloured rocks containing an abundance of one or all of the constituents feldspar, feldspathoid, and silica. Also applied to the minerals themselves, the chief felsic minerals being quartz, feldspar, feldspathoid, and muscovite.

Flotation	Wet mineral extraction process by which certain mineral particles are induced to become attached to bubbles and float, and others to sink. Valuable minerals are thus concentrated and separated from valueless material (gangue).
Fold	A bend in strata or other planar structure.
Fold axis	A line drawn along the points of maximum curvature of a layer of a fold.
Fold limb	The area of a folded surface between adjacent zones of maximum curvature of the fold (the 'sides' of the fold).
Footwall	The mass of rock underlying a fault, orebody or mine working.
Formation	The fundamental unit of lithostratigraphy. A formation consists of a certain number of rock strata that have a similar properties.There is no formal limit to how thick or thin a formation may be.
Fractional crystallisation	Separation of a cooling magma into multiple minerals as the different minerals cool and congeal at progressively lower temperatures.
Ga	Billion years ago (giga-annum).
Gabbro	A coarse grained intrusive igneous rock composed chiefly of plagioclase and pyroxene commonly with small amounts of ferromagnesian (iron and magnesium containing) minerals.
Geochemical sampling	The search for economic mineral deposits or petroleum by detection of abnormal concentrations of elements or hydrocarbons in surficial materials or organisms, usually accomplished by instrumental, spot-test, or quickie techniques that may be applied in the field.
Geochemistry	The study of the variation of chemical elements in rocks.
Geophysical anomaly	A value which falls outside an expected or 'normal' range of geophysical background measurements.
Gneiss	Coarse grained banded rocks resulting from extreme metamorphism (high pressures and temperatures).
GPS	Global Positioning System
Grab sample	Sample collected at irregular intervals from surface outcrops, mine dumps and so on, not necessarily representative of the material sampled.
Grade	The quantity of ore or metal in a specified quantity of rock.
Granite	A medium to coarse grained plutonic igneous rock usually light coloured and consisting largely of quartz and feldspar.
Granitoid	A group of rock types related to granite.
Graphite	A soft, steel-gray to black allotrope (form) of carbon, used in lead pencils, lubricants, paints, and coatings.
Graphite flake size	Flake graphite is one of three types of graphite, consisting of isolated, flat, plate-like particles. Flake size refers to the size of these particles.
Gravimetric data	Data taken from flucations in the earth's gravitational field caused due to underling geology.
Greywacke	A variety of sandstone generally characterized by its hardness, dark colour, and poorly-sorted, angular grains of quartz, feldspar, and small rock fragments set in a compact, clay-fine matrix.
Ground (geophysical) survey	A systematic collection of (geophysical) data using techniques carried out on the ground, as opposed to using airborne equipment.
Ground geophysics	Refers to the data collected by a ground geophysical survey (see above).
GTK	Geological Survey of Finland
Hanging wall	The overlying side of a fault, orebody or mine working.
Hornblende	A dark green or black silicate mineral found in igneous and metamorphic rocks.
Hot Briquetted Iron (HBI)	A premium form of Direct Reduced Iron (DRI) that has been compacted at a temperature greater than 650° C at time of compaction and has a density greater than 5000 kilograms per cubic meter (5000 kg/m3).
Hydrothermally altered	Relating to physical or chemical changes in a rock or mineral caused by heated water, particularly of magmatic origin.
Intercalation	A layer or bed which has been introduced into a pre-existing rock sequence.
Intracratonic rift (basin)	Area of land within the interior of a continent (away from plate margins) that has undergone subsidence relative to the surrounding area. Has no apparent connection with plate tectonics.
Intrusive	A term applied to a body of rock, usually igneous, that is emplaced within pre-existing rocks.

Isoclinal fold	Tight fold of a rock band/strata whereby the limbs between fold hinges are parallel.
Joint Venture	A business arrangement in which two or more parties agree to pool their resources for the purpose of accomplishing a specific task.
JORC Code	Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves, The JORC Code, 2004 Edition
Lithogeochemistry	The science that uses the tools and principles of chemistry to explain the mechanisms behind geological processes and features, specifically with reference to the composition of rocks.
Lithological unit	A body of rock that is consistently dominated by a certain rock type of similar colour, mineralogic composition, and grain size.
Lithology	A description of the physical features of a rock, including the grain size, mineralogy and texture.
Lode	A tabular or vein-like deposit of valuable mineral between well defined walls of country rock.
Long-section	A diagram or drawing that shows features transected by a vertical plane drawn parallel to the longer axis of a geologic feature.
Ma	Million years ago (mega-annum).
Mafic	Pertaining to or composed dominantly of the ferromagnesian (iron and magnesium containing) rock-forming silicates; said of some igneous rocks and their constituent minerals.
MAG	Magnetic.
Magma plumbing system	Describes the group of features formed as molten rock rises and travels through the surrounding country rock, such as a magma chamber and vents beneath a volcano.
Magma-mixing	The process by which two magmas meet, comingle, and form a magma of a composition somewhere between the two end-member magmas.
Magmatic	Pertaining to processes and rocks involving magma (liquid molten rock).
Magmatism	Development and movement of magma and its solidification into igneous rock.
Massif	A large elevated feature, usually in an orogenic belt, differing topographically and structurally from the lower adjacent terrain.
Massive (ore)	Ore in which sulphide mineralisation is dominant.
Merchant pig iron	Cold iron, cast into ingots and sold as ferrous feedstock for the steel and metal casting industries. It falls into the category of ferrous metallics, of which iron and steel scrap comprises by far the largest volume, others being direct reduced iron (DRI), hot briquetted iron (HBI) and various other “alternative iron” materials.
Meta-	A prefix attached to the name of any rock which has undergone metamorphism.
Metalliferous	Containing metal.
Metamorphosed (rocks)	Pre-existing sedimentary or igneous rocks which have been altered in composition, texture, or internal structure by processes involving pressure, heat and/or the introduction of new chemical substances.
Mica	A group of silicate minerals characterized by their platy habit.
Mica schist	Schist (see Schist) which is rich in the mineral mica.
Mid-Proterozoic	The Proterozoic is a geological eon (unit of time) that extended from approximately 2500-540 million years ago.
Migmatitic	A texture that incorporates both metamorphic and igneous materials; migmatites are thought to be formed by partial melting under very high temperatures and pressures.
Mineral Resource	A concentration or occurrence of material of intrinsic economic interest in or on the earth’s crust in such a form and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.
Mineralisation	The concentration of metals and their chemical compounds within a body of rock. More generally, a term applied to accumulations of economic or related minerals in quantities ranging from weakly anomalous to economically recoverable.
Mining Permit	Type of licence which is valid until further notice, usually dependent on 10 yearly reviews.

Mt	Megatonnes (a million tonnes, where a tonne is a thousand kilogrammes).
Ni	Chemical symbol for nickel.
Olivine	An iron-magnesium bearing mineral found in mafic igneous rocks, with the standard formula $(Mg,Fe)_2SiO_4$.
Ophiolite (body)	A section of an oceanic plate that has been uplifted and exposed at the surface, consisting of sedimentary and mafic-ultramafic igneous rocks.
Ore	Accumulation of minerals containing a substance which can be economically recovered.
Ore Prospecting Permit	Type of licence which is granted for a minimum of 4 years and may be extened by additional periods of 2-3 years for a maximum of 11 years extra.
Ore Reserve	The economically mineable part of a Measured or Indicated Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out, and include consideration of and modification by realistically assumed, mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified. Ore Reserves are sub-divided in order of increasing confidence into Probable Ore Reserves and Proved Ore Reserves.
Orogeny	A major period of mountain building, caused by movement of the earth's tectonic plates.
Outcrop	Part of a solid rock formation which is exposed at the earth's surface.
Overburden	A wasterock material lying on top of a mineralised body.
Overgrowth	A mineral deposited on and growing in oriented, crystallographic directions on the surface of another mineral.
Overthrusting	Thrust faulting with a very low angle of dip and a very large total displacement.
Paleoproterozoic	A unit of time occurring from about 2500 to 1600 million years ago. The Palaeoproterozoic era is a sub-division of the Proterozoic eon (a larger unit of time).
Parautochthonus	Having a tectonic character intermediate between that of autochthonous rock (which is native to its location) and allochthonous rock (found in a location other than where it was formed).
Pentlandite	A yellowish-brown nickel iron sulphide that is the principal ore of nickel.
Percussion drilling	Drilling method which utilises a hammering action under rotation to penetrate rock whilst the cuttings are forced to the surface by compressed air.
Peridotite	A dense, coarse-grained intrusive igneous rock containing a large amount of olivine, believed to be the main constituent of the earth's mantle.
PGE	Platinum Group Elements
Plunge	The angle from the horizontal of a linear geological feature on a plane.
Plutonic	Refers to bodies of igneous rock which solidified beneath the earth's surface.
Polyphase (deposit)	A deposit formed by more than one period of ore formation.
ppm	Parts per million.
Precious metal	A general term relating to high value metals which occur in relatively small concentrations in the earth's crust.
Pre-Feasibility Study (PFS)	A technical and economic study which demonstrates the technical and economic viability of a mining project, such that a decision for proceeding to the project development stage may be made without substantive revision to either scope or scale.
Pulp sample	Sample produced by crushing and pulverising drill core or drilling chips to a nominal particle size.
Pyrite	An iron sulphide mineral (FeS_2) that may oxidize upon exposure to air and water to produce acidity, sulfate and iron.
Pyroclastics	Clastic rocks composed solely or primarily of volcanic materials.
Pyrrhotite	Iron sulphide mineral, close in composition to pyrite but deficient in iron (Fe).
Quarternary	Geological time interval between 2.5 Ma ago to the present.

Quartz	A common rock forming mineral (SiO_2).
Quartzite	A metamorphic rock comprised of recrystallised quartz, often originally a sandstone.
Rapakivi granite	A granite characterized by orthoclase crystals rimmed by plagioclase. Orthoclase and plagioclase are two types of feldspar mineral.
Reaction isograd	A line on a map connecting points where a certain reaction in a particular rock type is known to have taken place; may represent a line of equal metamorphic grade.
Reconnaissance mapping	A general examination or survey of a region with reference to its main geological features, usually as a preliminary to a more detailed survey.
Regional metamorphism	A type of metamorphism in which the mineralogy and texture of rocks are changed over a wide area by higher than normal pressures and temperatures associated with the large-scale forces of plate tectonics.
Reservation Notification	Type of licence which can be granted for a period of between 4 to 24 months and allows exploration to be carried out with the landowner's permission.
Resolution (of airborne anomalies)	A measure of the ability to distinguish detail or to define closely spaced targets.
Reverse fault	A fault in which the hanging wall has moved upward relative to the footwall and the dip is greater than 45°.
Rift basin	A split in continental crust which may spread apart to form lakes or oceans.
Sandstone	A sedimentary rock comprised of sand-sized grains (0.06-2mm) in a fine grained matrix.
Schist	A metamorphic rock defined by its well developed parallel orientation of more than 50% of the minerals present.
Sedimentary rock	Rock formed by the deposition and compaction of sediments.
Sediments	Solid particles, whether mineral or organic, which have been moved from their position of origin and re-deposited.
Selvage	A zone of altered rock at the edge of a rock mass.
Semi-massive (ore)	Ore containing a significant amount of sulphide mineralisation.
Sericite	A white, fine-grained potassium mica mineral that often occurs as an alteration product of various aluminosilicate (aluminium and silica containing) minerals, found in various metamorphic rocks.
Serpentinite	A rock comprised of one or more serpentine minerals, a group of common rock-forming minerals having the formula $(Mg,Fe,Ni)_3Si_2O_5(OH)_4$.
Sheared	Rocks have been deformed by lateral movement along parallel planes similar to a fault.
Showing (of sulphide)	A surface occurrence of a mineral.
Siliceous	Containing abundant silica.
Silicification	Introduction of silica into a non siliceous rock via groundwater or fluids of igneous origin.
Skarn	Deposits formed by metasomatism (chemical alteration involving fluid) and metamorphism of carbonate-rich rocks near to igneous intrusions, often containing sulphide minerals.
Sphalerite	A zinc sulphide mineral, ZnS, the most common ore mineral of zinc.
Strata	Layers of rock.
Stratabound	A mineral deposit that is restricted to a particular part of the stratigraphic column.
Stratiform	Conforming to a layered geometry.
Strike	Direction taken by a structural surface such as a fault or bedding plane as it intersects a horizontal plane.
Structural depression	A low-lying area surrounded by higher ground, produced by negative movements that sink or downthrust the rocks.
Subduction zone	Elongate region along which one crustal plate slides under another.
Sub-volcanic domain	Region located at medium to shallow depths within the crust, below surface volcanic features.
Sulphide	Metalliferous mineral formed with sulphur.
Sulphidic	Containing sulphide.
Supracrustal rocks	Rocks that were deposited on the existing basement rocks of the crust.

Synorogenic	Occurring at the same time as orogenic (mountain building) processes.
Talc	A rock that has a soft and greasy or soapy feel; easily cut with a knife.
Tectonic	Geologic setting involving movements of the earth's crust.
Tectonomagmatic	Relating to tectonic and magmatic processes or features.
Tectonostratigraphic	Relating to tectonic and stratigraphic processes or features. (Stratigraphic - pertaining to the composition and correlation of rock sequences.)
Tensional structures	Structures formed by stretching of rock masses.
Tholeiitic (basalt)	A sub-type of basalt that is richer in silica and iron and poorer in aluminium than basalt.
Thrust	A fault with a dip of 45° or less over much of its extent, on which the hanging wall appears to have moved upward relative to the footwall.
Ti	Chemical symbol for titanium.
Till	Non-layered material deposited directly by glacier ice.
Total magnetic intensity	The vector resultant of the intensity of the horizontal and vertical components of the earth's magnetic field at a specified point.
tpa	Tonnes per annum
Trap sites (in magma plumbing system)	Regions in which material cannot move any further due to physical or chemical effects and therefore will be deposited/crystallise here.
Tremolite	A white to green mineral of the amphibole group of silicate minerals. Often found in low-grade metamorphic rocks such as dolomitic limestones and talc schists.
Turbidite (sequence)	A sedimentary rock sequence formed by mass slumping of material down submarine slopes.
Turbiditic	Relating to a turbidite.
Ultramafic	A dark coloured igneous rock with a silica concentration of less than 45%.
Unit (of rock)	A volume of rock of identifiable origin and relative age range. Units must be mappable and distinct from one another.
Volcanic rock	Rock formed by eruption of molten rock at the earth's surface.
Volcanic complex	A collection of related volcanoes or volcanic landforms.
Volcanogenic	Formed by processes directly connected with volcanic activity.
Volcanogenic massive sulphide (VMS)	A type of base metal sulphide mineralisation comprising sea floor sediments derived from submarine volcanic vents known as 'black smokers'.
Zn	Chemical symbol for zinc.