Boliden Summary Report

Resources and Reserves | 2023

Kevitsa Mine

Prepared by Loraine Berthet

Table of contents

Abbreviations used in this document

PGE for platinum-group elements

LOMP Life Of Mine Plan

TSF for Tailing Storage Facility, it consists of two separate facilities: **TSFA** and **TSFB**

EIA for Environmental Impact Assessment

NSR for Net Smelter Return

RPEEE for Reasonable Prospects for Eventual Economic Extraction

PERC for Pan-European Reserves and Resources Reporting Committee

FQM for First Quantum Minerals Limited

CRIRSCO for Committee for Mineral Reserves International Reporting Standards

FRB for Fennoscandian Review Board

AusIMM for Australasian Institute of Mining and Metallurgy

FAMMP for Fennoscandian Association for Metals and Minerals Professionals

MRE for Mineral Resource Estimation and **GC** for Grade Control

GTK for Geological Survey of Finland

SGL for Scandinavian Minerals

BKMOY for Boliden Kevitsa Mining Oy

BFXOY for Boliden FinnEx Oy

TUKES for Finnish Safety and Chemicals Agency

NME for Near Mine Exploration

CLGB for Central Lapland Greenstone Belt

DD for Diamond Drilling and **DDH** for Diamond Drill Hole

RC for Reverse Circulation

FINAS for Finnish Accreditation Service

XRF for X-ray fluorescence

ICPES for Inductively Coupled Plasma Emission Spectrometry

QAQC for Quality Assurance and Quality Control

BHEM for Borehole Electro-Magnetic

ROM for Run Of Mine

CMC for Carboxymethylcellulose

NiEq for Ni Equivalent

MFF for Mill Flotation Feed

1 SUMMARY

The Mineral Resources and Mineral Reserves for Boliden Kevitsa Ni-Cu-PGE Mine are reported in Table 1. The Mineral Reserve figures have been depleted to account for mining up to the end-of-month December 2023.

Table 1. Mineral Resources and Mineral Reserves for Boliden Kevitsa Mine as of 31-12-2023 and 31-12-2022 for comparison.

2023							
Classification	Mt	Au (g/t)	Cu (%)	NiS (%)	CoS (%)	Pt (g/t)	Pd (g/t)
Mineral Reserves							
Proved	**48**	**0.10**	**0.31**	**0.20**	**0.01**	**0.20**	**0.13**
Probable	**34**	**0.08**	**0.32**	**0.21**	**0.01**	**0.17**	**0.11**
Total	**82**	**0.09**	**0.31**	**0.20**	**0.01**	**0.18**	**0.12**
Mineral Resources							
Measured	**61**	**0.09**	**0.34**	**0.23**	**0.01**	**0.17**	**0.11**
Indicated	**106**	**0.07**	**0.36**	**0.24**	**0.01**	**0.12**	**0.07**
Total M&I	**166**	**0.08**	**0.35**	**0.23**	**0.01**	**0.14**	**0.09**
Inferred	**0.3**	**0.04**	**0.22**	**0.13**	**0.01**	**0.06**	**0.03**
2022							
Classification	Mt	Au (g/t)	Cu (%)	NiS (%)	CoS (%)	Pt (g/t)	Pd (g/t)
Mineral Reserves							
Proved	**73**	**0.10**	**0.33**	**0.22**	**0.01**	**0.21**	**0.13**
Probable	**28**	**0.10**	**0.38**	**0.26**	**0.01**	**0.18**	**0.12**
Total	**101**	**0.10**	**0.34**	**0.23**	**0.01**	**0.20**	**0.13**
Mineral Resources							
Measured	**53**	**0.08**	**0.33**	**0.21**	**0.01**	**0.17**	**0.11**
Indicated	**89**	**0.07**	**0.36**	**0.23**	**0.01**	**0.11**	**0.07**
Total M&I	**142**	**0.07**	**0.35**	**0.22**	**0.01**	**0.13**	**0.08**
Inferred	**0.4**	**0.02**	**0.16**	**0.09**	**0.01**	**0.03**	**0.01**

- *Mineral Resources are reported exclusive of Mineral Reserves.*
- *Mineral Resources and Mineral Reserves is a summary of Resource estimations and studies made over time adjusted to mining situation of December 31 2023.*
- *Mineral Resources are reported as undiluted, with no mining recovery applied in the Statement. Assumptions for mining factors (mining and selling costs, pit slope angles) and processing factors (metal recovery, processing costs), during the optimization process only.*
- *Boliden considers there to be reasonable prospects for economic extraction by constraining within an optimized open pit shell constructed using long term market forecast commodity prices.*
- *2024 LOMP production schedule along with mining factors (mining recovery and dilution), processing factors (Recovery and Processing costs) and revenue factors (metal prices, selling costs) were incorporated in a financial model and economic analysis by which Boliden determined the Mineral Reserves to be currently economic.*
- *Mineral Resources are reported above the optimized pit shell and above a NSR marginal cut-off of 12 EUR/t, which reflects the economic and technical parameters, and below the mine design pit shell used to report the Mineral Reserve.*
- *Mineral Reserves are reported within the pit design at a NSR operational cut-off of 14 EUR/t for 2024, and 15 EUR/t from 2025 onwards.*
- *Mineral Reserves include 20 Mt of ore to be mined during the years 2030-2031 for which current TSFA capacity is insufficient. TSFA stages 14-16 upstream raise is currently under permitting and will provide 20 Mt extra capacity. Based on that 11.3 Mt of Proved Reserves changed to Probable Reserves category.*
- *Mineral Resources include 18 Mt of ore to be mined during the last two years of the LOMP (years 2032-2033) for which current TSFA capacity is insufficient of 20 Mt and have therefore been downgraded from Mineral Reserves. Mineral Resources are dependent on Kevitsa identifying a suitable location, designing and obtaining relevant permits for additional TSF capacity within the next 10 years - prior to the tailings deposition.*
- *Tonnes and grades are rounded which may result in apparent summation differences between tonnes, grade and contained metal content.*

Mineral Reserves were reported from the 2022 Mineral Resource block model, using LOMP 2024 NSR cut-offs and the final pit design. No Inferred Mineral Resources are included in the Mineral Reserves. Kevitsa Mineral Resources are reported from the same 2022 Mineral Resource block model, work done by Sonja Pabst, fulltime employed Boliden Senior Resource Geologist at the time the estimation was done, and Member of the AIG Australian Institute of Geoscientists, Membership No. 7473. Statement was performed using a constraining Whittle pit shell to demonstrate RPEEE.

2022 Mineral Resource estimation is detailed in PERC compliant Technical Report, Pabst (2023).

2 GENERAL INTRODUCTION

This report is issued annually to inform the public (shareholders and potential investors) of the mineral assets in the Kevitsa mining operation ("the Kevitsa Mine") held by Boliden Mineral AB ("Boliden"). The report is a summary of internal and Competent Persons' Reports for the Kevitsa Mine. Since 2018 Boliden is reporting following standard from the PERC "Pan-European Standard For Reporting Of Exploration Results, Mineral Resources And Reserves" ("The PERC Reporting Standard 2017"). The PERC Reporting Standard is an international reporting standard that has been adopted by the mining associations in Sweden (SveMin), Finland (FinnMin) and Norway (Norsk Bergindustri), to be used for exploration and mining companies within the Nordic countries.

The Kevitsa Mine's Mineral Resources and Mineral Reserves were previously reported under the FRB's standard at the end of 2017 and 2018 has been a transitional year from FRB to PERC Reporting Standard. Prior to 2017, Mineral Resources and Mineral Reserves were reported according to National Instrument 43-101 under the previous owner FQM.

Boliden considers that Mineral Resource and Mineral Reserve figures released in previous years are accurate and reliable.

2.1 The PERC Reporting Standard

PERC is the organization responsible for setting standards for public reporting of Exploration Results, Mineral Resources and Mineral Reserves by companies listed on markets in Europe. PERC is a member of the CRIRSCO, and the PERC Reporting Standard is fully aligned with the CRIRSCO Reporting Template.

The PERC Reporting Standard sets out minimum standards, recommendations and guidelines for Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves in Europe.

2.2 Definitions

Public Reports on Exploration Results, Mineral Resources and/or Mineral Reserves must only use terms set out in the PERC standard.

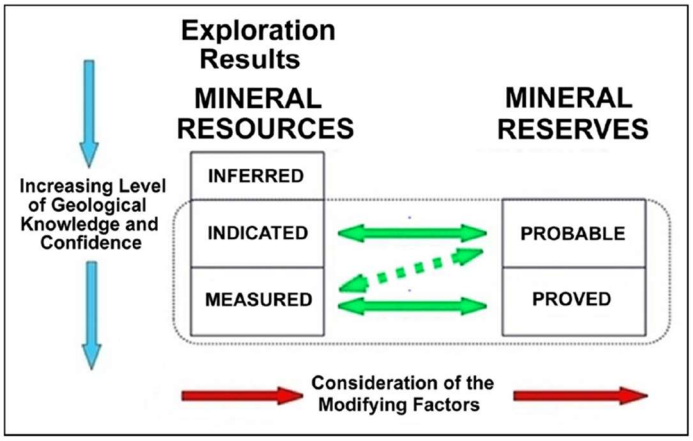

Figure 1. General relationship between Exploration Results, Mineral Resources and Mineral Reserves (PERC 2021).

2.2.1 Mineral Resource

A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

2.2.2 Mineral Reserve

A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

2.3 Competence

The compilation of this report has been completed by a team of professionals who work directly for Boliden Mineral AB. The report has been reviewed and approved by Gunnar Agmalm and Seth Mueller. Gunnar Agmalm is Boliden's Ore Reserves and Project Evaluation manager and a member of AusIMM and FAMMP. Seth Mueller is Boliden's Senior Development Engineer and a member of AusIMM and FAMMP.

Table 2. Contributors and responsible competent persons (CP) for this report

Description	Contributors	Support to CP	Responsible CP
Compilation report	Loraine Berthet		Gunnar Agmalm
Geology and Resource Estimation	Sofia Höglund, Henna Murto	Sofia Höglund	
Mineral Processing	Benjamin Musuku	Janne Laukkanen	
Mining	Tuula Koivuniemi	Sami Ojanen	
Environmental and legal permits	Johanna Holm		Seth Mueller

3 KEVITSA MINE

The Kevitsa Mine is a Ni-Cu-PGE open pit mine located at Sodankylä, Finland.

The mined out ore tonnage for 2023 was 9.405 Mt, which is a decrease from last year by 0.544 Mt. Total mined material (ore and waste) was 36.408 Mt at 2023.

Total milled material in 2023 was 9 829 kt. Nickel metal annual production was 9 943 t in Ni concentrate. Ni recovery decreased by 1.6 % units from 2022. Cu metal annual production was 18 722 t in Cu concentrate and 1 398 t in Ni concentrate. Cu recovery decreased by 2.5 % units to copper concentrate, and total copper recovery decreased by 4.8 % units.

Cu was the most valuable commodity in the Kevitsa Mine. Revenue from Cu was 45.1 % and 39.2 % from Ni. Other valuable commodities are Au, Pd and Pt, which are payable in Cu concentrates and Co in Ni concentrate (in addition to Pt and Pd). Table 3 presents the revenue per commodity at Kevitsa.

Table 3. Percentage of 2023 total revenue per element at Mineral Reserve average grades.

Commodity	Revenue (%)
Cu	45.1
Ni	39.2
Co	1.3
Au	4.3
Pd	4.9
Pt	5.2

3.1 Major changes

NSR formula and cut-offs used during 2023 for grade control are presented in Table 4.

Table 4: NSR revenue factors by commodity and cut-off applied for grade control in 2023

	January 2023
Commodity	**Factor**
Cu	**60.24**
NiS	**103.17**
CoS	**86.95**
Au	**15.17**
Pd	**20.47**
Pt	**8.00**
NSR cut-off EUR	**15**

- Dilution changed from 7 % to 16 % based on 2023 reconciliation.
- Estimation parameters from MRE 2022 dated January 2023 have been implemented in production in March 2023.
- Modifications on pit designs for LOMP and Budget 2024 were used for reserve calculation.
- MRE 2022 dated January 2023 was used for 2023 Mineral Resource and Reserve calculation.
- Infill drilling campaign was completed during 2022 (data cut-off 5th October 2022) and was considered for the 2022 MRE preparation.
- A new Whittle pit optimization was conducted to define RPEEE pit shell for Mineral Resource reporting.

3.1.1 Technical studies

Technical studies conducted during the year 2023:

- Pit photogrammetry has been performed to support structural model update and optical borehole imaging has been tested during the infill drilling campaign.
- Domaining study, AsGeoMin SpA (2023).

3.2 Location

The Kevitsa Mine is located some 142 km north-northeast of Rovaniemi, the capital of Finnish Lapland, and approximately 140 km north of the Arctic Circle in the Municipality of Sodankylä. Sodankylä is located approximately 40 km south by road and the nearest village Petkula is located 8 km west of the property. A location map is presented in Figure 2. More detailed description in Pabst (2021).

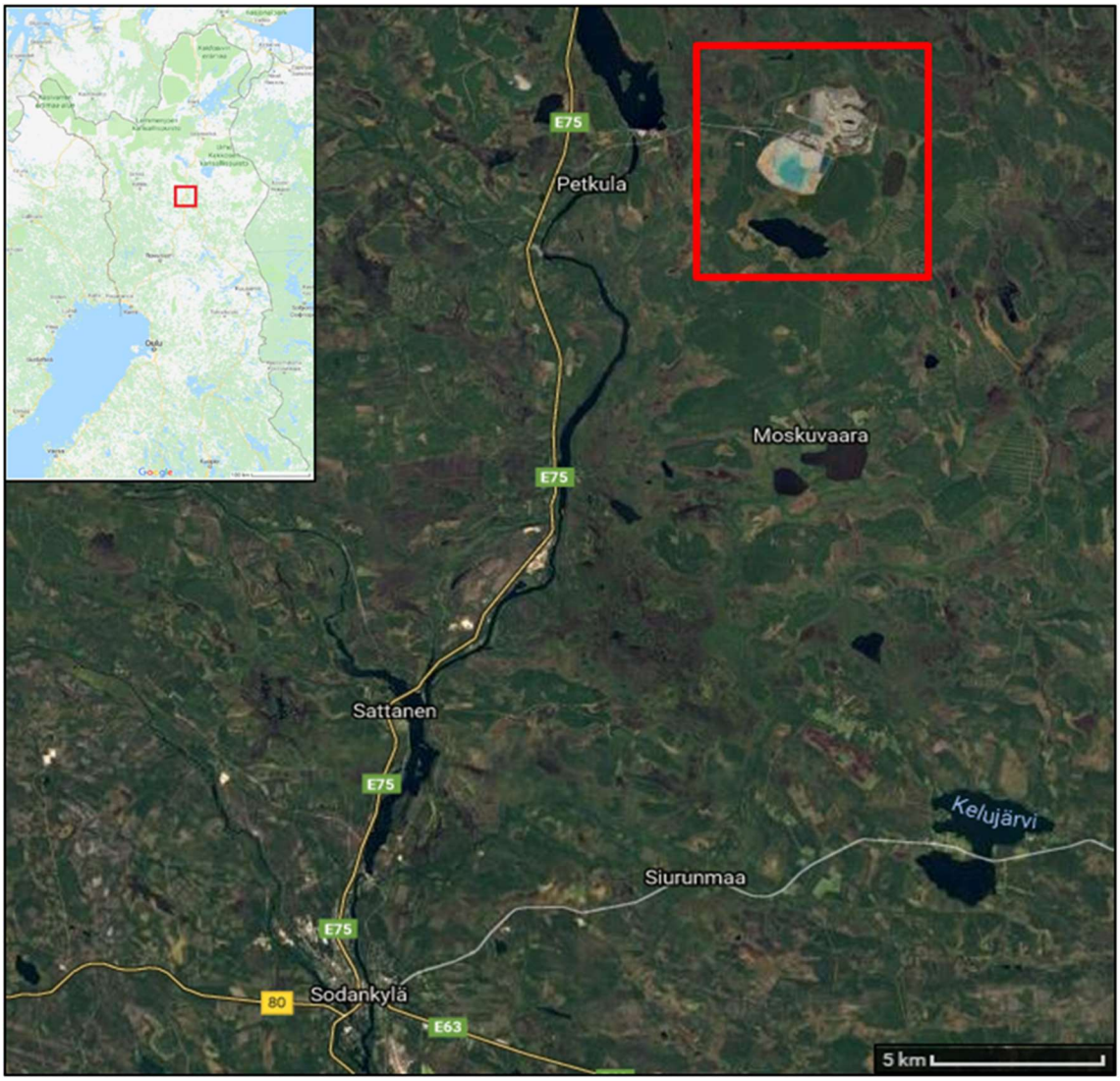

Figure 2. Map of the Kevitsa Mine property (red square) in relation to Sodankylä

3.3 History

A historical summary of the Kevitsa Mine is summarized in Table 5, production history is in Table 6 and process history in Table 7. A more detailed description of the project history from exploration to production can be found in Gregory et al. (2010) and Gray et al. (2016).

Table 5. Kevitsa Project History

Kevitsa Project History	
1960s	Mapping of outcrops and river boulders
1970s	Outokumpu reconnaissance exploration work
1984	Initial diamond drilling (GTK)
1984-1987	Ground geophysical surveys (magnetic, gravity, electromagnetic) and basal till sampling
1987	**Diamond drilling and discovery of Ni-Cu mineralization**
1990	Diamond drilling
1992-1995	Main diamond drilling and trenching program
1994	Airborne Survey GTK
1996-1998	Till geochemistry and drilling and processing test work undertaken by Outokumpu Metals & Resources
2000	Project owned by SGL
2008	Project owned by FQM
2010	Construction commenced
2012	Commercial production
2016	**FQM sells the Kevitsa Mine to Boliden AB**
2020	Commissioning of 9.5 Mtpa expansion project, with design capacity of 9.9 Mtpa
2022	All exploration permits in NATURA 2000 areas relinquished

Table 6.Waste and ore production history of the Kevitsa Mine in million tonnes (Mt)

Production		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total to date
Ore	[Mt]	3.37	5.81	6.93	6.63	7.67	8.28	7.93	7.68	9.49	9.80	9.95	9.40	92.94
Waste	[Mt]	4.23	16.01	21.21	30.39	31.9	34.2	33.5	32.23	29.96	23.96	26.46	27.0	311.05
Total	[Mt]	7.6	21.82	28.14	37.02	39.57	42.48	41.4	39.91	39.45	33.76	36.41	36.40	403.99

Table 7. Processed metals history of the Kevitsa plant

Production		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total to date
Milled, tonnes	[kt]	3 137.7	6 313.6	6 711.2	6 665.5	7 391.7	7 911.2	7 582.1	7 536.3	9 185.9	9 468.7	10 287.0	9 828.7	92 020
Cu metal in concentrates	[t]	8 093	14 775	17 535	17 204	20 571	29 957	27 498	19 763	27 402	28 725	25 191	20 121	256 835
Ni metal in Ni concentrate	[t]	3 874	8 963	9 434	8 805	11 100	13 777	13 948	9 021	11 074	12 876	11 798	9 943	124 613
Co metal in Ni concentrate	[t]	167	401	422	369	501	587	591	445	495	592	624	513	5 707
Au in concentrates	[oz]	6 309	11 723	12 844	12 797	15 614	20 846	20 262	13 084	18 768	20 484	17 274	12 743	182 746
Pt in concentrates	[oz]	13 753	30 403	34 090	31 751	37 868	45 574	50 684	30 656	41 040	46 512	39 975	30 005	432 311
Pd in concentrates	[oz]	12 131	24 638	25 989	25 082	28 978	32 839	37 210	22 429	27 572	33 310	30 875	24 496	325 551

Figures differ from previous Boliden Summary Report for Resources and Reserves following homogenization of the reporting in Troy ounce (oz)

3.4 Ownership

In accordance with Finnish regulations, BKMOY owns the land within the mining concession (758-412-35-1, 1 413 ha). The land was previously under the control of the Finnish State Forestry Commission, Metsähallitus, who are the principal landowner of the surrounding property of the region. Kevitsa Mine does not pay any royalties because in Finland the mining concession holder pays annual compensation (excavation fee) to the landowner.

3.5 Permits

The site's operating entity is BKMOY. The Ministry of Economic Affairs and Employment of Finland originally granted mining concession No. 7140 to FQM Kevitsa Mining Oy (owned by FQM) on 28th September 2009.

Until end of 2020, all the Boliden's exploration activities in Finland were carried out by own legal entity BFXOY. From the beginning of 2021, BFXOY was merged to BKMOY. With the change, all the exploration permits have been now transformed under BKMOY.

In addition to mining concessions, BKMOY holds twelve valid exploration permits and has several permit applications in the Kevitsa area and wider Sodankylä region.

The current situation regarding exploration permits is fairly good. The upcoming targets are well-permitted. TUKES has made significant progress in reducing the processing time for exploration applications, and by the end of 2023, several BKMOY exploration applications were granted.

There has been a lack of Ni-Cu-PGE targeting work outside existing Kevitsa NME claims in the CLGB for many years. Most of the current NME targets have already been extensively tested, and new target areas are needed. Unfortunately, due to intense competition and many limitations, such as nature-protective areas, there is no free ground for exploration in Central Lapland. Therefore, it is crucial to actively search for potential areas of interest to be able to act quickly when new areas become available and to ensure exploration in the longer term. This is in line with the increased Ni exploration in Boliden as CLGB is highlighted as one of the most prospective areas for magmatic Ni-Cu-PGE, even on the global scale.

The valid and applied mining concessions and the surrounding exploration permits are presented in Table 8 and shown in Figure 3.

Table 8: Table of tenements

Tenement type	Owner	Area (km2)	No. of blocks	Permit ID
Valid Mining Concession	BKMOY	14.13	1	7140
Applied - Mining Concession, Extension (2018)	BKMOY	4.01	3	7140
Applied - Mining Concession, Extension (2022)	BKMOY	2.90	1	7140
Valid Ore Prospecting Permits	BKMOY	72.24	12	8890/2-8890/4 ML2015:0068 ML2015:0037 ML2015:0038 ML2015:0056 ML2013:0094 ML2016:0051 ML2022:0018 ML2019:0066 ML2020:0060 ML2020:0061 ML2021:0082
Applied Ore Prospecting Permits (Includes the extended permits)	BKMOY	128.09	15	ML2013:0078 ML2013:0079 ML2014:0111 ML2015:0027 ML2015:0039 ML2015:0065 ML2016:0027 ML2017:0002 ML2018:0027 ML2020:0004 ML2011:0055 ML2017:0003 ML2016:0054 ML2016:0055 ML2023:0105

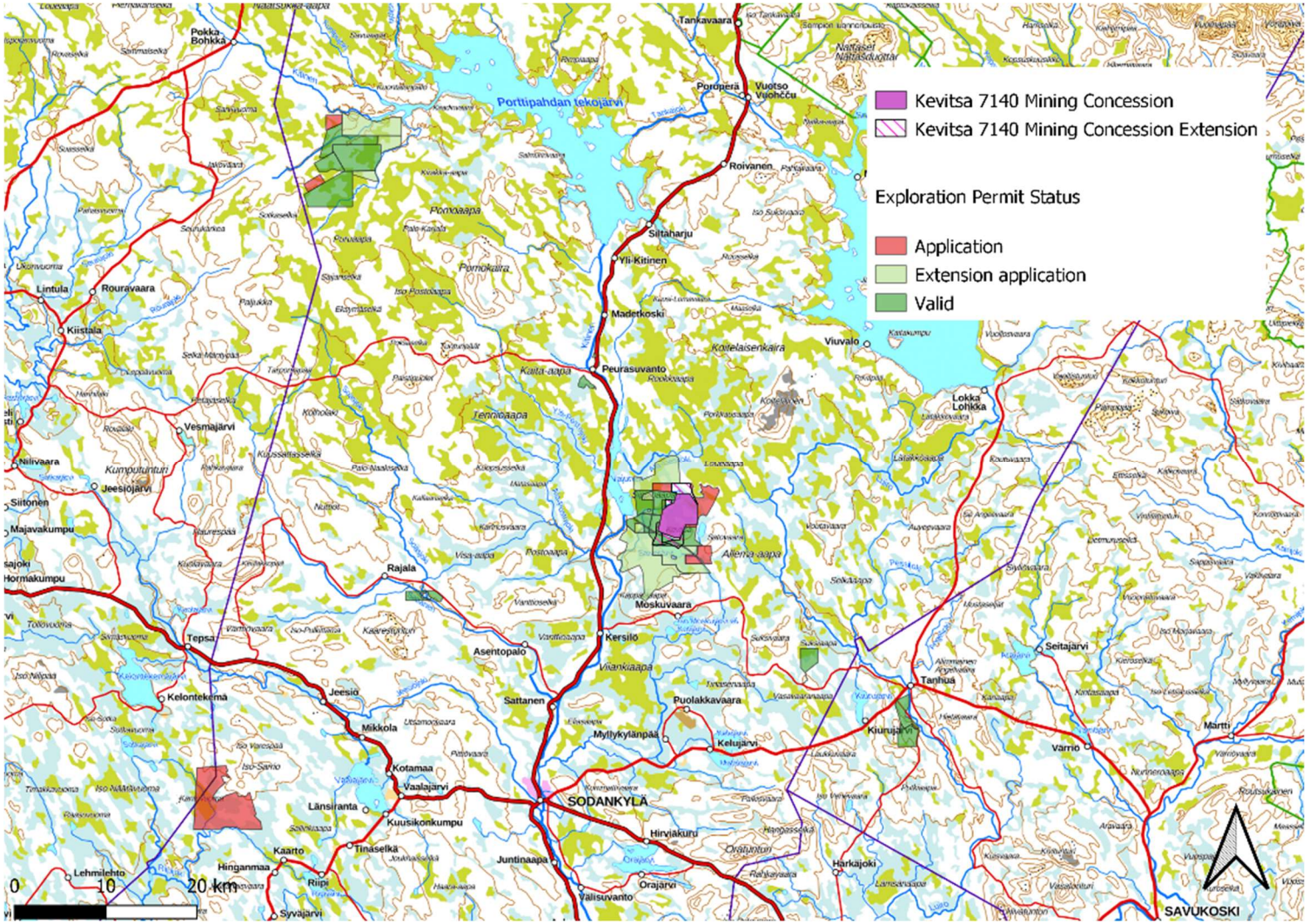

Figure 3: BKMOY tenements

3.6 Environmental, Social and Governance (ESG)

3.6.1 Existing Permits

BKMOY who has land ownership for the existing mining concession (758-412-35-1, 1 413 ha) has also applied for an expansion of the mining concession for the potential requirement of building new infrastructure around the mine area. Expansion for the mining concession has been applied in two phases, first in 2018 (401.19 ha towards North and South) and later in 2022 (290.86 ha towards South).

External landowners in 2018 expansion were real estate association Metsähallitus (758-893-11-1; 343.03 ha) and Harju (758-412-7-12; 5.76 ha). BKMOY also owns land (Eräloivonen: 758-412-7-15; 2.00 ha and 50.39 ha in 758-412-35-1). In 2022 expansion Metsähallitus (758-893-11-1; 277.72 ha) was the only external landowner concerned by the application.

The original environmental permit was granted in July 2009. In 2014, a new environmental permit was granted for mining 10 Mt of ore per annum.

The TSF has a footprint of approximately 3.3 Mm^2 and consists of two separate facilities:

- TSFA with a footprint of 3.1 Mm^2 which stores the non-acid producing flotation tailings
- TSFB in the north east corner with a footprint of 0.17 Mm^2 which stores the acid producing sulphide flotation tailings concentrate

There was a potential social issue, the contract from 2009 with the reindeer herders to compensate their losses was to be updated before 2026. Expansions of the mining concession required two reindeer herder's compensation negotiations before June 2024. Moraine permitting compensation negotiations needed to be ready in March 2023. Negotiations started already in September 2022 and ended in December 2022 with a contract for the upcoming TSFA extension (TSFA2) moraine areas and possible Stage 5.

3.6.2 Necessary Permits

Expansion of the mining concession is ongoing towards the South. There was a need to apply for extra area according to the TSFA2 conceptual model in the same direction. Application of mining lease extension (290.86 ha) was submitted to the authority in November 2022 and is ongoing. External land ownership is Metsähallitus (758-893-11-1; 277.72 ha). A small part belongs to BKMOY (758-412-35-1; 13.13 ha). Negotiation to purchase the footprint area of TSFA2 which is a part of the mining lease (758-893-11-1; 127.85 ha) is ongoing.

Environmental permit update process is ongoing. BKMOY submitted a new environmental permit application to the authority in May 2022. Some of the permit clauses were necessary to review, especially the seepage impacts of the TSFA towards the South. Seepage impacts of the TSFA and protective groundwater pumping towards the North-West was already permitted in March 2021.

The existing capacity of TSFA is not sufficient; according to the current plan and permits, this concerns 20 Mt of ore to be mined during the years 2030-2031 of the LOMP. TSFA stages 14-16 upstream raise is currently under permitting and will provide 20 Mt extra capacity. Reserve classification has been updated in accordance with PERC Reporting Standard and 11.3 Mt of

Proved Reserves changed to Probable Reserves category pending the permit attribution. There is an investigation ongoing for updating the raising method (centerline); that could give the needed capacity of TSFA to current plan.

BKMOY is in the process of conducting the required investigations for TSFA2 according to GISTM standards. An additional environmental permit will be applied for TSFA2. EIA is done for five different alternative locations and for 203 Mt tailings. Resource and Reserve classification has been updated in accordance with PERC Reporting Standard and 20 Mt of ore to be mined during the last two years of the LOMP (years 2032-2033), for which current TSFA capacity is insufficient, have therefore been downgraded from Mineral Reserves to 18 Mt undiluted Measured and Indicated Resources. Mineral Resources are dependent on Kevitsa identifying a suitable location, designing and obtaining relevant permits for additional TSF capacity within the next 10 years - prior to the tailings deposition. Up-to-datedness assessment will be done in the permitting process 2022-2024. The plan was to start TSFA2 construction at the earliest in summer 2025, but the changes in existing TSFA would mean that new TSFA2 construction should not start until 2030.

A new closure plan for Kevitsa mine has been submitted to the authorities in autumn 2019. The permit was given partially in May 2023 regarding waste rock area, surface soil storage areas and guarantees enabling progressive closure of the waste rock area to start already in summer 2023. The rest of the clauses will be handled with the main environmental permit update process which is in progress. EIA for total amount moraine (8.9 Mm^3) for the entire current operation was done in 2021-2022. Moraine permitting for the first area was submitted to the local municipality in April 2023 and a decision is expected in early 2024. More moraine permits shall be applied in stages 2025, 2029 and 2031. Studies and pilots towards material efficiency are ongoing and will reduce the need for moraine. Update for closure plan shall be submitted to the authorities already in 2024.

Permitting for Stage 5 is ongoing, and the EIA-program was published in December 2023. According to the EIA assessment the open pit will be expanded by 55 ha and tailings capacity will increase by 158 Mt and waste rock area will increase by 220 Mt. The annual operational amounts will not change but the operating time could be longer, approximately in 2045. EIA report is expected to be ready in early 2025. The environmental permit process will start already in summer 2024 in parallel with the assessment and closure plan update for Stage 5. Environmental permit decision is expected earliest in April 2026. An appeal process in court is highly probable by the nature conservation organization.

3.6.3 Environmental, Social and Governance considerations

3.6.3.1 ESG Commitments

BKMOY is a member of FinMin and therefore committed to the Finnish sustainability standard for mining (TSM) built by The Finnish sustainable mining network. Compliance with the TSM-system is long-term and systematic work. The system gives a guarantee that the mining company that complies with it takes responsibility issues seriously. The system helps mining companies to operate in a comprehensively sustainable manner. Mining companies can evaluate, monitor and develop their own operations. The system consists of common operating principles and eight evaluation tools that cover the entire life cycle of mining operations from exploration to mine closure and post-closure monitoring. The guiding principles are

sustainable in terms of environmental, social and economic performance. Development has been reported yearly in public web page including self assessment and verification results.

Kevitsa business model set ESG priorities, and take into consideration the risks and opportunities identified by business intelligence and risk mapping, as well as applicable requirements and expectations such as:

- Stakeholder expectations
- Current and potential legislative trends
- ISO 9001, 45001, 14001 and 50001 standards and Forest Stewardship Council (FSC® COC-000122)
- OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-affected and High-risk Areas
- GRI Standards (Global Reporting Initiative)
- UN Sustainable Development Goals (SDGs)
- UN Global Compact
- ICMM Mining principles

Kevitsa regularly consult prioritized stakeholder groups on sustainability performance from a broader perspective. These stakeholders are asked to comment on Boliden's performance to drive further improvement.

Boliden is a member of ICMM and the national mining associations in the countries where Boliden Mines operates. These commitments imply implementing relevant international and national Environmental Management System (EMS) standards and guidelines, such as, e.g., the Global Industry Standard on Tailings Management on an international level and Mining RIDAS on a national level. In addition to this, Boliden Mines is certified according to a series of standards, such as:

- ISO 14001:2015 - Environmental management systems.
- ISO 45001:2018 - Occupational health and safety management systems.
- ISO 50001:2018 - Energy management systems.

Boliden has implemented an integrated management system (Boliden Management System, BMS) which sets a common base for all activities developed within the company. Boliden strive to run a responsible business and expect its business partners to do the same. Good business ethics is essential for sustainable and successful business. Boliden has an ethics and compliance department to boost its compliance work. The department is responsible for the strategic development and coordination of Boliden's work regarding anti-money laundering, anti-corruption, competition law, sanctions, human rights, data protection, whistleblowing and Boliden's employees and management work together to create a compliance culture in which everyone knows what is expected of them - Boliden's codes of conduct. Regular risk assessments, trainings, audits and effective controls are important parts of Boliden's compliance efforts. The Group's whistleblower channel enables all employees and external stakeholders to report suspected and actual misconduct confidentially and anonymously. If misconduct is proven, disciplinary actions must be taken. Reprisals against anyone reporting misconduct in good faith will not be tolerated. Group management and the Board of Directors receive regular reports on risks, non-compliance and the status of initiatives in progress.

Boliden's Code of Conduct provides a framework for corporate responsibility based on the company's values and ethical principles. All employees and members of the Board are subject to the Code, which is based on international standards and relevant legislation. As a complement to the Code, there are internal policies that all employees are expected to comply with. Boliden strives for a sustainable value chain and therefore applies an overarching business ethics and risk management strategy when selecting business partners. The Business Partner Code of Conduct reflects the requirements placed on Boliden's own organization and sets the lowest standard of ethical conduct required of all parties in the value chain, whether Boliden is the buyer or seller. As with the internal Code of Conduct, this code is based on international standards such as the UN's Global Compact, the ILO's standard core conventions and guidance from the OECD. Compliance and sustainability risks are assessed when selecting business partners. If there is a risk of non-compliance by a business partner, a more detailed review is made. Depending on the outcome, an action plan may be developed and agreed upon, or the business relation may be terminated or rejected.

Boliden is a member of the United Nations Global Compact and works constantly to implement its ten principles, including preventing and limiting negative impact in the own operations and those of its external business partners. Boliden runs operations in countries where the risk of human rights violations is considered low. No operations are conducted anywhere in UNESCO's World Heritage List. Boliden supports the right of indigenous peoples to consultations under Svemin's interpretation of Free, Prior and Informed Consent (FPIC). Other important aspects are fair working conditions and the position Boliden has adopted against any form of harassment, discrimination and other behavior that may be considered as victimization by colleagues or related parties. In addition to this, aspects such as child and forced labor as well as the freedom to form and join trade unions are taken into account when evaluating business partners.

Anti-corruption forms a central part of the ethics and compliance work, and Boliden has a zero tolerance policy regarding all types of bribery and corruption. Boliden has an anti-money laundering policy for identifying and managing risks in various parts of the business and to strengthen its anti-money laundering efforts.

3.6.3.2 Socio-Economic Impact

Socioeconomic sectors affected by Kevitsa are local economy, service sector, reindeer husbandry and living environment. Associated criteria are employment and number of enterprises, local amenities and commercial services, number of reindeer, profitability and image, population, standard of living and self-sufficiency. Potential changes caused by Kevitsa are:

- Employment rates and the number of enterprises,
- Supply and availability of local amenities, in supply and availability of private-sector commercial services,
- Number of reindeer, effects in pastures and calving areas and the rotational grazing system on profitability across the reindeer herding district, the image of reindeer products relative to market demand,
- Number or structure of population, the social characteristics of the nearby areas and the local authority, the recreational use of the nearby areas, such as hunting, fishing, trekking, berry and mushroom picking.

Changes in the nearby areas will affect reindeer husbandry, the comfort of residents, the natural characteristics of the area, the recreational use of the area (for berry picking and mushroom picking, for example), as well as hunting (namely elk), fishing, and trekking. Negative impacts will be attributable to increased traffic, wastewater, noise, dust emissions, flue gas emissions, and vibration, for example.

Currently Sodankylä employment rate is the lowest in Lapland. The local purchases by BKMOY have been over 14 million euros (2022). Sodankylä is safe to live and considered as lively, cozy and developing municipality. Today Sodankylä offers city-level services to the residents and tourists, as well as great opportunities for business activities. The number of reindeer has been the same, but the behavior has changed due to dust, noise and light according to reindeer herders. Profitability losses have been compensated accordingly (incl. supplementary feeding) and the services of the reindeer herders have been used in other additional works. Income per reindeer has increased and markets are doing well. According to the monitoring fishes are doing well. Yearly compensation of fisheries fee (4 000 euro) is to prevent damage to fisheries and fishing in the river Kitinen. The impacts on receiving water bodies have been lower than estimated.

In 2023 BKMOY started a new method for the assessment of human rights impact with stakeholder engagement. The assessment covers potential and actual human rights impacts of operations in the Kevitsa mine. That includes impacts that Boliden has in relation to mining activities, and any products and services procured directly by the Kevitsa mine. Whereas Boliden acknowledges that its value chain includes procurement of products in general, the smelters and sales of the mine's products, these impacts are identified and managed by the relevant functions and sites at Boliden. Recommendations with an action plan will be published in early 2024.

3.6.3.3 Communities and Landowners

A relatively good relationship and an interactive network was established between the various interested parties during project planning and as a result of the EIA procedure. Continued interaction was considered vital and beneficial by all those involved. Interactions have been developed; Open Door Days, Family Days, Near Village Events, site visits for schools and organizations, summer jobs, trainings, final thesis assignments have been offered. Financial support for education, youth work, sport and hobbies, environmental and cultural activities has been given. Research and co-operation projects have been supported with an active participation. Environmental monitoring results have been published monthly on the internet. Sustainability report is introduced in kaivosvastuu.fi.

In 2020 stakeholder co-operation group was developed. Municipality, reindeer herders, neighbors, employees, associations and nature conservation are being represented in the group and they were allowed to nominate their own representative to the group, one from each stakeholder group. The aim is to increase interaction and to exchange information between different stakeholders themselves, mine and stakeholders. Mine gives information about plans and operation 2-4 times per year. Stakeholders have an opportunity to proactively discuss plans, possible concerns, mitigation measures and issues to be considered in the operating environment. Action log and minutes have been produced and published in internal intranet.

Interaction with stakeholders is illustrated by calm or neutral attitude towards mining in Sodankylä. Questionnaires have been developed also to follow the climate in addition to

permitting processes. In the latest public study made in 2023 local people continue to response strongly in favor of mining production in Sodankylä. People are interested in studying or working in mining more than Finnish average. The mining industry has a positive effect on the vitality of the municipality and seen even necessary for the local economy. Traffic safety is considered the most significant harm and more than half experienced landscape damage, dusting, disadvantaged to water bodies, animals and plants according to people's opinion. This means that open communication and better sharing of information from the mining sector is necessary and will be developed.

3.6.3.4 Indigenous People

Kevitsa has been in co-operation with the Reindeer association (Oraniemi) in yearly meetings since 2009. Disadvantages caused by Kevitsa to reindeer herders have been compensated financially annually according to written agreement (from 2009). In addition to that minimization of any harm has been discussed and additional compensation agreed in yearly meetings. A reindeer fence around the entire mining was built and maintenance was ordered by local reindeer herders. Kevitsa has been participating in reindeer GPS-following with tracker bands. In 2020 those were updated. More (20 bands) were ordered in 2021 from Ranniot. Information can be used in permitting and they help the reindeer herders in their work.

3.6.3.5 Historical Legacy

In the beginning of the operations there was only a swamp and forests. There is no historical legacy of mining operations in the area. Original archaeological inventories have been made in 2010 and will be updated according to need an in connection with commissioning of new land areas. In 2021 were investigated new moraine areas and in 2023 the area required by the transmission of the power line.

3.7 Geology

The description of the geological setting and mineralization are largely reproduced from Lappalainen and White (2010).

3.7.1 Regional

The Kevitsa igneous complex lies within the CLGB located within the Precambrian Fennoscandian Shield (Figure 4). CLGB is a large area that consists of volcano-sedimentary rocks of Paleoproterozoic age and it is divided to seven stratigraphical groups (Räsänen et al. 1996). Which are from oldest to youngest: Salla, Onkamo, Sodankylä, Savukoski, Kittilä, Lainio, and Kumpu Groups Savukoski group supracrustal rocks that are enveloping Kevitsa intrusion. It is representing a major marine transgression dominated by dominated by black schists, phyllites, tuffites, mafic metavolcanics and the uppermost unit of ultramafic metavolcanics. According to Räsänen et al. (1996) these rocks are polyfolded, and thrusted resulting in overturning and structural repetition of the stratigraphy. There are three major ductile deformational events (D1-D3), simultaneous and later shear zones that are related to regional structures of the CLGB and are described in detail by Hölttä et al. (2007).

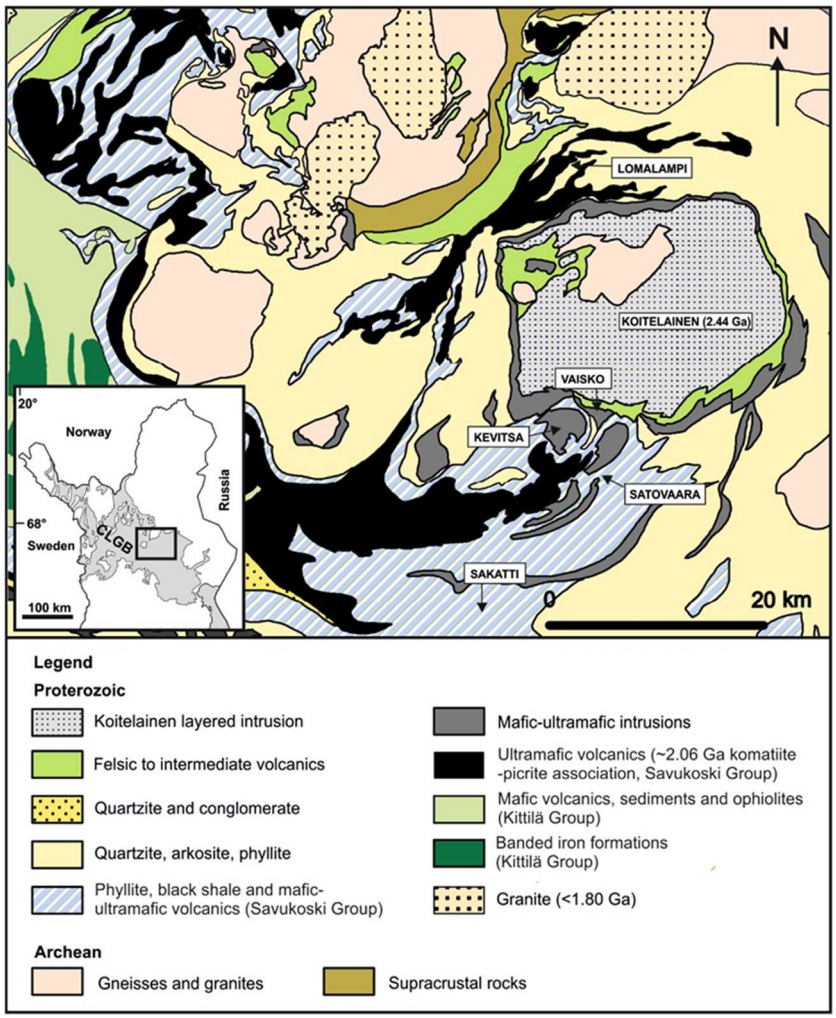

Figure 4. Regional geological map from Luolavirta et al. (2017)'

3.7.2 Local

Kevitsa igneous complex layered ultramafic-mafic intrusive rocks dated at 2058 ± 4 Ma (Mutanen & Huhma, 2001). The body of the intrusion extents to 2 km. The Kevitsa intrusions ultramafic units are on lower parts of the intrusion, which is overlain by the gabbroic rocks that are located on the South-West side of the ultramafics. There is a dunite unit in the middle of the deposit, which is disconcordant to magmatic layering as well in the bottom of the intrusion. Xenoliths are common in the ultramafics and within the ore body. They are variable in sizes and by composition; they typically are sedimentary, mafic or ultramafic. There are also several mafic dykes, in the intrusion, ranging in different ages but they are not very voluminous. Geological map of Kevitsa igneous complex is presented in the Figure 5.

The Kevitsa area has undergone several tectonic and metamorphic events which are evident in the intrusion and in the country rocks (Hölttä et al. 2007). The NNE-SSW trending Satovaara fault, and other structures which are associated with it, are a structurally significant feature of the area. The Satovaara fault has deformed the eastern margin of the Kevitsa intrusion and within the deposit, there are smaller scale structures in similar trend.

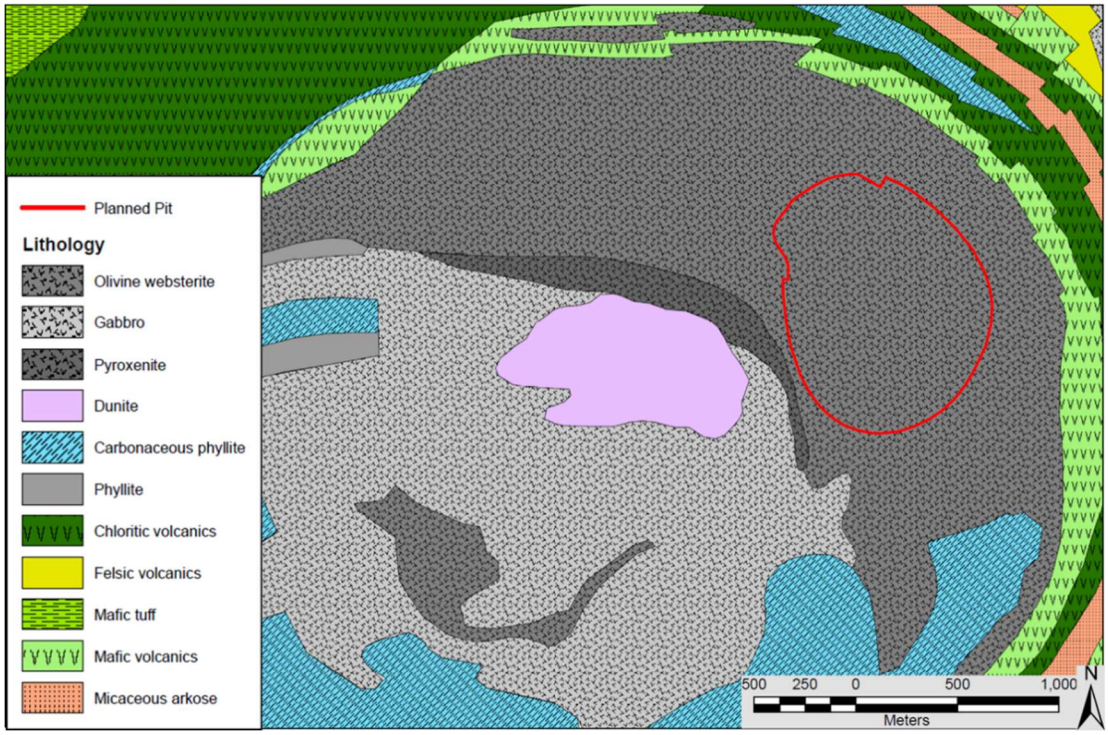

Figure 5.Geological map of the Kevitsa igneous ultramafic complex

3.7.3 Property

The Ni-Cu-(PGE) mineralization is located in the center of the intrusions ultramafic rocks, and it is hosted typically by olivine websterite and its variants. In the broad sense, they can be described as clinopyroxene-dominated rocks with 0-30 % orthopyroxene, 5-25 % olivine and 0-10 % plagioclase. These rocks have very subtle visual and geochemical differences. The distribution and form of observed mineralogical and geochemical patterns are interpreted to represent multiple magmatic phases. There are no internal contacts to these pulses, but in many instances the base of one pulse (olivine websterite) will grade relatively sharply into the upper part of another pulse (plagioclase bearing olivine websterite). These layers are irregular in shape. Geochemically, differentiation within these pulses is most clearly demonstrated by Al_2O_3. It is proposed by Luolavirta et al. (2017), that the Kevitsa magma chamber was initially filled by stable continuous flow ("single" input) of basaltic magma followed by differentiation in an at least nearly closed system. In the following Stage, new magma pulses were repeatedly emplaced into the interior of the intrusion in a dynamic (open) system forming the sulfide ore bodies. This model would explain the contrasting intrusive stratigraphy in the different parts of the intrusion, which likely is reflecting different emplacement histories. A schematic stratigraphy column after Luolavirta (2017) is given in Figure 6.

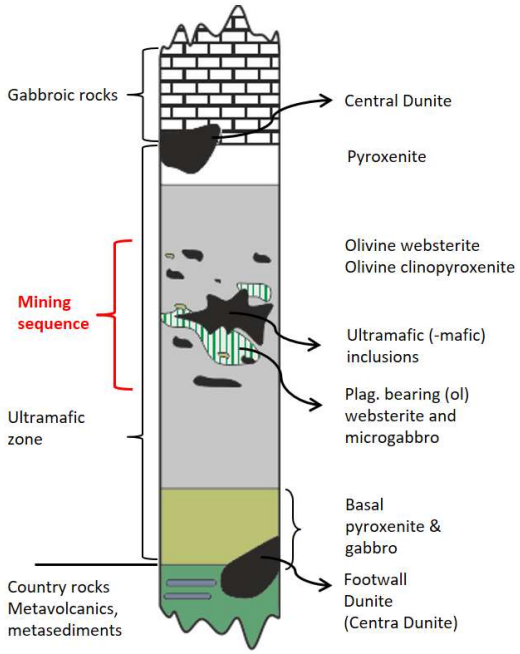

Figure 6. Schematic stratigraphy column of Kevitsa intrusion by Luolavirta, 2017

The most widespread alteration in Kevitsa resource area is amphibole alteration of ferromagnesian minerals. The alteration is typically pervasive in style and has generally '"sharp boundaries" i.e. it does not grade out. Pervasively amphibole altered rocks are often accompanied by carbonate alteration: there can be millimeter- to meter-scale carbonate or carbonate-quartz veining. The first alteration phenomenon in Kevitsa, being also common, is the serpentine alteration where the olivine is replaced by dark serpentine. Magnetite was initially primary mineral but it is also associated with other alteration styles as veins like serpentine and carbonate alteration. Epidote alteration is associated with the rodingite dykes. Actinolite-chlorite alteration seem to be associated with the structures. Narrow actinolite selvedges are also common on carbonate ± quartz vein margins, but these wider, green actinolite features are a distinctive vein set. Talc-carbonate alteration is strongly associated with the shear zones, late fractures and veins representing CO2 bearing fluids. The style can range from selective replacement of ferromagnesian species to pervasive alteration of the rock.

3.7.4 Mineralization

The known economic Ni-Cu-PGE mineralization is disseminated in style. While having some minor semi massive sulfide veins. Overall mineralization volume is irregular in shape, and it is cut by several faults which locally are offsetting the mineralization. The predominant mineralization type is Ni-Cu, comprising 95 % of the deposit. Within it, are mineralization domains, which can be separated by the distribution of Cu and NiS grades, and as well with the amount of PGE's. The so-called Ni-PGE mineralization is in relatively small in volume.

The main economical minerals are chalcopyrite and pentlandite, but mineralogically speaking pyrrhotite is the most common sulfide. Typically, the sulfide grain size varies from fine to medium, and the grain aggregates are in the interstitial spaces of the silicates. In unaltered rocks the sulfide silicate grains are smooth and plain but in amphibole altered rocks the boundaries are irregular and serrated. Chalcopyrite generally occur as large anhedral grains, sometimes with cubanite and talnakhite, and as fine intergrowths within the gangue silicates.

Pentlandite can be coarse-grained sub-euhedral, smaller intergranular grain bands between silicates and pyrrhotite, and "exolution flame" inclusions within pyrrhotite or pyrite of very fine grain size. In addition to pentlandite the nickel occurs in crystal lattice of some silicate minerals such as olivine, clinopyroxene and tremolite. The nickel in silicates is not recoverable in metallurgical process and therefore sulfide nickel is analyzed by selective leach method. Pd and Pt typically occur as sulfosalts, such as arsenides and tellurides. According to Kojonen et al. (2008), over half of the PGE carrying minerals are as inclusions in amphibole, serpentine and chlorite. PGE carrying minerals which are related to sulfide occur mostly on sulfide grain boundaries, inclusions in sulfide or in late fracture fillings in pentlandite.

3.8 Drilling procedures and data

More detailed information of drilling procedures and data, as well information from previous campaigns at Kevitsa can be found in Gregory et al. (2010), Gray et al. (2016) and in Kevitsa MRE Reports from Pabst (2022) and Pabst (2020).

3.8.1 Drilling techniques

Mineral Resource definition, infill and exploration drilling has been done by DD. The 2022 Kevitsa MRE from Pabst (2023) includes data from 652 diamond drill holes, which incorporates 13 new infill holes compared to 2021 Kevitsa MRE (Pabst, 2022). BKMOY logged, assayed, verified and loaded data into the database before October 5th, 2022. The 2022 MRE includes grade control RC drilling, totaling 7 245 RC holes.

3.8.2 Downhole surveying

The collar positions have been surveyed by the Mine Survey Department and by independent contractor, Rovamitta Oy, in previous years. All drill collar locations are referenced to Finnish National Grid Coordinate System Zone 3 coordinates. The drilling contractors have conducted the downhole surveying at the Kevitsa Mine; hence, the surveying tool has changed depending on the contractor and the year. There are drill holes, which are missing deviation survey and have been used in Mineral Resource estimates (Pabst, 2023). 126 historic GTK drill holes which are relatively short (average 40.5 m), and nine holes with an average depth of 136 m drilled in 2011, are missing deviation surveys. Several grade control RC holes have no method information (N/A) and were drilled prior to the 2016 MRE; between 18 and 100 m short vertical holes. These holes were used for MRE update as the expected deviation was not considered to be material.

3.8.3 Sampling

Sample preparation and analysis has good evidence of being managed in a secure manner at both on and off site preparation and laboratory facilities. Drilling, logging and sampling data were collected from diamond core and RC cuttings by reputable companies and suitably trained persons. All geological data held by the Kevitsa Mine is loaded to SQL database with a Maxwell's DataShed front end.

All of the DDH were logged and then marked for the sampling intervals, sample numbers and QC samples. Then the core was photographed as dry and wet and cut according the sample list and marks in the core by the Kevitsa Mine sample technicians. GTK and SGL were systematically sampling in two meters intervals. FQM, BFXOY and BKMOY were also sampling in two meters intervals, however were honoring lithological contacts - sample intervals do not cross the contacts.

The cut core was packed in sample bags with sample tags and numbers and sent to an external and independent laboratory for sample preparation and analyses. BKMOY uses Labtium Oy ("Labtium") laboratory based at Sodankylä. Chain of custody forms were sent with the samples to Labtium and a copy retained on site for reference. Samples were prepared and analyzed at Labtium and results are then electronically uploaded into a secure database system DataShed. Labtium is a FINAS-accredited testing laboratory T025 meeting the requirements of international standard SFS-EN ISO/IEC 17025:2005. Regular laboratory visits and audits were completed by the geological team from Kevitsa since 2009. All the analyses methods per drilling campaign and the primary laboratory are described in Table 9.

Table 9. Summary of analytical methods used by different drilling campaigns and the primary laboratory used.

Campaign	Primary laboratory	Aqua Regia[1]	Selective Leach	Multi element	Fire Assay[2]	Combustion method (RC)
		Total Ni, Cu, S etc	Sulfidic Ni, Cu, Co	Ni, Cu etc	Au, Pt, Pd	S
GTK	GTK	X			X	
SGL	GTK, Labtium[3]	X	X		X	
FQM KMOY	Labtium Rovaniemi	X	X		X	
FQM FinnEX	ALS Loughrea			X	X	
BKMOY and BFXOY	Labtium Sodankylä	X	X		X	since 2016

RC samples have used EDXRF Labtium analysis method 195X between 2012 and 2023 for total nickel (Ni), total copper (Cu) and cobalt (Co). Despite the method difference, all RC results for total Ni and total Cu have been used for 2022 MRE. Based on the validation, these two methods are comparable when analyzing Ni and Cu. However, in the future, additional data for validation would be preferred.

3.8.4 Density

A total of 554 DDH within the resource area have density data collected by a conventional gravimetric (Archimedes) method. Data was collected weighting core in air and in water. Density was calculated by dividing the weight in air by the difference between weight in air and weight in water. The different density sampling approach over time resulting in density measurements representing core intervals of different lengths make it difficult to assume the same statistical support during estimation, further details can be found in Pabst (2023). All density measurements were completed without drying due to the very low moisture content. A SOP is in place (Vierelä et al., 2019). Specific gravity (SG) is approximated to density (SG values are reported in the database).

[1] Full set of elements analysed; Ag, As, Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Sb, S
[2] The majority of samples were analysed using lead collection fire assay
[3] SGL switched from using GTK Rovaniemi to using Labtium Rovaniemi Laboratory in September 2007. Some of the drill holes were submitted for analysis by FQM after acquiring SGL in 2008.

3.8.5 QAQC

BKMOY has practiced QAQC for the duration of DD campaigns. There has been QAQC programs carried out through the project history. BKMOY inserts blanks, commercial standards, quarter core duplicates per sample batch sent out. This program is also applied to RC samples.

3.9 Exploration activities

Boliden aims to ensure a minimum of 15 years of production time for each of its mines. For the Kevitsa NME, this goal is being pursued by focusing on deep exploration of the Kevitsa intrusion and the near mine targets located within a trucking distance of about 80 km from the mill. Exploration at Kevitsa is focused on discovering entirely new ore bodies or deposits, as the current mineral resources are well-defined.

During the current year, Kevitsa NME had access to a dedicated drill rig for the entire year, which allowed it to meet its annual drilling plans. In total, 12 000 m were drilled, representing 96 % of the initially budgeted amount.

The drilling was initially divided based on the project requirements. 3 000 m was allocated to Kitinen, 4 000 m to NME targets, and 5 500 m for deep drilling at Kevitsa. Kitinen is located about 80 km away from the Kevitsa mine and is the most remote site, while other sites are more traditional NME targets located within the mine concession or in its vicinity. Obtaining permits was challenging in some permit areas, which caused delays and slight changes to the annual drill plans. However, the main focus remained on deep drilling of the Kevitsa intrusion, which is still considered the most promising target for exploration.

In addition to drilling, various geophysical surveys were conducted intensively. BHEM surveys were carried out for all completed drill holes, while regional-scale surveys supported drill targeting for future years. Kevitsa's 2023 exploration activities and results will be detailed in Boliden's Annual Exploration Report (to be published by May 2024).

In the coming years, exploration efforts will continue to focus on deep exploration at Kevitsa. In the long term, generating more regional-scale targets is considered crucial, as new exploration targets are needed.

3.10 Mining methods, processing and infrastructure

This chapter is largely reproduced from Gray et al. (2016). More detailed description of mining methods, processing and infrastructure can be found from Gregory et al. (2010) and Gray et al. (2016).

All infrastructure required by Kevitsa mine is in place including sealed roads, power lines and substations, process plant, site offices, workshops, tailings dam, and waste storage facilities. A tunnel pumping station was built in 2023, and it is currently in use.

In 2021 a pilot track for e-Trolley was built and in 2023 the trolley line was built on the west ramp and both trolley lines are in use. 13 trucks out of 17 of the fleet have installed pantographs in 2023.

3.10.1 Mining methods

The Kevitsa Mine is an open pit mine operation using conventional truck and shovel operations. BKMOY owns a mining fleet and uses contractors to assist ore re-handling on the ROM pad for primary crusher feed. The onsite technical group supervises the contractors. Levelling of the SE-Wedge has been conducted by contractor.

The Kevitsa Mine commenced mining operations in autumn 2011, Hartikainen was then contracted to mine waste from Stage 1. Mining has proceeded from initial excavation: Stage 1 and Stage 2 have been mined out and Stage 4 mining has started in 2019. A strategic project has been started during 2022 in order to revise the life of mine with the feasibility of a possible expansion to an additional pushback, Stage 5.

The mining sequence broadly follows the sequence of events as follows:

- Grade control RC holes delineate the ore zones
- Blast patterns designed to reduce material throw and ore dilution - and a Blast Master planning process controls sequence of operation
- When possible, ore and waste blasted and mined separately as fragmentation requirements vary significantly. Blast movement monitoring is in place to minimize dilution and ore loss for mixed blasts
- Waste removed on each 12 m bench prior to the mining of ore, removal of waste in the successive cut-backs utilizes planned bulk systems of operation
- Trim blasts and perimeter blasting utilized to ensure pit wall profiles are cut to the correct angle and wall damage minimized
- Face shovels load rock into 225 t class trucks and ore hauled from the pit to the finger stockpiles which are integral part of the feed sequence to ensure ore blending can be achieved, haulage efficiencies can be maximized and operational flexibility enhanced at all times

Ore control at Kevitsa relies on accurate blast movement monitoring considering the combination of important movements due to blasting and blasts of heterogeneous quality. 3D movement vectors have been successfully modelled with the software OrePro3D for the past two years allowing for a safer workflow, improving environmental monitoring. In 2023 the Predict plug-in has been in use ensuring immediate update of the forecast after the blast.

3.10.2 Mineral processing

The mineral processing facilities at Kevitsa have undergone several modifications and expansion since commissioning in 2012. In 2020, 9.5 Mtpa expansion project was commissioned, with a design capacity of 9.9 Mtpa.

The following unit processes comprise the Kevitsa Metallurgical facility (Figure 7):

- Primary crushing of ROM ore from the open pit (delivered by dump truck).
- Screening of the primary crushed ore to produce three products -coarse lumps and fines as feed to the AG mills, and a mid-size product for the pebble mill.
- Pebble storage bin 750 t live capacity.
- Crushing of excess pebbles.
- A single stockpile of the mixed coarse and fine ore, with 15,000 t live capacity (16.7 h).
- Two 7 MW AG mills operating in parallel on material fed from the stockpile.
- The two AG mills operate in partial closed circuit with hydrocyclones, and with transfer of AG mill discharge slurry to the pebble mill by pump. Cyclone overflow is final product to flotation.
- One 14 MW AG mill operating on material feed from stockpile and in complete closed circuit with hydrocyclones.
- A single pebble mill in closed circuit with cyclones to produce a final product (P80) size of 95 µm.
- Sequential flotation of copper and nickel concentrates.
- Copper flotation cleaning in four stages with regrind of scavenger concentrates product.
- Nickel flotation cleaning in four stages with regrind of the 2nd cleaner concentrate product.
- Flotation of sulfide rich concentrate from the nickel scavenger flotation tails to produce a low Sulphur content tailings with low acid forming capacity.
- Dewatering of Cu and Ni concentrates by thickening and filtration.
- Deposition of primary tailings into conventional (unlined) TSF.
- Deposition of sulfide rich concentrate into a dedicated lined tailings storage facility.

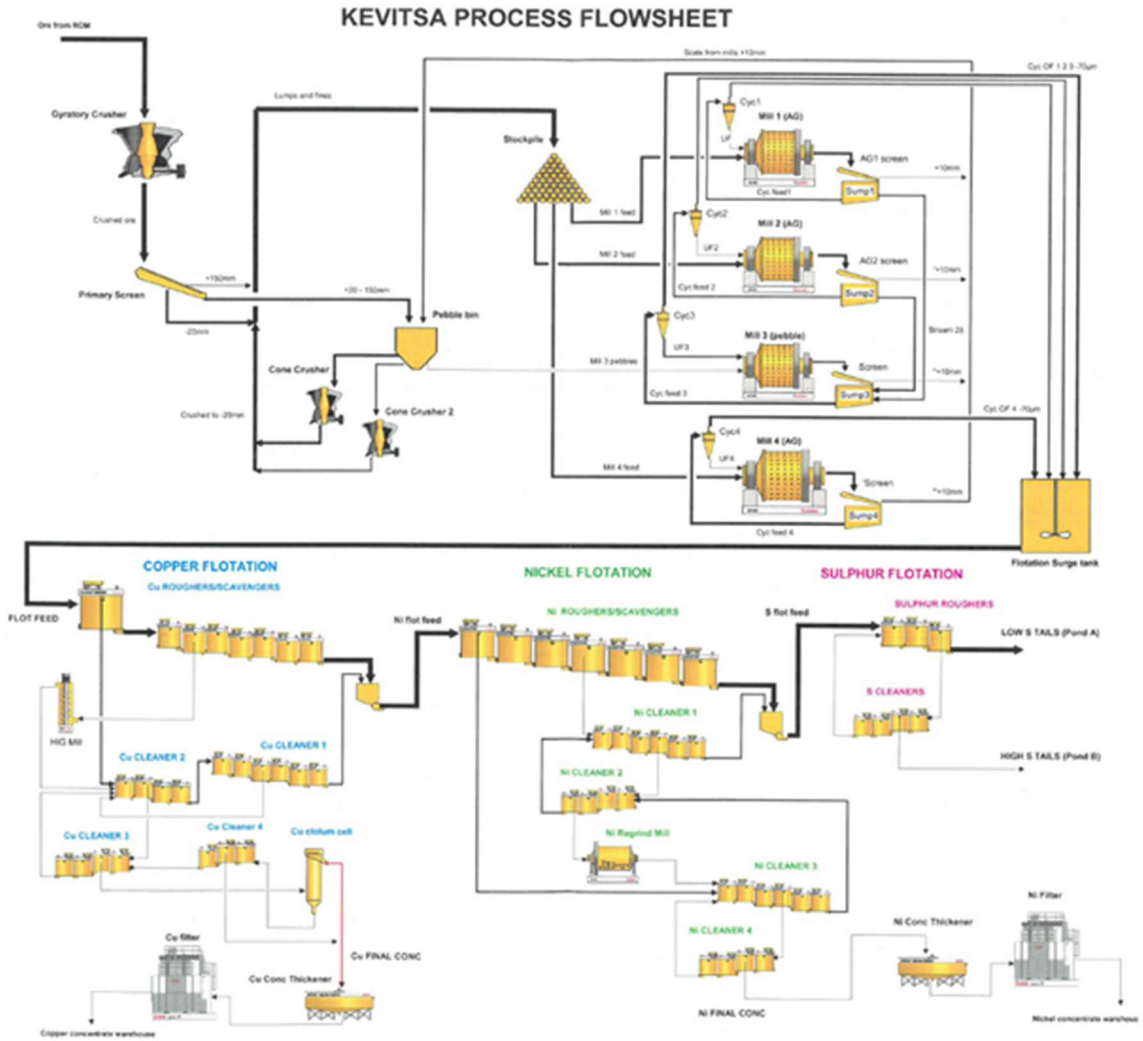

Figure 7. Simplified flowchart of the Kevitsa Mine process

Historical test work in the 1990's and early 2000's indicated that by flotation a bulk sulfide concentrate containing Cu and Ni could be produced successfully. The grades of the bulk concentrate produced during these metallurgical studies did not meet the requirements for downstream processing and the test work for producing separate saleable concentrates of copper and nickel was not successful. From 2004 to 2009 metallurgical testing was carried out at the laboratories of GTK (formerly VTT) in Outokumpu, Finland, with the focus being on developing a flotation process to produce separate smelter-grade copper and nickel concentrates. This work was carried out at bench scale and in a pilot plant campaigns. Numerous operational test work programs have been run in the site laboratories. Results have indicated unsuccessful separation of copper and nickel in the bulk concentrate to produce separate saleable concentrates. The flotation type implemented at Kevitsa process plant is a sequential circuit that allows to produce separate saleable concentrates.

3.11 Prices, terms and costs

Boliden's planning prices, which are an expression of the anticipated future average prices for approximately 10 years, are presented in Table 10. The maintenance, mining, processing and concentrate transporting costs are included in calculations for the cut-off at the Kevitsa Mine.

Table 10. Long term planning prices used in Kevitsa Mine Reserve and Resource reporting

	Prices		
	Mineral Resources Long Term 2025->	Mineral Reserves Budget 2024	Mineral Reserves Long Term 2025->
Copper	7 800 USD/t	8 478 USD/t	7 800 USD/t
Gold	1 400 USD/oz	2 033 USD/oz	1 400 USD/oz
Nickel	20 000 USD/t	20 926 USD/t	20 000 USD/t
Palladium	1 300 USD/oz	1 245 USD/oz	1 300 USD/oz
Platinum	900 USD/oz	990 USD/oz	900 USD/oz
Cobalt	20 USD/lb	15,6 USD/lb	20 USD/lb
EUR/USD	1.1	1,1	1.1

The NSR formula is based on process recovery figures from the process plant as well as general terms for payables and deleterious elements. It assumes the recoveries and prices, which are set from Boliden's Budget Prices respective Long-Term Prices (LTP).

NSR coefficients and cut-off used for grade control in 2023 are described in 3.1 Major changes.

3.12 Mineral Resources

The 2023 Kevitsa Mineral Resources are reported using the 2022 Mineral Resource model which was estimated in January 2023 by Sonja Pabst, fulltime employed Boliden Senior Resource Geologist at the time of the estimation, and Member of the AIG Australian Institute of Geoscientists, Membership No. 7473. Statement was performed using a constraining Whittle pit shell to demonstrate RPEEE. Eleven grade elements (Cu, NiS, CoS, Au, Pt, Pd, CuS, Fe, Mg, Ni and S), twenty-six mineral concentrations[4] and density were estimated. The 2022 MRE includes a total of 652 DDH and 7 245 RC holes including the 2022 drilling campaign.

Mineral Resource (i.e. mineralization) grade shells were updated using Leapfrog Geo by Sonja Pabst. The model consists of four mineralization domains defined by a combined cut-off of Cu and NiS and mineralogical characteristics; 'Normal ore', 'Ore', 'NiS ore', and 'NiS PGE ore' (Pabst, 2023). An additional domain called 'False ore' is modeled since MRE 2020_2; it has previously been described by Mutanen (1997) and removes S-rich mineralization with un-economical NiS and Cu grades from the rest of the mineralization volumes. As 'False ore' is causing high volumes of waste that requires to be capsulated in order to avoid acid mine drainage (AMD), it is of great importance for Kevitsa LOMP to quantify the corresponding tonnages accurately.

Statistical analysis was undertaken using Snowden Supervisor and Leapfrog Geo EDGE. The model extent was defined to cover the Stage 5 pit design and all drilling. Grade estimation was completed using Ordinary Kriging (OK) in Leapfrog Geo EDGE. For a detailed description of the estimation methodology, including statistical data analysis, grade variography, estimation parameters and model validation, refer to Pabst (2023).

The 2023 Mineral Resources have been reported from the 2022 Mineral Resource block model by cut-off based on NSR long-term prices. Boliden long-term metal prices and smelter terms have been updated this year since there has been a significant change in prices and costs. The updated cost and revenue model has guided the new RPEEE pit shell generation.

Previously the same dilution and ore recovery were used in resource pit optimization as for reserve pit optimization. However, in 2023 the resource pit was run and reported with 0% dilution and 100% ore recovery in the same way as in other Boliden projects and following industry standard. The undiscounted RPEEE pit shell was generated in Whittle in December 2023, using the following simplified formula for NSR:

NSR=Ni(S) % x 90+Cu % x 55+Pt ppm x 7 + Pd ppm x 10 +Au ppm x 10 +Co(S) % x 65

The 2022 Mineral Resource tabulation, depleted to 31 December 2023, is presented in Table 11. The Mineral Resources have been reported at a 12 €/t NSR cut-off using an updated NSR formula which is also used for parts of Mineral Reserve reporting:

[4] albite, amphibole, anorthite, biotite, calcite, chalcopyrite, Fe chlorite, Mg chlorite, cubanite, diopside, dolomite, enstatite, hornblende, hypersthene, magnetite, marcasite, milerite, olivine, Fe pentlandite, Ni pentlandite, hexagonal pyrrhotite, monoclinic pyrrhotite, quartz, serpentine, talc, troilite

NSR=Ni(S) % x 90.02 +Cu % x 56.46 +Pt ppm x 7.07 +Pd ppm x 9.79 +Au ppm x 10.27 +Co(S)% x 65.73

The Mineral Resources have been constrained below the Stage 4 final pit (LOMP 2024) and within the 2023 Resource Whittle shell, reflecting reasonable prospects for eventual economic extraction. All blocks outside the Whittle shell have been excluded.

In accordance with PERC Reporting Standard, 20 Mt contained in the reserve shell (to be mined during the last two years of the LOMP, years 2032-2033) were downgraded to 18 Mt undiluted Measured and Indicated Resources pending TSFA2 permit application and attribution. Mineral Resources are dependent on Kevitsa identifying a suitable location, designing and obtaining relevant permits for additional TSF capacity within the next 10 years - prior to the tailings deposition. Necessary permits situation for TSF are described in 3.6.2 Necessary Permits.

The Mineral Resources are reported exclusive of and additional to the Mineral Reserves.

Table 11. 2023 Kevitsa Mineral Resources, depleted to 31 December 2023, at a 12 €/t NSR cut-off

	2023						
Classification	**Mt**	**Au (g/t)**	**Cu (%)**	**NiS (%)**	**CoS (%)**	**Pt (g/t)**	**Pd (g/t)**
Measured	61	0.09	0.34	0.23	0.01	0.17	0.11
Indicated	106	0.07	0.36	0.24	0.01	0.12	0.07
Total M&I	**166**	**0.08**	**0.35**	**0.23**	**0.01**	**0.14**	**0.09**
Inferred	0.3	0.04	0.22	0.13	0.01	0.06	0.03
Total Mineral Resources	**167**	**0.08**	**0.35**	**0.23**	**0.01**	**0.14**	**0.09**

- *Mineral Resources are reported exclusive of Mineral Reserves.*
- *Mineral Resource is a summary of Resource estimations and studies made over time adjusted to mining situation of December 31 2023.*
- *Mineral Resources are reported as undiluted, with no mining recovery applied in the Statement. Assumptions for mining factors (mining and selling costs, pit slope angles) and processing factors (metal recovery, processing costs), during the optimization process only.*
- *Boliden considers there to be reasonable prospects for economic extraction by constraining within an optimized open pit shell constructed using long term market forecast commodity prices.*
- *Mineral Resources are reported above the optimized pit shell and above a NSR marginal cut-off of 12 EUR /t, which reflects the economic and technical parameters, and below the mine design pit shell used to report the Mineral Reserve.*
- *Mineral Resources include 18 Mt of ore to be mined during the last two years of the LOM (years 2032-2033) for which current TSFA capacity is insufficient and have therefore been downgraded from Mineral Reserves. Mineral Resources are dependent on Kevitsa identifying a suitable location, designing and obtaining relevant permits for additional TSF capacity within the next 10 years - prior to the tailings deposition.*
- *Tonnes and grades are rounded which may result in apparent summation differences between tonnes, grade and contained metal content.*

3.13 Mineral Reserves

The Mineral Reserves are based on the 2022 Mineral Resource performed by S. Pabst.

3.13.1 Model depletion

Tuula Koivuniemi, a fulltime employed Boliden Production Engineer, was in charge of depleting and reporting the Mineral Reserve to 31 December 2023. The same files as per the Budget 2024 were used to code the 2022 Mineral Reserve in Deswik CAD using the same resource category defined by S. Pabst:

- 2022 Mineral Resource block model, using LOMP 2024 NSR cut-offs updated with RC drilling data for grade control, database closed on August 28th 2023
- Estimated survey projected end of December 2023
- LOMP 2024 Stage 4 final pit design

The existing capacity of TSFA is not sufficient; according to the current plan and permits, this concerns 20 Mt of ore to be mined during the years 2030-2031 of the LOMP. In accordance with PERC Reporting Standard ,11.3 Mt of Proved Reserves were downgraded to Probable Reserves category pending permit attribution for TSFA stages 14-16 upstream raise. Necessary permits situation for TSF are described in 3.6.2 Necessary Permits.

A long section along 3 499 000mN is presented in Figure 8, illustrating the remaining Mineral Reserves and Mineral Resources.

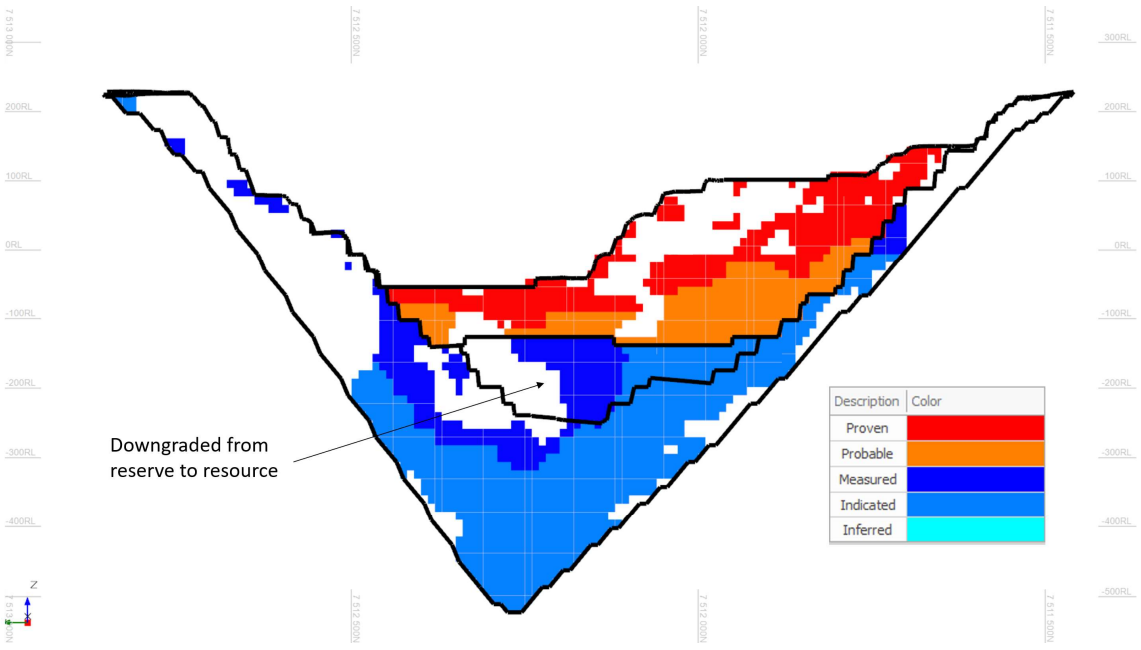

Figure 8. N-S long section along 3499000mN, illustrating the Mineral Reserves and Mineral Resources as of 31 December 2023 (below projected EOM December 2023 surface as well as surface for downgraded material).

3.13.2 Mineral reserve reporting

The Mineral Reserves were constrained within the Stage 4 pit. Stage 4 pit design is based on the pit optimization done using 2018 MRE. The Stage 4 pit design has been updated during 2022 based on 2021 SRK technical studies, where a geotechnical risk assessment flagged a potential risk for wedge failure and losing of a mining position. These changes, together with changing of bench face angle from 90 to 85 degrees, have been implemented to the Stage 4 design.

Blocks within the scheduled 2024 production period were reported inside production geologist defined "geoblocks" or above a cut-off grade of NSR ≥ 15 €. Geoblocks are areas defined by a single cut-off in 2023 described in 3.1 Major changes and it will continue for a single cut-off of NSR ≥ 15 € in 2024. Blocks within scheduling period of 2024 were reported using the following NSR factors:

NSR=Ni(S) % x 84.20 +Cu % x 59.90 +Pt ppm x 8.17 +Pd ppm x 10.13 +Au ppm x 15.34 +Co(S) % x 51.36

Blocks within the scheduled 2025-2033 production period were reported above a cut-off grade of NSR ≥ 15 €. Blocks scheduled between 2025 and 2033 were reported using a second NSR formula:

NSR=Ni(S) % x 90.02 +Cu % x 56.46 +Pt ppm x 7.07 +Pd ppm x 9.79 +Au ppm x 10.27 +Co(S)% x 65.73

Only blocks above the respective cut-offs and classified as Measured within the 2023 Mineral Resource were classified as Proved Mineral Reserves. Indicated blocks above the NSR cut-offs were classified as Probable Mineral Reserves. No Inferred Mineral Resources have been included in the Mineral Reserves.

Mineral Reserves are factored before reporting to account for the recovery (ore loss) and dilution typically experienced with mining at the Kevitsa Mine. Mining recovery was set to 93 % and dilution was set to 16 %. No grade was attributed to the dilution.

The 2023 Kevitsa Mineral Reserve, depleted to 31 December 2023 projected surface (using the most up to date short term plan), is presented in Table 12. The Mineral Reserve has been reported within the Stage 4 pit design, using a two-Stage NSR cut-off approach (see above) and factored to account for dilution and recovery.

Table 12. 2021 Kevitsa Mineral Reserve, depleted to 31 December 2023

	2023						
Classification	Mt	NiS (%)	Cu (%)	Au (g/t)	Pd (g/t)	Pt (g/t)	CoS (%)
Proved	48	0.20	0.31	0.10	0.13	0.20	0.01
Probable	34	0.21	0.32	0.08	0.11	0.17	0.01
Total	82	0.20	0.31	0.09	0.12	0.18	0.01

- *Mineral Reserves is a summary of Resource estimations and studies made over time adjusted to mining situation of December 31 2023.*
- *Mineral Reserves are reported inclusive of mining modifying factors which are changed in 2023 based reconciliation results, a 16 % dilution and a 93 % mining recovery are applied in the statement.*
- *2024 LOMP production schedule along with mining factors (mining recovery and dilution), processing factors (Recovery and Processing costs) and revenue factors (metal prices, selling costs) were incorporated in a financial model and economic analysis by which Boliden determined the Mineral Reserves to be currently economic.*
- *Mineral Reserves are reported within the pit design at a NSR operational cut-off of 14 EUR/t for 2024, and 15 EUR/t from 2025 onwards.*
- *Mineral Reserves include 20 Mt of ore to be mined during years 2030-2031 for which current TSFA capacity is insufficient. TSFA stages 14-16 upstream raise is currently under permitting and will provide 20 Mt extra capacity. Based on that 11.3Mt of Proved Reserves changed to Probable Reserves category.*
- *Tonnes and grades are rounded which may result in apparent summation differences between tonnes, grade and contained metal content.*

3.14 Comparison of Mineral Resources and Mineral Reserves with previous year

3.14.1 Mineral resource changes

The main differences between the 2022 Mineral Resource and the 2023 Mineral Resource are explained by:

- 20 Mt contained in the reserve shell were downgraded to 18 Mt undiluted Measured and Indicated Resources pending permit TSFA2 application and attribution. Necessary permits situation for TSF are described in 3.6.2 Necessary Permits.
- Changed dilution and ore recovery, in 2023 the resource pit was run and reported with 0% dilution and 100% ore recovery in the same way as in other Boliden projects and following industry standard.
- New slope angles affected the size of the resource pit but no significant changes in reported resources were seen.
- Updated block model, updated long term NSR factors and updated cost model as well as cut off only had minor effects.

A waterfall chart, quantifying some of the major differences, is presented in Figure 9.

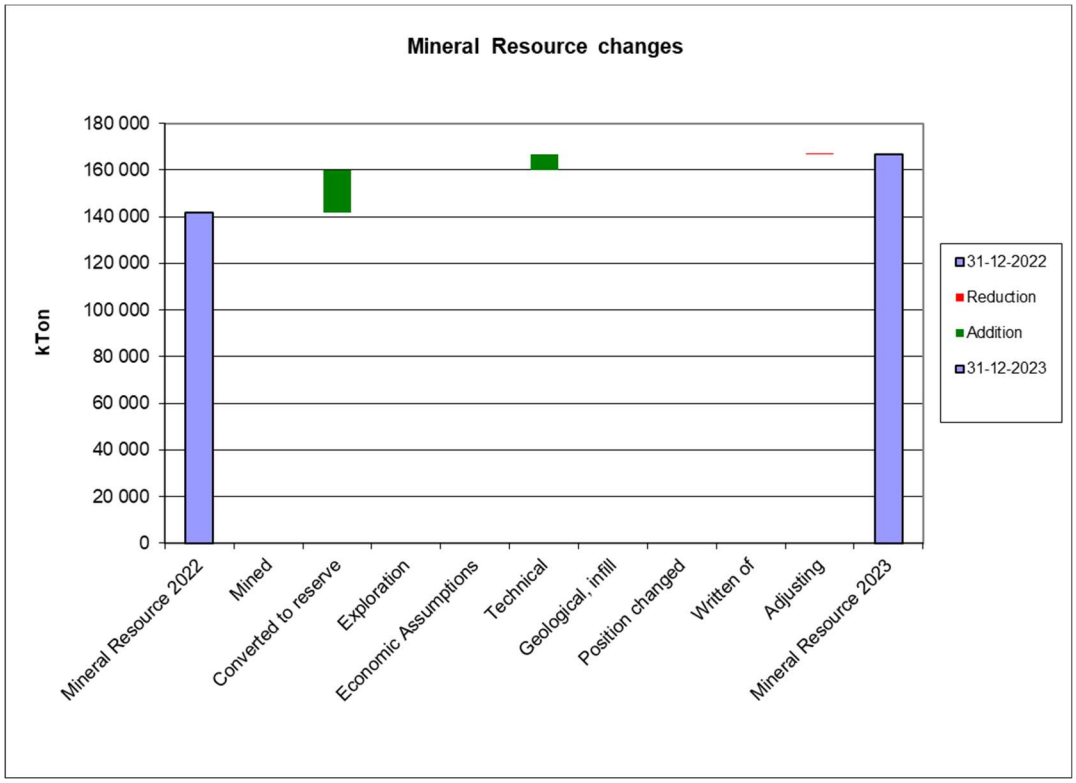

Figure 9. Mineral Reserve changes with previous year

3.14.2 Mineral reserve changes

The 2023 Mineral Reserve is based on the 2022 Mineral Resource block model by S. Pabst (the same model as used in LOMP and Budget 2024). The 2022 Mineral Reserves were based on the 2021 Mineral Resource model. Main differences are explained by:

- 20 Mt were downgraded pending permit TSFA2 application and attribution. Necessary permits situation for TSF are described in 3.6.2 Necessary Permits.
- Mining caused a reduction of 9 405 kt and a gain of 1 794 kt mined outside Mineral Reserves.
- New dilution from 7% to 16% increased Mineral Reserves by 7 900 kt.
- Economic assumptions increased Mineral Reserves by 591 kt as higher long term metal price assumptions lowered the geological cut-off, although the nominal NSR cut-off was raised from 13 € to 15 €.

A waterfall chart, quantifying some of the major differences, is presented in Figure 10.

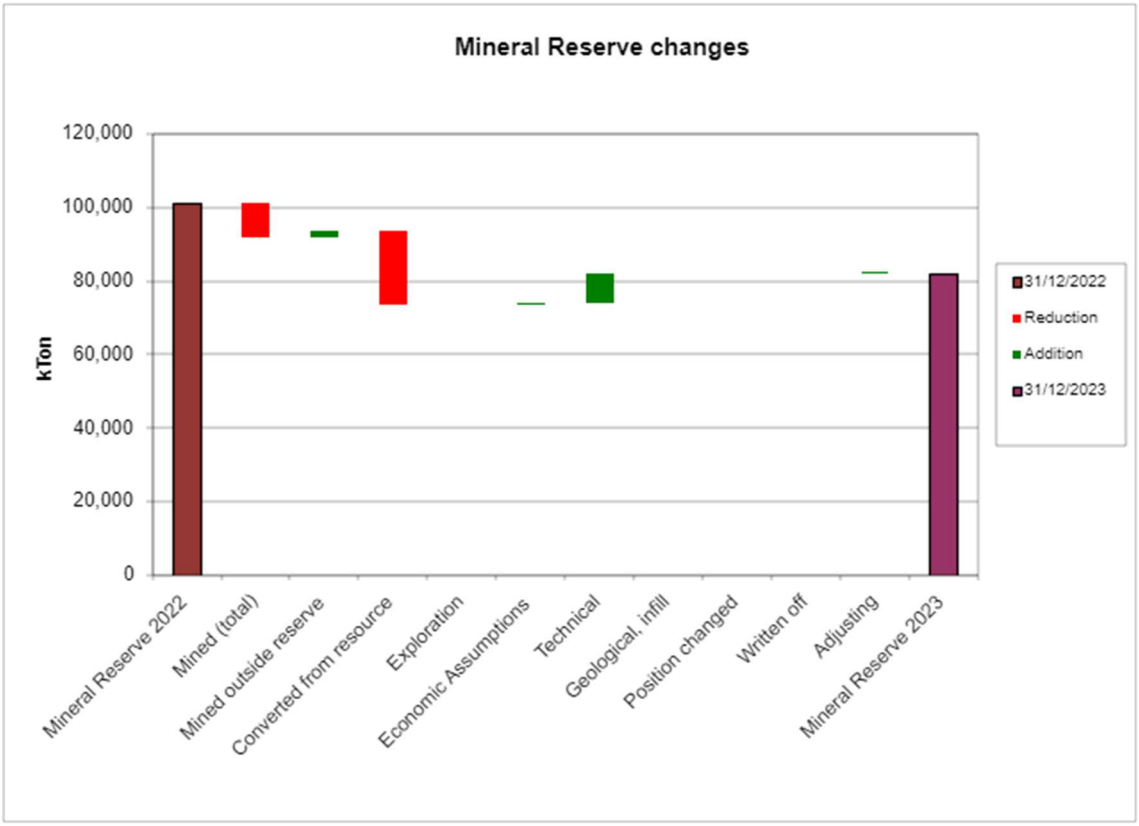

Figure 10. Mineral Reserve changes with previous year

3.15 Reconciliation

3.15.1 Mining reconciliation

Figure 11 compares ore tonnage and grades within annual production volume between:

- Actual production (Production)
- Budget 2023 block model (Budget bm)
- Planned Budget 2023 ore tonnage and grades (Budget)

Mined ore tonnage (Production) is 19 % higher compared to the ore tonnage in the block model used for Budget 2023 (Budget bm) within the annual production volume. Planned Budget 2023 ore tonnage is not comparable as it does not represent the actual production volume due to changes in the mining sequence during 2023.

The discrepancy between mined ore tonnage and Budget bm is mostly due to acquisition of grade control data and mining modifying factors. Kevitsa mine geologists quantify the recoverable ore in grade control models for monthly production planning, considering mining selectivity and blast design (delineating "geoblocks"). Recoverable ore considers:

- internal waste dilution (waste inside geoblocks)
- ore loss (ore outside geoblocks)

in addition to the most recent grade control data.

Addition to mined ore tonnage, Figure 11 presents NiS and Cu grades of mined ore. Grades are slightly lower compared to the block model used for Budget 2023. This reflects the impact of waste dilution and ore loss.

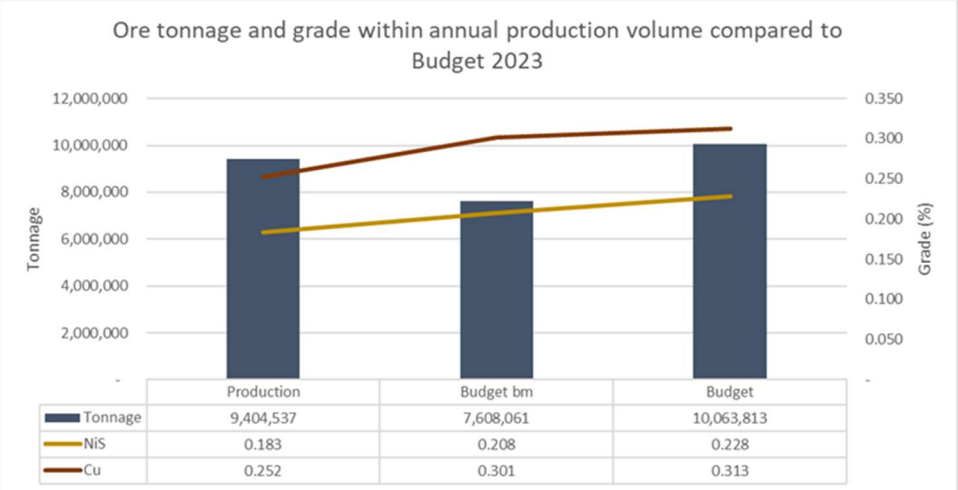

Figure 11: 2023 ore tonnage comparison within mined volume between production and block model used for Budget 2023. Budget ore tonnage represent different volume due to changes in the mining sequence.

3.15.2 Feed grade reconciliation

According to Plant results, 2023 grade control plans allowed forecasting the crusher feed grades. As it is presented in Figure 12, during the first two quartiles there were some variations in the performance of stockpile forecast; however, clear improvement in the grade forecasts can be seen towards the end of the year 2023.

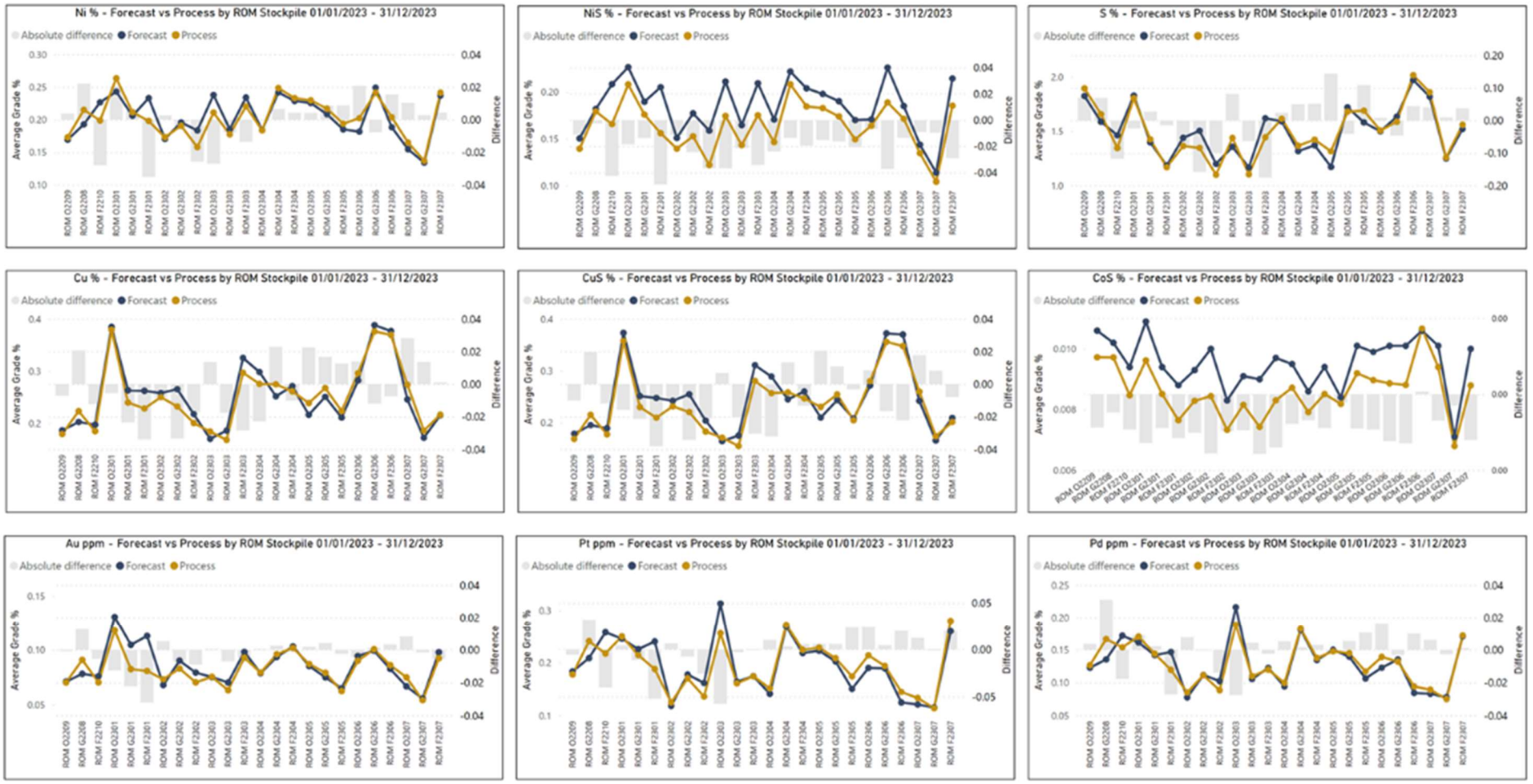

Figure 12: Grades comparison between grade control forecast (Forecast) and process results (Process) average per stockpile fed to the primary crusher. ROM stockpiles are presented by chronological order of feed from January to December 2023

Implementation of more conservative estimation parameters after the first half of the year resulted in a more accurate grade control forecast. As seen from Figure 12, stockpile forecasts improved after the implementation of the new parameters in July 2023 (ROM G2304). Also, a more accurate estimation of the dilution was taken into use at the same time. These changes improved the forecast of most elements. Figure 13 also shows that talc forecast improved significantly after these improvements.

MRE 2022 implementation to production in March 2023 showed consistent results with previous MRE.

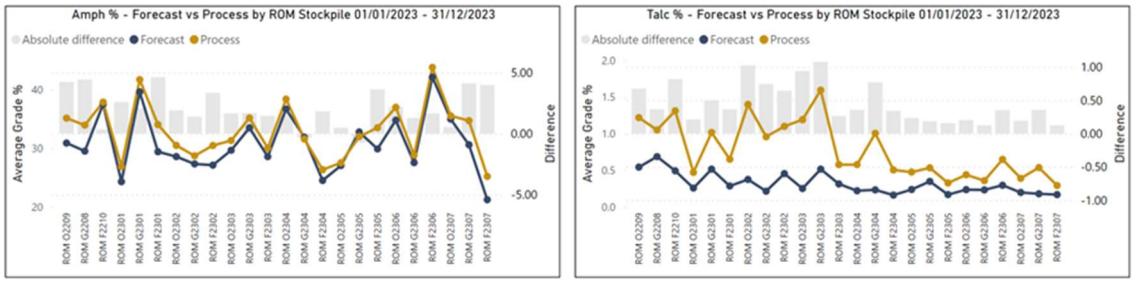

Figure 13: Mineral concentrations comparison between grade control forecast (Forecast) and process (Process) average per stockpile fed to the primary crusher. Stockpiles are presented by chronological order of feed from January to December 2023

Mine Call Factor indicates that Monthly plan and Production grades were forecasted adequately during 2023, improvement can be seen after first half of the year in Figure 14. Deviations are observed between Monthly plan, Forecast and Budget due to changes in the mining sequence during 2023.

As Table 13 shows, on average the deviation between Process metal grades and Production forecasted grades (grade control) is within [-5%;5%] in 2023 except for NiS and CoS. There is a systematic bias in forecasted NiS and CoS grades.

Table 13: Annual weighted average grades for grade control forecast (Production) and corresponding actual measured (MFF) and balanced mill feed (Process) grades of 2023

Element	Production Grade	MFF Sample Grade	Process Grade (balanced)	Δ Production vs Process (balanced)	Δ% Production vs Process (balanced)
NiS %	0.182	0.162	0.163	-0.019	-11.92%
Cu %	0.247	0.245	0.242	-0.006	-2.35%
CoS %	0.009	0.008	0.011	0.002	16.80%
S %	1.443	1.431	1.433	-0.010	-0.67%
Au ppm	0.085	0.081	0.082	-0.003	-3.69%
Pt ppm	0.194	0.192	0.192	-0.002	-1.17%
Pd ppm	0.127	0.129	0.129	0.002	1.57%

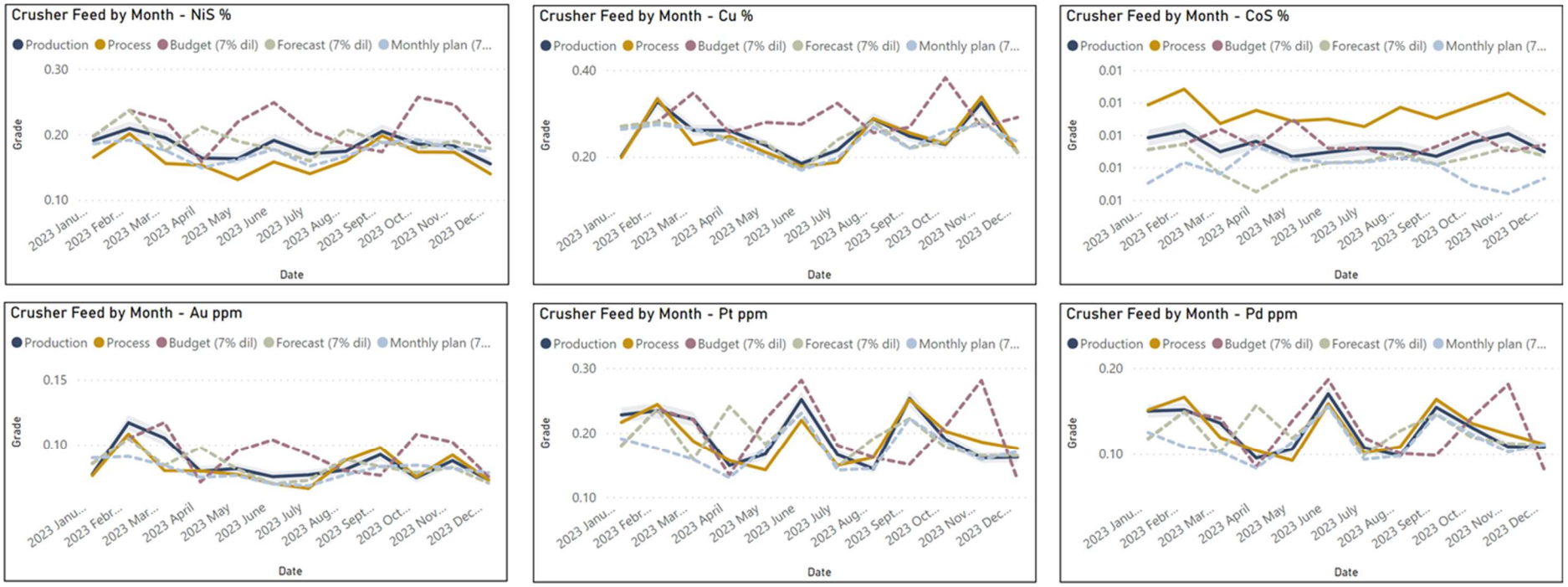

Figure 14: Grade comparison between grade control forecast (Production), process (Process) and planned Budget, Forecast and Monthly plan values (with 7% dilution included). Process grades are balanced end of month metal grades.

Based on a study conducted in collaboration with the laboratory (Eurofins Labtium), bias was confirmed to be due to differences between sample preparation of grade control samples and MFF samples. Milling of MFF samples following the same sample preparation than grade control samples results in systematic higher grades for NiS and CoS. Figure 15 compares NiS results of MFF samples with both sample preparation methods to the grade control sample results. As seen from Table 14, the same sample preparation method improves the performance of NiS from -13 % to -4 % and CoS from -12 % to -2 %.

Table 14: Weighted average grades from February 2023 to December 2023 for grade control forecast and MFF samples with both sample preparation methods.

Element	Production	Current NiS method	Δ% Production vs Process (Current method)	New NiS method	Δ% Production vs Process (New method)
NiS %	0.184	0.163	-13.01%	0.176	-4.17%
CuS %	0.240	0.230	-4.49%	0.237	-1.19%
CoS %	0.009	0.008	-11.98%	0.009	-2.29%

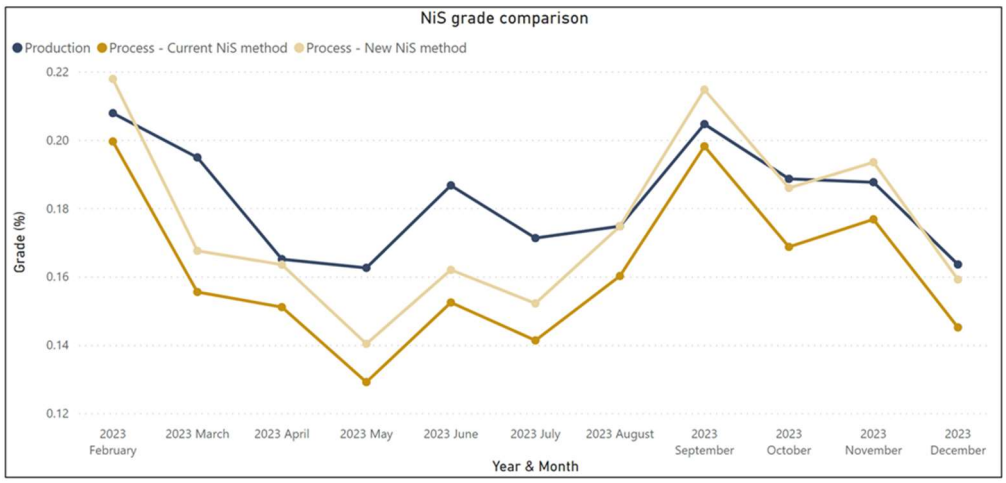

Figure 15: NiS grade comparison between grade control forecast (Production) and process with current sample preparation method (Process – Current NiS method) and same sample preparation method than grade control samples (Process – New NiS method). Presenting resuts from February 2023 to December 2023.

From January 2024 onwards, same sample preparation method will be used for both grade control and process samples to improve the quality of grade reconciliation. This change has been taken into account in the Budget 2024 and the LOMP with a magnitude of 3.5 %.

4 REFERENCES

4.1 Public references

Gray, D., Cameron, T., & Briggs, A. (2016): Kevitsa Nickel Copper Mine, Lapland, Finland NI 43-101 Technical Report 30th March.

Gregory, J., Journet, N., White, G. and Lappalainen, M., (2011): NI 43-101 Technical Report for the Mineral Resources of the Kevitsa Project.

Hölttä, P., Väisänen, M., Väänänen, J. & Manninen, T. (2007): Paleoproterozoic metamorphism and deformation in Central Lapland, Finland. Geological Survey of Finland, Special Paper 44, p. 7-56.

Kojonen, K., Laukkanen, J. and Gervilla, F., (2008): Applied Mineralogy of the Kevitsa Nickel-Copper-PGE Deposit, Sodankylä, Northern Finland, Ninth International Congress for Applied Mineralogy, p. 605-613.

Lappalainen, M. and White, G. (2010). NI 43-101 Technical Report on Mineral Resources of the Kevitsa Deposit Project, Finland.

Luolavirta, K., Hanski, E., Mayer, W., and Santaguida, F. (2017): Whole-rock and mineral compositional constraints on the magmatic evolution of the Ni-Cu-(PGE) sulfide ore-bearing Kevitsa intrusion, northern Finland. Lithos, Volumes 296-299, p. 37-53.

Luolavirta, K., K., Hanski, E., Mayer, W., O'Brien, H. and Santaguida, F. (2017): PhD Project: Magmatic evolution of the Kevitsa intrusion and its relation to the Ni-Cu-(PGE) mineralization, presentation, p. 26.

Mutanen, T. (1997). Geology and ore petrology of the Akanvaara and Koitelainen mafic layered intrusions and the Keivitsa-Satovara layered complex, northern Finland. Geological Survey of Finland Bulletin 395.

Mutanen, T. and Huhma, H., (2001). U-pb geochronology of the koitelainen, akanvaara and keivitsa layered intrusions and related rocks. In: vaasjoki m. Radiometric age determinations from finnish lapland and their bearing on the timing of precambrian volcano-sedimentary sequences. Geological survey of finland, special paper 33, p. 229-246.

Pan-European Standard for reporting of Exploration results, Mineral Resources and Mineral Reserves (The PERC Reporting standard 2017.) www.percstandard.eu

Räsänen, J., Hanski, E, Juopperi, H., Kortelainen, V., Lanne, E., Lehtonen, M., Manninen, T., Rastaa, P. & Väänänen, J. (1996): New stratigraphic map of central Finnish Lapland. In: Kohonen,T. & Lindberg, B. (Eds.) The 22nd Nordic Geological Winter Meeting 8-11 January 1996 in Turku-Åbo, Finland; abstracts and oral poster presentations. Turku, University of Turku, p.182.

4.2 Internal references

AsGeoMin SpA (2023). Kevitsa domaining study. Boliden Internal Report.

Berthet, L. (2021). MRE 2021 Kevitsa Ore Model parameters. Boliden Internal Presentation.

Pabst, S. (2020). Kevitsa Mineral Resource Estimate December 2020. Boliden Internal Report.

Pabst, S. (2022). Kevitsa Mineral Resource Estimate 2021. Boliden Internal Report.

Pabst, S. (2023). Kevitsa Mineral Resource Estimation 2022. Boliden Internal Report.

SRK Consulting (Finland) Oy, (2021). Kevitsa 3D Slope Stability Numerical Analysis. FI784.

Vierelä, J., Laaksonen, V., (2020). Standard Operating Procedure for Density Measurement.