NI 43-101 Technical Report

Preliminary Economic Assessment for the Samapleu and Grata Deposits Project

Côte d'Ivoire, West Africa

Prepared for:
Sama Resources Inc.

Effective Date: March 21, 2024
Signature Date: May 3, 2024

Prepared by the following Qualified Persons:

Todd McCracken, P.Geo.	BBA International Inc.
Bahareh, Asi, P.Eng.	BBA International Inc.
Jason Van Schie, P.Eng.	BBA International Inc.
Kevan Ford, MS Eng.	BBA International Inc.
Chris Martin, C.Eng.	Independent Consultant
Wilson Muir, P.Eng.	Knight Piésold Ltd.

Knight Piésold CONSULTING

Chris Martin, Consultant

Date and Signature Page

This technical report is effective as of the 21st day of March 2024.

Original signed and sealed on file	May 3, 2024
Todd McCracken, P.Geo. BBA International Inc.	Date

Original signed and sealed on file	May 3, 2024
Bahareh Asi, P.Eng. BBA International Inc.	Date

Original signed and sealed on file	May 3, 2024
Jason Van Schie, P.Eng. BBA International Inc.	Date

Original signed on file	May 3, 2024
Kevan Ford, MS Eng. BBA International Inc.	Date

Original signed and sealed on file	May 3, 2024
Chris Martin, C.Eng. Independent Consultant	Date

Original signed and sealed on file	May 3, 2024
Wilson Muir, P.Eng. Knight Piésold Ltd.	Date

1010 Lorne Street, Unit 101
Sudbury, ON P3C 4R9
T +1 705 265-1119 F +1 450 464-0901

BBA.CA

CERTIFICATE OF QUALIFIED PERSON

Todd McCracken, P.Geo.

This certificate applies to the NI 43-101 Technical Report entitled "Preliminary Economic Assessment for the Samapleu and Grata Deposits", Côte d'Ivoire, West Africa (the "Technical Report"), prepared for Sama Resources Inc., dated May 3, 2024, with an effective date of March 21, 2024.

I, Todd McCracken, P.Geo., as a co-author of the Technical Report, do hereby certify that:

1. I am Senior Geologist and Director of Mining and Geology at BBA International Inc., located at 1010 Lorne Street, Unit 101, Sudbury, ON, P3C 4R9.
2. I am a graduate of the University of Waterloo in Ontario (1992), with a Bachelor's Degree in Honors Applied Earth Sciences. I have practised my profession continuously since my graduation.
3. I am a member in good standing of and licensed by the Association of Professional Geoscientists of Ontario (PGO No. 0631).
4. My relevant experience includes over 30 years in exploration, operations and consulting, including resource estimation on nickel deposits. This also includes over 10 years experience overseeing mining studies.
5. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for the preparation of Chapters 3 to 12, 14, 19, 20, 22, 23 and 24, and Sections 21.3.7 and 21.3.9. I am also co-author and responsible for the relevant portions of Chapters 1, 2, 25, 26 and 27 of the Technical Report.
8. I personally visited the property that is the subject of the Technical Report from June 14 to June 17, 2023.
9. I have prior involvement with the property having participated as QP on the previous report entitled "Mineral Resource Estimate for the Samapleu and Grata Deposits", dated August 11, 2023.
10. I have read NI 43-101, and the sections of the Technical Report for which I am responsible have been prepared following NI 43-101 rules and regulations.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 3rd day of May 2024.

Original signed and sealed on file

Todd McCracken, P.Geo.
BBA International Inc.

10 Carlson Court, Suite 420
Toronto, ON M9W 6L2
T +1 416.585.2115 F +1 416.585.9683

BBA.CA

CERTIFICATE OF QUALIFIED PERSON

Bahareh Asi, P.Eng.

This certificate applies to the NI 43-101 Technical Report entitled "Preliminary Economic Assessment for the Samapleu and Grata Deposits", Côte d'Ivoire, West Africa (the "Technical Report"), prepared for Sama Resources Inc., dated May 3, 2024, with an effective date of March 21, 2024.

I, Bahareh Asi, P.Eng., as a co-author of the Technical Report, do hereby certify that:

1. I am Senior Mining Engineer with the firm BBA International Inc., located at 10 Carlson Court, Suite 420, Toronto, ON, M9W 6L2, Canada.
2. I am a graduate in Mining from the Bahonar University of Kerman in 2001, with a Bachelor of Engineering, and from Tarbiat Modares University in 2004 with a Master of Engineering. I have been employed in consulting engineering and mining operations since my graduation and practised my profession continuously.
3. I am a member in good standing of the Professional Engineers of Ontario (PEO No: 100203076).
4. My relevant experience includes over 20 years in the area of open pit mine engineering for the design, planning and estimation in technical studies and mine operations for numerous mining projects.
5. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for the preparation of Chapters 1, 2, 15, 16, 21 (except 21.3.6 to 21.3.9, 21.4.5 and 21.4.6), 25, 26, and 27 of the Technical Report.
8. I have not visited the property that is the subject of the Technical Report.
9. I have no prior involvement with the property that is the subject of the Technical Report.
10. I have read NI 43-101, and the sections of the Technical Report for which I am responsible have been prepared following NI 43-101 rules and regulations.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 3rd day of May 2024.

Original signed and sealed on file

Bahareh Asi, P.Eng.
BBA International Inc.

10 Carlson Court, Suite 420
Toronto, ON M9W 6L2
T +1 416.585.2115 F +1 416.585.9683

BBA.CA

CERTIFICATE OF QUALIFIED PERSON

Jason Van Schie, P.Eng.

This certificate applies to the NI 43-101 Technical Report entitled "Preliminary Economic Assessment for the Samapleu and Grata Deposits", Côte d'Ivoire, West Africa (the "Technical Report"), prepared for Sama Resources Inc., dated May 3, 2024, with an effective date of March 21, 2024.

I, Jason Van Schie, P.Eng., as a co-author of the Technical Report, do hereby certify that:

1. I am a Senior Mechanical and Structural Engineer with the firm BBA International Inc., located at 10 Carlson Court, Suite 420, Toronto, ON, M9W 6L2, Canada.
2. I am a graduate in Civil Engineering from the University of Waterloo in Ontario in 1996.
3. I am a member in good standing of the Professional Engineers of Ontario (PEO No. 90481268).
4. My relevant experience includes 20 years in consulting, including mining infrastructure lay-out and design in technical studies. This also includes process plant and bulk material handling equipment design and lay-out experience.
5. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for the preparation of Chapter 18 (except Sections 18.5 and 18.6). I am also co-author and responsible for the relevant portions of Chapters 1, 2, 25, 26 and 27 of the Technical Report.
8. I have not visited the property that is the subject of the Technical Report.
9. I have no prior involvement with the property that is the subject of the Technical Report.
10. I have read NI 43-101, and the sections of the Technical Report for which I am responsible have been prepared following NI 43-101 rules and regulations.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 3rd day of May 2024.

Original signed and sealed on file

Jason Van Schie, P.Eng.
BBA International Inc.

10 Carlson Court, Suite 420
Toronto, ON M9W 6L2
T +1 416.585.2115 F +1 416.585.9683

BBA.CA

CERTIFICATE OF QUALIFIED PERSON

Kevan Ford, MS Eng.

This certificate applies to the NI 43-101 Technical Report entitled "Preliminary Economic Assessment for the Samapleu and Grata Deposits", Côte d'Ivoire, West Africa (the "Technical Report"), prepared for Sama Resources Inc., dated May 3, 2024, with an effective date of March 21, 2024.

I, Kevan Ford, MS Eng., as a co-author of the Technical Report, do hereby certify that:

1. I am a Principal Metallurgist specialized in Extractive Metallurgy with the firm BBA International Inc., located at 10 Carlson Court, Suite 420, Toronto, Ontario, Canada, M9W 6L2.
2. I am a graduate of the University of Witwatersrand, Johannesburg, South Africa (1984) with a BSc. Engineering degree (Mineral processing and Metallurgy), and from Natal University, Durban South Africa (1990) with a MSc. Engineering (Chemical Engineering).
3. I am a member of CIMM (Canadian Institute of Mining, Metallurgy and Petroleum), Member No: 138416, since 2001, and Fellow Member of SAIMM (South African Institute of Mining and Metallurgy), Member No: 35833, since 1985. I am a qualified person (QP) under NI 43-101, for Mineral Processing and Metallurgy.
4. My relevant experience includes 40 years in the mining-metals industry, with 21 years in Canada. This with experience in global mineral processing and metallurgical projects and plant operations, particularly in gold and base metals.
5. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (SAIMM), and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for the preparation of Chapter 17, and Sections 21.3.6 and 21.4.5. I am also co-author and responsible for the relevant portions of Chapters 1, 2, 25, 26 and 27 of the Technical Report.
8. I have not visited the property that is the subject of the Technical Report, as it was not required for the purpose of this mandate.
9. I have not been involved with the Property that is the subject of previous Technical Report/s and have not participated as a QP on sections of the earlier Preliminary Economic Assessment (PEA) of the Samapleu Project, dated August 11, 2023.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible that have been prepared following NI 43-101 rules and guidelines.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed this 3rd day of May 2024.

Original signed on file

Kevan Ford, MS Eng.
BBA International Inc.

Independent Consultant
3573 Shelby Lane
Nanoose Bay
BC V9P 9J8

CERTIFICATE OF QUALIFIED PERSON

Chris Martin, C.Eng.

This certificate applies to the NI 43-101 Technical Report entitled "Preliminary Economic Assessment for the Samapleu and Grata Deposits", Côte d'Ivoire, West Africa (the "Technical Report"), prepared for Sama Resources Inc., dated May 3, 2024, with an effective date of March 21, 2024.

I, Chris Martin, C.Eng., as a co-author of the Technical Report, do hereby certify that:

1. I am an independent consultant located at 3573 Shelby Lane, Nanoose Bay, BC V9P 9J8.
2. I am a graduate from Camborne School of Mines (BSc(hons).ACSM, Mineral Processing Technology (1984) and McGill University, M.Eng., Metallurgical Engineering, (1988).
3. I am a member in good standing of Institute of Materials, Minerals and Mining (IMMM).
4. My relevant experience includes 39 years experience in mineral processing specializing in grinding and flotation of base metal sulphides, including flowsheet development of several hundred projects located worldwide.
5. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for the preparation of Chapter 13 of the Technical Report. I am also co-author and responsible for the relevant portions of Chapters 1, 2, 25, 26 and 27 of the Technical Report.
8. I have not visited the property that is the subject of the Technical Report.
9. I have no prior involvement with the property that is the subject of the Technical Report.
10. I have read NI 43-101, and the sections of the Technical Report for which I am responsible have been prepared following NI 43-101 rules and regulations.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 3rd day of May 2024.

Original signed and sealed on file

Chris Martin, C.Eng.
Independent Consultant

Knight Piésold Ltd.
200-1164 Devonshire Avenue
North Bay, Ontario P1B 6X7

CERTIFICATE OF QUALIFIED PERSON

Wilson Muir, P.Eng.

This certificate applies to the NI 43-101 Technical Report entitled "Preliminary Economic Assessment for the Samapleu and Grata Deposits", Côte d'Ivoire, West Africa (the "Technical Report"), prepared for Sama Resources Inc., dated May 3, 2024, with an effective date of March 21, 2024.

I, Wilson Muir, P.Eng., as a co-author of the Technical Report, do hereby certify that:

1. I am a Senior Engineer with Knight Piésold Ltd., located at 200 - 1164 Devonshire Avenue, North Bay Ontario, P1B 6X7.
2. I am a graduate in Geological Engineering from the University of British Columbia in 1994.
3. I am a member in good standing of Professional Engineers Ontario (Licence No. 100060272).
4. My relevant experience includes 27 years in the areas of mine waste and water management .
5. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for the preparation of Sections 18.5 and 18.6, and Sections 21.3.8 and 21.4.6. I am also co-author and responsible for the relevant portions of Chapters 1, 2, 25, 26 and 27 of the Technical Report.
8. I have not visited the property that is the subject of the Technical Report.
9. I have no prior involvement with the property that is the subject of the Technical Report.
10. I have read NI 43-101, and the sections of the Technical Report for which I am responsible have been prepared following NI 43-101 rules and regulations.
11. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 3rd day of May 2024.

Original signed and sealed on file

Wilson Muir, P.Eng.
Knight Piésold Ltd.

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Abbreviation	Description
$ or USD	United States dollar (examples of use: USD 2.5M / $2.5M)
$/t	US dollars per tonne
%	percent
'	feet
°	degree
°C	degrees Celsius
3D	three dimensional
a	annum (year)
AACE	American Association of Cost Engineers
Abitibi	*Abitibi Géophysique*
AC	Advisory Committee
Actlabs	Activation Laboratories Ltd.
Ag	silver
AISC	all-in sustaining cost
Al	aluminium
AMPD	Absolute Mean Percentage Difference
ANDE	*Agence Nationale de l'Environnement*
ARMIT	Abitibi-RMIT (Royal Melbourne Institute of Technology)
As	arsenic
Au	gold
Ba	barium
BBA	BBA International Inc.
Be	beryllium
B-field	magnetic field
BFS	Bankable Feasibility Study
Bi	bismuth
C.Eng.	Chartered Engineer
Ca	calcium
CAD	Canadian dollar (examples of use: CAD 2.5M)
CAGR	compound annual growth rate
CaO	lime
CCTV	closed-circuit television
Cd	cadmium
CF	correction factor for water temperature

Abbreviation	Description
CFA	*Coopération financière en Afrique centrale* (Financial Cooperation in Central Africa)
CIF	cost, insurance and freight
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
cm	centimetre
CMC	carboxymethyl cellulose
Co	cobalt
COG	cut-off grade
conc.	concentrate
Cr	chromium
CRM	certified reference material
CTMP	*Centre de Technologie Minérale et de Plasturgie Inc.*
Cu	copper
Cum.	cumulative
$CuSO_4$	copper sulphate
d	day (24 hours)
dB/dt	amplitude of a magnetic field (dB) / time required to make that change (dt)
DCF	discounted cash flow
DCS	Distributed Control System
DDH	diamond drill hole
DEF	diesel exhaust fluid
deg	degree
DETA	diethylenetriamine
dmt	dry metric tonne
DSO	direct shipping ore / direct shipping laterite mines
DTH	down-the-hole
DTM	Digital Terrain Model
DWT	deadweight tonnage
E	east
EE	*Entité d'Exploitation* (Operating Body)
Eh	oxidation-reduction potential based on the standard hydrogen potential
EITI	Extractive Industries Transparency Initiative
El.	elevation
EM	electromagnetic
EPCM	engineering, procurement and construction management
Eq	equivalent
ESIA	Environmental and Social Impact Assessment

Abbreviation	Description
et al.	and others
Ext 1	Extension 1 deposit
F.CFA	West African CFA Franc (currency)
Fe	iron
FIFO	fly-in fly-out
FOB	freight on board
Foraco	Foraco Drilling
FS	feasibility study
ft or "	foot
Furgo	Fugro Airborne Surveys
FW	footwall
g	gram
G&A	general and administrative
Ga	gallium
Ga	giga annum
Ge	germanium
GET	ground engaging tools
GOH	gross operating hours
GPS	global positioning system
h	hour (60 minutes)
H:V	slope ratio (horizontal:vertical)
Hf	hafnium
HG	high-grade
HPX	HPX Ivory Coast Holdings Inc.
HTEM	helicopter-borne time-domain electromagnetic
HW	hanging wall
HWY	highway
ICP	inductively coupled plasma
ICP-OES	inductively coupled plasma optical emission spectroscopy
ID^2	inverse distance square
IEC	International Electrotechnical Commission
In	indium
in. or "	inch
INAA	instrumental neutron activation analysis
InfiniTEM	InfiniTEM® II
IP	induced polarization

Abbreviation	Description
IRR	internal rate of return
ISO	International Organization for Standardization
ISP	Internet service provider
IUCN	International Union for Conservation of Nature
IVNE	IVNE Ivory Coast Inc. (previously HPX Ivory Coast Holdings Inc.)
JV	joint venture
K	potassium
K	thousand
kbar	kilobar
km	kilometre
km^2	square kilometre
KP	Knight Piésold Ltd.
KPI	key performance indicator
kt	kilotonne
kV	kilovolt
kWh	kilowatt-hour
L	litre
Landen	Landen Capital Corporation
lb	pound(s)
LCM	loose cubic metres
LCT	locked cycle testing
Li	lithium
LME	London Metals Exchange
LOM	life of mine
m	metre
M	million
Max.	maximum
Mg	magnesium
MgO	magnesium oxide
MIBC	methyl isobutyl carbinol
min	minute
Min.	minimum
mm	millimetre
Mn	manganese
Mo	molybdenum
MPSO	MinePlan Schedule Optimizer

Abbreviation	Description
MRE	Mineral Resource Estimate
MSE	mechanically stabilized earth
Mt	million tonnes
N	north
Na	sodium
Na_2SO_3	sodium sulphite
NAG	non-acid generating
Nb	niobium
NE	northeast
Ni	nickel
NI 43-101	Canadian Securities Administrators National Instrument 43-101
NN	nearest neighbour
No	Number
NOCI	*Nickel de l'Ouest Côte d'Ivoire*
NOH	net operating hours
NPV	net present value
NSR	net smelter return
NW	northwest
OEM	original equipment manufacturer
OES	optical emission spectroscopy
OK	ordinary kriging
OREAS	Ore Research & Exploration Assay Standards (OREAS®)
OSA	on-stream analyzer
OTC	over-the-counter (stock market)
oz	troy ounce
P	phosphorus
P.Geo.	Professional Geoscientist
PAG	potentially acid generating
Pb	lead
Pd	palladium
PEA	Preliminary Economic Assessment
PFS	Pre-feasibility Study
PGEs	platinum-group elements
PGMs	platinum-group metals
PH	phase
pH	potential of hydrogen

Abbreviation	Description
PLC	programmable logic controller
PP	pre-production
ppm	parts-per million
PR	*Permis de recherche xxivanière* (exploration permit)
PR300	Zérégouiné property
PR604	Grata property
PR837	Zoupleu property
PR838	Samapleu East property
PR839	Samapleu West property
Pt	platinum
QA/QC	quality assurance / quality control
QEMSCAN	quantitative evaluation of minerals by scanning electron microscopy
QP	qualified person
Rb	rubidium
Re	rhenium
RF	revenue factor
Rh	rhodium
RMIT	Royal Melbourne Institute of Technology
ROM	run-of-mine
RPEEE	reasonable prospects for eventual economic extraction
RQD	rock quality designation
S	south
S	sulphur
SAG	semi-autogenous grinding
Sama or the Company	Sama Resources Inc.
SANAS	South African National Accreditation System
Sb	antimony
SCADA	Supervisory Control and Data Acquisition
SCC	Standards Council of Canada
Se	selenium
SE	southeast
SG	specific gravity
SGS	SGS Laboratory
SGS RSA	SGS South Africa Pty Ltd.
Si	silicon
SIPX	sodium isopropyl xanthate

Abbreviation	Description
SMC	SAG Mill Comminution
SMT	*Société Minière du Tonkpi*
Sn	tin
SNC	Sama Nickel Corporation
SNG	*Société Nouvelle de Géophysique*
SODEGO	*Société de Développement de Gouessesso*
SODEMI	*Société pour le développement minier de la Côte d'Ivoire*
Sr	strontium
SRQ	SRQ Resources Inc. (*Sama Ressources Québec*)
SS	stainless steel
SW	southwest
t	tonne (1,000 kg) (metric tonne)
t/y	tonne per year
Ta	tantalum
Te	tellurium
Th	thorium
Ti	titanium
Tl	thallium
TMF	tailings management facility
Trillion Res.	Trillion Resources Ltd.
TSF	tailings storage facility
UHF	ultra-high-frequency
UT	Ultra Trace Pty Ltd.
UTM	Universal Transverse Mercator
V	vanadium
Veritas	Bureau Veritas Mineral Laboratories
VFD	variable frequency drive
vs	versus
VTEM	versatile time-domain electromagnetic (VTEM™)
W	tungsten
W	west
WAC	West-African Archean craton
WBS	work breakdown structure
Wd	dry weight
WMF	Waste Management Facility
WMP	Water Management Pond

Abbreviation	Description
wmt	wet metric tonne
Ws	submerged weight
wt%	weight percent
Xcalibur	Xcalibur Airborne Geophysics
XRF	X-ray fluorescence
y	year
Zn	zinc
Zr	zirconium
µm	micron

1. Summary

Sama Resources Inc. ("Sama" or the "Company") through its subsidiary Sama Nickel Corporation ("SNC") retained BBA International Inc. ("BBA") to prepare a Preliminary Economic Assessment in accordance with National Instrument 43-101 ("NI 43-101") for Sama's Samapleu Main & Extension, Grata, and Sipilou Sud deposits, herein referred to as the "project", located in Côte d'Ivoire.

This report was prepared by BBA with contributions from Knight Piésold Ltd. ("KP"), and Chris Martin.

Unless otherwise specified or noted, the units used in this report are metric. Every effort has been made to display the appropriate units being used throughout the report clearly. Currency is in United States dollars (USD or $) unless otherwise noted.

Numbers presented in the tables may not add up precisely due to rounding.

The Issue Date of this report is May 3, 2024. The Effective Date of the technical report is March 21, 2024.

1.1 Property Description and Location

SNC's exploration permits, PR838 (Samapleu-Est), PR839 (Samapleu-Ouest), PR300 (Zérégouiné), PR604 (Grata), and PR837 (Zoupleu) are located in Côte d'Ivoire, West Africa and cover a total area of 839 km².

PR838 & PR 839 are held 66⅔0% by Sama Nickel Corp., which is held 40% by Sama Resources and 60% by Ivanhoe Electric ("IE"), and 33⅓% by SODEMI. The Ivorian government will hold a carry-free interest of 10% on future exploitation.

No specific permits are needed for either SODEMI or SNC to perform exploration work within the PR838 and PR604 or any other exploration permit areas.

1.2 Accessibility, Climate, Local Resources, Infrastructure and Physiography

Access to the property from Abidjan is via 225 km of a paved four-lane highway to Yamoussoukro, followed by paved roads to Daloa and Duékoué to the west and north to Man and Biankouma. From Biankouma, the village of Yorodougou, where the Samapleu exploration camp is located, is accessed by a dirt road over approximately 35 km toward the west-northwest.

Since 2017, the area has also been accessible by air with three flights per week between the city of Man and Abidjan. Man Airport is a 1 hour drive from SNC Base Camp in Yorodougou.

The project area falls within the Guineo-Soudanian climatic zone, a transition zone between equatorial and tropical climates with distinct rainy and dry seasons.

Over the years, a variety of mining activities have occurred in western Côte d'Ivoire. Consequently, some services and expertise related to the mining industry are available in the region.

The project benefits from a road and power network leading into the area and basic services are available in the towns of Man and Biankouma.

The project area is characterized by rolling hills covered with tropical forest, low grasslands , and valleys. Steep scarps are present locally. The elevations range from 400 m above sea level in the low grasslands to slightly above 1,200 m on the mountain ridges. Towards the north of the property, a gradual transition from the sector of forested hills to a savannah plain is observed.

1.3 History

Discovery of base metals mineralization at the Samapleu site occurred in the 1970s. SNC has been actively exploring since 2009 with various geophysical surveys, geochemical surveys, and diamond drill programs. From 2010 to 2023, subsequent exploration included geochemical sampling, geophysical surveying and several phases of diamond core drilling.

A historical resource was estimated by WSP in July 2012, updated in December 2012, and further updated in May 2015 and March 2020 with DRA/Met-Chem.

1.4 Geological Setting and Mineralization

The project area is located in western Côte d'Ivoire, which constitutes the eastern limit of the West-African Archean craton. The West-African Archean craton is represented by two Precambrian shields: Reguibat to the north and Man to the south. The Man shield is subdivided into a western domain, predominantly of Archean age (Kénéma-Man), and an east-central domain (Baoulé-Mossi) composed of Paleoproterozoic rocks.

The Yacouba complex is characterized by a series of feeder systems of magmatic material assimilating the Archean country rock thus creating magmatic migmatite complex with locally well-preserved peridotite, pyroxenite, chromitite and minor gabbro or gabbro-norite units. The Yacouba complex is often seen vertically crosscutting the Archaean gneiss and granulite, especially in the Samapleu and Grata areas.

Samapleu and Grata exploration properties (PR838 & PR604) are underlain by gneissic granulite, mafic granulite, charnockite, aluminous garnet, and magnetite gneiss, garnet jotunite/underbite, biotite and granite. All have been affected by high-grade facies of metamorphism under granulitic P and T conditions.

Mineralization in the Samapleu and Grata deposits consists predominantly of pyrrhotite, pentlandite and chalcopyrite, with subordinate amounts of pyrite, platinum-group element, and chromite. Sulphide mineralization types are matrix textures, net-textures, droplets, breccia, dragged sulphide sometimes with semi-massive sulphides, massive, veins, and veinlets.

The Sipilou Sud laterite deposit profile is characterized by a succession of lateritic facies. These are distinguished primarily on the basis of physical characteristics, which are colour, texture, grain size, and mineralogical composition. The sequence of these facies from top down is limonite, transition, saprolite, and bedrock. The nickel mineralization are found primarily in the saprolite layer, while the cobalt mineralization is mostly in the limonite layer.

1.5 Deposit Types

Samapleu and Grata deposit types are part of a typical ultramafic intrusive sequence with the sulphide droplets often forming within the ultramafic intrusion through contamination of the parental, mantle-derived magma with sulphur from adjacent rock units or by assimilation from the crust.

The Sipilou Sud laterite deposit is typical of nickel laterite deposits formed in a seasonally wet tropical climate, on weathered and partially serpentinized ultramafic rocks.

1.6 Exploration

SNC has conducted exploration on the property since 2009 in the form of geophysics, geological, and geochemical surveys. The exploration includes over 13,000 km of airborne magnetics, 3,300 km of Helicopter Transient Electromanetics, 2,900 km of Versatile Time Domain Electromagnetics, and 70 km of Typhoon, plus several other smaller geophysical surveys. Several field mapping, soil and rock sampling programs have been completed on the project. The result is, in addition to the Samapleu and Grata deposits, over 20 targets have been identified on the project.

1.7 Drilling

Since 2010, SNC has completed 516 diamond drill holes totalling 84,596 m, of which 267 holes totalling 54,773 m were focussed on the Samapleu and Grata deposits and 135 holes totalling 4,495 m on Sipilou Sud laterite. Drilling contractors have completed 45% of the drilling, and 55% of the drilling has been completed by SNC owned drills.

The drill rigs retrieved NQ-sized core. Downhole surveys were completed by the drillers using a Flexi MultiMate survey tool. In 2023, SNC completed a downhole survey program to collect the downhole data on most of the holes missing the data. Drill collars were surveyed by a third-party surveyor.

1.8 Sample Preparation, Analyses and Security

Various independent commercial laboratories have completed sample preparation and analysis of the diamond drill programs. All the laboratories used are certified.

Appropriate quality assurance / quality control programs have been in place since 2010, and they use blanks, duplicates, and standards.

Core is stored in a secure facility owned by SNC.

1.9 Data Verification

Data validation to support the resource estimation has been conducted. This includes site visits, collar location validation, and database validation.

1.10 Mineral Processing and Metallurgical Testing

Recent metallurgical testwork has included hardness, mineralogy and flotation testing, aimed at demonstrating the recovery of copper, nickel, cobalt and precious metals to separate saleable copper and nickel concentrates.

Recovery equations for the various elements in each of the concentrates were developed and used in the pit shell constraints.

1.11 Mineral Resource Estimate

Mineral resource estimates have been completed for the Samapleu and Grata deposits using industry standard best practices. Diamond drilling was used to generate 3D mineral solids for the various mineral domains, with the appropriate compositing and grade capping applied. Estimations were completed with a multi-pass estimation strategy using ordinary kriging. The mineral resources were constrained with pit shells using appropriate parameters to be considered as reasonable prospect for eventual economic extraction. Table 1-1 summarizes the Mineral Resource Estimate in situ contained metal within the pit shells using a cut-off value of $16.34/t net smelter return. Table 1-2 summarizes the pit constrained in situ pit contained metal.

Table 1-1: Samapleu Project Mineral Resource Summary

Classification	Deposit	Tonne	Ni (%)	Cu (%)	Pt (g/t)	Pd (g/t)	Au (g/t)	Co (%)
Indicated	Main	15,248,000	0.26	0.22	0.10	0.31	0.04	0.02
	Extension	514,000	0.25	0.16	0.10	0.45	0.02	0.02
	Grata	3,645,000	0.28	0.29	0.11	0.32	0.04	0.02
	Total	**19,407,000**	**0.26**	**0.23**	**0.10**	**0.32**	**0.04**	**0.02**
Inferred	Main	21,342,000	0.25	0.21	0.07	0.28	0.04	0.02
	Extension	10,885,000	0.28	0.22	0.10	0.48	0.02	0.02
	Grata	67,272,000	0.24	0.25	0.10	0.26	0.04	0.01
	Total	**99,499,000**	**0.25**	**0.23**	**0.09**	**0.29**	**0.04**	**0.01**

Table 1-2: Samapleu Project Mineral Resource Contained Metal

Classification	Deposit	Tonne	Ni ('000 lb)	Cu ('000 lb)	Pt (oz)	Pd (oz)	Au (oz)	Co ('000 lb)
Indicated	Main	15,248,000	87,100	75,000	50,100	154,400	19,100	5,700
	Extension	514,000	2,800	1,800	1,600	7,400	400	200
	Grata	3,645,000	22,400	23,200	13,000	38,000	5,200	1,300
	Total	**19,407,000**	**112,300**	**100,000**	**64,700**	**199,800**	**24,700**	**7,200**
Inferred	Main	21,342,000	117,000	96,500	49,700	194,200	24,600	7,400
	Extension	10,885,000	67,300	52,500	33,900	166,900	8,600	4,200
	Grata	67,272,000	360,400	365,600	218,400	567,200	83,200	20,900
	Total	**99,499,000**	**544,700**	**514,600**	**302,000**	**928,300**	**116,400**	**32,500**

Mineral resource estimates have been completed for the Sipilou Sud laterite deposit using industry standard best practices. Diamond drilling was used to generate 3D mineral solids for the various mineral domains, with the appropriate compositing and grade capping applied. Estimations were completed with a multi-pass estimation strategy using ordinary kriging. The mineral resources were constrained with pit shells using appropriate parameters to be considered as reasonable prospect for eventual economic extraction. A summary of the laterite mineral resource is in Table 1-3. A cut-off grade of 1.10% Ni is used for the Sipilou Sud laterite deposit.

Table 1-3: Sipilou Sud Laterite Mineral Resource Summary

Classification	Deposit	Tonne	Ni (%)	Co (%)
Inferred	Sipilou Sud	2,095,000	1.75	0.05
	Total	**2,095,000**	**1.75**	**0.05**

1.12 Mineral Reserve Estimate

Mineral Reserves have not been calculated for the Samapleu and Grata Preliminary Economic Assessment study in accordance with NI 43-101 guidelines.

1.13 Mining Methods

The Preliminary Economic Assessment mine design and mine plan are based on Indicated and Inferred Mineral Resources. Pit analyses were completed on the four mining deposits to identify the potential in-pit mineable Mineral Resources. In-pit mineable Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

The Preliminary Economic Assessment study primarily focuses on Grata, Main, and Extension sulphide deposits, which is where the majority of in-pit mineable resources for the project are located.

Conventional owner-operated open pit mining methods will be used to mine the material within the designed open pits of the Grata, Main, and Extension deposits. This method was selected considering the deposits' proximity to the surface.

The reference point at which in-pit mineable resources are defined is where the mill feed is delivered to the concentrator plant facility, which includes the run-of-mine stockpiles. In-pit mineable Mineral Resources within the pit designs using a net smelter return cut-off value of $16.34/t includes approximately 17.4 Mt of Indicated at 0.26% Ni and 0.24% Cu, and 69.1 Mt of Inferred at 0.25% Ni and 0.24% Cu, which are accessed at a strip ratio of 1.8 to 1. It incorporates mining dilution and mining loss assumptions for the open pit mining method.

Changes in the following factors and assumptions may affect the in-pit mineable Mineral Resources estimate:

- Metal prices;
- Interpretations of mineralization geometry and continuity of mineralization zones; grade and geology estimation assumptions;

- Geomechanical assumptions;
- Ability of the mining operation to meet the annual production rate;
- Operating cost assumptions;
- Process plant recoveries;
- Mining loss and dilution;
- Ability to meet and maintain permitting and environmental licence conditions.

Open pit mining will include drilling and blasting with a combination of a backhoe-type excavator and front-end loader-type excavator loading blasted material into haul trucks, which will haul the material from the bench to the designated destination of the crusher, run-of-mine stockpile, or mine waste stockpiles, depending on the material type. Support equipment includes dozers, graders, utility loaders, water truck, and service vehicles.

A pre-production stripping period has been scheduled for the project to provide construction material for the tailings storage facility as well as the construction of pit protection berms and diversion drains.

The operation scenario for the three sulphide deposits involves:

- Mining starts at Main followed by Extension and Grata during the first half of the life of mine.
- Mining activity continues uniquely at Grata for the second half of the life of mine.
- Average mining rate of mill feed and waste over the life of mine is approximately 14.3 Mt/y, with a peak of approximately 20 Mt/y:
- The total mill feed is estimated at 86.5 Mt, with an average grade of 0.25% Ni and 0.24% Cu, and a net smelter return value averaging $35.60/t over a 16.1-year mine life of the open pit mines, with an overall strip ratio of 1.8.
- An average of 5.475 Mt/y of run-of-mine mineralized resource material will be sent to the mineral processing plant to produce nickel and copper concentrates.
- The mine plan considers a ramp-up of 50% in Q1, 75% in Q2, 100% afterward.

During full production, the mine equipment fleet requirements were calculated to be 17 haul trucks, two hydraulic excavators, one wheel loader, and three production drills, in addition to the fleet of support and service equipment. The total mine workforce will reach a peak of 236 employees.

To manage water that collects in the open pits, sumps will be developed on the pit floor as mining progresses, and a series of pumps will be used to pump the water to settling ponds located at surface. BBA has assumed that in general, a total four pumps should be adequate to serve the needs of the open pit.

The in-pit mineable Mineral Resources contained in the Sipilou Sud laterite pit shell are estimated to include approximately 1.6 M wet metric tonnes of extractable diluted Inferred material at 1.86% Ni and 0.05% Co, using Ni cut-off grade of 1.6%, which are accessed at a strip ratio of 4.4 to 1.

The mining method to extract the Sipilou Sud laterites pit will use traditional loading and hauling (free-dug) and mineable laterite resource material will be shipped directly to the port from the mine over a span of 3 years. Mining operations will be outsourced to a mining contractor for the Sipilou Sud laterite deposit.

1.14 Recovery Methods

The processing plant nominally processes 5.475 Mt/y of run-of-mine mineralized material to produce 55,119 t/y of nickel concentrate at 13.0% Ni grade and 38,627 t/y of copper concentrate at 26.0% copper grade. Overall nickel and copper recoveries to concentrate products are 53.0% and 85.5%, respectively. Overall platinum and palladium recoveries to concentrate products are 54.0% and 50.3%, respectively. These concentrate production and recovery values are annual averages based on the life of mine plan.

The process plant design and predicted metallurgy are largely based on the testwork campaign performed by Blue Coast Research in 2022 and 2023 (summarized in Chapter 13). Where testwork is incomplete, design values have been based on experience in the industry.

1.15 Project Infrastructure

The mine site infrastructure has been assessed to support construction and operational activities. The infrastructure includes:

- Site development and internal roads;
- Site structures and installations;
- Process/concentrator plant;
- Connection to available power grid and site reticulation;
- Mine rock storage (fresh rock and saprolite);
- Water management;
- Domestic water treatment;
- Tailings storage facility;
- Effluent treatment.

The mine is primarily a greenfield project with limited infrastructure such as exploration facilities and internal roads. Expected items to be utilized by the project include the core logging and storage facilities as well as existing exploration roadways; upgraded to accommodate the common users (flatbeds, tankers, etc.) as well primary equipment delivery.

1.16 Market Studies and Contracts

No formal market study was commissioned by SNC.

Currently, SNC has no commercial sales or logistics service agreements.

The nickel, copper, cobalt, platinum, palladium, and gold produced in the concentrate are all to be sold on the open market. The nickel and copper concentrates produced are within the acceptable grade range to be a salable product.

1.17 Environmental Studies, Permitting and Social or Community Impact

A number of baseline environmental and socio-economic studies were undertaken between 2011 and 2013 including:

- Landscape and soils;
- Water quality and hydrology;
- Hydrogeology and groundwater quality;
- Climate, air quality and noise;
- Rainy and dry season flora;
- Rainy and dry season wildlife;
- Fish and fish habitat;
- Socio-economics, including demographics and public infrastructure;
- Archaeological resources;
- Community concerns.

No additional surveys or studies have been completed on the property since 2013 and updated surveys will be required.

1.18 Capital and Operating Costs

The capital cost estimate consists of the direct capital costs for the mine, the process plant facility, the associated mine site infrastructure, and the indirect costs associated with the project.

The capital cost estimate has been prepared with the accuracy appropriate for a Preliminary Economic Assessment.

The cost estimate is divided into work breakdown structure categories and split between direct costs and indirect costs. The summary is further divided into the relative stages of the project:

- Initial Capital refers to:
  - Initial purchase of mobile equipment for the commencement of mining at Main open pit area;
  - Construction of the process plant;
  - Construction of site infrastructure to support mine start-up;
  - Tailings storage facility initial construction.
- Sustaining Capital refers to:
  - Initial purchase of mobile equipment for the commencement of mining at Extension and Grata open pit areas;
  - Replacement of mobile mining equipment;
  - Any deferred infrastructure construction related to the Grata mining area;
  - Tailings storage facility expansion;
  - Closure and reclamation costs.

Table 1-4 presents a summary of the initial capital, sustaining capital, and closure costs for each period, as well as the total cost over the life of mine.

Table 1-4: Initial, Sustaining and Closure Capital Costs by Period

Cost Item / Description	Total Life of Mine (M$)	Pre-production Y-2 to Y-1 (M$)	Production Y01 to Y17 (M$)	Post-production Y17+ (M$)
Open Pit Mining	99.4	43.8	55.6	-
Milling and Processing	117.0	117.0	-	-
Tailings and Water Management	43.2	28.8	14.4	-
Infrastructure & Power	26.7	26.7	-	-
Reclamation & Closure	22.7	-	-	22.7
Direct Costs	**309.1**	**216.4**	**70.0**	**22.7**
Owners Cost & Construction Indirect Costs	60.8	60.8	-	-
Contingency	79.9	60.7	-	19.2
Total Capital Costs	**449.8**	**337.9**	**70.0**	**41.9**

Similar to the capital cost summary, the operating costs encompass the open pit mine, the process plant facility and the associated mine site infrastructure. In addition to the on-site operating costs, off-site costs such as treatment and refining charges, royalties payable, and transportation costs to deliver the laterite ore, as well as the concentrates to the San-Pédro Port, Côte d'Ivoire, are included.

The operating costs of the site are presented in Table 1-5.

Table 1-5: Project All-in Operating Costs

Project All-in Operating Costs	Life of Mine Total (M$)	Unit Cost ($/t milled)	Percentage of Total
Operating Costs On-site			
Open Pit Mining	631	7.29	31%
Milling and Processing	899	10.40	44%
Tailings and Water Management	60	0.69	3%
General & Administrative	112	1.30	5%
Royalties	93	1.08	5%
Total Operating Costs On-site	**1,796**	**20.76**	**88%**
Operating Costs Off-site			
Refining	39	0.45	2%
Treatment	65	0.75	3%
Freight/Transport	152	1.75	7%
Total Operating Costs Off-site	**255**	**2.95**	**12%**
Total Operating Costs (on-site + off-site)	**2,051**	**23.71**	**100%**

1.19 Economic Analysis

An 8% discount rate was applied to the cash flow to derive the project's net present value on a pre-tax and post-tax basis. Cash flows have been discounted starting in Year -2 with a mid-year discount under the assumption that major project financing would be carried out at this time.

Table 1-6 presents the anticipated operating results for the potential future mining operations at the Samapleu Project. The summary of the financial evaluation for the base case of the project is presented in Table 1-7.

Table 1-6: Operating Results Summary

Parameters	Unit	Value
Life of Mine	year	16.1
Processing Rate	t/y	5,475,000
	t/d	15,000
Ni Concentrate	t	887,414
Cu Concentrate	t	621,888
Life of Mine Recovery	% Ni	53.0
	% Cu	85.5
	% Co	44.8
	% Pt	54.0
	% Pd	50.3
	% Au	51.0
Pre-production Mined Tonnage	Mt	5.7
Total Mined Tonnage (incl. pre-production) from Open Pit Mining	Mt	244.3
Total Milled Tonnage from Open Pit Mining	Mt	86.5
Overall Mined Strip Ratio	t:t	1.8
Average Ni Concentrate Production	t/y	55,119
Ni Concentrate Grade	%	13
Average Ni Metal Production	t/y	7,165
Average Payable Ni	t/y	5,732
Average Cu Concentrate Production	t/y	38,627
Cu Concentrate Grade	%	26
Average Cu Metal Production	t/y	10,043
Average Payable Cu	t/y	9,319
Average Life of Mine Mill Feed Grade	% Ni	0.25
	% Cu	0.24
	% Co	0.02
	g/t Pt	0.10
	g/t Pd	0.31
	g/t Au	0.04
Direct Shipping Laterite	'000 wmt	1,620
Direct Shipping Laterite Mined Strip Ratio	t:t	4.4
Direct Shipping Laterite Ni Grade	%	1.8

Table 1-7: Financial Analysis Summary

Parameters	Unit	Value
Pre-tax Net Present Value 8%	M$	463
Pre-tax Internal Rate of Return	%	28.2
Pre-tax Payback	year	3.3
Post-tax Net Present Value 8%	M$	277
Post-tax Internal Rate of Return	%	21.9
Post-tax Payback	year	3.9
Pre-tax Unlevered Free Cash Flow	M$	1,189
Post-tax Unlevered Free Cash Flow	M$	779
Life of Mine Direct Income and Mining Taxes	M$	409

The all-in sustaining cost includes on-site operating costs, off-site operating costs, sustaining Capex, and closure cost. The all-in sustaining cost is estimated to be $4.05/lb [Cu+Ni] payable before the by-product credit of $1.05/lb [Cu+Ni]. The by-product credits include the sellable cobalt, platinum, palladium, gold, and silver in each of the concentrates. The all-in sustaining cost net by-product credit is $3.00/lb [Cu+Ni].

The all-in sustaining cost before by-product credits based on nickel and copper co-products are $6.13/lb Ni and $2.77/lb Cu. The all-in sustaining cost net by-product credits are $4.34/lb Ni and $2.17/lb Cu.

1.20 Adjacent Properties

Adjacent properties are nickel-platinum group element prospects of various exploration companies. The projects are at various stages from exploration to operations (direct shipping laterite). The results on adjacent properties may not reflect the results expected at the project.

1.21 Other Relevant Data and Information

To the best of the authors' knowledge, there is no other relevant data, additional information or explanation necessary to make the report understandable and not misleading.

1.22 Interpretations and Conclusions

This Preliminary Economic Assessment demonstrates that the project has the financial results to support further exploration and studies to advance to a Pre-feasibility Study. Several opportunities and risks were identified during the study and should be addressed in the next phases of exploration.

1.23 Recommendations

To advance the project to the next stage of engineering, a two-phase budget is proposed.

Phase 1, estimated at $1.0M, involves additional infill diamond drilling, metallurgical testing, Ivorian *Agence National de l'Environment* terms of reference, Environmental and Social Impact Assessment, waste and water management studies.

Phase 2, estimated at $8.0M, involves additional exploration drilling, infill drilling, geotechnical drilling, hydrogeological drilling, geotechnical studies, hydrogeology studies, and hydrology studies, as well as geological and metallurgical testwork to lead into a Pre-feasibility Study.

1.24 References

All references in this report can be found in Chapter 27.

2. Introduction

BBA International Inc. ("BBA"), in conjunction with Knight Piésold Ltd. ("KP"), and Chris Martin, an independent consultant, have prepared this technical report on the project at the request of Sama Nickel Corporation ("SNC" or the "Company").

This technical report provides a Preliminary Economic Assessment ("PEA") of the Samapleu-Grata Nickel-Copper Project located in Côte d'Ivoire, West Africa (the "project") in accordance with the guidelines of the Canadian Securities Administrators National Instrument 43-101 ("NI 43-101") and Form 43-101 F1. Samapleu includes Main and Extension deposits.

2.1 Basis of Technical Report

As of the effective date of this report, SNC is a subsidiary of Sama Resources Inc. a, Canadian mineral exploration company. SNC is owned at 40% by Sama Resources Inc. ("Sama") and 60% by Ivanhoe Electric.

The Samapleu exploration permit (PR838) operates under a Joint Venture ("JV") agreement between SNC (66⅔% share; operator) and *Société pour le développement minier de la Côte d'Ivoire* ("SODEMI") (33⅓ %). The Grata exploration permit (PR604) is 100% owned by SNC.

Sama Resources Inc. trades on the TSX under the trading symbol SME, and on the OTC Markets (QX) under the trading symbol SAMMF, with its head office situated at:

Corporate Head Office
Sama Resources Inc. / Resources Sama Inc.
1320 Graham, Suite 132
Ville Mont-Royal, QC, H3P 3C8

This report, entitled "Preliminary Economic Assessment for the Samapleu and Grata Deposits", was prepared by qualified persons ("QP") following the guidelines of NI 43-101 and of the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Standards on Mineral Resources and Reserves.

2.2 Report Responsibility and Qualified Persons

The following individuals, by virtue of their education, experience and professional association, are considered as qualified persons as defined in NI 43-101 and are members in good standing of appropriate professional institutions.

- Todd McCracken, P.Geo. BBA International Inc.
- Bahareh Asi, P.Eng. BBA International Inc.
- Jason Van Schie, P.Eng. BBA International Inc.
- Kevan Ford, MS Eng. BBA International Inc.
- Chris Martin, C.Eng. Independent Consultant
- Wilson Muir, P.Eng. Knight Piésold Ltd.

The QPs contributed to the writing of this report and provided a QP Certificate, which is included at the beginning of this report. The information contained in the certificates outlines the sections in this report for which each QP is responsible. Each QP has also contributed figures, tables, and portions of Chapters 1 (Summary), 2 (Introduction), 25 (Interpretation and Conclusions), 26 (Recommendations), and 27 (References). Table 2-1 outlines the responsibilities for the various sections of the report and the name of the corresponding qualified person.

Table 2-1: Qualified Persons and Areas of Report Responsibility

Chapter	Description	Qualified Person	Company	Comments and exceptions
1.	Summary	B. Asi, P.Eng.	BBA	All QPs contributed based on their respective scope of work and the Chapters/Sections under their responsibility.
2.	Introduction	B. Asi, P.Eng.	BBA	All QPs contributed based on their respective scope of work and the Chapters/Sections under their responsibility.
3.	Reliance on Other Experts	T. McCracken, P.Geo.	BBA	
4.	Project Property Description and Location	T. McCracken, P.Geo.	BBA	
5.	Accessibility, Climate, Local Resource, Infrastructure and Physiography	T. McCracken, P.Geo.	BBA	
6.	History	T. McCracken, P.Geo.	BBA	
7.	Geological Setting and Mineralization	T. McCracken, P.Geo.	BBA	
8.	Deposit Types	T. McCracken, P.Geo.	BBA	

Chapter	Description	Qualified Person	Company	Comments and exceptions
9.	Exploration	T. McCracken, P.Geo.	BBA	
10.	Drilling	T. McCracken, P.Geo.	BBA	
11.	Sample Preparation, Analyses and Security	T. McCracken, P.Geo.	BBA	
12.	Data Verification	T. McCracken, P.Geo.	BBA	
13.	Mineral Processing and Metallurgical Testing	C. Martin, C.Eng.	Consultant	
14.	Mineral Resource Estimate	T. McCracken, P.Geo.	BBA	
15.	Mineral Reserve Estimate	B. Asi, P.Eng.	BBA	
16.	Mining Methods	B. Asi, P.Eng.	BBA	
17.	Recovery Methods	K. Ford, MS Eng.	BBA	
18.	Project Infrastructure	J. Van Schie, P.Eng.	BBA	Chapter 18, except Sections 18.5 and 18.6
		W. Muir, P.Eng.	KP	Sections 18.5 and 18.6
19.	Market Studies and Contracts	T. McCracken, P.Geo.	BBA	
20.	Environmental Studies, Permitting, and Social or Community Impact	T. McCracken, P.Geo.	BBA	
21.	Capital and Operating Costs	B. Asi, P.Eng.	BBA	Chapter 21, except Sections 21.3.6 to 21.3.9, 21.4.5 and 21.4.6
		K. Ford, MS Eng.	BBA	Sections 21.3.6 and 21.4.5
		T. McCracken, P.Geo.	BBA	Section 21.3.7 and 21.3.9
		W. Muir, P.Eng.	KP	Sections 21.3.8 and 21.4.6
22.	Economic Analysis	T. McCracken, P.Geo.	BBA	
23.	Adjacent Properties	T. McCracken, P.Geo.	BBA	
24.	Other Relevant Data and Information	T. McCracken, P.Geo	BBA	
25.	Interpretation and Conclusions	B. Asi, P.Eng.	BBA	All QPs contributed based on their respective scope of work and the Chapters/Sections under their responsibility.
26.	Recommendations	B. Asi, P.Eng.	BBA	All QPs contributed based on their respective scope of work and the Chapters/Sections under their responsibility.
27.	References	B. Asi, P.Eng.	BBA	All QPs contributed based on their respective scope of work and the Chapters/Sections under their responsibility.

2.3 Effective Dates and Declaration

This technical report supports Sama's press release dated March 21, 2024, entitled "Sama Resources Announces Results of its New Preliminary Economic Assessment for the Samapleu-Grata Nickel-Copper Project, Côte d'Ivoire." This report's overall effective date is March 21, 2024.

2.4 Sources of Information

This report is based in part on internal company reports, maps, published government reports, company letters and memoranda, and public information, as listed in Chapter 27 (References) of this report. Sections from reports authored by other consultants may have been directly quoted or summarized in this report and are so indicated, where appropriate.

The QPs have no known reason to believe that any of the information used to prepare this report and evaluate the mineral resources presented herein is invalid or contains misrepresentations. The QPs sourced the information for this report from the collection of documents listed in Chapter 27.

2.5 Site Visits

Todd McCracken, QP, (BBA), visited the property from June 14 to June 17, 2023.

The following qualified persons did not visit the property as it was not required for the purpose of this mandate:

- Bahareh Asi, P.Eng. (BBA);
- Jason Van Schie, P.Eng. (BBA);
- Kevan Ford, MS Eng. (BBA);
- Chris Martin, C.Eng. (Independent Consultant);
- Wilson Muir, P.Eng. (KP).

2.6 Currency, Units of Measure, and Calculations

Unless otherwise specified or noted, the units used in this report are metric. Every effort has been made to clearly display the appropriate units being used throughout this report.

Currency is in United Stated Dollars ("$" or "USD"), unless otherwise stated.

Numbers presented in the tables may not add up precisely due to rounding.

This report may include technical information that required subsequent calculations to derive subtotals, totals, and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, the QPs consider them immaterial.

3. Reliance on Other Experts

The QPs have reviewed and analyzed data and reports provided by Sama, together with publicly available data, drawing its own conclusions augmented by direct field examination.

The QPs who prepared this report relied on information provided by experts who are not QPs. Qualified persons believe that it is reasonable to rely on these experts, based on the assumption that the experts have the necessary education, professional designations, and relevant experience on matters relevant to the technical report.

- Todd McCracken, P.Geo., relied on Marc-Antoine Audet, P.Geo., President for SNC for matters pertaining to mineral concessions, surface rights and mining leases as disclosed in Chapter 4 (7762001_043101-40-ERA-0004-Samapleu-Grata.docx, dated June 19, 2023) (McCracken and Martin, 2023).
- Todd McCracken, P.Geo., relied on Marc-Antoine Audet, P.Geo., President for SNC for matters pertaining to royalties and taxes as disclosed in Chapter 22 (Sama Resources - *Rapport de Mission d'Avis Fiscal* dated February 22, 2024) (Cabinet Icosas, 2024).

QPs have assumed and relied on the fact that all the information and existing technical documents listed in the References Chapter 27 of this report are accurate and complete in all material aspects. While QPs reviewed all the available information presented, we cannot guarantee its accuracy and completeness. The QPs reserve the right, but will not be obligated, to revise the report and conclusions, if additional information becomes known subsequent to the date of this report.

4. Property Description and Location

SNC's main exploration and evaluation projects, Samapleu East ("PR838"), Samapleu West ("PR839"), Zérégouiné ("PR300", in renewing process), Grata ("PR604") and Zoupleu ("PR837"), are located in Côte d'Ivoire, West Africa, and cover a total area of 839 km².

4.1 Location

SNC exploration permits (*Permis de recherche minière,* "PR"), including the Samapleu East exploration permit 838 (PR838), PR300, PR837, PR839 and the Grata exploration permit 604 (PR604), are located approximately 650 km northwest of Abidjan, the economic capital of Côte d'Ivoire, West Africa. SNC's exploration permits are close to the village of Yorodougou, in west-central Côte d'Ivoire, Montagnes District, Tonkpi Region. The project is about 50 km west of Biankouma and 25 km east of the border with Guinea.

4.2 Mineral Disposition

PR838 has an irregular shape with a maximum N-S extent of 24 km and 16 km along the E-W direction, for a total area of 258 km². The permit is approximately centred on latitude 7° 43' 00" N and longitude 7° 55' 00" W (UTM 619,800E; 854,000N).

PR604 has a rectangular shape of 9 km x 10 km, for a total area of 92 km². The permit is approximately centred on latitude 7° 46' 00" N and longitude 7° 50' 00" W (UTM 628,000E; 859,000N).

The renewed application for the PR300 has an irregular shape of roughly 17.7 km x 18 km, for a total area of 306 km². The permit is approximately centred on latitude 7° 32' 00" N and longitude 7° 59' 00" W (UTM 608,300E; 836,300N).

PR837 has an irregular shape of roughly 15 km x 9 km, for a total area of 135 km² flanked to the west by the Ivorian-Guinean boarder. The permit is approximately centred on latitude 7° 36' 00" N and longitude 8° 01' 00" W (UTM 601,600E; 850,000N).

PR839 has a rectangular shape with an irregular western limit due to the Ivorian-Guinean boarder.

The permit is 60 km² with a 10 km x 6 km N-S and E-W trends respectively, centred on latitude 7° 46' 00" N and longitude 8° 00' 00" W (UTM 601,600E; 859,000N).

Property boundaries are not surveyed in the field, but they are expressed officially by straight lines connecting the apices defined by their latitude-longitude or UTM coordinates (Figure 4-1).

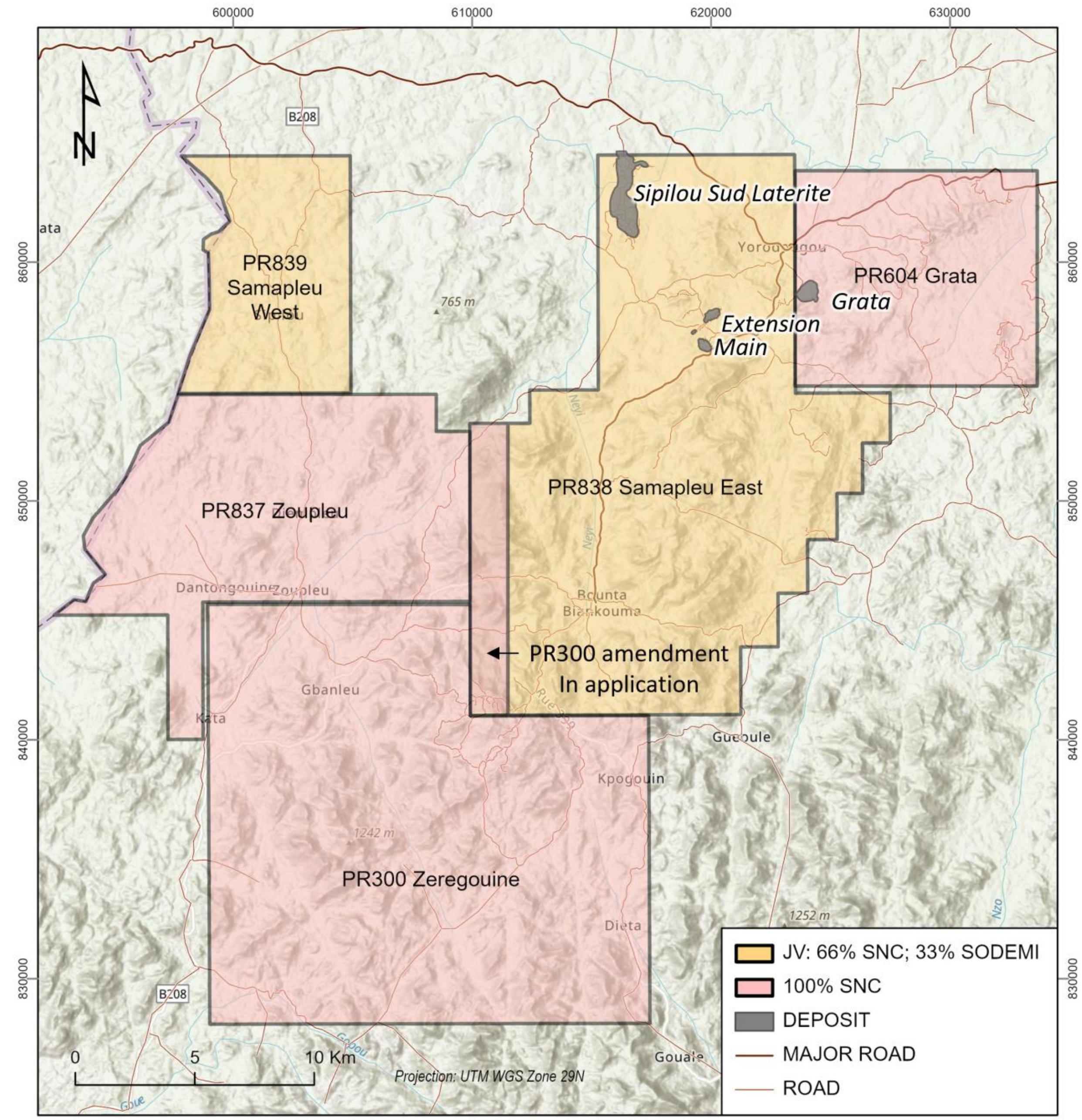


Figure 4-1: Samapleu East (PR838) Claim Vertices (UTM Coordinates; WGS84, Zone 29 North)
Source: SNC, 2024

4.3 Tenure Rights

Land in Côte d'Ivoire is federally owned and an application through the Department of Mines and Energy is required to obtain an exploration permit.

Exploration permits in Côte d'Ivoire granted by the Department of Mines and Energy are based on the work program proposed by the applicants. As of the 2015 mining code, an exploration permit is first issued for a 4-year period, with two possible renewal periods of 3 years each, followed by an additional 2-year period, based on results and merits. At each renewal, a work program with a budget commitment is submitted by the Department of Mines and Energy and the applicant. The title holder is required to submit monthly activity reports as well as an annual activity report to the Department of Mines and Energy.

Pursuant to a request by the *Société pour le développement minier en Côte d'Ivoire* ("SODEMI"), the *République de la Côte d'Ivoire* awarded SODEMI the PR123 permit by decree No 97-375 dated July 2, 1997. This permit was renewed pursuant to decree No 014/MME/DM dated May 13, 2008. Thereafter, a joint venture agreement was signed on January 15, 2009 between SODEMI and SNC, a private Canadian company, in order to explore PR123.

Landen Capital Corporation ("Landen") acquired 100% of SNC on March 29, 2010, in a reverse merger transaction. Landen assumed all of SNC's obligations through a wholly owned subsidiary, Sama Nickel Côte d'Ivoire SARL. In consideration for the SNC shares, Landen issued an aggregate of 12,500,000 common shares to Sama shareholders, who will retain a 1% net smelter royalty on SNC's portion of the project (Landen, 2010). In mid-2010, Landen changed its name to Sama Resources Inc.

On October 25, 2010, PR123 was renewed for 2 years by decree No 008/MME/DGMG/DDM. To comply with the mining rules and regulations, the surface area was reduced from the initial 750 km² to 298 km², to which a block of 151 km² was added to the renewed PR123 on the northwest (decree No 2013-856), bringing the total to 449 km². The request for the PR123 renewal, for an additional 3 years was granted on October 31, 2012, under decree MMPE/DGMG/DDM No 091. PR123 was renewed to June 2017 by decree No 2015-124/MIM/DGMG dated November 26, 2015.

On December 17, 2012, SNC was granted the Zérégouiné exploration permit No 300 (PR300) covering 290 km² and expiring on December 17, 2021. In accordance with PR300, SNC was required to complete an exploration program before the term of the exploration permit. This exploration program was completed on September 20, 2021. SNC filed the required documentation with the Department of Mines in Côte d'Ivoire, for the exceptional renewal of PR300, which expired on December 18, 2023. SNC had the option to request a new exploration permit with a 12-year lifetime instead of requesting a 2-year exceptional extension. Both scenarios were investigated. On March 19, 2024, Sama Côte d'Ivoire filled out an application for a new exploration permit (p*ermis de recherche manière)* for the same area.

On December 9, 2015, SNC was granted the Grata PR604, which covers 92 km², expiring on December 7, 2022. The PR604 was renewed for an additional 3 years on April 13, 2023 (decree No 2023-131/MIM/DGMG dated April 13, 2023).

In October 2017, SNC signed an earn-in and joint venture agreement with IVNE Ivory Coast Inc. ("IVNE", previously HPX Ivory Coast Holdings Inc. or "HPX") in order to develop its nickel-copper and cobalt projects in Côte d'Ivoire, West Africa.

On June 18, 2019, the two new exploration permits, Samapleu East (PR838 – Decree No 2019-526) and Samapleu West (PR839 – Decree No 2019-527) covering 318 km² were granted. Both PRs expired on June 19, 2023, with possible renewal periods totalling up to 12 years. SODEMI, under the guidance of SNC, has applied for the next renewal period. As of the effective date, there is no indication that the exploration permit will not be renewed, or the new exploration permit not be granted.

In September 2021, IVNE reached the first threshold of the earn-in and joint venture agreement by incurring expenditures of $15,000,000. Therefore, IVNE acquired a 30% interest in SNC.

4.3.1 Samapleu Exploration Permit (PR838 & PR389)

The original PR123 was granted to SODEMI by decree No 97-375 of July 2, 1997 and was renewed several times to June 2017. The PR123 was replaced by two new exploration permits, the Samapleu East (PR838) and the Samapleu West (PR839). The Samapleu East PR838 gives SNC the right to explore for base metal commodities (including but not limited to Cu, Ni, Co, Pd and Pt).

Traditional land tenure systems are generally based on communal ownership of land. At the same time, individual families are granted rights to cultivate plots of land to insure their household's subsistence. These rights include some form of inheritance within the family. However, unclaimed or unused lands revert to the community. In 1902, the French introduced the concept that individuals or corporations could hold legal title to land with exclusive rights, but it appears that most of the rural lands are still managed communally on a village-by-village basis.

Within PR838, the surface rights belong either to individuals, as lots defined in villages, or to tribal groups through family clans, outside of villages.

However, the permit holder has the access right to conduct exploration or mining, but fair compensation must be paid to the surface right owner(s) if damages or nuisances are caused by exploration works. The Mining Code provides for a system of arbitration if no agreement can be reached by the two parties.

4.3.2 Grata Exploration Permit (PR604)

SNC owns the exploration permit No 604 (PR604), which covers 92 km^2 of property in Côte d'Ivoire and expired on December 9, 2022. SNC filed the required documentation with the Department of Mines in Côte d'Ivoire, for the renewal of PR604. PR604 has been renewed on April 13, 2023, which now expires on December 9, 2024.

The property is located adjacent to the north-eastern boundary of the Samapleu East (PR838) permit (Figure 4-1).

4.4 Joint Venture Agreement (PR838 & PR839)

A Memorandum of Agreement (the "Joint Venture", "JV") between SODEMI and Sama Nickel Corporation was signed on January 15, 2009. Under the terms of the agreement, SNC is the operator of the JV through Sama Nickel Côte d'Ivoire SARL. The JV is controlled by SNC (66⅔% share) and by SODEMI (remaining 33⅓%).

The JV and the initial PR123 project (now replaced by PR838 and PR839) are managed by a joint Management Committee made up of SODEMI and Sama's representatives. Several Management Committee meetings have taken place since 2009 and all the proposed work programs and budgets have been approved since.

On October 25, 2015, SNC and SODEMI extended certain terms of PR123, resulting in an exploration license extension to June 25, 2017.

In March 2018, SODEMI applied for two new exploration permits covering a total area of 318 km^2 (Samapleu East and Samapleu West) to replace the former PR123 (Figure 4-1). According to a new regulation in Côte d'Ivoire, classified forests must be removed from any new application. Therefore, the total surface area covered by the two new exploration permits is smaller than the initial area covered by the former PR123.

On June 19, 2019, the two new exploration permits, Samapleu East (PR838 – Decree No 2019-526) and Samapleu West (PR839 – Decree No 2019-527) covering 318 km^2 were granted. The first period of renewal of 4 years expired on June 19, 2023 for both PRs. There will be two additional renewal periods of 3 years each and a possible 2-year extension, totalling up to 12 years. In accordance with both exploration permits, SNC agreed to complete an exploration program evaluated at F.CFA 2,315,000,000 for PR838 (approximately $5,257,421) as of June 30, 2019), and F.CFA 760,000,000 for PR839 (approximately $1,725,978 as of June 30, 2019) before the term of the exploration permits. SNC applied for the second 3 years renewal for both permits, as of the time of writing this reports, there is no indication that the exploration permit will not be granted.

Upon completion of a Feasibility Study ("FS"), the Advisory Committee ("AC"), which consists of two SNC representatives and two SODEMI representatives, will conclude on the feasibility of the project. If the AC decides to proceed with the project, an Operating Body (*Entité d'exploitation*, "EE") will be established whereby future funding will be split between SNC and SODEMI at 66.7% and 33.3%, respectively. The EE will reimburse SODEMI for all costs associated with previous exploration work conducted until January 15, 2009, up to a maximum of F.CFA834,999,457 (approximately $1,896,304 as of June 30, 2019) and will reimburse SNC for costs associated with exploration work conducted between the effective date and the approval of the FS subject to the approval of the AC, which represents a total amount of $26,830,000 as of March 31, 2023.

On September 20, 2019, SODEMI and SNC signed the continuation of the JV on the new PR838 and PR839 (replacing the PR123) with the consideration that the significant investments made by SNC in research work on the territory covering the previous PR123 since the JV signing date of January 15, 2009 confirm SNC's absolute, unequivocal and direct interest in the PR838 and PR839 of 66.67% and SODEMI at 33.33%, and this notwithstanding any possible application for an operating permit.

Financing the various exploration programs for the JV is SNC's obligation until a technical study for the Samapleu project is finalized. SODEMI will not contribute financially to the exploration work. Upon filing the technical report, an AC made up of two representatives of SNC and two from SODEMI will decide on the next course of action.

If the AC decides to follow up with the project, an EE will be set up with JV partners Sama Nickel and SODEMI, holding a shared management of 66⅔% and 33⅓%, respectively. The EE will reimburse SODEMI for the expenditures in connection with the historical exploration work up to a maximum of F.CFA934,999,457 (about $1,880,419) and will reimburse Sama Nickel for the costs related to the exploration work completed between January 15, 2009 and the approval date of the Bankable Feasibility Study ("BFS"), contingent upon the approval from the AC. The financial participation of the future EE will be as follows:

- Sama Nickel Corp. (SNC): 60%
- SODEMI: 30%
- Ivorian Government: 10%

Total: 100%

If the AC decides not to follow up on the project, SODEMI has the option, at its own discretion, to terminate the JV and SODEMI will own all the results from the exploration work and all the studies related to the infrastructure, without financial compensation.

4.5 Joint Venture Agreement (Ivanhoe Electric Inc.)

In March 2021, SNC signed an earn-in and joint venture agreement with IVNE in order to develop its nickel-copper and cobalt projects in Côte d'Ivoire, West Africa.

Pursuant to the terms of the earn-in and joint venture agreement, IVNE can earn, through SNC, up to 60% interest in the Côte d'Ivoire projects, over a maximum of 6 years as follows:

- By incurring expenditures of $15,000,000 for an interest of 30%;
- By incurring expenditures of $10,000,000, including amongst others, the financing of a FS on part of the Côte d'Ivoire projects for an additional interest of 30%.

In August 2021, IVNE reached the first threshold of the earn-in and joint venture agreement by incurring expenditures of $15,000,000. Therefore, IVNE acquired a 30% interest in SNC. Subsequent to the effective date of this report, IVNE has surpassed the expenditure requirement to earn the additional 30% (ivanhoeelectric.com, March 25, 2024).

4.6 Royalties

Details on the agreement to complement the above general information are provided on SNC's website and filed documents.

In consideration for the acquisition of SNC by Landen, SNC's first four owners retain a 1% net smelter royalty on SNC's portion of the project and an area of mutual interest (Landen, 2010).

4.7 Permits

No other permits are needed for either SODEMI or SNC to perform exploration work within the PR838 and PR604 or any other exploration permit areas. Significant exploration and drilling activities have already been permitted and performed by SNC on the property.

4.8 Liabilities and Other Relevant Factors

the QP is not aware of environmental liabilities related to the project area. In addition, the QP is unaware of significant factors or risks that may affect access, title, or right or ability to perform work on the property.

5. Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Access

Côte d'Ivoire is located in West Africa and borders Guinea and Liberia to the west, Burkina Faso and Mali to the north, Ghana to the east, and the Gulf of Guinea (Atlantic Ocean) to the south.

Access to the property from Abidjan is via 225 km of a paved four-lane highway to Yamoussoukro, followed by paved roads to Daloa and Duékoué to the west and north to Man and Biankouma. From Biankouma, the village of Yorodougou, where the Samapleu exploration camp is located, is accessed by a dirt road over approximately 35 km toward the W-NW.

This road continues through the town of Sipilou approximately 25 km to the west of Yorodougou, and over a further 3 km to a border post between Côte d'Ivoire and Guinea. This road provides access to a highway leading to Lola in Guinea, 50 km west of the border. Access from Yorodougou to the Samapleu and Grata deposits is via bush tracks servicing small villages and roads constructed by Sama (Figure 5-1).

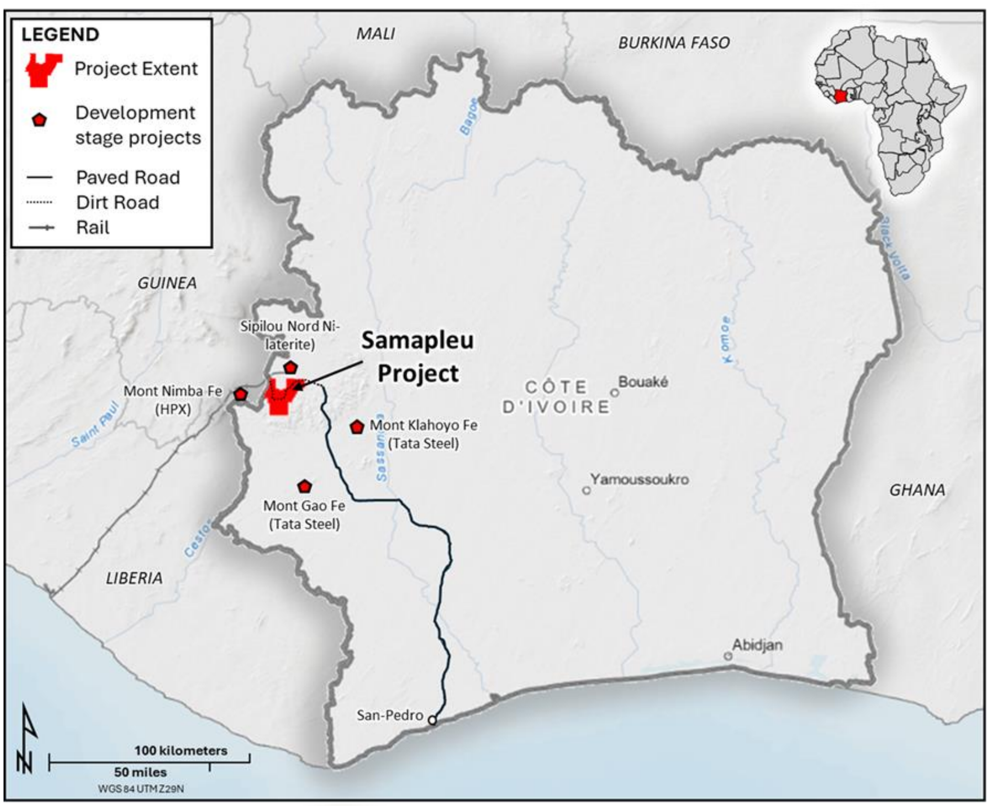


Figure 5-1: Project Access

5.2 Climate

The project area falls within the Guineo-Soudanian climatic zone, which is a transition zone between equatorial and tropical climates and has distinct rainy and dry seasons. The dry season extends from November to March, while the wet season covers the period from March to October. The rainfall in the project area averages 1,600 mm to 1,800 mm of rain per annum. Temperatures range from about 10°C to 35°C (Table 5-1). The Lola weather station in Guinea is the station closest to the project with complete records over extended periods.

Although some specific exploration work might be affected during the rainy season, companies operate mines year-round in similar climate conditions in West Africa, as is the case for the iron mines in Liberia.

Table 5-1: Historical Climate Conditions at the Lola Weather Station, Guinea

Month	Temperature (°C)			Precipitations (mm)			Wind Speed
	Average	Min.	Max.	Average	Min.	Max.	(km/h)
January	23.3	10.8	33.7	17.6	0.0	86.6	4.3
February	24.7	13.2	34.7	55.8	0.0	189.3	4.7
March	25.6	16.5	34.4	121.7	47.9	223.4	5.0
April	25.8	18.4	33.1	167.0	85.6	273.5	5.0
May	25.4	18.4	32.1	179.5	80.5	295.0	5.0
June	24.4	18.1	31.1	199.9	92.1	374.1	6.5
July	23.5	18.0	29.5	234.3	112.0	476.9	6.8
August	23.5	18.6	29.4	294.6	183.5	400.4	6.5
September	24.1	18.3	30.0	271.7	155.2	417.3	5.4
October	24.5	17.8	30.9	164.2	74.5	348.7	4.7
November	24.5	16.0	31.3	61.0	11.8	166.3	5.0
December	23.3	12.4	31.5	13.6	0.0	75.1	4.0

Sources: Temperatures: WMO; data for the period 1961-1990; Precipitations: Étude Climatologique des Sites de Lola et de N'zerekore 2017; Mamadou Tounkara; Direction Nationale de la Météorologie; December 2017, data collected in 1979-2009; Wind speed: www.weatherbase.com; Years on Record: 112

Exploration works can proceed year-round if required, yet can be sporadically affected by heavy rains during the rain seasons.

5.3 Local Resources

In 2022, Côte d'Ivoire had an estimated population of 28,873,034 and a population density of 91 people per km^2 (http://worldpopulationreview.com/countries/ivory-coast-population/). However, the population density is estimated at less than three persons per km^2 in the project area.

The largest city is Abidjan, a port city with a population estimated at 4.5 million and a metro population exceeding 5.1 million (Ivory Coast Population 2023 (worldpopulationreview.com). The capital of Ivory Coast is Yamoussoukro, which, in 2023, had an estimated population of 253,000 (Yamoussoukro Population 2023 (worldpopulationreview.com).

The population of Côte d'Ivoire is composed of different ethnic groups, the main ones being Akan (primarily Baoulé and Agni), Krou (Bété, Wê), Mandé (Malinké), Dan (Yacouba, Gouro) and Gour (Senoufo). The Akan ethnic group represents about 35% of the country's total population.

The predominant ethnic groups in the area covered by Sama's exploration permits are the Yacouba, Wê, Toura and Malinké. Religious communities from these groups consist of a combination of Muslim, Christian or Animism creeds.

French is the official language, but the main native languages in the project area are Lobi, Senoufo, Baoulé, Yacouba and Dioula (a vernacular language). Yacouba is the principal language in the immediate PR838 and PR604 areas.

Biankouma and Sipilou are the largest local urban centres in the project area. They are serviced by the larger town of Man (population of approximately 250,000), which is located about 45 km to the south of Biankouma and has a domestic airport. These three towns, in addition to the village of Yorodougou, are home of the State Authority represented by a regional prefect in Man, two department prefects in Biankouma and Sipilou, and one sub-prefect in Yorodougou.

Other communities outside of these centres and of the Yorodougou sub-prefecture consist of villages, often with less than 100 inhabitants, or hamlets.

The economy in the project area is primarily agricultural and much of it is on a subsistence basis. Coffee and cocoa crops represent the main source of the cash economy related to agriculture. Logging is another pillar of the local economy.

A variety of mining activities has occurred in western Côte d'Ivoire over the years. Consequently, some services and expertise related to the mining industry are available in the region.

Since the 1970s, a number of deposits were discovered in the Man region, such as the Mount Klahoyo (35 km to the SE of Man; 700 Mt at 33% Fe) and Mont Gao (80 km SW of Man; 510 Mt at 40% Fe) iron deposits (Yao Kouamé, 2010) and the Biankouma-Touba-Sipilou nickel laterite deposits. The Sipilou North, Foungouesso, Moyango and Viala nickel laterite projects were acquired by *Compagnie minière du Bafing SA*. Production at the Foungouesso nickel mine started in April 2017, with about 380,000 tonnes extracted in 2017 (DGPE, 2018). Foungouesso contains a reported estimated resource of 60 Mt at 1.84% Ni.

In the 1970s, low-grade iron deposits were identified at Bangolo (south of Man), while the Bobi diamond mine near Seguela (NW of Man) produced 270,000 carats per year until 1979, followed by artisanal mining of primary and placer diamonds around Dualla-Bobi-Diarabam.

In 1991, a gold mine was developed at Ity, near Danané (approximately 100 km SW of Biankouma). Ity has produced more than 1.2 million ounces of gold in its 20-plus years of operation (Source: Endeavour Mining website).

The qualified person has been unable to verify the historical information, and it is not necessarily indicative of the mineralization on the property mentioned.

5.4 Infrastructure

The project benefits from a road network leading to the area and basic services are available in the towns of Man and Biankouma.

There are two deep-sea ports in Côte d'Ivoire: one in Abidjan and one in San-Pédro. The distance to Abidjan is about 650 km, while San-Pédro is less than 550 km away.

The port of San-Pédro has a packaged goods terminal with a 4,000-m^2 warehouse opening directly onto the dock. The port can accommodate vessels up to approximately 20,000 DWT with a certified draft depth of 9 m.

5.4.1 Power Supply

A 225-kV power line runs parallel to the paved road between Man and Biankouma, and a 33-kV power line passing by Yorodougou village services the town of Sipilou 35 km to the west.

5.4.2 Water Supply

There is no water utility in the region. Several continuous waterways exist in the project area, four of which have been monitored for rate of flow and elevation over the past few years.

5.5 Physiography

The terrain in Côte d'Ivoire can be described as a large plateau rising gradually from sea level in the south to almost 500 m in elevation in the north, with the highest point at Mount Nimba (1,752 m) on the Guinean border to the west.

The PR838 area is characterized by rolling hills covered with tropical forest, low grasslands and valleys. Steep scarps are present locally. The elevations range from 400 m above sea level in the low grasslands to slightly above 1,200 m on the mountain ridges. A gradual transition from the sector of forested hills to a savannah plain is observed near the northern edge of PR838.

The PR838 and PR604 areas are located in the transition zone between the tropical forest area and the northern savannah, where grassy woodland and occasional dry scrub are predominant. The tropical forest covers nearly one-third of Côte d'Ivoire, from the coastline to the town of Man in the north, and to the west between the Sassandra River and the mouth of the Cavally River. The northern savannah is underlain by lateritic or sandy soils with a gradual decrease of vegetation cover from the south northward. The vegetation communities observed in the PR838 area can be divided into three main habitat types, which reflect a combination of terrain, drainage and vegetation cover. These vegetation communities are:

- Tropical forest with dense closed canopy;
- Grasslands with scattered trees and shrubs with moderate to open canopy;
- Degraded tropical savannah and forest due to plantation and agriculture (cleared and/or burnt forest).

6. History

Sama, through its fully owned subsidiary SNC, started drilling at the known small showing called "Samapleu" in 2010. A few months later, SNC discovered "Samapleu Extension 1". Main and Extension deposits are collectively known as the Samapleu deposit.

Following the initial discovery in 2010, SNC sponsored Mr. Franck Gouedji, SNC's geologist, to complete a PhD study with the University of Franche-Comté, France. SNC took the initiative to launch a baseline environmental study.

In 2013, the Company discovered the Yepleu sector, located 25 km SW of the original Samapleu deposit. The discovery followed the large helicopter-borne time-domain electromagnetic ("HTEM") survey performed by Fugro in the early months of 2013.

In June 2021, SNC discovered the Grata deposit. In the fall of 2023, Sama drilled 31 boreholes for 2,483 m at the Yepleu surface mineralized occurrence. In February 2024, Sama drilled a geophysical target in the north-east corner of the property, an area called Draba intersecting mineralized pyroxenite. The drilling at Yeplue and Draba are not incorporated in the Mineral Resources Estimate or the economic analysis of the current study.

6.1 Exploration History

The Samapleu mineralization was discovered by SODEMI in 1976 through a regional stream sediment sampling program that was part of Geomine's Iron-Titanium-Vanadium exploration program. Geomine Ltd. is a defunct exploration company that explored western Côte d'Ivoire in the 1970s in association with SODEMI. Falconbridge Ltd., in association with SODEMI, also explored for Ni-Co laterite deposits in the area adjacent to the former PR123.

The results from the regional stream sediment sampling program outlined most of the major Ni-Co laterite deposits known today, including Sipilou, Foungouesso, Moyango, Touoba and Sipilou Sud, and identified the potential of the Samapleu Ni-Cu mineralization.

Following on Geomine's encouraging results, SODEMI narrowed down the search area in the vicinity of Samapleu village and performed line-cutting and a detailed soil sampling program. A total of 2,731 samples were collected and analyzed for Ni, Cu and Au at SODEMI's laboratory in Abidjan. Exploration at Samapleu continued until 1998, but was followed by a dormant period until 2009 when SODEMI and SNC resumed exploration on the project.

Subsequent exploration included geochemical sampling, geophysical surveying and several phases of core drilling, as summarized in Table 6-1. Little information is available on the specifications for the various "in-house" drilling campaigns performed by SODEMI with their own rigs, except that all the cores were of BQ diameter (36.5 mm). The drill holes intersected disseminated, semi-massive and massive sulphide mineralization containing up to 8.0% Cu, 4.0% Ni and elevated PGE values.

In March 2010, SNC started several drilling programs aimed at targets within PR123 and in the region. Several research projects, namely on the Yacouba complex or on the Ni-Cu-PGE and chromite mineralization, have been sponsored by SNC and performed by Professor C. Picard, F. Gouedji, N. Ouattara, B. Bakayoko., M.A. Audet, and others (Picard et al., 2010).

Table 6-1: Summary of Exploration and Development Work

Company	Year	Activity	Results
Geomine Ltd.	1970s	Stream sediment sampling; 6,373 samples.	Discovery of Ni-Co deposits, including Sipilou Sud
SODEMI	1970s	Line-cutting. Soil sampling; 2,731 samples, 674 rock samples.	
	1978	Drilling (Sipilou Sud) 3 holes for 75 m; Induced polarization survey, 32 line-km (over Ni in soil anomalies near Samapleu village).	Mineralization confirmed
	1982	Drilling 14 holes for 2,812 m.	
	1986-87	Drilling 23 holes for 2,824 m.	
Trillion Res.	1991	Geological review.	
SODEMI	1993	IP survey 13 line-km. Max-min electromagnetic survey (100 line-km). Ground magnetic survey.	
	1996-97	Drilling 5 holes for 780 m.	
	1998	Stream sediment sampling; 2,067 samples (regional and south of PR123).	
SODEMI-Sama Nickel	2009	JV agreement signed in January.	
Sama Nickel	2010-13	Drilling 252 holes for a total of 30,025 m over PR123 & regional exploration. 2012: Magnetic + radiometric airborne survey. 2013: Electromagnetic airborne survey.	
	2013	First MRE by WSP; NI 43-101 report (Ayad et. al., 2013).	

Company	Year	Activity	Results
	2014-15	Drilling 24 holes for 6,402 m. Updated MRE by WSP; NI 43-101 report (Ayad et. al., 2015).	
	2017-19 (September)	Drilling 45 holes for 9,772 m. Geotechnical study for Samapleu, by Mine Design Engineering. 2018: Additional electromagnetic airborne survey. 2018: HPX's typhoon ground surveys. 2019: Drilling at Samapleu and Yepleu. 2018-19: PEA study (Gagnon et. al., 2020).	Discovery of a mineralized zone at Zepleu located 650 m below surface
	2019-24	Drilling 191 holes for 40,676 m. Down-hole geophysics. NI 43-101 report (McCracken and Martin, 2023)	Discovery of the Grata deposit. Discovery of Yepleu Surface and Draba

6.2 Historical Resource Estimates

The first MRE for the Samapleu deposit (Main and Extension deposits) is presented in the NI 43-101 Technical Report dated July 20, 2012 (Rivard et al., 2012). The estimate was based on 102 boreholes for a total of 15,849 m, using a cut-off grade ("COG") of 0.10% Ni. The results are presented as in situ resources (Table 6-2).

Table 6-2: Main and Extension Deposits Mineral Resources (COG of 0.10% Ni) (July 2012)

Category	Tonnes (x1,000)	Ni (%)	Cu (%)	Co (%)	Pt (ppm)	Pd (ppm)
Indicated	12,467	0.24	0.22	0.02	0.11	0.30
Inferred	7,986	0.23	0.17	0.02	0.08	0.31

The original resource estimate was updated in December 2012 (Ayad et.al., 2013) and included the results from previously unsampled intervals and eight holes that were drilled after the initial mineral resource estimation of July 2012. These holes raised the total length of the core to 17,273 m. The results from this estimate are presented in a technical report by WSP reissued on December 22, 2015 (Ayad et al., 2015). The estimated tonnes and grades are reported as in situ resources, without pit constraints, using a COG of 0.10% Ni (Table 6-3) at Main and Extension deposits.

Table 6-3: Main and Extension Deposits Mineral Resources (COG of 0.10% Ni) (December 2015)

Category	Tonne (x1,000)	Ni (%)	Cu (%)	Co (%)	Pt (ppm)	Pd (ppm)
Indicated	14,159	0.24	0.20	0.02	0.11	0.29
Inferred	26,480	0.24	0.18	0.01	0.09	0.31

In March 2020, DRA/Met-Chem of Montreal, QC, Canada, produced a revised MRE for the Samapleu deposit (Main and Extension deposits) (Gagnon et al., 2020) within an optimized pit shell developed using the Lerchs-Grossmann algorithm implemented in HxGN MinePlan 3D (Table 6-4).

Table 6-4: Summary of the Mineral Resources (COG of 0.1% NiEq) (March 2020)

Category	Resources (Mt)	NiEq (%)	Ni (%)
Measured	-	-	-
Indicated	33.18	0.27	0.24
Measured + Indicated	**33.18**	**0.27**	**0.24**
Inferred	17.78	0.25	0.22

The reader is cautioned that the historical estimates of July 2012, December 2012, and March 2020 are not relevant to the current estimate, which is based on a larger amount of drilling and geoscientific information gathered since the issue of the previous resource estimates.

These historical estimates are presented here to inform the public that the project has completed a significant amount of work. The estimate presented in Chapter 14 of this report supersedes the 2012 and 2020 estimates that the issuer and BBA are considering as no longer current.

A qualified person has not done sufficient work to classify the historical estimates as current mineral resources.

Mineral resources are not mineral reserves and do not have a demonstrated economic viability. There is no certainty that all or any part of the mineral resources will be converted into mineral reserves.

7. Geological Setting and Mineralization

7.1 Regional Geology

The project area is located in western Côte d'Ivoire, which constitutes the eastern limit of the West-African Archean craton ("WAC") (Figure 7-1).

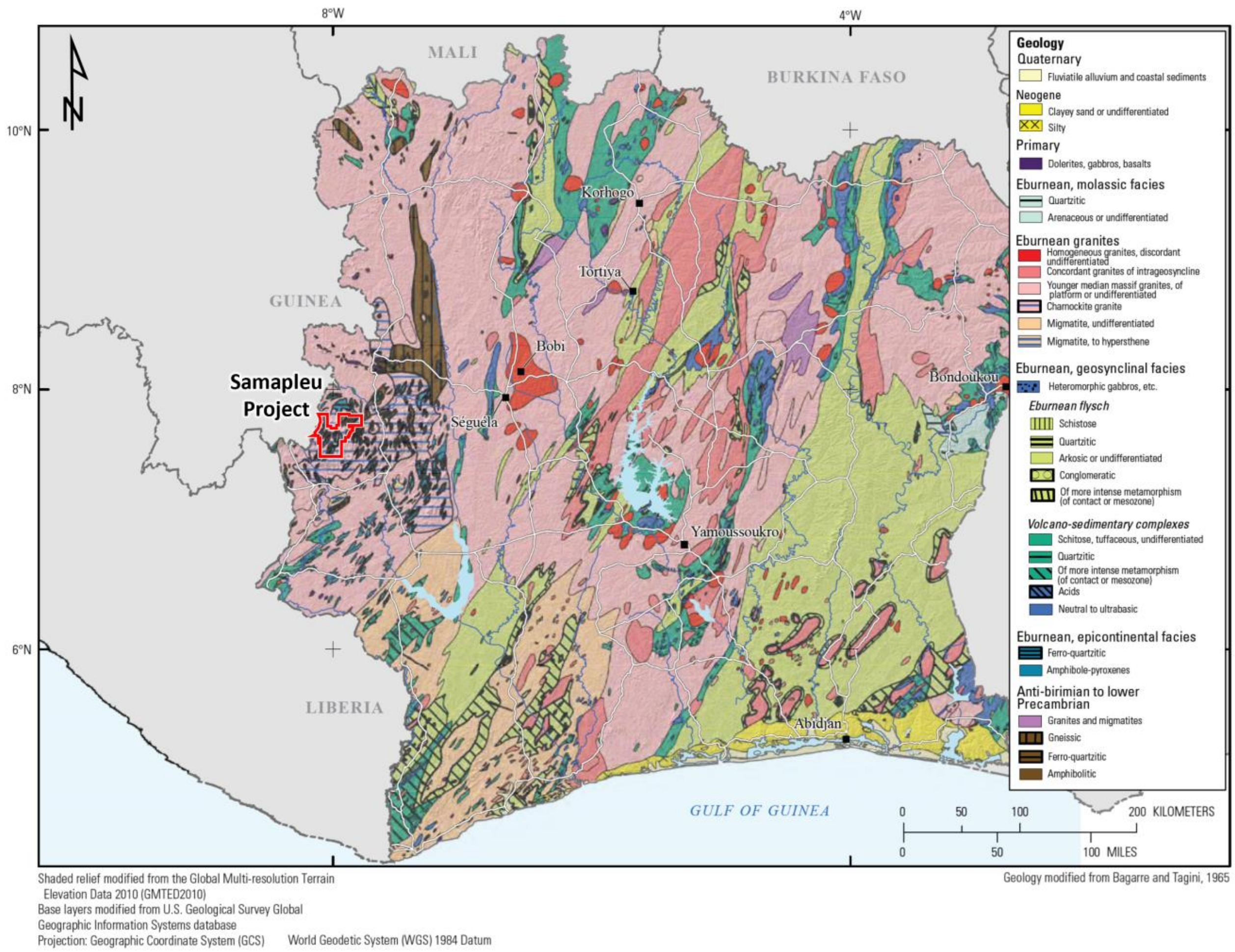


Figure 7-1: Regional Geology

The WAC is represented by two Precambrian shields: Reguibat to the north and Man to the south. The Man Shield is considered to be a remnant of a much larger craton that includes the Guyana craton of South America, which was split by continental breakup in the Jurassic period.

The Man shield is subdivided into a western domain, predominantly of Archean age (Kénéma-Man), and an east-central domain (Baoulé-Mossi) composed of Paleoproterozoic rocks. The two domains are separated by the major, sub-meridian, strike-slip Sassandra fault. The Archean formations outcrop continuously in the western part of the WAC, from Sierra Leone to western Côte d'Ivoire.

The Archean rocks were shaped by two major tectono-thermal events whose respective chronology is uncertain: the earlier Leonian orogeny (3.4-3.1 Ga) and the Liberian orogeny (2.85-2.7 Ga). This was followed by the polycyclic Eburnean orogeny comprised of a series of events: collision at the margin of the craton and two phases of transcurrent tectonism (2.2-2.0 Ga) (Koffi et al., 2020).

Work from Nahon et al. (1982), Camil (1984), and Kouamelan et al. (1997) indicates that Paleoproterozoic reworking was found in the Man area during the Birimian event (2.1 Ga) and produced an important amount of juvenile magmatism. The effects of Eburnean ductile deformation along NE-SW, NW-SE, and N-S trends can be observed in the region.

The project lies within the Kénéma-Man domain, which consists mainly of Archean granulitic and migmatitic gneiss with subordinate granitoids, and relic supracrustal belts with mafic to ultramafic rocks and iron formation. The formations are metamorphosed to granulitic facies.

The Kénéma-Man domain is separated in two by the E-NE Man-Danané fault, on the basis of tectono-metamorphic criteria:

- The northern domain (province of Man), representing the base of the Archean shield where the predominant facies are of high metamorphic grade and of granulitic type;
- The southern domain of granulitic and migmatitic rocks, composed of charnokitic gneiss, biotite migmatitic gneiss, leptynite and granite.

The southern domain has a stronger tectono-metamorphic overprint caused by the Birimian event than the northern domain where the Archean features are less reworked.

The project is located 50 km north of the Man-Danané fault and 100 km west of the Sassandra fault.

A mafic and ultramafic layered complex (Ouattara, 1998) of Eburnean age (2.09 Ga), the Yacouba complex has intruded the older gneissic assemblage of the WAC (Ouattara, 1998). The Yacouba complex can be traced discontinuously along a NE-SW corridor of at least 30 km long by 10 km wide between the villages of Zeregouiné in the SW, Yorogoudou in the NE, and Santa to the east. The Yacouba complex hosts demonstrated magmatic sulphide mineralization at several locations, including Samapleu (Main and Extension) and Grata.

The Yacouba complex is characterized by a series of feeder systems of magmatic material assimilating the Archean country rock magmatic migmatite complex with locally well-preserved peridotite, pyroxenite, chromite and minor gabbro or gabbro-norite units. The Yacouba complex is often seen vertically cross-cutting the Archaean gneiss and granulite, especially in the Main, Extension, and Grata areas (SODEMI, 1976; Ouattara, 1998; Gouedji, 2014, Gouedji et al.; 2014). At the Yepleu sector, 25 km SW of the Main and Extension deposits, the intrusive complex displays magmatic migmatite with distinct sub-horizontal layering or magmatic bedding. There also, the migmatite is seen together with a succession of noritic to anorthositic assemblages.

The Yacouba complex intrusive successions host Ni-Cu sulphides (mainly pyrrhotite—pentlandite and chalcopyrite), disseminated Pt and Pd minerals, and massive chromite layers.

Figure 7-2 shows a 3D representation of the Yacouba intrusive complex together with target mineralization as accumulations of massive sulphides in traps and embayment (northeast is toward the upper right corner).

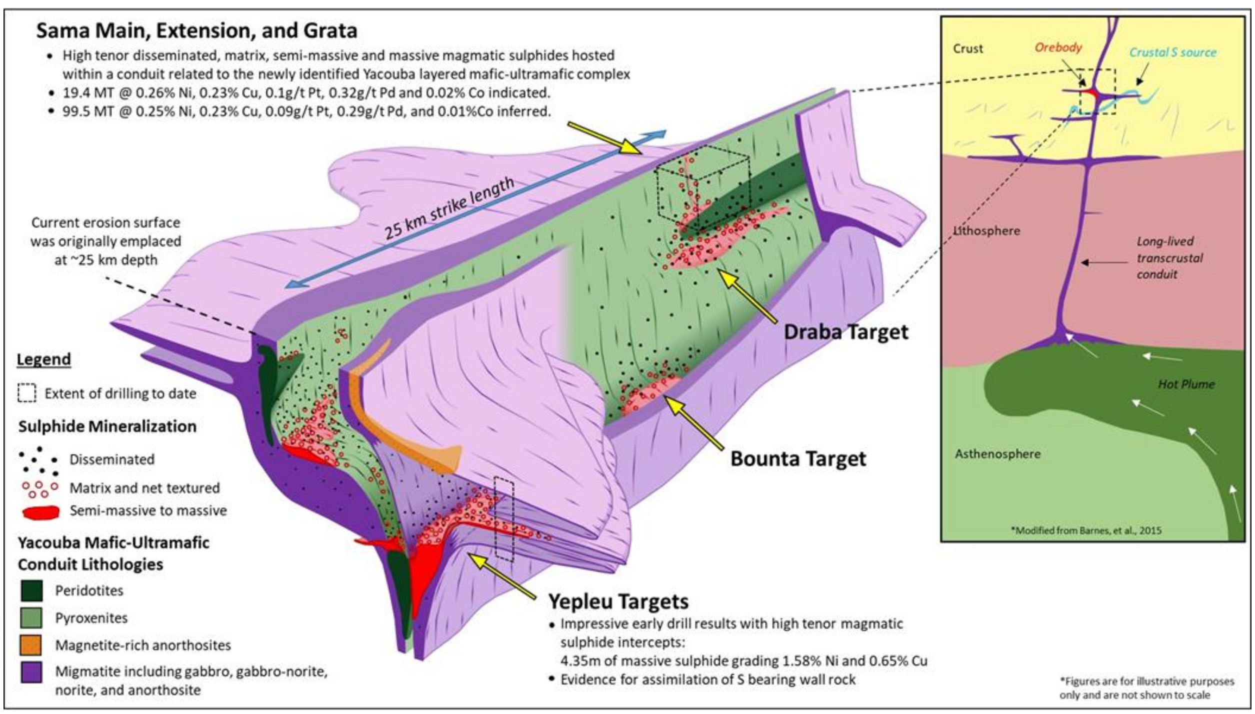


Figure 7-2: 3D Representation of the Yacouba Intrusive Complex (IVNE, 2019)

7.2 Project Geology

The laterite profile at Main is very thin over the summits overlying the gabbro layer and becomes thicker down slope over the pyroxenite units, reaching approximately 35 m. At the Extension deposit, the thickness of the laterite profile is typically between 30 m and 40 m. At the Grata deposit, the surface laterite cover varies from 10 m to 50 m, with a few exceptions reaching 75 m. The Sipilou Sud laterite deposit Ni-Co laterite profile is typically between 10 m and 50 m overlying ultramafic rocks composed of serpentinized dunites and harzburgite, with variable levels of weathering ranging from very weak to extensive.

As a consequence of this highly developed lateritization profile across the project, the surface geological data remain scarce, and most of the geological information is derived from drilling and geophysical data.

Samapleu (Main, Extension) and Grata exploration properties (PR838 & PR604) are underlain by gneissic granulite, mafic granulite, charnockite, aluminous garnet and magnetite gneiss, garnet jotunite/enderbite, biotitite and grenatite (Figure 7-3). All have been affected by high-grade facies of metamorphism under granulitic P and T conditions.

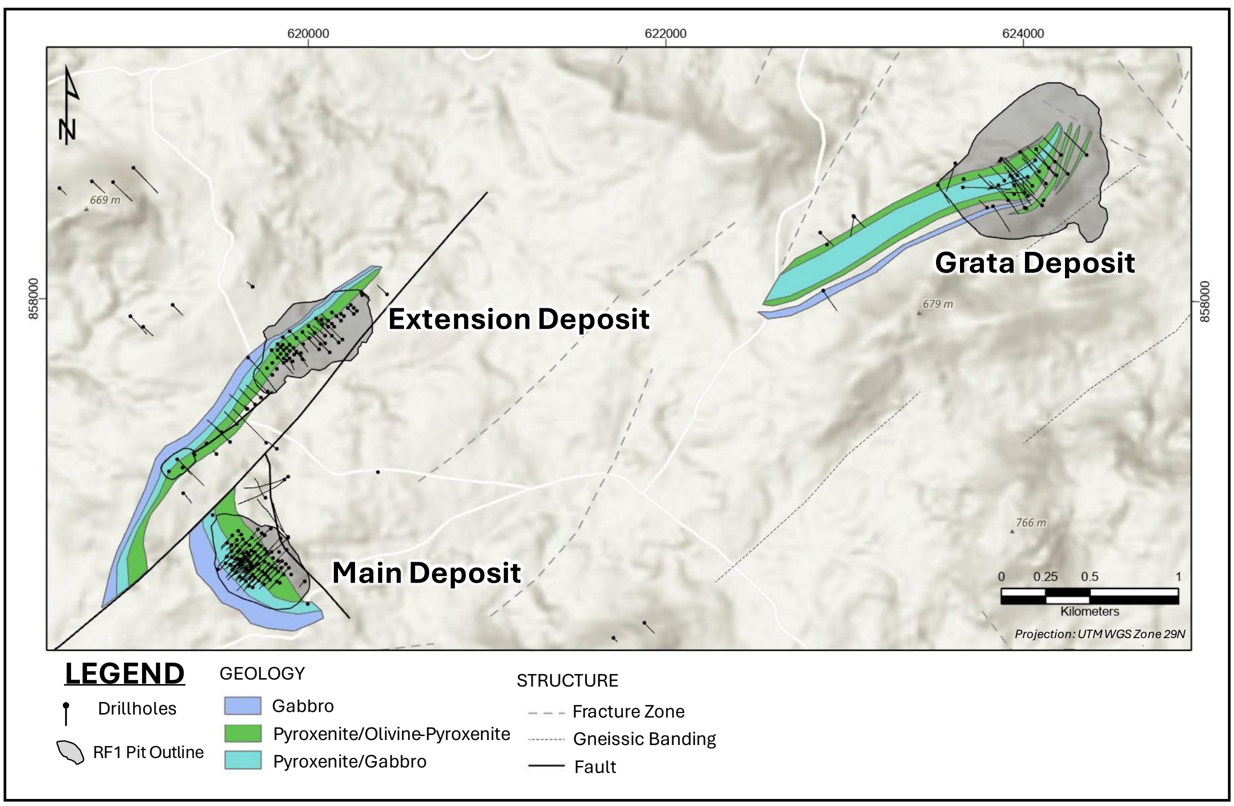


Figure 7-3: Surface Geology in the Vicinity of Sama's Land Package

The Yacouba mafic and ultramafic intrusive complex was recognized by drill holes at the Main, Extension, and Grata deposits. It was also recognized in several locations within the exploration permits package including areas called Bounta, Santa and Yepleu. The HTEM survey flown in 2013 and the versatile time-domain electromagnetic (VTEM™ referred to as "VTEM") survey in 2018 have outlined more than 20 prospective areas for follow-up (Figure 7-4).

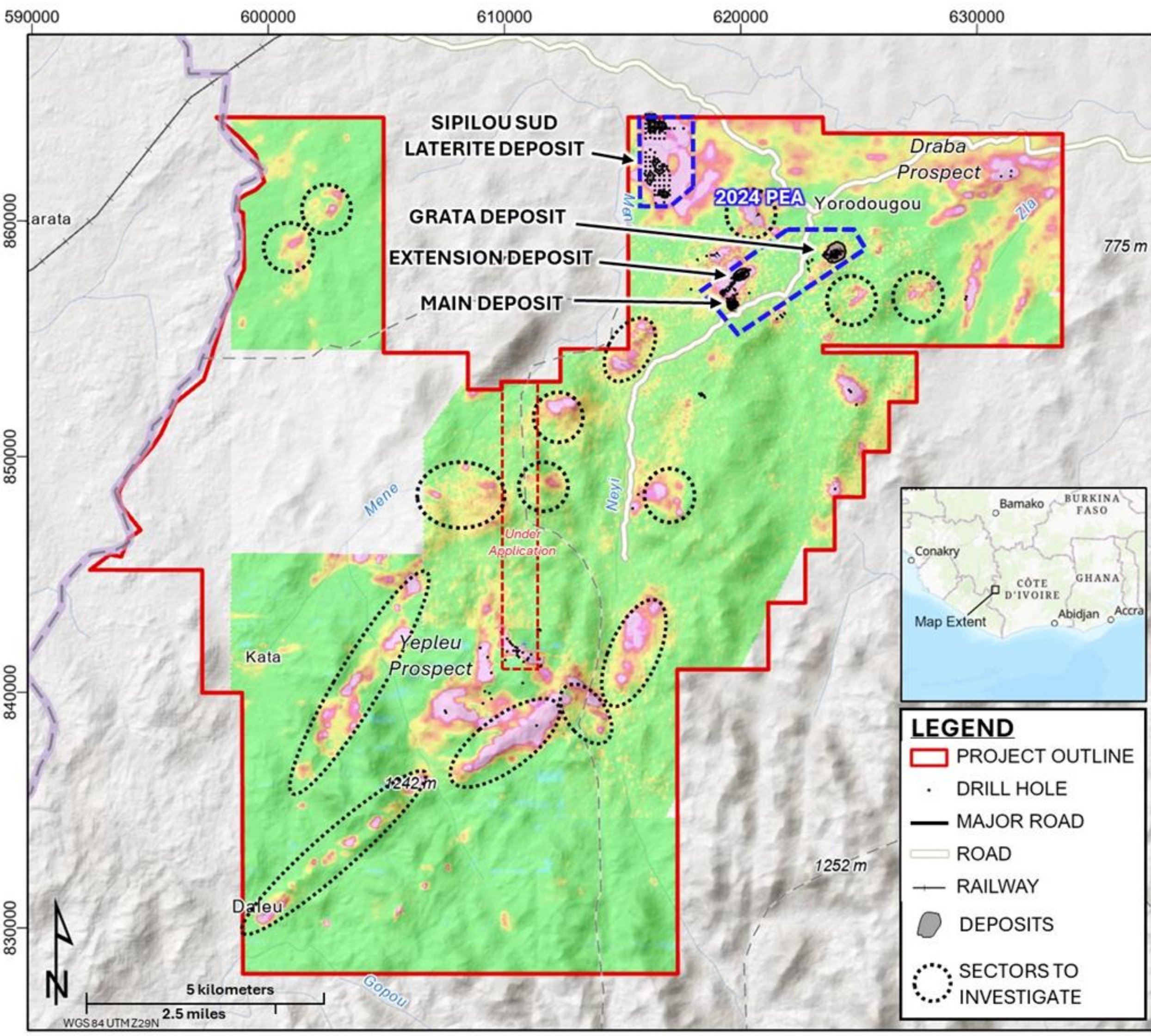


Figure 7-4: 2013 HTEM & 2018 VTEM Conductivity Responses Outlined Numerous Prospective Areas for Follow-up Exploration Works

The Samapleu intrusion is interpreted to represent a magmatic conduit as one of the Yacouba complex feeders' system.

The lithological assemblage at the Main deposit includes the following facies succession from the surface down: laterite; pyroxenite interlayered with peridotite units; and gabbro. The ultramafic series is composed of an irregular sequence ranging from 2 m to 60 m in thickness, with a succession of facies from the stratigraphic bottom to the top made up of chromite, olivine cumulate, and pyroxene cumulate. The ultramafic and mafic sequences display plagioclase cumulates at the top (Ouattara, 1998). Contacts between various geological units are generally sharp and well defined. The sequence contains massive chromite and nickel-copper sulphide-rich layers exposed at surface at several locations.

The geological succession at the Extension deposit is fairly similar to the Main deposit succession with, from top to bottom: surface laterite; peridotite (dunite, lherzolite); pyroxenite (websterite); and plagioclase-rich websterite/gabbro.

According to Gouedji's PhD study (2014) the intrusive mafic-ultramafic complex is dated 2.09 Ga at the Main and Extension deposits, with an estimated depth of emplacement of 25 km below surface at upper amphibolite to granulite facies P-T conditions (~7-8 kbar and 700 to 900°C) within the Archean granulite (3.6-2.7 Ga). The calculated tholeiitic (depleted relative to MORB) parental magma MgO content is of ~10% with Mg# 80-83.

Gouedij et al. (2014) also suggested that the sulphur isotope data and mineral assemblages indicate that significant assimilation of Archean metamorphic country rocks occurred during emplacement and was likely involved in the generation of an immiscible sulphide melt.

The Sipilou Sud laterite deposit profile is characterized by the following succession of lateritic facies. These are distinguished primarily on the basis of physical characteristics, which are: colour, texture, grain size, and mineralogical composition. The normal sequence of these facies with increasing depth from the surface is as follows:

- Limonite (red and yellow limonite)
  - Reddish-brown limonite containing organic surface material gradationally changes at depth to yellowish-ochre limonite, which is fine-grained and malleable.
- Transition
  - Green chlorite-rich zone gradationally changing to brownish-green at depth.
- Saprolite
  - Soft saprolite gradationally changing to hard, boulder-textured saprolite at depth.
- Bedrock
  - Ultramafic rocks composed of serpentinized dunites and harzburgite.

7.3 Structural Geology

The magnetic data highlight a general NE-SW fabric of the formations, which could be attributed to ductile deformation zones. Large-scale sigmoidal- or rhomboidal-shaped dilatational jog may form at the loci of curvature along the shears, which would favour the emplacement of the mafic and ultramafic intrusions such as those at Samapleu or Yepleu.

The N-S Bounta fault, cross-cutting the exploration land package in the middle, appears to be the last major N-S oriented feature going west from the N-S oriented regional scaled Sassandra fault located 150 km east. The Sassandra fault marks the boundary between the WAC and the eastern Birimian greenstone assemblage.

The area appears to have been affected by at least two phases of deformation that may have formed dome- and basin-type folds, although this has not been demonstrated within the PR838 area.

7.4 Petrology

Detailed petrological and mineralogical determinations of the various lithological units observed at the Main and Extension deposits were performed by Mr. Gouedji in 2014 as part of a Ph.D. research program and are summarized as follows:

- Peridotite: Mainly dunite and serpentinized lherzolite. The dunite is composed of olivine, magnetite (derived from olivine during serpentinization) and minor amounts of orthopyroxene. The lherzolite consists of partially serpentinized olivine (>70%), ortho-, clinopyroxene and rare amphiboles. Minor amounts of sulphides and massive chromite are also present.
- Pyroxenite: Includes websterite, spinel-rich and olivine-rich websterite. The websterite is composed of orthopyroxene (60%), clinopyroxene (<20%) and amphiboles. The pyroxenite facies can carry disseminated semi-massive and massive sulphide mineralization. Green spinels (hercynite) are also present.
- Massive chromite: Found as thin layers within the pyroxenite assemblage. Massive chromite exhibits an interstitial habit and typical net texture surrounding pyroxene minerals. Biotite, muscovite, rare amphibole and sulphides are also present and account for less than 5%.
- Plagioclase-rich websterite: There is progressive enrichment in plagioclase toward the footwall gabbro (stratigraphic top). The sulphide phases are somewhat less abundant.
- Gabbro: This includes gabbro, anorthosite, gabbronorite, and sapphirine-rich mafic rocks. It represents the mafic cumulates of the upper part of the intrusion.

7.5 Mineralization

Mineralization at the Main, Extension, and Grata deposits consists predominantly of pyrrhotite, pentlandite and chalcopyrite, with subordinate amounts of pyrite, PGE and chromite. According to Gouedji (2014), and based on drill data, mineralization is preferably hosted in pyroxenite, although local zones rich in sulphides were identified within the peridotite units. In addition, strong sulphide mineralization also occurs at the gabbro-norite contact of the main zone of Samapleu.

Sulphide mineralization types at Main, Extension, and Grata deposits are matrix textures, net-textures, droplets, breccia, dragged sulphide sometimes with semi-massive sulphides, massive, veins, veinlets and are characteristics of magmatic mineralization types. Main, Extension, and Grata sulphides are formed by immiscibility due to the production of early sulphide liquid from mafic and ultramafic silicate melts.

The textural relationships reflect typical magmatic sulphide processes, whereby the parent melt reached sulphur saturation, leading to the development of an immiscible sulphide melt; this sulphide melt sequestered the chalcophile elements from the residual silicate magma during the emplacement of the mafic-ultramafic complex.

Information obtained from SNC's geological mapping, geophysical survey data and detailed borehole observations suggests that the Main deposit is composed of upper and lower mafic-ultramafic blocks. The upper block extends from the surface to a maximum depth of 150 m. The Lower block is separated from the upper block by a shallowly southwest dipping fault causing a displacement of approximately 75 m.

Figure 7-5 displays the various types of mineralization encountered on the property as of the effective date of this report.

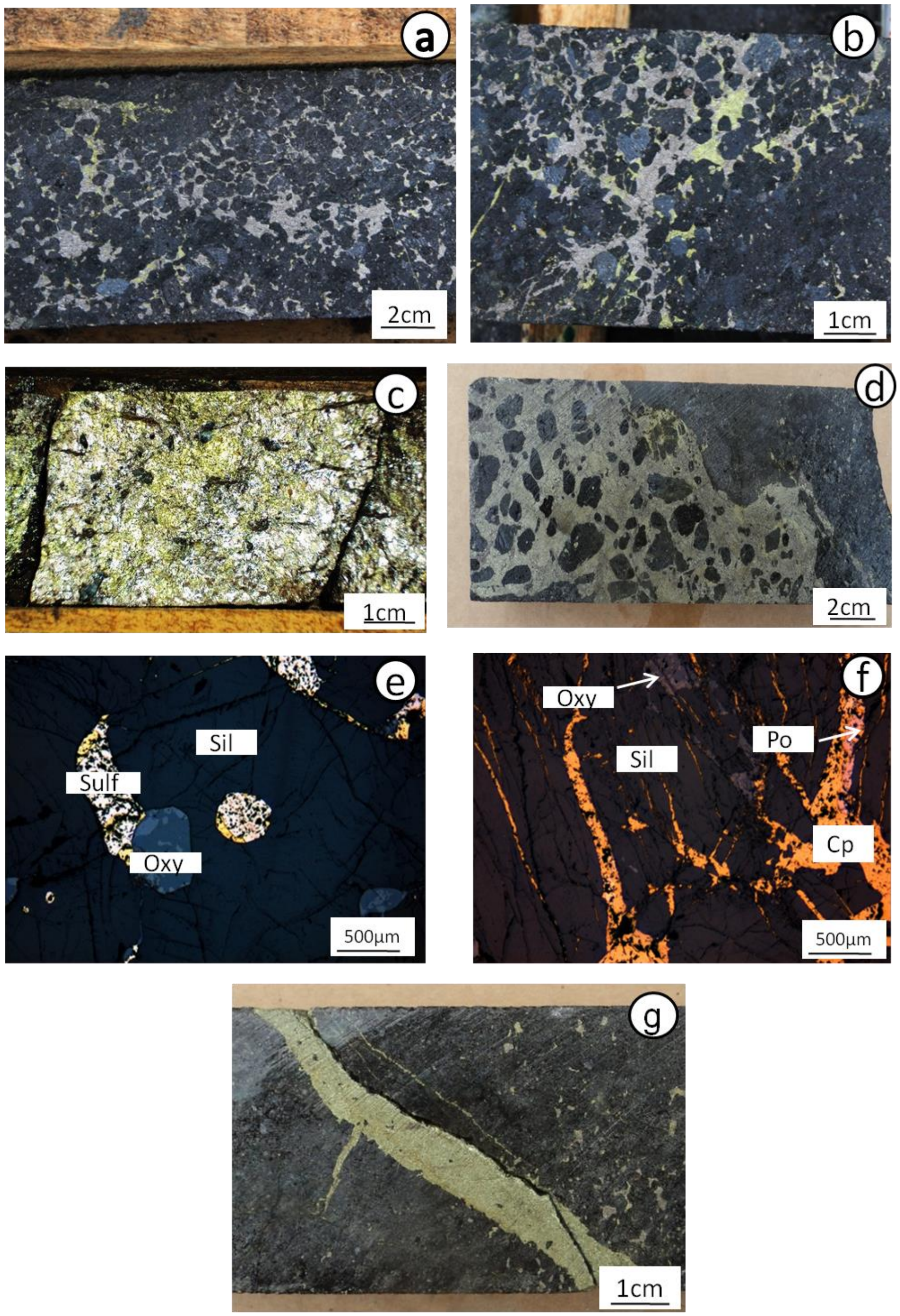


Figure 7-5: Photographs and Microphotographs of Various Forms of Sulphides from Main and Extension Deposits a) Net texture; b) Matrix texture; c) Massive sulphide; d) Semi-massive; e) Coarse disseminated; f) Vein breccia; g) Veins; Pyrrhotite (Po), Chalcopyrite (Cp), Silicates (Sil), Sulphide (Sulf), oxides (Oxy). (modified from Gouedji, 2014)

Platinum-group elements (“PGEs”) (palladium, platinum, and rhodium) are also present and are associated with the sulphide phases, either as a distinct mineral phase or included within the structure of the principal sulphides. The specific members of the platinum-group minerals ("PGMs”) identified are:

- Michenerite (PdBiTe);
- Mocheite ($PtTe_2$);
- Rh-Cobaltite-Gersdorthite (NiAsS);
- Irarsite ((Ir, Ru, Rh, Pt)AsS);
- Hollingworthite ((Rh, Pt, Pd)AsS);
- Merenskyite ($PdTe_2$).

8. Deposit Types

The magmatic nickel-copper-PGE deposits occur as sulphide concentrations in a variety of magmatic mafic and ultramafic rocks.

Sulphide droplets often form within the ultramafic intrusion through contamination of the parental, mantle-derived magma with sulphur from adjacent rock units or by assimilation from the crust. As these sulphide droplets circulate through the magma by convection, they scavenge nickel, copper and the platinum-group elements from the magma, as these elements have a strong chemical affinity for sulphur. Since the sulphides are heavier than the magma, they sink through the magma and accumulate at the base of the intrusion as pockets or layers of sulphides that crystallize during the cooling of the magma to form mineral deposits.

According to classical classifications of nickel sulphide deposits, the Samapleu and Yepleu deposits are interpreted to be part of a differentiated, ultramafic and mafic feeder dykes system of the layered Yacouba complex (Gouedji et al., 2014). These intrusion types are host to the largest nickel and copper deposits in the world, such as the Jinchuan (China), Voisey's Bay (Canada), Kabanga (Tanzania), Eagle (USA), Eagles Nest (Canada), Kalatongke (China), Dumont (Canada), Crawford (Canada) and N'komati (South Africa).

The Samapleu licence is located adjacent to the large nickel-cobalt laterite deposits of Sipilou North, Foungouesso, Moyango, and Viala.

As is common in numerous documented intrusions, the emplacement of the Samapleu sequences is related to intense tectonic activity. However, the specific character of the Samapleu sequences is the fact that the magmatic intrusion originated from the lower continental crust at a depth of about 25 km.

The magmatic Ni, Cu and PGE deposits are subdivided into two main groups: 1) the deposits in association with ultramafic; and 2) the deposits with gabbroic sequences (Eckstrand, 1984).

The Samapleu mineralization is part of a typical ultramafic sequence. When compared, all the Ni-Cu sulphides share some characteristics (Naldrett, 1999):

- An ultramafic to picritic parent magma;
- Proximity to a major tectonic structure;
- Presence of rocks enriched in sulphides;
- Depletion in chalcophile elements in the intrusive rocks;
- Geochemical evidences of interaction between the magma and the host rocks and presence of, or proximity to, a dynamic magmatic conduit (feeder dykes).

Most of the above criteria are present in the Main and Extension deposits (collectively known as Samapleu deposits). In addition, the massive sulphide lenses in the Main and Extension deposits have been recognized as sharing several additional characteristics that suggest that they belong to a major mineralization system:

- Extreme variations of the Ni:Cu ratio, indicative of sulphide fractionation;
- Local occurrence of large quantities of sulphides, which suggest that fractionation took place before their emplacement;
- Highly variable textures in the sulphides and the presence of breccia zones;
- Presence of a rare texture, the "loop texture": Large pyrrhotite crystals fringed by chalcopyrite and pentlandite, forming a loop around pyrrhotite. These textures are particularly conspicuous in the Norilsk and Voisey's Bay deposits;
- Abundant inclusions of sulphides under the form of blebs-droplets in the pyroxene crystals, which indicates sulphur saturation of the magma prior to crystallization.

The Sipilou Sud laterite deposit is characteristic of typical nickel laterite deposits formed in a seasonally wet tropical climate, on weathered and partially serpentinized ultramafic rocks. Features of nickel laterites include (Ellias, 2002):

- The nickel is derived from altered olivine, pyroxene and serpentine, which constitute the bulk of tectonically emplaced ultramafic oceanic crust and upper mantle rocks.
- Lateritization of serpentinized peridotite bodies occurred during the Tertiary period and the residual products have been preserved as laterite profiles over plateaus/amphitheatres, elevated terraces and ridges/spurs.
- The process of formation starts with hydration, oxidation, and hydrolysis.
- The warm/hot climate and the circulation of meteoric water (the pH being neutral to acid and the Eh being neutral to oxidant) are essential to this process. Silicates are in part dissolved, and the soluble substances are carried out of the system.
- This process results in the concentration of nickel in the regolith in hydrated silicate minerals and hydrated iron oxides; nickel and cobalt also concentrate in manganese oxides. The regolith hosting nickel laterite deposits is typically 10 m to 50 m thick, but can exceed 100 m.
- Concentration of the nickel by leaching from the limonite zone and enrichment in the underlying saprolite zones is also common. Leaching of magnesium +/- silicon causes nickel and iron to become relatively concentrated in the limonite zone. Nickel is released by re-crystallization and dehydration of iron oxy-hydrides and is slowly leached downwards through the profile, both vertically and laterally, re-precipitating at the base with silicon and magnesium to form an absolute concentration within the saprolite.
- The degree of the nickel concentration and the detailed type of regolith profile developed is determined by several factors including climate, geomorphology, drainage, lithology composition, and structures in the parent rock, acting over time.
- A typical laterite profile contains three distinct horizons (limonite, transition and saprolite).

9. Exploration

SNC spent a total of approximately $26.83M in exploration work on the Samapleu property (PR838), and $4.1M at the Grata property (PR604) between the first exploration activities in 2009 until March 31, 2023. SNC spent $40.9M in exploration works on all five exploration permits from 2010 to 2023.

Table 9-1 presents the annual exploration expenditures in Côte d'Ivoire at the PR838 and PR604 and the five exploration permits combined since 2009.

Table 9-1: Consolidated Exploration Expenditures Over PR123 (New PR838) and for all PRs Combined in Côte d'Ivoire Between 2009 and 2023 (in USD)

Year	PR838 & PR839		PR604		All PRs	
	M$	Cum. M$	M$	Cum. M$	M$	Cum. M$
2010 (Sep. 30)[1]	6.5	6.5	-	-	6.7	6.7
2011 (Sep. 30)	3.3	9.8	-	-	3.4	10.1
2012 (Sep. 30)	2.8	12.6	-	-	2.8	12.9
2013 (Sep. 30)	2.9	15.5	-	-	3.1	16.0
2014 (Sep. 30)	1.4	16.9	-	-	1.8	17.8
2015 (Dec. 31)	0.8	17.6	-	-	1.1	18.9
2016 (Dec. 31)	0.3	17.9	-	-	0.6	19.5
2017 (Dec. 31)	1.7	19.7	-	-	1.9	21.4
2018 (Dec. 31)	0.7	20.4	-	-	3.7	25.1
2019 (Dec. 31)	0.4	20.8	-	-	3.5	28.6
2020 (Dec. 31)	3.1	23.9	-	-	3.9	32.5
2021 (Dec. 31)	0.9	24.8	0.5	0.5	2.2	34.7
2022 (Dec. 31)	1.6	26.4	3.3	3.8	5.4	40.1
2023 (Mar. 31)	0.43	26.83	0.28	4.1	0.8	40.9
Total		**26.83**		**4.1**		**40.9**

Notes:
[1] 2009 and 2010 expenditures are combined.
The totals may not add up due to rounding errors.

Exploration activities by SNC since March 2010 are presented in Table 9-2

Table 9-2: Summary of Exploration Work to Date - All PRs

Activity	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Cum.
Geophysics Magnetic & Radiometric	km	-	-	-	13,556	-	-	-	-	-	-	-	-	-	**13,556**
Geophysics HTEM	line-km	-	-	-	3,300	-	-	-	-	-	-	-	-	-	**3,300**
Geophysics VTEM	line-km	-	-	-	-	-	-	-	-	2,889	-	-	-	-	**2,889**
Line cutting	km	183	21	49	71	14	12	-	-	166	321	20	12.1	10.6	**879.7**
Geophysics InfiniTEM	line-km	-	-	-	54	-	-	-	-	-	-	-	-	-	**54**
Geophysics IP/ Ground Survey	km	85	39	23	-	-	-	-	-	-	-	-	-	-	**146**
Geophysics Magnetic/ Ground Survey	km	76	52	23	-	-	-	-	-	-	-	-	-	-	**150**
Geophysics Max-Min	km	-	-	-	-	6	8	-	-	-	-	0	11.6	4.2	**29.8**
Geophysics: Downhole EM	#	-	-	-	-	3	-	2	-	-	3	5.16	-	10.77	**23.93**
Field Mapping	km	56	21	49	77	57	43	-	-	-	-	-	-	-	**303**
Soil Geochemistry	#	-	-	-	821	-	-	-	-	-	-	-	-	-	**821**
Rock samples		-	-	-	-	-	-	-	-	-	-	-	-	812	**812**
Access roads	km	55	16	36	41	1	31		50	20	124	41.5	41.75	34.3	**491.55**
Pits (m)	#	12	1	-	-	-	-	-	-	-	-	-	-	-	**13 (104 m)**
Trenches (m)	#	-	-	8	-	-	-	-	-	-	-	-	-	-	**8 (550 m)**
Geophysics Typhoon™	line-km	-	-	-	-	-	-	-	-	1,130	2,695	737	-	-	**4,560**

The totals may not add up due to rounding errors.

9.1 2009 Summary

SNC commenced exploration over the previous PR123, now PR838, in March 2009, when a line grid was established over the main Samapleu showing and along its possible extension. The grid also covered Ni-and-Cu-in-soil anomalies in the vicinity of Yorodougou village and in the northwest corner of the property over the Sipilou Sud Ni-Co laterite deposit.

In September and October 2009, 60 line-km of IP survey was completed over the three grids by *Société Nouvelle de Géophysique* ("SNG") of Abidjan, Côte d'Ivoire. Readings were taken at 50-m intervals on 100-m to 150-m spaced lines. SNG collected the data and performed the interpretation. The survey outlined six features with strong conductivities at the Samapleu and Yorodougou grids. Thereafter, *Abitibi Géophysique* ("Abitibi"), of Val-d'Or, Québec, Canada, audited SNG's results and interpretation and confirmed the size and location of SNG's interpreted IP anomalies. The Extension deposit was discovered by SNC in June 2010 after drilling an IP anomaly.

9.2 2010 Summary

In January 2010, SNG performed 48 line-km of ground magnetic survey over the Samapleu and Yorodougou grids. The readings were taken at 12.5-m intervals on the lines. The ground magnetic survey aimed to define the contacts between the ultramafic units with higher accuracy.

In 2010, a stream sediment sampling program was completed in the northwestern corner of the original PR123 (now Samapleu West (PR839)).

9.3 2011 Summary

In November 2011, mapping discovered numerous chromite occurrences and mineralized blocks scattered over 10 km along the Bounta-Gangbapleu Ridge.

9.4 2012 Summary

In April 2012, Xcalibur Airborne Geophysics ("Xcalibur"), South Africa, performed 13,556 line-km of airborne magnetometer and radiometric survey. The survey covered the entire previous PR123 as well as part of Sama's Lola property in neighbouring Guinea. In addition to delineating thrust fronts and faults, the survey generated several areas of exploration interest (Figure 9-1 to Figure 9-3). Geological reconnaissance over these targets took place from December 2012 to January 2013.

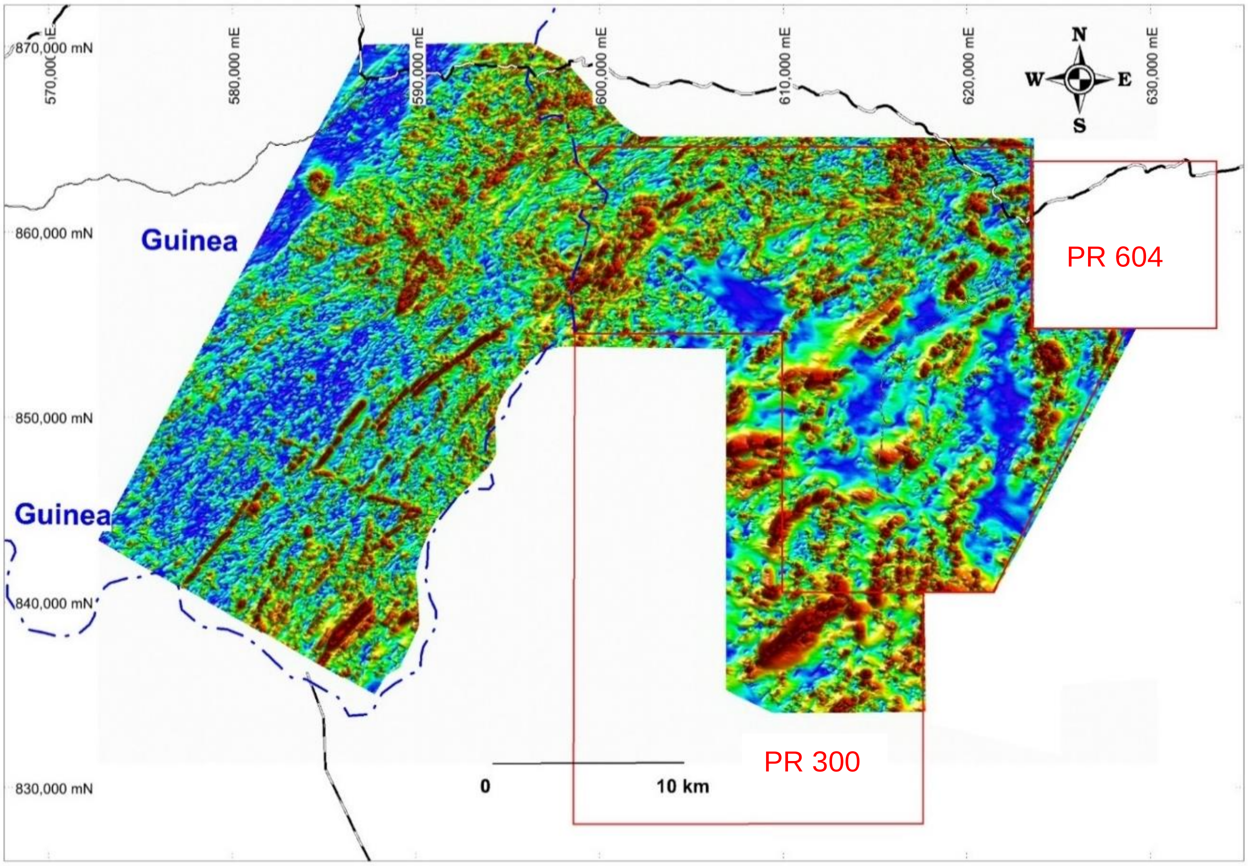


Figure 9-1: Xcalibur, High-Resolution Airborne Magnetic Survey - Magnetic Signal (SNC, 2015)

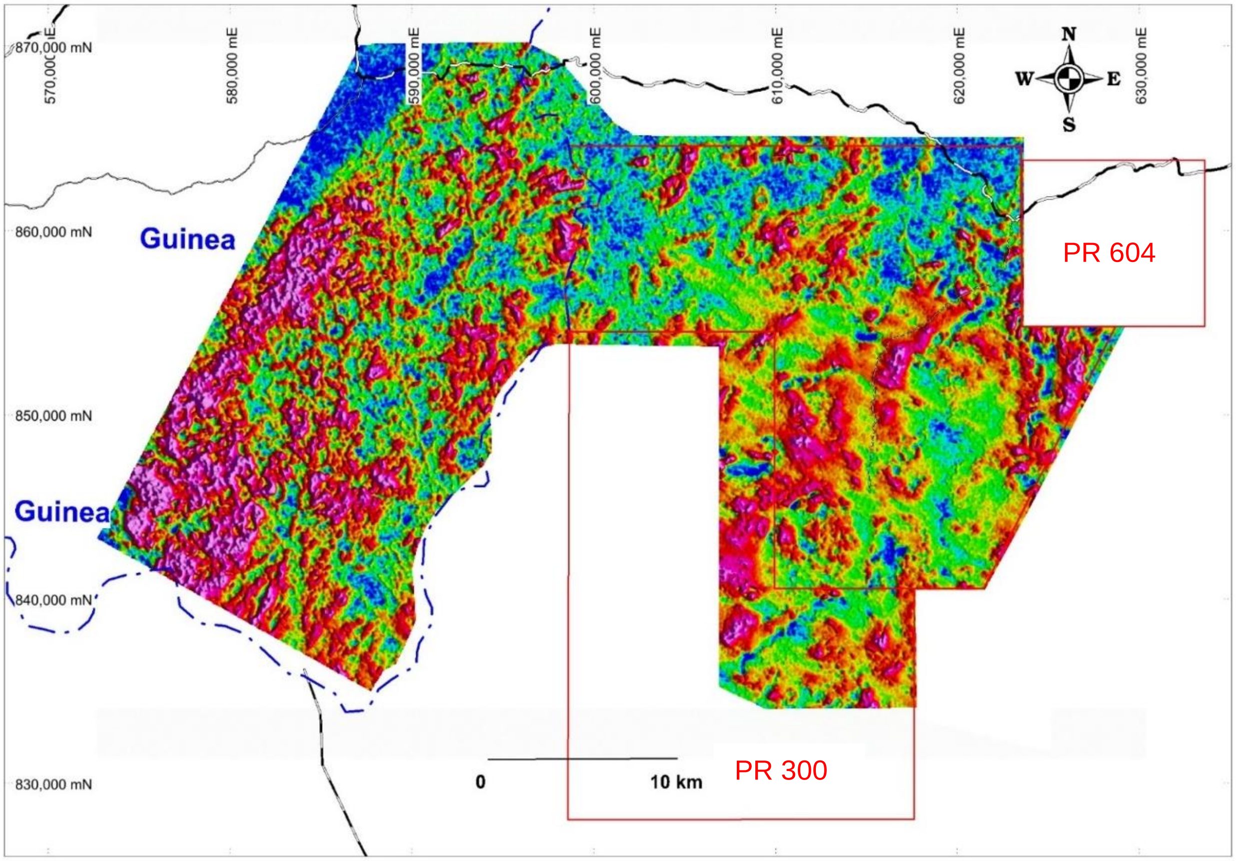


Figure 9-2: Xcalibur, High-Resolution Airborne Geophysical Survey - Radiometrics, Potassium (K) (SNC, 2015)

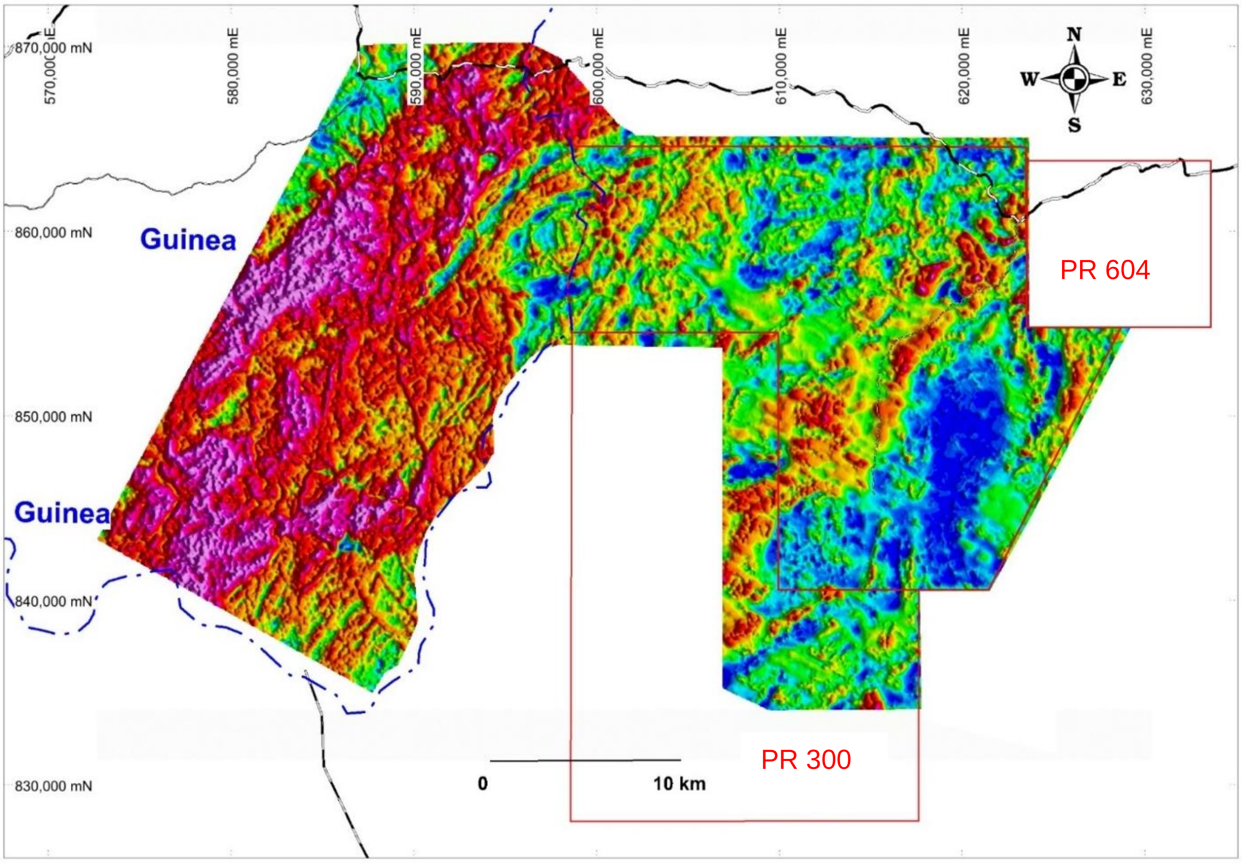


Figure 9-3: Xcalibur, High-Resolution Airborne Geophysical Survey - Radiometrics, Thorium (Th) (SNC, 2015)

From December 2012 to January 2013, Fugro Airborne Surveys ("Furgo"), a geophysical survey company based in South Africa, performed an electromagnetic and magnetic helicopter survey (HTEM) covering a total of 3,300 line-km on a combination of flight lines at 100-m and 200-m spacing covering the most promising areas of the PR123 licence (Figure 9-4 to Figure 9-7).

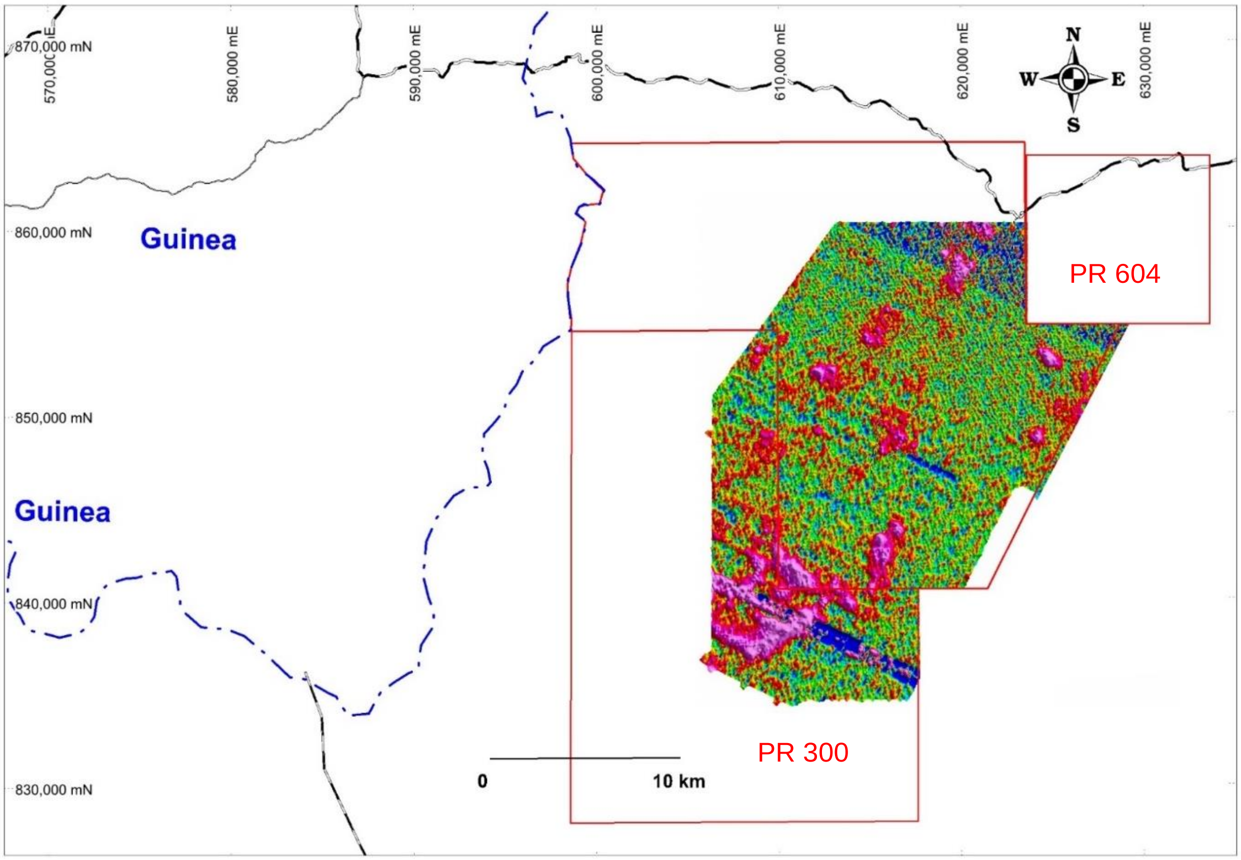


Figure 9-4: Furgo 2013, High-Resolution HTEM Survey - Raw Data (SNC, 2015)

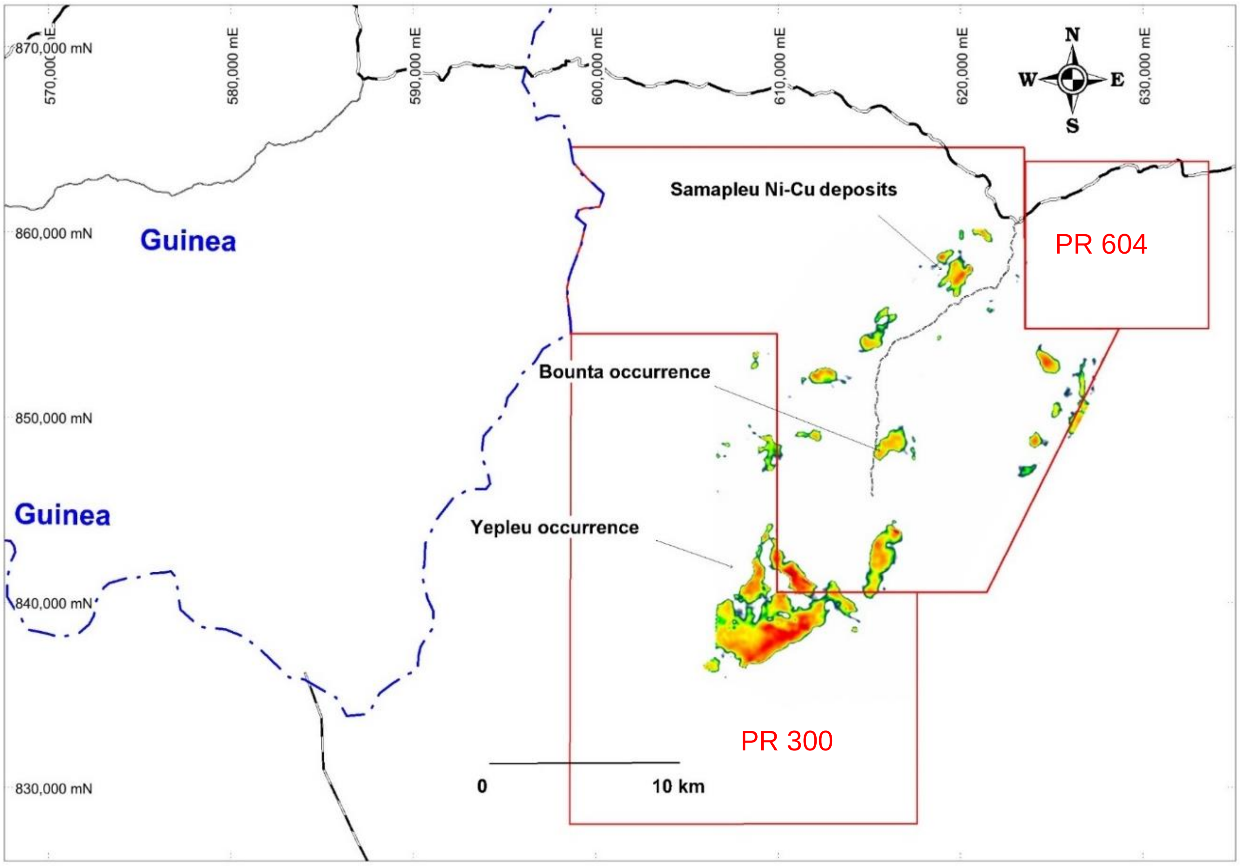


Figure 9-5: Furgo 2013, High-Resolution HTEM Survey - Plot of Conductivity (SNC, 2015)

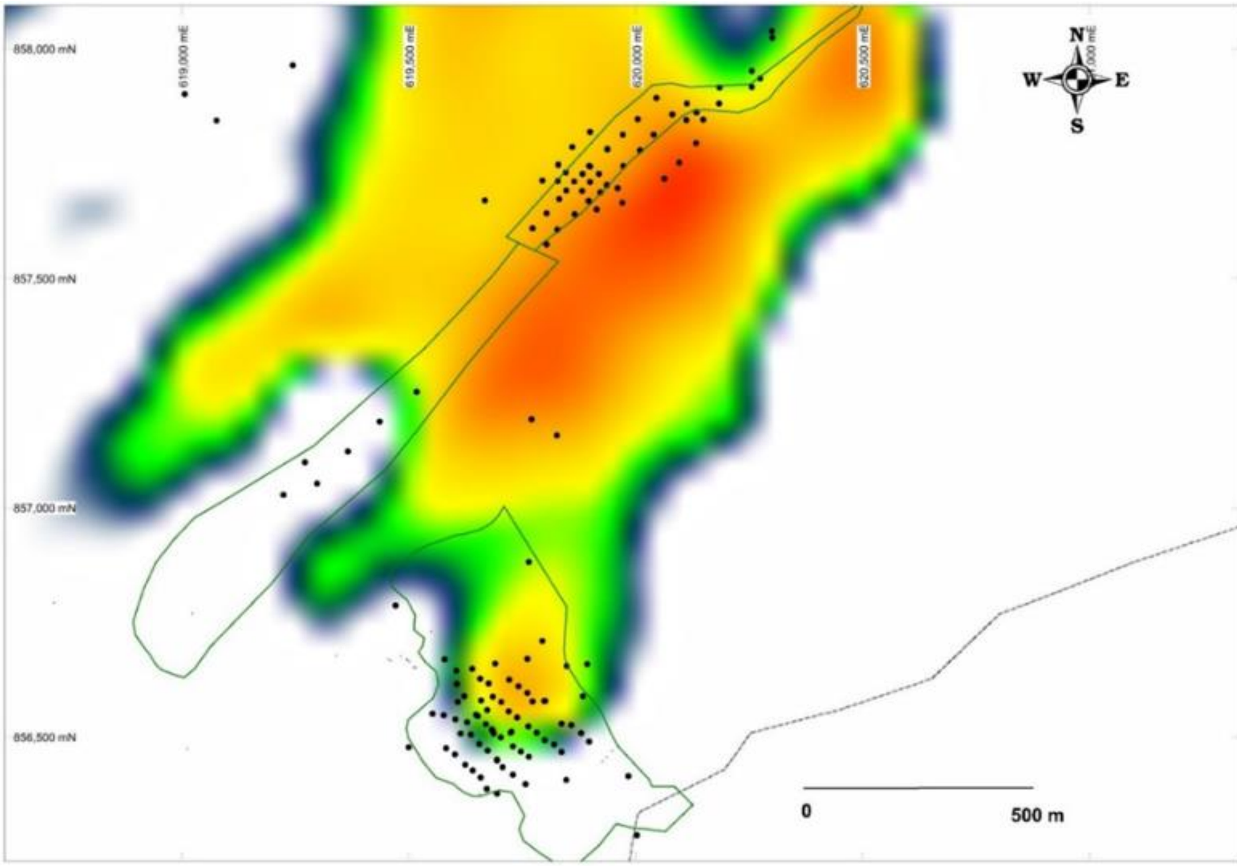


Figure 9-6: Furgo 2013, High-Resolution HTEM Survey - Plot of Conductivity Over the Samapleu Deposits and Location of Completed Drill Holes
(SNC, 2015)

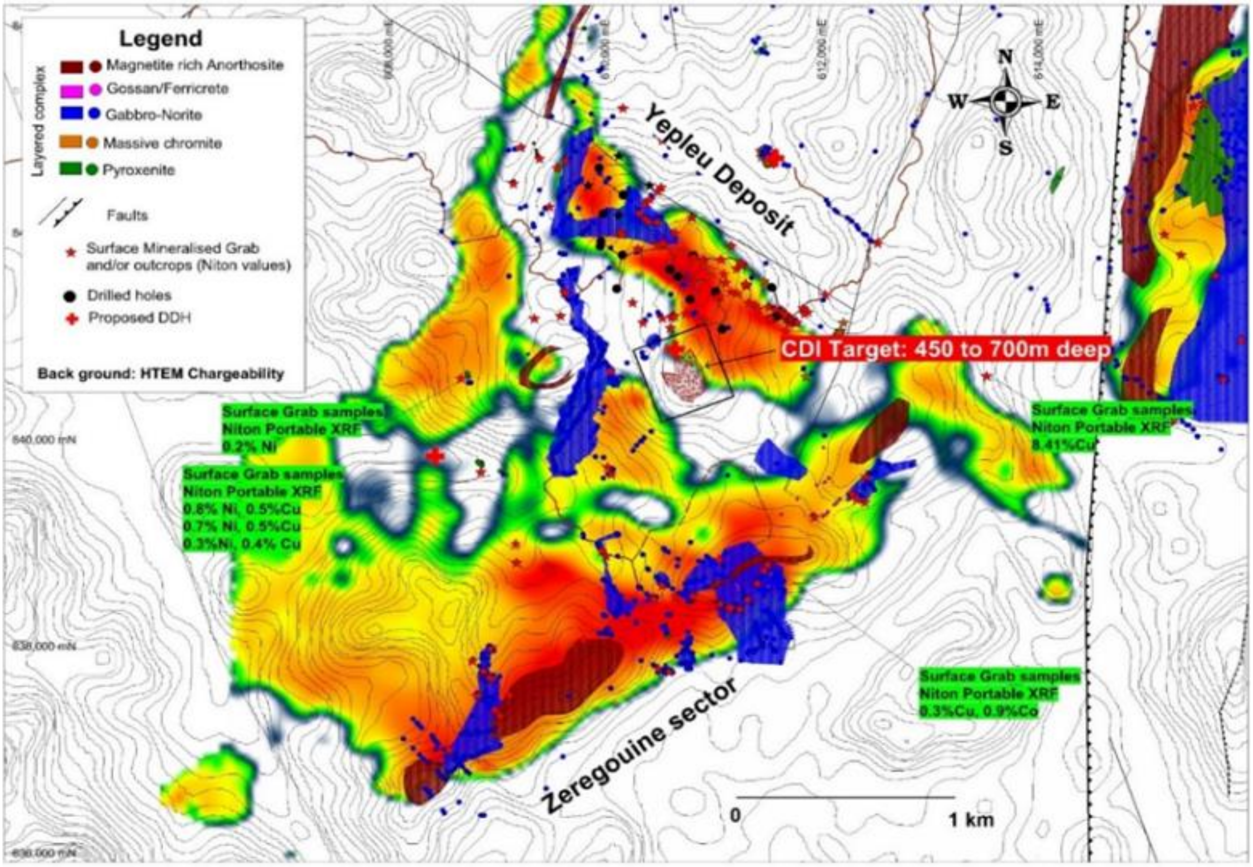


Figure 9-7: Furgo 2013, High-Resolution HTEM Survey - Plot of Conductivity Over Yepleu (SNC, 2015)

In 2012, 59 holes were completed in different areas of PR123 with a portable Pionjar drill. The technique was used as a reconnaissance exploration tool to recover samples over a few tens of metres below the surface, the content of which was determined by a Niton™ portable XRF analyzer. Pionjar drilling is completed with a sampling tube approximately 15 cm long and 2.5 cm in diameter attached to the drill stem. The tube has a side opening through which the material flows as the tool is pushed downward. The last material that enters the sampler is retrieved whenever the rods are pulled out.

Geological mapping performed by SNC's team has identified additional mafic and ultramafic complexes throughout the permit, from which two new sectors were outlined as highly prospective for additional mineralization:

- Within the southwest member of the 2.2-km long host of Extension 1;
- A 1.5-km long structure, the Yorodougou dyke.

A total of 282 km of line cutting was performed by SNC in support of various exploration activities, including geological mapping and geophysical surveying. Since the project area is in a fairly remote and mountainous sector with poor infrastructure, SNC opened more than 350 km of roads in order to provide field crews and drilling equipment with access to various areas of SNC's land package.

9.5 2013 Summary

The detailed interpretation of the 2013 HTEM survey identified more than 20 priority targets for nickel, copper, and palladium exploration (Figure 9-5 to Figure 9-7). HTEM targets have been identified at Main, Extension, and Grata deposits, as well as along a corridor of more than 30 km, oriented northeast to southwest. Mapping has shown that the Samapleu project contains differentiated mineralized intrusions in nickel, copper, cobalt, platinum, palladium and rhodium. This mineralization is analogous to the large known world-class deposits: Noril'sk, Jinchuan, Kabanga, N'Komatie, etc.

Interpretation from the 2013 HTEM geophysical survey delineated numerous areas with high potential for finding accumulations of disseminated to massive polymetallic-rich sulphides. The Company carried out several regional mapping and sampling campaigns as follow-ups on a few of these identified areas.

A soil sampling program over the Yepleu occurrence and the Mossikro prospect was completed in 2013. A total of 821 samples were collected and analyzed with a Niton™ portable XRF instrument. The results for Ni are presented in Figure 9-10, overlaid upon the 2013 HTEM signal.

9.6 2014 Summary

In August 2014, Abitibi conducted a total of 30 line-km of ground InfiniTEM® II ("InfiniTEM") geophysical survey overlaying Main and Extension deposits. InfiniTEM surveys use the ARMIT sensor combining B-field and the dB/dt sensor developed for Abitibi by Dr. James Macnae of the Royal Melbourne Institute of Technology ("RMIT"). Abitibi-RMIT ("ARMIT") has a noise ratio in the same range as a SQUID sensor, is robust and reliable from -40°C to +50°C, and does not require any hazardous cryogenic liquid. ARMIT measures B-field and dB/dt simultaneously, ensuring the detection of a broad range of conductivities:

- B-field for highly conductive targets like massive Ni mineralization;
- dB/dt for poorly conductive targets like disseminated to semi-massive Ni mineralization.

In September 2014, Abitibi completed an InfiniTEM survey of 24 line-km in the newly discovered Yepleu area, located 18 km southwest of the Samapleu deposits (Figure 9-8 and Figure 9-9).

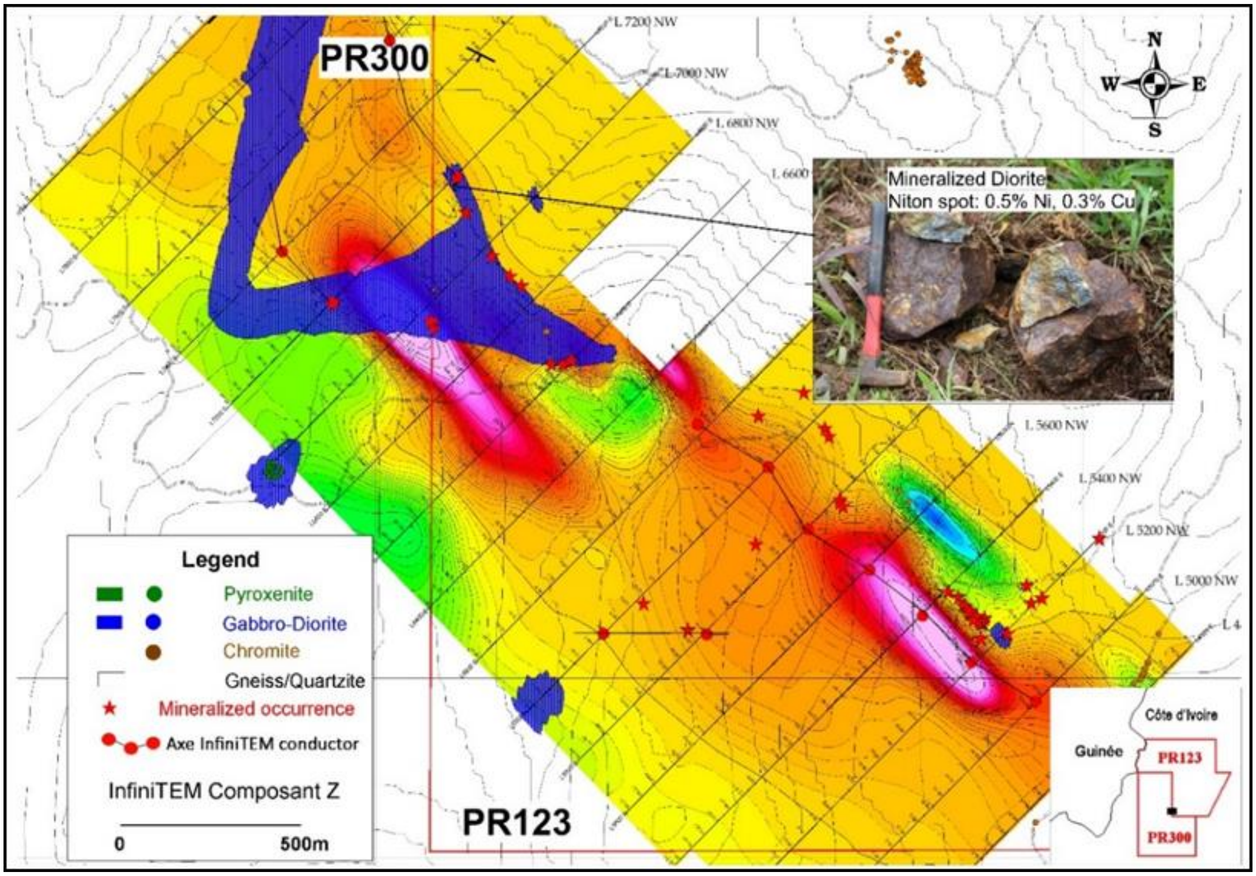


Figure 9-8: Abitibi, InfiniTEM Survey at Yepleu in 2013 (PR123 (PR838) & PR300) (SNC, 2015)

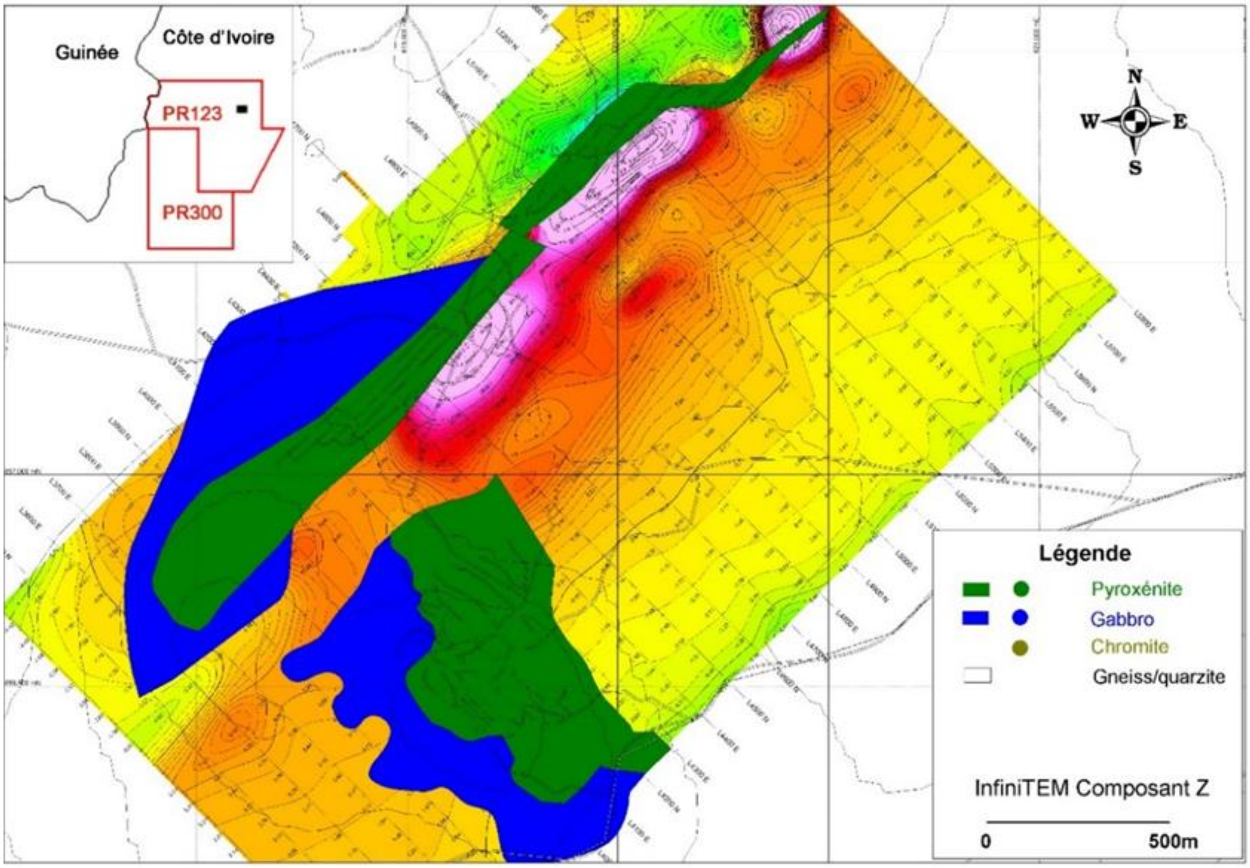


**Figure 9-9: Abitibi, InfiniTEM Survey at Samapleu in 2013 (PR123 (PR838))
(SNC, 2015)**

9.7 2018 Summary

In January and February 2018, Geotech Ltd. completed a 2,889-line-km HTEM survey over the Samapleu and Yepleu areas (PR300). The HTEM survey was flown over the area at 200-line-m spacing, using their VTEM geophysical system. The survey was completed in February 2018 (Figure 9-9 and Figure 9-10).

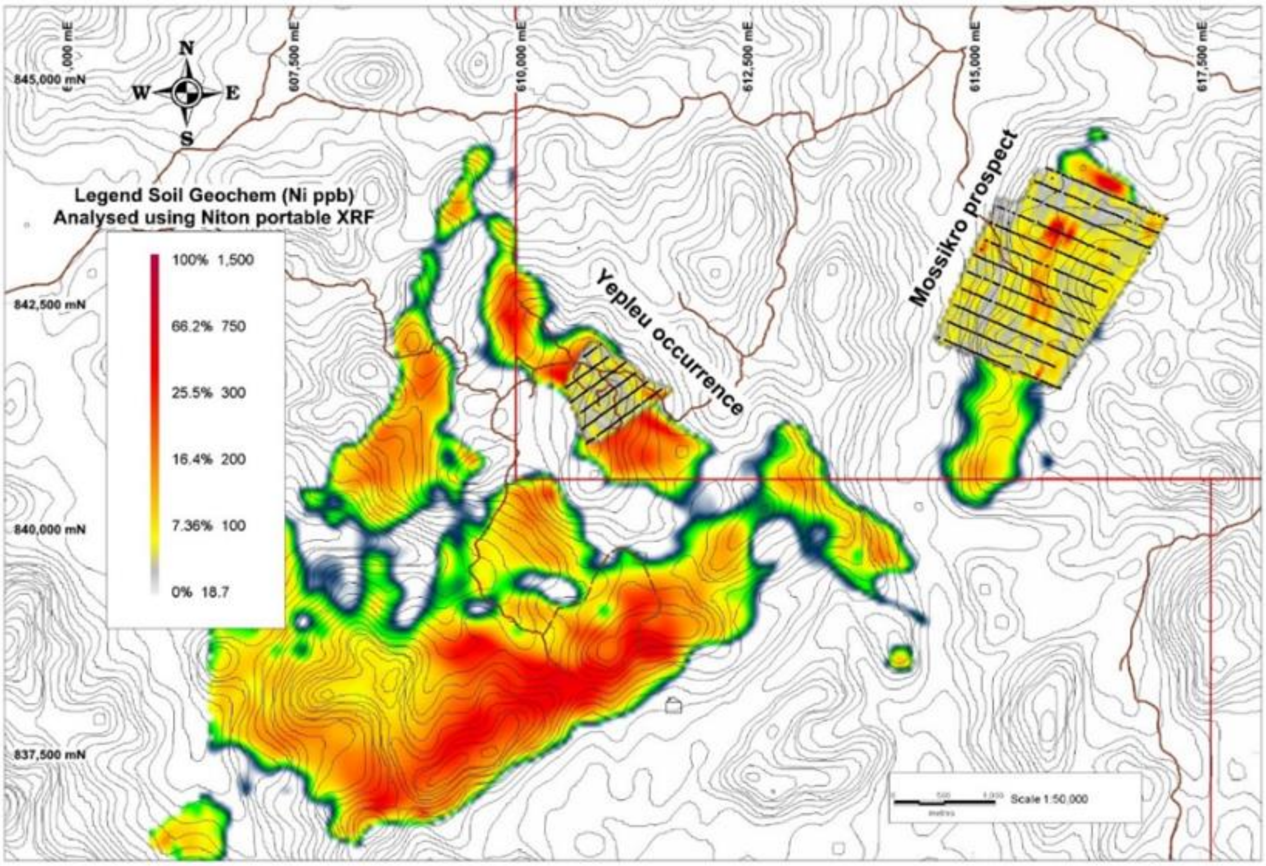


Figure 9-10: Soil Sampling Program at Mossikro and Yepleu Overlain upon the Interpreted HTEM Conductivity Signal (SNC, 2015)

From January to March 2018, the Company mandated Geotech Ltd. for a VTEM survey as a complement to the 2013 HTEM survey. The VTEM survey was flown at 200-line-m spacing and covered the prospective Yepleu sector as well as sectors that were not covered by the previous HTEM survey flown by Fugro in 2013 (Figure 9-11 and Figure 9-12).

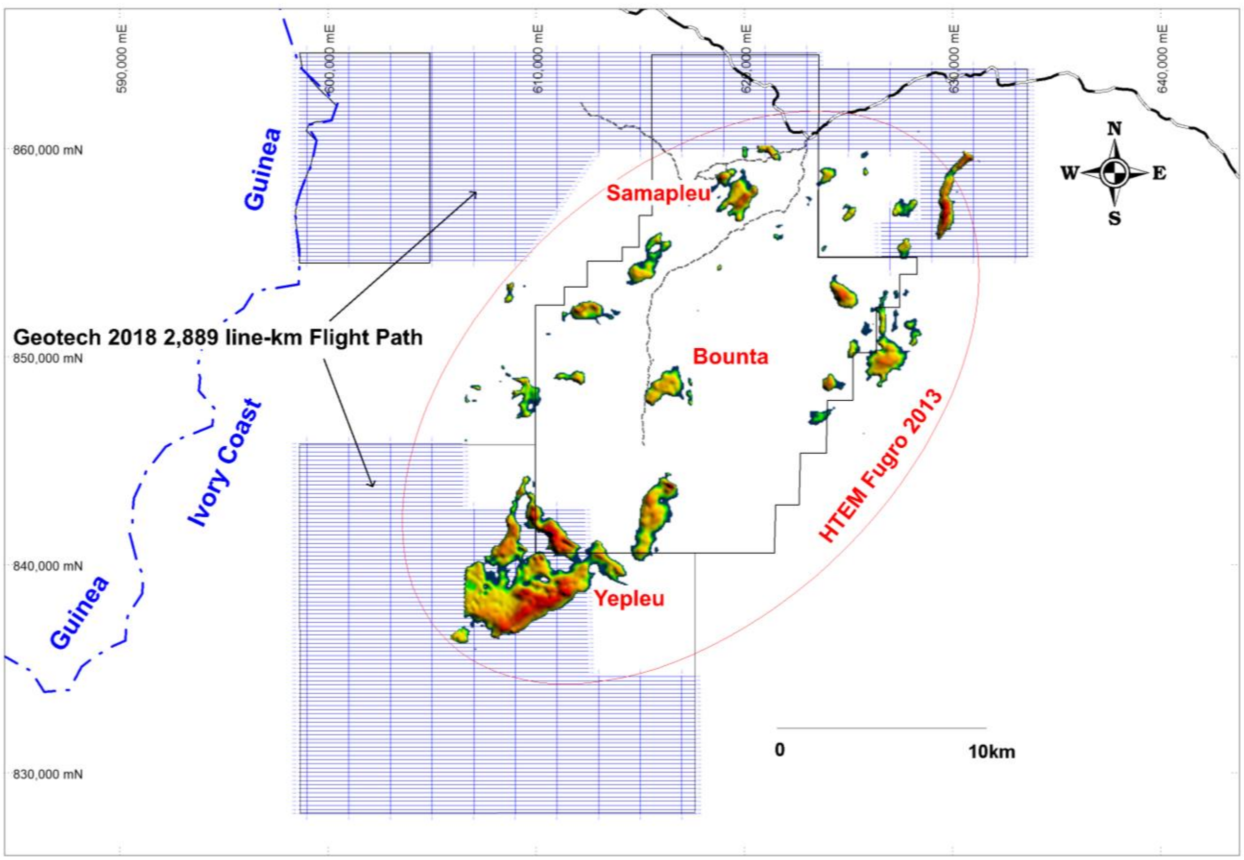


Figure 9-11: Geotech Ltd., 2018 VTEM Flight Line
(SNC, 2018)

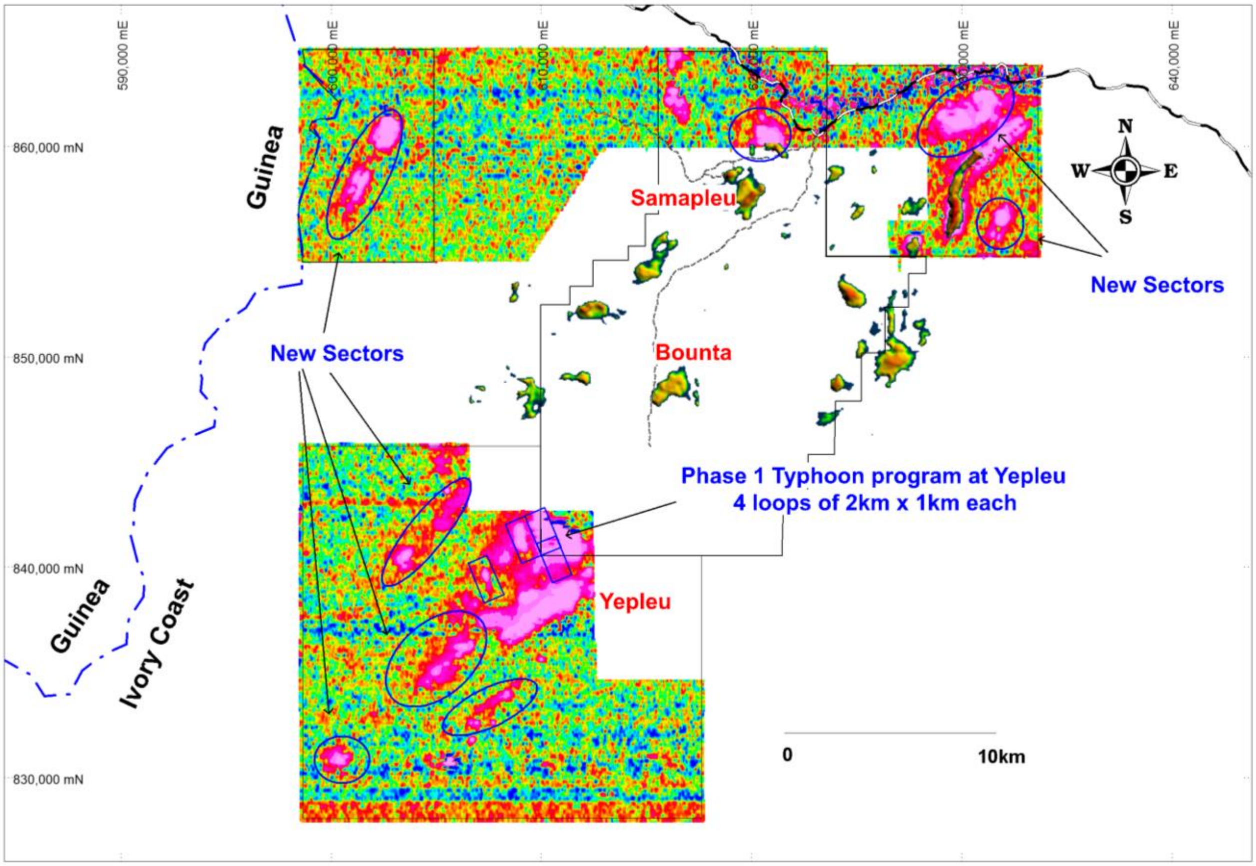


Figure 9-12: 2018 VTEM Compilation and Location - Phase 1 2018 Typhoon™ Program at the Yepleu Sector (SNC, 2018)

9.8 2019 – 2020 Summary

In August 2019, the Company launched the Phase 1 Typhoon™ electromagnetic geophysical survey at the Yepleu areas. The Typhoon™ survey was planned to follow the positive results from the 2,889-line-km HTEM survey completed in February 2018 over the Samapleu and Yepleu areas with Geotech's VTEM. Subsequently to the Typhoon™ Phase 1 program, the Company performed additional Typhoon™ surveys at the Main and Extension deposits and on a few other surface prospects (Figure 9-13). A total of 70 km within 12 loops across four areas (Sama, Grata, Bounta, and Yepleu) was completed.

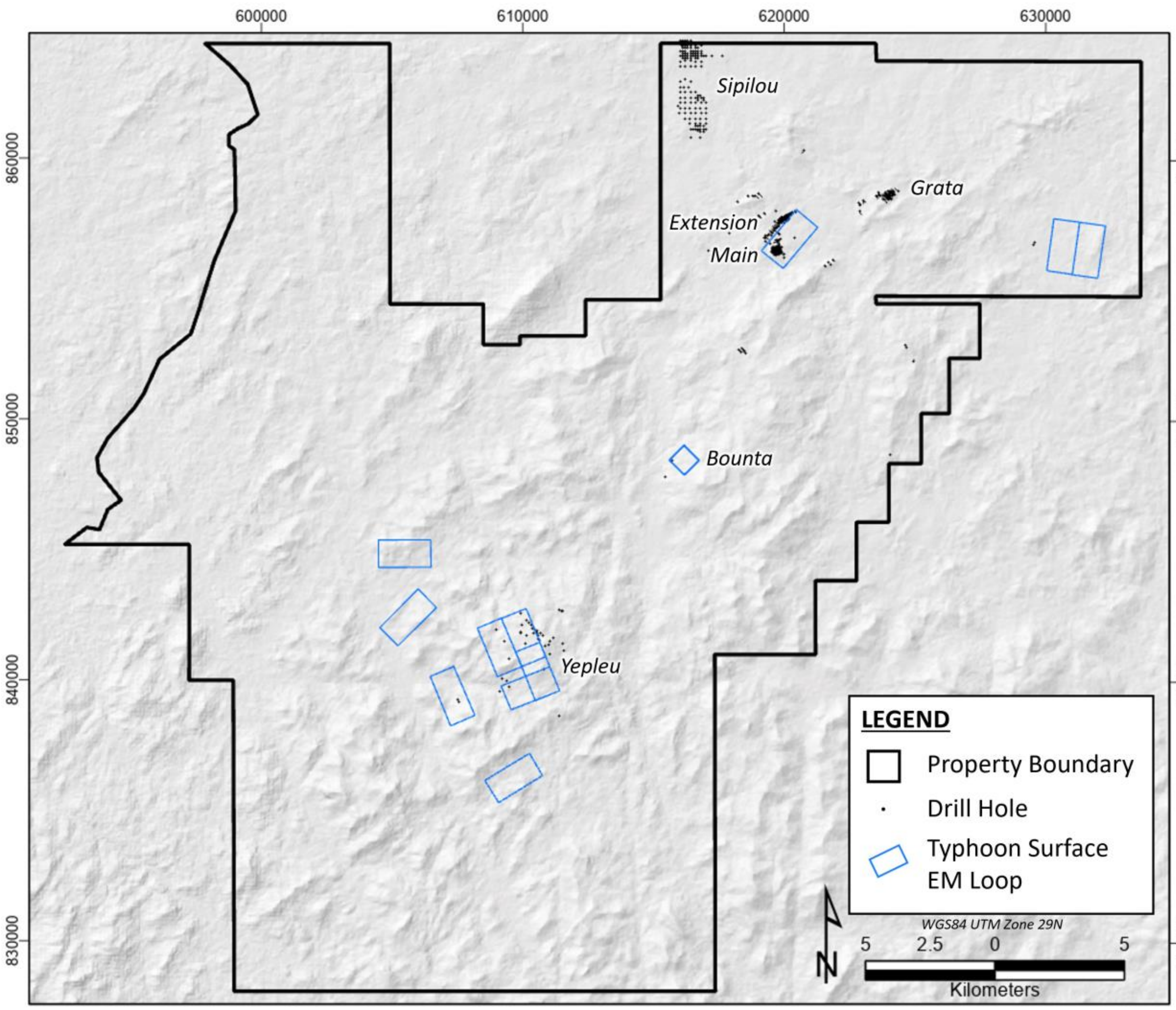


Figure 9-13: Location of 2019 and 2020 Typhoon™ Surveys
(SNC, 2020)

10. Drilling

The first SNC 2010-2012 drilling programs were contracted to Orex Africa SARL of Abidjan, using a track-mounted YDX-3L wireline drill rig. SNC purchased a Coreteck track-mounted CSD1300G wireline drill rig in January 2013, followed by another in 2014. Since then, most of the drilling activities have been performed internally. In November 2018, SNC contracted Capital Drilling for deep-hole drilling (+700 m long) at the Yepleu prospect. In August 2019, the Company purchased a new Coreteck SCD3000 drill rig, allowing drilling down to 1,500 m from the surface. In June 2022, SNC contracted Foraco Drilling, based in Abidjan, to supply two drill rigs for six weeks at the Grata property. These two rigs were in addition to the three SNC-owned rigs already in operation.

Figure 10-1 to Figure 10-4 illustrates a compilation of boreholes drilled to date per sector. SNC drilled 516 boreholes for a total of 84,587 m from July 2010 to February 2024. Table 10-1 provides a detailed compilation.

Table 10-1: Drilling Programs from July 2010 to February 2024

Area	Drilling Contractor		SNC Drilling		Total Length
	Borehole	(m)	Borehole	(m)	(m)
Main & Extension	148	21,438	71	17,499	**38,937**
Yepleu	6	4,993	81	15,338	20,331
Bounta	-	-	2	933	**933**
Sipilou Sud Laterite	80	2,683	55	1,812	**4,495**
Grata	18	5,704	30	10,132	**15,836**
Draba	-	-	2	306	**306**
Regional	22	3,117	1	642	**3,758**
Total	**274**	**37,935**	**242**	**46,662**	**84,596**

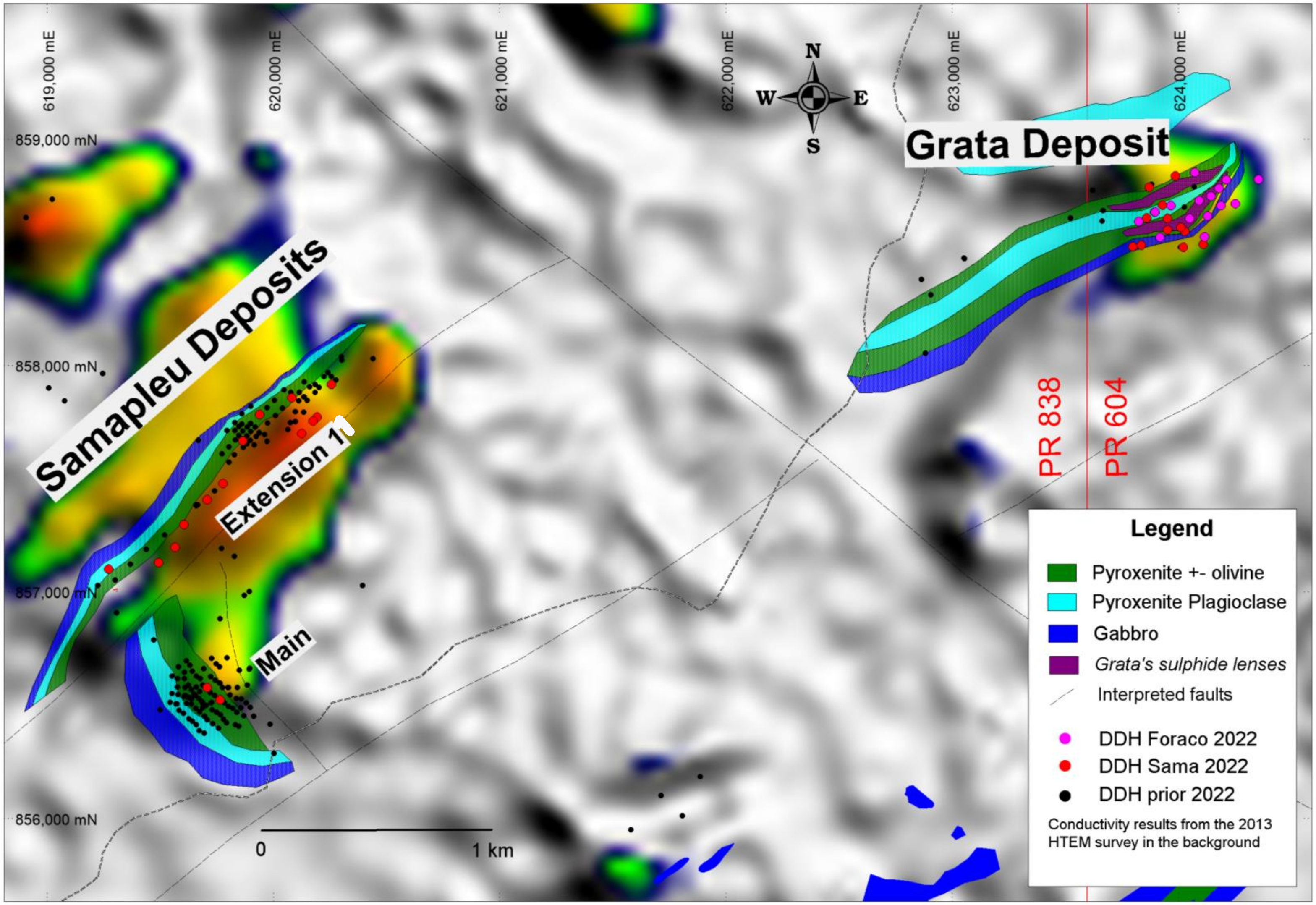


Figure 10-1: Samapleu and Grata Deposits – Drill Holes Location and Geology

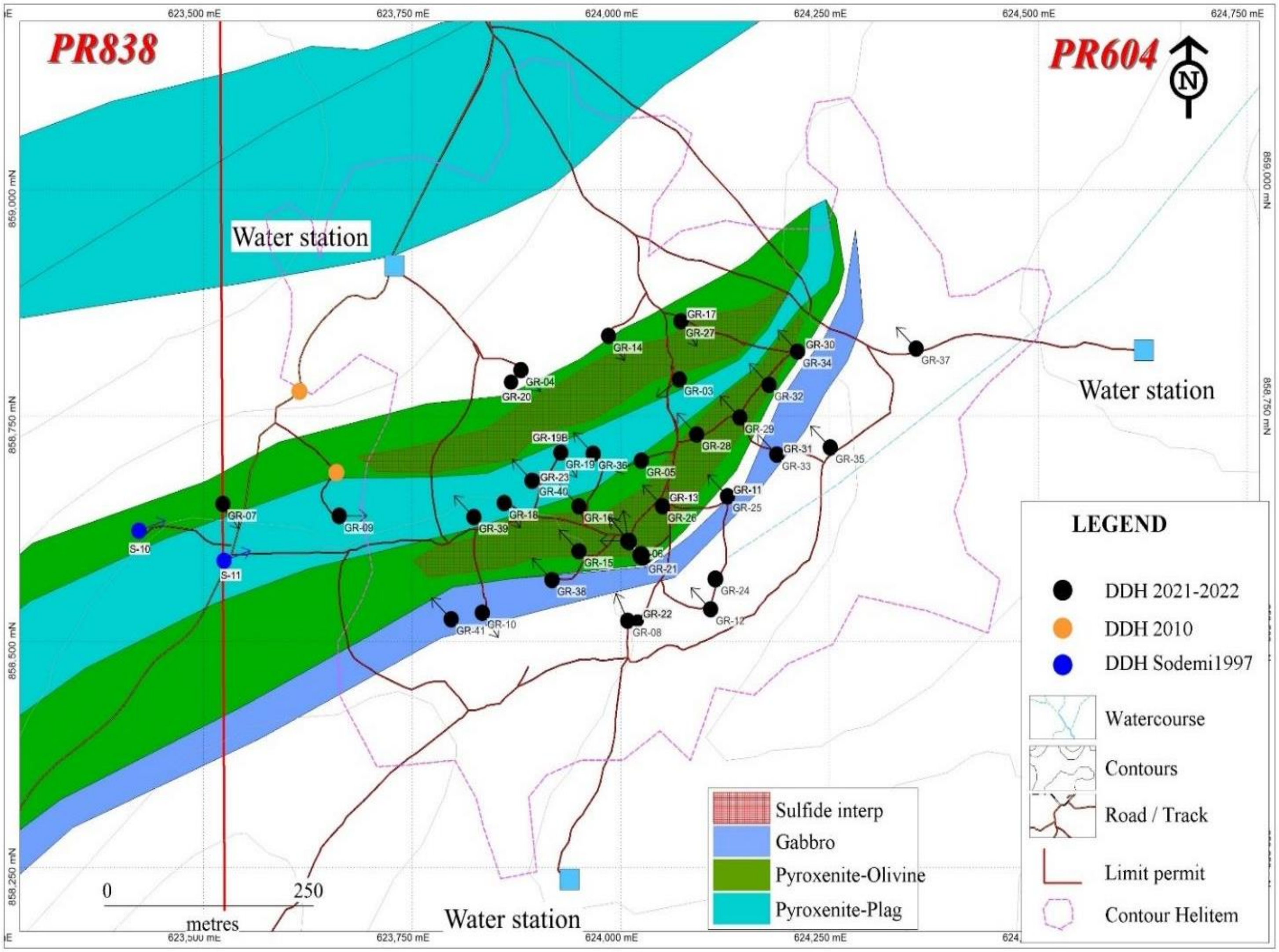


Figure 10-2: Grata – Drill Holes Location and Geology

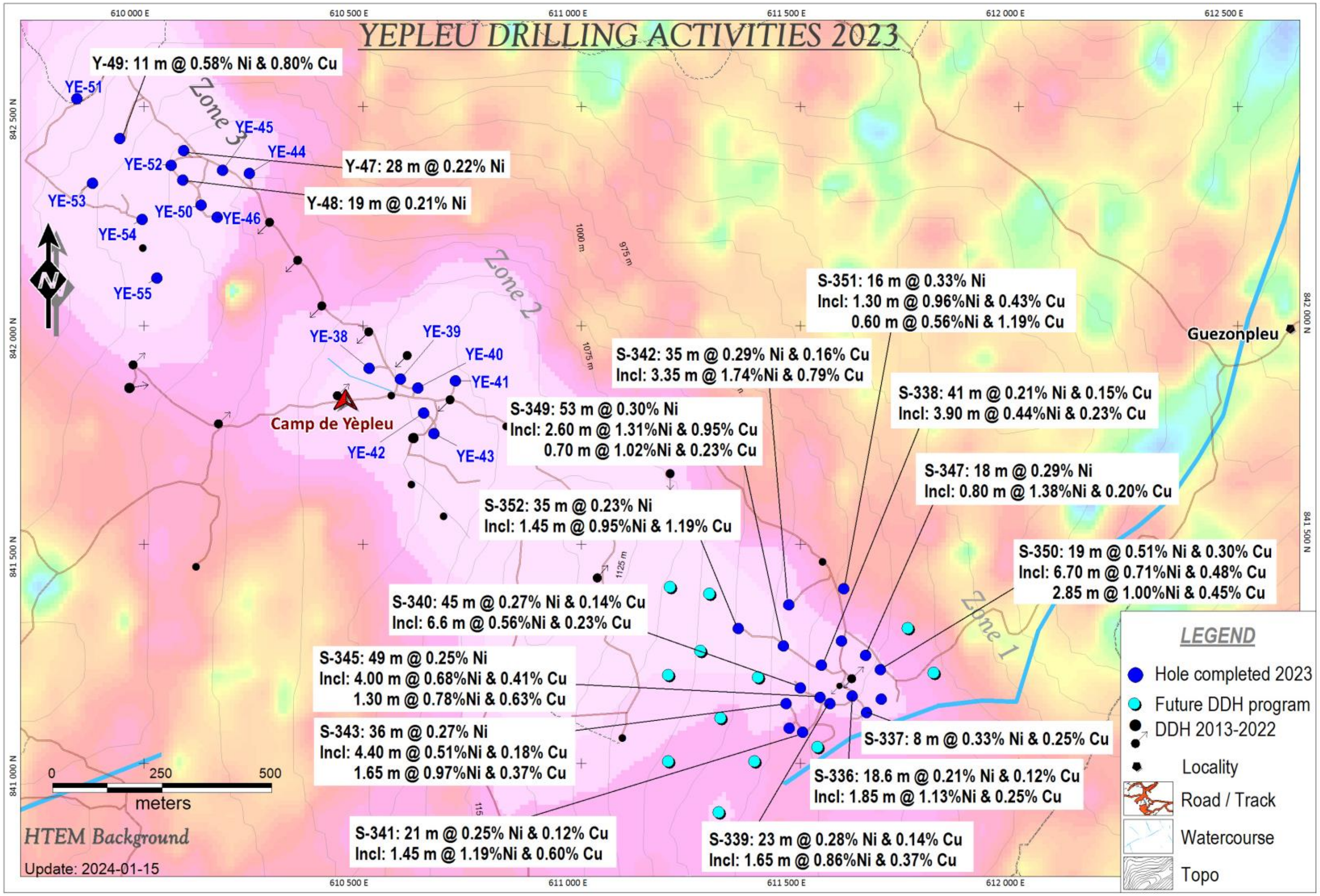


Figure 10-3: Yepleu Occurrence – Surface Map Showing the Completed Drill Holes and the 2013 HTEM Conductivity

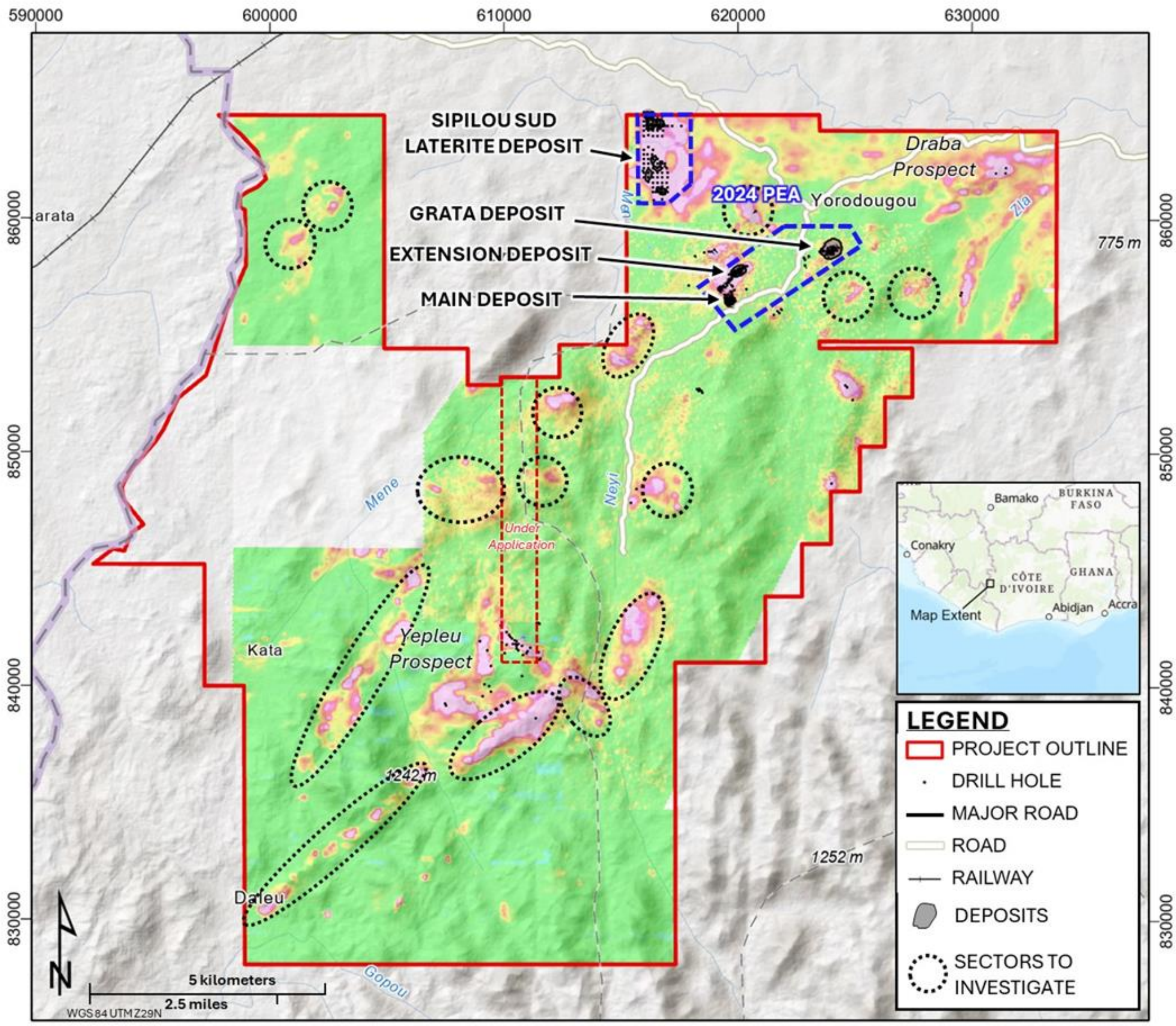


Figure 10-4: Drilling at Sipilou Sud, Samapleu, Grata, Yepleu, Draba and Regional (HTEM data in background) (SNC, 2024)

10.1 Drilling Campaigns

The project is considered an advanced property with a preliminary economic assessment and is therefore not subject to Item 10 © for NI 43-101F1.

10.1.1 2010-2012 Drilling Programs

SNC's 2010-2012 drilling programs were contracted to Orex Africa SARL of Abidjan, Côte d'Ivoire. A track-mounted YDX-3L wireline drill rig was used.

Three drilling programs were carried out. First between March 2010 and the end of July 2010, then from November 2010 to November 2011, and last from May 2012 to December 2012.

Table 10-2 provides details on these drilling programs.

Table 10-2: Summary of Drilling in 2010-2012

Area	Target	Drill Holes	Total Length (m)
PR123	Main & Extension	115	17,643
	Sipilou Sud	80	2,683
	Regional	24	3,407
	Total 2010-2012	**219**	**23,733**

SNC performed a total of 219 boreholes for a total of 23,733 m from March 2010 to December 2012.

A total of 72 holes for 10,635 m were drilled at the Main deposit, 43 holes for 7,008 m were drilled at the Extension deposit, and 80 boreholes for 2,683 m were done at the Sipilou Sud laterite deposit located 4.5 km NW of the Samapleu deposits.

10.1.2 2013 Drilling Program

In January 2013, SNC purchased its first Coreteck track-mounted CSD1300G wireline drill rig, followed by a second one in 2014. Since then, all the drilling has been performed internally.

Between January and December 2013, 14 holes were drilled for 2,721 m at Extension, five holes were drilled for 952 m at the Santa target area, and 17 holes were drilled at the newly discovered Yepleu target.

Table 10-3: Summary of Drilling in 2013

Area	Target	Drill Holes	Total Length (m)
PR123-300	Extension	14	2,721
	Yepleu	17	2,937
	Santa	5	952
	Total 2013	**36**	**6,610**

10.1.3 2014 Drilling Program

SNC drilled eight holes between January and December 2014 (Table 10-4).

Table 10-4: Summary of Drilling in 2014

Area	Target	Drill Holes	Total Length (m)
PR123-300	Main & Extension	5	2,525
	Yepleu	3	1,105
	Total 2014	**8**	**3,630**

SNC drilled 13 holes between March and November 2015 (Table 10-5).

Table 10-5: Summary of Drilling in 2015-2016

Area	Target	Drill Holes	Total Length (m)
PR123-300	Main & Extension	6	856
	Yepleu	4	825
	Regional	3	790
	Total 2015-2016	**13**	**2,473**

10.1.4 2017-2019 Drilling Programs

SNC drilled 45 holes during the period from July 2017 to August 2019 (Table 10-6)

Table 10-6: Summary of Drilling in 2017-2019

Area	Target	Drill Holes	Total Length (m)
PR838-300-604	Main & Extension	38	4,403
	Yepleu	6	4,993
	Bounta	1	376
	Total 2017-2019	**45**	**9,772**

10.1.5 2019-2024 Drilling Programs

SNC drilled 191 holes during the period from September 2019 to February 2024 (Table 10-7).

A total of 174 holes were drilled with SNC's drill rigs and 17 holes were performed by Foraco-CI at the Grata deposit.

A total of 55 holes were drilled with SNC's drill rigs at the Sipilou Sud laterite deposit.

Table 10-7: Summary of Drilling in 2019-2024

Area	Target	Drill Holes	Total Length (m)
PR838-300-604	Main & Extension	29	8,365
	Yepleu	58	14,536
	Grata	26	8,735
	Gra–a - Foraco	17	5,466
	Bounta	1	557
	Sipilou Sud	55	1,812
	Draba	2	306
	Regional	3	899
	Total 2019-2024	**191**	**40,676**

10.2 Borehole Naming Convention

The system adopted by SNC to identify drill holes primarily consists of subdividing the entire area in blocks of 800 m x 800 m based on UTM coordinates. The borehole names are formed using a 10-digit alphanumeric number as per the following templates: SMWW-XXXYYY and SSWW-XXXYYY. The first two letters, 'SM', represent the Samapleu deposits prospect area within PR838; 'SS' represents the Sipilou Sud laterite deposit area within PR838; 'WW' represents the block number; 'XXX' and 'YYY' represent the distance going east from the specific block's top left corner and the measure going south from the block's top left corner. This system links the borehole name to its exact position in the field to the closest metre. For example, hole SM44-423357 is located in block 44, 423 m east and 357 m south of the upper left corner.

In addition to the above naming convention for boreholes, each hole receives a unique sequential number related to the area drilled.

10.3 Methodology

SNC's geologists used a GPS to locate and peg the drill holes and align the rig on pre-prepared drill pads. In addition to site levelling, drill pad preparation also involved hand-digging unlined sumps to capture and store return waters.

The rigs were equipped to retrieve NQ-sized core (47.6 mm diameter) through the entire length of the boreholes. The depth of weathering typically ranged from a few metres to 45 m. Upon completion of the hole, the steel casing was extracted and a 3-m long casing rod was left to keep the hole open for possible borehole survey or re-entry. The drill holes are marked with concrete monuments inscribed with the drill hole number, the orientation and the length of the hole.

A geologist is permanently present at the drill site to supervise the drilling operations, close the holes, and ensure proper placing of the core and the depth markers into the boxes. In addition, the geologist is responsible for measuring the core recovery, recording the core runs and marking the core boxes. The soft core is immediately wrapped in thick plastic to retain its humidity until the density measurements are completed.

The core boxes are securely closed and transported to the camp by Sama's personnel, thus preserving the chain of custody. Eventually, the boxes are clearly identified by an embossed aluminium strip stapled on the end plate of the boxes.

The drill sites were reclaimed upon completion of the drilling. All refuse, or surplus material was removed, all water sumps were filled in, and the site was levelled. The site was then inspected by a geologist/technician and the driller's foreman. A detailed environmental inspection checklist was completed and photographs were taken to record the site's reclamation.

10.3.1 Collar Survey

SNC commissioned Envi Tech Surveyors from Abidjan, in 2019 and in 2022, to survey the borehole collars. Several topographic control points were established for future collar surveys. Additional holes were surveyed in 2023.

10.3.2 Downhole Survey

Downhole deviation for each drill hole was measured using a Flexi MultiMate survey tool. When the downhole tool was not operational, an estimated deviation was applied to the hole to account for potential deviation.

10.4 Core Logging and Sampling Procedures

Core logging and sampling were performed at SNC's Yorodougou facility. Internationally accepted procedures and standards were applied by SNC's technical team.

Digital photographs of the core were taken, and the core recovery, RQD, and basic geotechnical information, as well as the geological and structural elements, were recorded in the drill logs. Three magnetic susceptibility readings were taken at 1 m intervals, and the samples for density determination were selected.

Logging was done in handwritten format and all the information was transferred to Excel spreadsheets. This method provides duplicate records of all logging and sampling information and facilitates data verification and validation. SNC believes that these advantages outweigh the additional time required to copy the data.

Nominal sample intervals were 1.0 m and 1.5 m, but were adjusted, generally between 0.3 m and 2.0 m, to respect lithological contacts or abrupt changes in mineralization. The geologists marked a reference line on the core prior to sampling to ensure that the samples were cut perpendicularly to the fabrics.

The soft core was cut in two with a spatula and the hard core was split using a diamond blade saw. The contacts between the samples were cut with the rock saw and the operator of the saw cut the core along the line drawn by the geologists.

One half of the core was placed into a polyethylene bag with a sample tag and sent to the laboratory for analysis, while the other half was carefully placed into the core boxes, with the arrow drawn by the geologist always pointing down the hole, for future reference. The paper sample tags were stapled to the boxes at the end of the sample intervals. Sample books with pre-recorded, unique sequential numbers and tags reserved for QC samples at pre-determined locations were used by SNC.

10.5 Qualified Person's Opinion

The QP is of the opinion that the drilling and logging procedures put in place by SNC/Sama meet acceptable industry standards and that the information can be used for geological and resource modelling.

11. Sample Preparation, Analysis and Security

Since exploration started in 2010, SNC sent a total of 28,196 core samples for analysis and a total of 2,223 samples as quality assurance/quality controls ("QA/QC") for approximately 7.8% of the total. An additional 1,208 samples were sent for check assays to secondary laboratories.

From 2010 to 2012 and during the initial phase of drilling, all core samples were analyzed at the SGS Laboratory in South Africa (SGS RSA) for the 2010 first phase drilling and at either Bureau Veritas Mineral Laboratories ("Veritas") laboratory in Australia or in South-Africa for the 2011-12 second phase drilling program. From 2013, all core samples were analyzed by Activation Laboratories Ltd. ("Actlabs"), headquartered in Ancaster, Ontario, Canada. Actlabs is independent from SNC/Sama and SRQ (Sama Resources Inc., Québec). Its services were retained by SNC on a contractual basis for the sole purpose of analyzing the samples collected at the Samapleu and Grata Project.

Actlabs has been assessed by the Standards Council of Canada ("SCC") and found to conform with the requirements of ISO/IEC 17025:2017 and the conditions for accreditation established by SCC, and therefore was recognized as an "Accredited Testing Laboratory" as of February 27, 1998 (most recently re-accredited on March 19, 2022). The accreditation is valid through February 26, 2026. The scope of the accreditation includes, but is not limited to, the following tests which were performed on the 24 samples: QOP PGE-OES (Fire Assay ICP-OES), and QOP INAAGEO/QOP Total (INAA/Total Digestion ICP-OES).

Core samples were analyzed by Actlabs using Fire Assay finish ICP-OES for palladium, platinum and gold, and INAA/total digestion finish ICP-OES for the other elements (nickel, copper, cobalt, iron, and sulfur). In addition to Sama's inserted QA/QC samples, Actlabs performed their own QA/QC with inserted blanks, standards and duplicates. The QA/QC was performed per the internal controls of Actlabs and yielded satisfactory results.

11.1 Core Logging and Sampling

Since 2010, core logging and sampling have been performed at SNC's facility in Yorodougou village. SNC's technical team applied internationally accepted procedures and standards.

Core handling and processing involved the following steps:

- The core was placed in clearly marked 4 m wooden boxes;
- The core was secured and transported to the Yorodougou base camp;
- The core was photographed;
- Geological logging;
- Bulk density measurements were taken;

- Magnetic susceptibility measurements were taken every metre;
- The core was marked and sampled;
- The retained core was stored in an on-site core storage facility.

Digital photographs of the core were taken, and the core recovery, RQD, and basic geotechnical information, as well as the geological and structural elements, were recorded in the drill logs. Three magnetic susceptibility readings were taken at 1 m intervals, and the samples for density determination were selected.

Logging was done in handwritten format and all the information was transferred onto Excel spreadsheets. This method provides duplicate records of all the logging and sampling information and facilitates data verification and validation. SNC believes these advantages outweigh the additional time required to copy the data.

Nominal sample intervals were 1.0 m and 1.5 m, but were adjusted, generally between 0.3 m and 2.0 m, to respect lithological contacts or abrupt changes in mineralization. The geologists marked a reference line on the core before sampling to ensure the samples were cut perpendicularly to the fabrics.

The soft core was cut in two with a spatula and the hard core was split using a diamond blade saw. The contacts between the samples were cut with the rock saw and the operator cut the core along the line drawn by the geologists.

One half of the core was placed into a polyethylene bag with a sample tag and sent to the laboratory for analysis, while the other half was carefully placed into the core boxes, with the arrow drawn by the geologist always pointing down the hole, for future reference. The paper sample tags were stapled to the boxes at the end of the sample intervals. Sama used sample books with pre-recorded, unique sequential numbers and tags reserved for QC samples at pre-determined locations.

11.2 Density Determination

Density determination was performed by SNC's geologists using the immersion method. This was completed in a dedicated room where the equipment is protected from disturbances, notably drafts blowing onto the scale. The immersion method is appropriate for determining the in situ density of rocks.

SNC's protocol calls for a determination of wet (moisture percent) and dry densities on visually mineralized and barren samples. Full core stubs of about 10 cm to 15 cm are used for the determinations. Once this is done, the core is split, and one half is returned to the original locations in the core boxes with a piece of flagging tape stapled to the boxes to identify them.

Frequent calibration of the scale took place and measurements of a standard were taken for every five samples, but the results were not recorded.

11.3 Preparation and Analysis

Sample preparation for the 2010-2012 Phase 1 drilling program was performed at the *Société de Développement de Gouessesso* ("SODEGO") facilities in Gouessesso village (Figure 11-1). Thereafter, sample preparation was conducted by Veritas in Abidjan.

The samples from the different drill programs were analyzed by independent, certified laboratories in Australia, South Africa and Canada, as summarized in Table 11-1.

Figure 11-1: Sample Preparation at SODEGO in 2011

All the laboratories used the same analytical technique based on the fusion of the sample followed by inductively coupled plasma optical emission spectroscopy ("ICP-OES") analysis for the major elements (Ni, Co, Cu,). The samples are fused with sodium peroxide, the melt is dissolved in hydrochloric acid, and the resulting solution is analyzed. The electromagnetic emission spectra of a sample serve to identify and quantify the elements present.

The precious metals (Au, Pt and Pd) were determined by fire assay with an OES analytical finish. Actlabs used 30-g aliquots for the fire assays.

Table 11-1: Summary of the Laboratories, Accreditation, and Analytical Methods

Drill Program	Sample Preparation	Analytical Laboratory	Analytical Methods	Accreditation
Phase 1 2010-12	SODEGO	SGS RSA via SGS RSA in Yamoussoukro	▪ Peroxide fusion & ICP-OES (Ni, Co, Cu, etc.); ▪ Fire assay & ICP-OES for Pt, Pd, Au.	ISO 17205
Phase 2 2012-14	SODEGO	Ultra Trace Pty Ltd. ("UT"), Perth, Australia via Veritas, Abidjan	▪ Sodium peroxide fusion & ICP-OES (Ni, Co, Cu, Fe, S, Pt, Pd, Rh).	Veritas: ISO 900 :2008 (certificate FS 34143); UT: ISO/IEC 17025 : 2005 (Accreditation 14492)
June to September 2012	Veritas, Abidjan	Veritas, Rustenburg, South Africa; Some samples re-analyzed at UT-Veritas		Rustenberg: South African National Accreditation System ("SANAS") and ISO/IEC 17025: 2005 (No. T0551).
2014-22	Actlabs	Actlabs, Ancaster, Ontario, Canada	▪ Sodium peroxide fusion & ICP-OES (Ni, Cu, Co, Fe, S); ▪ Fire assay & ICP-OES for Pt, Pd, Au.	ISO 17025 (Lab 266) and ISO 9001: 2008

11.4 Security – Chain of Custody

Core handling was under SNC's control from the drill site, where the geologists supervised the operations to the Yorodougou base camp where the core boxes were transported at the end of each shift, and the samples were transported to the laboratory by SNC, thus preserving constant chain of custody.

Once logging and sampling were completed, the boxes were safely stored in a secured warehouse at Yorodougou, with the coarse rejects and pulps returned from the laboratories. Before use, the core boxes had been soaked in a solution to protect them from wood-eating termites.

11.5 QA/QC Protocol by SNC

As required by NI 43-101, SNC used a quality control system to monitor laboratory performance, in addition to the internal QA/QC system enforced by the laboratories. SNC inserted a total of 1,910 standards, blanks and duplicates as quality control samples into the batches of core samples at an approximate interval batch of every 20 samples, representing approximately 6% of the assay database (Table 11-2). The proportion of SNC's QC samples relative to the core samples is adequate for a Ni-Co project and in line with industry standards.

Table 11-2: Summary of the QC Samples Used by Sama

Drilling Period	No. of Standards	Standard Material	No. of Blanks	Blank Material	No. of Duplicates
2010-2023	855	▪ In-house pulp (2010-2012) ▪ OREAS 73A and 73B ▪ OREAS 680 ▪ OREAS 182 (laterite) ▪ OREAS 186 (laterite)	422	▪ Quartz-feldspar ▪ Commercial blank ▪ Quartz vein	633

A total of 784 check samples were submitted to SGS Lakefield covering the 2020-2022 drilling campaign, representing approximately 5% of the batch of samples collected during that period. SNC agreed that the check assays demonstrate an acceptable precision in the repeatability of the assays.

The QA/QC program (blanks, CRM standards, and duplicate samples) conducted by SNC performed well and was considered to be satisfactory.

11.5.1 Blanks

A total of 422 blank samples were inserted into the sample stream from 2010 to 2023 at an approximate interval of every 60 samples as part of its QA/QC process, representing approximately 1.3% of all analyzed samples.

In-house quartz-feldspar, quartz vein and certified commercial blanks were used. Overall the blanks performed well, with analyzed values below three times the detection limit (failure limit), shown in Figure 11-2. A total of 11 blanks were above this threshold, representing a 2.6% failure rate. This does not impact the current assessment.

The assay results from blank samples were considered to be satisfactory.

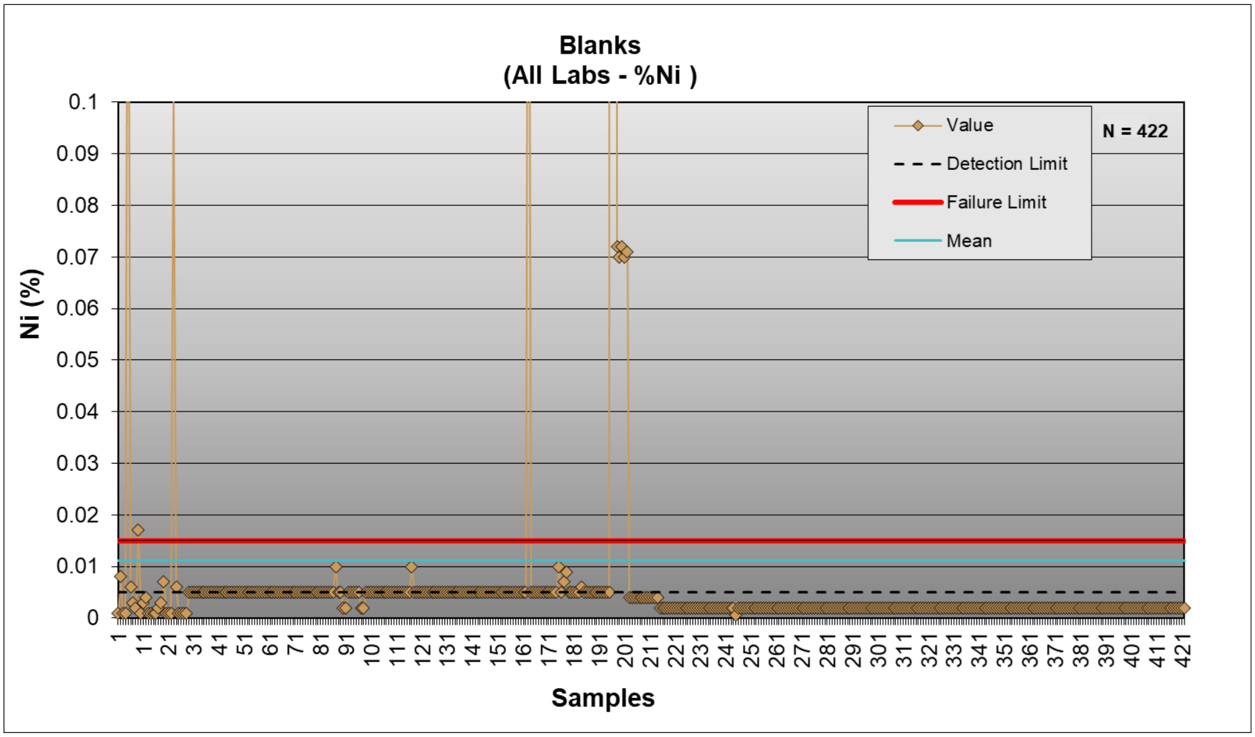


Figure 11-2: 2010-2023 Nickel Blanks

11.5.2 Standards

Since the project began in 2010, 855 standards have been used, representing approximately 2.7% of all analyzed samples.

From 2010 to 2012, during the initial drilling phase of the project, in-house standards ("SGS RSA" and "UT-Veritas") totalled 117. From 2012 to 2023, only the five pre-prepared pulp standard materials purchased from OREAS® (Ore Research & Exploration Assay Standards, "OREAS"), Perth, Australia, totalled 738.

OREAS 73A, OREAS 73B and OREAS 680 were prepared by Ore Research & Exploration P/L, Australia, from high nickel sulphide ore. Those certified reference materials ("CRMs") provide the certified value for 40 elements determined by Fusion-ICP analysis, some of which are described in Table 11-3.

OREAS 182 and OREAS 186 were prepared by Ore Research & Exploration P/L, Australia, from nickel laterite ore. Those CRMs provide the certified value for twelve elements and compounds determined by Fusion-XRF analysis, some of which are described in Table 11-4. These CRMs were used during the Sipilou Sud laterite drilling program.

CRM results are summarized in Table 11-5. Examples of process charts for an In-house and pre-prepared pulp OREAS standard are shown in Figure 11-3 and Figure 11-4.

Table 11-3: CRM OREAS 73A, OREAS 73B and OREAS 680 Reference Summary Statistics

Constituent (Selected)	Certified Values (OREAS 73A, Sodium Borate Fusion & ICP)		
	Certified Value (%)	95% Confidence Level	
		Low (%)	High (%)
Ni	1.44	1.39	1.48
Cu	0.915	0.0861	0.097

Constituent (Selected)	Certified Values (OREAS 73B, Sodium Borate Fusion & ICP)		
	Certified Value (%)	95% Confidence Level	
		Low (%)	High (%)
Ni	1.50	1.47	1.52
Cu	0.0439	0.042	0.0459

Constituent (Selected)	Certified Values (OREAS 680, Sodium Borate Fusion & ICP)		
	Certified Value (%)	95% Confidence Level	
		Low (%)	High (%)
Ni	2.15	2.13	2.18
Cu	0.904	0.896	0.912

Table 11-4: CRM OREAS 182 and OREAS 186 Reference Summary Statistics

Constituent (Selected)	Certified Values (OREAS 182, Sodium Borate Fusion & XRF)		
	Certified Value (%)	95% Confidence Level	
		Low (%)	High (%)
Ni	0.707	0.702	0.713
Co	0.0728	0.0743	0.0743

Constituent (Selected)	Certified Values (OREAS 186, Sodium Borate Fusion & XRF)		
	Certified Value (%)	95% Confidence Level	
		Low (%)	High (%)
Ni	1.23	1.22	1.24
Co	0.0692	0.0681	0.0702

Table 11-5: SNC CRM Result Summary

Standard	Element	No. of Samples	Expected value	Accuracy (%)	Precision (%)	No. of Outliers	Outliers (%)	Comments
In-house SGS RSA	Ni (%)	52	0.2335	-0.2	10.7	0	0	
	Cu (%)	52	0.1198	-2.5	11.2	1	1.9	
In-house UT-Veritas	Ni (%)	21	0.1298	85.3	3.5	0	0	
	Cu (%)	21	0.114	1.1	3.7	0	0	
OREAS 73A	Ni (%)	232	1.44	-0.9	1.6	6	2.6	
	Cu (%)	232	0.0915	-2.3	2.5	5	2.6	
OREAS 73B	Ni (%)	252	1.50	0.4	1.9	14	5.6	
	Cu (%)	252	0.0439	1.2	2.9	6	2.4	
OREAS 680	Ni (%)	204	2.15	0.7	1.7	4	2.0	
	Cu (%)	204	0.904	1.1	2.7	0	0	
OREAS 182	Ni (%)	18	0.707	-0.7	1.1	0	0	Laterite
	Co (%)	18	0.0728	2.9	0.8	0	0	Laterite
OREAS 186	Ni (%)	27	1.23	0.8	1.1	0	0	Laterite
	Co (%)	27	0.0692	2.3	1.4	0	0	Laterite

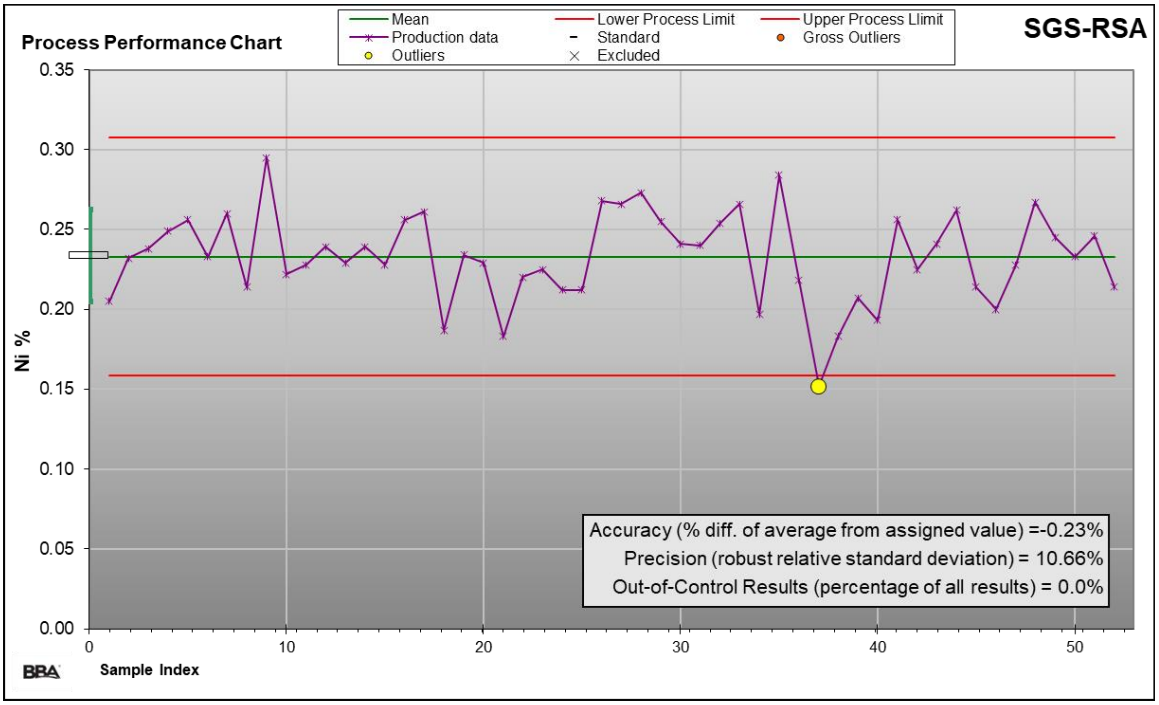


Figure 11-3: SNC In-House Standard Variability, SGS RSA CRM – Nickel

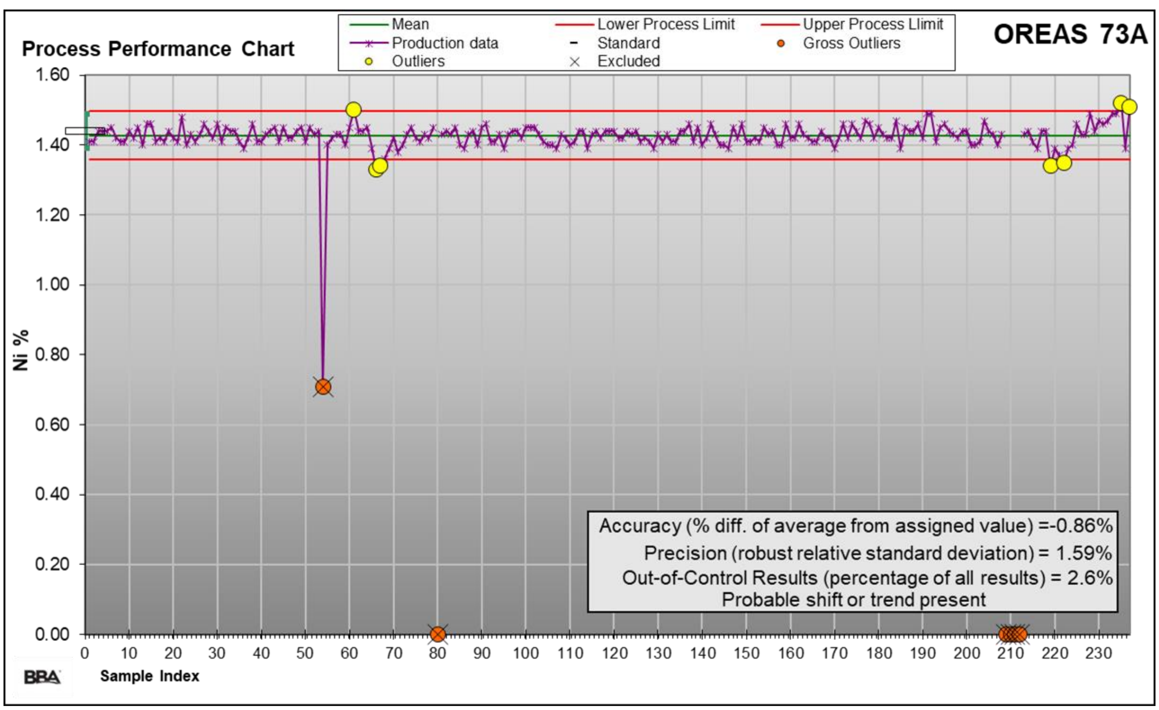


Figure 11-4: OREAS 73A CRM Variability – Nickel

11.5.3 Duplicate Samples

A total of 633 duplicates were used since the beginning of the project in 2010, representing approximately 2.0% of all analyzed samples.

- 2010-2012: Phase 1 drilling; 42 duplicates at SGS RSA;
- 2012-2014: Phase 2 drilling: 203 duplicates at Veritas;
- 2014-2023: 386 duplicates at the Actlabs.

Figure 11-5 shows the results for all duplicates for nickel assays.

The assay results from duplicate samples showed a strong correlation (R^2 = 0.98) to the original assay samples and were considered to be satisfactory.

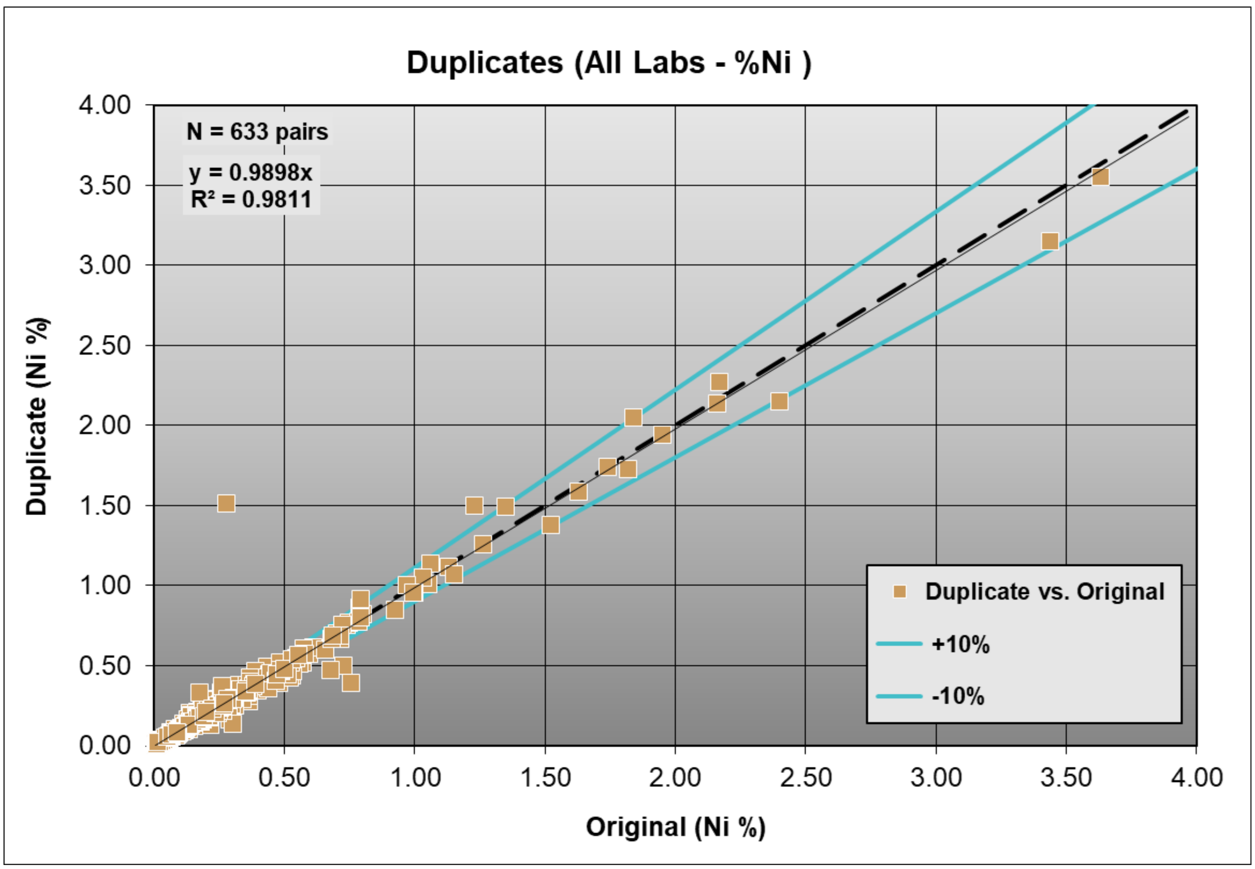


Figure 11-5: All Laboratories 2010-2023, Duplicates Samples Results for Nickel %

11.6 Check Samples

11.6.1 2020-2022 Drilling Campaign

A total of 784 check sample pulps were shipped to SGS Lakefield in Thunder Bay, Ontario, Canada, for analysis. The sample set covered the 2020 to 2022 drilling campaign, representing approximately 5% of the total samples collected during that period. The same preparation and analytical procedures used on Sama's original samples were applied to these check samples.

The method used for the major elements involved sodium peroxide fusion of the samples, followed by acid dissolution and analysis by ICP-OES (Code: GE_ICP90A50 – Sodium Peroxide Fusion - ICP-OES). Au, Pt and Pd were not assayed for this check analysis.

SGS Lakefield is independent of Sama, is fully certified and accredited to international standard ISO/IEC 17025, and operates under a quality management system that complies with the requirements of ISO 9001: 2008.

The check analysis sampling program showed a strong correlation (R^2 = 0.92) to the original assays within SNC's database (Figure 11-6). Approximately 10% of the sample pairs significantly exceed the +/-10% difference between the original and the duplicate check analysis. Approximately 4% of the sample pairs significantly exceed the +/-20% difference between the original and the duplicate check analysis.

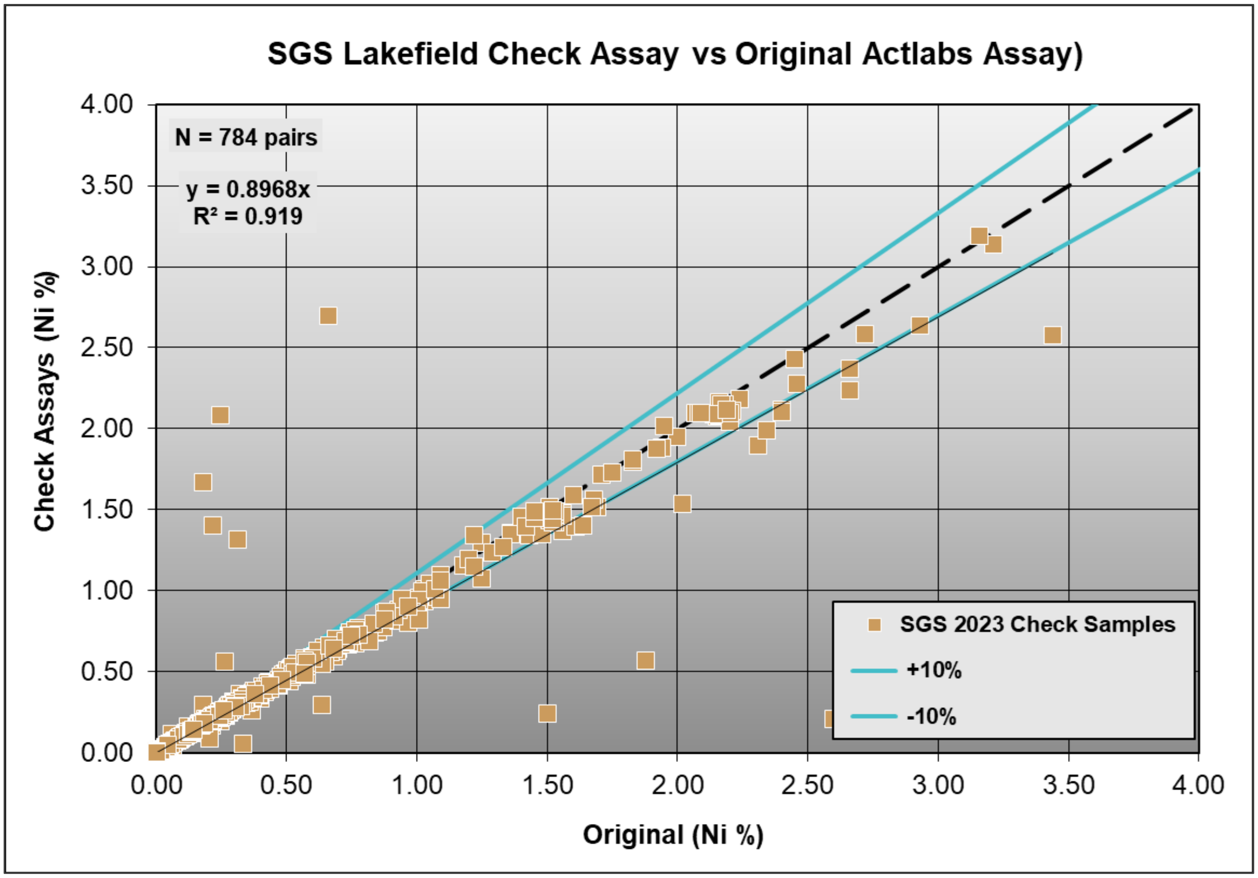


Figure 11-6: SGS Check Assays vs SNC Assay Database, Results for Nickel %

11.7 Qualified Person's Opinion

It is the QP's opinion that the sample preparation and analytical procedures put in place by SNC meet acceptable industry standards and that the information can be used for geological and resource modelling.

No factors that could compromise the reliability of the resources estimate or completion of the required work was observed during the site visit.

12. Data Verification

12.1 Site Investigation

Mr. Todd McCracken, P.Geo., visited the property on the following dates:

- June 14 to 17, 2023.

Mr. McCracken, QP, examined the project setting, the deposit locations (Main, Extension, Grata, and Sipilou Sud), and the general terrain of the region. the QP reviewed numerous drill collar sites and inspected the geology, the drilling logging, and the sampling procedure.

12.2 Drill Collar Validation

The QP confirmed the locations of 59 surface borehole collars during the site visit in 2023. Drill collars Main, Extension, Grata, and Sipilou Sud were inspected. The QP collected the collar locations using a handheld GPS unit. All collar locations were located within the acceptable error limit of the handheld GPS unit (Table 12-1).

Table 12-1: Drill Collar Validation

Drill Collar	Sama Original		BBA Validation		Delta
	Easting	Northing	Easting	Northing	
SM24-663733B	619862	857666	619865	857670	4.72
SM24-679708	619882	857691	619882	857694	3.50
SM24-683671	619882	857728	619882	857730	2.10
SM24-699690	619899	857710	619901	857711	2.10
SM24-737618	619937	857783	619935	857779	4.25
SM25-039587	620036	857811	620034	857813	2.99
SM25-080542	620078	857856	620079	857856	1.42
SM34-459218	619658	857380	619654	857379	4.05
SM34-506193	619703	857406	619702	857407	1.92
SM34-575121	619773	857481	619768	857481	5.18
SM44-405257	619603	856539	619601	856536	3.75
SM44-417263	619619	856535	619602	856537	16.62
SM44-428267	619625	856534	619625	856532	1.68
SM44-451301	619636	856507	619632	856513	7.62

Drill Collar	Sama Original		BBA Validation		Delta
	Easting	Northing	Easting	Northing	
SM44-454256	619654	856544	619650	856544	3.72
SM44-454315	619655	856486	619652	856488	3.71
SM44-474334	619674	856471	619673	856471	1.01
SM44-487292D	619683	856517	619683	856515	2.22
SM44-492354	619694	856452	619692	856451	2.17
SM44-494422	619694	856378	619691	856374	4.55
SM44-502299	619702	856500	619702	856496	4.19
SM44-506367	619707	856435	619707	856436	0.93
SM44-507225B	619705	856580	619708	856580	3.13
SM44-523243	619720	856557	619721	856559	2.37
SM44-533379	619730	856419	619730	856421	2.13
SM44-540257	619738	856543	619739	856547	3.96
SM44-563275B	619762	856526	619759	856524	3.75
SM44-579363	619779	856437	619778	856430	7.04
SS44-100500	616095	864297	616093	864300	3.70
SS44-100700	616099	864105	616095	864108	4.83
SS44-200400	616199	864396	616195	864399	4.61
SS44-200500	616198	864301	616199	864307	5.71
SS44-200700	616198	864096	616201	864100	5.10
SS44-300700	616303	864104	616304	864108	3.98
SS44-400400	616400	864401	616399	864406	5.54
SS44-400700	616400	864101	616404	864105	5.31
SS44-500500	616497	864302	616499	864307	5.66
SS44-500700	616501	864100	616504	864099	3.26
SS44-600700	616604	864099	616610	864099	6.10
SS64-200800	616198	862401	616199	862401	0.75
SS73-800400	615999	861999	616000	862004	4.72
SS74-200200	616200	862199	616202	862201	3.05
SS74-200400	616199	862001	616199	862005	4.38
SS74-400200	616400	862201	616400	862204	3.41
SS74-400400	616399	862000	616403	862002	4.30
SM20-070410	624068	858788	624066	858788	1.89
SM20-025500	624027	858705	624026	858704	1.86

Drill Collar	Sama Original		BBA Validation		Delta
	Easting	Northing	Easting	Northing	
SM20-010590	624008	858612	624002	858616	7.48
SM20-050550	624049	858652	624043	858650	6.86
SM19-750600	623951	858599	623949	858602	3.20
SM19-750550	623951	858649	623950	858655	6.37
SM19-660547	623859	858655	623858	858657	2.22
SM20-091471	624091	858726	624088	858734	8.67
SM20-143452	624145	858751	624148	858751	2.93
SM19-718632	623917	858568	623914	858570	4.04
SM20-187493	624185	858709	624180	858715	7.77
SM20-251485	624251	858716	624250	858719	2.77
SM19-624562	623822	858637	623823	858641	4.49
SM19-696521	623896	858677	623898	858681	4.69

12.3 Database Validation

The QP validated 10% of the digital database against the drill logs and assay certificates. No errors were identified.

The database validation process identified that a large number of downhole surveys were missing. Sama was able to recovery some of the missing surveys, and conducted new surveys on holes that were still accessible. Table 12-2 summarizes the change in the number of downhole surveys available from the previous Mineral Resource Estimate (MRE) and the current Mineral Resource Estimate (PEA). The additional downhole surveys improve the geological confidence to support the mineral resource classification in Chapter 14.

Table 12-2: Database Validation

Deposit	Total Drill Holes	MRE Survey Database		PEA Survey Database		% Change
		Surveyed	% Surveyed	Surveyed	% Surveyed	
Main	103	82	80	91	88	11
Extension	96	45	47	68	71	51
Grata	45	15	33	34	76	127

12.4 Independent Sampling

The QP did not collect any independent samples from the drill core. The QP inspected drill holes from all three deposits and visually identified the sulphides in the drill core and compared the quantity of sulphides with the assay results. The QP did not observe any discrepancies in the assay results compared to the sulphide content in the drill core.

12.5 Qualified Person's Opinion

It is the QP's opinion that Sama's sampling practices meet current industry standards. The QP also believes that the sample database provided by Sama and validated by the QP is suitable to support the Mineral Resource Estimation.

13. Mineral Processing and Metallurgical Testing

13.1 Historical Testing

Several rounds of testwork were conducted on samples from the Samapleu Project starting in 2011 and continuing through 2020. The prevailing approach to flotation metallurgy at the time was to produce a bulk flotation concentrate, and locked cycle testing focused on this.

The initial program was conducted at SGS Vancouver in 2011-12. This program focused on the testing of a blend of disseminated and semi-massive sulphide ores at a ratio of ~4:1. The blended composite assayed roughly 0.52% for both Cu and Ni. SGS also conducted limited testing on a semi-massive sample and a fully disseminated sample.

This test program included mineralogical examination and flotation testing, culminating in a locked cycle test ("LCT") on the blended sample. This initial work focused entirely on the production of a bulk copper/nickel flotation concentrate and, while the production of separate concentrates appeared from the mineralogy to be feasible, it was not explored at all at the time. Locked cycle testing yielded 89% Cu recovery and 75% Ni recovery to a concentrate assaying 9.8% Cu and 8.7% Ni. This concentrate also assayed 6.8 g/t Pd and 1.1 g/t Pt.

A second program was conducted at the CTMP (*Centre de Technologie Minérale et de Plasturgie Inc.*) in Thetford Mines, Québec, in 2013 on a low-grade composite assaying about 0.26% Cu and 0.28% Ni. This yielded 80% Cu recovery and 72% Ni recovery, but to a low-grade bulk Cu/Ni concentrate likely to require further processing prior to sale.

Further flotation work was conducted in 2019 on a composite assaying 0.43% Cu and 0.31% Ni. One LCT yielded a concentrate assaying 11.6% Cu and 6.4% Ni at 89% Cu recovery and 68% Ni recovery, a second yielded a higher-grade bulk concentrate but nickel recovery dropped to 50%. In both cases, Cu/Ni flotation separation was attempted on the locked cycle concentrates, but the separation was poor with the copper concentrate containing only 46% and 51% of the copper. No separation test was run in closed circuit, which probably adversely impacted the resulting recoveries.

Follow-up work included a third Cu/Ni separation test, which also incorporated nickel and pyrrhotite scavenging. This yielded good recoveries for a low-grade nickel product but only 28% Cu recovery for the copper concentrate.

The bulk flotation and copper/nickel separation process was thus ultimately not fully demonstrated in the laboratory, so the 2020 PEA studies (Gagnon et al., 2020) used assumed metallurgy based on "industry experience" rather than hard data.

In 2017, the potential for carbonyl powder production was evaluated at CVMR Corporation in Toronto. Most of this work was done on a bulk flotation concentrate assaying 4.2% Cu, 3.2% Ni, and 0.15% Co, and involved roasting for sulphur removal, reduction using hydrogen and then carbonylation, the latter yielding a nickel product, an iron product and a residue containing residual copper, cobalt and precious metals. It was unclear if this latter product would be marketable and the assumption for the 2020 PEA was that it would be disposed. The testwork demonstrated on a preliminary basis that the process could be feasible, and this became the base case for the 2020 PEA report by DRA/Met-Chem (Gagnon et al., 2020). The flowsheet adopted by DRA/Met Chem in the 2020 study is shown in Figure 13-1.

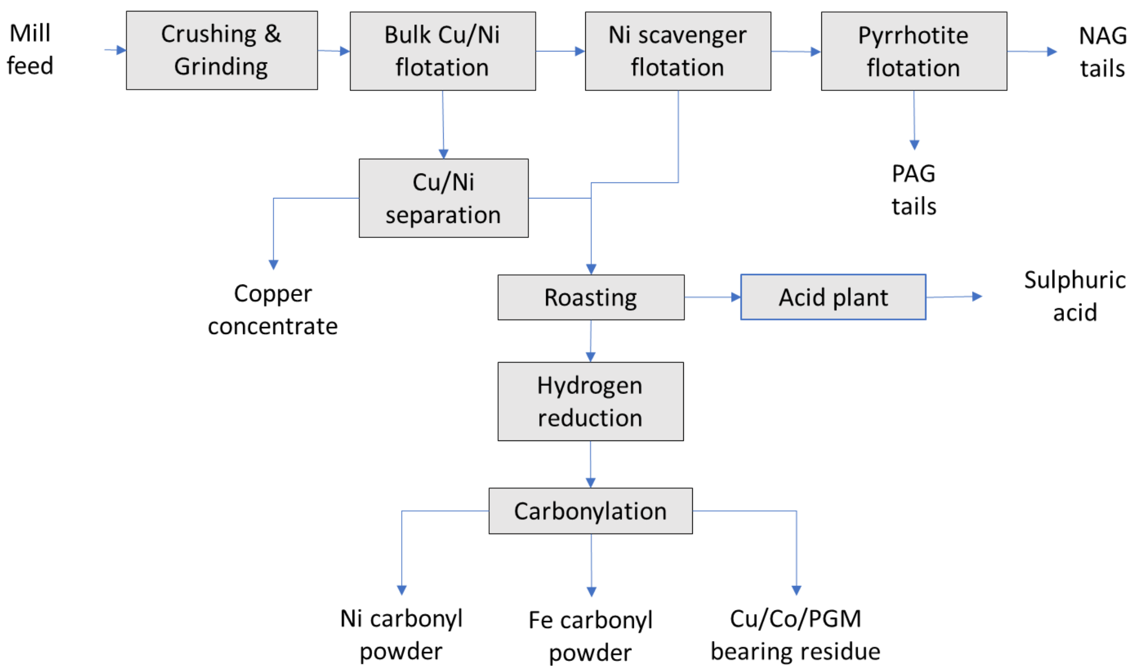


Figure 13-1: Simplified Flow Diagram of Process Used for the 2020 PEA

The above work has been described in more detail in the NI 43-101 report on the 2020 PEA (Gagnon et al., 2020).

In summary, the flowsheet, as described in 2020, showed promise but also had several potential drawbacks. Despite several attempts, the Cu/Ni separation process had not been demonstrated and this led to uncertainties over the real copper recovery. Furthermore, no revenue was assumed for cobalt and precious metals, much of which would have been lost to the carbonylation residue. Finally, it was unclear if such a complex and relatively novel process could be run effectively on a remote mine site, so the technical risk associated with the process was seen as quite high.

Accordingly, in the work started in 2022, the focus turned to the creation of a process that would preserve or enhance copper and nickel recoveries and allow for revenue to be earned from the cobalt and precious metals. It should be more straightforward and carry a lower perceived technical risk. This process would focus entirely on flotation, and the production of separate copper and nickel concentrates that could be sold directly to third parties without further on-site processing. Unlike the carbonylation process, it would not generate revenue from the contained iron.

Finally, the program expanded testing to include the Grata resource and the Extension zone.

13.2 Testing Since 2022

13.2.1 Composite Design

Three composites were developed for this program of testing. The Main composite was formed from 15 intervals chosen from four holes located widely distributed around the Main Zone, and mostly within the pit boundary as defined for the 2020 PEA. The composite assayed 0.3% Cu, 0.31% Ni, 0.33 g/t Pd, 0.19 g/t Pt, and 0.04 g/t Au (Figure 13-2).

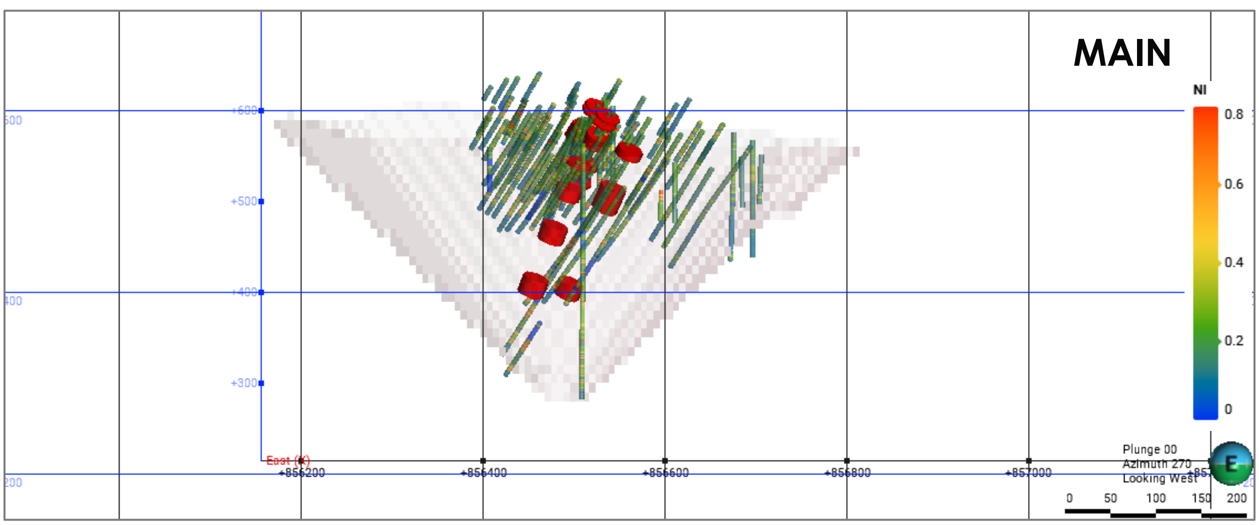


Figure 13-2: Source of Samples for the Main Composite

The Extension composite was created from ten intervals located in five different holes. All but two intervals were located within the 2020 pit boundaries. This composite assayed 0.18% Cu, 0.25% Ni, 0.48 g/t Pd, 0.14 g/t Pt, and 0.03 g/t Au.

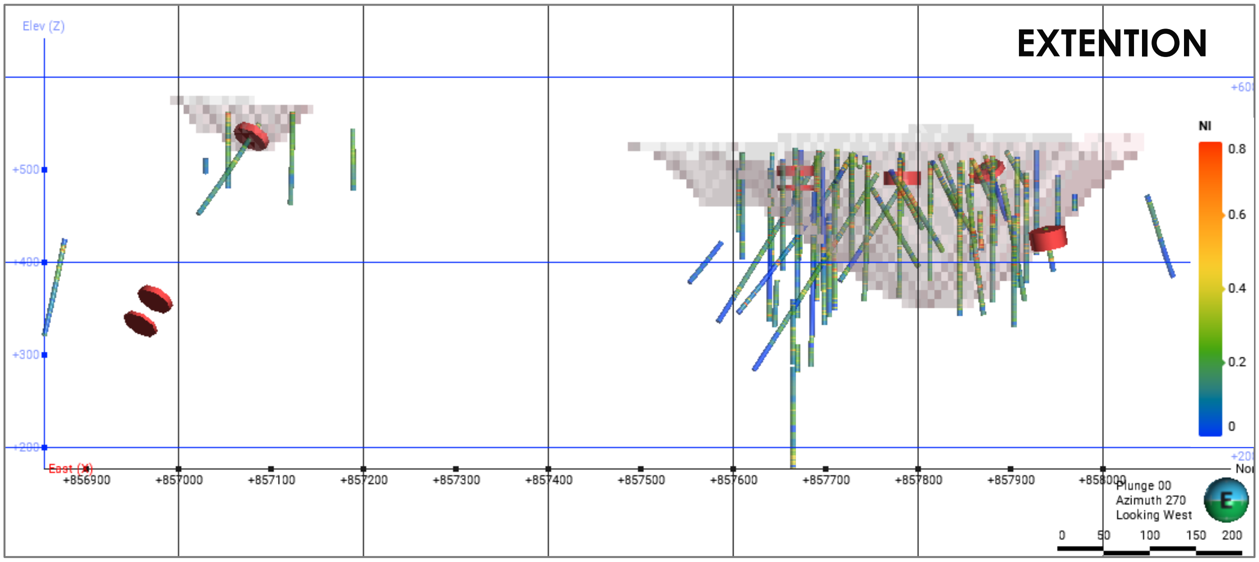


Figure 13-3: Source of Samples for the Extension Composite

The Grata composite included material taken from three drill holes, and from different depths and a mix of sulphide textures. It assayed 0.48% Cu, 0.36% Ni, 0.57 g/t Pd, 0.07 g/t Pt and 0.04 g/t Au.

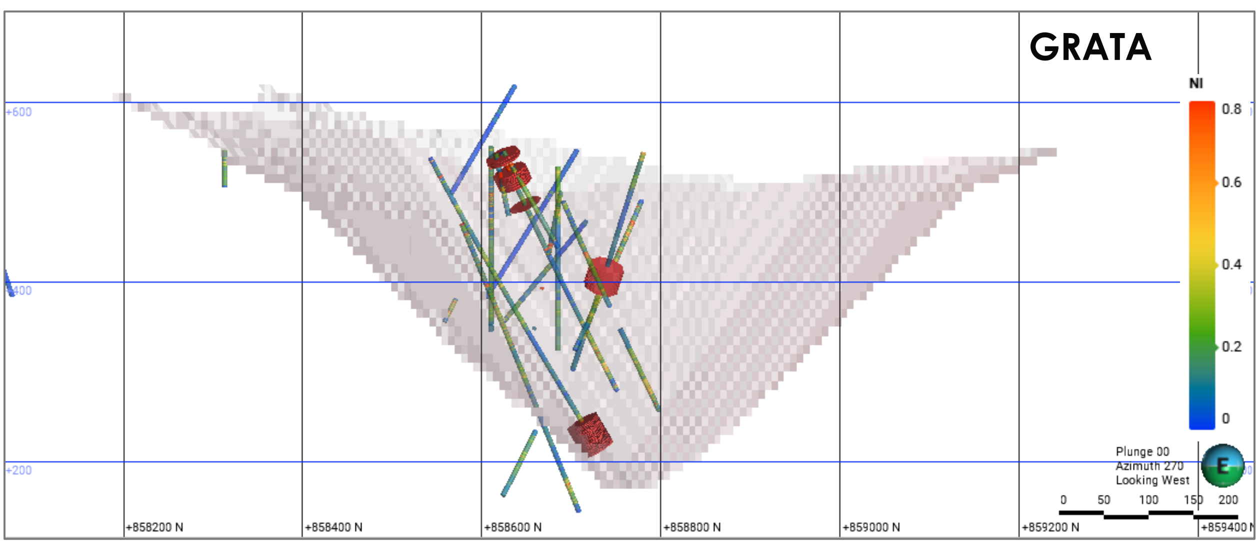


Figure 13-4: Source of Samples for the Grata Composite

13.2.2 Hardness Testing

Comminution testwork showed the composites all had similar hardness levels with Bond Ball Mill Work Index values of 18.2 kWh/t, and SAG Mill Comminution ("SMC") test Axb values of ~50. These values place the composites as medium-hard but likely well suited to a conventional SAG mill-based grinding circuit.

13.2.3 Mineralogy

The modal mineralogy of the three composites, established using QEMSCAN analysis, is described in Table 13-1.

Table 13-1: Percent Modal Mineralogy of the Three Composites

	Grata	Extension	Main
Chalcopyrite	1.07	0.66	1.30
Pyrite	0.62	1.28	1.82
Pyrrhotite	2.77	2.98	2.75
Pentlandite	0.46	0.70	0.76
Iron oxides	0.90	2.20	0.56
Fe-Cr Spinels	0.32	3.93	0.83
Quartz	1.60	0.37	0.13
Plagioclase	9.67	0.62	2.60
K Feldspar	0.18	0.02	0.00
Biotite	4.60	0.27	0.11
Muscovite	0.38	0.07	0.03
Chlorite	2.29	2.72	1.33
Amphibole	4.20	3.57	3.01
Ca-Mg-Fe Pyroxene	16.59	18.79	18.96
Mg-Fe Pyroxene	36.21	8.51	30.69
Mg-Fe Silicate	7.07	32.75	21.17
Serpentine	7.44	14.89	10.60
Olivine	0.18	0.60	0.73
Talc	0.19	0.89	0.18
Si-Al Clays	0.62	0.27	0.49
Calcite	0.85	2.14	0.61
Fine textures of sulphides and silicates	1.31	1.15	0.78
Others	0.36	0.56	0.48
Total	**100**	**100**	**100**

Copper is mostly hosted in chalcopyrite, which at a grind size of 80% passing 140 microns, is over 70% liberated in the Main and Grata composites, but only 58% liberated in the Extension composite. Nickel predominantly occurs in sulphide form. Pentlandite is the main host of nickel and is also well liberated at the planned grind size, ranging from 62% liberated in the Extension composite to 72% liberated in the Main composite.

While all three composites exhibit good sulphide liberation at the grind size of 140 microns, the somewhat poorer liberation in the Extension composite can lead to poorer metallurgy.

The iron sulphides are a mix of pyrrhotite and pyrite. The host rock is siliceous, with pyroxenes being the largest constituent. Talc comprises less than 1% of each of the composites, and serpentine ranges from 7-15%.

13.2.4 Flotation

The primary objective of the flotation program was to develop and demonstrate a conventional process solely using froth flotation to produce separate copper and nickel concentrates, both of which would attract payment on both the base and precious metals.

To this end, and in contrast with earlier work, the focus has been on sequential copper and nickel rougher flotation, with separate cleaner flotation schemes developed for the respective rougher concentrates as shown in Figure 13-5. In practice, it is perceived that a pyrrhotite flotation step may be added to separate the acid-generating sulphides from the majority of the tails; however, this was not tested extensively in the recent work.

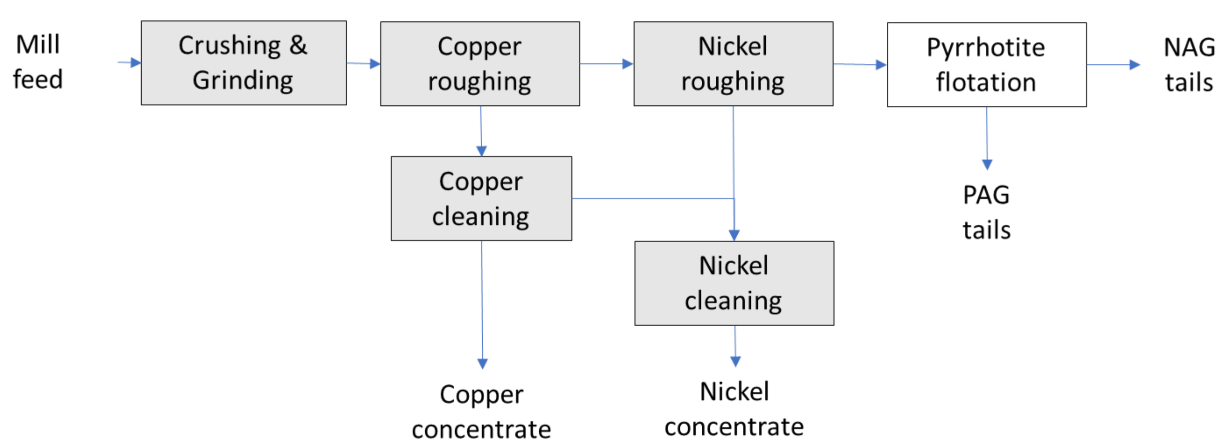


Figure 13-5: Simplified Flowsheet Used in Testing Since 2022

From the first tests in this program, it became clear that these composites would respond favourably to an approach more focused on sequential flotation.

The 43-test flotation development program led to a procedure that employed sodium sulphite and diethylenetriamine ("DETA") as depressants for pentlandite in the copper flotation circuit, with the Solvay reagent AEROPHINE 3418A as the collector, with lime used to modify the pH. Copper cleaner flotation also used small doses of a carboxy methyl cellulose ("CMC")-based talc depressant.

Nickel flotation employed isopropyl xanthate as a collector and a slightly higher dose of the CMC gangue depressant. This is a conventional reagent scheme commonly used commercially in nickel flotation worldwide and its adoption for a project in a remote part of the world represents relatively little technical risk.

Locked cycle tests were run on both the Main and Grata composites. The robustness of the flowsheet is assessed from locked cycle data by how the metal balances stabilize with each advancing cycle. Figure 13-6 shows how the flow of copper and nickel in the products accounts for the 90-110% range of that feeding the test after just three cycles. This is a strong indicator of a robust and reliable treatment scheme.

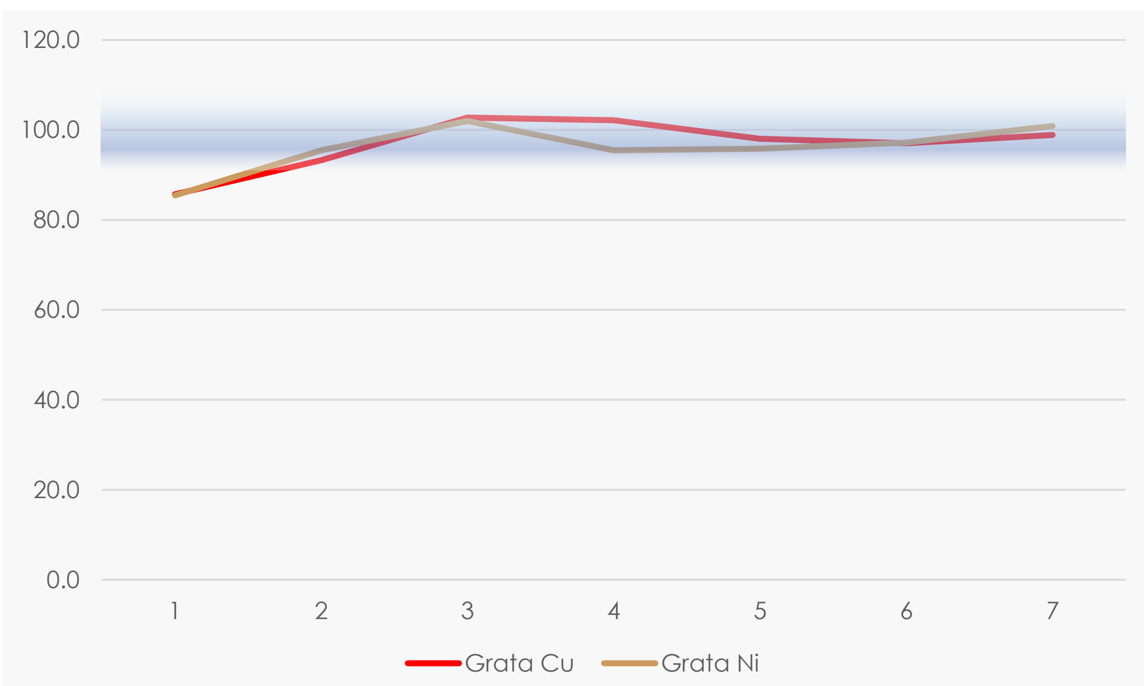


Figure 13-6: Locked Cycle Test Stability Assessment by Cycle (100 = fully stable)

These tests yielded the metallurgy shown in Table 13-2. Copper flotation from the Main and Grata composites yielded 26% and 25% Cu concentrates at 91% and 83% Cu recovery, respectively. Nickel assayed roughly 1% in both concentrates. Nickel flotation yielded 13% Ni assays in both the Main and Grata nickel concentrates, at nickel recoveries of 67% and 72%. Some 50-60% of the cobalt also floated to the nickel concentrate, while combined recoveries of platinum and palladium to both concentrates typically ranged from 60-70%. Gold recoveries were slightly lower.

Table 13-2: Projected Locked Cycle Test Metallurgy from Flotation of Grata and Main Composites

Main (LCT-3)								
Product	Assays %, g/t				% Distribution			
	Cu	Ni	Fe	S	Cu	Ni	Fe	S
Copper Cleaner 3 Conc.	25.7	1.2	32.9	31.3	83.1	3.4	2.5	14.2
Nickel Cleaner 3 Conc.	1.58	12.6	34.8	25.2	9.3	66.9	4.9	20.9
Nickel Cleaner 1 Tails	0.19	0.42	13.2	2.2	3.2	6.6	5.4	5.4
Rougher Tails	0.01	0.09	12.1	1.4	4.4	23.2	87.1	59.5
Feed	**0.31**	**0.34**	**12.8**	**2.17**	**100.0**	**100.0**	**100.0**	**100.0**
Product	**Co**	**Pt**	**Pd**	**Au**	**Co**	**Pt**	**Pd**	**Au**
Copper Cleaner 3 Conc.	0.05	2.1	6.4	1.42	2.6	12.9	18.9	26.4
Nickel Cleaner 3 Conc.	0.51	5.2	7.6	0.30	50.6	58.0	40.7	10.2
Nickel Cleaner 1 Tails	0.02	0.51	0.67	0.08	6.3	16.9	10.4	7.9
Rougher Tails	0.01	0.02	0.11	0.03	40.5	12.2	30.0	55.5
Feed	**0.02**	**0.16**	**0.34**	**0.05**	**100.0**	**100.0**	**100.0**	**100.0**

Grata (LCT-4)								
Product	Assays %, g/t				Distribution %			
	Cu	Ni	Fe	S	Cu	Ni	Fe	S
Copper Cleaner 3 Conc.	26.8	1.06	32.2	31.3	88.1	4.4	3.9	16.5
Nickel Cleaner 3 Conc.	1.27	12.5	42.0	29.6	5.7	71.5	7.0	21.4
Nickel Cleaner 1 Tails	0.19	0.36	14.2	3.2	2.2	5.4	6.2	6.1
Rougher Tails	0.02	0.08	12.5	1.9	4.0	18.7	82.9	56.0
Feed	**0.50**	**0.40**	**13.6**	**3.13**	**100.0**	**100.0**	**100.0**	**100.0**
Product	**Co**	**Pt**	**Pd**	**Au**	**Co**	**Pt**	**Pd**	**Au**
Copper Cleaner 3 Conc.	0.04	1.12	7.34	1.23	3.5	21.9	22.6	43.4
Nickel Cleaner 3 Conc.	0.53	1.48	8.69	0.26	60.8	39.7	36.7	12.3
Nickel Cleaner 1 Tails	0.02	0.17	0.87	0.05	5.5	11.8	9.6	6.6
Rougher Tails	0.01	0.02	0.18	0.02	30.1	26.6	31.1	37.7
Feed	**0.02**	**0.08**	**0.54**	**0.05**	**100.0**	**100.0**	**100.0**	**100.0**

Given the preliminary nature of these investigations, combined with a shortness of time and sample, locked cycle testing was not applied to the Extension composite. At this time, the metallurgy of the Extension composite is best described by the batch cleaner test F-37.

For this test, for the two circuits, the key copper and nickel grade vs metal recovery performances are shown in Figure 13-7.

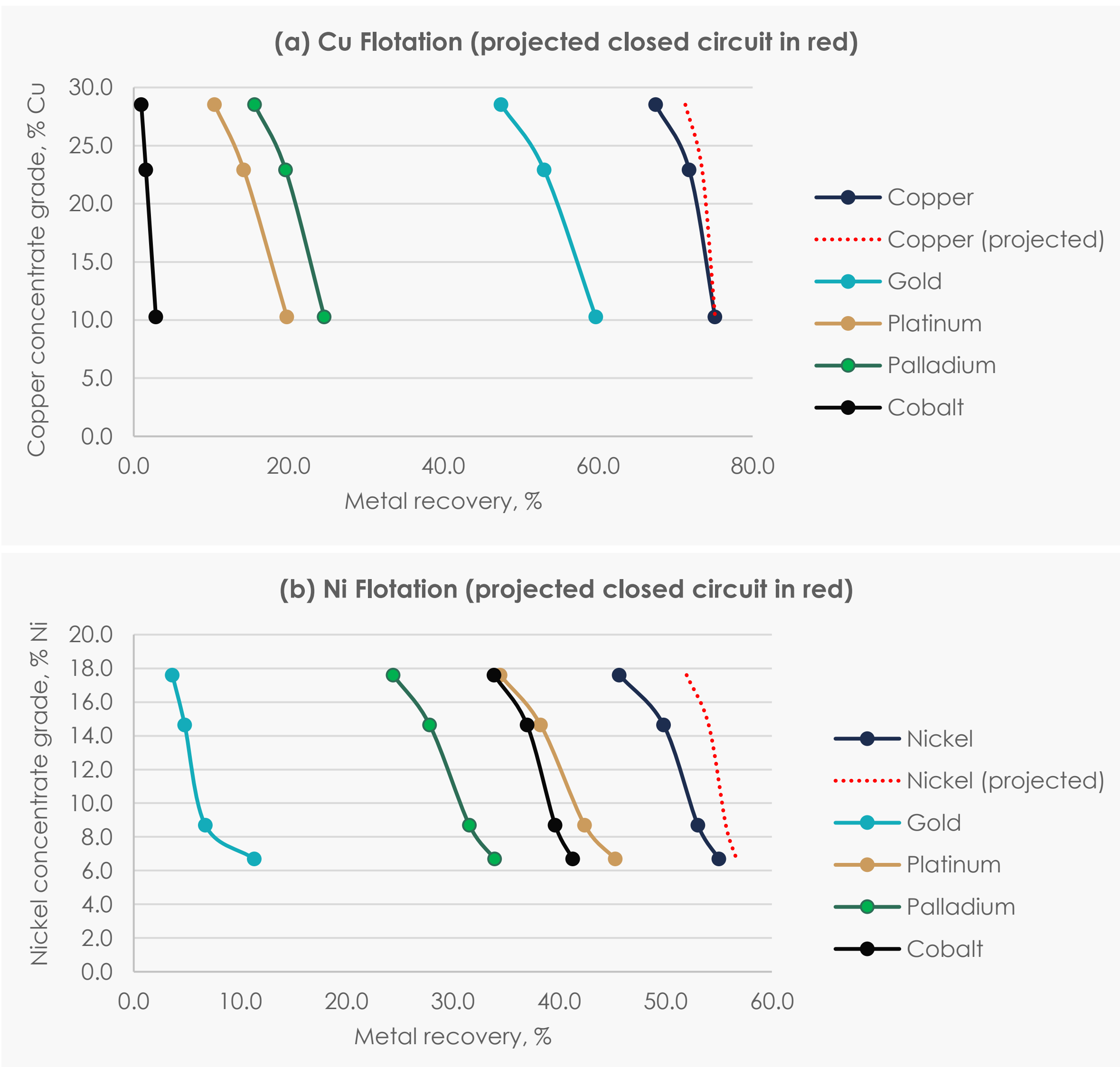


Figure 13-7: Metal Recoveries in Copper and Nickel Flotation from Extension Composite (projected closed circuit recoveries in red)

It should be noted that nickel concentrate grades of about 13% Ni were deemed a reasonable target for these locked cycle tests; however, batch testing suggested the flexibility to achieve higher concentrate grades should this be necessary (at a modest cost in recovery). However, concentrate grades of 13% Ni would make Samapleu (Main and Extension) and Grata competitive in quality with most concentrates produced worldwide, so these were deemed acceptable for the current work.

13.2.5 Concentrate Quality and By-products

In the past, copper concentrates have needed to assay no more than 1% Ni to be deemed acceptable for sale. This may be changing somewhat with the changing dynamics in the nickel market, but prudence dictates that this should remain the target. Industrial experience, however, has consistently shown that the commercial use of column or Jameson cell flotation leads to better nickel rejection in copper flotation than seen in the laboratory. This typically leads to a 30% drop in nickel misplacement to the copper concentrate. This would put these concentrates comfortably within current specifications for copper smelters. Further, common penalty elements in copper concentrates such as antimony and arsenic are at very low levels in these concentrates.

Nickel concentrates typically need to assay below 10% MgO for saleability, and below 5% MgO to avoid all MgO-associated penalties. The locked cycle nickel concentrates typically assayed 2-5% MgO, so they fall well within specification for sale to nickel smelters.

Cobalt, platinum and palladium in the nickel concentrates are at levels that will attract good payment terms from most smelters, while palladium and perhaps platinum, silver and gold in the copper concentrates may attract limited pay in some cases. Full minor element scans on concentrates from the three zones are shown in Table 13-3.

Table 13-3: Multi-element Analyses of Copper and Nickel Concentrates

Element	Unit	Copper Concentrate			Nickel Concentrate		
		LCT-3 (Main)	LCT-4 (Grata)	F-11 (Extension)	LCT-3 (Main)	LCT-4 (Grata)	F-11 (Extension)
Ag	ppm	49.0	39.9	46.3	12.4	29.2	<0.2
Al	%	0.3	0.3	0.3	0.9	0.8	0.4
As	ppm	<2	68	56	<2	<2	<2
Ba	ppm	12	12	7	15	29	14
Be	ppm	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bi	ppm	<2	<2	<2	<2	<2	<2
Ca	%	0	0	0	1	1	1

Element	Unit	Copper Concentrate			Nickel Concentrate		
		LCT-3 (Main)	LCT-4 (Grata)	F-11 (Extension)	LCT-3 (Main)	LCT-4 (Grata)	F-11 (Extension)
Cd	ppm	<0.2	<0.2	14	<0.2	<0.2	33
Co	ppm	505	456	251	4905	4891	5165
Cr	ppm	257	152	122	674	353	273
Fe	%	32	31	29	35	39	42
Ga	ppm	<20	<20	<20	<20	<20	<20
Ge	ppm	<20	<20	<20	<20	<20	<20
Hf	ppm	<20	<20	<20	<20	<20	<20
In	ppm	<20	<20	<20	<20	<20	58
K	%	<0.01	0	<0.01	0	0	<0.01
Li	ppm	<2	<2	2	2	3	2
Mg	%	1	1	3	4	2	2
Mn	ppm	219	220	285	553	399	352
Mo	ppm	<1	10	155	56	351	210
Na	%	0	0	0	0	0	0
Nb	ppm	<10	<10	<10	<10	<10	<10
P	%	<0.002	<0.002	0	<0.002	<0.002	0
Pb	ppm	<2	<2	126	<2	<2	168
Rb	ppm	<20	<20	21	<20	<20	61
Re	ppm	<20	<20	107	<20	<20	138
S	%	11	10	10	14	16	16
Sb	ppm	17	18	<2	14	15	<2
Se	ppm	72	60	80	58	31	50
Sn	ppm	<10	<10	59	<10	<10	46
Sr	ppm	5	6	4	14	14	7
Ta	ppm	10	19	23	<10	21	35
Te	ppm	<10	<10	<10	<10	<10	<10
Ti	%	0	0	0	0	0	0
Tl	ppm	<2	<2	<2	<2	<2	16
V	ppm	13	12	<1	45	39	<1
W	ppm	<10	14	<10	26	29	<10
Zn	ppm	549	698	538	603	693	523
Zr	ppm	7	6	6	8	9	11

13.2.6 Metallurgical Recoveries Projections

For the sake of the current estimate, it has been assumed that the three composites represent material described in the same feed grade versus recovery relationships. Plotting the key results from the two locked cycle tests and the projected metallurgy from F-37 supports this assumption, as they seem to fit well onto reasonable head grade-recovery curves.

Accordingly, in Figure 13-8, copper and nickel recovery to the respective concentrates are described in the curves shown in blue, as a best fit to the actual test datapoints described in orange. The nickel recoveries are capped at 76%.

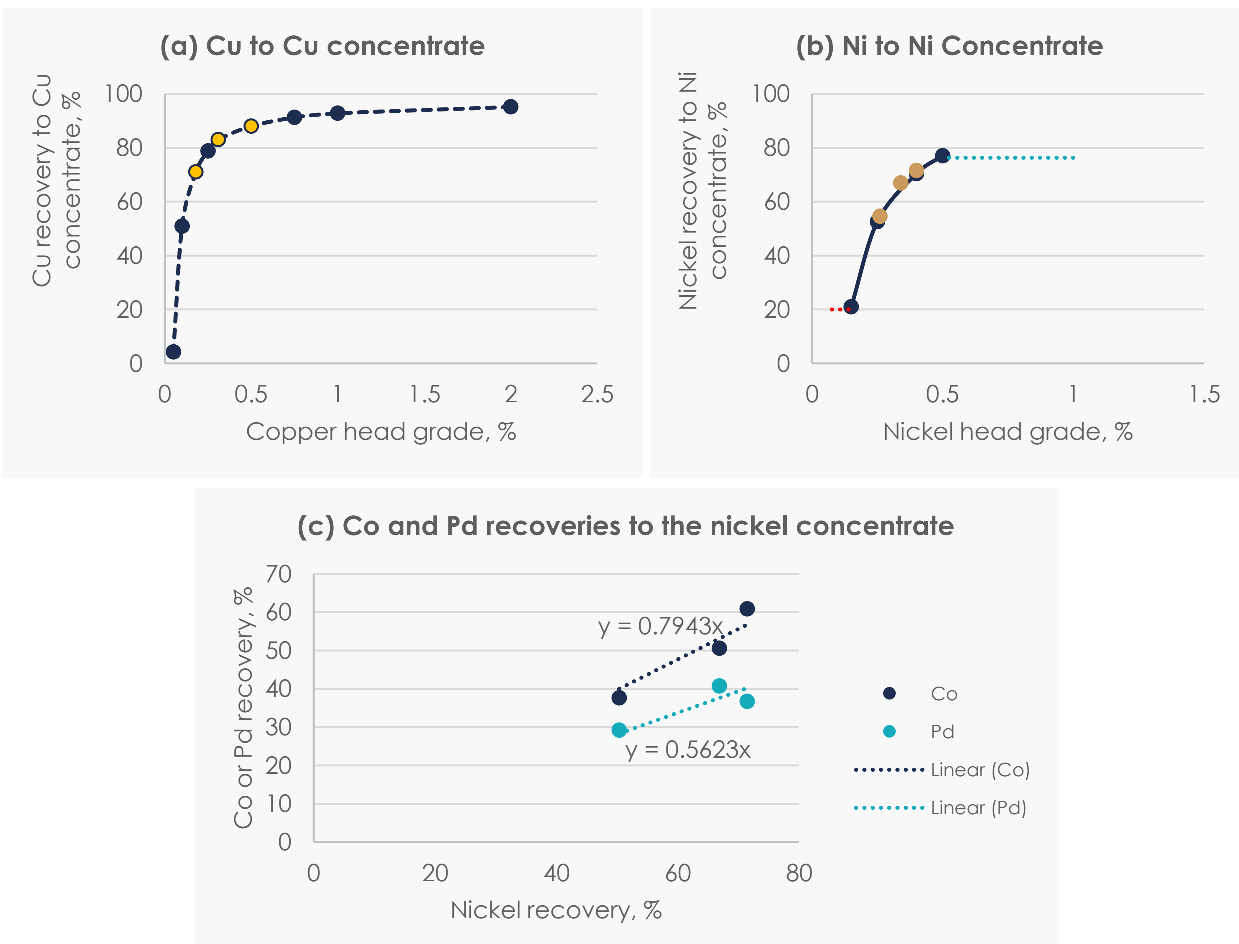


Figure 13-8: Fitting the Metallurgical Forecasting Algorithms to the Test Data

Table 13-4 presents the summary of Cu and Ni recoveries in copper and nickel concentrates used in this study.

Table 13-4: Cu and Ni Recovery Algorithm for the Metallurgical Forecast

Ni and Co recoveries		Formula
Nickel	To copper conc.:	Fixed at 0%
	To nickel conc.:	If Ni Grade < 0.15 → 20 If 0.15 ≤ Ni Grade ≤ 0.50 → 100 x (Ni Grade - 0.1185)/(Ni Grade) If Ni Grade > 0.5 → 76
Copper	To copper conc.:	100 x (Cu Grade -0.0254 * Cu Grade -0.0466)/(Cu Grade)
	To nickel conc.:	If Cu Grade <0.1 → 17 If Cu Grade ≥ 0.1 → (0.0254 x Cu Grade + 0.0466)/ Cu Grade) x 0.34 x 100

All minor element grade and recovery formulas used in this technical report are shown in Table 13-5.

Table 13-5: Minor Element Grade and Recovery Algorithms for the Metallurgical Forecast

Co, Pt, Pd and Au recoveries		Formula
Cobalt	To copper conc.:	Fixed at 2.7%
	To nickel conc.: Link to Ni recovery:	Ni recovery * 0.794
Platinum	To copper conc.:	Recovery fixed at 16%
	To nickel conc.:	Recovery fixed at 38%
Palladium	To copper conc.:	Recovery fixed at 20.5%
	To nickel conc.: Link to Ni recovery:	Ni recovery * 0.562
Gold	To copper conc.:	Fixed at 41%
	To nickel conc.:	Fixed at 10%

14. Mineral Resource Estimates

BBA was retained by Sama to complete a Mineral Resource Estimate ("MRE") of the Samapleu and Grata Deposits Project. Mr. Todd McCracken acted as the QP and completed the MRE following the Canadian Institute of Mining, Metallurgy and Petroleum Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (CIM, 2019). The QP completed a resource estimation with an effective date of March 21, 2024. The resource estimation was conducted using Datamine Studio RM™ version 1.12.113.0.

A summary of the sulphide mineral resource is in Table 14-1. Table 14-2 summarizes the in situ contained metal with the pit shells. The cut-off of $16.34/t net smelter return ("NSR") is used for the sulphide deposits. A cut-off grade of 1.10% Ni is used for the laterite deposit.

Table 14-1: Samapleu and Grata Mineral Resource Summary

Classification	Deposit	Tonne	Ni (%)	Cu (%)	Pt (g/t)	Pd (g/t)	Au (g/t)	Co (%)
Indicated	Main	15,248,000	0.26	0.22	0.10	0.31	0.04	0.02
	Extension	514,000	0.25	0.16	0.10	0.45	0.02	0.02
	Grata	3,645,000	0.28	0.29	0.11	0.32	0.04	0.02
	Total	**19,407,000**	**0.26**	**0.23**	**0.10**	**0.32**	**0.04**	**0.02**
Inferred	Main	21,342,000	0.25	0.21	0.07	0.28	0.04	0.02
	Extension	10,885,000	0.28	0.22	0.10	0.48	0.02	0.02
	Grata	67,272,000	0.24	0.25	0.10	0.26	0.04	0.01
	Total	**99,499,000**	**0.25**	**0.23**	**0.09**	**0.29**	**0.04**	**0.01**

Table 14-2: Samapleu and Grata In Situ Metal with Pit Shells

Classification	Deposit	Tonne	Ni ('000 lb)	Cu ('000 lb)	Pt (oz)	Pd (oz)	Au (oz)	Co ('000 lb)
Indicated	Main	15,248,000	87,100	75,000	50,100	154,400	19,100	5,700
	Extension	514,000	2,800	1,800	1,600	7,400	400	200
	Grata	3,645,000	22,400	23,200	13,000	38,000	5,200	1,300
	Total	**19,407,000**	**112,300**	**100,000**	**64,700**	**199,800**	**24,700**	**7,200**
Inferred	Main	21,342,000	117,000	96,500	49,700	194,200	24,600	7,400
	Extension	10,885,000	67,300	52,500	33,900	166,900	8,600	4,200
	Grata	67,272,000	360,400	365,600	218,400	567,200	83,200	20,900
	Total	**99,499,000**	**544,700**	**514,600**	**302,000**	**928,300**	**116,400**	**32,500**

A summary of the laterite mineral resource is in Table 14-3.

Table 14-3: Sipilou Sud Laterite Mineral Resource Summary

Classification	Deposit	Tonne	Ni (%)	Co (%)
Inferred	Sipilou Sud	2,095,000	1.75	0.05
	Total	**2,095,000**	**1.75**	**0.05**

14.1 Main Resource Estimate

14.1.1 Deposit Database

The project database totals 474 surface-collared diamond drill holes ("DDH"), of which a total of 258 DDH totalling 51,282 m in length were used to model Main, Extension, and Grata deposits. A subset of 108 DDH was used to build the Main deposit model, totalling 18,696 m in length. There are a total of 7,914 assay records in the Main database.

The six geological domains at Main are summarized in Table 14-4. The domain naming convention is used consistently throughout this disclosure.

Table 14-4: Main Deposit Geological Domains

Domain	Rock Type
100	Saprolite
200	Olivine Pyroxenite
300	Pyroxenite
400	Gabbro
700	FW Granulite
800	HW Granulite

The drill hole database was validated before proceeding to the resource estimation phase, and the validation steps are detailed in Chapter 12.

SNC maintains all borehole data in a Microsoft Access® relational database. Header, survey, assay, and lithology information are saved as individual tables in the database. The original CSV format database was provided to the QP on April 14, 2023. An updated downhole survey database was provided in October 2023.

The QP believes that the database is appropriate for the purposes of mineral resource estimation and the sample density allows a reliable estimate of the tonnage and grade of the mineralization in accordance with the level of confidence established by the mineral resource categories as defined in the CIM Guidelines.

14.1.2 Specific Gravity

SNC collected a total of 625 samples from the diamond drill holes in the Main deposit for specific gravity ("SG") measurements.

SNC used the following procedure to determine the average SG for each of the mineral domains:

- Sample selected for SG measurement;
- The Borehole ID, row number, From, To and rock type were entered into a spreadsheet;
- The sample was weighted dry on the scale;
- The sample was then weighted, submerged and saturated in tap water at a constant 22°C;
- The specific gravity is determined using the following equation:

$$SG = Wd/(Wd - Ws) * CF$$

Wd = Dry weight, Ws = Submerged weight, CF = Correction factor for water temperature

For each domain, a regression formula based on the iron content within the samples was generated. Blocks were assigned SG based on the appropriate regression formula or a default SG if a regression formula could not be developed. Table 14-5 summarizes the results of the SG measurements.

Table 14-5: Main Deposit-Specific Gravity Summary

Domain	Rock Type	Number of samples	Regression formula	Default
100	Saprolite	1	-	1.87
200/300	Pyroxenite	379	SG=0.031Fe+2.954	2.95
400	Gabbro	90	SG=0.056Fe+2.715	2.72
700	FW Granulite	4	-	2.72
800	HW Granulite	151	-	2.56

14.1.3 Topography Data

Topographic data was generated as a Digital Terrain Model ("DTM") created using a total station surveys on 5-m contours. The area covered by the DTM is sufficient to cover the area defined by the current resource model.

14.1.4 Geological Interpretation

Three-dimensional wireframe models of mineralization were developed in Leapfrog Geo™ under the supervision of the QP. The wireframes were based on the geological interpretation of the zones as distinct domains and not strictly on grade intervals.

The wireframe solids were imported from Leapfrog Geo™ into Datamine Studio RM™ in .dwg format. The solids were validated within Datamine. The modelling is broken down into five separate zones based on geology.

Table 14-6 summarizes the solids and associated volumes. Figure 14-1 illustrates the model solids for each of the domains.

Table 14-6: Main Deposit Wireframe Summary

Domain	Rock type	Wireframe volume (m^3)
100	Saprolite	14,277,969
200	Olivine Pyroxenite	34,697,279
300	Pyroxenite	37,671,607
400	Gabbro	76,614,181
700	FW Granulite	249,975,847
800	HW Granulite	131,953,594

The wireframes extend at depth, below the deepest diamond drill holes. This is to provide a target for future exploration. The resource model did not estimate grades into the full volume of the wireframes due to the sheer size of the wireframes.

The non-assayed intervals were assigned a void (-) value.

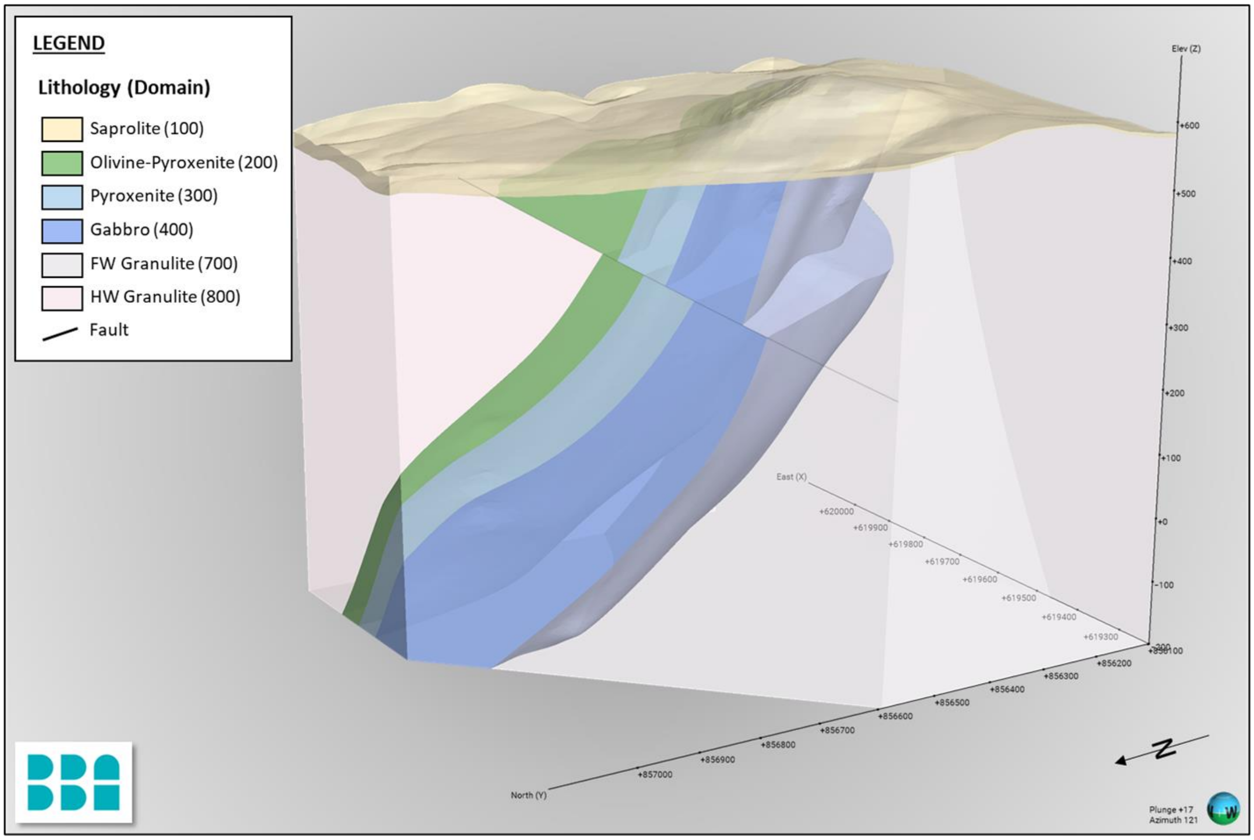


Figure 14-1: Interpretation of Domains (Inclined View not to Scale)

14.1.5 Exploratory Data Analysis

14.1.5.1 Assays

The six domains included in the mineral resource were sampled for a total of 7,908 nickel, copper, and cobalt assays, 7,910 palladium samples, and 7,907 platinum samples. The assay intervals within each mineral domain were captured using the Leapfrog Geo™ routine to flag the intercept into a new table in the database. These intervals were reviewed to ensure all the proper assay intervals were captured. Table 14-7 summarizes the basic statistics for the assay intervals for each of the mineral domains on the property.

Table 14-7: Main Deposit Borehole Statistics by Domain

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
100	Ni (%)	10	0	0.08	0.25	0.16	0.00
	Cu (%)	10	0	0.02	0.23	0.11	0.00
	Co (%)	10	0	0.01	0.02	0.01	0.00
	Pt (ppm)	10	0	0.03	0.11	0.07	0.00
	Pd (ppm)	10	0	0.03	0.24	0.13	0.00
	Au (ppm)	10	0	0.00	0.03	0.02	0.00
	Cr (%)	6	4	0.11	0.20	0.16	0.00
	Fe (%)	10	0	7.78	15.80	13.48	5.70
	S (%)	10	0	0.02	1.40	0.33	0.18
	Length	10	0	0.40	1.50	1.18	0.13
200	Ni (%)	2,558	4	0.01	4.99	0.23	0.03
	Cu (%)	2,558	4	0.00	6.55	0.14	0.05
	Co (%)	2,558	4	0.00	0.18	0.02	0.00
	Pt (ppm)	2,560	2	0.00	3.60	0.09	0.02
	Pd (ppm)	2,560	2	0.00	5.72	0.36	0.17
	Au (ppm)	2,558	4	0.00	0.95	0.03	0.00
	Cr (%)	972	1,590	0.01	15.00	0.62	0.44
	Fe (%)	2,315	247	0.34	42.30	11.31	4.20
	S (%)	2,315	247	0.01	28.00	0.89	2.37
	Length	2,562	0	0.10	2.10	1.21	0.12
200 HG	Ni (%)	65	0	0.90	4.99	1.44	0.37
	Cu (%)	65	0	0.04	4.01	0.89	0.40
	Co (%)	65	0	0.04	0.18	0.06	0.00
	Pt (ppm)	65	0	0.01	2.92	0.28	0.27
	Pd (ppm)	65	0	0.04	5.72	2.02	0.72
	Au (ppm)	65	0	0.00	0.73	0.07	0.01
	Cr (%)	15	50	0.02	1.07	0.29	0.07
	Fe (%)	58	7	13.50	42.30	22.85	21.33
	S (%)	58	7	4.43	28.00	11.07	16.17
	Length	65	0	0.11	1.05	0.54	0.08

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
	Ni (%)	4,906	2	0.00	5.16	0.25	0.16
	Cu (%)	4,906	2	0.00	12.80	0.24	0.15
	Co (%)	4,906	2	0.00	0.19	0.02	0.00
	Pt (ppm)	4,903	5	0.00	30.40	0.11	0.25
	Pd (ppm)	4,906	2	0.00	4.16	0.24	0.12
300	Au (ppm)	4,903	5	0.00	2.56	0.04	0.01
	Cr (%)	1,304	3,604	0.01	0.73	0.19	0.00
	Fe (%)	4,587	321	0.67	52.90	12.62	16.37
	S (%)	4,587	321	0.01	37.50	1.66	10.55
	Length	4,908	0	0.08	2.80	1.12	0.10
	Ni (%)	190	0	0.90	5.16	2.18	1.62
	Cu (%)	190	0	0.05	12.80	1.51	1.82
	Co (%)	190	0	0.03	0.19	0.09	0.00
	Pt (ppm)	189	1	0.00	11.60	0.25	1.04
	Pd (ppm)	190	0	0.05	4.16	1.72	1.12
300 HG	Au (ppm)	190	0	0.00	2.56	0.09	0.06
	Cr (%)	41	149	0.01	0.65	0.12	0.02
	Fe (%)	172	18	14.80	52.90	30.38	135.11
	S (%)	172	18	4.56	37.50	17.31	110.51
	Length	190	0	0.08	1.30	0.74	0.08
	Ni (%)	396	0	0.01	4.19	0.08	0.03
	Cu (%)	396	0	0.00	3.69	0.04	0.01
	Co (%)	396	0	0.00	0.17	0.01	0.00
	Pt (ppm)	396	0	0.00	9.02	0.03	0.08
	Pd (ppm)	396	0	0.00	2.73	0.03	0.02
400	Au (ppm)	396	0	0.00	0.25	0.01	0.00
	Cr (%)	302	94	0.01	0.23	0.09	0.00
	Fe (%)	368	28	2.16	48.00	7.63	7.97
	S (%)	368	28	0.01	35.10	0.19	1.00
	Length	396	0	0.20	2.20	1.22	0.10

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
700	Ni (%)	0	-	-	-	-	-
	Cu (%)	0	-	-	-	-	-
	Co (%)	0	-	-	-	-	-
	Pt (ppm)	0	-	-	-	-	-
	Pd (ppm)	0	-	-	-	-	-
	Au (ppm)	0	-	-	-	-	-
	Cr (%)	0	-	-	-	-	-
	Fe (%)	0	-	-	-	-	-
	S (%)	0	-	-	-	-	-
	Length	0	-	-	-	-	-
800	Ni (%)	38	0	0.00	0.31	0.07	0.01
	Cu (%)	38	0	0.01	0.18	0.06	0.00
	Co (%)	38	0	0.00	0.02	0.01	0.00
	Pt (ppm)	38	0	0.00	0.22	0.04	0.00
	Pd (ppm)	38	0	0.00	0.61	0.10	0.02
	Au (ppm)	38	0	0.00	0.08	0.01	0.00
	Cr (%)	36	2	0.01	1.05	0.19	0.08
	Fe (%)	38	0	1.82	12.90	5.84	12.64
	S (%)	38	0	0.09	1.09	0.40	0.05
	Length	38	0	0.60	1.65	1.31	0.07

14.1.5.2 Grade Capping

The composite assay data for each element within the domain was examined to assess the amount of metal that is bias from high-grade ("HG") assays. A combination of viewing the decile tables histogram, QQ, and cumulative frequency plots was used to assist in determining if grade capping was required on each element in the domain.

The capping analysis concluded capping was required for various elements in domains 200, 300, and 400. Table 14-8 summarizes the capping applied to each domain by the QP.

Table 14-8: Capping Summary for Grata Deposit

Domain	Element	Capping Value
200/300	Ni	1.20
	Au	0.80
	Pt	1.55
400	Ni	0.40
	Cu	0.30
	Pd	0.40
	Pt	0.60

14.1.5.3 Composting

Compositing of all the assay data within the domain was completed on downhole intervals honouring the interpretation of the geological solids. Statistics indicate that a majority of the samples were collected at 1.5-m intervals. Composites were generated at a 3-m best-fit option, allowing all the material to be used in the compositing process. A 1-m composite was used for high-grade nickel sub-domains (i.e. 200 HG, 300 HG, etc.) to estimate higher grade intervals within each wireframe domain. Datamine's backstitch option distributed the "tails" of the composite equally across all the composites in the hole to ensure all the sample material was used in the estimate. Table 14-9 summarizes the statistics for the boreholes after compositing.

Table 14-9: Basics Statistics of Composites Used for Estimation

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
100	Ni (%)	3	0	0.11	0.21	0.18	0.00
	Cu (%)	3	0	0.07	0.23	0.11	0.00
	Co (%)	3	0	0.01	0.02	0.01	0.00
	Pt (ppm)	3	0	0.06	0.11	0.07	0.00
	Pd (ppm)	3	0	0.11	0.16	0.14	0.00
	Au (ppm)	3	0	0.02	0.03	0.02	0.00
	Cr (%)	1	2	0.15	0.15	0.15	-
	Fe (%)	3	0	13.80	15.80	14.64	0.69
	S (%)	3	0	0.06	0.51	0.22	0.05
	Length	3	0	1.50	4.15	2.88	1.18

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
200	Ni (%)	1,034	0	0.05	0.97	0.23	0.01
	Cu (%)	1,034	0	0.00	1.64	0.14	0.03
	Co (%)	1,034	0	0.00	0.05	0.02	0.00
	Pt (ppm)	1,034	0	0.00	0.71	0.09	0.01
	Pd (ppm)	1,034	0	0.01	3.81	0.36	0.10
	Au (ppm)	1,033	1	0.00	0.42	0.03	0.00
	Cr (%)	365	669	0.06	7.45	0.62	0.24
	Fe (%)	946	88	5.65	20.54	11.31	2.13
	S (%)	946	88	0.01	8.87	0.90	1.18
	Length	1,034	0	1.50	3.32	2.98	0.01
200 HG	Ni (%)	35	0	0.91	2.06	1.34	0.11
	Cu (%)	35	0	0.13	3.01	0.92	0.38
	Co (%)	35	0	0.04	0.09	0.06	0.00
	Pt (ppm)	35	0	0.03	2.42	0.25	0.17
	Pd (ppm)	35	0	0.52	3.54	1.92	0.30
	Au (ppm)	35	0	0.01	0.43	0.07	0.01
	Cr (%)	6	29	0.02	0.61	0.27	0.04
	Fe (%)	31	4	16.70	31.08	22.30	10.88
	S (%)	31	4	6.11	15.38	10.55	6.49
	Length	35	0	0.50	1.25	0.80	0.04
300	Ni (%)	1,837	0	0.03	1.20	0.23	0.03
	Cu (%)	1,837	0	0.00	3.48	0.24	0.08
	Co (%)	1,837	0	0.00	0.16	0.02	0.00
	Pt (ppm)	1,837	0	0.00	0.99	0.10	0.01
	Pd (ppm)	1,837	0	0.00	4.08	0.24	0.08
	Au (ppm)	1,837	0	0.00	0.38	0.04	0.000
	Cr (%)	464	1,373	0.02	0.58	0.19	0.00
	Fe (%)	1,728	109	4.32	48.35	12.62	11.34
	S (%)	1,728	109	0.01	33.56	1.66	7.06
	Length	1,837	0	2.50	4.20	3.00	0.01

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
300 HG	Ni (%)	144	0	0.90	5.03	2.15	1.49
	Cu (%)	144	0	0.05	6.85	1.50	1.45
	Co (%)	144	0	0.03	0.18	0.09	0.00
	Pt (ppm)	143	1	0.00	11.60	0.25	1.06
	Pd (ppm)	144	0	0.11	4.14	1.71	1.08
	Au (ppm)	144	0	0.00	2.56	0.09	0.06
	Cr (%)	30	114	0.01	0.42	0.11	0.01
	Fe (%)	132	12	14.80	52.60	30.26	129.14
	S (%)	132	12	4.56	37.12	17.22	104.45
	Length	144	0	0.50	1.40	0.92	0.03
400	Ni (%)	163	0	0.01	0.27	0.07	0.00
	Cu (%)	163	0	0.00	0.26	0.04	0.00
	Co (%)	163	0	0.00	0.04	0.01	0.00
	Pt (ppm)	163	0	0.00	0.20	0.02	0.00
	Pd (ppm)	163	0	0.00	0.65	0.03	0.01
	Au (ppm)	163	0	0.00	0.09	0.01	0.00
	Cr (%)	122	41	0.01	0.22	0.09	0.00
	Fe (%)	152	11	3.88	12.45	7.62	5.28
	S (%)	152	11	0.01	3.81	0.19	0.16
	Length	163	0	1.50	3.75	2.94	0.06
700	Ni (%)	0	-	-	-	-	-
	Cu (%)	0	-	-	-	-	-
	Co (%)	0	-	-	-	-	-
	Pt (ppm)	0	-	-	-	-	-
	Pd (ppm)	0	-	-	-	-	-
	Au (ppm)	0	-	-	-	-	-
	Cr (%)	0	-	-	-	-	-
	Fe (%)	0	-	-	-	-	-
	S (%)	0	-	-	-	-	-
	Length	0	-	-	-	-	-

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
800	Ni (%)	19	0	0.00	0.25	0.07	0.01
	Cu (%)	19	0	0.01	0.12	0.06	0.00
	Co (%)	19	0	0.00	0.01	0.01	0.00
	Pt (ppm)	19	0	0.00	0.17	0.04	0.00
	Pd (ppm)	19	0	0.00	0.45	0.10	0.02
	Au (ppm)	19	0	0.00	0.05	0.01	0.00
	Cr (%)	17	2	0.01	0.80	0.19	0.08
	Fe (%)	19	0	1.82	10.95	5.84	11.41
	S (%)	19	0	0.15	0.82	0.40	0.02
	Length	19	0	1.50	3.33	2.61	0.40

14.1.5.4 Spatial Analysis

Variograms for each element were created to inform the search ellipse dimensions. The variograms were also used to assign kriging weights during the estimation process.

The variography for SNC was determined using Snowden Supervisor™ version 8.14.1 software. Each element was modelled using a downhole variogram to determine the nugget effect, and then a spherical pair-wise variogram was used to determine spatial continuity in the domain.

Table 14-10 summarizes the results of the variogram models for each element.

Table 14-10: Variogram Parameters

Domain	Element	Nugget (C_0)	First structure (spherical)				Second structure (spherical)			
			C_1	Range 1 (m)	Range 2 (m)	Range 3 (m)	C_2	Range 1 (m)	Range 2 (m)	Range 3 (m)
200 & 300	Ni	0.1	0.87	30	15	15	0.03	150	90	20
	Cu	0.1	0.82	32	22	20	0.08	140	100	40
	Co	0.1	0.87	30	15	15	0.03	150	90	20
	Pt	0.35	0.63	12	20	12	0.02	90	50	20
	Pd	0.1	0.68	67	31	20	0.22	120	80	25
	Au	0.1	0.6	10	27	20	0.30	150	70	26
	Cr	0.04	0.15	292	82	20	0.81	300	180	100
	Fe	0.1	0.87	30	15	15	0.03	150	90	20
	S	0.1	0.87	30	15	15	0.03	150	90	20

Domain	Element	Nugget (C_0)	First structure (spherical)				Second structure (spherical)			
			C_1	Range 1 (m)	Range 2 (m)	Range 3 (m)	C_2	Range 1 (m)	Range 2 (m)	Range 3 (m)
400	Ni	0.19	0.71	33	20	20	0.10	108	40	30
	Cu	0.07	0.32	20	14	20	0.61	200	60	40
	Co	0.19	0.71	33	20	20	0.10	108	40	30
	Pt	0.04	0.23	64	255	19	0.73	133	256	20
	Pd	0.05	0.71	8	149	34	0.24	60	150	159
	Au	0.35	0.32	39	41	20	0.33	100	100	30
	Cr	0.02	0.33	33	20	20	0.65	100	120	40
	Fe	0.19	0.71	33	20	20	0.10	108	40	30
	S	0.19	0.71	33	20	20	0.10	108	40	30
200 & 300	HG Ni	0.1	0.87	30	15	15	0.03	150	90	20

14.1.6 Resource Block Model

14.1.6.1 Parent Model

A separate block model was established in Datamine Studio RM™ for the Extension deposit. The model was rotated around the Z axis.

A block size of 10 m x 10 m x 10 m was selected to accommodate a small-scale open pit mining potential. Sub-blocking of the blocks was used to divide the blocks further to fill the volume.

A block size of 1.75 m x 1.75 m x 1.75 m was selected for the local high-grade sub-domains and subsequently superimposed onto the parent model.

Table 14-11 summarizes details of the parent block model.

Table 14-11: Block Model Parameters

Properties	X (column)	Y (row)	Z (level)
Origin coordinates	617,000	855,760	-250
Number of blocks	280	560	140
Block size (m)	10	10	10
Sub-block size (m)	1.25	1.25	5.00
Rotation	45 degrees around Z axis		

14.1.6.2 Estimate Parameters

An anisotropic search ellipse was used for the estimation. Only the samples within the domain wireframe were used in the estimation analysis.

The interpolations of the zones were completed using the estimation methods ordinary kriging ("OK"), nearest neighbour ("NN"), and inverse distance squared ("ID^2"). The estimations were designed for multiple passes. In each estimation pass, a minimum and maximum number of samples were required, along with a maximum number of samples from a borehole to satisfy the estimation criteria. A local high-grade nickel sub-domain within the 200 and 300 wireframe domains was interpolated within the first pass only (200 HG Ni, 300 HG Ni, etc.).

Table 14-12 summarizes the search ellipse and rotations and Table 14-13 summarizes the interpolation criteria.

Table 14-12: Search Ellipse and Rotations

Domain	Element	Major Axis	Semi-Major Axis	Minor Axis	Axis 3 Rotation Strike	Axis 1 Rotation Dip	Axis 3 Rotation Plunge
200 & 300	Ni	75	45	10	-140	120	-160
	Cu	70	50	20	-140	100	130
	Co	75	45	10	-140	120	-160
	Pt	45	25	10	-140	120	-160
	Pd	60	40	10	-140	100	120
	Au	75	35	15	100	40	110
	Cr	150	90	50	140	30	140
	Fe	75	45	10	-140	150	-160
	S	75	45	10	-140	150	-160
400	Ni	54	20	15	0	60	-90
	Cu	100	30	20	-110	120	180
	Co	54	20	15	0	60	-90
	Pt	65	130	10	-120	120	110
	Pd	30	75	80	100	110	120
	Au	50	50	15	-150	90	110
	Cr	50	60	20	100	60	60
	Fe	65	130	10	-120	90	110
	S	65	130	10	-120	90	110
200 & 300	HG	14	9	2	-140	120	-160

Table 14-13: Interpolation Parameters

Domain	Element	Pass 1				Pass 2				Pass 3			
		Min Comp	Max Comp	Max Comp/ DDH	Search Ellipse Factor	Min Comp	Max Comp	Max Comp/ DDH	Search Ellipse Factor	Min Comp	Max Comp	Max Comp/ DDH	Search Ellipse Factor
200 & 300	Ni	4	10	2	1	3	12	2	1.6	3	12	2	2.2
	Cu	4	10	2	1	3	12	2	1.6	3	12	2	2.2
	Co	4	10	2	1	3	12	2	1.6	3	12	2	2.2
	Pt	4	10	2	1	3	12	2	1.6	3	12	2	2.2
	Pd	4	10	2	1	3	12	2	1.6	3	12	2	2.2
	Au	4	10	2	1	3	12	2	1.6	3	12	2	2.2
	Cr	4	10	2	1	3	12	2	1.6	3	12	2	2.2
	Fe	4	10	2	1	3	12	2	1.6	3	12	2	3.5
	S	4	10	2	1	3	12	2	1.6	3	12	2	3.5
400	Ni	4	10	2	1	3	12	2	1.6	3	12	2	2.2
	Cu	4	10	2	1	3	12	2	1.6	3	12	2	2.2
	Co	4	10	2	1	3	12	2	1.6	3	12	2	2.2
	Pt	4	10	2	1	3	12	2	1.6	3	12	2	2.2
	Pd	4	10	2	1	3	12	2	1.6	3	12	2	2.2
	Au	4	10	2	1	3	12	2	1.6	3	12	2	2.2
	Cr	4	10	2	1	3	12	2	1.6	3	12	2	2.2
	Fe	4	10	2	1	3	12	2	1.6	3	12	2	3.5
	S	4	10	2	1	3	12	2	1.6	3	12	2	3.5
200 & 300	HG Ni	2	4	2	1	0	0	0	0	0	0	0	0

14.1.7 Resource Classification

Several factors are considered in the definition of a resource classification:

- NI 43-101 requirements;
- Canadian Institute of Mining, Metallurgy and Petroleum Estimation of Mineral Resource and Mineral Reserve Best Practice Guidelines (CIM, 2019);
- Author's experience with sulphide deposits;
- Spatial continuity based on the assays within the drill holes;
- Understanding of the geology of the deposit;
- Drill hole spacing, data quality and the estimation runs required to estimate the grades in a block.

A wireframe was created considering the above points to capture the mineral resource classified as Indicated (Figure 14-2). All remaining blocks were classified as Inferred. No material in the block model was classified as Measured.

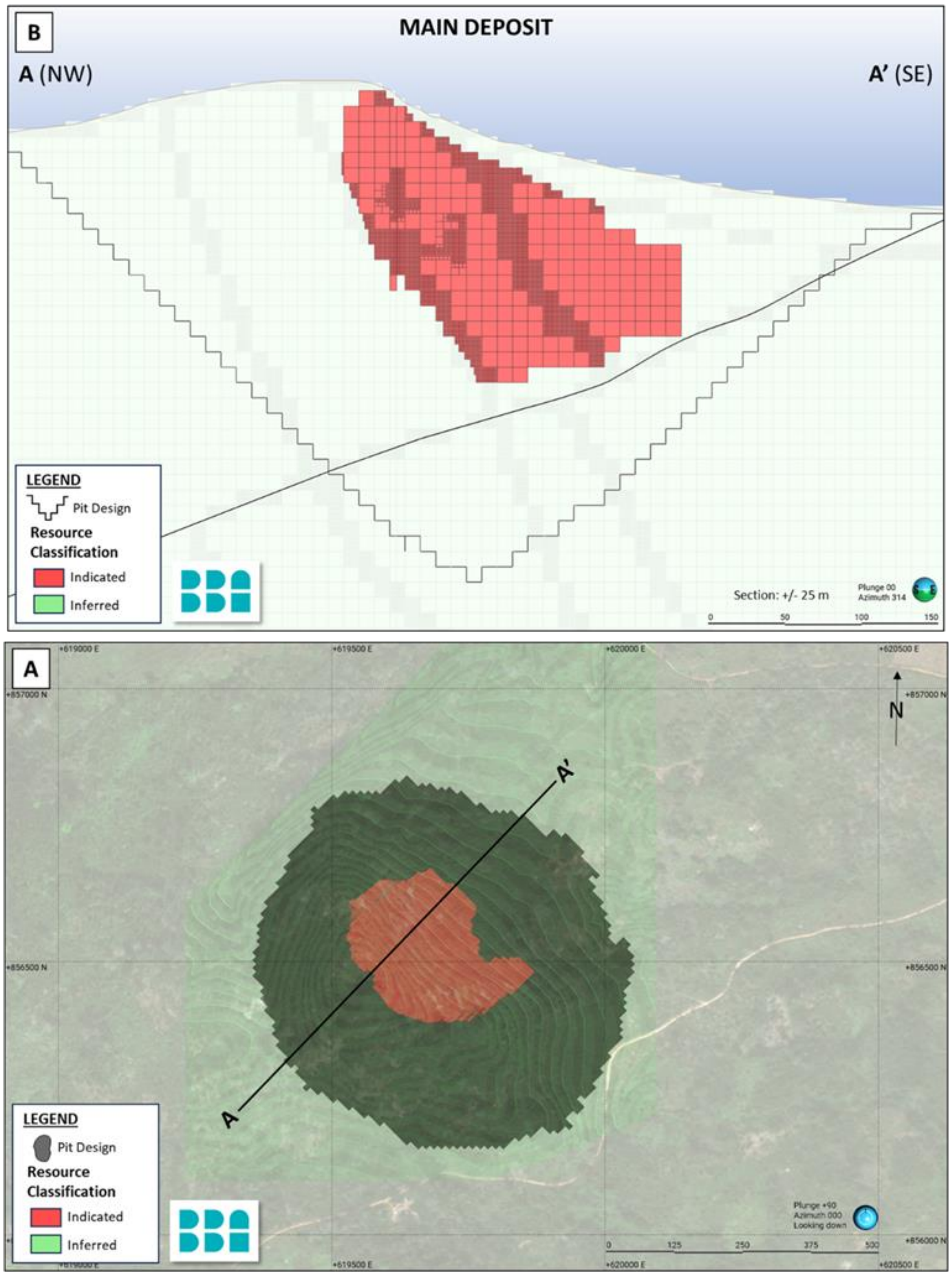


Figure 14-2: Blocks classified as Indicated and Inferred Mineral Resource A) Section View); B) Plan View

No environmental, permitting, legal, title, taxation, socio-economic, marketing, or other relevant issues that may affect the estimate of mineral resources are known to the QP. Mineral reserves can be estimated only on the basis of an economic evaluation that is used in a preliminary Feasibility Study or a Feasibility Study of a mineral project; thus, no reserves have been estimated. As per NI 43-101, mineral resources that are not mineral reserves do not have to demonstrate economic viability.

14.1.8 Mineral Resource Tabulation

The resource reported is effective as of March 21, 2024 and has been tabulated in terms of a pit-constrained NSR cut-off value of $16.34/t.

Table 14-14 summarizes the parameters used to develop the Main pit constraints for a reasonable prospect of economic extraction.

Table 14-14: Pit Constraint Parameters (Main)

Input	Unit	Variable
Metal Price	Cu ($/lb)	3.75
	Ni ($/lb)	8.70
	Co ($/lb)	25.10
	Pt ($/oz)	1,140
	Pd ($/oz)	1,300
	Au ($/oz)	1,690
Mining Cost	Saprolite ($/t)	1.68
	Fresh ($/t)	2.26
	Incremental ($/t per 10 bench)	0.05
	Sustaining capital ($/t)	0.09
Pit Angle	Saprolite (degree)	25
	Fresh (degree)	45
Processing Cost	Processing cost ($/t milled)	13.02
General & Administrative (“G&A”)	($/t milled)	3.32
Treatment Charge	Cu conc. ($/t conc.)	105
	Ni conc. ($/t conc.)	346
Freight to Smelter	($/t conc.)	63
Metallurgical Recoveries	Based on conc. And grades	variable
Mine Dilution	(%)	5

The pit-constrained mineral resource for the Main deposit is summarized in Table 14-15. Table 14-16 summarized the in situ contained metal with the pit shell.

Table 14-15: Main Resource Summary

Classification	Deposit	Tonne	Ni (%)	Cu (%)	Pt (g/t)	Pd (g/t)	Au (g/t)	Co (%)
Indicated	Main	15,248,000	0.26	0.22	0.10	0.31	0.04	0.02
Inferred		21,342,000	0.25	0.21	0.07	0.28	0.04	0.02

Table 14-16: Main In Situ Contained Metal in a Pit Shell

Classification	Deposit	Tonne	Ni ('000 lb)	Cu ('000 lb)	Pt (oz)	Pd (oz)	Au (oz)	Co ('000 lb)
Indicated	Main	15,248,000	87,100	75,000	50,100	154,400	19,100	5,700
Inferred		21,342,000	117,000	96,500	49,700	194,200	24,600	7,400

A mineral resource was prepared in accordance with NI 43-101 and the CIM Definition Standards (2019). Mineral resources that are not mineral reserves do not have demonstrated economic viability. This estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, sociopolitical, marketing, or other relevant issues.

14.1.9 Model Validation

The Main model was validated by three methods:

- Visual comparison of colour-coded block model grades with composite grades on section;
- Comparison of the global mean block grades for ID^2, and NN;
- Swath plots.

14.1.9.1 Visual Validation

The visual comparisons of ordinary kriging block model grades and composite drill holes show a reasonable correlation between the values (Figure 14-3 and Figure 14-4). No significant discrepancies were apparent from the sections reviewed, yet grade smoothing was apparent in some of the lower elevations due to the distance between drill samples being broader in these regions.

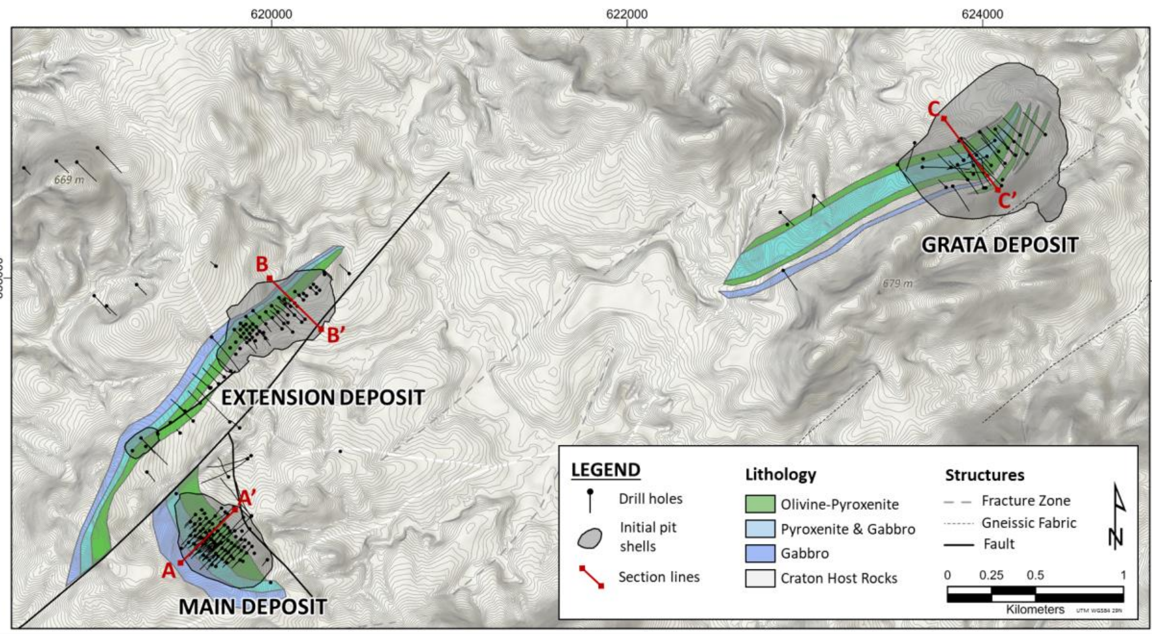


Figure 14-3: Surface Plan Showing Optimized Pits for Samapleu and Grata Deposits

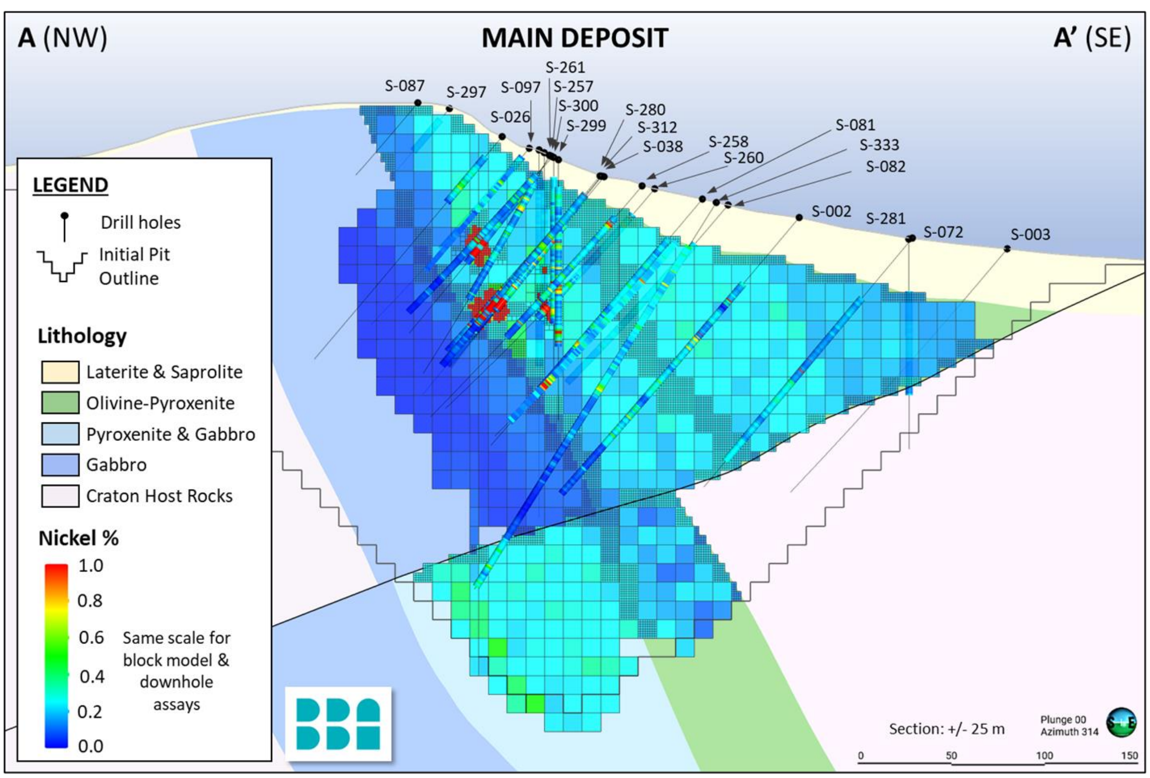


Figure 14-4: Main Deposit Visual Validation Through A-A'

14.1.9.2 Global Statistics

The global block model statistics for the OK model were compared to the global NN and ID^2 models. Table 14-17 shows this comparison of the global estimates for the three estimation method calculations. Comparisons were made using all blocks above an NSR value of $0.

Table 14-17: Main Global Statistics Comparison

Element	Unit	NN	ID^2	OK
Ni	%	0.28	0.29	0.29
Cu	%	0.22	0.23	0.22
Co	%	0.02	0.02	0.02
Pt	g/t	0.04	0.04	0.04
Pd	g/t	0.33	0.34	0.33
Au	g/t	0.10	0.10	0.10

14.1.9.3 Swath Plots

Figure 14-5 and Figure 14-6 display the comparison between the OK estimate with ID^2 and NN estimates in a swath plot format.

As expected, there is a strong degree of grade smoothing with the OK methodology.

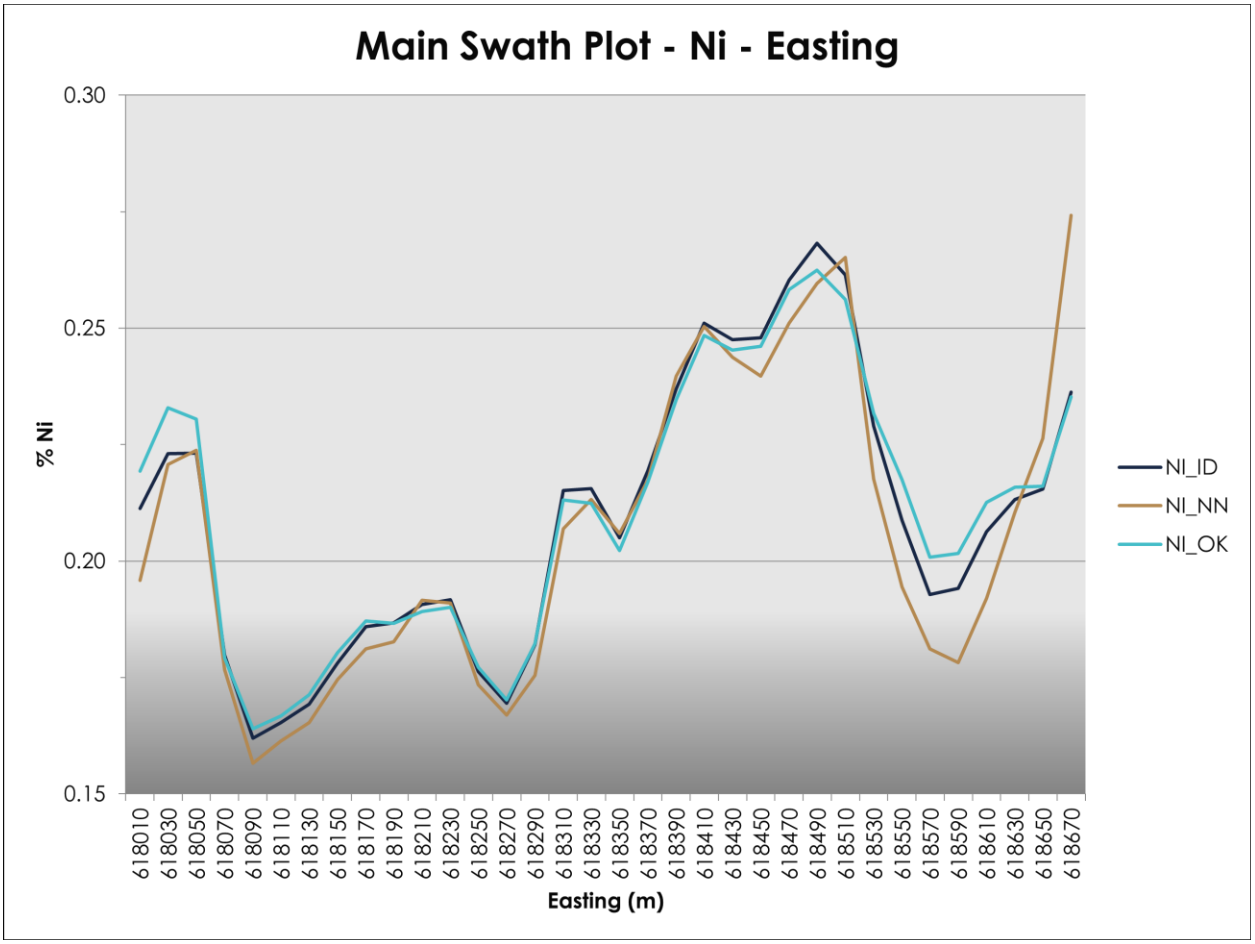


Figure 14-5: Main Deposit Swath Plot – Easting

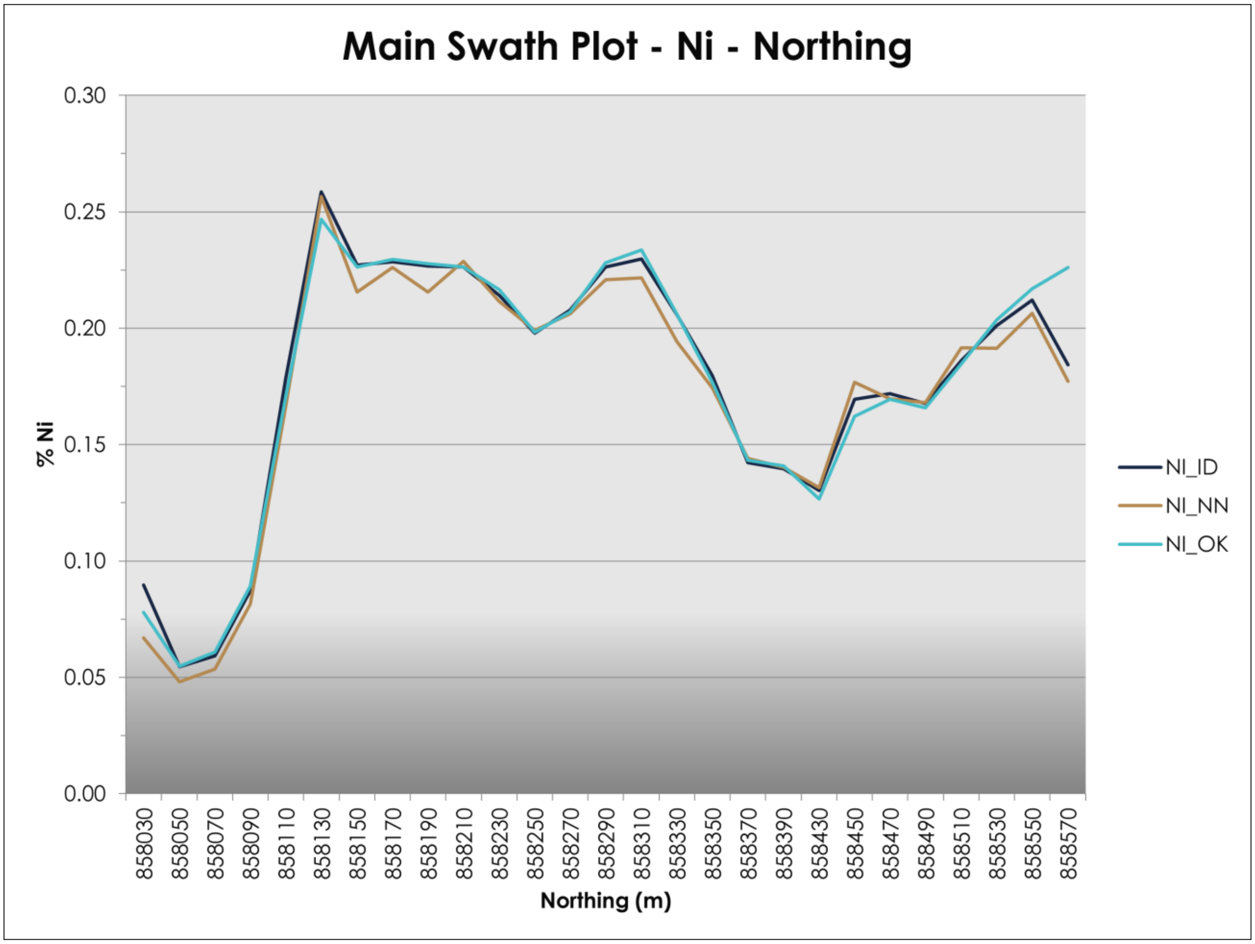


Figure 14-6: Main Deposit Swath Plot – Northing

14.1.10 Previous Estimates

The differences between the historic Mineral Resource Statement with an effective date of June 27, 2023 (McCracken and Martin, 2023) and the current Mineral Resource Statement disclosed are:

- The addition of nine downhole survey files and resulting survey files resulted in 88% of the drill holes having downhole surveys compared to 80% in the previous resource.
- A re-interpretation of the geology using the updated downhole survey files.
- Re-classification of mineral resources based on the increased geological confidence.

14.2 Extension Resource Estimate

14.2.1 Deposit Database

The project database totals 474 surface-collared diamond drill holes, of which 258 DDH were used to model Main, Extension, and Grata deposits, totalling 51,282 m in length. A subset of 96 DDH was used to build the Extension deposit model, totalling 17,083 m in length. There are a total of 7,916 assay records in the Extension database.

The six geological domains at Extension are summarized in Table 14-18. The domain naming convention is used consistently through this disclosure.

Table 14-18: Extension Deposit Geological Domains

Domain	Rock Type
100	Saprolite
200	Olivine Pyroxenite
400	Gabbro
600	Olivine Pyroxenite
700	FW Granulite
800	HW Granulite

The drill hole database was validated before proceeding to the resource estimation phase, and the validation steps are detailed in Chapter 12.

SNC maintains all borehole data in a Microsoft Access® relational database. Header, survey, assays, and lithology information are saved as individual tables in the database. The CSV database information was originally provided to the QP on April 14, 2023. An updated downhole survey database was provided in October 2023.

The QP believes that the database is appropriate for the purposes of mineral resource estimation and the sample density allows a reliable estimate of the tonnage and grade of the mineralization in accordance with the level of confidence established by the mineral resource categories as defined in the CIM Guidelines.

14.2.2 Specific Gravity

SNC collected a total of 911 samples from the diamond drill holes in the Extension deposit for SG measurements.

SNC used the same procedure to collect the data as disclosed in Section 14.1.2. Table 14-19 summarizes the results of the SG measurements for the Extension deposit.

Table 14-19: Extension Deposit Specific Gravity Summary

Domain	Rock Type	Number of Samples	Regression Formula	Default
100	Saprolite	2	-	1.87
200/600	Pyroxenite	579	SG=0.032Fe+2.947	2.95
400	Gabbro	125	SG=0.047Fe+2.764	2.76
700	FW Granulite	47	-	2.45
800	HW Granulite	158	-	2.60

14.2.3 Topography Data

Topographic data was generated as a DTM created using a total station survey on 5-m contours. The area covered by the DTM is sufficient to cover the area defined by the current resource model.

14.2.4 Geological Interpretation

Three-dimensional wireframe mineralization models were developed in Leapfrog Geo™ under the supervision of the QP. The wireframes were based on the geological interpretation of the zones as distinct domains and not strictly on grade intervals.

The wireframe solids were imported from Leapfrog Geo™ into Datamine Studio RM™ in .dwg format. The solids were validated within Datamine.

The modelling is broken down into six separate domains based on geology. Table 14-20 tabulates the solids and associated volumes. Figure 14-7 illustrates the model solid for each of the domains.

Table 14-20: Solids and Associated Volumes

Domain	Rock Type	Wireframe Volume (m³)
100	Saprolite	47,679,435
200	Olivine Pyroxenite	88,593,770
400	Gabbro	88,660,802
600	Olivine Pyroxenite	48,309,813
700	FW Granulite	1,093,423,768
800	HW Granulite	132,015,928

The wireframes extend at below the deepest diamond drill holes, to provide a target for future exploration. Due to their sheer size, the resource model did not estimate grades into the full volume of the wireframes.

The non-assayed intervals were assigned a void (-) value.

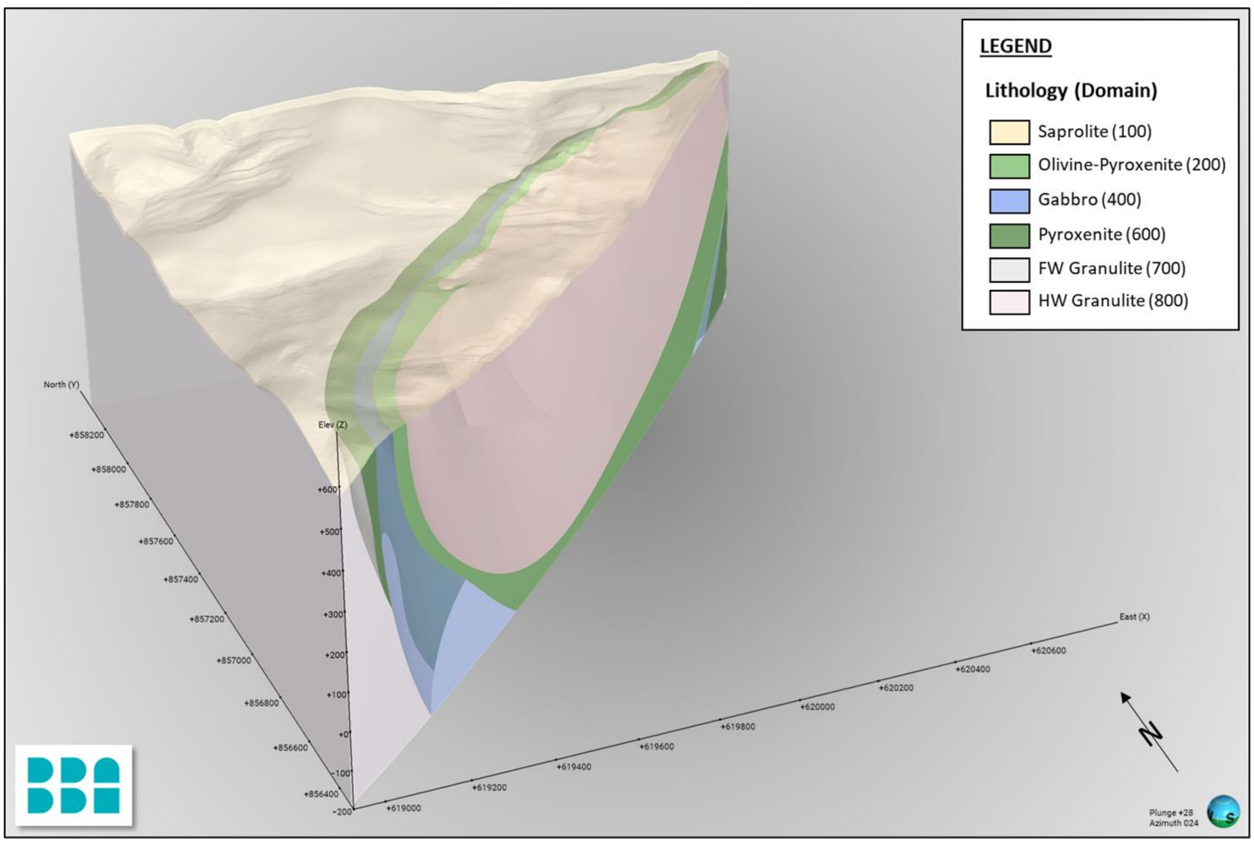


Figure 14-7: Interpretation of Domains
(Inclined View not to Scale)

14.2.5 Exploratory Data Analysis

14.2.5.1 Assays

The six domains included in the mineral resource were sampled by a total of 7,881 for nickel, copper and cobalt assays, and 7,803 samples for palladium and platinum. The assay intervals within each mineral domain were captured using Leapfrog Geo™ routine to flag the intercept into a new table in the database. These intervals were reviewed to ensure all the proper assay intervals were appropriately captured. Table 14-21 summarizes the basic statistics for the assay intervals for each of the mineral domains on the property.

Table 14-21: Extension Deposit Borehole Statistics by Domain

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
100	Ni (%)	39	0	0.00	0.43	0.12	0.01
	Cu (%)	39	0	0.01	0.51	0.07	0.01
	Co (%)	39	0	0.00	0.04	0.01	0.00
	Pt (ppm)	39	0	0.00	0.22	0.04	0.00
	Pd (ppm)	39	0	0.00	0.55	0.10	0.01
	Au (ppm)	39	0	0.00	0.07	0.01	0.00
	Cr (%)	36	3	0.01	0.81	0.22	0.07
	Fe (%)	39	0	1.39	29.30	8.62	57.44
	S (%)	39	0	0.01	3.04	0.19	0.16
	Length	39	0	0.15	1.60	1.35	0.09
200	Ni (%)	4,262	10	0.00	3.53	0.24	0.06
	Cu (%)	4,262	10	0.00	13.30	0.17	0.11
	Co (%)	4,262	10	0.00	0.23	0.02	0.00
	Pt (ppm)	4,231	41	0.00	9.95	0.09	0.06
	Pd (ppm)	4,231	41	0.00	4.90	0.39	0.24
	Au (ppm)	4,221	51	0.00	2.53	0.02	0.00
	Cr (%)	1,568	2,704	0.00	16.20	0.62	1.31
	Fe (%)	3,862	410	0.13	50.40	11.66	12.44
	S (%)	3,831	441	0.01	31.60	1.52	7.25
	Length	4,272	0	0.05	2.75	1.15	0.13

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
400	Ni (%)	1,578	9	0.00	2.83	0.13	0.02
	Cu (%)	1,578	9	0.00	2.53	0.07	0.02
	Co (%)	1,578	9	0.00	0.15	0.01	0.000
	Pt (ppm)	1,542	45	0.00	2.77	0.05	0.01
	Pd (ppm)	1,542	45	0.00	3.08	0.15	0.05
	Au (ppm)	1,542	45	0.00	0.33	0.01	0.00
	Cr (%)	758	829	0.01	0.29	0.12	0.00
	Fe (%)	1,454	133	2.16	39.40	9.75	9.66
	S (%)	1,418	169	0.01	24.90	0.58	1.65
	Length	1,587	0	0.20	2.35	1.27	0.09
600	Ni (%)	1,395	16	0.00	2.31	0.19	0.03
	Cu (%)	1,395	16	0.00	4.67	0.13	0.04
	Co (%)	1,395	16	0.00	0.10	0.01	0.00
	Pt (ppm)	1,395	16	0.00	2.77	0.07	0.01
	Pd (ppm)	1,395	16	0.00	5.23	0.27	0.15
	Au (ppm)	1,395	16	0.00	0.45	0.02	0.00
	Cr (%)	544	867	0.01	7.63	0.30	0.18
	Fe (%)	1,265	146	0.71	35.00	10.95	7.32
	S (%)	1,265	146	0.01	22.10	0.98	2.21
	Length	1,411	0	0.15	2.50	1.22	0.11
700	Ni (%)	119	0	0.00	0.52	0.06	0.01
	Cu (%)	119	0	0.00	0.63	0.06	0.01
	Co (%)	119	0	0.00	0.03	0.01	0.00
	Pt (ppm)	119	0	0.00	0.65	0.02	0.00
	Pd (ppm)	119	0	0.00	0.95	0.08	0.03
	Au (ppm)	119	0	0.00	0.10	0.01	0.00
	Cr (%)	83	36	0.01	0.19	0.02	0.00
	Fe (%)	119	0	0.87	19.50	6.19	18.563
	S (%)	119	0	0.01	4.40	0.61	0.84
	Length	119	0	0.40	1.75	1.21	0.10

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
800	Ni (%)	488	0	0.00	2.01	0.08	0.02
	Cu (%)	488	0	0.00	1.39	0.08	0.02
	Co (%)	488	0	0.00	0.10	0.01	0.00
	Pt (ppm)	477	11	0.00	3.68	0.04	0.02
	Pd (ppm)	477	11	0.00	3.35	0.11	0.05
	Au (ppm)	477	11	0.00	0.28	0.02	0.00
	Cr (%)	300	188	0.00	0.89	0.11	0.02
	Fe (%)	423	65	0.93	36.70	7.69	17.75
	S (%)	412	76	0.01	22.60	0.56	1.14
	Length	488	0	0.10	2.00	1.23	0.12

14.2.5.2 Grade Capping

The composite assay data for each element within the domain was examined to assess the amount of metal that is biased from high-grade assays. A combination of viewing the decile tables, the histogram, QQ, and cumulative frequency plots, was used to determine if grade capping was required for each element in the domain.

The capping analysis concluded capping was required in domain 200 on Platinum since the CV is higher than 2.0. The QP applied a top cut at 2.5. No capping was required for other domains.

14.2.5.3 Composting

Compositing all the assay data within the domain was completed on downhole intervals honouring the interpretation of the geological solids. Statistics indicate that a majority of the samples was collected at 1.5-m intervals. Composites were generated at 3-m best-fit option, allowing all the material to be used in the compositing process. Datamine's backstitch option distributed the "tails" of the composite equally across all the composites in the hole to ensure all the sample material was used in the estimate. Table 14-22 summarizes the statistics for the boreholes after compositing.

Table 14-22: Basics Statistics of Composites Used for Estimation

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
100	Ni (%)	17	0	0.00	0.37	0.11	0.01
	Cu (%)	17	0	0.01	0.25	0.07	0.01
	Co (%)	17	0	0.00	0.03	0.01	0.00
	Pt (ppm)	17	0	0.00	0.11	0.04	0.00
	Pd (ppm)	17	0	0.00	0.29	0.09	0.01
	Au (ppm)	17	0	0.00	0.04	0.01	0.00
	Cr (%)	16	1	0.01	0.81	0.22	0.07
	Fe (%)	17	0	1.74	25.32	8.45	58.78
	S (%)	17	0	0.01	0.90	0.13	0.04
	Length	17	0	1.50	4.00	2.87	0.63
200	Ni (%)	1,631	5	0.00	2.01	0.24	0.03
	Cu (%)	1,631	5	0.00	3.67	0.17	0.05
	Co (%)	1,631	5	0.00	0.14	0.02	0.00
	Pt (ppm)	1,618	18	0.00	1.73	0.09	0.01
	Pd (ppm)	1,618	18	0.00	3.08	0.39	0.15
	Au (ppm)	1,614	22	0.00	0.60	0.02	0.00
	Cr (%)	575	1061	0.01	12.31	0.62	0.81
	Fe (%)	1,478	158	0.16	34.29	11.66	7.17
	S (%)	1,465	171	0.01	20.95	1.52	4.06
	Length	1,636	0	2.15	4.10	2.99	0.00
400	Ni (%)	669	5	0.01	1.09	0.13	0.01
	Cu (%)	669	5	0.00	1.45	0.07	0.01
	Co (%)	669	5	0.00	0.08	0.01	0.00
	Pt (ppm)	651	23	0.00	0.87	0.05	0.00
	Pd (ppm)	651	23	0.00	1.30	0.15	0.04
	Au (ppm)	651	23	0.00	0.20	0.01	0.00
	Cr (%)	325	349	0.02	0.26	0.12	0.00
	Fe (%)	616	58	3.65	20.46	9.76	7.76
	S (%)	598	76	0.01	8.22	0.58	0.96
	Length	674	0	1.85	4.40	2.99	0.02

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
600	Ni (%)	566	8	0.01	1.15	0.19	0.01
	Cu (%)	566	8	0.00	1.09	0.13	0.02
	Co (%)	566	8	0.00	0.06	0.01	0.00
	Pt (ppm)	566	8	0.00	0.81	0.07	0.01
	Pd (ppm)	566	8	0.00	2.41	0.27	0.09
	Au (ppm)	566	8	0.00	0.23	0.02	0.00
	Cr (%)	206	368	0.01	1.64	0.30	0.10
	Fe (%)	515	59	3.61	19.28	10.95	5.03
	S (%)	515	59	0.01	8.60	0.98	1.15
	Length	574	0	1.50	4.15	2.99	0.03
700	Ni (%)	47	0	0.00	0.29	0.06	0.01
	Cu (%)	47	0	0.01	0.30	0.06	0.00
	Co (%)	47	0	0.00	0.02	0.01	0.00
	Pt (ppm)	47	0	0.00	0.16	0.02	0.00
	Pd (ppm)	47	0	0.00	0.44	0.08	0.02
	Au (ppm)	47	0	0.00	0.05	0.01	0.00
	Cr (%)	33	14	0.01	0.10	0.02	0.00
	Fe (%)	47	0	1.19	14.14	6.17	13.94
	S (%)	47	0	0.05	2.04	0.60	0.37
	Length	47	0	1.50	4.35	3.01	0.23
800	Ni (%)	202	0	0.00	0.86	0.08	0.01
	Cu (%)	202	0	0.00	0.70	0.08	0.01
	Co (%)	202	0	0.00	0.04	0.01	0.00
	Pt (ppm)	197	5	0.00	0.74	0.04	0.00
	Pd (ppm)	197	5	0.00	1.40	0.11	0.04
	Au (ppm)	197	5	0.00	0.16	0.02	0.00
	Cr (%)	114	88	0.00	0.68	0.11	0.02
	Fe (%)	172	30	1.16	16.97	7.70	14.79
	S (%)	167	35	0.01	5.13	0.56	0.56
	Length	202	0	1.50	4.40	2.96	0.08

14.2.5.4 Spatial Analysis

Variograms for each element were created to generate the search ellipse dimensions. The variograms were also used to assign kriging weights during the estimation process.

The variography for SNC was determined using Snowden Supervisor™ version 8.14.1 software. Each element was modelled using a downhole variogram to determine nugget effect, then a spherical pair-wise variogram was used to determine spatial continuity in the domain.

Table 14-23 summarizes the results of the variogram models for each element. The variogram rotation and maximum range governed the search ellipse rotation and size.

Table 14-23: Variogram Parameters

Domain	Element	Nugget (C_0)	First Structure (Spherical)				Second Structure (Spherical)			
			C_1	Range 1 (m)	Range 2 (m)	Range 3 (m)	C_2	Range 1 (m)	Range 2 (m)	Range 3 (m)
200 & 600	Ni	0.25	0.11	33	27	15	0.64	45	47	18
	Cu	0.286	0.52	34	25	35	0.194	72	33	38
	Co	0.25	0.11	33	27	15	0.64	45	47	18
	Pt	0.54	0.27	36	24	4	0.19	73	94	9
	Pd	0.21	0.11	8	8	5	0.68	50	39	40
	Au	0.49	0.17	33	46	63	0.34	114	73	64
	Cr	0.33	0.01	145	43	19	228	60	20	0.66
	Fe	0.25	0.11	33	27	15	0.64	45	47	18
	S	0.25	0.11	33	27	15	0.64	45	47	18
400	Ni	0.22	0.73	17	39	10	0.05	40	91	17
	Cu	0.22	0.73	17	39	10	0.05	40	91	17
	Co	0.22	0.73	17	39	10	0.05	40	91	17
	Pt	0.22	0.73	17	39	10	0.05	40	91	17
	Pd	0.22	0.73	17	39	10	0.05	40	91	17
	Au	0.34	0.4	26	48	68	0.26	46	60	79
	Cr	0.00	0.79	21	64	45	0.21	43	66	60
	Fe	0.22	0.73	17	39	10	0.05	40	91	17
	S	0.22	0.73	17	39	10	0.05	40	91	17

14.2.6 Resource Block Model

14.2.6.1 Parent Model

A separate block model was established in Datamine Studio RM™ for the Extension deposit. The model was rotated around the Z axis.

A block size of 10 m x 10 m x 10 m was selected to accommodate a small-scale open pit mining potential. Sub-blocking further divided the blocks to fill the volume.

Table 14-24 summarizes details of the parent block model.

Table 14-24: Block Model Parameters

Properties	X (column)	Y (row)	Z (level)
Origin coordinates	617,000	855,760	-250
Number of blocks	280	560	140
Block size (m)	10	10	10
Sub-block size(m)	1.25	1.25	5.00
Rotation	45 degrees around Z axis		

14.2.6.2 Estimate Parameters

An anisotropic search ellipse was used for the estimation. Only the samples within the domain wireframe were used in the estimation analysis.

The interpolations of the domains were completed using the estimation methods OK, NN, and ID^2. The estimations were designed for multiple passes. In each estimation pass, a minimum and maximum number of samples were required and a maximum number of samples from a borehole to satisfy the estimation criteria.

Table 14-25 summarizes the search ellipse and rotations and Table 14-26 summarizes the interpolation criteria.

Table 14-25: Search ellipse and rotations

Domain	Element	Major Axis	Semi-Major Axis	Minor Axis	Axis 3 Rotation Strike	Axis 1 Rotation Dip	Axis 3 Rotation Plunge
200 & 600	Ni	40	20	5	-50	100	70
	Cu	65	15	10	130	50	170
	Co	40	20	5	-50	100	70
	Pt	45	50	5	130	60	-170
	Pd	40	20	5	-50	100	70
	Au	60	35	15	130	70	90
	Cr	40	20	5	-50	100	70
	Fe	40	20	5	-50	100	70
	S	40	20	5	-50	100	70
400	Ni	15	30	5	150	80	100
	Cu	15	30	5	150	80	100
	Co	15	30	5	150	80	100
	Pt	15	20	5	150	70	90
	Pd	15	30	5	150	80	100
	Au	50	30	10	140	70	110
	Cr	20	50	10	140	90	90
	Fe	15	30	5	150	80	100
	S	15	30	5	150	80	100

Table 14-26: Interpolation Parameters

Domain	Element	Pass1				Pass2				Pass3			
		Min Comp	Max Comp	Max Comp/ DDH	Search Ellipse Factor	Min Comp	Max Comp	Max Comp/ DDH	Search Ellipse Factor	Min Comp	Max Comp	Max Comp/ DDH	Search Ellipse Factor
200 & 600	Ni	4	10	2	1	3	12	2	1.6	3	12	2	3
	Cu	4	10	2	1	3	12	2	1.6	3	12	2	3
	Co	4	10	2	1	3	12	2	1.6	3	12	2	3
	Pt	4	10	2	1	3	12	2	1.6	3	12	2	3
	Pd	4	10	2	1	3	12	2	1.6	3	12	2	3
	Au	4	10	2	1	3	12	2	1.6	3	12	2	3
	Cr	4	10	2	1	3	12	2	1.6	3	12	2	3
	Fe	4	10	2	1	3	12	2	1.6	3	12	2	3
	S	4	10	2	1	3	12	2	1.6	3	12	2	3

Domain	Element	Pass1				Pass2				Pass3			
		Min Comp	Max Comp	Max Comp/ DDH	Search Ellipse Factor	Min Comp	Max Comp	Max Comp/ DDH	Search Ellipse Factor	Min Comp	Max Comp	Max Comp/ DDH	Search Ellipse Factor
400	Ni	4	10	2	1	3	12	2	1.6	3	12	2	3
	Cu	4	10	2	1	3	12	2	1.6	3	12	2	3
	Co	4	10	2	1	3	12	2	1.6	3	12	2	3
	Pt	4	10	2	1	3	12	2	1.6	3	12	2	3
	Pd	4	10	2	1	3	12	2	1.6	3	12	2	3
	Au	4	10	2	1	3	12	2	1.6	3	12	2	3
	Cr	4	10	2	1	3	12	2	1.6	3	12	2	3
	Fe	4	10	2	1	3	12	2	1.6	3	12	2	3
	S	4	10	2	1	3	12	2	1.6	3	12	2	3

14.2.7 Resource Classification

Several factors are considered in the definition of a resource classification:

- NI 43-101 requirements;
- Canadian Institute of Mining, Metallurgy and Petroleum Estimation of Mineral Resource and Mineral Reserve Best Practice Guidelines (CIM, 2019);
- Author's experience with sulphide deposits;
- Spatial continuity based on the assays within the drill holes;
- Understanding of the geology of the deposit;
- Drill hole spacing, data quality, and the estimation runs are required to estimate the block grades.

A wireframe was created taking the above points into consideration to capture the mineral resource classified as Indicated (Figure 14-18). All remaining blocks were classified as Inferred. No material in the block model was considered as Measured.

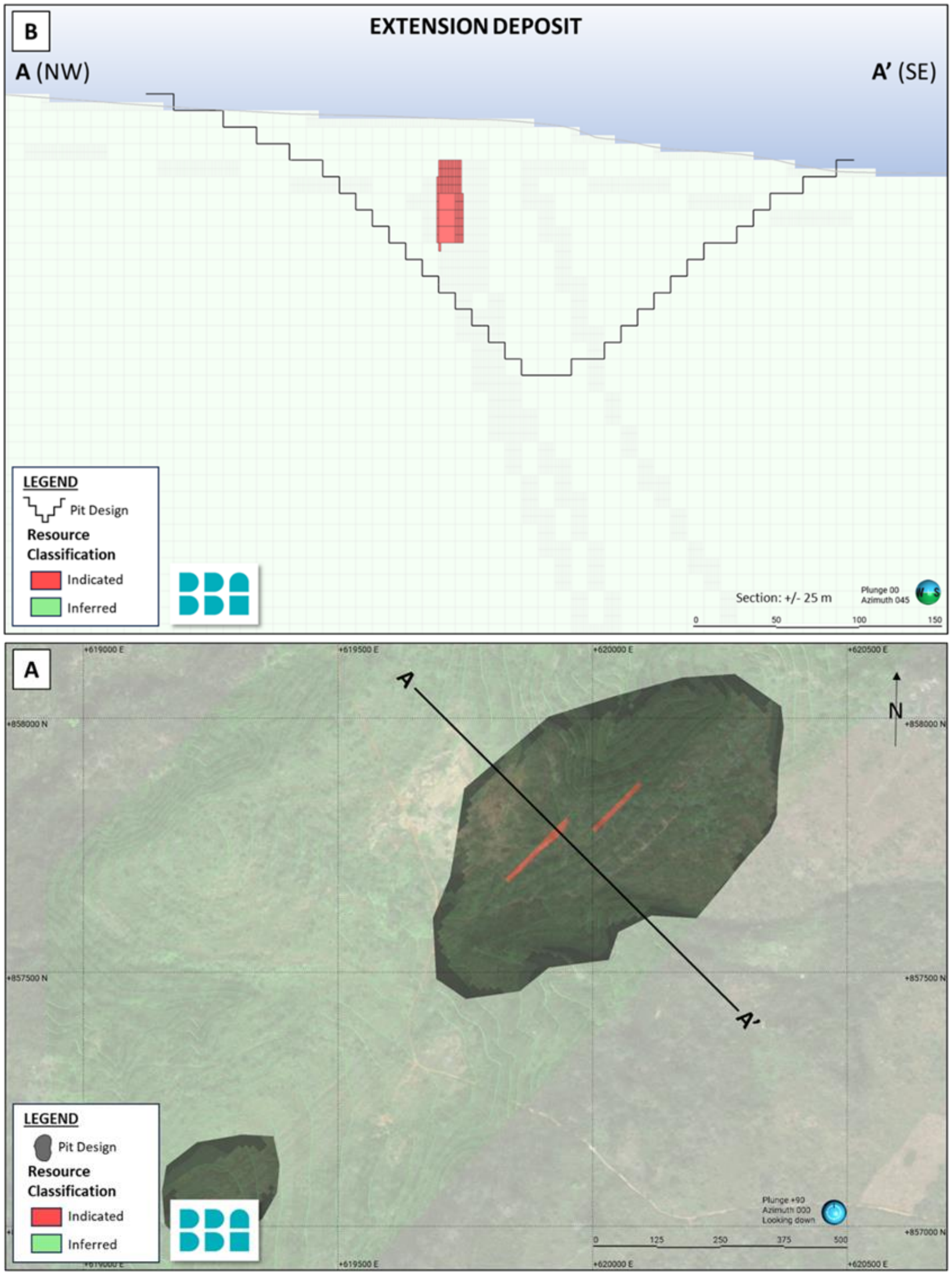


Figure 14-8: Blocks classified as Indicated and Inferred Mineral Resource
A) Section View; B) Plan View

No environmental, permitting, legal, title, taxation, socio-economic, marketing, or other relevant issues that may affect the estimate of mineral resources are known to the QP . Mineral reserves can be estimated only on the basis of an economic evaluation that is used in a preliminary Feasibility Study or a Feasibility Study of a mineral project; thus, no reserves have been estimated. As per NI 43-101, mineral resources that are not mineral reserves do not have to demonstrate economic viability.

14.2.8 Mineral Resource Tabulation

The resource reported is effective as of March 21, 2024 and has been tabulated in terms of a pit-constrained NSR cut-off value of $16.34/t.

Table 14-27 summarizes the parameters used to develop the Extension pit constraints for a reasonable prospect of economic extraction.

Table 14-27: Pit Constraint Parameters (Extension)

Input	Unit	Variable
Metal Price	Cu ($/lb)	3.75
	Ni ($/lb)	8.70
	Co ($/lb)	25.10
	Pt ($/oz)	1,140
	Pd ($/oz)	1,300
	Au ($/oz)	1,690
Mining Cost	Saprolite ($/t)	1.68
	Fresh ($/t)	2.26
	Incremental ($/t per 10 bench)	0.05
	Sustaining capital ($/t)	0.09
Pit Angle	Saprolite (degree)	25
	Fresh (degree)	45
Processing Cost	Processing cost ($/t milled)	13.02
G&A	($/t milled)	3.32
Treatment Charge	Cu conc. ($/t conc.)	105
	Ni conc. ($/t conc.)	346
Freight to Smelter	$/t conc.	63
Metallurgical Recoveries	Based on conc. And grades	variable
Mine Dilution (%)	Mine dilution (%)	5

The pit-constrained mineral resource for the Extension deposit is summarized in Table 14-28. Table 14-29 summarized the in situ contained metal with the pit shell.

Table 14-28: Extension Mineral Resource Summary

Classification	Deposit	Tonne	Ni (%)	Cu (%)	Pt (g/t)	Pd (g/t)	Au (g/t)	Co (%)
Indicated	Extension	514,000	0.25	0.16	0.10	0.45	0.02	0.02
Inferred		10,885,000	0.28	0.22	0.10	0.48	0.02	0.02

Table 14-29: Extension In Situ Contained Metal in a Pit Shell

Classification	Deposit	Tonne	Ni ('000 lb)	Cu ('000 lb)	Pt (oz)	Pd (oz)	Au (oz)	Co ('000 lb)
Indicated	Extension	514,000	2,800	1,800	1,600	7,400	400	200
Inferred		10,885,000	67,300	52,500	33,900	166,900	8,600	4,200

A mineral resource was prepared in accordance with NI 43-101 and the CIM Definition Standards (2019). Mineral resources that are not mineral reserves do not have demonstrated economic viability. This estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, sociopolitical, marketing, or other relevant issues.

14.2.9 Model Validation

The Extension model was validated by three methods:

- Visual comparison of colour-coded block model grades with composite grades on section;
- Comparison of the global mean block grades for ID^2, and NN;
- Swath plots.

14.2.9.1 Visual Validation

The visual comparisons of ordinary kriging block model grades and composite drill holes show a reasonable correlation between the values (Figure 14-9 and Figure 14-10). No significant discrepancies were apparent from the sections reviewed, yet grade smoothing was apparent in some of the lower elevations due to the distance between drill samples being broader in these regions.

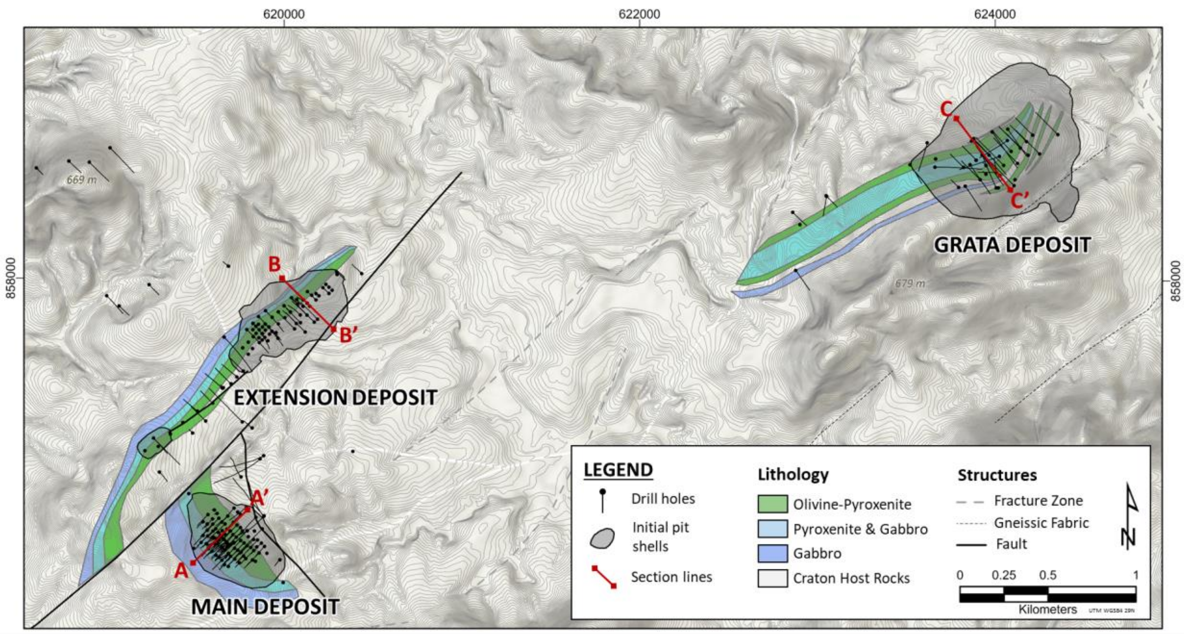


Figure 14-9: Surface Plan Showing Optimized Pits for Samapleu and Grata Deposits

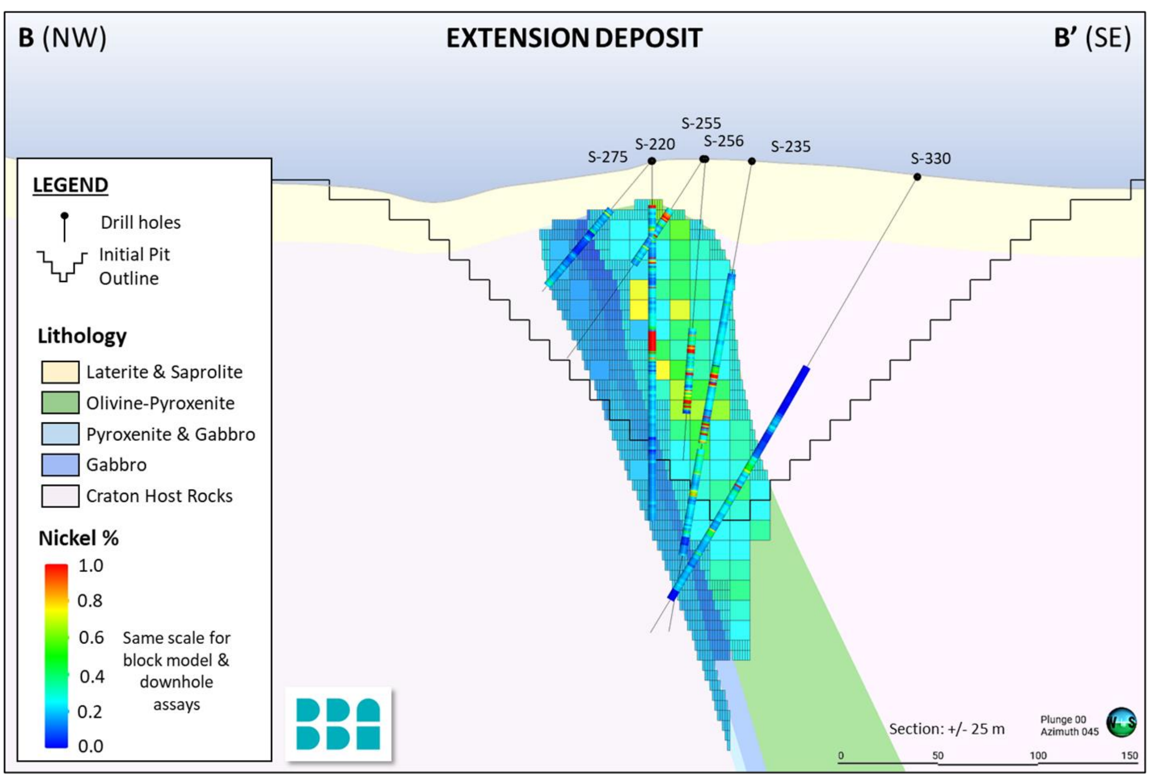


Figure 14-10: Extension Deposit Visual Validation Through B-B'

14.2.9.2 Global Statistics

The global block model statistics for the OK model were compared to the global NN and ID^2 model. Table 14-30 shows a comparison of the global estimates for the three estimation method calculations. Comparisons were made using all blocks at above an NSR value of $0.

Table 14-30: Extension Global Statistics Comparison

Element	Unit	NN	ID^2	OK
Ni	%	0.17	0.18	0.18
Cu	%	0.12	0.12	0.12
Co	%	0.01	0.01	0.01
Pt	g/t	0.07	0.07	0.07
Pd	g/t	0.25	0.25	0.25
Au	g/t	0.02	0.02	0.02

14.2.9.3 Swath Plots

Figure 14-11 and Figure 14-12 display the comparison between the OK estimate with ID^2 and NN estimates in a swath plot format.

As expected, there is a strong degree of grade smoothing with the OK methodology.

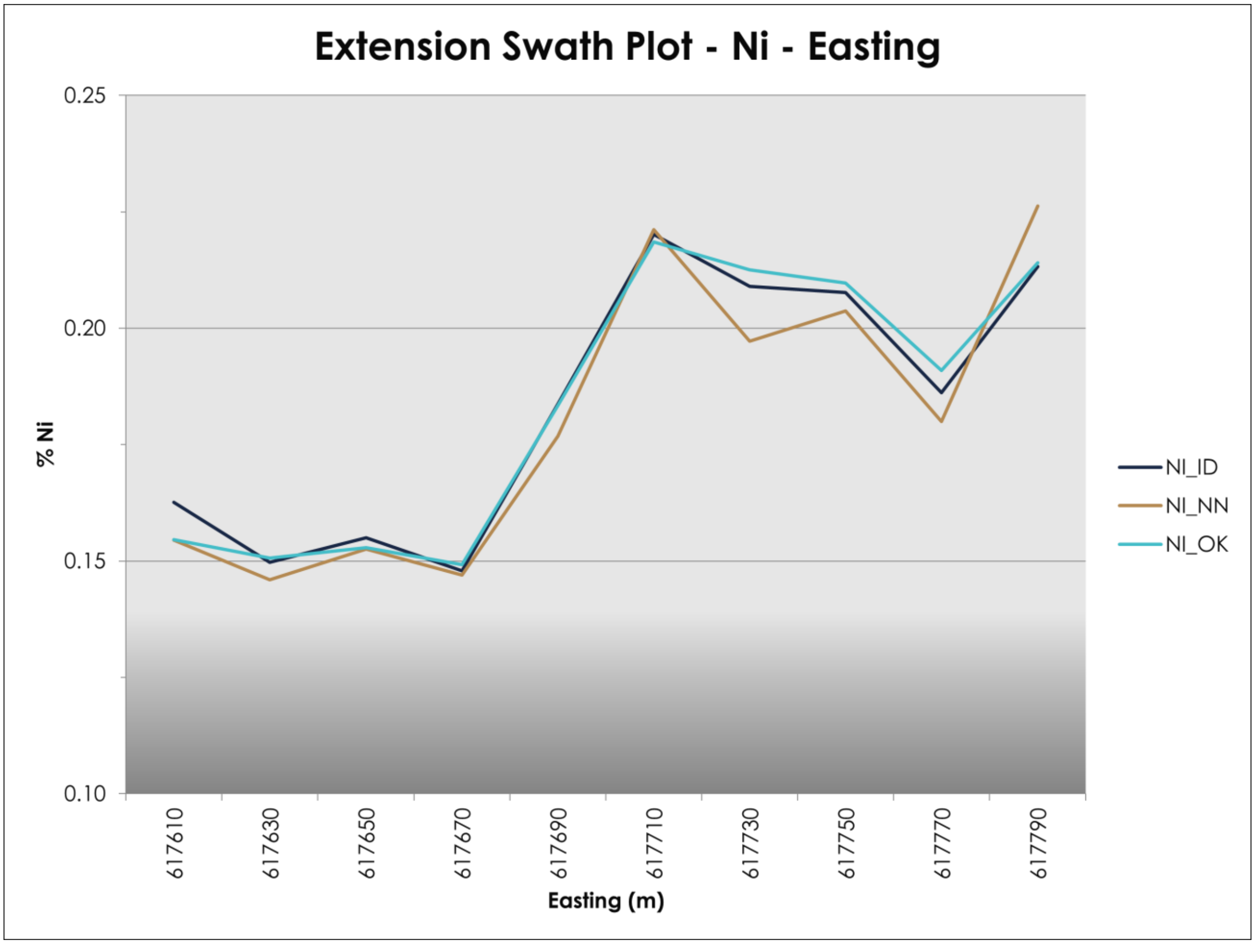


Figure 14-11: Extension Deposit Swath Plot – Easting

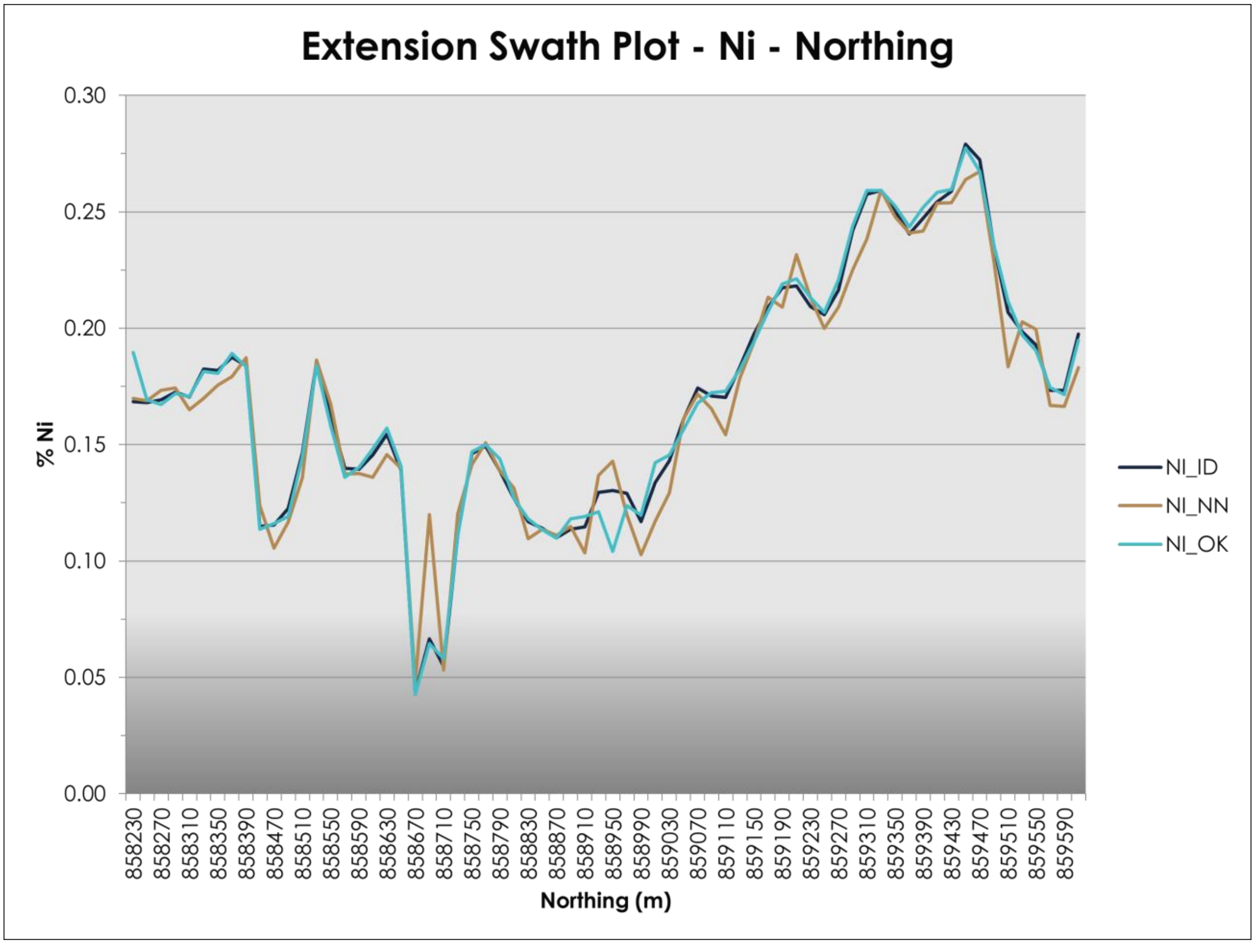


Figure 14-12: Extension Deposit Swath Plot – Northing

14.2.10 Previous Estimates

The differences between the historic Mineral Resource Statement with an effective date of June 27, 2023 (McCracken and Martin, 2023) and the current Mineral Resource Statement disclosed are:

- The addition of 23 downhole survey files resulted in 71% of the drill hole having downhole surveys compared to 47% in the previous resource.
- A re-interpretation of the geology using the updated downhole survey files.
- Re-classification of mineral resources based on the increased geological confidence.

14.3 Grata Resource Estimate

14.3.1 Deposit Database

The project database totals 474 surface-collared diamond drill holes, of which 258 DDH was used to model Main, Extension, and Grata deposits, totalling 51,282 m in length. A subset of 50 DDH was used to build the Grata model, totalling 15,503 m in length. There are a total of 11,123 assay records in the Grata database.

The eight geological domains at Grata are summarized in Table 14-31. The domain naming convention is used consistently through this disclosure.

Table 14-31: Grata Deposit Geological Domains

Domain	Rock Type
100	Saprolite
200	Olivine Pyroxenite
300	Pyroxenite
400	Gabbro
500	Pyroxenite
600	Olivine Pyroxenite
700	FW Granulite
800	HW Granulite

The drill hole database was validated before proceeding to the resource estimation phase, and the validation steps are detailed in Chapter 12.

SNC maintains all borehole data in a Microsoft Access® relational database. Header, surveys, assays, and lithology information are saved as individual tables in the database. The CSV database information was originally provided to the QP on April 14, 2023. An updated downhole survey database was provided in October 2023.

The QP believes that the database is appropriate for the purposes of mineral resource estimation and the sample density allows a reliable estimate of the tonnage and grade of the mineralization in accordance with the level of confidence established by the mineral resource categories as defined in the CIM Guidelines.

14.3.2 Specific Gravity

SNC collected a total of 1,240 samples from the diamond drill holes in the Grata deposit for SG measurements.

SNC used the same procedure to collect the data as disclosed in Section 14.1.2. Table 14-32 summarizes the results of the SG measurements for the Grata deposit.

Table 14-32: Grata-Deposit Specific Gravity Summary

Domain	Rock Type	Number of Samples	Regression Formula	Default
100	Saprolite	149	-	1.87
200/300/500/600	Olivine Pyroxenite & Pyroxenite	705	SG=0.033Fe+2.861	2.86
400	Gabbro	268	-	3.05
700	FW Granulite	52	-	2.56
800	HW Granulite	66	-	2.59

14.3.3 Topography Data

Topographic data was generated as a DTM created using a total station survey on 5-m contours. The area covered by the DTM is sufficient to cover the area defined by the current resource model.

14.3.4 Geological Interpretation

Three-dimensional wireframe mineralization models were developed in Leapfrog Geo™ under the supervision of the QP. The wireframes were based on the geological interpretation of the zones as distinct domains and not strictly on grade intervals.

The wireframe solids were imported from Leapfrog Geo™ into Datamine Studio RM™ in .dwg format and validated within Datamine. Based on geology, the modelling is divided into eight separate domains.

Table 14-33 tabulates the solids and associated volumes. Figure 14-13 illustrates the model solids for each of the domains.

Table 14-33: Solids and Associated Volumes

Domain	Rock Type	Wireframe Volume (m³)
100	Saprolite	284,768,235
200	Olivine Pyroxenite	10,302,787
300	Pyroxenite	26,066,945
400	Gabbro	203,635,943
500	Pyroxenite	41,181,068
600	Olivine Pyroxenite	4,222,006
700	FW Granulite	1,061,564,995
800	HW Granulite	1,930,515,264

The wireframes extend at depth, below the deepest diamond drill holes. This is to provide a target for future exploration. The resource model did not estimate grades into the full volume of the wireframes due to sheer size of the wireframes.

The non-assayed intervals were assigned a void (-) value.

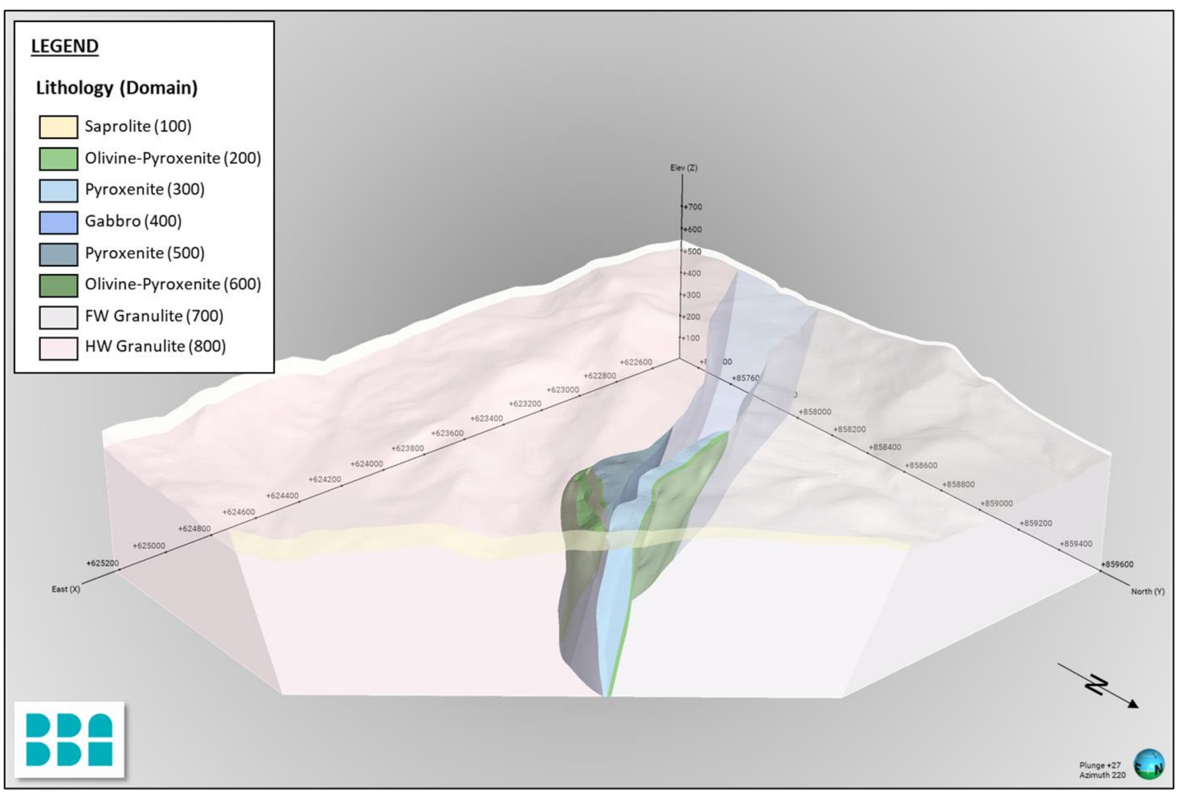


Figure 14-13: Interpretation of Domains
(Inclined View not to Scale)

14.3.5 Exploratory Data Analysis

14.3.5.1 Assays

The eight domains included in the mineral resource were sampled by a total of 11,122 for nickel, copper and cobalt assays, and 9,728 samples for palladium and platinum. The assay intervals within each mineral domain were captured using Leapfrog Geo™ routine to flag the intercept into a new table in the database. These intervals were reviewed to ensure all assay intervals were appropriately captured. Table 14-34 summarizes the basic statistics for the assay intervals for each of the mineral domains on the property.

Table 14-34: Grata Deposit Borehole Statistics by Domain

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
100	Ni (%)	777	0	0.00	3.92	0.42	0.22
	Cu (%)	777	0	0.00	1.77	0.21	0.10
	Co (%)	777	0	0.00	0.15	0.02	0.00
	Pt (ppm)	739	38	0.00	3.15	0.08	0.05
	Pd (ppm)	739	38	0.00	4.02	0.22	0.17
	Au (ppm)	739	38	0.00	0.44	0.03	0.00
	Cr (%)	762	15	0.01	2.30	0.30	0.12
	Fe (%)	777	0	1.27	54.50	16.50	127.92
	S (%)	739	38	0.01	4.93	0.09	0.11
	Length	777	0	1.00	1.50	1.40	0.04
200	Ni (%)	584	0	0.00	2.84	0.23	0.06
	Cu (%)	584	0	0.00	10.30	0.21	0.33
	Co (%)	584	0	0.00	0.11	0.01	0.00
	Pt (ppm)	527	57	0.00	1.03	0.09	0.01
	Pd (ppm)	527	57	0.00	2.37	0.30	0.08
	Au (ppm)	527	57	0.00	0.52	0.03	0.00
	Cr (%)	470	114	0.01	5.10	0.41	0.16
	Fe (%)	494	90	0.82	34.90	10.91	13.80
	S (%)	437	147	0.01	20.50	1.42	5.18
	Length	584	0	0.10	1.60	1.01	0.16

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
200 HG	Ni (%)	37	0	0.61	2.84	1.18	0.35
	Cu (%)	37	0	0.31	10.30	1.74	5.49
	Co (%)	37	0	0.03	0.11	0.05	0.00
	Pt (ppm)	36	1	0.02	0.58	0.14	0.02
	Pd (ppm)	36	1	0.33	2.37	1.11	0.31
	Au (ppm)	36	1	0.01	0.24	0.07	0.00
	Cr (%)	35	2	0.03	3.03	0.20	0.11
	Fe (%)	35	2	14.00	34.90	20.31	26.87
	S (%)	34	3	3.49	20.50	9.12	24.75
	Length	37	0	0.10	1.15	0.60	0.09
300	Ni (%)	2,558	0	0.00	3.21	0.23	0.04
	Cu (%)	2,558	0	0.00	3.94	0.20	0.06
	Co (%)	2,558	0	0.00	0.11	0.01	0.00
	Pt (ppm)	2,309	249	0.00	2.79	0.10	0.01
	Pd (ppm)	2,309	249	0.00	2.55	0.21	0.04
	Au (ppm)	2,309	249	0.00	0.64	0.04	0.00
	Cr (%)	2,495	63	0.01	7.42	0.23	0.05
	Fe (%)	2,558	0	1.21	37.00	11.65	7.31
	S (%)	2,309	249	0.01	22.60	1.28	2.45
	Length	2,558	0	0.10	1.70	1.12	0.14
300 HG	Ni (%)	128	0	0.60	3.21	1.04	0.35
	Cu (%)	128	0	0.10	3.94	0.85	0.48
	Co (%)	128	0	0.02	0.11	0.04	0.00
	Pt (ppm)	128	0	0.01	2.79	0.13	0.05
	Pd (ppm)	128	0	0.07	2.55	0.76	0.23
	Au (ppm)	128	0	0.01	0.48	0.06	0.00
	Cr (%)	128	0	0.03	0.51	0.18	0.01
	Fe (%)	128	0	8.21	37.00	18.98	21.13
	S (%)	128	0	3.58	22.60	7.16	15.06
	Length	128	0	0.10	1.50	0.52	0.09

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
400	Ni (%)	1,938	0	0.00	1.99	0.09	0.01
	Cu (%)	1,938	0	0.00	2.39	0.06	0.01
	Co (%)	1,938	0	0.00	0.09	0.01	0.00
	Pt (ppm)	1,331	607	0.00	1.54	0.04	0.00
	Pd (ppm)	1,331	607	0.00	2.40	0.07	0.02
	Au (ppm)	1,331	607	0.00	0.76	0.02	0.00
	Cr (%)	1,909	29	0.01	1.10	0.13	0.01
	Fe (%)	1,938	0	0.37	26.30	8.69	9.30
	S (%)	1,331	607	0.01	14.00	0.37	0.53
	Length	1,938	0	0.10	1.50	1.22	0.13
500	Ni (%)	4,445	1	0.00	6.11	0.21	0.06
	Cu (%)	4,445	1	0.00	10.90	0.20	0.12
	Co (%)	4,445	1	0.00	0.19	0.01	0.00
	Pt (ppm)	4,298	148	0.00	30.00	0.11	0.37
	Pd (ppm)	4,298	148	0.00	8.64	0.27	0.19
	Au (ppm)	4,298	148	0.00	1.69	0.04	0.00
	Cr (%)	4,440	6	0.01	14.10	0.19	0.16
	Fe (%)	4,445	1	0.08	44.20	11.33	16.93
	S (%)	4,297	149	0.01	30.40	1.18	4.22
	Length	4,446	0	0.05	1.55	0.96	0.18
500 HG	Ni (%)	357	0	0.60	6.11	1.11	0.30
	Cu (%)	357	0	0.10	10.90	1.18	0.96
	Co (%)	357	0	0.00	0.19	0.04	0.00
	Pt (ppm)	356	1	0.00	3.18	0.15	0.09
	Pd (ppm)	356	1	0.00	8.64	1.44	0.67
	Au (ppm)	356	1	0.00	1.69	0.08	0.02
	Cr (%)	357	0	0.01	0.81	0.12	0.02
	Fe (%)	357	0	0.08	44.20	21.18	29.23
	S (%)	356	1	0.15	30.40	9.02	19.06
	Length	357	0	0.05	1.50	0.48	0.10

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
600	Ni (%)	416	0	0.00	2.78	0.20	0.03
	Cu (%)	416	0	0.00	6.03	0.16	0.08
	Co (%)	416	0	0.00	0.10	0.01	0.00
	Pt (ppm)	350	66	0.00	13.40	0.11	0.29
	Pd (ppm)	350	66	0.00	3.48	0.26	0.10
	Au (ppm)	350	66	0.00	0.71	0.04	0.00
	Cr (%)	395	21	0.01	2.12	0.23	0.05
	Fe (%)	416	0	1.68	45.04	10.77	35.45
	S (%)	350	66	0.01	25.50	0.92	2.37
	Length	416	0	0.10	1.50	1.16	0.15
600 HG	Ni (%)	17	0	0.71	2.78	1.10	0.21
	Cu (%)	17	0	0.37	6.03	1.28	1.11
	Co (%)	17	0	0.02	0.10	0.04	0.00
	Pt (ppm)	17	0	0.01	0.95	0.16	0.02
	Pd (ppm)	17	0	1.10	3.48	1.54	0.17
	Au (ppm)	17	0	0.02	0.71	0.07	0.01
	Cr (%)	17	0	0.01	0.55	0.22	0.04
	Fe (%)	17	0	12.10	40.10	19.94	27.57
	S (%)	17	0	4.59	25.50	8.93	14.45
	Length	17	0	0.10	0.95	0.46	0.08
700	Ni (%)	218	0	0.00	1.41	0.10	0.02
	Cu (%)	218	0	0.00	0.58	0.03	0.00
	Co (%)	218	0	0.00	0.06	0.01	0.00
	Pt (ppm)	88	130	0.00	0.74	0.04	0.01
	Pd (ppm)	88	130	0.00	2.42	0.14	0.06
	Au (ppm)	88	130	0.00	0.12	0.02	0.00
	Cr (%)	139	79	0.01	2.00	0.20	0.06
	Fe (%)	195	23	0.99	18.20	6.20	11.68
	S (%)	65	153	0.01	6.38	0.46	0.41
	Length	218	0	0.25	1.60	1.32	0.07

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
800	Ni (%)	186	0	0.00	0.27	0.02	0.00
	Cu (%)	186	0	0.00	0.33	0.02	0.00
	Co (%)	186	0	0.00	0.04	0.00	0.00
	Pt (ppm)	86	100	0.00	0.32	0.03	0.00
	Pd (ppm)	86	100	0.00	0.23	0.03	0.00
	Au (ppm)	86	100	0.00	0.13	0.01	0.00
	Cr (%)	124	62	0.01	0.49	0.04	0.00
	Fe (%)	186	0	0.93	41.99	5.40	21.19
	S (%)	86	100	0.01	2.00	0.16	0.09
	Length	186	0	0.60	1.50	1.39	0.03

14.3.5.2 Grade Capping

The composite assay data for each element within the domain was examined to assess the amount of metal that is biased from high-grade assays. A combination of viewing the decile tables, histogram, QQ, and cumulative frequency plots was used to assist in determining if grade capping was required on each element in the domain.

The capping analysis concluded capping was required in domains 200, 300, 400, 500 and 600. Table 14-35 summarizes the capping applied to each domain by the QP.

Table 14-35: Capping Summary for Grata Deposit

Domain	Element	Capping Value
200/300	Ni	1.35
	Pt	0.70
400	Cu	0.55
	Au	0.20
	Pd	0.75
500/600	Ni	1.70
	Pt	3.00

14.3.5.3 Composting

Compositing of all the assay data within the domain was completed on downhole intervals honouring the interpretation of the geological solids. Statistics indicate that a majority of the samples were collected at 1.5-m intervals. Composites were generated at 3-m best-fit option, allowing all the material to be used in the compositing process. A 1-m composite was used for high-grade nickel sub-domains (i.e. 200 HG, 300 HG, etc.) used to estimate higher grade intervals within each wireframe domain locally. Datamine's backstitch option distributed the "tails" of the composite equally across all the composites in the hole to ensure all the sample material was used in the estimate. Table 14-36 summarizes the statistics for the boreholes after compositing.

Table 14-36: Basics Statistics of Composites Used for Estimation

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
100	Ni (%)	365	0	0.00	2.55	0.42	0.18
	Cu (%)	365	0	0.00	1.54	0.21	0.09
	Co (%)	365	0	0.00	0.13	0.02	0.00
	Pt (ppm)	346	19	0.00	1.60	0.08	0.02
	Pd (ppm)	346	19	0.00	2.47	0.22	0.14
	Au (ppm)	346	19	0.00	0.27	0.03	0.00
	Cr (%)	359	6	0.01	1.85	0.30	0.10
	Fe (%)	365	0	1.55	48.90	16.51	111.47
	S (%)	346	19	0.01	3.12	0.09	0.07
	Length	365	0	2.63	3.17	2.98	0.01
200	Ni (%)	197	0	0.01	0.85	0.22	0.02
	Cu (%)	197	0	0.00	2.82	0.21	0.11
	Co (%)	197	0	0.00	0.05	0.01	0.00
	Pt (ppm)	173	24	0.00	0.51	0.08	0.00
	Pd (ppm)	173	24	0.00	1.04	0.30	0.04
	Au (ppm)	173	24	0.00	0.15	0.03	0.00
	Cr (%)	153	44	0.02	1.75	0.42	0.10
	Fe (%)	164	33	2.26	20.87	10.91	8.99
	S (%)	140	57	0.04	8.90	1.42	2.15
	Length	197	0	2.48	3.63	2.99	0.02

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
200 HG	Ni (%)	23	0	0.69	2.84	1.20	0.38
	Cu (%)	23	0	0.31	10.30	1.91	6.21
	Co (%)	23	0	0.03	0.11	0.05	0.00
	Pt (ppm)	22	1	0.02	0.57	0.14	0.02
	Pd (ppm)	22	1	0.42	2.37	1.11	0.32
	Au (ppm)	22	1	0.01	0.24	0.06	0.00
	Cr (%)	23	0	0.03	0.52	0.16	0.02
	Fe (%)	23	0	14.60	34.90	20.48	27.89
	S (%)	22	1	4.62	20.50	9.37	26.52
	Length	23	0	0.50	1.25	0.83	0.04
300	Ni (%)	949	0	0.01	1.04	0.23	0.02
	Cu (%)	949	0	0.00	1.47	0.20	0.03
	Co (%)	949	0	0.00	0.06	0.01	0.00
	Pt (ppm)	828	121	0.00	0.45	0.10	0.00
	Pd (ppm)	828	121	0.00	1.36	0.21	0.03
	Au (ppm)	828	121	0.00	0.34	0.04	0.00
	Cr (%)	927	22	0.01	2.15	0.23	0.02
	Fe (%)	949	0	2.32	22.64	11.65	5.47
	S (%)	828	121	0.01	11.21	1.28	1.44
	Length	949	0	2.96	3.14	3.01	0.00
300 HG	Ni (%)	68	0	0.61	3.13	1.01	0.27
	Cu (%)	68	0	0.27	3.29	0.82	0.40
	Co (%)	68	0	0.02	0.11	0.04	0.00
	Pt (ppm)	68	0	0.02	0.53	0.12	0.01
	Pd (ppm)	68	0	0.07	2.50	0.75	0.18
	Au (ppm)	68	0	0.01	0.26	0.06	0.00
	Cr (%)	68	0	0.04	0.49	0.18	0.01
	Fe (%)	68	0	11.93	35.95	18.77	16.84
	S (%)	68	0	3.58	21.96	6.99	11.96
	Length	68	0	0.50	1.40	0.81	0.05

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
400	Ni (%)	787	0	0.00	0.64	0.09	0.01
	Cu (%)	787	0	0.00	0.49	0.05	0.01
	Co (%)	787	0	0.00	0.03	0.01	0.00
	Pt (ppm)	503	284	0.00	0.49	0.04	0.00
	Pd (ppm)	503	284	0.00	1.13	0.07	0.01
	Au (ppm)	503	284	0.00	0.13	0.02	0.00
	Cr (%)	777	10	0.01	0.70	0.13	0.08
	Fe (%)	787	0	1.74	15.65	8.69	7.69
	S (%)	503	284	0.01	3.97	0.37	0.31
	Length	787	0	2.91	3.20	2.99	0.00
500	Ni (%)	1,424	0	0.00	1.46	0.20	0.02
	Cu (%)	1,424	0	0.00	2.24	0.20	0.05
	Co (%)	1,424	0	0.00	0.06	0.01	0.00
	Pt (ppm)	1,355	69	0.00	1.46	0.10	0.01
	Pd (ppm)	1,355	69	0.00	5.02	0.27	0.10
	Au (ppm)	1,355	69	0.00	0.52	0.04	0.00
	Cr (%)	1,424	0	0.01	4.76	0.19	0.08
	Fe (%)	1,424	0	2.47	28.17	11.33	12.33
	S (%)	1,355	69	0.01	14.35	1.18	2.16
	Length	1,424	0	2.50	3.08	2.99	0.00
500 HG	Ni (%)	172	0	0.60	2.61	1.10	0.16
	Cu (%)	172	0	0.17	3.98	1.13	0.47
	Co (%)	172	0	0.00	0.10	0.04	0.00
	Pt (ppm)	170	2	0.01	1.70	0.15	0.05
	Pd (ppm)	170	2	0.28	4.97	1.40	0.40
	Au (ppm)	170	2	0.01	1.28	0.07	0.01
	Cr (%)	172	0	0.02	0.74	0.11	0.01
	Fe (%)	172	0	0.08	35.50	21.34	19.86
	S (%)	170	2	0.15	19.52	9.03	12.08
	Length	172	0	0.50	1.45	0.85	0.04

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
600	Ni (%)	163	0	0.00	0.68	0.20	0.01
	Cu (%)	163	0	0.00	1.07	0.16	0.04
	Co (%)	163	0	0.00	0.02	0.01	0.00
	Pt (ppm)	136	27	0.00	0.79	0.09	0.02
	Pd (ppm)	136	27	0.00	1.17	0.26	0.06
	Au (ppm)	136	27	0.00	0.21	0.04	0.00
	Cr (%)	157	6	0.01	1.06	0.23	0.04
	Fe (%)	163	0	2.14	44.11	10.79	29.37
	S (%)	136	27	0.01	5.45	0.91	1.08
	Length	163	0	1.50	4.05	2.95	0.03
600 HG	Ni (%)	9	0	0.71	2.07	1.04	0.15
	Cu (%)	9	0	0.37	4.09	1.20	0.80
	Co (%)	9	0	0.02	0.07	0.04	0.00
	Pt (ppm)	9	0	0.04	0.35	0.18	0.01
	Pd (ppm)	9	0	1.10	2.34	1.49	0.11
	Au (ppm)	9	0	0.02	0.25	0.07	0.00
	Cr (%)	9	0	0.02	0.55	0.24	0.04
	Fe (%)	9	0	12.10	28.00	19.32	20.95
	S (%)	9	0	4.59	13.70	8.32	8.92
	Length	9	0	0.50	1.10	0.77	0.04
700	Ni (%)	95	0	0.00	0.43	0.10	0.01
	Cu (%)	95	0	0.00	0.20	0.03	0.00
	Co (%)	95	0	0.00	0.04	0.01	0.00
	Pt (ppm)	39	56	0.00	0.19	0.04	0.00
	Pd (ppm)	39	56	0.00	0.70	0.14	0.03
	Au (ppm)	39	56	0.00	0.07	0.02	0.00
	Cr (%)	64	31	0.01	0.98	0.20	0.05
	Fe (%)	84	11	1.13	12.60	6.22	10.03
	S (%)	28	67	0.01	1.55	0.46	0.21
	Length	95	0	1.50	4.20	2.99	0.09

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
800	Ni (%)	86	0	0.00	0.13	0.02	0.00
	Cu (%)	86	0	0.00	0.16	0.02	0.00
	Co (%)	86	0	0.00	0.02	0.00	0.00
	Pt (ppm)	42	44	0.00	0.32	0.03	0.00
	Pd (ppm)	42	44	0.00	0.17	0.03	0.00
	Au (ppm)	42	44	0.00	0.12	0.01	0.00
	Cr (%)	57	29	0.01	0.18	0.04	0.00
	Fe (%)	86	0	1.60	33.01	5.40	17.36
	S (%)	42	44	0.01	0.99	0.16	0.05
	Length	86	0	1.50	3.80	3.00	0.06

14.3.5.4 Spatial Analysis

Variograms for each element were created to generate the search ellipse dimensions. The variograms were also used to assign kriging weights during the estimation process.

The variography for SNC was determined using Snowden Supervisor™ version 8.14.1 software. Each element was modelled using a downhole variogram to determine the nugget effect, and then a spherical pair-wise variogram was used to determine spatial continuity in the domain.

Table 14-37 summarizes the results of the variogram models for each element.

Table 14-37: Variogram Parameters

Domain	Element	Nugget (Co)	First structure(spherical)				Second structure(spherical)			
			C1	Range 1 (m)	Range 2 (m)	Range 3 (m)	C2	Range 1 (m)	Range 2 (m)	Range 3 (m)
200 300 500 600	Ni	0.17	0.48	29	13	9	0.35	150	70	20
	Cu	0.11	0.38	37	25	19	0.51	150	90	20
	Co	0.17	0.48	29	13	9	0.35	150	70	20
	Pt	0.25	0.54	42	18	29	0.21	140	70	30
	Pd	0.07	0.83	75	22	11	0.10	120	60	20
	Au	0.21	0.52	20	63	19	0.27	120	80	20
	Cr	0.06	0.86	75	57	19	0.08	150	90	25
	Fe	0.17	0.48	29	13	9	0.35	150	70	20
	S	0.17	0.48	29	13	9	0.35	150	70	20

Domain	Element	Nugget (Co)	First structure(spherical)				Second structure(spherical)			
			C1	Range 1 (m)	Range 2 (m)	Range 3 (m)	C2	Range 1 (m)	Range 2 (m)	Range 3 (m)
400	Ni	0.13	0.66	73	51	6	0.21	150	90	15
	Cu	0.04	0.27	13	15	6	0.69	170	120	15
	Co	0.13	0.66	73	51	6	0.21	150	90	15
	Pt	0.07	0.26	14	35	10	0.67	90	90	15
	Pd	0.04	0.56	43	67	7	0.40	120	100	15
	Au	0.04	0.49	9	20	5	0.47	100	60	15
	Cr	0.04	0.34	26	15	8	0.62	150	60	20
	Fe	0.13	0.66	73	51	6	0.21	150	90	15
	S	0.13	0.66	73	51	6	0.21	150	90	15
200 300 500 600	HG Ni	0.17	0.48	29	13	9	0.35	150	70	20

14.3.6 Resource Block Model

14.3.6.1 Parent Model

A separate block model was established in Datamine Studio RM™ for the Grata deposit. The model was rotated around the Z axis.

A block size of 10 m x 10 m x 10 m was selected to accommodate a small-scale open pit mining potential. Sub-blocking further divided the blocks to fill the volume.

A block size of 1.75 m x 1.75 m x 1.75 m was selected for the local high-grade nickel sub-domains and subsequently superimposed onto the parent model.

Table 14-38 summarizes details of the parent block model.

Table 14-38: Block Model Parameters

Properties	X (column)	Y (row)	Z (level)
Origin coordinates	621,500	858,400	000
Number of blocks	294	280	70
Block size (m)	10	10	10
Sub-block size(m)	1.25	1.25	5.00
Rotation	45 degrees around Z axis		

14.3.6.2 Estimate Parameters

An anisotropic search ellipse was used for the estimation. Only the samples within the domain wireframe were used in the estimation process.

The interpolations of the domains were completed using the estimation methods OK, NN, and ID^2. The estimations were designed for multiple passes. In each estimation pass, a minimum and maximum number of samples were required, along with a maximum number of samples from a borehole in order to satisfy the estimation criteria. A local high-grade nickel sub-domain within each wireframe domain was interpolated within the first pass only (200 HG Ni, 300 HG Ni, etc.).

Table 14-39 summarizes the search ellipse and rotations and Table 14-40 summarizes the interpolation criteria.

Table 14-39: Search ellipse and rotations

Domain	Element	Major Axis	Semi-Major Axis	Minor Axis	Axis 3 Rotation Strike	Axis 1 Rotation Dip	Axis 3 Rotation Plunge
200 300 500 600	Ni	75	35	10	150	70	-110
	Cu	75	45	10	140	70	110
	Co	75	35	10	150	70	-110
	Pt	70	35	15	150	70	70
	Pd	60	30	10	150	80	60
	Au	60	40	10	150	80	100
	Cr	75	45	12.5	150	80	100
	Fe	75	35	10	150	70	-110
	S	75	35	10	150	70	-110
400	Ni	75	45	7.5	160	80	90
	Cu	85	60	7.5	150	80	100
	Co	75	45	7.5	160	80	90
	Pt	45	45	7.5	160	80	100
	Pd	60	50	7.5	150	80	60
	Au	50	30	7.5	160	80	100
	Cr	75	30	10	140	80	70
	Fe	75	45	7.5	160	80	90
	S	75	45	7.5	160	80	90
200 300 500 600	HG Ni	14	9	2	150	70	-110

Table 14-40: Interpolation Parameters

Domain	Element	Pass1				Pass2				Pass3			
		Min Comp	Max Comp	Max Comp/ DDH	Search Ellipse Factor	Min Comp	Max Comp	Max Comp/ DDH	Search Ellipse Factor	Min Comp	Max Comp	Max Comp/ DDH	Search Ellipse Factor
200 300 500 600	Ni	4	10	2	1	3	12	2	1.6	3	12	2	3.2
	Cu	4	10	2	1	3	12	2	1.6	3	12	2	3.2
	Co	4	10	2	1	3	12	2	1.6	3	12	2	3.2
	Pt	4	10	2	1	3	12	2	1.6	3	12	2	3.2
	Pd	4	10	2	1	3	12	2	1.6	3	12	2	3.2
	Au	4	10	2	1	3	12	2	1.6	3	12	2	3.2
	Cr	4	10	2	1	3	12	2	1.6	3	12	2	3.2
	Fe	4	10	2	1	3	12	2	1.6	3	12	2	5
	S	4	10	2	1	3	12	2	1.6	3	12	2	5
400	Ni	4	10	2	1	3	12	2	1.6	3	12	2	3
	Cu	4	10	2	1	3	12	2	1.6	3	12	2	3
	Co	4	10	2	1	3	12	2	1.6	3	12	2	3
	Pt	4	10	2	1	3	12	2	1.6	3	12	2	3
	Pd	4	10	2	1	3	12	2	1.6	3	12	2	3
	Au	4	10	2	1	3	12	2	1.6	3	12	2	3
	Cr	4	10	2	1	3	12	2	1.6	3	12	2	3
	Fe	4	10	2	1	3	12	2	1.6	3	12	2	5
	S	4	10	2	1	3	12	2	1.6	3	12	2	5
200 300 500 600	HG Ni	2	4	2	1	0	0	0	0	0	0	0	0

14.3.7 Resource Classification

Several factors are considered in the definition of a resource classification:

- NI 43-101 requirements;
- Canadian Institute of Mining, Metallurgy and Petroleum Estimation of Mineral Resource and Mineral Reserve Best Practice Guidelines (CIM, 2019);
- Author's experience with sulphide deposits;
- Spatial continuity based on the assays within the drill holes;
- Understanding of the geology of the deposit;
- Drill hole spacing, data quality and the estimation runs required to estimate the grades in a block.

A wireframe was created considering the above points to capture the mineral resource classified as Indicated (Figure 14-14). All remaining blocks were classified as Inferred. No material in the block model was considered as Measured.

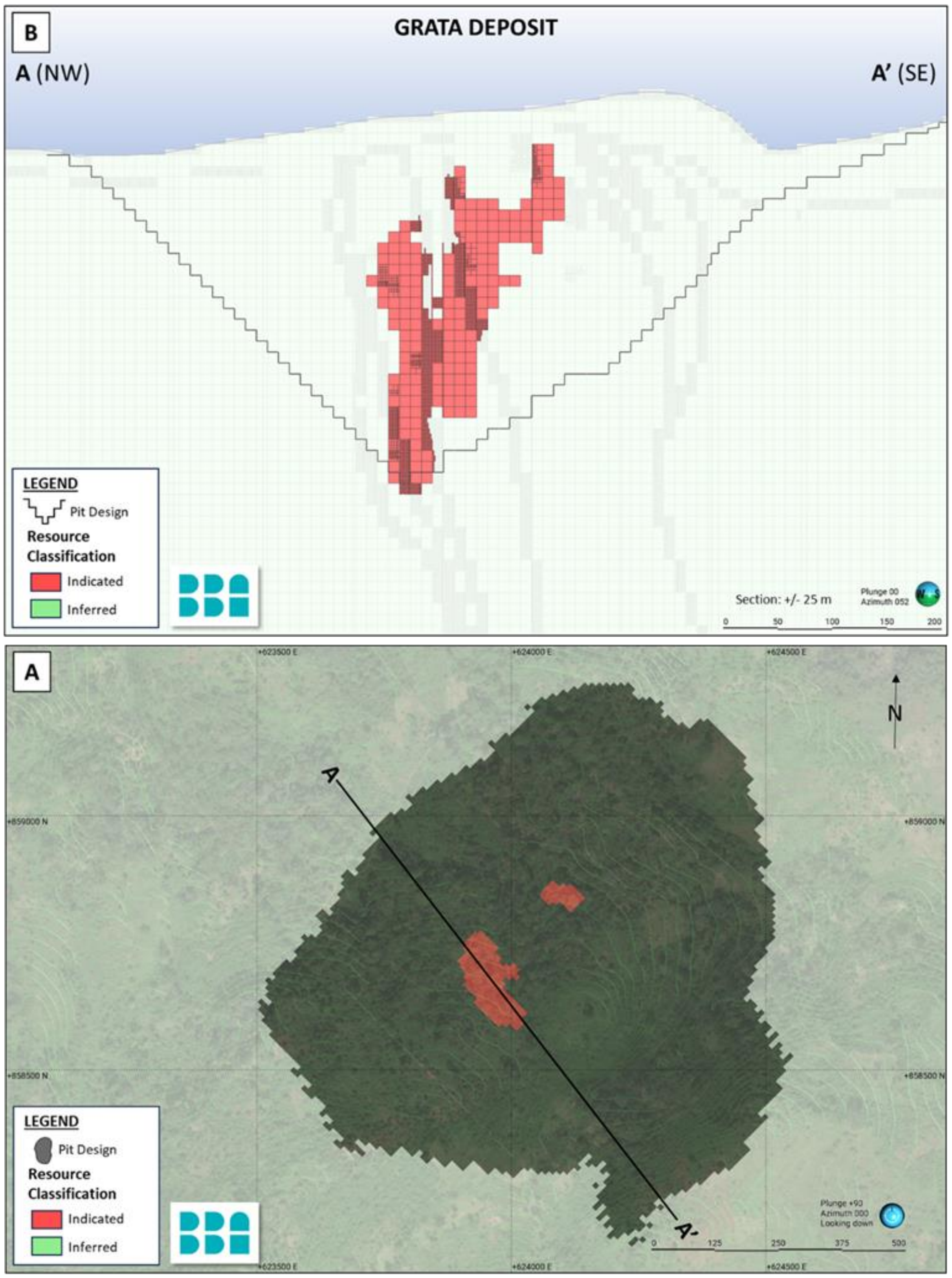


Figure 14-14: Blocks classified as Indicated and Inferred Mineral Resource A) Section View; B) Plan View

No environmental, permitting, legal, title, taxation, socio-economic, marketing, or other relevant issues that may affect the estimate of mineral resources are known to the QP. Mineral reserves can be estimated only on the basis of an economic evaluation that is used in a preliminary Feasibility Study or a Feasibility Study of a mineral project; thus, no reserves have been estimated. As per NI 43-101, mineral resources that are not mineral reserves do not have to demonstrate economic viability.

14.3.8 Mineral Resource Tabulation

The resource reported is effective as of March 21, 2024 and has been tabulated in terms of a pit-constrained NSR cut-off value of $16.34/t.

Table 14-41 summarizes the parameters used to develop the Grata pit constraints for a reasonable prospect of economic extraction.

Table 14-41: Pit Constraint Parameters (Grata)

Input	Unit	Variable
Metal Price	Cu ($/lb)	3.75
	Ni ($/lb)	8.70
	Co ($/lb)	25.10
	Pt ($/oz)	1,140
	Pd ($/oz)	1,300
	Au ($/oz)	1,690
Mining Cost	Saprolite ($/t)	1.68
	Fresh ($/t)	2.26
	Incremental ($/t per 10 bench)	0.05
	Sustaining capital ($/t)	0.09
Pit Angle	Saprolite (degree)	25
	Fresh (degree)	45
Processing Cost	Processing cost ($/t milled)	13.02
G&A	($/t milled)	3.32
Treatment Charge	Cu conc. ($/t conc.)	105
	Ni conc. ($/t conc.)	346
Freight to Smelter	($/t conc.)	63
Metallurgical Recoveries	Based on conc. and grades	variable
Mine Dilution (%)	Mine dilution (%)	5

The pit-constrained mineral resource for the Grata deposit is summarized in Table 14-42. Table 14-43 summarized the in situ contained metal with the pit shell.

Table 14-42: Grata Mineral Resource Summary

Classification	Deposit	Tonne	Ni (%)	Cu (%)	Pt (g/t)	Pd (g/t)	Au (g/t)	Co (%)
Indicated	Grata	3,645,000	0.28	0.29	0.11	0.32	0.04	0.02
Inferred		67,272,000	0.24	0.25	0.10	0.26	0.04	0.01

Table 14-43: Grata In Situ Contained Metal in a Pit Shell

Classification	Deposit	Tonne	Ni ('000 lb)	Cu ('000 lb)	Pt (oz)	Pd (oz)	Au (oz)	Co ('000 lb)
Indicated	Grata	3,645,000	22,400	23,200	13,000	38,000	5,200	1,300
Inferred		67,272,000	360,400	365,600	218,400	567,200	83,200	20,900

A mineral resource was prepared in accordance with NI 43-101 and the CIM Definition Standards (2019). Mineral resources that are not mineral reserves do not have demonstrated economic viability. This estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, sociopolitical, marketing, or other relevant issues.

14.3.9 Model Validation

Three methods validated the Grata model:

- Visual comparison of colour-coded block model grades with composite grades on section;
- Comparison of the global mean block grades for ID^2, and NN;
- Swath plots.

14.3.9.1 Visual Validation

The visual comparisons of ordinary kriging block model grades and composite drill holes show a reasonable correlation between the values (Figure 14-15 and Figure 14-16). No significant discrepancies were apparent from the sections reviewed, yet grade smoothing was apparent in some of the lower elevations due to the distance between drill samples being broader in these regions.

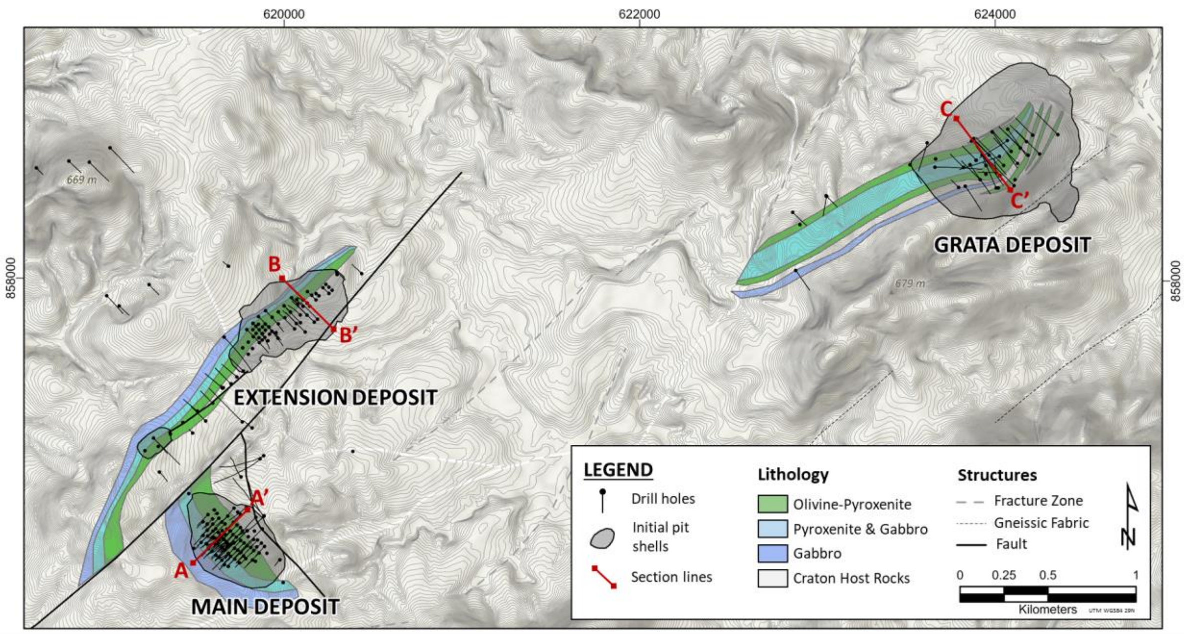


Figure 14-15: Surface Plan Showing Optimized Pits for Samapleu and Grata Deposits

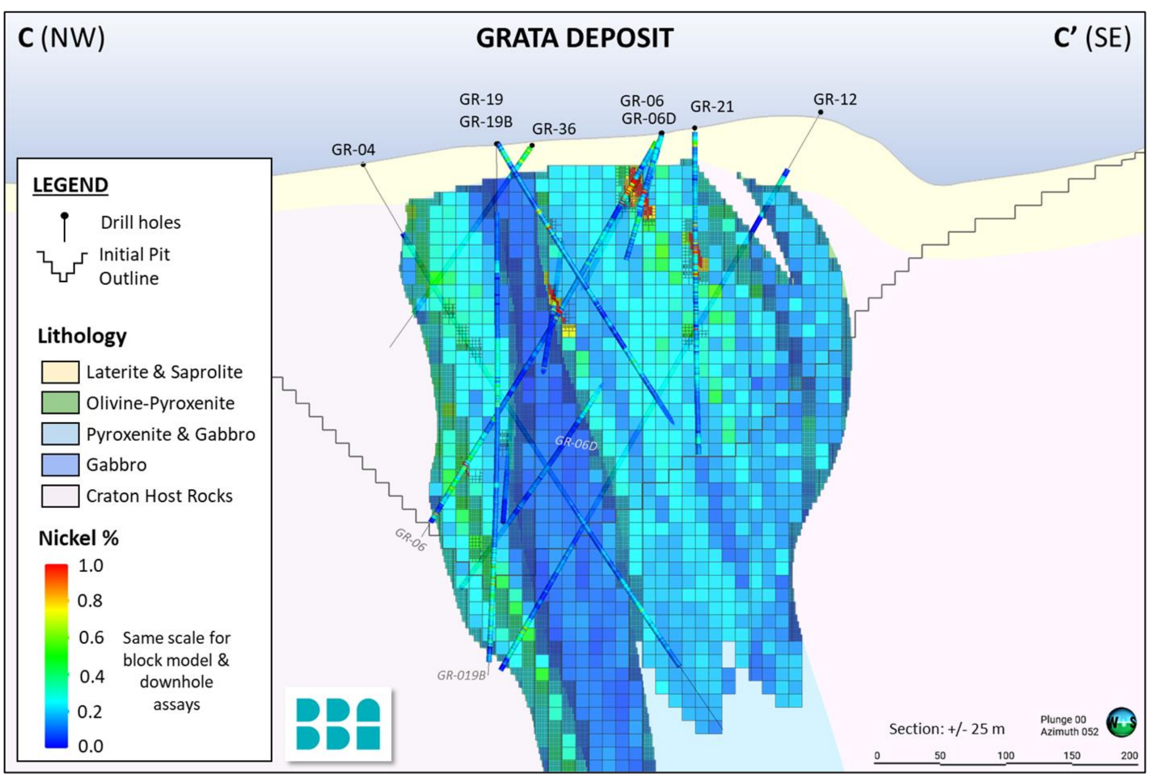


Figure 14-16: Grata Deposit Visual Validation through C-C'

14.3.9.2 Global Statistics

The global block model statistics for the OK model were compared to the global NN and ID^2 model. Table 14-44 shows this comparison of the global estimates for the three estimation method calculations. Comparisons were made using all blocks at above an NSR value of $0.

Table 14-44: Grata Global Statistics Comparison

Element	Unit	NN	ID^2	OK
Ni	%	0.21	0.21	0.21
Cu	%	0.19	0.20	0.20
Co	%	0.01	0.01	0.01
Pt	g/t	0.03	0.03	0.03
Pd	g/t	0.25	0.25	0.25
Au	g/t	0.08	0.08	0.08

14.3.9.3 Swath Plots

Figure 14-17 and Figure 14-18 display the comparison between the OK estimate with ID^2 and NN estimates in a swath plot format.

As expected, there is a strong degree of grade smoothing with the OK methodology.

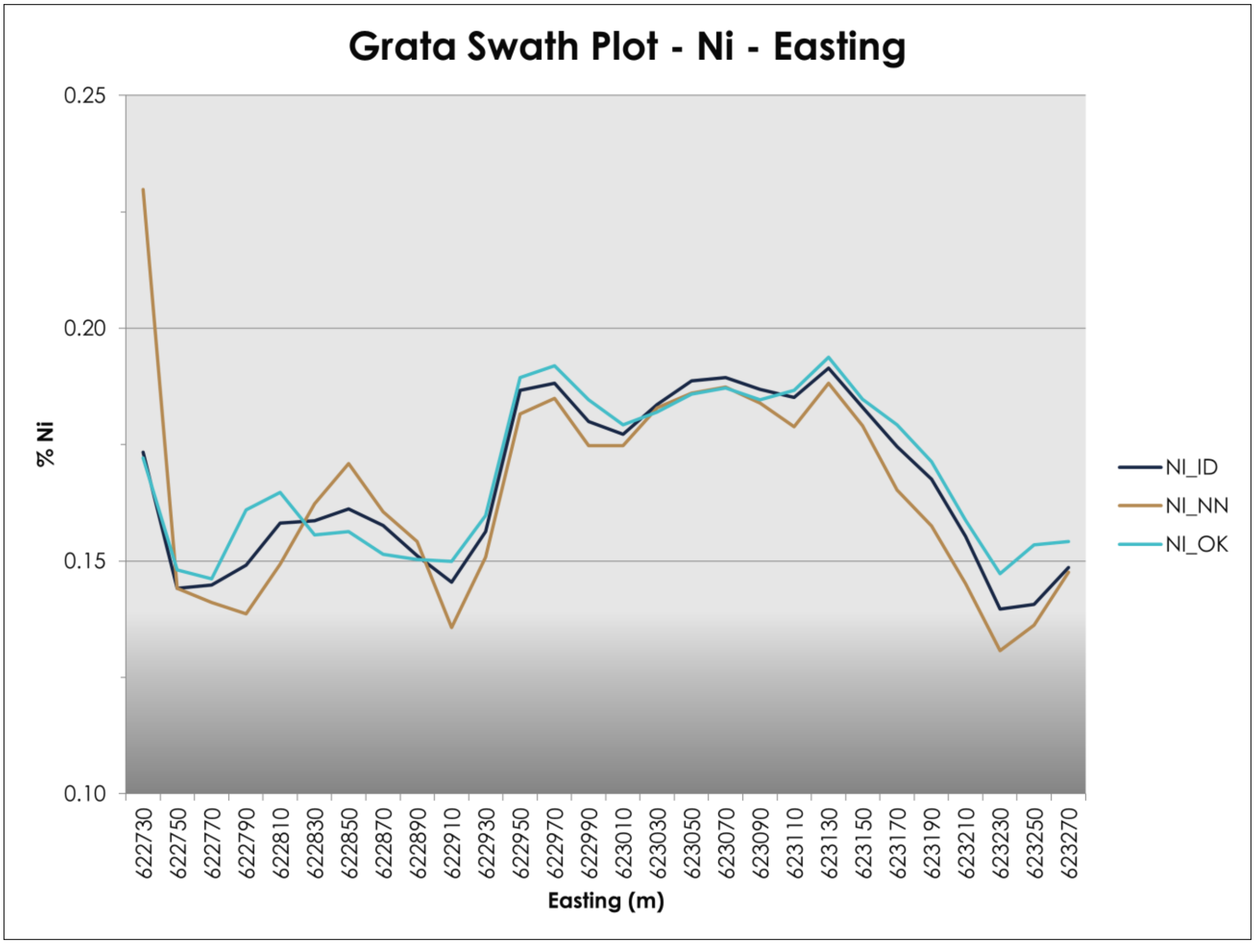


Figure 14-17: Grata Deposit Swath Plot - Easting

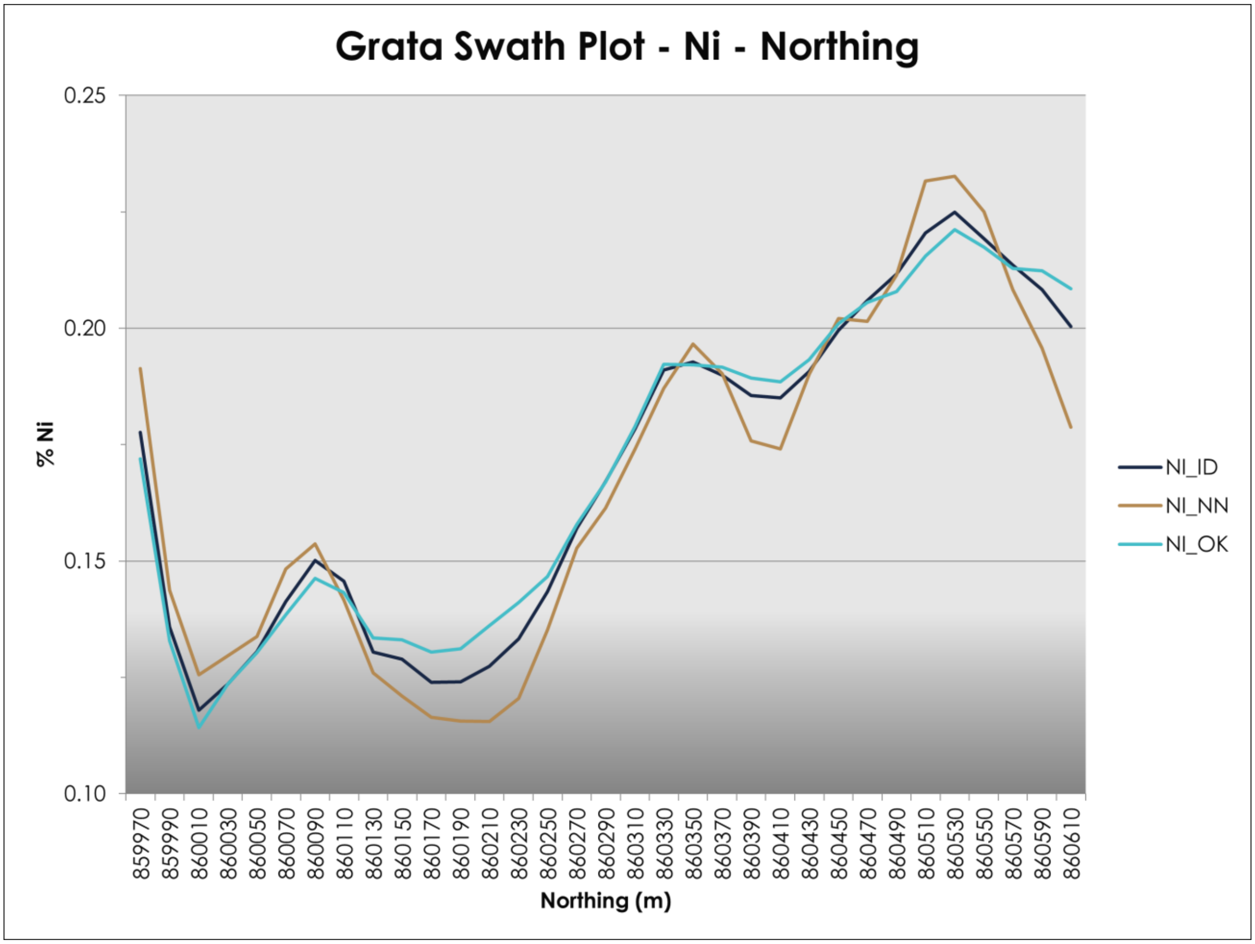


Figure 14-18: Grata Deposit Swath Plot - Northing

14.3.10 Previous Estimates

The differences between the historic Mineral Resource Statement with an effective date of June 27, 2023 (McCracken and Martin, 2023) and the current Mineral Resource Statement disclosed are:

- The addition of nineteen downhole surveys files, resulting in 76% of the drill hole having downhole surveys compared to 33% in the previous resource.
- A re-interpretation of the geology using the updated downhole survey files.
- Re-classification of mineral resources based on the increased geological confidence.

14.4 Sipilou Sud Laterite Resource Estimate

14.4.1 Deposit Database

The project database totals 474 surface-collared diamond drill holes. A subset of 135 DDH were used to build the Sipilou Sud laterite model, totalling 4,495 m in length. There are a total of 3,390 assays records in the Sipilou Sud database.

The four geological domains at Sipilou Sud are summarized in Table 14-45. The domain naming convention is used consistently through this disclosure.

Table 14-45: Sipilou Sud Laterite Deposit Geological Domains

Domain	Rock Type
025	Limonite
050	Transition
100	Saprolite
900	Bedrock

The drill hole database was validated before proceeding to the resource estimation phase, and the validation steps are detailed in Chapter 12.

SNC maintains all borehole data in a Microsoft Access® relational database. Header, surveys, assays, and lithology information are saved as individual tables in the database. The CSV database information was originally provided to the QP on April 14, 2023.

The QP believes that the database is appropriate for the purposes of mineral resource estimation and the sample density allows a reliable estimate of the tonnage and grade of the mineralization in accordance with the level of confidence established by the mineral resource categories as defined in the CIM Guidelines.

14.4.2 Specific Gravity

SNC collected a total of 1,002 samples from the diamond drill holes in the Sipilou Sud laterite deposit for SG measurements.

SNC used the same procedure to collect the data as disclosed in Section 14.1.2. Table 14-46 summarizes the results of the SG measurements for the Sipilou Sud laterite deposit.

Table 14-46: Sipilou Sud Laterite Deposit Specific Gravity Summary

Domain	Rock Type	Number of Samples	Default
025	Limonite	437	1.65
050	Transition	193	1.59
100	Saprolite	285	1.84
900	Bedrock	87	2.56

14.4.3 Topography Data

Topographic data was generated as a DTM created using a total station survey on 5-m contours. The area covered by the DTM is sufficient to cover the area defined by the current resource model.

14.4.4 Geological Interpretation

Three-dimensional wireframe mineralization models were developed in Leapfrog Geo™ under the supervision of the QP. The wireframes were based on the geological interpretation of the zones as distinct domains and not strictly on grade intervals.

The wireframe solids were imported from Leapfrog Geo™ into Datamine Studio RM™ in .dwg format and validated within Datamine. Based on geology, the modelling is divided into four separate domains.

Table 14-47 tabulates the solids and associated volumes. Figure 14-19 illustrates the model solids for each of the domains.

Table 14-47: Solids and Associated Volumes

Domain	Rock Type	Wireframe Volume (m^3)
025	Limonite	26,500,674
050	Transition	12,261,234
100	Saprolite	24,870,239
900	Bedrock	993,107,929

The non-assayed intervals were assigned a void (-) value.

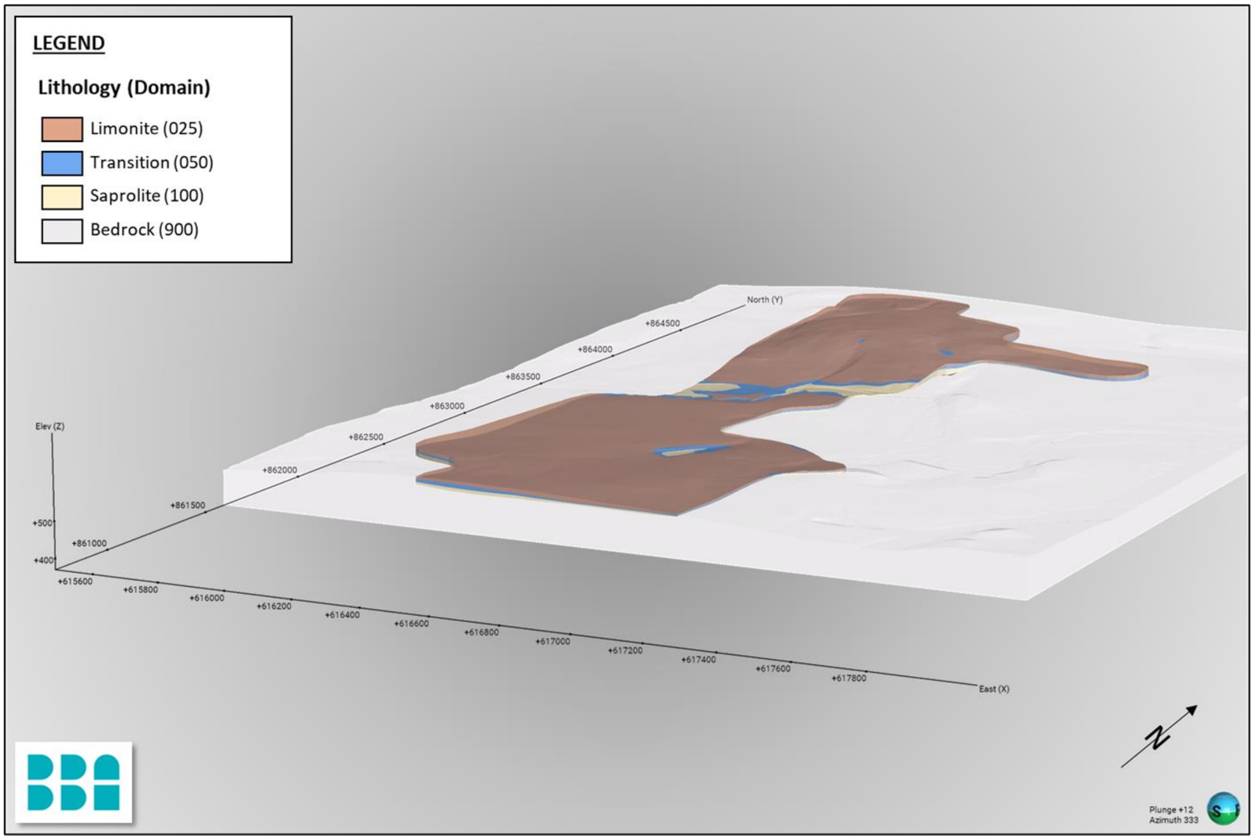


Figure 14-19: Interpretation of Domains
(Inclined View not to Scale)

14.4.5 Exploratory Data Analysis

14.4.5.1 Assays

The four domains included in the mineral resource were sampled by a total of 3,390 for nickel and cobalt assays, and 2,055 samples for copper. There were no assay samples for palladium and platinum. The assay intervals within each mineral domain were captured using Leapfrog Geo™ routine to flag the intercept into a new table in the database. These intervals were reviewed to ensure all assay intervals were appropriately captured. Table 14-48 summarizes the basic statistics for the assay intervals for each of the mineral domains on the property.

Table 14-48: Sipilou Sud Laterite Deposit Borehole Statistics by Domain

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
025	Ni (%)	1,003	0	0.00	3.11	0.45	0.29
	Cu (%)	537	466	0.00	0.10	0.01	0.00
	Co (%)	1,003	0	0.00	0.60	0.06	0.00
	Pt (ppm)	-	-	-	-	-	-
	Pd (ppm)	-	-	-	-	-	-
	Au (ppm)	-	-	-	-	-	-
	Cr (%)	1,003	0	0.01	1.67	0.48	0.06
	Fe (%)	1,003	0	1.52	52.80	24.52	62.46
	S (%)	537	466	0.00	0.04	0.01	0.00
	Length	1,003	0	0.20	1.90	1.24	0.08
050	Ni (%)	526	0	0.01	5.66	1.09	0.44
	Cu (%)	260	266	0.00	0.11	0.01	0.00
	Co (%)	526	0	0.00	0.12	0.03	0.00
	Pt (ppm)	-	-	-	-	-	-
	Pd (ppm)	-	-	-	-	-	-
	Au (ppm)	-	-	-	-	-	-
	Cr (%)	526	0	0.01	1.31	0.46	0.04
	Fe (%)	526	0	0.82	29.80	13.51	22.70
	S (%)	260	266	0.00	0.01	0.00	0.00
	Length	526	0	0.40	1.60	1.14	0.07
100	Ni (%)	932	0	0.01	3.11	0.54	0.20
	Cu (%)	498	434	0.00	0.09	0.00	0.00
	Co (%)	932	0	0.00	0.09	0.01	0.00
	Pt (ppm)	-	-	-	-	-	-
	Pd (ppm)	-	-	-	-	-	-
	Au (ppm)	-	-	-	-	-	-
	Cr (%)	932	0	0.00	0.90	0.30	0.03
	Fe (%)	932	0	0.50	27.10	8.57	13.26
	S (%)	497	435	0.00	0.03	0.00	0.00
	Length	932	0	0.30	2.00	1.18	0.08

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
900	Ni (%)	929	0	0.00	0.65	0.17	0.01
	Cu (%)	760	169	0.00	0.05	0.01	0.00
	Co (%)	929	0	0.00	0.42	0.01	0.00
	Pt (ppm)	-	-	-	-	-	-
	Pd (ppm)	-	-	-	-	-	-
	Au (ppm)	-	-	-	-	-	-
	Cr (%)	929	0	0.00	2.21	0.23	0.04
	Fe (%)	929	0	0.35	37.30	8.29	30.82
	S (%)	760	169	0.00	0.11	0.00	0.00
	Length	929	0	0.30	2.50	1.20	0.09

14.4.5.2 Grade Capping

The composite assay data for each element within the domain was examined to assess the amount of metal that is biased from high-grade assays. A combination of viewing the decile tables, histogram, QQ, and cumulative frequency plots was used to determine if grade capping was required on each element in the domain.

The capping analysis concluded capping was required in all four domains. Table 14-49 summarizes the capping applied to each domain by the QP.

Table 14-49: Capping Summary for Sipilou Sud Laterite Deposit

Domain	Element	Capping Value
025	Ni	2.80
	Co	0.45
	Cr	1.40
050	Ni	3.50
100	Ni	2.80
900	Co	0.16
	Cr	1.40

14.4.5.3 Composting

Compositing of all the assay data within the domain was completed on downhole intervals honouring the interpretation of the geological solids. Statistics indicate that a majority of the samples were collected at 1.0-m and 1.5-m intervals. Composites were generated at 1.0-m best-fit option, allowing all the material to be used in the compositing process. Datamine's backstitch option distributed the "tails" of the composite equally across all the composites in the hole to ensure all the sample material was used in the estimate. Table 14-50 summarizes the statistics for the boreholes after compositing.

Table 14-50: Basics Statistics of Composites Used for Estimation

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
025	Ni (%)	1,152	0	0.01	2.80	0.48	0.29
	Cu (%)	577	575	0.00	0.10	0.01	0.00
	Co (%)	1,152	0	0.00	0.45	0.06	0.003
	Pt (ppm)	-	-	-	-	-	-
	Pd (ppm)	-	-	-	-	-	-
	Au (ppm)	-	-	-	-	-	-
	Cr (%)	1,152	0	0.01	1.40	0.48	0.05
	Fe (%)	1,152	0	1.67	52.50	24.69	61.42
	S (%)	577	575	0.00	0.03	0.01	0.00
	Length	1,152	0	0.50	1.35	0.98	0.00
050	Ni (%)	612	0	0.01	3.50	1.09	0.41
	Cu (%)	288	324	0.00	0.11	0.01	0.00
	Co (%)	612	0	0.00	0.12	0.03	0.00
	Pt (ppm)	-	-	-	-	-	-
	Pd (ppm)	-	-	-	-	-	-
	Au (ppm)	-	-	-	-	-	-
	Cr (%)	612	0	0.01	1.18	0.47	0.04
	Fe (%)	612	0	1.10	29.80	13.52	21.28
	S (%)	288	324	0.00	0.01	0.00	0.00
	Length	612	0	0.75	1.40	0.98	0.00

Domain	Element	Number of Samples	Missing Intervals	Minimum	Maximum	Mean	Variance
100	Ni (%)	1,113	0	0.01	2.80	0.54	0.20
	Cu (%)	538	575	0.00	0.08	0.00	0.00
	Co (%)	1,113	0	0.00	0.09	0.01	0.00
	Pt (ppm)	-	-	-	-	-	-
	Pd (ppm)	-	-	-	-	-	-
	Au (ppm)	-	-	-	-	-	-
	Cr (%)	1,113	0	0.00	0.89	0.30	0.03
	Fe (%)	1,113	0	0.50	27.07	8.57	12.65
	S (%)	536	577	0.00	0.03	0.00	0.00
	Length	1,113	0	0.83	1.10	0.99	0.00
900	Ni (%)	1,117	0	0.00	0.65	0.17	0.01
	Cu (%)	880	237	0.00	0.05	0.00	0.00
	Co (%)	1,117	0	0.00	0.16	0.01	0.00
	Pt (ppm)	-	-	-	-	-	-
	Pd (ppm)	-	-	-	-	-	-
	Au (ppm)	-	-	-	-	-	-
	Cr (%)	1,117	0	0.00	1.40	0.22	0.03
	Fe (%)	1,117	0	0.39	37.19	8.05	26.71
	S (%)	880	237	0.00	0.11	0.00	0.00
	Length	1,117	0	0.75	1.40	0.98	0.00

14.4.5.4 Spatial Analysis

Variograms for each element were created to generate the search ellipse dimensions. The variograms were also used to assign kriging weights during the estimation process.

The variography for SNC was determined using Snowden Supervisor™ version 8.14.1 software. Each element was modelled using a downhole variogram to determine the nugget effect, and then a spherical pair-wise variogram was used to determine spatial continuity in the domain.

Table 14-51 summarizes the results of the variogram models for each element.

Table 14-51: Variogram Parameters

Domain	Element	Nugget (Co)	First structure(spherical)				Second structure(spherical)			
			C1	Range 1 (m)	Range 2 (m)	Range 3 (m)	C2	Range 1 (m)	Range 2 (m)	Range 3 (m)
025	Ni	0.01	0.36	219	199	9	0.63	220	200	15
	Cu	0.03	0.47	183	183	10	0.5	200	190	15
	Co	0.03	0.94	183	183	6	0.03	200	190	10
	Cr	0.01	0.76	122	86	8	0.23	220	200	15
	Fe	0.01	0.77	155	213	11	0.22	240	220	15
	S	0.01	0.8	122	86	8	0.19	220	200	15
050	Ni	0.01	0.26	249	199	15	0.73	250	200	20
	Cu	0.05	0.69	225	183	19	0.26	300	190	20
	Co	0.02	0.3	154	161	13	0.68	200	180	20
	Cr	0.01	0.76	122	86	8	0.23	220	200	15
	Fe	0.02	0.3	154	161	13	0.68	200	180	20
	S	0.01	0.8	122	86	8	0.19	220	200	15
100	Ni	0.01	0.18	106	199	5	0.81	250	200	25
	Cu	0.01	0.76	194	183	7	0.23	220	190	20
	Co	0.02	0.88	118	134	10	0.1	220	190	20
	Cr	0.02	0.88	118	134	10	0.1	220	190	20
	Fe	0.02	0.88	118	134	10	0.1	220	190	20
	S	0.01	0.83	122	86	2	0.16	220	200	15
900	Ni	0.01	0.24	126	199	19	0.75	250	200	20
	Cu	0.01	0.75	205	183	9	0.24	220	190	10
	Co	0.02	0.88	118	134	6	0.1	200	190	20
	Cr	0.02	0.9	118	134	10	0.08	200	190	20
	Fe	0.02	0.9	118	134	11	0.08	200	190	20
	S	0.02	0.88	118	134	6	0.1	200	190	20

14.4.6 Resource Block Model

14.4.6.1 Parent Model

A separate block model was established in Datamine Studio RM™ for the Sipilou Sud laterite deposit. The model was not rotated.

A block size of 40 m x 40 m x 2 m was selected to accommodate a small-scale open pit mining potential. Sub-blocking was used to divide the blocks further in order to fill the volume.

Table 14-52 summarizes details of the parent block model.

Table 14-52: Block Model Parameters

Properties	X (column)	Y (row)	Z (level)
Origin Coordinates	615,480	860,740	400
Number of Blocks	60	100	75
Block Size (m)	40	40	2
Sub-block Size(m)	10	10	0.5
Rotation	No Rotation		

14.4.6.2 Estimate Parameters

An anisotropic search ellipse was used for the estimation. Only the samples within the domain wireframe were used in the estimation.

The interpolations of the domains were completed using the estimation methods OK, NN, and ID^2. The estimations were designed for multiple passes. In each estimation pass, a minimum and maximum number of samples were required and a maximum number of samples from a borehole to satisfy the estimation criteria. Dynamic Anisotropy was used for all domains.

Table 14-53 summarizes the search ellipse and rotations and Table 14-54 summarizes the interpolation criteria. Dynamic Anisotropy was used in the estimation. Each block in the model is assigned a dip and dip direction for the search ellipse based on the tending of the domain surfaces.

Table 14-53: Search Ellipse and Rotations

Domain	Element	Major Axis	Semi-Major Axis	Minor Axis
025	Ni	176	160	12
	Cu	160	152	12
	Co	160	152	8
	Cr	176	160	12
	Fe	192	176	12
	S	176	160	12
050	Ni	200	160	16
	Cu	240	152	16
	Co	160	144	16
	Cr	176	160	12
	Fe	160	144	16
	S	176	160	12
100	Ni	200	160	20
	Cu	176	152	16
	Co	176	152	16
	Cr	176	152	16
	Fe	176	152	16
	S	176	160	12
900	Ni	200	160	16
	Cu	176	152	8
	Co	160	152	16
	Cr	160	152	16
	Fe	160	152	16
	S	160	152	16

Table 14-54: Interpolation Parameters

Domain	Element	Pass1				Pass2			
		Min Comp	Max Comp	Max Comp/ DDH	Search Ellipse Factor	Min Comp	Max Comp	Max Comp/ DDH	Search Ellipse Factor
025	Ni	3	15	2	1	3	15	2	1.5
	Cu	3	15	2	1	3	15	2	2
	Co	3	15	2	1	3	15	2	1.5
	Cr	3	15	2	1	3	15	2	1.5
	Fe	3	15	2	1	3	15	2	1.5
	S	3	15	2	1	3	15	2	2
050	Ni	3	15	2	1	3	15	2	1.5
	Cu	3	15	2	1	3	15	2	2
	Co	3	15	2	1	3	15	2	1.5
	Cr	3	15	2	1	3	15	2	1.5
	Fe	3	15	2	1	3	15	2	1.5
	S	3	15	2	1	3	15	2	2
100	Ni	3	15	2	1	3	15	2	1.5
	Cu	3	15	2	1	3	15	2	2
	Co	3	15	2	1	3	15	2	1.5
	Cr	3	15	2	1	3	15	2	1.5
	Fe	3	15	2	1	3	15	2	1.5
	S	3	15	2	1	3	15	2	2
900	Ni	3	15	2	1	3	15	2	1.5
	Cu	3	15	2	1	3	15	2	2
	Co	3	15	2	1	3	15	2	1.5
	Cr	3	15	2	1	3	15	2	1.5
	Fe	3	15	2	1	3	15	2	1.5
	S	3	15	2	1	3	15	2	2

14.4.7 Resource Classification

Several factors are considered in the definition of a resource classification:

- NI 43-101 requirements;
- Canadian Institute of Mining, Metallurgy and Petroleum Estimation of Mineral Resource and Mineral Reserve Best Practice Guidelines (CIM, 2019);
- Spatial continuity based on the assays within the drill holes;
- Understanding of the geology of the deposit;
- Drill hole spacing, data quality and the estimation runs are required to estimate the block grades.

All blocks were classified as Inferred. No material in the block model was considered as Indicated or Measured.

No environmental, permitting, legal, title, taxation, socio-economic, marketing, or other relevant issues that may affect the estimate of mineral resources are known to the QP. Mineral reserves can be estimated only on the basis of an economic evaluation that is used in a preliminary Feasibility Study or a Feasibility Study of a mineral project; thus, no reserves have been estimated. As per NI 43-101, mineral resources that are not mineral reserves do not have to demonstrate economic viability.

14.4.8 Mineral Resource Tabulation

The resource reported is effective as of October 6, 2023, and has been tabulated in terms of a pit-constrained cut-off grade of 1.10% Ni. The mineral resource would be considered a direct shipping ore ("DSO") operation. The DSO selling price considers the downstream costs associated with transportation, smelting, and refining. This is similar to other Ni DSO operations in the region.

Table 14-55 summarizes the parameters used to develop the Sipilou Sud laterite pit constraints for a reasonable prospect of economic extraction.

Table 14-55: Pit Constraint Parameters (Sipilou Sud Laterite)

Input	Unit	Variable
Metal Pricing	Ni ($/lb)	8.7
	Co ($/lb)	25.1
Mining Cost	$/wmt	2.5
Transportation and Port Costs	$/wmt	29
DSO Selling Price	$/wmt	45
Pit Angle	degree	25
Mine Dilution (%)	%	5

The pit-constrained mineral resource for the Sipilou Sud laterite deposit is summarized in Table 14-56.

Table 14-56: Sipilou Sud Laterite Mineral Resource Summary

Classification	Deposit	Tonne	Ni (%)	Co (%)
Inferred	Sipilou Sud	2,095,000	1.75	0.05
	Total	**2,095,000**	**1.75**	**0.05**

A mineral resource was prepared in accordance with NI 43-101 and the CIM Definition Standards (2019). Mineral resources that are not mineral reserves do not have demonstrated economic viability. This estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, sociopolitical, marketing, or other relevant issues.

14.4.9 Model Validation

Three methods validated the Sipilou Sud laterite model:

- Visual comparison of colour-coded block model grades with composite grades on section;
- Comparison of the global mean block grades for ID^2, and NN;
- Swath plots.

14.4.9.1 Visual Validation

The visual comparisons of ordinary kriging block model grades and composite drill holes show a reasonable correlation between the values (Figure 14-20). No significant discrepancies were apparent from the sections reviewed, yet grade smoothing was apparent in some of the lower elevations due to the distance between drill samples being broader in these regions.

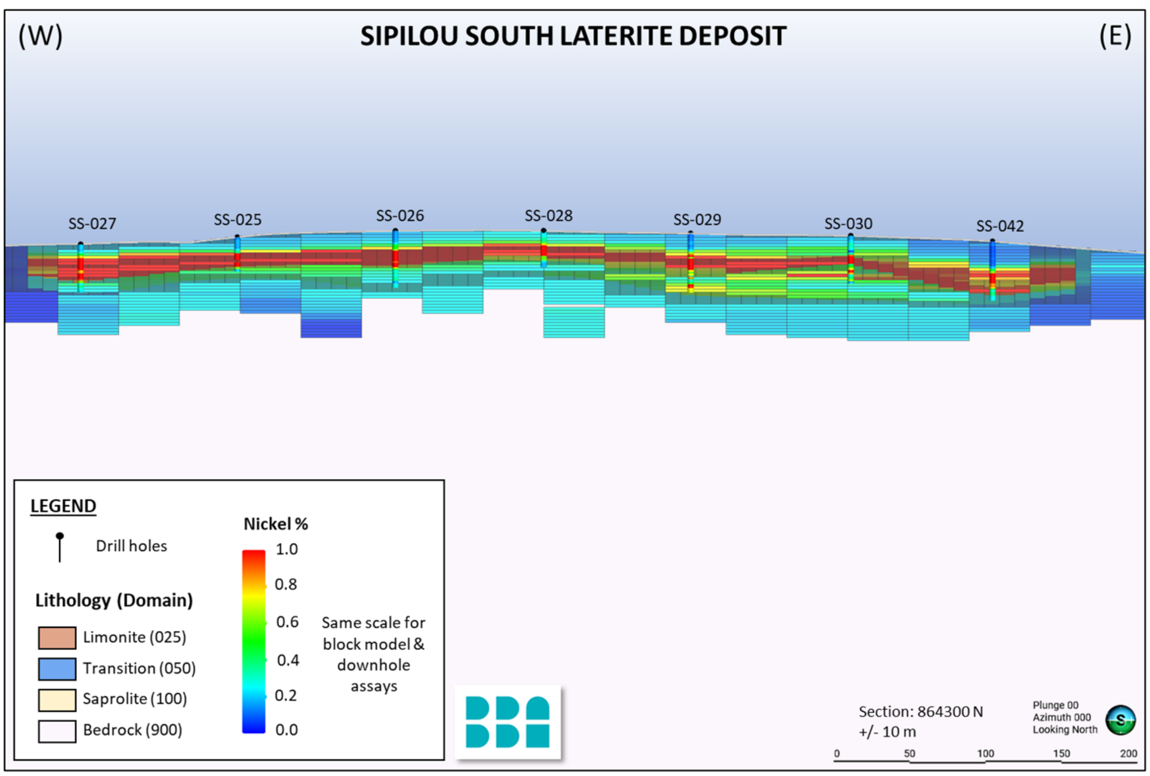


Figure 14-20: Sipilou Sud Laterite Deposit Visual Validation through section 864300 N

14.4.9.2 Global Statistics

The global block model statistics for the OK model were compared to the global NN and ID^2 model. Table 14-57 shows this comparison of the global estimates for the three estimation method calculations. Comparisons were made using all blocks above 0% Ni.

Table 14-57: Sipilou Sud Laterite Global Statistics Comparison

Element	Unit	NN	ID^2	OK
Ni	%	0.52	0.52	0.52
Cu	%	0.01	0.01	0.01
Co	%	0.03	0.03	0.03

14.4.9.3 Swath Plots

Figure 14-21 and Figure 14-22 display the comparison between the OK estimate with ID^2 and NN estimates in a swath plot format.

As expected, there is a strong degree of grade smoothing with the OK methodology.

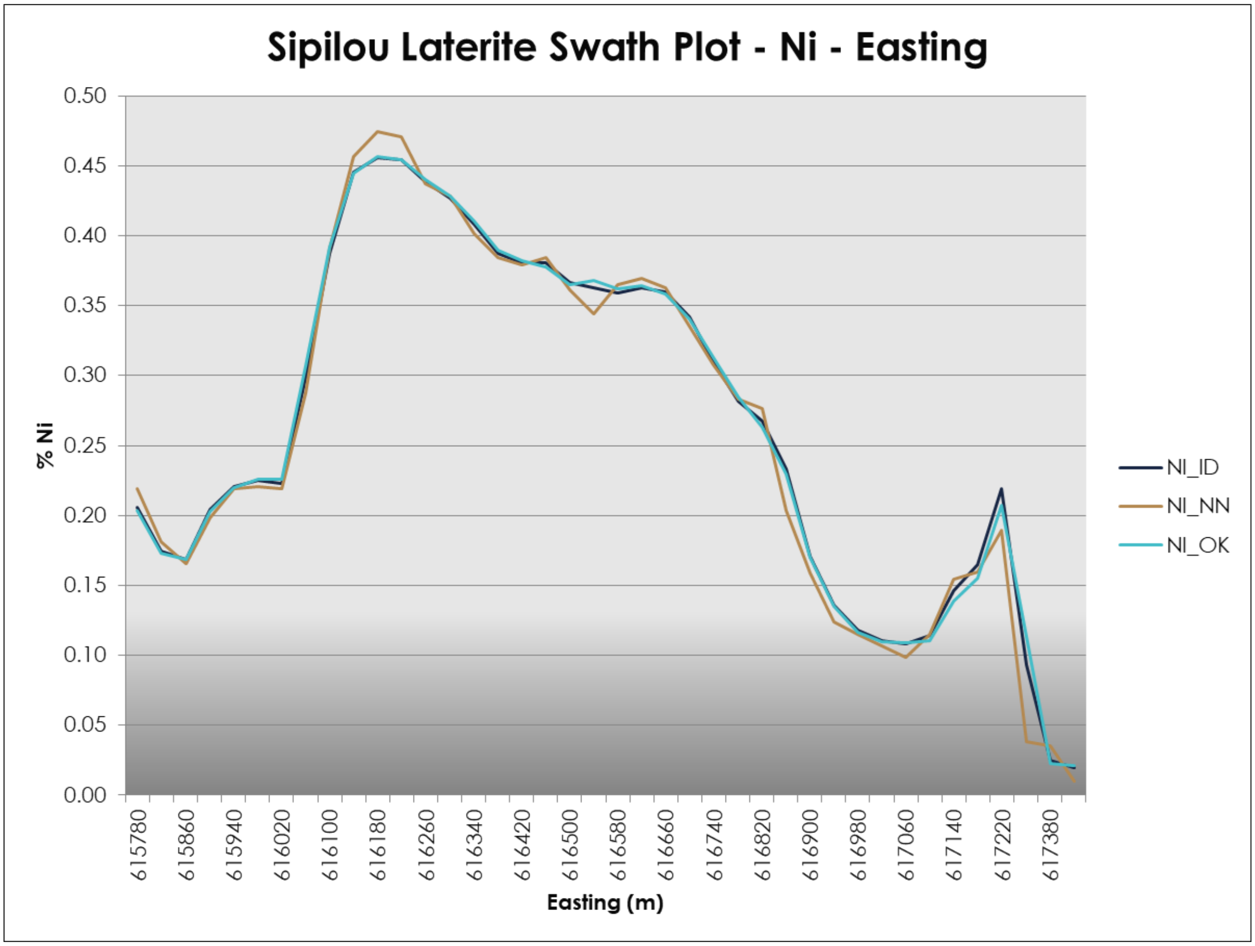


Figure 14-21: Sipilou Sud Laterite Deposit Swath Plot - Easting

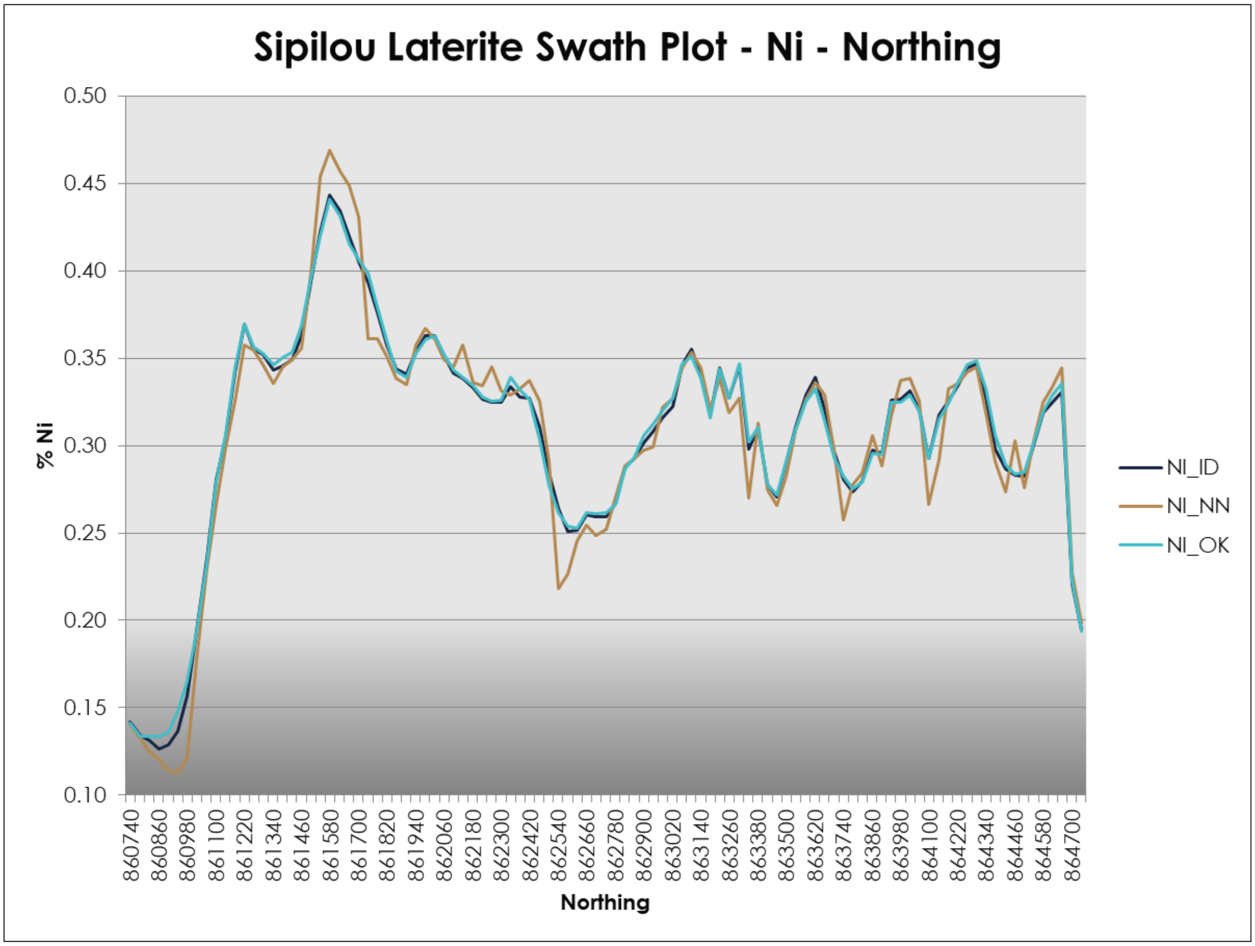


Figure 14-22: Sipilou Sud Laterite Deposit Swath Plot - Northing

14.4.10 Previous Estimates

The Sipilou Sud laterite MRE is a maiden resource. There are no previous estimates to compare.

15. Mineral Reserve Estimates

Since this report summarizes the results of a PEA, no Mineral Reserves have been estimated for the Project as per NI 43-101 guidelines.

16. Mining Methods

The PEA mine design and mine plan are based on Indicated and Inferred Mineral Resources. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

The project consists of multiple sulphide and laterite deposits, with nickel sulphide deposits hosted at the Grata, Main, and Extension areas, and a nickel laterite deposit hosted at Sipilou Sud.

The mining method selected for the sulphide deposits is conventional open pit, consisting of drilling, blasting, loading, and hauling. This method was selected considering the deposit's size, shape, orientation, and proximity to the surface. Mining will be carried out in four open pits across the three deposits, as the Extension deposit was split into two pits due to pit shell analysis results.

Drilling and blasting will be carried out on 15 m benches. The saprolite formation will be free-dug, thus not requiring the use of drilling and blasting while the fresh rock will be drilled and blasted. Mining will be carried out in 5 m flitches using a hydraulic excavator in a backhoe configuration. The excavator will sit on top of the production bench and the 90-tonne haul trucks will be loaded on the level below.

The mining sequence will begin with the clearing, removal and stockpiling of vegetation and any usable soil, and the construction of pit protection berms and diversion drains.

Both Saprolite material and non-economic fresh rock (waste) will be transported either to designated piles or to the tailings storage facility ("TSF") for use as construction material. The Main and Extension pits will share saprolite and fresh rock piles, while Grata will have its dedicated saprolite and fresh rock piles for the benefit of minimizing haul distances.

In-pit mineable resource material will be hauled either directly to the primary crusher or to the run-of-mine ("ROM") pad stockpile, which will be located close to the crusher. A front-end wheel loader will re-handle the ROM stockpile to the primary crusher. The purpose of the ROM stockpile is to defer low-grade material for processing later in the mine life.

The sulphide open pit mining will be owner-operated and will operate at a maximum rate of 20 Mt/y for both in-pit mineable resources and un-economic material over a 16-year mine life, plus the pre-production period. An average of 5.475 Mt/y of ROM mineralized resource material will be sent to the mineral processing plant to produce an average of 55 kt/y of nickel concentrate at 13% Ni grade and 38 kt/y of copper concentrate at 26% Cu grade. Both concentrates are considered to be saleable products. Tailings material will be stored in a conventional TSF.

The mining sequence starts with the extraction of the Main deposit, followed by Extension and Grata deposits during the first half of the life of mine ("LOM"). Mining activity continues uniquely at Grata for the second half of the LOM. The mine production schedule is based on two 12-hour shifts, 7 days a week for a total of 355 days per year (10 days of weather delays have been considered per year). Standard auxiliary equipment will be used to maintain the pits, roads, and rock piles, and to prepare blast patterns for drilling.

The in-pit mineable resources contained in the Sipilou Sud laterites pit shell are estimated to include approximately 1.6 M wet metric tonnes ("wmt") of extractable diluted Inferred mineralized resource material. The mining method to extract the Sipilou Sud laterites pit will use traditional loading and hauling (free-dug) and mineable resource material will be shipped directly to the port from the mine over a span of 3 years. Mining operations will be outsourced to a mining contractor for the Sipilou Sud laterites deposit. SNC will provide supporting technical services and mine management.

16.1 General Parameters Used to Estimate In-pit Mineable Resources

The following section discusses the geological information used for the mine design. This information includes the topographic surface, the geological resource block model, and the material properties for mineralization, waste rock, and saprolite.

16.1.1 Topographical Data

The mine design for the study was carried out using a topographic surface provided to BBA as a Digital Terrain Model ("DTM") created through total station surveys on 5 m contours. The area covered by the DTM is sufficient to cover the area defined by the current resource models.

16.1.2 Resource Block Models

The mine design for the PEA is based on the four mineral resource block models prepared by BBA for each deposit, as presented in Chapter 14 of this report. The 3D sub-blocked sulphide models (Grata, Main, and Extension) are composed of parent blocks that are 10 m x 10 m x 10 m high, sub-celled on a 1.25 m x 1.25 m x 1.25 m pattern and contain only Indicated and Inferred Mineral Resources. The 3D sub-blocked laterite model for the Sipilou Sud deposit is composed of parent blocks that are 40 m x 40 m x 2 m high, sub-celled on a 10 m x 10 m x 0.5 m pattern and contain only Inferred Mineral Resources.

The block model coordinates are in the Universal Transverse Mercator 84 World Geodetic Coordinate System (WGS 84 UTM Z29N) in metric units for Côte d'Ivoire. The block model extents, dimensions, and rotation angles are presented in Chapter 14 of this report.

BBA imported each of the sulphide block models for the three deposits considered in this PEA into the Deswik software and re-blocked them to 10 m x 10 m x 10 m high. The block size for the mining models considers the bench height of 15 m and the fact that the excavators will be able to mine 5 m high flitches at the mineralization contacts. BBA imported the laterite block model for the Sipilou Sud deposit into the Deswik software and re-blocked it to 40 m x 40 m x 2 m high.

16.1.3 Material properties

16.1.3.1 Moisture Content

The moisture content reflects the amount of water present within the rock formation. It affects the estimation of haul truck requirements and must be considered during the payload calculations. The moisture content is also a contributing factor for the process water balance. For this study, a moisture content of 5% has been considered for the Main, Grata, and Extension deposits. A moisture content of 24% is assumed for Sipilou Sud. No testwork data was available to validate these numbers.

16.1.3.2 In Situ Specific Gravity by Lithology

SNC collected samples from the diamond drill holes in the deposits, following the procedure described in Chapter 14. BBA assigned the average specific gravity for each mineral domain to the block model.

16.1.3.3 Swell Factor and Compaction

The swell factor reflects the increase in volume of the material from its in-situ state to after it has been blasted and loaded into the haul trucks. The swell factor is an important parameter that is used to determine the loading and hauling equipment requirements, as well as the pile designs. Swell factors of 20% and 35% have been considered for this study for Saprolite and fresh rock respectively. No testwork data was available for validation of these numbers. Material compaction is assumed to be 10% on rock piles.

The following factors were used in calculations relating to the ROM material (Table 16-1).

Table 16-1: Run-of-Mine Parameters

Parameter	Unit	Value
ROM Swell – Saprolite	LCM/BCM	1.20
ROM Swell – Fresh Rock	LCM/BCM	1.35
Material Compaction	%	10

16.2 Cut-off Value

The milling cut-off is used to classify the material within the open pit limits as material for processing or waste. This break-even cut-off is calculated to cover the costs of processing, G&A costs, and selling costs using the economic and technical parameters. Mineral Resource material within the pit and above the cut-off value is classified as potential mill feed, while resource material below the cut-off is classified as waste.

The cut-off value for the Grata, Main, and Extension deposits is represented as a net smelter return ("NSR") value since the deposits are polymetallic. The NSR value, or on-site value, was calculated using production and processing parameters developed at the start of the study and commodity metal prices.

In Cu Concentrate:

NSR_Cu = Recovered Metal (Cu, t) x 2204.62 lb/t x (Cu Price – Cu Selling Cost, $/lb)
NSR_Pd = Recovered Metal (Pd, g) x 0.03215 oz/g x (Pd Price – Pd Selling Cost, $/oz)
NSR_Pt = Recovered Metal (Pt, g) x 0.03215 oz/g x (Pt Price – Pt Selling Cost, $/oz)
NSR_Au = Recovered Metal (Au, g) x 0.03215 oz/g x (Au Price – Au Selling Cost, $/oz)

In Ni Concentrate:

NSR_Ni = Recovered Metal (Ni, t) x 2204.62 lb/t x (Ni Price – Ni Selling Cost, $/lb)
NSR_Co = Recovered Metal (Co, t) x 2204.62 lb/t x (Co Price – Co Selling Cost, $/lb)
NSR_Pd = Recovered Metal (Pd, g) x 0.03215 oz/g x (Pd Price – Pd Selling Cost, $/oz)
NSR_Pt = Recovered Metal (Pt, g) x 0.03215 oz/g x (Pt Price – Pt Selling Cost, $/oz)
NSR_Au = Recovered Metal (Au, g) x 0.03215 oz/g x (Au Price – Au Selling Cost, $/oz)

NSR ($) = (NSR_Cu + NSR_Pd + NSR_Pt + NSR_Au) - Cu Conc. Treatment
+ (NSR_Ni +NSR_Co + NSR_Pd + NSR_Pt + NSR_Au) - Ni Conc. Treatment
- Concentrate Freight Costs

NSR_Unit ($/t) = NSR / Block Tonnes

The study considers a NSR cut-off value of $16.34 per tonne of milled material for the Grata, Main, and Extension deposits. Table 16-2 presents the parameters considered to determine the NSR cut-off value used in the PEA.

Table 16-2: NSR Cut-off Value for Grata, Main, and Extension

Parameter	Unit	Value
Incremental Mill Feed Mining Cost	$/t milled	0.16
Processing Cost – Fresh Rock	$/t milled	11.97
Tailings, Waste Management Facility ("WMF"), Water Management	$/t milled	Incl.
G&A	$/t milled	3.32
Sustaining Capital – Mill	$/t milled	-
Sustaining Capital – WMF	$/t milled	0.89
NSR Cut-off Value	**$/t milled**	**16.34**

A cut-off grade of 1.6% Ni is considered for the Sipilou Sud laterite deposit to achieve an average diluted grade of 1.8% Ni, which is a market requirement.

16.3 Pit Optimization Analysis

The economic pit limits of each deposit were evaluated using the Pseudoflow 3D algorithm in the Deswik Mine Planning Software. The pit optimization algorithm produces pit shells that are physical representations of an economic pit to be mined, assuming a given set of parameters and a 3D block model. Using a variety of input parameters such as mining costs, processing costs, transportation costs, process recovery values and pit slopes, the algorithm outputs the pit shell that maximizes the undiscounted value of the deposit. These shells lack geotechnical and operational features such as ramps, proper benching arrangements, and minimum mining width considerations. The pit shell's purpose is to be used as a basis for establishing pit limits and guide the design of an engineered open pit. No capital expenses, such as those required for initial equipment purchase or waste pile construction, are considered in the pit optimization analysis. The regularization approach was taken in the pit shell analysis to account for mining dilution and recovery by removing sub-cells.

A pit optimization analysis was completed for the Grata, Main, Extension, and Sipilou Sud deposits using the Indicated and Inferred Mineral Resources according to NI 43-101 guidelines.

16.3.1 Input Parameters

Table 16-3 presents the pit optimization input parameters for the Grata, Main, and Extension deposits, and Table 16-4 presents the input parameters for the Sipilou Sud deposit. Although these parameters are not necessarily final, a reasonable degree of accuracy is required since the analysis is an iterative process. The economic parameters used during the pit limit analysis may not necessarily conform to those stated in the financial model.

Table 16-3: Pit Optimization Analysis Parameters for Grata, Main, and Extension

Parameter	Unit	Value
Revenue		
Cu Metal Price	$/lb metal	3.75
Ni Metal Price	$/lb metal	8.70
Co Metal Price	$/lb metal	25.10
Pt Metal Price	$/t oz	1,140
Pd Metal Price	$/t oz	1,300
Au Metal Price	$/t oz	1,690
Selling Costs Ni Conc.		
Treatment Charge	$/t conc.	346
Freight to Smelter	$/t conc.	63
Royalties	-	None considered
Selling Costs Cu Conc.		
Treatment Charge	$/t conc.	105
Freight to Smelter	$/t conc.	63
Royalties	-	None considered
Economics		
Discount rate	%	8
Mining		
Rock Mining	$/t mined	2.26
Saprolite Mining	$/t mined	1.68
Incremental Mining Cost	$/t mined/10 m Bench	0.05
Sustaining Capital – Mining	$/t mined	0.09

Parameter	Unit	Value
Concentrate Parameters		
Product 1		**Cu Conc.**
Conc. Grade 1	%	26
Moisture	%	8
Product 2		**Ni Conc.**
Conc. Grade 2	%	13
Moisture	%	10
Cu Concentrate Recoveries		
Cu	decimal	(Cu Grade -0.0254 * Cu Grade -0.0466)/(Cu Grade)
Ni		not recovered
Co	decimal	0.027
Pt	decimal	0.16
Pd	decimal	0.205
Au	decimal	0.41
Ni Concentrate Recoveries		
Cu	decimal	IF(Cu Grade <0.1, 17%, ((0.0254 * Cu Grade + 0.0466)/ Cu Grade) * 0.34)
Ni	decimal	IF(Ni Grade <0.15, 20%, IF(0.15>= Ni Grade <= 0.50, (Ni Grade – 0.1185)/(Ni Grade), IF (Ni Grade > 0.5, 76%)
Co	decimal	Ni Recovery * 0.794
Pt	decimal	0.38
Pd	decimal	Ni Recovery * 0.562
Au	decimal	0.10
Geotechnical Parameters to Generate Pit Shells		
Rock	deg	45
Saprolite	deg	25

Table 16-4: Pit Optimization Analysis Parameters for Sipilou Sud Deposit (Laterite)

Description	Unit	Value
Mining Cost	$/dmt	2.5
In-pit Mineable Resource Loading Cost for Transportation to Port	$/wmt	0.5
In-pit Mineable Resource Transportation Cost (450 km)	$/wmt	25
Port Cost	$/wmt	4
Mining Dilution	%	5
Moisture Content	%	24
Selling Price (FOB Côte d'Ivoire / San-Pedro)	$/wmt	45
Ni Cut-off Grade	%	1.6
Pit Slope	deg	35

Metallurgical recoveries and smelter terms are captured in the selling price.

16.3.2 Pit Optimization Analysis Results

The pit optimization analysis provides a series of nested pit shells, each corresponding to a Revenue Factor ("RF") of NSR. The revenue factor scales only the revenue, and no costs are factored into the RF.

The best case, worst case and average case were analyzed. The worst case assumes the pit would be mined level by level without any phasing to defer waste rock stripping. The best case assumes that the pit would be mined pit shell by pit shell (nested pit), which is technically not possible. The average case offers a balanced approach between the worst and best cases that has been used in this study.

The nested pit shell generation step does not consider the time value of money. This factor is considered during the schedule optimization step of the analysis.

Table 16-5 presents the results obtained for the Grata deposit. RF=0.84 was chosen as the optimal shell since it maximizes the average case's Discounted Cash Flow ("DCF"). The RF 0.84 pit contains 54.6 Mt of Indicated and Inferred Mineral Resource with an average diluted Ni grade of 0.25%, a Cu grade of 0.25% and a strip ratio of 1.9:1.

Table 16-6 presents the results obtained for the Main deposit. RF=0.94 was chosen as the optimal shell since it maximizes the DCF for the average case. The RF 0.94 pit contains 21 Mt of Indicated and Inferred Mineral Resources with an average diluted Ni grade of 0.26%, a Cu grade of 0.21% and a strip ratio of 0.8:1.

Table 16-7 shows the results obtained for the Extension deposit. RF=0.97 was chosen as the optimal shell since it maximizes the DCF for the average case. The RF 0.97 pit contains 9.8 Mt of Indicated and Inferred Mineral Resource with an average diluted Ni grade of 0.28%, a Cu grade of 0.22% and a strip ratio of 2.6:1.

It is important to emphasize that the DCFs presented do not include initial and sustaining capital costs and are therefore not indicative of the project's DCF; they are merely used to compare the pit shells relative to each other.

Table 16-5: Grata Pit Limit Analysis

Revenue Factor	Potential Mill Feed							Waste	Strip Ratio	Best Case DCF	Worst Case DCF	Average Case DCF
	Tonnes	Ni Grade	Cu Grade	Co Grade	Pd Grade	Pt Grade	Au Grade	Tonnes				
	(Mt)	%	%	%	g/t	g/t	g/t	(Mt)		(M$)	(M$)	(M$)
0.32	0.1	0.48	0.55	0.02	0.68	0.14	0.06	0.3	4.8	4.2	4.2	4.2
0.40	0.2	0.40	0.47	0.01	0.56	0.12	0.05	0.5	2.9	7.7	7.7	7.7
0.50	2.1	0.30	0.33	0.02	0.33	0.11	0.04	4.1	2.0	52.6	52.4	52.5
0.60	18.8	0.26	0.28	0.01	0.31	0.11	0.04	25.2	1.3	286.2	272.7	279.5
0.70	36.2	0.25	0.26	0.01	0.30	0.10	0.04	52.5	1.5	401.3	356.9	379.1
0.72	38.5	0.25	0.26	0.01	0.29	0.10	0.04	56.9	1.5	411.2	362.0	386.6
0.74	41.7	0.25	0.26	0.01	0.29	0.10	0.04	64.8	1.6	423.8	367.8	395.8
0.76	43.8	0.25	0.25	0.01	0.29	0.10	0.04	70.1	1.6	430.8	369.6	400.2
0.78	44.9	0.25	0.25	0.01	0.29	0.10	0.04	72.4	1.6	434.0	369.7	401.8
0.80	47.8	0.25	0.25	0.01	0.28	0.10	0.04	79.9	1.7	440.9	369.0	404.9
0.82	52.0	0.25	0.25	0.01	0.28	0.10	0.04	94.4	1.8	450.1	365.1	407.6
0.84	**54.6**	**0.25**	**0.25**	**0.01**	**0.28**	**0.10**	**0.04**	**104.0**	**1.9**	**454.9**	**361.3**	**408.1**
0.86	56.3	0.25	0.25	0.01	0.27	0.10	0.04	110.7	2.0	457.6	358.3	407.9
0.88	58.2	0.25	0.25	0.01	0.27	0.10	0.04	117.6	2.0	459.9	353.7	406.8
0.90	59.7	0.25	0.25	0.01	0.27	0.10	0.04	124.9	2.1	461.7	349.4	405.6
0.92	60.5	0.25	0.25	0.01	0.27	0.10	0.04	128.1	2.1	462.3	346.4	404.4
0.94	61.5	0.25	0.25	0.01	0.27	0.10	0.04	131.7	2.1	462.8	342.6	402.7
0.96	62.5	0.25	0.25	0.01	0.27	0.10	0.04	136.5	2.2	463.3	338.8	401.0
0.98	63.5	0.25	0.25	0.01	0.27	0.10	0.04	141.4	2.2	463.5	334.0	398.8
1.00	**64.6**	**0.25**	**0.25**	**0.01**	**0.26**	**0.10**	**0.04**	**146.8**	**2.3**	**463.6**	**328.8**	**396.2**

Table 16-6: Main Pit Limit Analysis

Revenue Factor	Potential Mill Feed							Waste	Strip Ratio	Best Case DCF	Worst Case DCF	Average Case DCF
	Tonnes	Ni Grade	Cu Grade	Co Grade	Pd Grade	Pt Grade	Au Grade	Tonnes				
	(Mt)	%	%	%	g/t	g/t	g/t	(Mt)		(M$)	(M$)	(M$)
0.30	0.2	0.52	0.45	0.03	0.33	0.09	0.04	0.1	0.7	11.9	11.9	11.9
0.40	0.4	0.45	0.41	0.03	0.29	0.09	0.04	0.3	0.7	18.1	18.1	18.1
0.50	4.1	0.32	0.32	0.02	0.31	0.10	0.04	3.0	0.7	113.1	111.9	112.5
0.60	8.7	0.29	0.26	0.02	0.36	0.10	0.04	7.8	0.9	178.4	173.0	175.7
0.70	15.4	0.27	0.23	0.02	0.34	0.10	0.04	11.8	0.8	236.2	225.5	230.8
0.72	16.4	0.27	0.23	0.02	0.33	0.10	0.04	12.5	0.8	241.7	229.7	235.7
0.74	16.6	0.27	0.23	0.02	0.33	0.10	0.04	12.7	0.8	243.1	230.8	236.9
0.76	17.0	0.27	0.22	0.02	0.33	0.10	0.04	13.0	0.8	245.0	232.2	238.6
0.78	17.5	0.26	0.22	0.02	0.33	0.10	0.04	13.4	0.8	247.1	233.8	240.5
0.80	17.9	0.26	0.22	0.02	0.33	0.10	0.04	13.5	0.8	248.6	234.6	241.6
0.82	18.5	0.26	0.22	0.02	0.33	0.10	0.04	13.9	0.7	250.5	235.5	243.0
0.84	19.0	0.26	0.22	0.02	0.32	0.10	0.04	14.6	0.8	252.0	236.2	244.1
0.86	19.7	0.26	0.22	0.02	0.32	0.10	0.04	15.4	0.8	253.7	237.0	245.4
0.88	19.8	0.26	0.22	0.02	0.32	0.10	0.04	15.6	0.8	254.1	237.0	245.6
0.90	20.3	0.26	0.21	0.02	0.32	0.10	0.04	16.0	0.8	254.8	236.9	245.9
0.92	20.6	0.26	0.21	0.02	0.31	0.10	0.04	16.4	0.8	255.3	236.9	246.1
0.94	**21.0**	**0.26**	**0.21**	**0.02**	**0.31**	**0.10**	**0.04**	**16.9**	**0.8**	**255.7**	**236.7**	**246.2**
0.96	32.1	0.26	0.22	0.02	0.30	0.09	0.04	75.2	2.3	255.7	216.7	236.2
0.98	32.3	0.26	0.22	0.02	0.30	0.09	0.04	76.0	2.3	255.9	216.1	236.0
1.00	**32.8**	**0.26**	**0.22**	**0.02**	**0.30**	**0.09**	**0.04**	**77.6**	**2.4**	**255.9**	**215.0**	**235.5**

Table 16-7: Extension Pit Limit Analysis

Revenue Factor	Potential Mill Feed							Waste	Strip Ratio	Best Case DCF	Worst Case DCF	Average Case DCF
	Tonnes	Ni Grade	Cu Grade	Co Grade	Pd Grade	Pt Grade	Au Grade	Tonnes				
	(Mt)	%	%	%	g/t	g/t	g/t	(Mt)		(M$)	(M$)	(M$)
0.33	0.1	0.41	0.47	0.02	0.63	0.07	0.03	0.4	3.5	5.8	5.8	5.8
0.40	0.6	0.35	0.38	0.02	0.56	0.10	0.03	1.3	2.0	24.8	24.8	24.8
0.50	2.8	0.33	0.31	0.02	0.59	0.11	0.03	5.9	2.1	86.5	85.9	86.2
0.60	4.4	0.31	0.28	0.02	0.57	0.11	0.03	9.0	2.0	116.0	114.2	115.1
0.70	6.2	0.30	0.25	0.02	0.53	0.10	0.03	12.8	2.1	137.3	133.9	135.6
0.72	6.9	0.30	0.25	0.02	0.52	0.10	0.03	14.7	2.1	143.8	139.5	141.6
0.74	7.0	0.30	0.25	0.02	0.52	0.10	0.03	14.9	2.1	144.4	140.0	142.2
0.76	7.5	0.29	0.24	0.02	0.51	0.10	0.02	16.0	2.1	147.5	142.5	145.0
0.78	7.5	0.29	0.24	0.02	0.51	0.10	0.02	16.1	2.1	147.9	142.8	145.4
0.80	7.6	0.29	0.24	0.02	0.50	0.10	0.02	16.2	2.1	148.3	143.0	145.6
0.82	7.8	0.29	0.24	0.02	0.50	0.10	0.02	16.7	2.1	149.2	143.5	146.4
0.85	8.2	0.29	0.24	0.02	0.49	0.10	0.02	17.5	2.1	150.7	144.7	147.7
0.87	8.4	0.29	0.23	0.02	0.49	0.10	0.02	18.6	2.2	151.6	145.2	148.4
0.90	8.7	0.29	0.23	0.02	0.49	0.10	0.02	19.8	2.3	152.5	145.5	149.0
0.92	9.0	0.28	0.23	0.02	0.49	0.10	0.02	21.2	2.4	153.2	145.9	149.5
0.93	9.4	0.28	0.23	0.02	0.48	0.10	0.02	23.4	2.5	153.9	145.7	149.8
0.95	9.6	0.28	0.23	0.02	0.48	0.10	0.02	24.4	2.5	154.3	145.6	150.0
0.97	**9.8**	**0.28**	**0.22**	**0.02**	**0.48**	**0.10**	**0.02**	**25.1**	**2.6**	**154.4**	**145.5**	**150.0**
0.99	10.3	0.28	0.22	0.02	0.47	0.09	0.02	26.3	2.6	154.6	145.2	149.9
1.00	**10.4**	**0.28**	**0.22**	**0.02**	**0.47**	**0.09**	**0.02**	**26.8**	**2.6**	**154.6**	**145.1**	**149.9**

Due to the short mine life for the Sipilou Sud laterite deposit, the RF=1.00 was retained for the PEA. The RF=1.00 pit shell contains 1.6 M wmt of Inferred Mineral Resources (including mining dilution) at a Ni cut-off grade of 1.6%. These resources have an average grade of 1.86% Ni and can be mined at a strip ratio of 4.4:1.

16.4 Mining Dilution and Mining Recovery Estimation

Mine dilution and mining loss were incorporated into the Grata, Main, and Extension block models using regularizing to a 10 x 10 x 10-m block size with an added 2% deduction of the grades.

Table 16-8 presents the impact of re-blocking.

Table 16-8: Mineralized Material Loss and Mining Dilution

Deposit	Mining Loss	Dilution
Grata	5.2%	3%
Main	5.0%	3%
Extension	5.3%	3%

Due to the shallow nature of the Sipilou Sud deposit, no mining losses have been assumed; however, a 5% dilution is factored in at a Ni% of 0.

16.5 Open Pit Design

Since the project is at a PEA level, simplified ultimate pit designs were completed using the selected optimized pit shells as a guide and considering the geotechnical slope configurations for the Grata, Main, and Extension deposits.

No pit design was completed for the Sipilou Sud laterite deposit. The deposit is shallow, and slots will be established to access the pits during operation.

16.5.1 Geotechnical Pit Slope Parameters

Rock mass classification used the Q' system (Barton et al. 1974). Q' values of 1.7 (poor quality rock) was estimated for weathered saprolite material. Q' values for the unweathered mafic rock (fresh rock) ranged from 6.7 to 37.5, representing good quality rock. BBA reviewed the MDEng (2019) report and adjusted the geotechnical pit slope parameters used for pit design, which are presented in Table 16-9. At the transition between saprolite and underlying mafic rock, a 15-m geotechnical catch bench was added (BBA, 2024d).

Table 16-9: Pit Slope Parameters

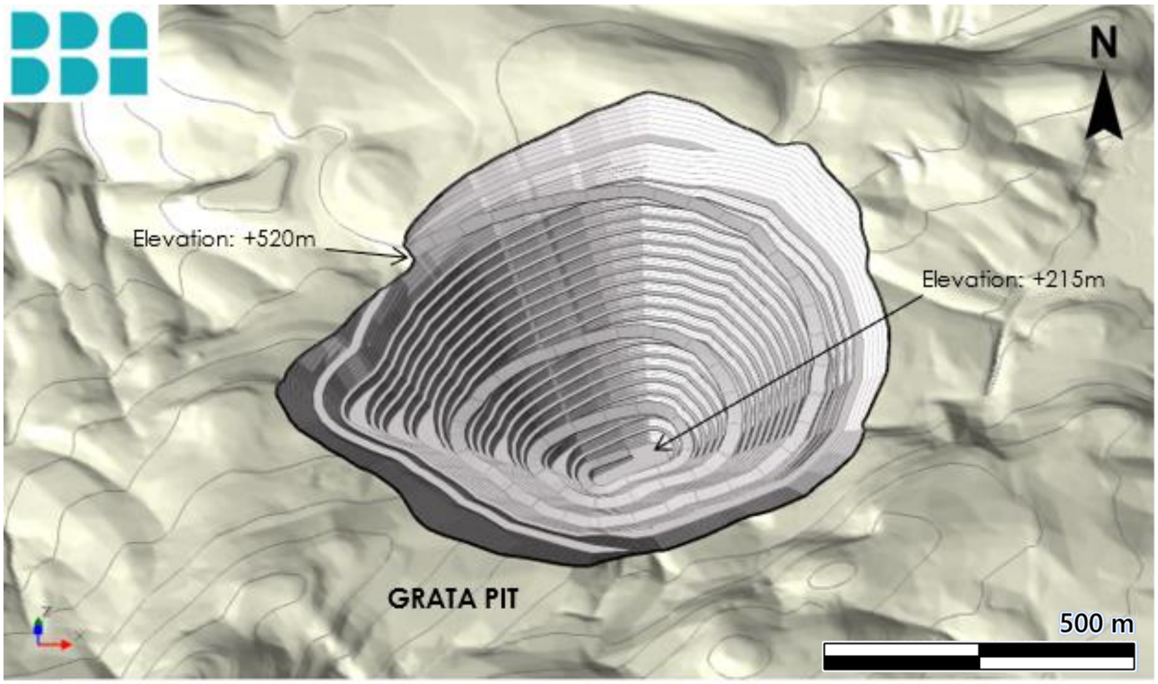
Parameter	Unit	Material	
		Saprolite	Rock
Bench Height	m	5	15
Bench Configuration	-	1 x 5 m	3 x 5 m
Inter-ramp Angle	deg	35.2	50.1
Bench Face Angle	deg	60	70
Berm Width	m	4.2	7.1

16.5.2 In-pit Mineable Resources

Figure 16-1 and Figure 16-2 present the pit designs for the Grata, Main, and Extension deposits, which are circular in nature. The pits have diameters ranging from 420 m to 890 m, Grata being the largest. The depth of the pits varies from 185 m to 400 m.

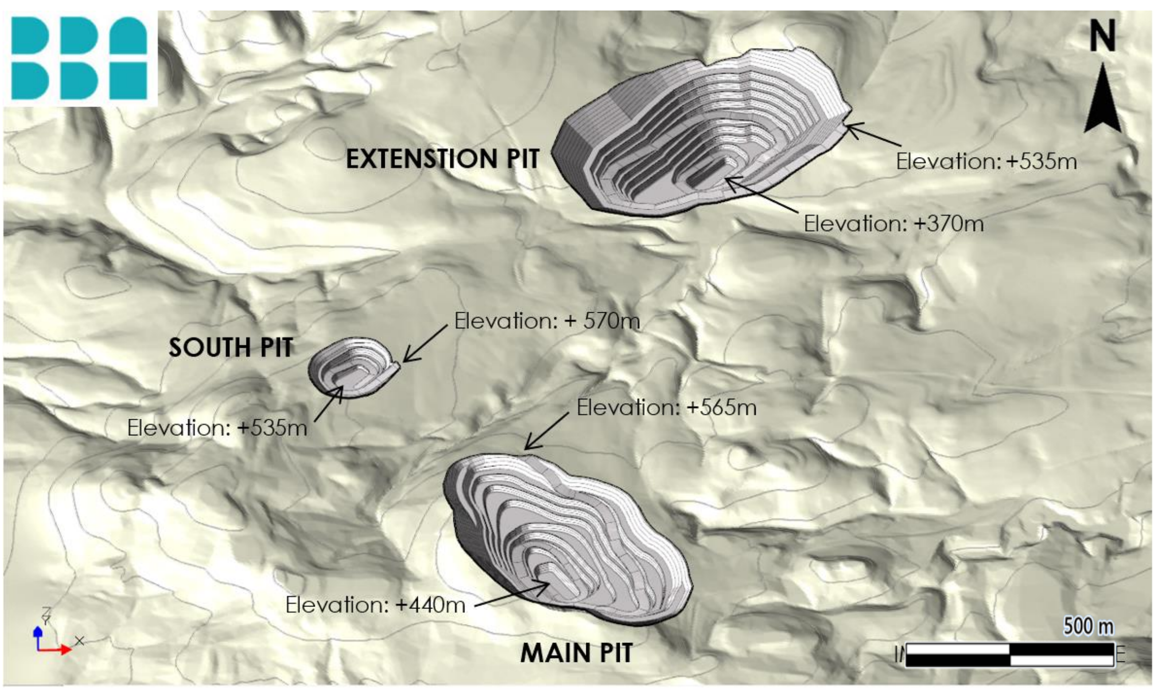
The in-pit mineable resources contained in the three sulphide pits (Grata, Main, and Extension) include 17.4 Mt of Indicated and 69.1 Mt of Inferred resources (including mining dilution and mining losses), with an overall strip ratio of 1.8:1 using a NSR cut-off of $16.34/t.

Table 16-10 summarizes the in-pit mineable resources for Grata, Main, and Extension.



Source: BBA, 2024

Figure 16-1 Grata Pit Design



Source: BBA, 2024

Figure 16-2: Main and Extension Pit Designs

Table 16-10: In-pit Mineable Resources for Sulphide Deposits

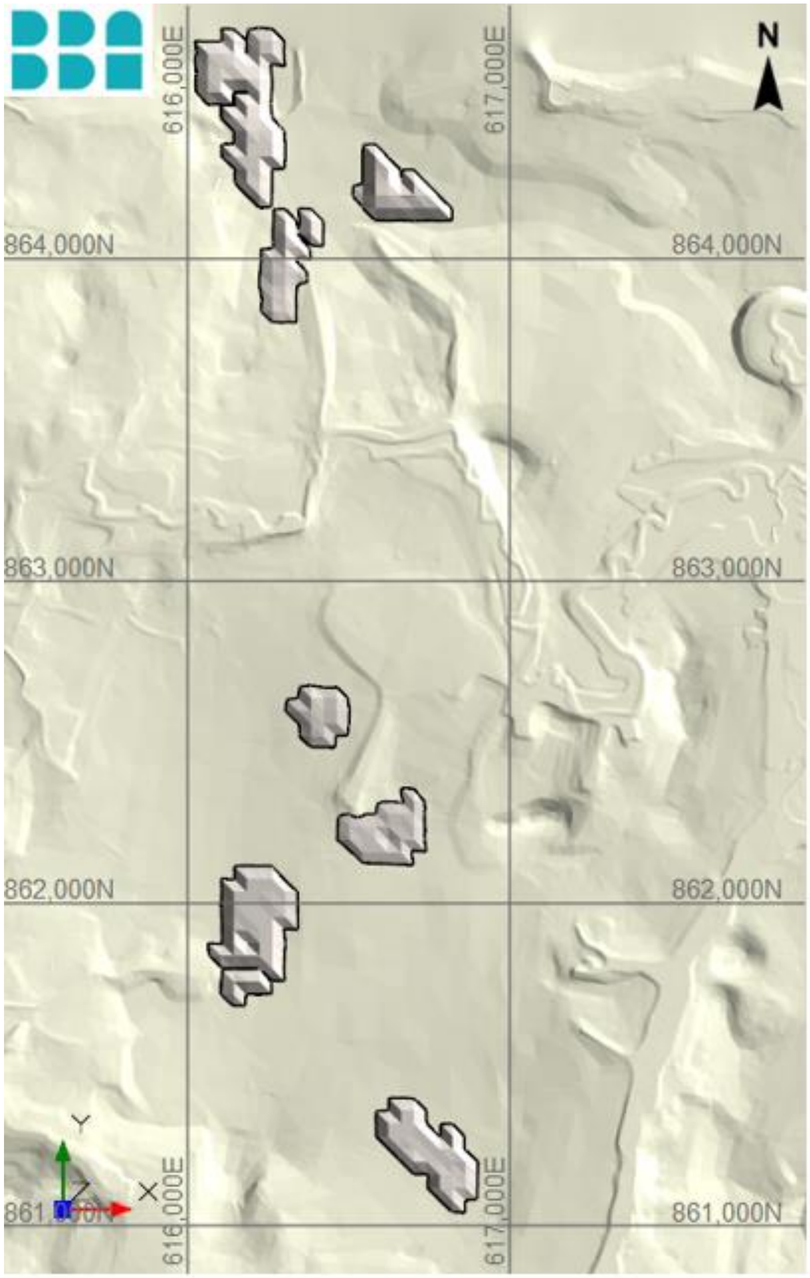
Deposits		In-pit Mineable Resources								Waste	Strip Ratio
		Tonnage (Mt)	NSR ($/t)	Ni (%)	Cu (%)	Pt (g/t)	Pd (g/t)	Au (g/t)	Co (%)	Tonnage (Mt)	
Grata	Indicated	3.3	41.9	0.28	0.29	0.11	0.32	0.04	0.02	111.9	2.0
	Inferred	53.9	34.8	0.24	0.25	0.10	0.27	0.04	0.01		
Main	Indicated	13.8	36.0	0.26	0.23	0.10	0.32	0.04	0.02	19.6	1.0
	Inferred	6.4	29.4	0.24	0.17	0.09	0.28	0.03	0.02		
Extension	Indicated	0.4	33.5	0.25	0.16	0.10	0.46	0.02	0.02	26.3	2.8
	Inferred	8.8	42.1	0.28	0.23	0.10	0.49	0.02	0.02		
Total	**Indicated**	**17.4**	**37.0**	**0.26**	**0.24**	**0.10**	**0.32**	**0.04**	**0.02**	**157.8**	**1.8**
	Inferred	**69.1**	**35.3**	**0.25**	**0.24**	**0.10**	**0.30**	**0.04**	**0.01**		

Figure 16-3 presents the Sipilou Sud laterites pits. No pit design was completed due to the size of the pits and the shallow nature of the deposit. However, an inter-ramp angle of 35 degrees is used in the pit limit analysis to leave the proper contingency for future pit design. In-pit mineable resources contained in the Sipilou Sud laterite pits (Table 16-11) include 1.6 M wmt of Inferred resources (including mining dilution) at 1.86% Ni, 0.006% Cu and 0.05% Co, using Ni cut-off grade of 1.6% that can be mined at a strip ratio of 4.4:1. The pits have approximate depths of 25 m.

The Sipilou Sud laterite in-pit mineable material will be used as direct shipping laterite mined.

Table 16-11: Sipilou Sud Laterite In-pit Mineable Resources

Description	In-pit Mineable Resources				Waste	Strip Ratio
	Tonnage (kt)	Ni (%)	Cu (%)	Co (%)	Tonnage (kt)	
Inferred	1,620	1.86	0.006	0.05	7,184	4.4



Source: BBA, 2024

Figure 16-3: Sipilou Sud Laterite Pits

16.6 Phase Selection

Phases, also referred to as pushbacks, have been selected to access mill feed quicker and to defer waste stripping. The phase ("PH") selection process was guided by the smaller RF pit shells from the pit optimization analysis. A minimum working width of 60 m between phases was considered acceptable based on the size of the mining equipment and the proposed scale of mining operations. The phases follow the same overall slope angles presented in Section 16.3. A total of six phases (two for Grata, two for Main and two for Extension) were selected for the life of mine production schedule, they are presented in Table 16-12.

Grata PH 1 is centered within Grata PH 2 and does not develop any final pit wall. It has a bottom elevation of 370 m and a top elevation of 580 m, resulting in a depth of approximately 210 m. Grata PH 2 establishes the final pit limits, ranging from a top elevation of 615 m to a bottom elevation of 215 m, resulting in a pit depth of 400 m. Grata PH 1 contains 16.0 Mt of mill feed at a strip ratio of 1.3 to 1, while Grata PH 2 includes 41.1 Mt of mill feed at a strip ratio of 2.2 to 1.

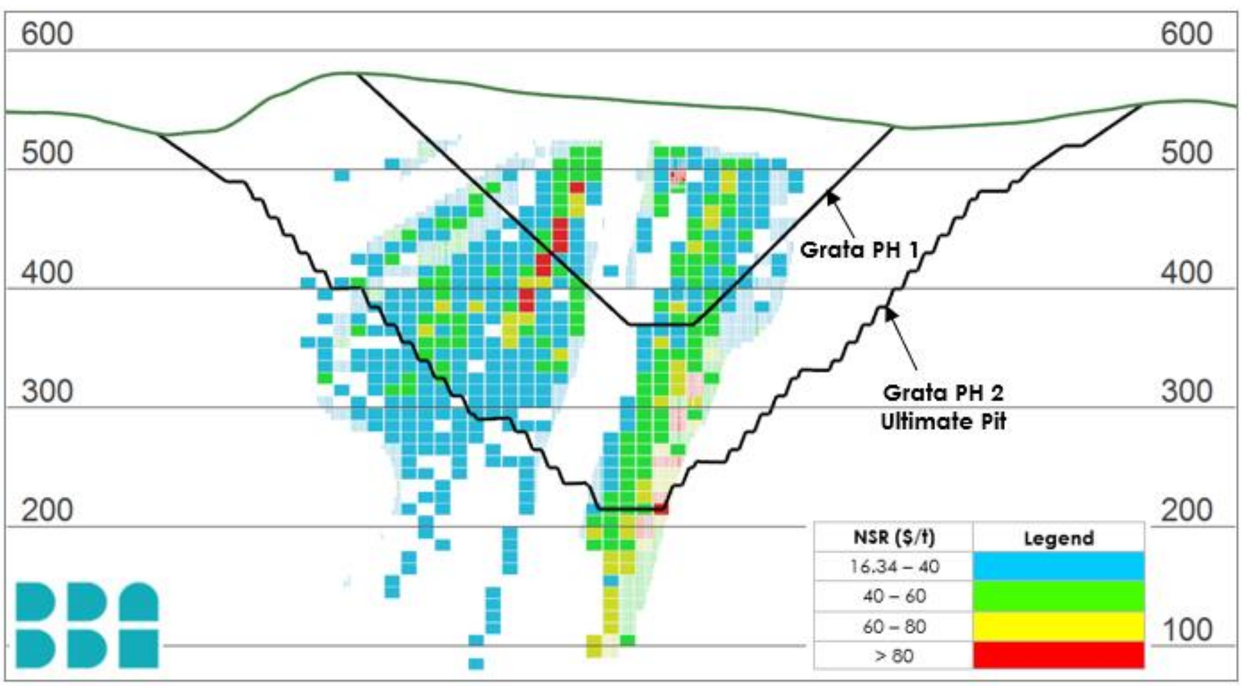
Main PH 1 is situated within Main PH 2 and respects the minimum working width of 60 m between phases. Main PH 1 has a bottom elevation of 520 m and a top elevation of 645 m, and will be mined to a depth of approximately 125 m. This phase contains 4.9 Mt of mill feed with a strip ratio of 0.5 to 1. Main PH 2 establishes the ultimate pit limits, spanning from a top elevation of 645 m to a bottom elevation of 440 m, resulting in a pit depth of 205 m. It includes 15.2 Mt of mill feed at a strip ratio of 1.1 to 1.

Figure 16-4 and Figure 16-5 present typical cross sections showing selected phases for the Grata and Main deposits.

The Extension deposit consists of two separate small pits (Extension and Extension South), each of them has been considered as a phase for the purpose of mine scheduling (Figure 16-2). The Extension pit has a depth of 185 m with a top elevation 555 m. The circular pit's width ranges from 560 m to 650 m. It includes 8.7 Mt of mill feed with a strip ratio of 2.9 to 1. Extension South pit has a depth of 50 m with a top elevation 585 m. The circular pit's diameter is around 575 m. Extension South includes 0.5 Mt of mill feed with a strip ratio of 2.4 to 1.

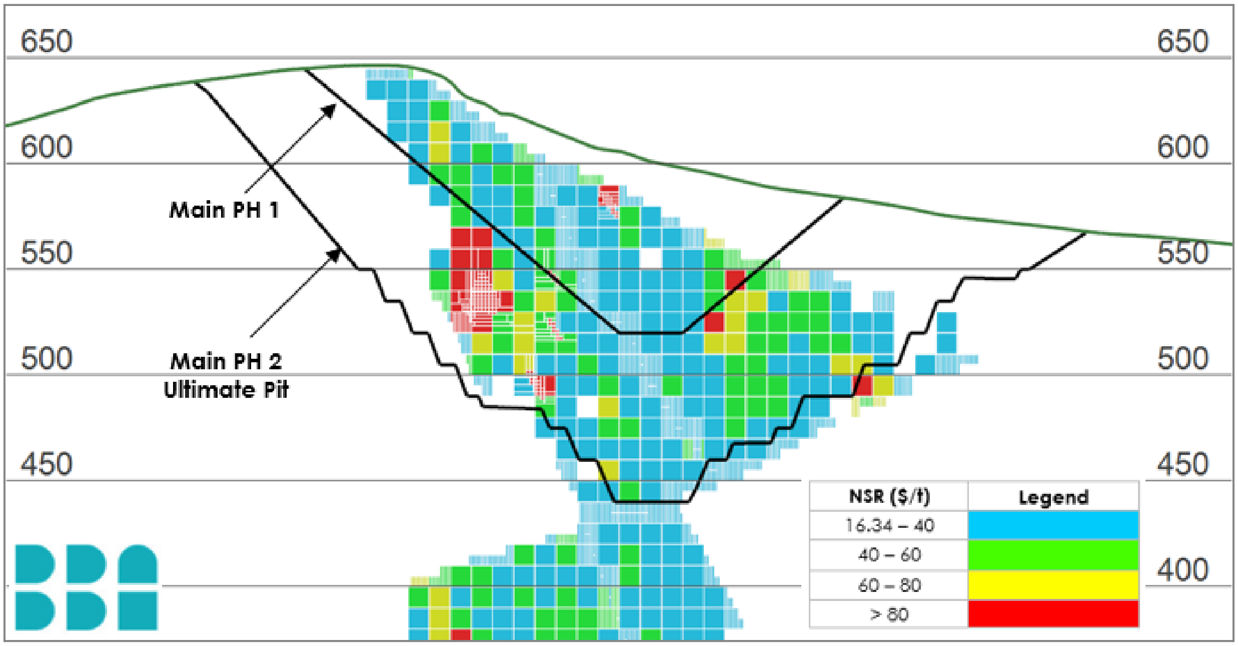
Table 16-12: In-pit Mineable Resources by Phase

Description	Mill Feed (Mt)	NSR ($/t)	Waste (Mt)	Strip Ratio
Grata PH 1	16.0	38.2	21.4	1.3
Grata PH 2	41.1	34.1	90.6	2.2
Main PH 1	4.9	34.0	2.4	0.5
Main PH 2	15.2	33.8	17.1	1.1
Extension	8.8	42.5	25.2	2.9
Extension South	0.5	26.2	1.1	2.4
Total	**86.5**	**35.6**	**157.8**	**1.8**



Source : BBA, 2024

Figure 16-4: Grata PH 1 and PH 2



Source : BBA, 2024

Figure 16-5: Main PH 1 and PH 2

16.7 Waste Storage Facility and Stockpiles

Material mined from the Grata, Main, and Extension open pits that are not directly hauled to the crusher will be placed in several storage facilities across the site. These facilities, discussed in further detail below, include the ROM stockpile near the crusher, two Saprolite stockpiles and two fresh rock stockpiles. Note that trees will be cleared before placing material in these piles.

No waste rock pile is considered for the Sipilou Sud laterite pit. It is assumed that the non-economical material from the pit will be placed back in the mined-out pit.

16.7.1 ROM Stockpile

The ROM pad stockpile will be strategically located near the primary crusher to minimize haul distances. It is considered to have a maximum capacity of 1.6 Mt. ROM stockpile rehandling from the ROM stockpile to the primary crusher by a front-end wheel loader. This rehandling aims to defer low-grade material for processing later in the mine life.

16.7.2 Saprolite Stockpiles

The Saprolite stripped from the open pits will be transported to designated piles or the TSF for construction material use. The Saprolite stockpile designated for Grata is located to the west of the pit, while the second stockpile, which will be used by the Main and Extension pits, is located between the Main and Extension pits. An inter-ramp angle of 21° was considered to estimate the stockpile footprint requirements.

16.7.3 Rock Stockpiles

Non-mineralized rock mined from the open pits will be placed in the designated piles or will be used as construction material for the TSF. The rock pile designated for Grata is located to the west of the pit, while the second rock pile, which will be used by both the Main and Extension pits, is located west of the Main and Extension pits. An inter-ramp angle of 32° was considered to estimate the size of the rock piles. According to the LOM production schedule presented in the next section of this report, a total of 33 Mm^3 of Saprolite and 43 Mm^3 of waste rock from the pits will be placed in the designated stockpiles, with an additional quantity being placed in the TSF for construction purposes.

Table 16-13 presents the waste pile size determined for saprolite and rock material, while Figure 16-6 to Figure 16-9 present isometric plan views and cross-sections of the stockpiles.

Table 16-13: Waste Stockpile Size

Pit		Footprint (ha)	Height (m)	Overall Slope Angle
Rock	Main and Extension	40	100	32 deg
	Grata	80	70	
Saprolite	Main and Extension	53	40	21 deg
	Grata	63	100	

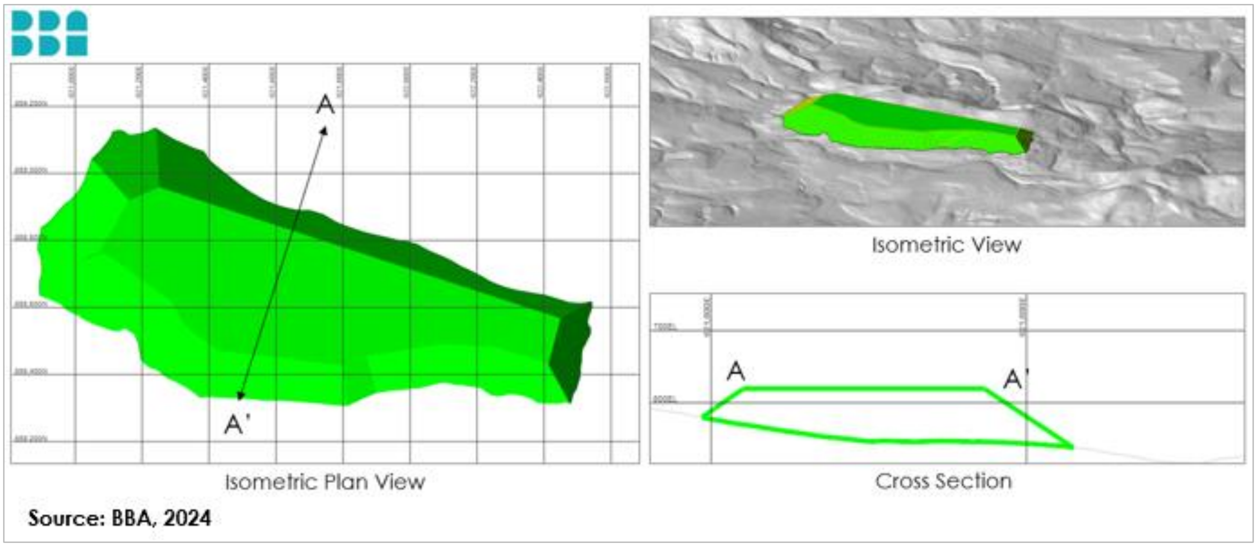


Figure 16-6: Grata Rock Pile

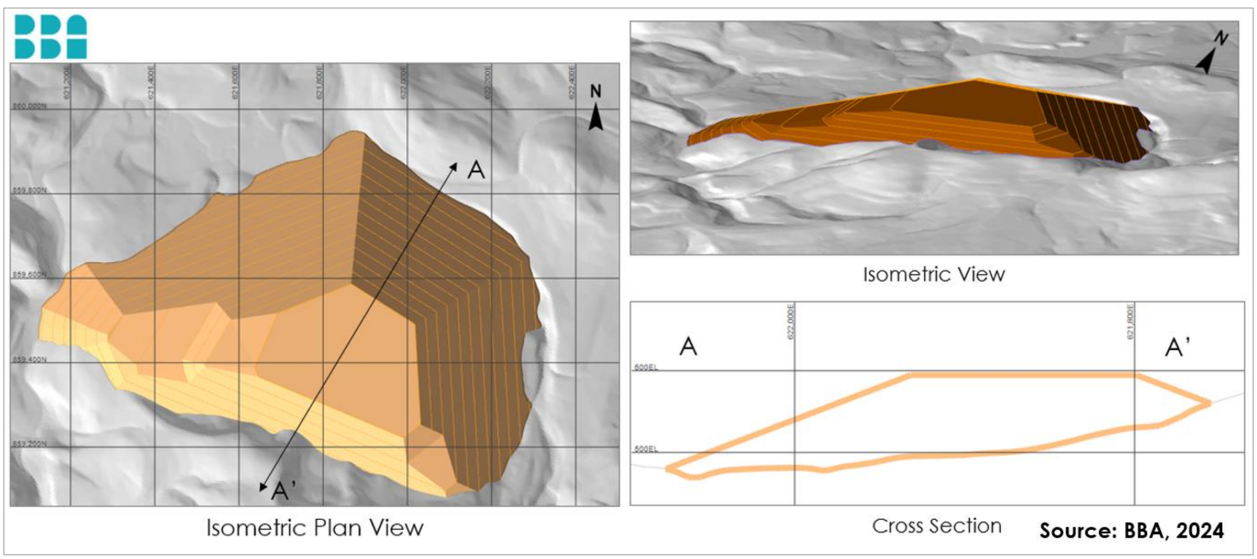


Figure 16-7: Grata Saprolite Pile

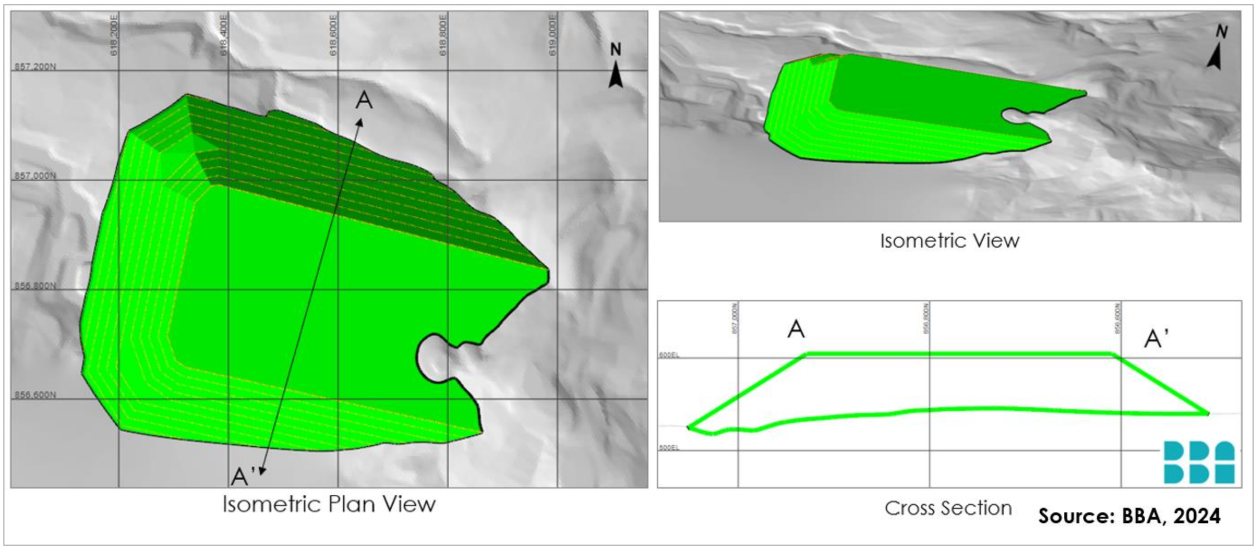


Figure 16-8: Main and Extension Rock Pile

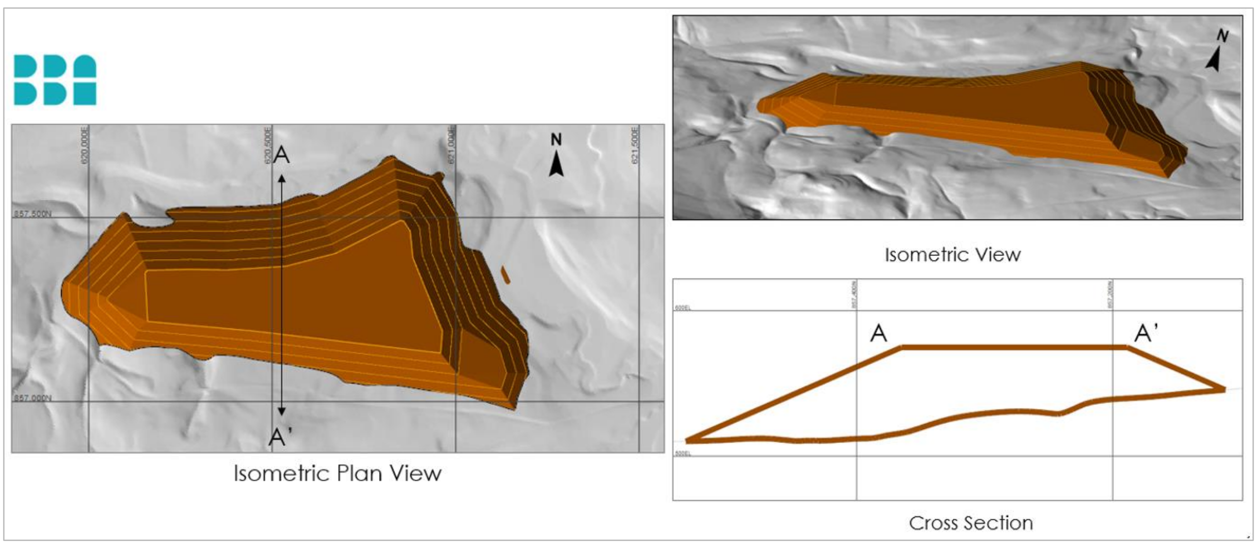


Figure 16-9: Main and Extension Saprolite Pile

16.8 Open Pit Mine Production Schedule

16.8.1 Mine Planning Parameters

The mine production plan has been prepared using the MinePlan Schedule Optimizer ("MPSO") tool in the Hexagon MinePlan 3D software. Provided with economic input parameters and operational constraints such as phase sequencing, maximum bench sink rates, and mining and milling capacities, the software determines the optimal mining sequence that maximizes the NPV of the mine production plan.

The mine plan has been prepared with a pre-production period, followed by semi-annual scheduling for the first 2 years of operation, with annual scheduling thereafter. The purpose of the pre-production period is to provide saprolite and waste rock for TSF construction and to prepare the pits for mining operations.

The mine plan targets higher-NSR material in the project's initial years to improve its NPV.

A maximum bench sink rate and total material movement were used as a constraining parameter for the mine plan. The mine plan accounts for a process plant throughput rate ramp-up of 63% during the first 6 months before it achieves its nominal capacity:

- 50% in Q1;
- 75% in Q2;
- 100% in Q3.

16.8.2 Open Mine Production Schedule

The open pit has a 16.1-year mine life plus 1 year of pre-production development referred to as PP. During pre-production, a total of 5.7 Mt of material is planned to be mined, including 1.2 Mt of Saprolite, 2.9 Mt of waste rock, and 1,600 t of mill feed, which will be stockpiled.

During the mining operation, the total material mined from the open pit peaks at 20 Mt in Year 07, 08 and 09 and averages 14 Mt/y from Years 01 to 17. The average NSR value averages $35.60/t over the life of the open pit mine. The yearly average mill feed over the LOM averages 5.5 Mt.

Table 16-14 presents the mine production schedule for the open pit. The tonnages presented are all on a dry basis and the totals may not add up due to rounding. Figure 16-10 to Figure 16-14 present various charts that display the mine production schedule.

Figure 16-15 shows the saprolite and waste non-acid generating ("NAG") rocks scheduled to be used for the construction of the TSF throughout the mine's life. While no specific tests have been conducted to differentiate between NAG and potentially acid generating ("PAG") materials, a maximum sulphur grade of 2% has been assumed as the criterion for identifying NAG material.

Table 16-14: Mine Production Schedule

Description	Unit	PP	Year 01	Year 02	Year 03	Year 04	Year 05	Year 06	Year 07	Year 08	Year 09	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Total
Mill Feed	kt	-	4,448	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	4,967	431	**86,497**
NSR	$/t	-	37.5	34.4	36.6	33.6	36.0	39.9	39.7	36.5	35.1	31.3	32.8	33.3	34.4	35.1	36.5	36.7	45.9	**35.6**
Ni	%	-	0.27	0.26	0.26	0.24	0.25	0.27	0.27	0.25	0.25	0.23	0.23	0.24	0.24	0.25	0.25	0.25	0.30	**0.25**
Cu	%	-	0.24	0.20	0.23	0.23	0.24	0.24	0.24	0.24	0.24	0.22	0.24	0.24	0.25	0.25	0.26	0.27	0.33	**0.24**
ROM to Mill	kt	-	2,218	4,282	5,475	5,306	5,354	5,454	5,356	5,328	4,700	4,813	5,475	5,475	4,994	5,415	5,474	3,597	431	**79,146**
ROM to Stockpile	kt	1,601	1,823	554	816	40	132	140	119	147	67	-	407	963	186	212	143	-	-	**7,350**
Stockpile to Mill	kt	-	2,231	1,193	-	169	121	21	119	147	775	662	-	-	481	60	1	1,370	-	**7,350**
Stockpile Balance	kt	1,601	1,193	554	1,370	1,240	1,252	1,370	1,370	1,370	662	-	407	1,370	1,075	1,228	1,370	-	-	**-**
Saprolite Waste	kt	1,201	1,620	3,476	4,387	6,120	9,672	4,066	5,852	5,941	7,803	2,668	6	-	-	-	-	-	-	**52,813**
Waste Rock	kt	2,889	1,756	4,200	3,366	3,534	3,342	9,912	8,673	8,584	7,430	11,780	10,863	8,918	7,749	5,187	4,297	2,479	21	**104,981**
Total Material Moved	kt	5,691	9,648	13,704	14,044	15,169	18,621	19,592	20,119	20,147	20,775	19,923	16,751	15,356	13,410	10,875	9,915	7,447	452	**251,641**
Total ROM	kt	5,691	7,417	12,510	14,044	15,000	18,500	19,571	20,000	20,000	20,000	19,262	16,751	15,356	12,930	10,815	9,914	6,077	452	**244,290**
Strip Ratio	t : t	2.6	0.8	1.6	1.2	1.8	2.4	2.5	2.7	2.7	3.2	3.0	1.8	1.4	1.5	0.9	0.8	0.7	-	**1.8**

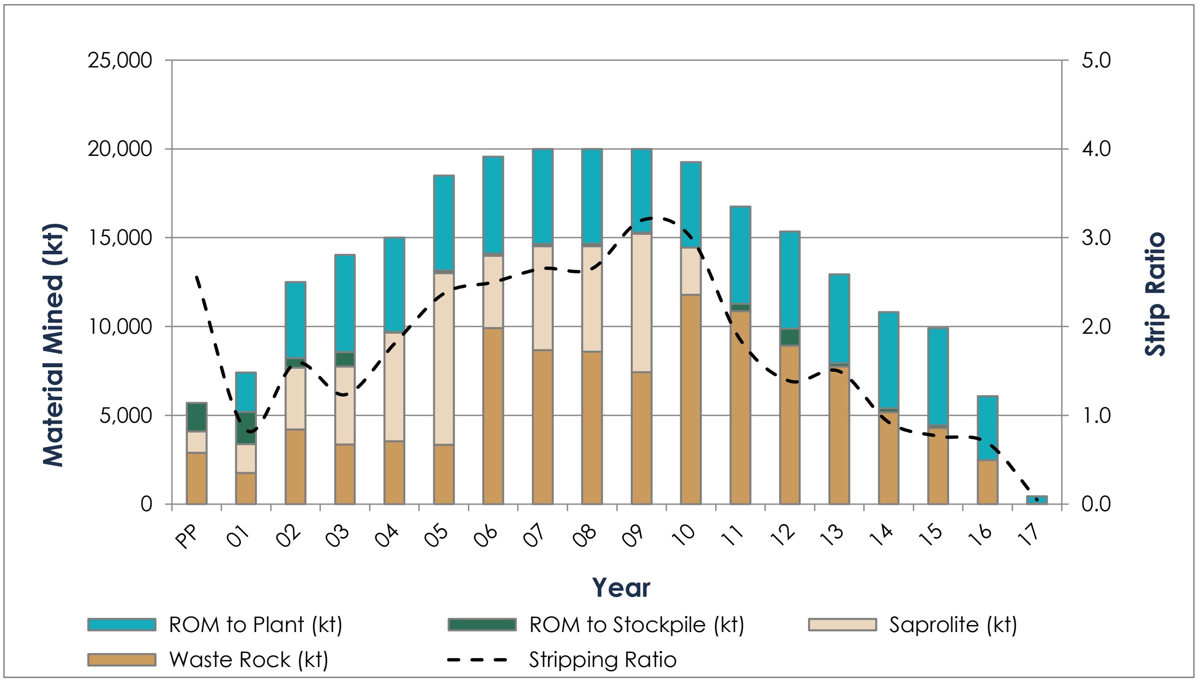


Figure 16-10: Mine Production Schedule (Total Material Mined)

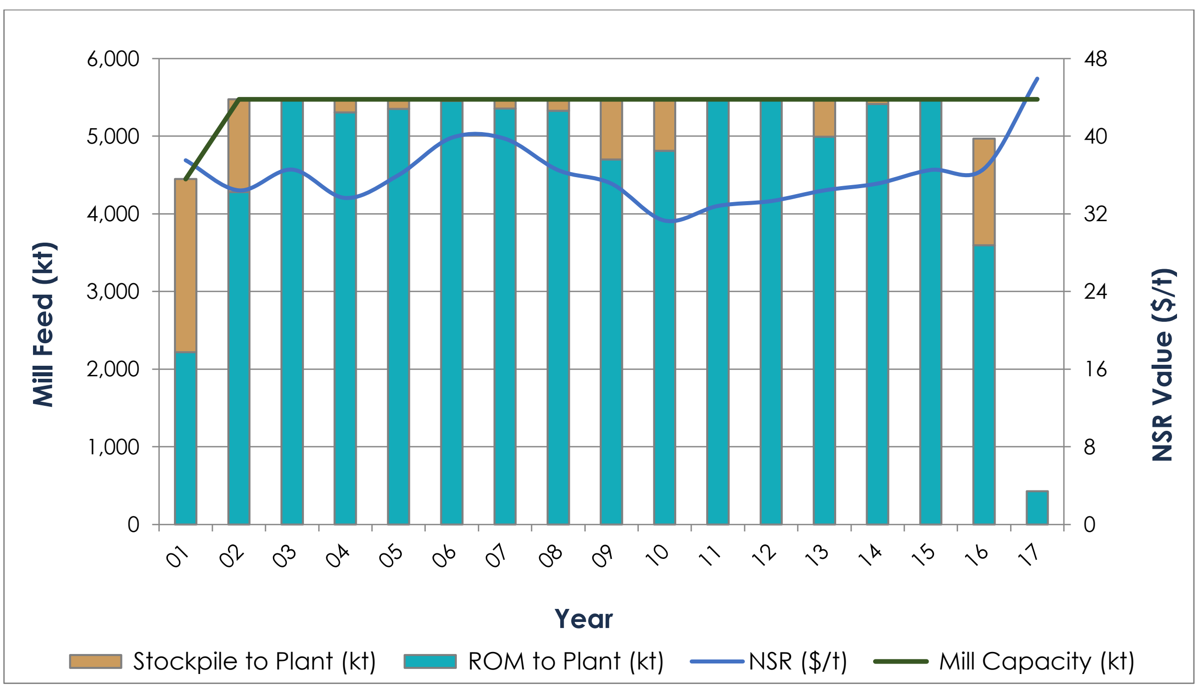


Figure 16-11: Mine Production Schedule (Mill Feed)

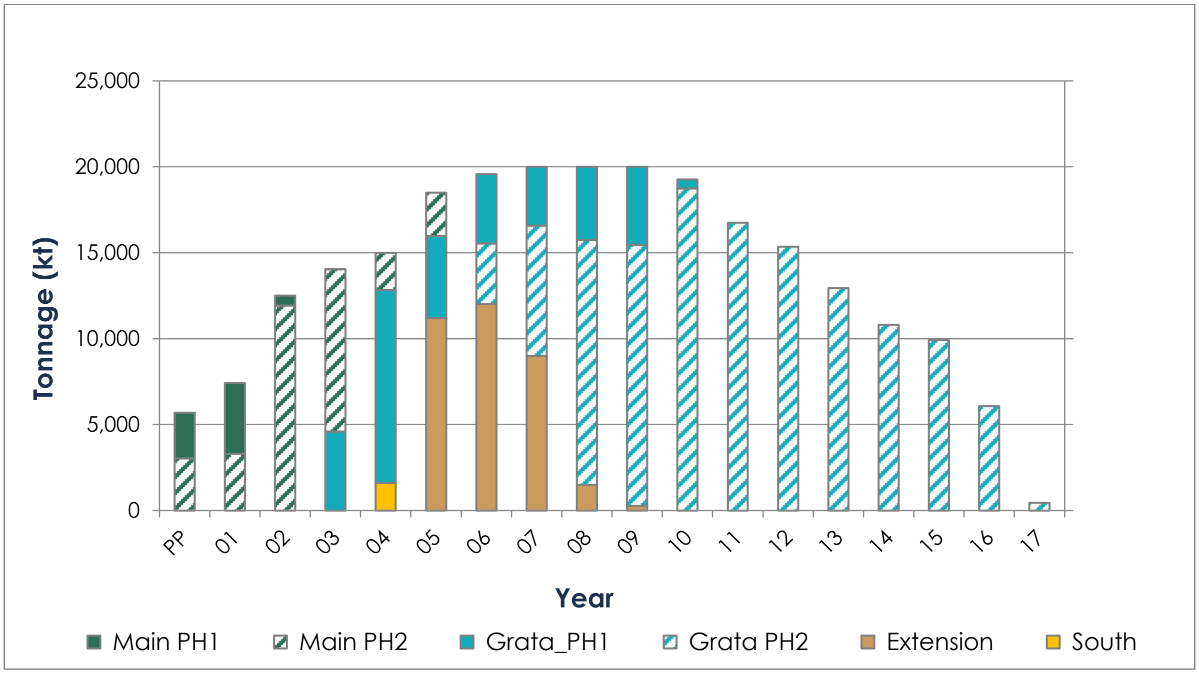


Figure 16-12: Mine Production Schedule (Material Mined by Phase)

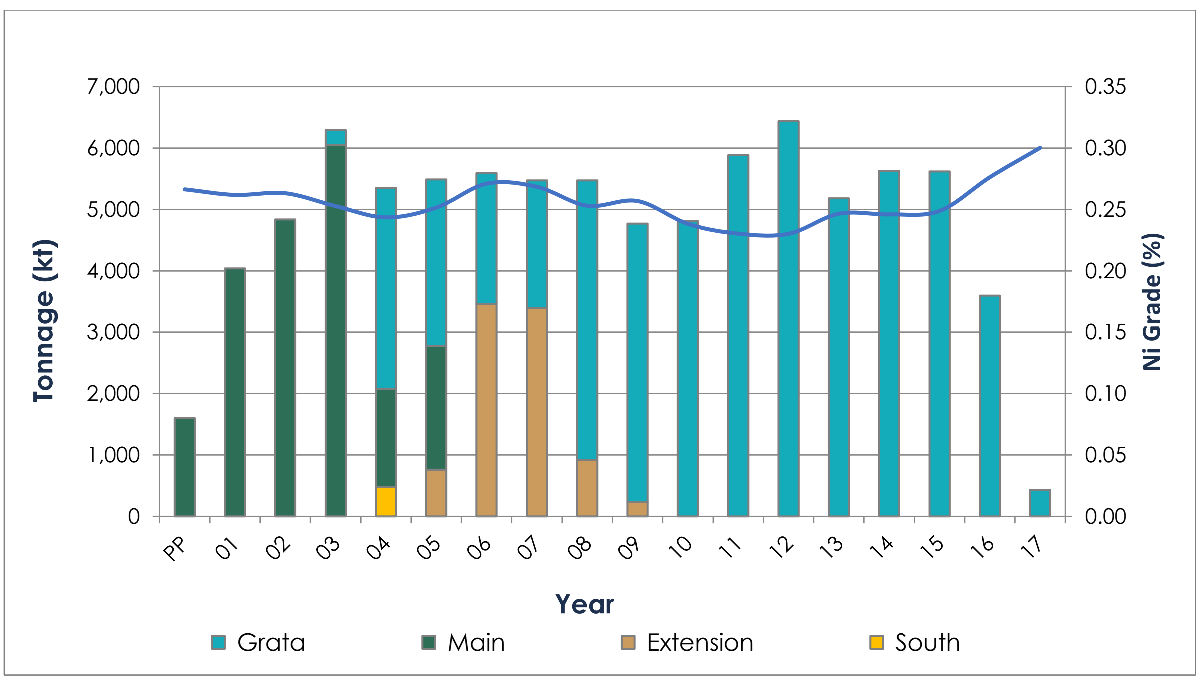


Figure 16-13: Mine Production Schedule (In-pit Mineable Resources by Pit)

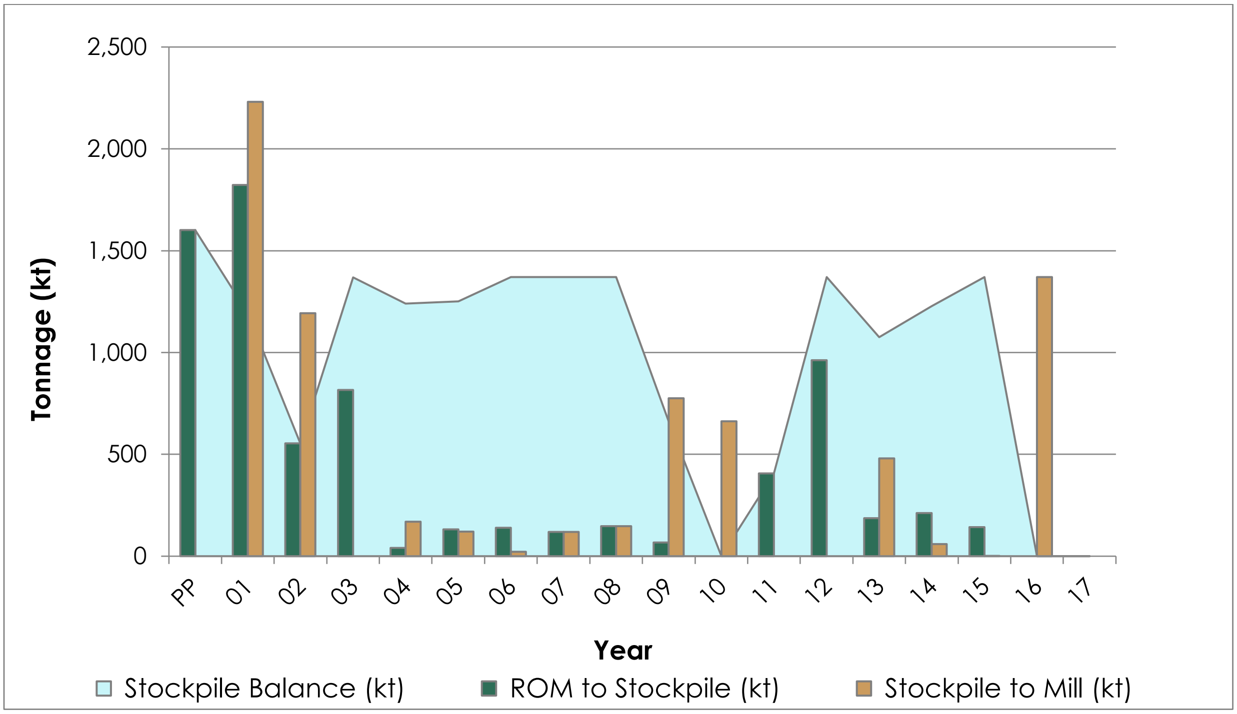


Figure 16-14: Mine Production Schedule (Stockpile Balance)

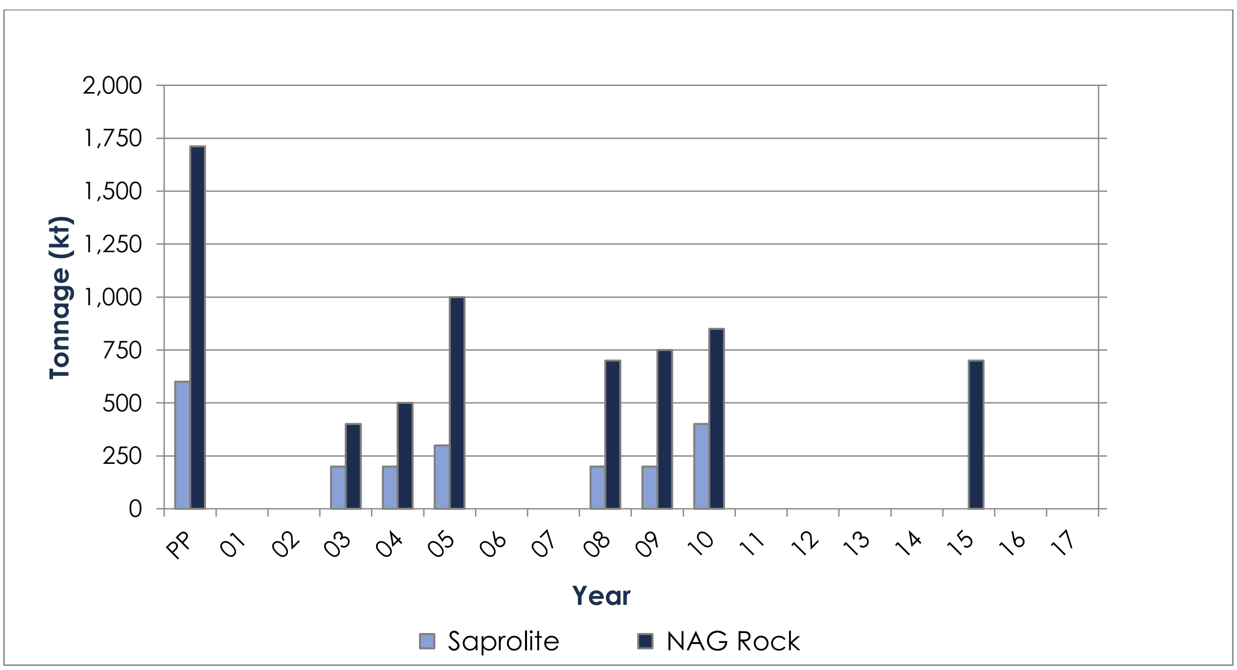


Figure 16-15: Mine Production Schedule (ROM Waste for Tailings Construction)

Table 16-15 presents the production plan considered for Sipilou Sud laterite pit over its 3-year mine life. The Sipilou Sud laterite deposit is independent of the sulphide pit operation. Production at Sipilou Sud laterite will start with the pre-production period of the sulphide deposits. The tonnages and grades consider 5% mining dilution and a moisture content of 24% is used to convert the dry tonnes in wet tonnes.

Table 16-15: Sipilou Sud Laterite Direct Shipping Production Schedule

Description	Unit	PP	Year 01	Year 02	Total
In-pit Mineable Resources	'000 wmt	546	524	550	**1,620**
Ni Grade (diluted)	%	1.92	1.79	1.86	**1.86**
Co Grade (diluted)	%	0.06	0.04	0.05	**0.05**
Waste	'000 wmt	2,250	2,151	2,783	**7,184**
Total Material Moved	'000 wmt	2,796	2,675	3,333	**8,804**
Strip Ratio	t : t	4.1	4.1	5.1	**4.4**

16.9 Open Pit Mine Equipment

An owner fleet will operate the sulphide pits. Table 16-16 presents the list of major and support equipment required during peak production. The table identifies the Caterpillar equivalent to give the reader an appreciation for the size of each machine, although the specific equipment selection will be made during the procurement phase of the project.

Table 16-16: Mine Equipment Fleet

Description	Typical Model	Description	Max Quantity
Major Equipment			
Mining Truck	CAT 777	90-t payload	17
Mining Excavator	CAT 6020B	22-t capacity	2
Production Drill	Atlas Copco FlexiROC D65	165 mm	3
Support Equipment			
Track Dozer	CAT D8	40-t operating weight	5
Road Grader	CAT 16M	4.9-m blade	2
Wheel Loader	CAT 992	23-t capacity	2
Utility Excavator	CAT 352	49-t operating weight	2
Water Truck / Sand Spreader	CAT 745	41-t payload	2
Lighting Plant	n/a	n/a	6

Description	Typical Model	Description	Max Quantity
Service Equipment			
Fuel & Lube	n/a	n/a	2
Mechanic Truck	n/a	n/a	4
Lowboy	n/a	n/a	1
Transport Bus	n/a	n/a	2
Pickup Truck	GMC HD 2500	n/a	10
Dewatering Pump	HL130	220 kW	4

16.9.1 Operating Schedule

The schedule for the open pit operations is based on two 12-hour shifts per day, 7 days per week, for 52 weeks per year. The fleet calculations consider 10 days of lost mine production due to poor weather conditions. During these periods, the primary crusher, if operating will be fed from The ROM stockpile.

16.9.2 Drilling and Blasting

Production drilling will be done with diesel-powered down-the-hole ("DTH") drills that will drill 6.5-inch (165 mm) diameter holes on 15 m high benches.

Using a pure penetration rate of 35 m/h, it will take an average of 36 minutes to drill each hole; this includes the time for manipulating the drill and rods.

Drill productivity has been used to calculate the annual drilling hours and the number of units required based on the number of holes drilled per year. In addition to the number of holes determined by the blast pattern presented in Table 16-17, an additional 5% has been considered for redrilling.

Table 16-17: Drilling and Blasting Parameters

Parameter	Unit	Value
Bench Height	m	15
Blast Hole Diameter	mm	165
Burden	m	5.0 – 5.5
Spacing	m	5.5 – 5.8
Sub Drilling	m	1.0
Stemming	m	3.0
Powder Factor	kg/t	0.25

Blasting will be carried out using emulsion with an explosive density of 1.2 g/cm^3. Pre-split drilling and blasting will be done on the final pit walls.

At peak production, three production drills will be required. An explosives company will supply and store explosives and accessories in appropriate facilities that meet the minimum distance requirements set by the Explosives Regulatory Division in Côte d'Ivoire.

The contractor will handle explosive product delivery to the site and inventory tracking. For this size of operation, ISO tank bulk containers can be used to fill the two mobile mixing units. The blasting accessories are kept in a separate magazine. Approximately three blasts per week are expected during the LOM.

16.9.3 Loading

Loading will be done on 5-m benches using diesel-powered hydraulic backhoe excavators equipped with 12-m^3 buckets. Productivities have been calculated considering bucket swing times of 40 seconds and a 90% fill factor.

During peak production, the fleet will include two excavators.

The mine production fleet includes two front-end wheel loaders equipped with a 15-m^3 bucket. The wheel loaders will be used to assist operations in the pit and rehandle the mill feed from the ROM stockpile.

16.9.4 Hauling

Hauling will be done with 90-tonne rigid frame haul trucks. Haul productivities have been calculated considering effective payloads of 85.6 tonnes, which have been reduced from the nominal payloads to account for a carry back of 2%.

A haulage network was established in MineSight Haulage ("MS Haulage") and MPSO modules, which considers the hauls for each mining cut to each potential dumping destination. Using rimpull curves, MS Haulage calculates the travel times for each haul. The travel times were then added to the fixed cycle times to arrive at the total cycle times. Approximately 150 seconds was considered as an allowance for the fixed cycle times including truck spotting, bucket loading, and spotting and dumping at the destination. A total of four buckets are required to load each truck in rock, resulting in an average total fixed cycle time of 240 seconds. In Saprolite, a total of five buckets are required to load each truck, resulting in an average total fixed cycle time of 280 seconds. In addition to these haulage parameters, the truck productivity calculations consider a 3% rolling resistance across the site, a maximum speed of 40 km/h and an in-pit maximum speed of 25 km/h.

A total of five trucks are required in pre-production, ramping up to 17 by Year 06.

The average one-way haul distances for the open pit over the LOM are shown in Figure 16-16 and Figure 16-17.

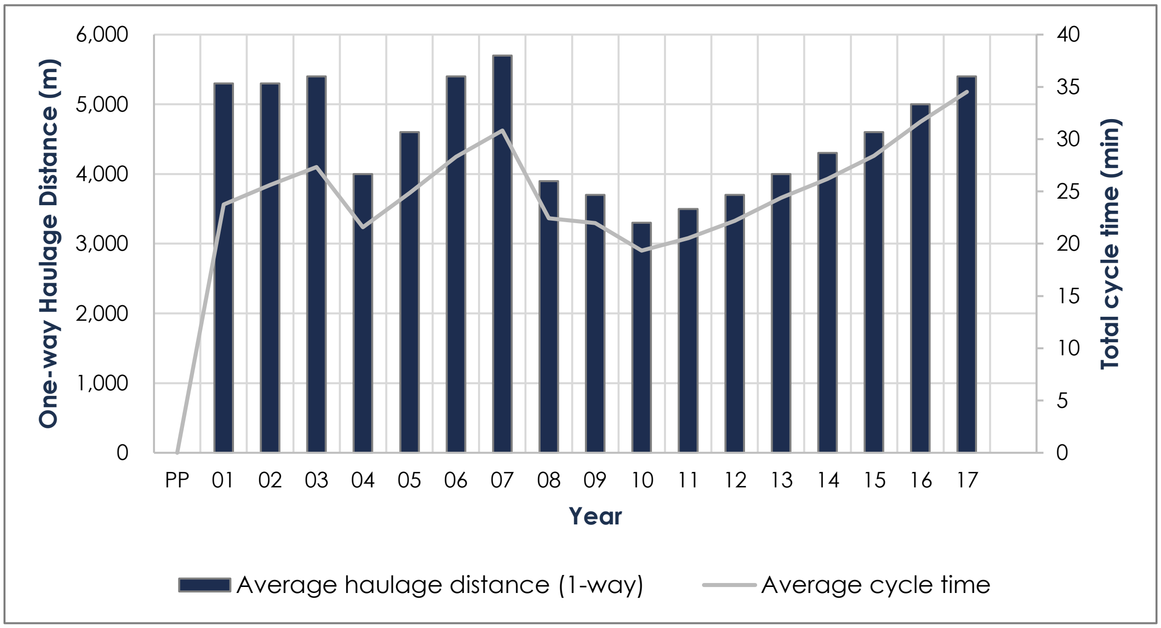


Figure 16-16: Average Haulage Distance – ROM to Mill

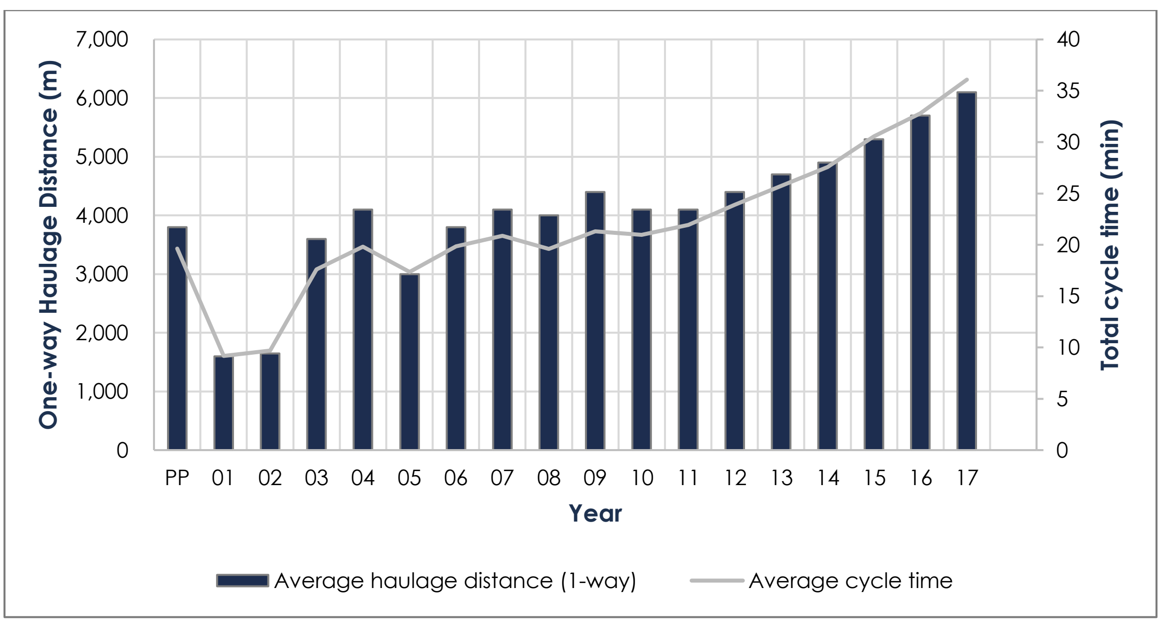


Figure 16-17: Average Waste Haulage Distance

16.9.5 Auxiliary Equipment

A fleet of support equipment has been included for haul road maintenance, drill pad preparation, and cleaning around the loading face. The support equipment fleet includes dozers, graders, a water/sand truck, lighting plants, and two utility excavators.

A fleet of service equipment such as fuel and lube trucks, lowboys to transport the tracked equipment, a personnel bus, maintenance vehicles, and pickup trucks are also included.

16.10 Hydrogeology and Hydrology

No hydrogeology studies were conducted for the PEA. The hydrology parameters for the PEA are presented in Chapter 18 of the report.

16.11 Mine Dewatering

To manage water that collects in the open pit, sumps will be developed on the pit floor as mining progresses, and a series of pumps will be used to pump the water to settling ponds located outside the pit limits. It is assumed that in general, a total four pumps should be adequate to serve the needs of the open pits. The PEA considers diesel-powered pumps in this phase of the study.

Mine dewatering at Sipilou Sud will be managed by the mining contractor.

16.12 Open Pit Mine Workforce

The mine workforce has been calculated to total 134 employees during pre-production period and will reach a peak of 236 employees in Year 07. Workforce roles are categorized into Mine Operations, Mine Maintenance and Mine Technical Services. Mine operations and maintenance will operate with four crews for 24/7 continuous operation (two shifts per day), while technical services will operate on a single shift per day. Hiring will include a mix of local and expat employees.

Sipilou Sud will be operated by a contractor, no specific workforce estimate is provided.

17. Recovery Methods

17.1 Mineral Processing Plant

The mineral processing plant consists of a crushing area, a crushed material stockpile with reclaim feeders, and a concentrator where grinding, flotation, dewatering and concentrate product loadout takes place.

The process facilities are designed to treat an average of 15,000 t/d of the ROM mineable resource material. This equates to an annual capacity of 5.475 Mt. Two saleable concentrate products will be produced as damp filter cake materials. The tailings from the concentrator will be pumped to a TSF and water will be reclaimed from the TSF for recycle to the process plant.

A conventional flotation process will recover the nickel and copper concentrates. The flotation process has a global nickel recovery of 53% at a Ni concentrate grade of 13% Ni. The overall copper recovery will be 85.5%, with 78% reporting to the Cu concentrate at a grade of 26% Cu. Overall platinum, palladium and gold recoveries to concentrate products are 54%, 50.3% and 51%, respectively. The Ni and Cu concentrates will be pressure filtered to a moisture content of 10%. The damp filter cake concentrate products will be loaded into containers that will be transported off site.

17.2 Key Process Design Criteria

The process plant's design is based on the production of high-grade nickel and copper concentrates. The comminution and flotation processes are largely based on testwork performed in the 2022-2023 time frame under the direction of Blue Coast Research. Details of the recent Blue Coast Research testwork and previous historical metallurgical testing on samples from the Samapleu and Grata deposits are provided in Chapter 13.

The crushing plant and concentrator will operate 24 hours per day, 7 days per week, and 52 weeks per year. The crushing plant's run-time will average 70%, and the concentrator's run-time will average 92%, which equates to 8,059 hours per year.

The concentrator throughput will average 15,000 dry metric tonnes ("dmt") per day on a 365 day per year basis. This equates to an average hourly feed rate of 680 dmt per operating hour. Table 17-1 presents the process plant's key design criteria.

Table 17-1: Process Plant Key Design Criteria

Criteria	Unit	Value
Nominal Processing Rate	dmt/y	5,475,000
Moisture Content of ROM Material	wt%	5
Crusher Run-time	%	70
Nominal Crushing Rate	wmt/h	940
Concentrator Run-time	%	92
Nominal Grinding Rate	dmt/h	680
Nominal Nickel Concentrate Production Rate*	dmt/d	154
Final nickel Concentrate Grade*	% Ni	13
Nickel Recovery to Nickel Concentrate*	Ni %	53
Nominal Copper Concentrate Production Rate*	dmt/d	108
Final Copper Concentrate Grade*	% Cu	26
Copper Recovery to Copper Concentrate*	Cu %	78

Notes:
Numbers may not add up precisely due to rounding.
*Average nickel and copper concentrate grades, production rates and recoveries are over the 16.1-year life of operation.

17.3 Flowsheet and Process Description

The simplified process flowsheet, shown in Figure 17-1, summarizes the unit operations and major process flows within the process plant.

The process plant includes the following major areas:

- A primary jaw crushing plant that will be fed ROM material from the mine haul trucks;
- A crushed material stockpile with reclaim feeders that will provide crushed material to the downstream concentrator;
- A concentrator that will include grinding, conventional rougher and cleaner flotation for the production of separate nickel and copper concentrates;
- Parallel dewatering circuits for each of the nickel and copper concentrates, which will include thickening, filtration, and loadout;
- A tailings thickener and conventional pumping system to transfer tailings slurry via pipelines to the TSF;
- Reagent systems required to promote differential flotation and product thickening;
- Plant utility systems to provide water and compressed air to meet the process requirements.

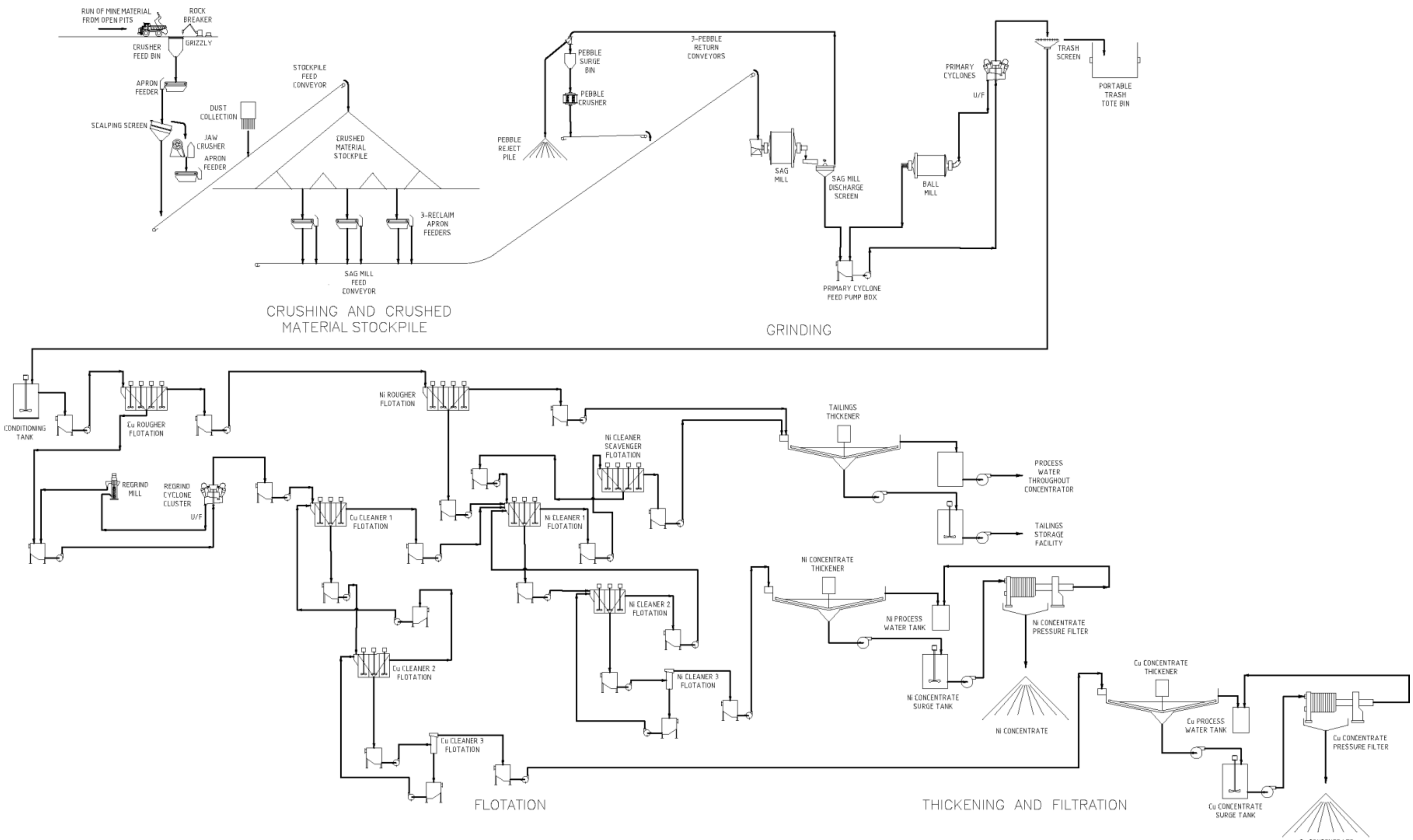


Figure 17-1: Simplified Flowsheet of the Concentrator

The process description by area is summarized in the sections that follow.

17.3.1 Primary Crushing and Crushed Material Reclaim

The primary jaw crusher is designed to reduce the size of ROM material F80 size of 600 mm to a product P80 size of 150 mm for feed into the downstream SAG mill.

The ROM material will be dumped directly onto a grizzly located at the top of the crusher feed bin. The crusher feed bin will have a live capacity equivalent to two and a half truck loads. A hydraulic rock breaker mounted adjacent to the grizzly will be used to break oversize material on the grizzly as required.

A variable speed apron feeder will deliver the material from the bin to a scalping screen with the oversize reporting to the jaw crusher. The jaw crusher has feed opening dimensions of 1,200 mm x 1,600 mm with an installed 250-kW motor. The scalping screen undersize falls into a chute that discharges onto a variable-speed apron feeder where it is combined with the product from the jaw crusher. A belt magnet is located at the discharge of the apron feeder to remove any tramp steel that may be in the crushed material. The crushed material stockpile feed conveyor, which extends beneath the apron feeder, transfers the crushed material onto the crushed material stockpile.

The conical crushed material stockpile will have a volume capacity of approximately 33,350 m^3, which equates to about 77,000 dmt. Approximately 30% of this (23,000 t) will be the “live capacity” that will be available for gravity flow into the feeders located beneath the stockpile. The “dead load” capacity of the stockpile (about 54,000 t) can be pushed into the reclaim feeders using heavy equipment to maintain downstream operations when required during extended mine haulage and/or primary crusher maintenance outages.

This crushed material will be reclaimed from the crushed material stockpile by three inline apron feeders located in a tunnel under the stockpile. The apron feeders will discharge the crushed material onto a 48-inch wide conveyor belt located beneath the feeders. The conveyor will transfer the material into the SAG mill feed chute.

17.3.2 Primary Grinding and Pebble Crushing

The primary SAG mill will have a diameter of 9.15 m and an effective grinding length of 5 m. The SAG mill will have an installed 7.83-MW drive motor with variable speed capability. Process water will be added into the SAG mill feed chute to achieve the desired SAG mill grinding density. The SAG mill will discharge onto a double-deck vibrating screen. The oversize material from both screen decks will discharge onto the first of two pebble conveyors in series, which will feed a pebble crusher. A diverter chute, pebble surge bin and belt feeder will be included in the pebble crushing circuit design to improve operating reliability and performance. The product from the pebble crusher will gravity flow onto a short pebble return conveyor that will transfer the crushed pebbles onto the SAG mill feed conveyor.

17.3.3 Secondary Grinding

The undersize from the SAG mill discharge screen will flow into the primary cyclone feed pump box located beneath the screen. The undersize is combined with ball mill discharge and dilution water that is then pumped to the primary hydro-cyclone cluster. Hydro-cyclone underflow slurry flows by gravity into the ball mill feed chute. The ground slurry product of the primary grinding circuit will be fed to the downstream flotation process at a P80 size distribution of 140 microns. The cyclone overflow slurry will gravity flow through two parallel trash screens before gravity flowing into the Cu rougher conditioning tank.

The primary cyclone feed pumps will be typical of all slurry pumps in the process plant in that there will be two parallel pumps installed. During normal operations, one pump will operate and the second will be available as an installed standby spare. The slurry pumps will have variable frequency drive ("VFD") capability.

17.3.4 Copper Flotation

The flotation process involves the sequential flotation of the copper sulphide minerals in a rougher circuit initially, followed by regrinding of the copper rougher concentrate and then three stages of copper cleaning. All flotation circuits in the concentrator will be single line. The location and functionality of all process reagent additions are described in the subsequent Reagent Systems section.

The copper rougher flotation will be performed in a series of four 300-m^3 tank cells. The copper rougher concentrate will be reground to a P80 size of about 70 microns in a vertical mill before three stages of cleaning. The vertical mill will operate in closed circuit with cyclones to achieve the desired particle size prior to cleaning.

The first stage of copper cleaning will be performed in a series of three 30-m^3 tank cells. The concentrate from the first copper cleaner is pumped to the second stage of copper cleaning, which will be performed in a series of four 5-m^3 tank cells. The tailings from the first copper cleaner will be pumped into the nickel cleaner scavenger circuit. The concentrate from the second copper cleaner will be pumped into the third and final stage of copper cleaning, which will be done in a single flotation column with a diameter of 1.7 m and a height of 8 m. The tailings from the second copper cleaner will be returned to the first copper cleaner. The tailings from the third copper cleaner will be returned to the second copper cleaner.

The concentrate from the third stage of copper cleaning is the final copper concentrate. This copper concentrate slurry will be pumped into the copper thickener to initiate dewatering.

17.3.5 Nickel Flotation

The copper rougher tailings slurry will be pumped into the nickel rougher flotation circuit. Reagents will be added to promote the activation of pentlandite in the nickel circuit. The nickel rougher flotation will be performed in a series of four 300-m^3 tank cells. The recent Blue Coast metallurgical testwork indicates that a regrind of the nickel rougher concentrate is not required for effective cleaning. The nickel rougher concentrate will be pumped into the first stage of nickel cleaning, which will be performed in a series of three 30-m^3 tank cells. The tailings from the nickel rougher will be pumped to the tailings thickener.

The concentrate from the first nickel cleaner will be pumped into the second stage of nickel cleaning, which will be performed in a series of four 5-m^3 tank cells. The tailings from the first nickel cleaner will be pumped into the nickel cleaner scavenger circuit, which will be done in a series of four 10-m^3 tank cells. The concentrate from the nickel cleaner scavenger circuit is returned to the first nickel cleaner circuit. The tailings from the nickel cleaner scavenger will be pumped to the tailings thickener.

The concentrate from the second nickel cleaner will be pumped into the third stage of nickel cleaning, which will be performed in a single flotation column with a diameter of 1.7 m and a height of 10 m. The tailings from the second nickel cleaner will be returned to the first nickel cleaner. The tailings from the third nickel cleaner will be returned to the second nickel cleaner.

The final nickel concentrate is the concentrate from the third stage of nickel cleaning. This nickel concentrate slurry will be pumped to the nickel thickener to initiate dewatering.

As previously described, two flotation tailings product streams will be pumped to the tailings thickener. The solids in the tailings from the nickel rougher flotation circuit represent the majority of the solids rejected to tailings. Approximately 93% of the solids in the final tailings come from the nickel rougher circuit. The rest of the solids in the final tailings, about 7%, come from the nickel cleaner scavenger tailings.

17.3.6 Process Sampling and Metallurgical Accounting

The plant will install automatic samplers to collect representative slurry samples from key process streams to enable metallurgical accounting, process monitoring and control. Metallurgical accounting samples will be collected as shift composites that will be transferred to the on-site assay lab for sample preparation and chemical analysis.

Process slurry samples required to monitor and control the plant metallurgy will be automatically collected and pumped, via dedicated sample pumps, to a centrally located XRF on-stream analyzer ("OSA"). The OSA will provide semi-continuous chemical analysis of the flotation process streams to provide real-time monitoring so that plant operation parameters can be adjusted as required to achieve optimum metallurgical performance.

17.3.7 Concentrate Dewatering

The nickel and copper concentrate slurry materials from the third stage of cleaning in the nickel and copper flotation circuits will be dewatered in parallel downstream circuits. Both concentrate dewatering circuits will include:

- A concentrate thickener;
- An agitated concentrate slurry storage tank;
- A pressure filter.

No settling or filtration testing has been performed on nickel and copper concentrate sample materials to date, so design criteria for the thickener and pressure filter sizing have been assumed based on similar concentrate materials. As the project progresses and additional larger-scale metallurgical testing is performed, concentrate samples will be collected and submitted for settling and filtration design criteria tests.

Due to low concentrate production rates, the dewatering circuit equipment is relatively small compared to industry standards. The two concentrate thickeners will be approximately 6 m each in diameter. The concentrate thickeners will increase the solids content of the nickel and copper concentrate slurries to about 65% solids by weight. The thickened concentrate slurries will be pumped into parallel agitated storage tanks that will provide surge capacity between the continuous operation of the concentrate thickeners and the semi continuous batch operation of the pressure filters. The slurry storage tanks, one each for the nickel and copper concentrates, will be sized to provide 12 hours of surge capacity at the nominal nickel and copper concentrate thickener underflow rates. Based on the average nickel and copper concentrate production rates of 171 dmt/d and 117 dmt/d, respectively, the surge tanks will have live volumes of 170 m^3 for nickel and 120 m^3 for copper.

Each of the thickened nickel and copper concentrate slurries will be pumped from the surge tanks into dedicated pressure filters for further moisture removal. It is assumed that the nickel and copper concentrates will be filtered to a final cake moisture content of 8% by weight. Note that it is typical to achieve lower copper concentrate product moisture levels by pressure filtration than what can be achieved for nickel concentrates. These assumed moisture content values would be verified when testwork on actual concentrate sample materials are performed during the next phase of the project study.

The final nickel and copper concentrate products will be discharged from the bottom of the parallel pressure filters into separate concrete storage bunkers. Front end loaders will be used to reclaim the damp filter cake from the two parallel concentrate bunkers for subsequent loading into shipping containers. The loaded nickel and copper concentrate containers will then be loaded onto trucks for delivery off site. The filtrate from each pressure filter will be returned to the corresponding concentrate thickener. The overflow solution from each concentrate thickener will be recycled to the process via the process water distribution system.

17.3.8 Tailings Thickening and Pumping

Nickel rougher tailings and nickel cleaner scavenger tailings slurry will be pumped from the flotation area in the process plant and combined to feed the tailings thickener that will be located in a separate adjacent containment area. Based on the average projected mineable material grades and metallurgy, the solids in the tailings will be approximately 98% of the fresh material mass fed into the process plant. The majority of the solid tailings mass, about 93%, will come from the nickel rougher tailings and the remaining 7% will come from the nickel cleaner scavenger tailings.

The combined slurry flows from the two flotation tailings streams will be thickened to about 60 wt% solids in the tailings thickener. Flocculant will be added to the thickener feed to promote solids settling. A high-rate thickener with a diameter of 33 m has been selected for this PEA study. As mentioned previously, no settling tests or flocculant type screening tests have been performed on Samapleu and Grata sample materials at this time. Settling tests will need to be performed on representative tailings sample materials to confidently determine the required thickener sizing during the next stage of the project study.

The underflow from the tailings thickener will be pumped into an agitated surge tank adjacent to the thickener. This thickened tailings surge tank, with a volume of about 300 m^3, will provide about 15 minutes of tailings thickener underflow capacity based on the typical tailings slurry flow rate of 1,080 m^3/h. This tank stabilizes the density in the tailings pump and pipeline system from upset conditions in the tailings thickener underflow. This tank, which also functions as the final tailings pump box, enables the tailings pipeline to be flushed with process water when the tailings thickener underflow is recirculated back to the tailings thickener feed during plant shutdown periods.

As with all other slurry pumps in the proposed single-line concentrator, the PEA design includes dual parallel pumps. One pump will be operational, and the second is an installed standby spare that can be put into service if the operating pump fails.

The overflow from the tailings thickener will report to the process water tank. This water will be recirculated throughout the plant via the process water distribution system.

The amount of "fresh water" required for the concentrator has been estimated based on the requirements of a similar base metals concentrator using good-quality water for specific priority process applications. The amount of reclaimed water entering the concentrator has been calculated by difference based on balancing the amount of water exiting the concentrator.

17.3.9 Reagent Systems

Several mill reagents will be used in the concentrator to accomplish the various process unit operations necessary to produce separate mill product streams including copper concentrate, nickel concentrate and tailings. The recent Blue Coast metallurgical testing report provides the basis for the suite of reagents required, the process reagent addition locations and the reagent consumption levels. The list of mill reagents and the process functionality of each reagent are summarized as follows:

- Lime ("CaO") – pH modifier to promote flotation;
- Sodium Sulphite ("Na_2SO_3") – Nickel depressant in the copper circuit;
- Diethylenetriamine ("DETA") – Nickel depressant in the copper circuit;
- Aerophine 3418A – Copper collector in the copper circuit;
- Carboxymethyl Cellulose ("CMC") – Talc depressant in cleaner flotation;
- Frother – Methyl Isobutyl Carbinol ("MIBC") – Flotation frother;
- Sodium Isopropyl Xanthate ("SIPX") – Nickel collector in the nickel circuit;
- Copper Sulphate ("$CuSO_4$") – Nickel activator in nickel cleaner flotation.

The reagent additions that were made in Blue Coast Research's Locked Cycle Test T4 on the Grata Master Composite sample have been used to estimate approximate reagent consumption levels for the PEA-level operating cost estimate. Conceptual reagent system designs will be assumed for the PEA capital cost estimate. Although not used in the Blue Coast metallurgical testing, a flocculant will be required in the process plant to assist solids settling in the concentrate thickeners and tailings thickener.

The PEA concept is to have all reagents received, mixed, stored and distributed from a covered reagent building area located on the north side of the copper rougher flotation area. Reagent distribution pipelines will transfer the various reagent solutions to the required process addition points throughout the concentrator. Some reagent systems may be on small skid-mounted package units located close to the usage point. With flocculant as an example, there may be two small flocculant package systems, one located near the concentrate thickeners and the other located near the tailings thickener. This approach would have operational and reliability advantages compared to having flocculant solution distribution pipes running extended distances from a central reagent mixing building.

The specifics of reagent availability, packaging, mixing and distribution into the process will need to be addressed in greater detail in the next stage of the project study. Figure 17-2 illustrates the reagent addition locations overlayed on a block flow diagram of the concentrator process.

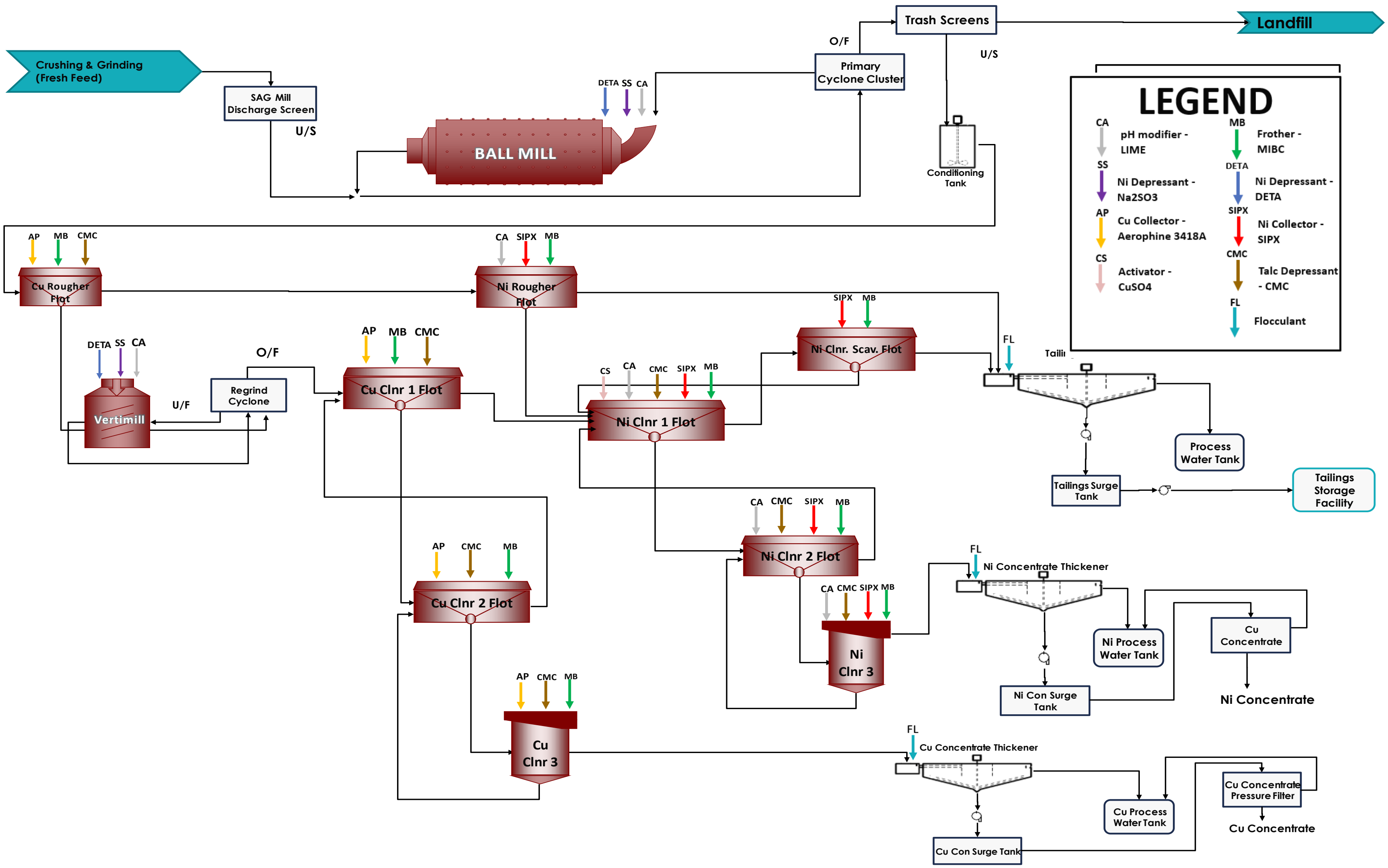


Figure 17-2: Reagent Additions Required in the Concentrator

17.3.10 Plant Utility Systems

The utilities required to support the process plant operation typically include water and compressed air systems. These systems are briefly described in the following sections.

17.3.11 Mill Water Use

In a typical base metal concentrator, there are generally three water supply sources, which include fresh water, process water, and reclaim water. Fresh water is generally the best water quality that is available and is typically drawn from natural surface water source(s) and/or sub-surface wells. The high-priority uses of fresh water in a concentrator typically include reagent mixing, gland water and cooling water systems.

Process water generally refers to water that has been used in the process and has become available for reuse from solid/liquid separation equipment. Thickener overflow solutions, filtrate solution from filters and clarifier overflow are typical sources of process water. Depending on the water quality, contact water collected from the surface runoff of mine and process plant areas can also be a source of process water. The characteristics of process water quality can be extremely variable in terms of solution chemistry, pH, suspended solids, Redox potential, alkalinity and temperature. Preserving the quality of process water for reuse in the concentrator so that metallurgical performance is not adversely affected is an important process priority.

17.3.12 Compressed Air Use

The compressed air systems that will be required in the process plant include the following:

- Low-pressure flotation air;
- High-pressure plant air for flotation columns, pressure filters and miscellaneous plant air use;
- Dry instrument air for various process instrumentation applications.

For the purpose of this PEA, the compressed air systems are assumed equivalent to those detailed in a recently completed FS for an Ivanhoe Electric project with a similar process plant size and a comparable process flowsheet.

17.3.13 Concentrator Solids and Water Balance

The average daily solids and water mass balance for the concentrator is summarized in Table 17-2 and illustrated in Figure 17-3. These values are based on nominal tonnes, the LOM average mineable material grades and the flotation metallurgy, both recovery and concentrate grades, resulting from the Samapleu metallurgical testwork as reported by Blue Coast Research in 2023 (Thorpe and Anderson, 2023).

The moisture content values used in this mass balance summary are as follows: 5 wt% water in the material fed to the concentrator; 40 wt% water in the tailings pumped to the TSF; 10 wt% water in the nickel concentrate filter cake; and 8 wt% water in the copper concentrate filter cake.

Table 17-2: Concentrator Solids/Water Mass Balance Summary

Stream	Dry Solid (t/d)	Water (t/d)	Total Mass (t/d)
Mass Entering Concentrator			
Feed Material to Concentrator	15,000	790	15,790
Fresh Water Required	0	4,560	4,560
Reclaim Water from TSF	0	4,502	4,502
Total - Entering	**15,000**	**9,852**	**24,852**
Mass Exiting Concentrator			
Tailings to TSF	14,738	9,826	24,564
Nickel Concentrate	154	17	171
Copper Concentrate	108	9	117
Total - Exiting	**15,000.0**	**9,852**	**24,852**

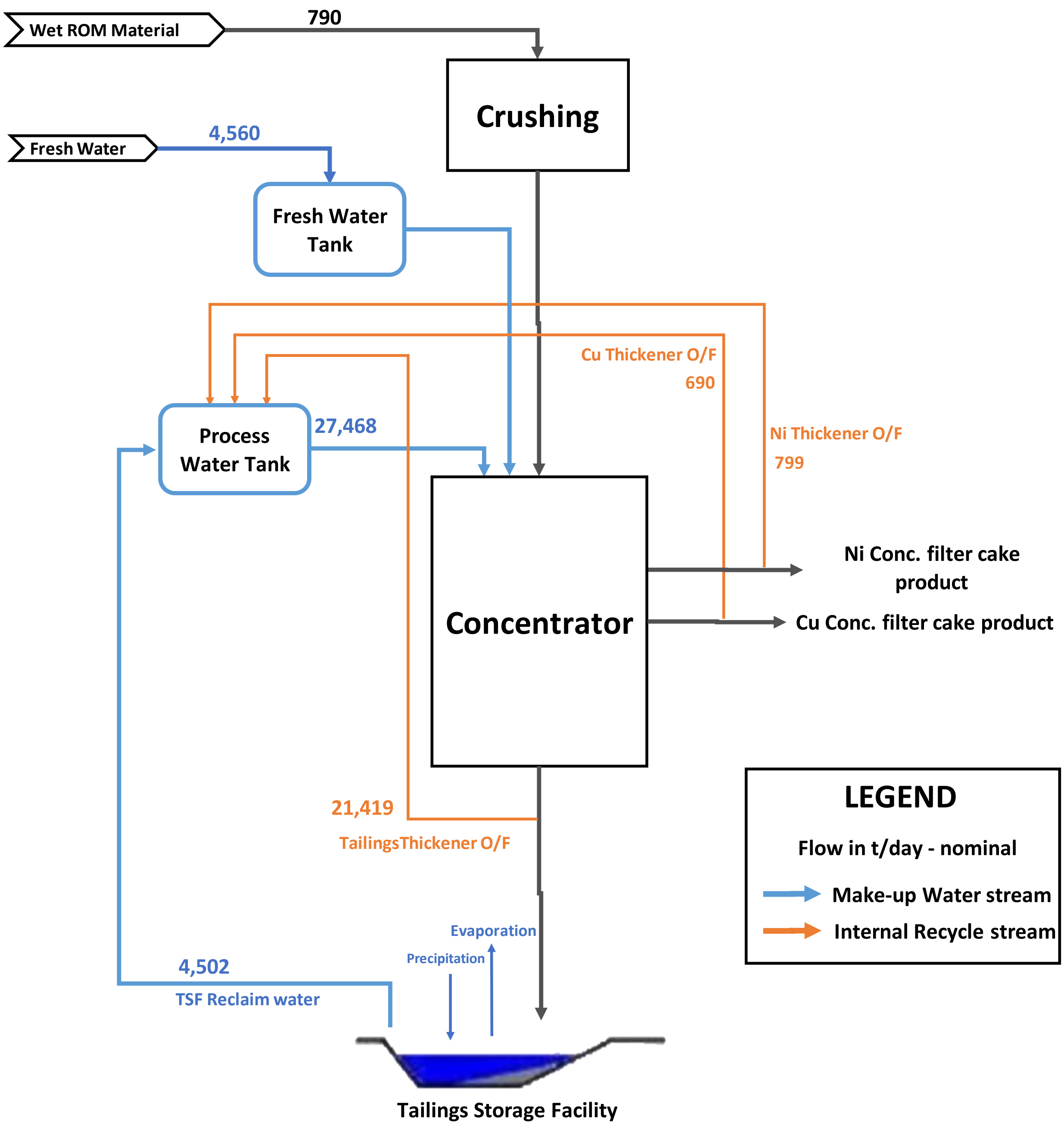


Figure 17-3: Concentrator Water Balance Schematic

Table 17-3 shows the production schedule for ROM material processing and concentrate production over the proposed 16.1-year operating life of the sulphide mines and concentrator project.

Table 17-3: Concentrator Feed and Concentrate Production Schedule

Description	Unit	Year 01	Year 02	Year 03	Year 04	Year 05	Year 06	Year 07	Year 08	Year 09	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Total / Average
Mill Feed Tonnage																			
Mill Feed	dry kt	4,448	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	4,967	431	**86,496**
Main	dry kt	4,448	5,475	5,235	1,753	2,045	20	100	113	533	409	0	0	0	0	0	0	0	**20,132**
Grata	dry kt	0	0	240	3,243	2,674	2,064	1,993	4,438	4,660	5,031	5,475	5,475	5,475	5,475	5,475	4,967	431	**57,117**
Extension	dry kt	0	0	0	479	756	3,391	3,382	924	281	35	0	0	0	0	0	0	0	**9,247**
Mill Feed Grade																			
Ni Grade	%	0.27	0.26	0.26	0.24	0.25	0.27	0.27	0.25	0.25	0.23	0.23	0.24	0.24	0.25	0.25	0.25	0.30	**0.25**
Cu Grade	%	0.24	0.20	0.23	0.23	0.24	0.24	0.24	0.24	0.24	0.22	0.24	0.24	0.25	0.25	0.26	0.27	0.33	**0.24**
Co Grade	%	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	**0.02**
Pt Grade	ppm	0.10	0.09	0.09	0.11	0.10	0.10	0.10	0.10	0.10	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.11	**0.10**
Pd Grade	ppm	0.28	0.31	0.28	0.35	0.34	0.41	0.42	0.34	0.28	0.26	0.29	0.27	0.26	0.26	0.27	0.23	0.18	**0.30**
Au Grade	ppm	0.04	0.04	0.03	0.04	0.00	0.00	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	**0.03**
Nickel Concentrate																			
Production	dry kt	52.7	59.8	59.3	52.4	56.3	65.1	63.3	56.7	55.4	48.5	48.2	49.5	52.8	54.3	55.4	51.8	6.0	**887.4**
Ni Grade	%	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	**13**
Cu Grade	%	1.5	1.6	1.6	1.9	1.7	1.5	1.6	1.7	1.8	2.0	2.0	2.0	1.9	1.8	1.8	1.7	1.3	**1.7**
Co Grade	%	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	**0.6**
Pt Grade	ppm	3.1	3.2	3.7	4.0	3.8	3.1	3.4	3.8	3.8	4.0	4.3	4.3	3.8	3.8	3.9	3.6	3.0	**3.7**
Pd Grade	ppm	7.6	8.7	9.8	9.3	9.7	10.9	11.5	9.8	8.3	8.1	9.1	8.3	7.8	7.7	8.0	6.7	4.4	**8.9**
Au Grade	ppm	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	**0.4**
Ni Recovery	%	56.5	54.5	54.3	51.2	53.0	56.6	55.9	53.2	52.6	49.3	49.1	49.8	51.4	52.1	52.6	53.3	60.5	**53.0**
Cu Recovery	%	7.5	8.6	7.8	7.9	7.6	7.6	7.5	7.4	7.5	8.0	7.5	7.3	7.3	7.2	6.9	6.8	5.7	**7.5**
Co Recovery	%	44.9	43.2	43.1	40.7	42.1	44.9	44.4	42.3	41.8	39.1	39.0	39.5	40.8	41.4	41.8	42.4	48.1	**42.1**
Pt Recovery	%	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	**38**
Pd Recovery	%	31.6	30.7	30.5	28.8	29.8	31.8	31.4	29.9	29.6	27.7	27.6	28.0	28.9	29.3	29.6	30.0	34.0	**29.8**
Au Recovery	%	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	**10**

Description	Unit	Year 01	Year 02	Year 03	Year 04	Year 05	Year 06	Year 07	Year 08	Year 09	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Total / Average
Copper Concentrate																			
Production	dry kt	31.7	32.2	37.0	36.7	38.5	38.7	39.5	39.8	39.2	36.0	39.4	40.4	41.0	41.8	44.3	41.1	4.6	**621.9**
Cu Grade	%	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	**26**
Co Grade	%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	**0.1**
Pt Grade	ppm	2.2	2.5	2.5	2.4	2.4	2.2	2.3	2.3	2.2	2.3	2.2	2.2	2.1	2.1	2.0	1.9	1.7	**2.2**
Pd Grade	ppm	8.2	10.8	10.5	9.4	9.8	11.8	12.0	9.6	8.1	8.0	8.2	7.5	7.1	6.9	6.9	5.7	3.5	**8.7**
Au Grade	ppm	2.2	2.5	2.4	2.4	2.2	1.8	1.7	2.0	2.2	2.2	2.2	2.1	2.1	2.1	2.2	1.9	1.6	**2.1**
Cu Recovery	%	77.9	74.7	77.0	76.9	77.7	77.7	78.1	78.2	78.0	76.6	78.0	78.4	78.7	78.9	79.8	80.1	83.3	**78.0**
Co Recovery	%	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	**2.7**
Pt Recovery	%	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	**16**
Pd Recovery	%	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	**20.5**
Au Recovery	%	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	**41**

18. Project Infrastructure

18.1 General

The mine site infrastructure has been planned and costed to support construction and operational activities. The infrastructure will include:

- Site development and internal roads;
- Site structures and installations;
- Process/concentrator plant;
- Connection to available power grid and site reticulation;
- Mine rock storage (fresh rock and saprolite);
- Water management;
- Domestic water treatment;
- Tailings Storage Facility ("TSF");
- Effluent treatment.

An overview of the site with an infrastructure list is shown in Figure 18-1. Refer to drawing 7762002-000400-41-D20-001 for overall site plan.

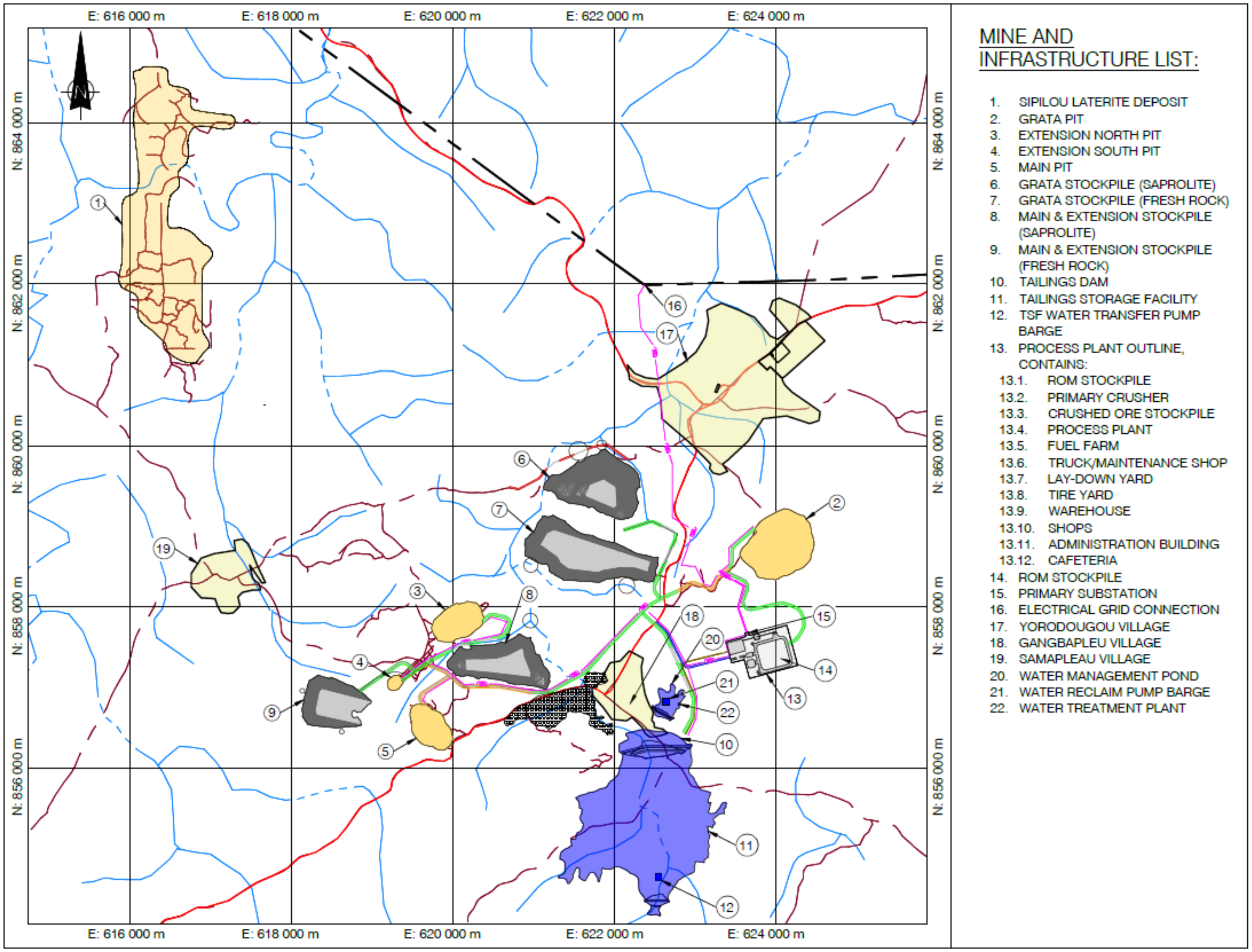


Figure 18-1: Site Layout and Infrastructure List (Van Schie and Asi, 2024)

18.2 Site Development and Access

The process plant primarily considered and incorporated the separation from surrounding villages, mine pits, and TSF, in addition to avoidance of impacts to primary waterways. While it is expected that the process plant and TSF locations will be optimized in future project phases, the general terrain within the property is expected to provide similar challenges and opportunities regardless of final process plant location. A suitable location requiring limited levelling or grading was not identified within the criteria noted above. The current planned plant location is estimated to require the clearing and grading of approximately 26 hectares with a net surplus of 3 million cubic metres of cut and fill material. Terrain such as this also allows for a potential opportunity to minimize civil works for mechanically stabilized earth ("MSE") walls, if crusher location can utilize site geography, as well as position flotation equipment so as to utilize gravity flow systems.

Multiple haul roads are planned to be constructed on the site for transporting mineralized material and waste from the mine pits to their designated destinations. The haul roads will also connect to the crusher and mine services facilities located in proximity to the process plant. Road access to the TSF will also be developed to facilitate construction. Service roads are to be constructed to allow for vehicle traffic to the process plant and satellite infrastructure (such as incinerator, effluent treatment, explosives facilities) specific to vehicle sizing (Table 18-1). Generally, the existing roadway map is expected to be maintained, with dirt roads upgraded to accommodate the expected common users (Table 18-1) as well primary equipment transportation.

Table 18-1: Vehicles Accessing Site

Road Type/Area	Vehicle
Haul Road (primary users)	90-t haul truck CAT 777 Grader 4.9-m blade CAT 16M Water truck/sand spreader 41-t CAT 745
Process Plant (common users)	50,000 L fuel tanker truck Flatbed truck (shipping container transport) Transport trucks Passenger buses Light vehicles (pickup trucks)

Consideration has been given to maintain a clear separation of on-highway vehicles, namely light vehicles, buses, and semi-trucks, from mine operations equipment. This separation reduces risks as well as process delays due to excessive traffic on haulage roads. Service roads are connected to the existing primary roadways, separate from the added haul roads. Service vehicles can access facilities such as the truck/maintenance shop and fuel farm via service roads separate from haul roads.

The project produces three products: Ni and Cu concentrates, and DSO laterite. All three will be transported to the San-Pedro port terminal, situated 450 km from the site. Ni and Cu concentrates will be shipped in containers, while DSO laterite will be transported in bulk by truck.

18.3 Site Structures and Installations

The site structures and installations are required to support project construction and operations, and are described in the following sections.

18.3.1 Construction/Operations Camp

The camp will be erected and used during the construction phase and then transitioned for continued occupancy during the operations phase. The camp will be located in the village of Yorodougou, on Sama property. The camp is planned for envisioned expat resources only and will consist of a capacity allowance of 50 rooms. The camp has been planned as a "stick build" structure to align with construction resources in the area, but fabricated modular options can also be considered. Additional recreational and administrative modifications/expansions will be made for the operations phase. Figure 18-2 illustrates a typical room layout.

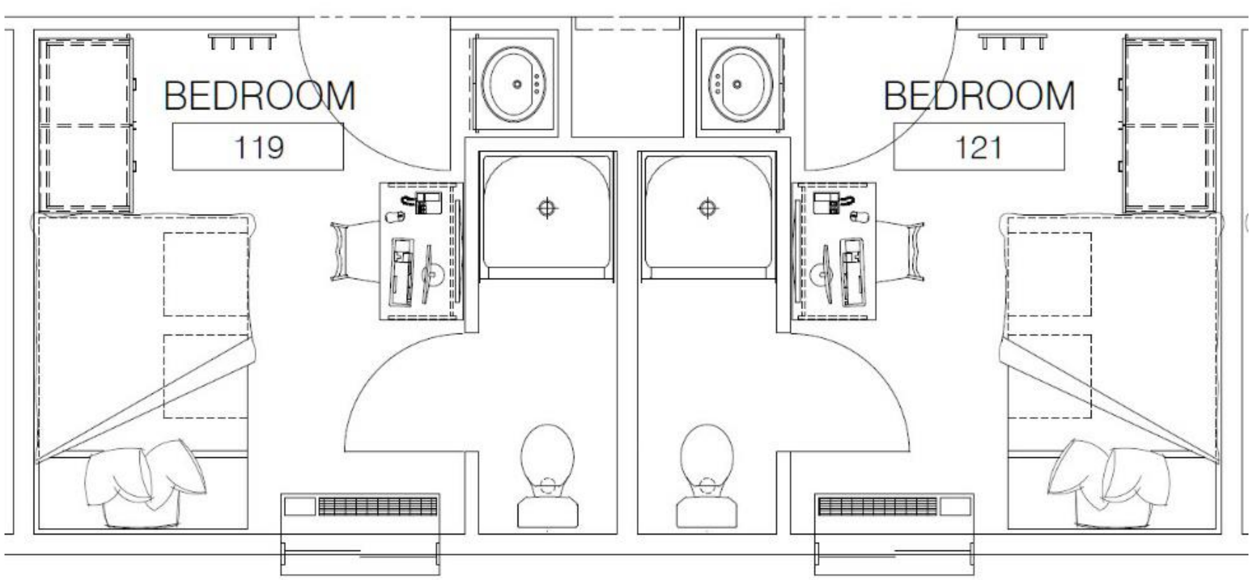


Figure 18-2: Typical Camp Room Layout

18.3.2 Operation/Administrations Offices Building

The operations/administrative offices will be in close proximity to the process plant at site. The structure is sized to be a two-storey 36-m x 18-m building (Figure 18-3) and will accommodate the following:

- Assay lab;
- Dry facilities;
- First aid/security operations;
- Line up room;
- Workstations, offices, and meeting rooms.

This will accommodate mine and mill management, engineering and geology personnel and a mine rescue. Washroom facilities for the offices will be in the dry section of the building.

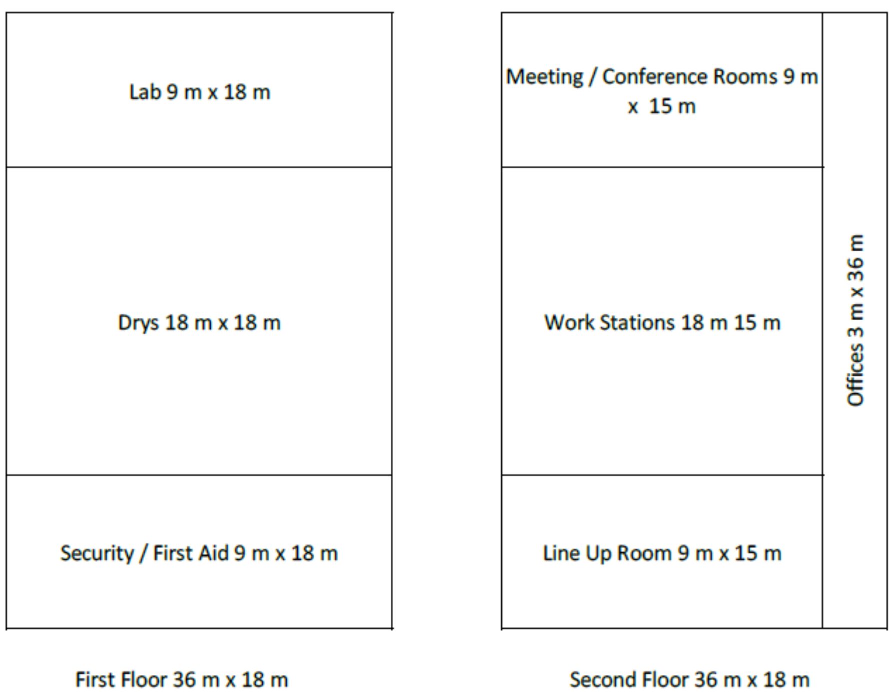


Figure 18-3: Administration Building Footprint/Layout

18.3.3 Maintenance Offices/Shop Spaces

A single-storey 18-m x 36-m building has been planned to accommodate electricians and industrial mechanics who will work primarily in the mill. The shop itself is located adjacent to the process plant and will include offices for maintenance planning and supervision, as well as storage locations for small tools and equipment.

18.3.4 Core Logging Area

Existing core logging and storage facilities are already available at the exploration camp and shall continue to be used for operational requirements.

18.3.5 Truck/Mobile Equipment Shop

A 34-m x 20-m maintenance shop is planned for the project, intended primarily for mobile equipment maintenance and service. This structure has been planned as a conventional steel building on concrete foundations, but modular or prefabricated structures could also be given consideration in the future.

The shop will have two service bays. The maintenance shop has been located in close proximity to the lay-down and tire yards to facilitate the ability to accommodate routine mechanical work outside the shop should capacity constraints or light vehicle servicing requirements dictate.

An overhead crane with two bridges (one 40-t and one 20-t capacity) is required for the facility.

18.3.6 Warehouse

A warehouse space is required for equipment and materials that should not be exposed to the elements. This structure will be situated at the plant site in proximity to the maintenance and truck shops with dimensions of 30-m x 18-m.

A sprung structure that incorporates shipping containers in its design, which can be repurposed as required (offices, reagent storage, etc.), has been identified for this building as it would likely be required for construction activities and is more flexible for relocation options. See Figure 18-4 and Figure 18-5 for examples of such a structure.

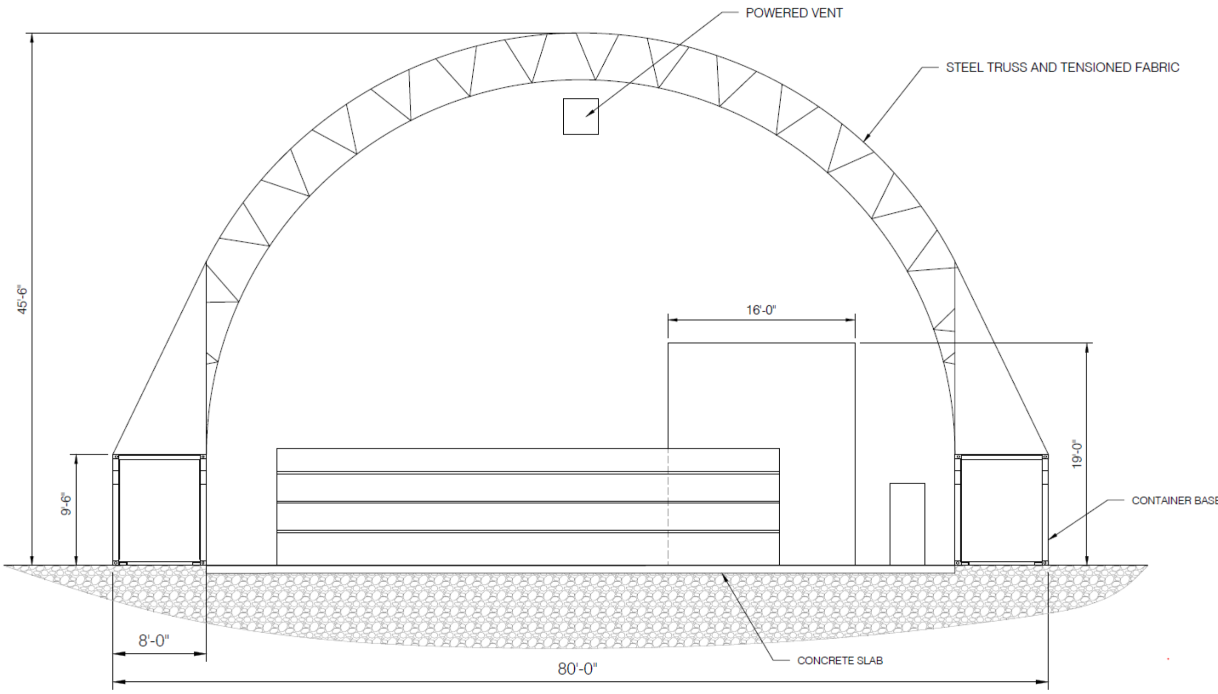


Figure 18-4: Warehouse Elevation View

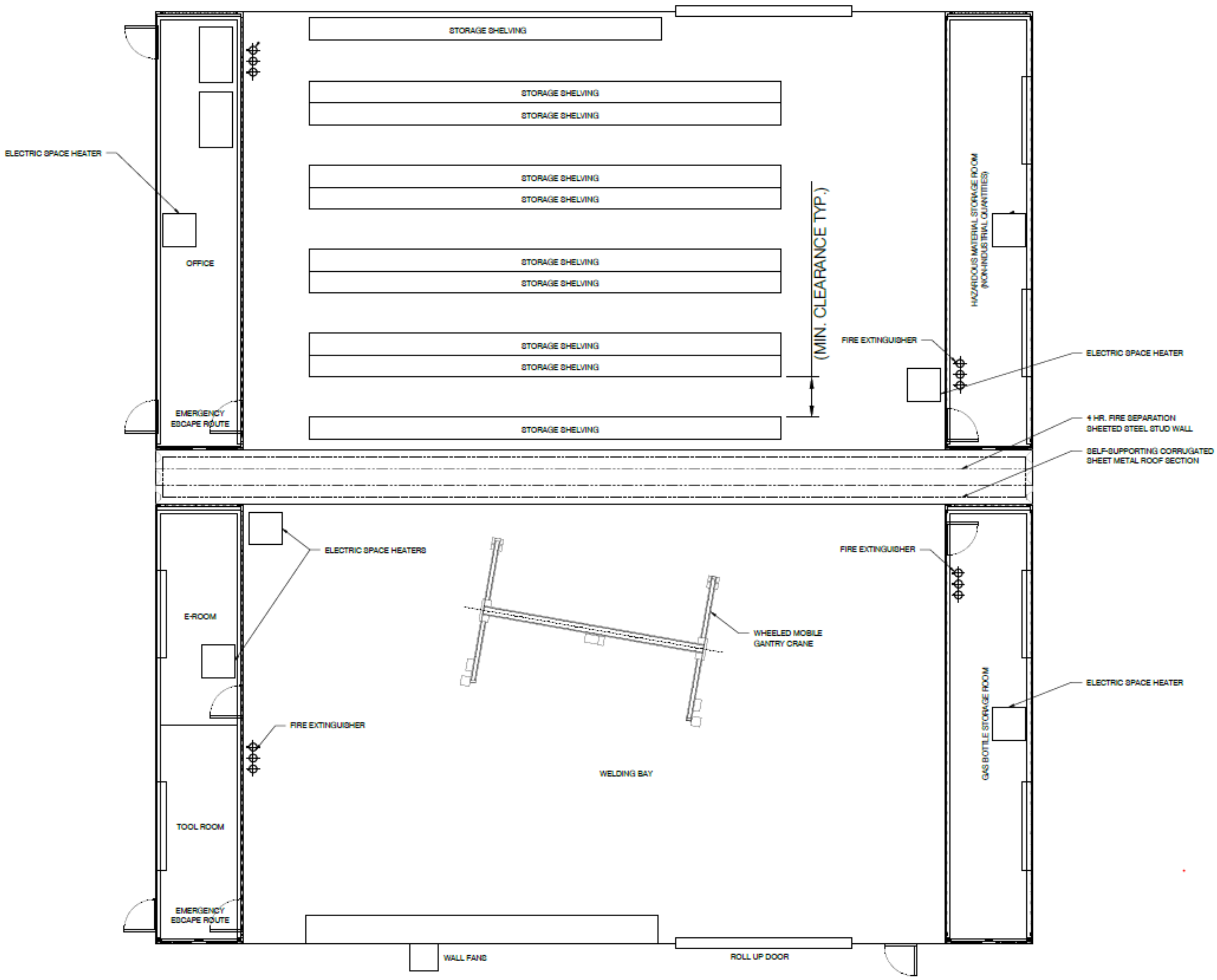


Figure 18-5: Warehouse Plan View

18.3.7 Truck Scale

A truck scale with a deck of 3.4-m x 27-m (11' x 90') and a maximum capacity of 100 t has been allowed for at the process plant site. The scale is expected to be located along the main access road to facilitate weigh-ins and weigh-outs of concentrate container shipments to the port. The unit will include a local display and ticket printer, as well as provisions to communicate measurements via the site's data infrastructure.

18.3.8 Fuel Storage and Dispensing

Diesel fuel storage tanks capable of storing up to 150,000 L as well as pumps and equipment required for off-loading delivery tank trucks and two high-speed dispensing stations have been considered. A diesel exhaust fluid ("DEF") storage tank and dispensing system have also been included.

The storage volume for diesel fuel was based on a delivery schedule of 2 to 3 days via a 50,000-L tanker and could accommodate a fuel shipment disruption of up to 5 days. A representation of such a system is provided in Figure 18-6. The fuel storage and dispensing facility design will accommodate the relocation from the construction location to the final planned operations location.

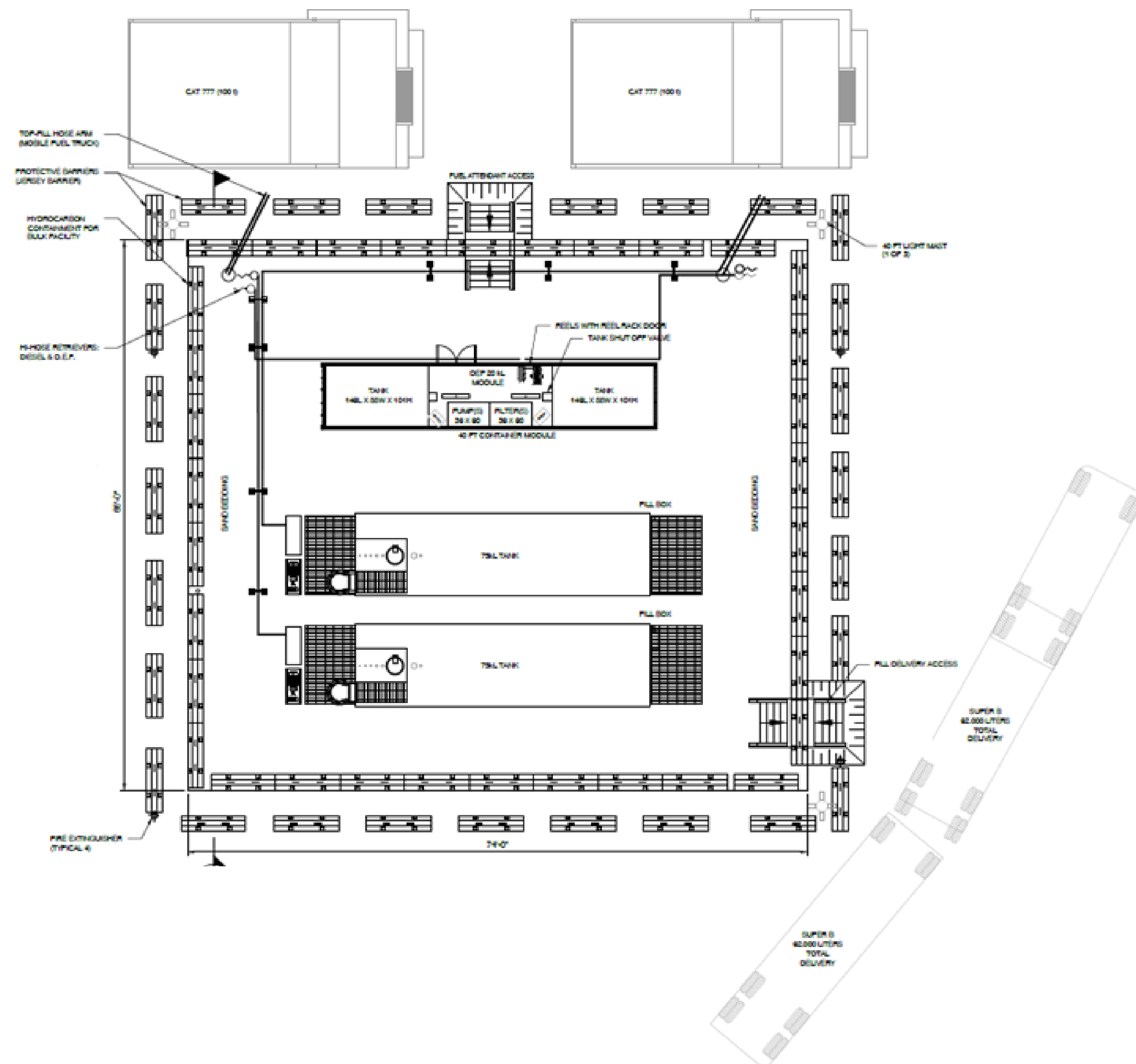


Figure 18-6: Fuel Handling Layout

18.4 Electrical Power

18.4.1 Power Demand

The total demand load of the project was estimated to be 27.6 MW, while the total demand load of the equipment that requires emergency power backup was estimated to be 420 kW. Dedicated diesel generators shall be provided to supply the emergency power.

18.4.2 Power Supply

A substation will be constructed in Biankouma to feed from the existing 225-kV line to feed a 90-kV line along the existing 33-kV line infrastructure by the authority (Côte D'Ivoire Énergies). Additional transmission infrastructure shall be constructed by the project to extend the 90-kV feed to the plant substation, approximately 5 km.

18.4.3 Main Substation, Site Power Distribution & Electrical Network

A primary electrical substation will be built at the plant to accept the two incoming 90-kV power feeds. The substation will consist of two outdoor transformers to step down the voltage from 90 kV to 11 kV. For redundancy, each outdoor transformer shall be capable of supplying the total demand load of the plant.

The substation will also include an electrical room that will house the two 11 kV switchgears. The switchgears will be fed from the outdoor 90 to 11-kV transformers, after which the power will be distributed at 11 kV, 3-phase, 50 Hz across the site, either via buried cables or overhead pole lines (Yang and Marjovsky, 2024).

Due to their large power consumption, the SAG and ball mills will be fed directly from the 11-kV switchgears.

Depending on the load locations, additional step-down transformers and electrical rooms with low-voltage equipment will be located in and around the plant accordingly to step down the voltage from the incoming 11 kV to low voltage and feed the low-voltage equipment.

18.5 Water Management

The project is expected to operate under a hydrological surplus during operations. The water management measures for the TSF and site infrastructure are shown on Figure 18-7 and are briefly described in the following sections.

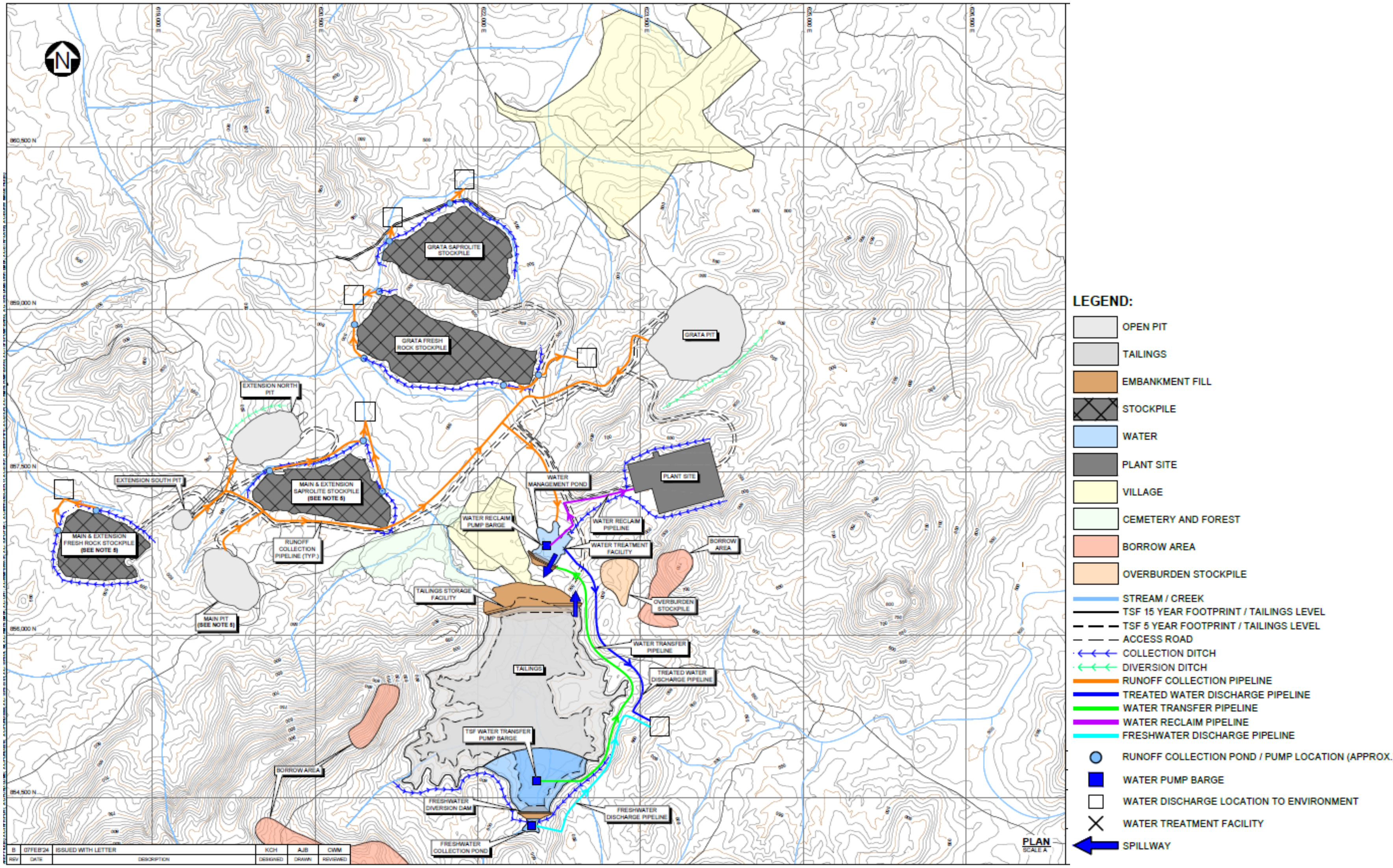


Figure 18-7: Water Management Measures (Horsfield and Muir, 2024a)

18.5.1 TSF Seepage and Water Management

The following seepage and water management measures are included in the TSF concept:

- Basin Foundation – The basin foundation is expected to consist of low-permeability laterite and/or saprolite to minimize seepage into the underlying foundation soils.
- Seepage Collection System – Finger drains will be installed from the base of the filter zone to the downstream toe of the ultimate TSF embankment footprint. A seepage conveyance drain will be installed along the ultimate downstream toe of the TSF embankment (parallel to the embankment). The conveyance drain will report to a pre-cast concrete seepage recycle sump, equipped with a pump and pipeline, to pump the collected water back into the TSF basin.
- Water Transfer System – Supernatant and runoff collected in the TSF basin will be pumped to the Water Management Pond ("WMP") for reuse in the process, or for treatment and discharge. The system will include a pump barge and pipeline.
- Freshwater Discharge System – The TSF has a large upstream catchment area and it has been assumed that 60% of the runoff from the catchment area upstream of the TSF will be diverted and directly discharged to the environment as non-contact water. The system will include a freshwater diversion dam, collection pond, pump, and pipeline to transfer flows to the environment, east of the TSF.
- Stormwater – The TSF will include an emergency spillway to route flows resulting from the inflow design flood to the environment. The spillway is expected to be excavated into bedrock along the east abutment of the TSF embankment.

18.5.2 Surface Water Management

The following structures and systems will be constructed to manage surface water:

- WMP – The WMP will be constructed between the TSF and the plant site to collect and temporarily store supernatant and runoff from the TSF water transfer system and contact water from the open pits and plant site (runoff collection system). The WMP will be constructed prior to the plant site and TSF to allow the basin to be partially filled with water and provide process water for plant site commissioning. Additional water, if needed, would be provided by the water transfer system. This approach is intended to preclude the requirement to draw fresh water from another source. Water in the WMP will either be reused as process water via the water reclaim system or treated and discharged to the environment via the water treatment facility and treated water discharge pipeline. The proposed pipeline discharge location is within the valley to the east of the TSF.

The WMP will be a valley-type impoundment with one embankment (approximately 17 m in height) to provide water storage. The WMP embankment cross-section and seepage collection system will be consistent with the TSF embankment section and seepage collection system. The storage capacity of the WMP is estimated to be approximately 370,000 m^3 with 2 m of freeboard.

- Runoff Collection Ponds – Runoff collection ponds will be excavated downstream of the four stockpiles to collect contact water from the stockpiles and runoff collection ditches. The runoff collection ponds will provide temporary storage for storms up to and including the 1 in 10-year 24-hour duration storm event (British Columbia Ministry of Environment; BCMOE, 2015). Runoff from storms up to the 1 in 200-year 24-hour storm event will be routed via spillways to the environment (BCMOE, 2015). Pumps and pipelines will be installed at the ponds to pump water directly to the environment once sediment has been removed. This approach was adopted based on the water having a suitable water quality following the removal of sediment.
- Diversion/Collection Ditches – Two diversion ditches are included in the conceptual arrangement to route non-contact water away from the Extension North Pit. Several collection ditches are included in the conceptual arrangement to collect contact water from the stockpiles and convey collected water to the runoff collection ponds. The ditches will convey runoff from storm events up to and including the 1 in 50-year 24-hour storm event, as per international guidelines (BCMOE, 2015).
- Open Pits – Pit dewatering systems are sized to pump from the pit bottoms to the pit rims. From the pit rims, the contact water will be pumped to the WMP via the runoff collection system for reuse in the process or for treatment and discharge.

18.5.3 Domestic Water Treatment

The domestic water treatment facility will be constructed adjacent to the water treatment facility at the WMP. Treated water from the domestic water treatment facility will be used for potable water (drinking water will primarily be provided to site as bottled) and domestic use.

18.5.4 Water Balance

An annual site-wide water balance under average hydrological conditions during Year 09 of operations was developed using a spreadsheet approach to size various pumps and pipelines and estimate potential flow through the water treatment facility. Year 09 was selected for the water balance based on a review of the mine plan (BBA, 2024a). The site disturbance footprint is at its greatest extents in Year 09 and the two largest pits are in operation.

Key inputs into the water balance were sourced as follows:

- Processing inputs (reclaim water requirement, tailings throughput, and water in the tailings slurry) were provided by BBA (2024b);
- Annual precipitation and evaporation estimates were provided by SGS (2013);
- Seepage rates were estimated by Knight Piésold Ltd. (KP) based on the site layout, relevant experience;
- Catchment areas and runoff coefficients were estimated by KP based on site layout, relevant project experience, and guidance from the United States Department of Agriculture (USDA, 1986).

The results of the water balance analysis indicate that the project will operate under an annual hydrological surplus with water processed through the water treatment facility each year. Specific results are summarized hereafter.

- The flow from the runoff collection ponds directly to the environment was estimated to be approximately 4.1 M m^3/y (470 m^3/h averaged throughout the year);
- The flow from the Grata and Extension North open pits to the WMP was estimated to be 2.7 M m^3/y (310 m^3/h averaged throughout the year);
- The water transfer flow from the TSF to the WMP was estimated to be approximately 10.0 M m^3/y (1,140 m^3/h averaged throughout the year);
- The diverted flow from the undisturbed TSF catchment directly to the environment (freshwater discharge system) was estimated to be 12.5 M m^3/y (1,420 m^3/h averaged throughout the year);
- The flow through the water treatment facility to the environment was estimated to be 9.8 M m^3/y (1,120 m^3/h averaged throughout the year).

18.6 Tailings Management

18.6.1 Overview

The TSF will provide storage for the total estimated volume of tailings over the life of mine, as illustrated in plan and section in Figure 18-8. The TSF is located approximately 500 m southwest of the plant site, adjacent to a local village and cemetery. One embankment will be constructed to establish a valley-type impoundment. The valley within the impoundment is roughly circular in shape with favourable depth/area/capacity characteristics. The TSF location was selected based on the results of a scoping-level options comparison for the project (KP, 2023).

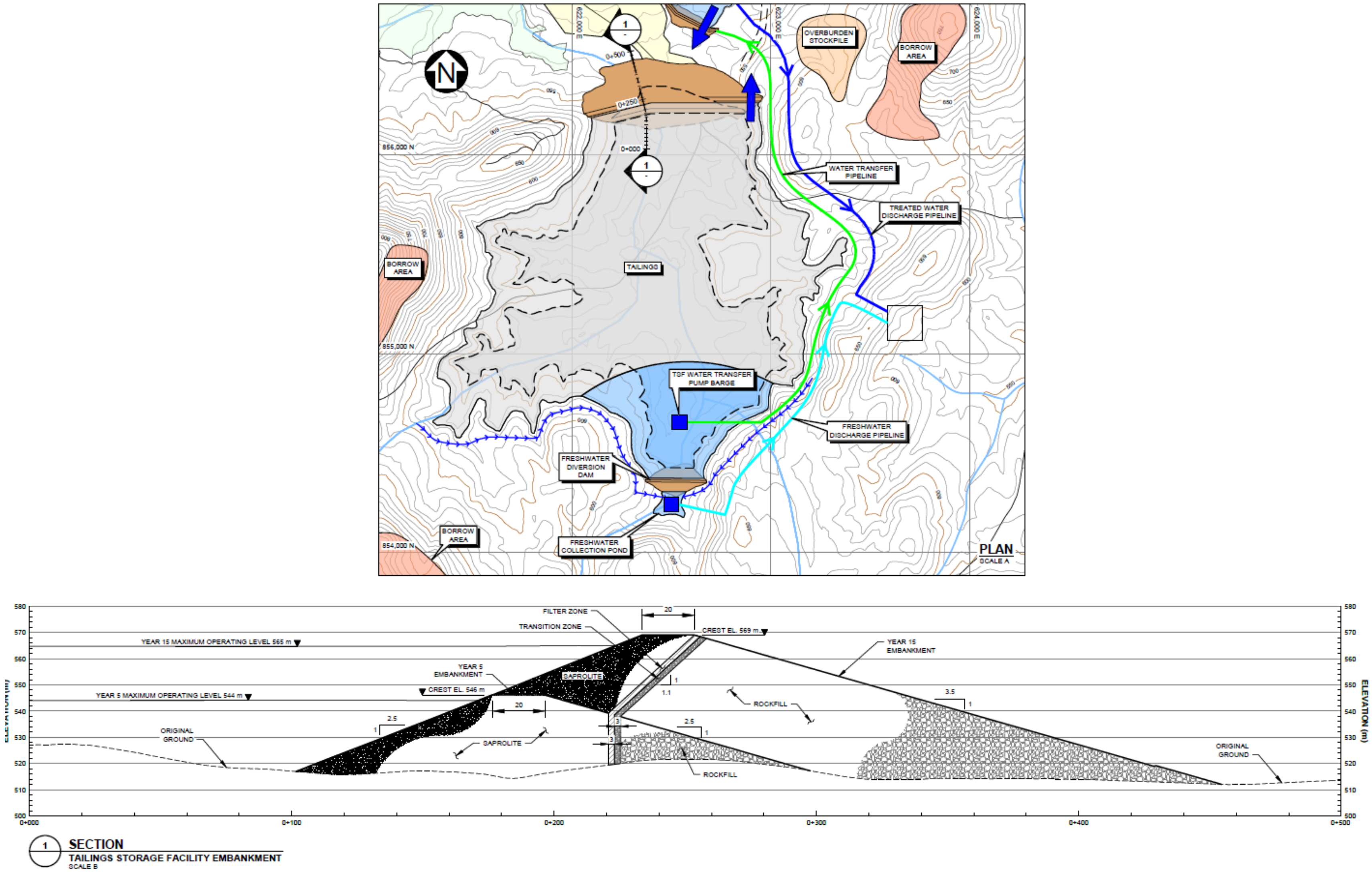


Figure 18-8: TSF Plan and Section
(Horsfield and Muir, 2024b)

18.6.2 Tailings Production and Characteristics

The tailings were assumed to have a specific gravity of 2.7 and a final average settled dry density of 1.4 t/m^3 following deposition into the tailings basin. The tailings were assumed to be PAG, as no characterization testing on the tailings has been completed to date. The total volume of tailings to be stored was estimated to be 60.7 M m^3 (85.0 Mt @ 1.4 t/m^3).

18.6.3 Tailings Storage Facility

Saprolite and inert waste rock will be used to construct the TSF embankment. The material for Stage 1 (initial) TSF construction will be sourced from a borrow area, as it is expected that significant volumes of inert waste rock from open pit development will not be available during pre-production. The material for ongoing construction will consist of waste saprolite and inert waste rock from open pit development. The TSF conceptual arrangement and development are summarized below.

18.6.3.1 Foundation Preparation

Vegetation, topsoil, and unsuitable materials will be removed from the TSF embankment footprint to prepare the area for construction. Vegetation and topsoil will be removed from the TSF basin footprint to prepare the area for tailings deposition. It is expected that the permeability of the residual soil foundation in the TSF basin bottom will be adequate to act as a seepage barrier and minimize seepage into the underlying foundation soils.

18.6.3.2 TSF Cross-section

The Stage 1 (Year 05) TSF embankment will be approximately 31 m in height at the tallest section with the embankment constructed to crest El. 546 m. The upstream slope will be 2.5H:1V, the downstream slope will be 3.5H:1V, and the crest width will be 20 m. Fill zones from upstream to downstream are summarized below.

- Saprolite – The saprolite will be placed and compacted to provide a low-permeability zone to reduce seepage through the TSF embankment. The minimum width of this zone will be 10 m;
- Filter zone – The filter zone will be 3 m wide and placed to maintain filter relationships with the saprolite fill, and provide drainage within the embankment fill;
- Transition zone – The transition zone will be 3 m wide and placed to maintain filter relationships with the upstream filter zone and the downstream rockfill, and provide drainage within the embankment fill;
- Rockfill – The rockfill will consist of inert waste rock and will form the downstream shell zone of the embankment.

The TSF embankment will be raised using the downstream construction method from Year 03 through Year 15 of operations. The Year 15 TSF embankment will be approximately 54 m in height at the tallest section with the embankment constructed to crest El. 569 m. The upstream slope will be 2.5H:1V, the downstream slope will be 3.5H:1V, and the crest width will be 20 m. The fill zones from upstream to downstream will be consistent with the Stage 1 TSF embankment.

18.6.4 Tailings Deposition Strategy

Tailings will be deposited sub-aerially from the upstream crest of the TSF embankment and from strategic locations around the perimeter of the TSF to maintain the supernatant pond well away from the TSF embankment. The deposition plan will include for the rotational discharge of tailings in thin layers (approximately 0.3 m thick) from several discharge locations to develop a dense, low-permeability tailings deposit. This deposition strategy will allow the tailings to partially dry and consolidate prior to deposition of the following tailings layer. The deposition strategy will develop a homogeneous, low-permeability tailings deposit, reduce foundation seepage, and minimize the potential for the onset of acid rock drainage and/or metal leaching conditions.

18.7 Control System

18.7.1 Process Control System

A process control system will control the crushing plant, concentrator plant and other minor systems across the site. The system will consist of multiple PLCs incorporating current SCADA software. The system will be centrally located at the process plant.

18.7.2 SCADA

SCADA software will be the base programing for the control system, to allow for monitoring and control by the PLC and operators.

18.7.3 Redundancy

Backup for the control circuits will be available and emergency power supplied (via diesel generators) to ensure control is maintained in occurrences when main power is lost.

18.8 Communications

The project communication infrastructure will be composed of the DCS, CCTV, access control, voice and data, fire detection, and electrical SCADA systems. All communication services will use a common single-mode 9/125 μm optical fibre-type for physical links.

18.8.1 Telecommunication Local System

The mine site will employ a site-wide communication system based on a single-mode fibre optic backbone. VoIP telephones, intranet/Internet access, and control system network connectivity will be integrated into this fibre backbone so that these systems can be accessible anywhere on site.

18.8.2 Telecommunication and Mobile Radio Systems

Ultra-high-frequency ("UHF") radio will be used in the pit areas and the processing plant, with a base station at security within the administration building.

18.8.3 Telecommunication Services and Distribution

For telecommunication services, the project site will be connected to a local Internet service provider ("ISP"). On-site overhead lines will link the different areas that require access.

18.8.3.1 Corporate Network

Broadband Internet access will be purchased from a satellite ISP. The corporate network (intranet) will be isolated from the control system network via a firewalled network.

18.8.4 Camera System

CCTV will aid in the safety and security of the site. Locations to include the pits, processing plant and entrance access to site. The feeds from the cameras would be fed back to the security office in the administration building for monitoring, with digital backup drives for the feeds. Other cameras will be installed in various plant locations to support control purposes with viewing capabilities at the central control room.

19. Market Studies and Contracts

No formal market study was commissioned. The information provided within this section is summarized from BBA's internal database and public sources. Unless otherwise indicated, all amounts in this report are expressed in US dollars ($).

19.1 Market Overview

19.1.1 Nickel

Nickel is openly traded on the London Metals Exchange ("LME").

Nickel is a key metal used primarily in the production of stainless steel, accounting for around 70% of global nickel consumption. The remaining demand comes from various industries, including batteries (around 9%), alloys (around 8%), and other uses (around 13%).

There are two types of nickel markets: Class 1 Nickel (sulphide ores) and Class 2 Nickel (laterite ores). Class 1 nickel tends to have a high-purity nickel meeting LME standards (99.8% or better). Class 2 nickel tends to have a lower purity.

The projected average concentrate grade of 13% Ni for the project is in the acceptable range of 13-15% on global markets. The project is a source of both Class 1 and Class 2 nickel. There are key laterite nickel projects in West Africa. Figure 19-1 shows the map of the recent nickel projects in the region (S&P Global Capital IQ Pro, 2024).

19.1.2 Copper

Copper is openly traded on the LME.

The largest use of copper in 2021 was for equipment manufacturing (32%), followed by building construction (28%), infrastructure (16%), transportation (12%), and industrial uses (12%) (www.natural-resource.canada.ca)

The projected average concentrate grade of 26% Cu for the project is average compared to concentrates available on global markets.

Figure 19-1: West Africa Nickel Laterite Projects

19.1.3 Cobalt

Cobalt is openly traded on the LME.

Cobalt is used in numerous diverse commercial, industrial, and military applications. On a global basis, the leading use of cobalt is in rechargeable batteries (www.usgs.gov).

Cobalt in the nickel concentrate is deemed as payable, while cobalt in the copper concentrate would not be payable.

19.1.4 Platinum

Platinum is openly traded by commodity trading houses.

Platinum is part of the platinum-group metals (iridium, osmium, palladium, platinum, rhodium, and ruthenium). PGMs have outstanding catalytic properties and are used extensively in the industrial, petrochemical, and automotive industry (www.usgs.gov). Platinum is also used in jewelry.

Platinum found in either the nickel or copper concentrates are deemed payable.

19.1.5 Palladium

Palladium is openly traded by commodity trading houses.

Palladium is part of the PGM family. PGMs have outstanding catalytic properties and are used extensively in the industrial, petrochemical, and automotive industry.

Palladium found in either the nickel or copper concentrates are deemed payable.

19.1.6 Gold

Gold is openly traded by commodity trading house and central banks.

Nealy half of the gold global demand in 2022 was for the jewelry industry. Close to equal amounts were used as investments and for Central Bank purchases. The remaining demand was used in technology application such as micro-circuitry in electronic products (Figure 19-2).

Gold found in either the nickel or copper concentrates are deemed payable.

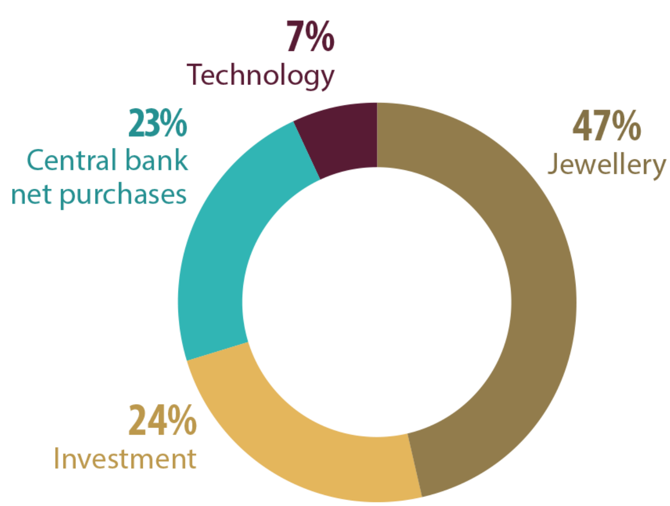


Figure 19-2: 2022 Global Gold Demand
(Source: www.natural-resources.canada.ca)

19.2 Metal Price Forecast

The potential pay metals at Samapleu and Grata Deposits are commonly traded on the open market. Trailing averages of 1, 3 and 5 years, based on the monthly pricing, can be sourced on open public sources such as the London Metals Exchange or the World Gold Council. Long-term forecasts are a consensus from several financial institutions typically beyond a 3-year period. Table 19-1 summarizes the metal prices for the potential pay metals using trailing average or long-term consensus forecasts as of April 2, 2024.

Table 19-1: Summary of Metal Price Forecast, April 2, 2024

Element	Unit	Trailing Averages			Long-term Forecast
		1 Year	3 Years	5 Years	
Nickel	$/lb	8.63	9.86	8.54	8.67
Copper	$/lb	3.79	4.02	3.57	3.95
Cobalt	$/lb	14.05	21.74	-	20.51
Platinum	$/oz	944	984	960	1,132
Palladium	$/oz	1,176	1,804	1,872	1,180
Gold	$/oz	1,988	1,870	1,779	1,790

19.3 Logistics

The Terms and Conditions referenced were based on delivery, including cost, insurance, and freight ("CIF") to Asia. For the study, net smelter return calculations assume export to China or other Asian countries.

19.3.1 Nickel Concentrate

The study assumes the nickel concentrate will be loaded into ISO concentrate shipping containers with a capacity of 30 wmt and hauled by truck for export by bulk shipment to international smelters.

A facility will be required at the Port of San-Pédro to house the concentrate before being loaded onto ships. This facility will include the appropriate storage space and security to handle the shipping containers.

A sea freight cost of $70/wmt was used. The estimated consolidated loading port rate of $15/wmt to $20/wmt accounts for the cost of concentrate storage through vessel loading.

19.3.2 Copper Concentrate

Copper concentrate is to be loaded into ISO concentrate shipping containers with a capacity of 30 wmt and hauled by truck for export by bulk shipment to international smelters in the same methodology as the nickel concentrate.

19.4 Contracts

Currently, SNC has no commercial sales or logistics service agreements.

While BBA has provided information to SNC as summarized in the sections above, this guidance does not represent a forward commercial sales contract or arrangement for smelting, refining, transportation, logistics handling, or sales.

20. Environmental Studies, Permitting, and Social or Community Impact

Chapter 20 describes the environmental and social studies that have been undertaken for the project, including a summary of the waste and water management strategies, environmental permitting process and documented community concerns.

The following projects reports were reviewed to inform Chapter 20:

- *Étude de l'état initial du milieu bio-physique de la zone du projet Samapleu* by SGS (SGS, 2013a);
- *Étude de l'état initial socio-économique de la zone du projet Samapleu*; by SGS (SGS, 2013b)
- Technical report on the Samapleu Nickel and Copper deposits by WSP (Ayad et al, 2015);
- NI 43-101 Technical Report – Preliminary Economic Assessment Samapleu Project by DRA/Met-Chem (Gagnon et al., 2020).

20.1 Environmental and Social Studies

A number of baseline environmental and socio-economic studies were undertaken between 2011 and 2013 by SGS (2013a and 2013b) Côte d'Ivoire in the project area including:

- Landscape and soils;
- Water quality and hydrology;
- Hydrogeology and groundwater quality;
- Climate, air quality and noise;
- Rainy and dry season flora;
- Rainy and dry season wildlife;
- Fish and fish habitat;
- Socio-economics, including demographics and public infrastructure;
- Archaeological resources;
- Community concerns.

These studies defined two areas of influence: a direct area of influence and a zone of diffuse influence. The area of direct influence extends over the villages surrounding the project, namely: Gangbapleu, Samapleu, Yorodougou, Zokoma and a number of cultivation camps located around the main deposit. These camps are: Mathiaskro, Délipleu, Souapleu, and "Baule camp". The zone of diffuse influence corresponds to the project's zone of socio-economic influence.

The following provides a summary of the key findings from the 2013 environmental baseline report (SGS, 2013a).

The project is located in a mountainous area with a savannah-like environment and some forested areas. The semi-mountainous region of Man-Danané is drained by three main rivers, namely the Méné River, the Cavally River and the Sassandra River. These rivers define specific hydro systems or watersheds. The hydro system of the Sassandra River is the most important in the region. It occupies the entire eastern part of the river. The main tributaries of this river are the Bafing, Koué and N'zo (Figure 20-1).

The project site is within the Sassandra river catchment area, precisely in the Bafing sub-watershed. Hydrographic data has been collected on the Bafing watershed at the Bafingdala bridge (Badala) since 1961. The Badala hydrological station is considered as the reference station for the study. The watershed at this outlet covers an area of 5,930 km^2.

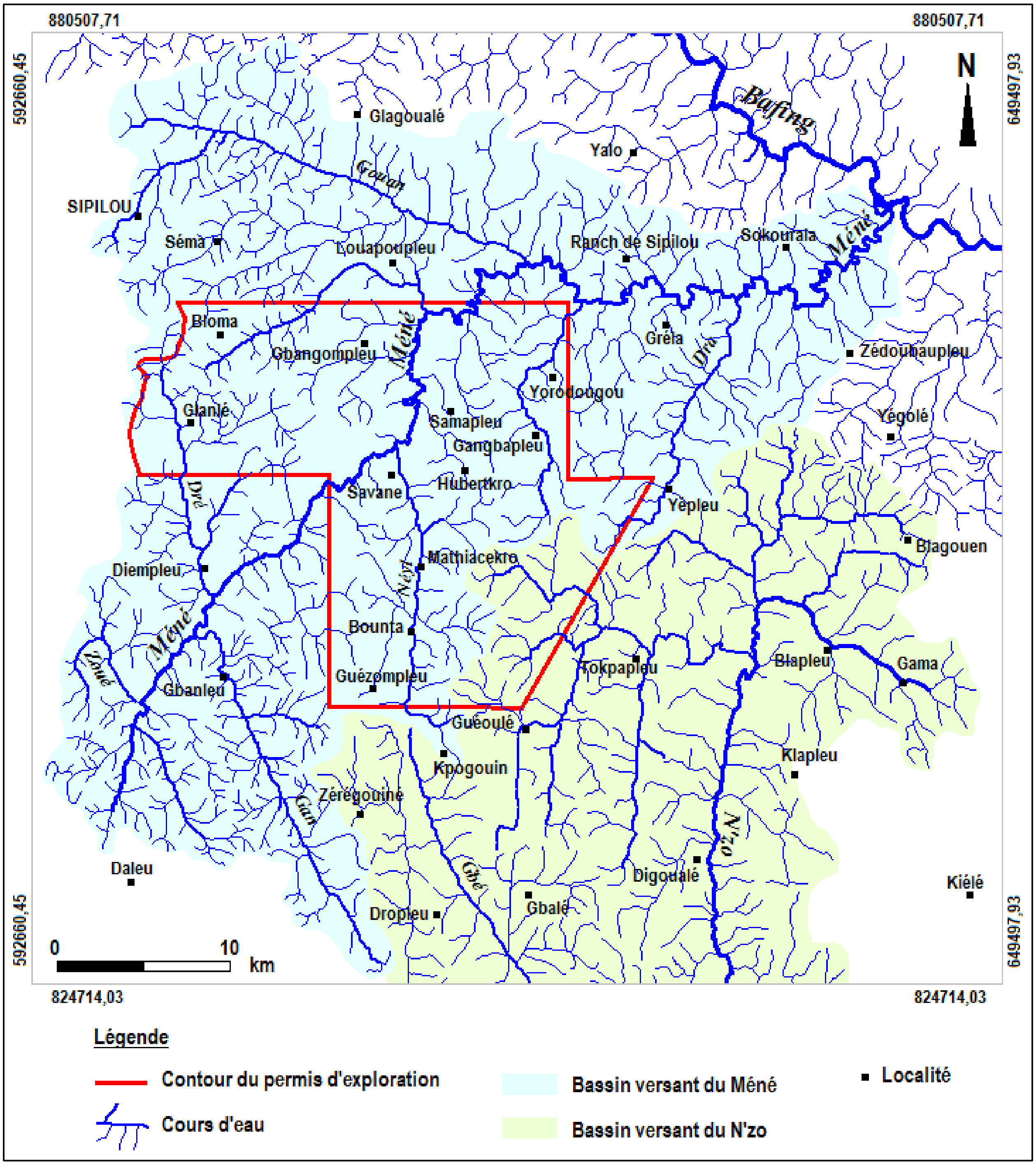


Figure 20-1: Hydrographic Network Reconstructed from Topographic Maps (Source: SGS, 2013)

- Biodiversity in the area is relatively high, wildlife survey results were notably rich in bird species and several International Union for Conservation of Nature ("IUCN") Red List flora and fauna species were present in the project area.
- Vegetation studies found 330 flora species in the area, 18 of which are listed on the endangered species IUCN Red List. They belong to three IUCN categories (16 vulnerable: VU, one in danger: EN and one near threatened: NT) and are for the majority of species used as timber. The strong pressure of the wood industries on these species would explain their status, hence their identification as vulnerable species (SGS, 2013a).
- Bird surveys identified 176 bird species during the dry season and 103 bird species during the wet season. Three of these species are listed species whose protection is of world interest.
- Migratory bird surveys were not conducted, and migratory birds were not observed due to the survey timing.
- Large mammals are almost absent. Only the bushbuck and the black-backed duiker, medium-sized mammals were observed once each on the site. This impoverishment in large fauna is probably due to the destruction of the habitat by the farming, (SGS, 2013a).
- Aquatic surveys identified 31 fish species during the dry season and 36 fish species during the wet season, none of the identified species are listed. Surveys of benthic invertebrates determined that the water was of good quality and high in species richness.
- Air quality is compromised, with measured dust concentrations higher than World Bank guidelines.
- Ambient noise levels are higher than Ivorian guidelines, particularly at night. During the survey, it was observed that noise was generated by traffic noises, domestic activities (especially when returning from the fields in the evening) and domestic animals (roosters, dogs, goats, and sheep) (SGS, 2013).

The following provides a summary of the information included in the 2013 Socio-Economic Baseline Study (SGS, 2013b).

- Approximately 25,000 people were living in the *District des Montagnes*, an area covering approximately 4,950 km^2 in the Tonkpi Region in 1998. This represents approximately five people per km^2.
- Eleven villages in Sipilou, seven villages in Yorodougou.
- Indigenous communities from the area are referred to as “the Dan” and were traditionally nomadic.
- The project is located in an agricultural region producing primarily coffee, cacao, rice and bananas.

- Road improvements in the area are ongoing, including a focused area between Biankouma and Sipilou that is in the progress of being tarred as of 2024; however, in general, roads are not well maintained and present a major constraint to regional development.
- Cell phone service is available in Sipilou and intermittent throughout the region.
- In 2013, running water was only available in Sipilou; as of 2020, Yorodougou also has a running water system.
- Electricity is available in the region from a 33-kVa power line, but was reported to be intermittent in 2013.
- Two nurses service the population, no doctors or midwives are located in the area when the study was completed in 2013.
- The area has 22 elementary schools and one high school.
- Numerous archaeological sites exist within the project zone.

Additional baseline studies were reportedly initiated in 2017 but details of the studies including study results or reports are not currently available.

20.2 Waste Disposal

The project includes a number of waste rock piles and a tailings storage facility. The planned waste rock piles are located in close proximity from the planned open pits and has been designed to hold 149 Mt of waste rock (8.7 Mt of waste material out of a total of 157.8 Mt used for tailings dam construction) by the end of the 16.1-year mine life. The planned TSF is located in a valley with a drainage adjacent to the Gangbapleu Village, an identified cemetery and a sacred forest.

Tailings produced by the flotation process will be segregated at the source between potentially acid generating and non-acid generating. All tailings will be subject to a pyrrhotite circuit for desulphurization. The NAG tailings will be thickened to 65% wet weight and pumped to the TSF via a 3-km pipeline. All tailings are currently planned to be stored in the TSF; however, additional evaluation will be undertaken to consider the alternative of backfilling the open pits as operations progress. No constructed barrier is planned as soils are assumed to be sufficient to reduce seepage under TSF.

The total tailings volume is anticipated to be 60 Mm^3. PAG tailings are estimated to represent approximately 10% of the total tailings.

20.3 Water Management

The project is located in the Bafing sub-watershed, a tributary of the Sassandra River. The Méné River is a tributary of the Bafing river. The Méné flows through the project site, and a 1,070 km^2 watershed area was defined with average and high flow rates calculated by SGS in 2013.

The SGS (2013a) hydrology study confirmed the local watershed has the capacity to provide water volumes of up to 0.170 m^3/s (86,400 m^3/day) and retain its ability to maintain ecological flows (defined as 10% of the average measured flow).

All water for processing will be sourced from the WMP. A fresh water source from the environment is not anticipated to be required; however, an anticipated 1,127 m^3/day of fresh water will be required for processing, currently planned to be drawn from the WMP.

The WMP has been designed to collect supernatant water transferred from the TSF, site surface water runoff, and water pumped from the pit floor. Process plant water and tailings thickening water will also be captured and recirculated within the concentrator.

The project will operate at a hydrological surplus and will require significant discharge to the environment. Surface water collected from the TSF upstream catchment area is considered non-contact water and is planned for discharge without treatment. The estimated discharge volume is 12.5 Mm^3/year averaged at 1,420 m^3/hour.

Runoff from stockpiles is planned to be held temporarily in constructed ponds to allow for sediment settling prior to discharge to the environment. The estimated discharge volume is 4.1 Mm^3/year, averaged at 470 m^3/hour.

Supernatant water collected from the TSF and contact water from the open pits and processing plant will be held in the WMP, designed to have a storage capacity of approximately 370,000 m^3. Water held in the WMP will be sent to the water treatment facility prior to discharge. The estimated discharge volume is 9.8 Mm^3/year averaged at 1,120 m^3/hour.

A site stormwater management plan is currently under development.

Further studies are required to identify groundwater interactions and ensure no impact to local water users from the pit dewatering activities.

20.4 Environmental Permitting

The project is subject to several Ivory Coast regulations, including:

- Environment Code (1996);
- Water Code (1998);
- Forestry Code (2019);
- Mining Code (2014).

International regulations and guidelines also apply to the project, including compliance with the Equator Principles and Extractive Industries Transparency Initiative.

The Environment Code (1996) outlines the Environmental and Social Impact Assessment ("ESIA") process. The process begins with the issuance of a "Terms of Reference" for the ESIA, which has been requested for the project as per the 2020 PEA (Gagnon et al., 2020). An ESIA must be submitted to the National Environment Agency (*Agence Nationale de l'Environnement* "ANDE") for review and approval prior to granting an exploitation permit. Once the ESIA has been submitted, a public hearing will be organized. Upon review of the ESIA by an interdepartmental committee, the committee can either approve the application, request modifications or refuse the application.

The Water Code (1998) regulates water taking and discharge by industrial developments. The project is anticipated to require approximately 1,127 m^3/day of fresh water from the environment, which will require a permit. Water taking from pit-dewatering would also require a permit. Discharge of "non-contact" and process water is also anticipated to be discharged at a volume of more than 26 Mm^3/year to the environment.

The Forestry Code (2019) provides for the preservation and expansion of the country's forests. The site is adjacent to a sacred forest. Côte d'Ivoire is home to more than 6,700 sacred forests, which are considered to be sacred temples and homes to the souls of the villager's ancestors.

A new Mining Code was established in Côte d'Ivoire in 2014, which governs environmental permitting for the mining sector. This new Mining Code (2014) is not referenced in the environmental baseline reports (SGS, 2013a) or the Preliminary Economic Assessment (Gagnon et al., 2020). The Mining Code (2014) includes specific provisions on prospection, exploration and exploitation permits, as well as requirements for reclamation bonds, community agreements and environmental assessment.

The project currently holds two exploration permits. Under the Mining Code (2014), exploration permits may not allow exclusive rights to an area exceeding 400 km^2. An exploration permit holder is entitled to an exploitation permit within the exploration area, pending a positive feasibility study and the ability to meet specific conditions.

Conditions for granting an exploitation permit include establishment of a company under Ivorian law. Applicants must also meet specific technical and financial criteria such as retention of experienced staff and the deposit of funds into an Ivory Coast financial institution. Exploitation activities must commence within 1 year of permit granting.

Exploitation permit holders must also sign a tax convention with the state within 60 days of the granting of the permit. Note that the duration of the convention does not match the duration of the exploitation permit (maximum 20 years), which can cause challenges. The convention has an initial duration of 12 years and is renewable for successive periods of a maximum of 10 years.

All subcontractors to the permit holder must be approved by the Ministry of Mines. Prioritizing use of local businesses and hiring of local residents are also requirements.

The holder of an exploitation permit must comply with the Equator Principles and the Extractive Industries Transparency Initiative ("EITI").

The Equator Principles, comprising ten principles, serve as a framework for environmental and social risk management, and are used in particular as an evaluation tool by financial institutions.

1. The first principle requires review and categorization of a project based on its possible impact to society. The project is likely a Category A project due to the potential significant adverse environmental or social risks and/or impacts related to the proposed activities.
2. The second principle is to undertake an ESIA, which has been initiated with environmental baseline studies and a request for a Terms of Reference.
3. The third principle is to meet all applicable environmental and social standards, which is being met through compliance with the existing exploration permit.

The remaining principles have been partially implemented or not yet implemented:

4. Environmental and Social Management System;
5. Stakeholder Engagement;
6. Grievance Mechanism;
7. Independent Review;
8. Covenants;
9. Independent Monitoring and Reporting;
10. Reporting and Transparency.

Notably, no environmental management plan has been provided for review and no evidence of signed community covenants or agreements have been shared. Agreement with impacted communities on the reasonable amount of compensation for loss of resources and displacement has been noted as a potential risk and delay to many projects in Côte d'Ivoire. Signing of a community agreement is important to the project, particularly due to the proximity of the tailings storage facility to an established village, cemetery and sacred forest.

20.5 Socio-economics and Community Concerns

The project is expected to have a construction workforce of 400 employees and an operations workforce of 115 employees.

SGS undertook a survey of 345 community leaders, service providers and residents in 2011 and 2012. The results were presented in the 2013 Socio-Economic baseline study (SGS, 2013b) and are summarized below.

- Community expectations:
  - Employment opportunities;
  - Construction of education and health facilities;
  - Improvement of roads;
  - Construction and maintenance of electrical and water infrastructure.
- The primary concern revolves around housing displacement and agricultural loss.
- Communities express concerns regarding risks associated with environmental pollution.
- Numerous archaeological sites exist within the project zone.
- The identified archeological sites are considered significant because they provide proof of neolithic ceramics production and a protohistoric metal industry in the area.

20.6 Community Agreements

The Mining Code (2014) includes protection of specific areas such as places of worship and cultural sites. The project proponent is required to provide fair indemnity to the occupants of land that will be taken up by the mining activities. Signing of a Memorandum of Understanding with landowners and land occupants is required and will need to address the local communities major concerns.

A community development plan must be put in place that includes a development fund for the benefit of villages deemed to be impacted. In the case of the project, the impacted villages would include those located within the area of direct influence, namely: Gangbapleu, Samapleu, Yorodougou, Zokoma, and a number of cultivation camps located around the main deposit.

The Community Development Fund must be credited annually to carry out public infrastructure projects. Funding of training programs for local residents aimed at increasing local project participation is also required.

20.7 Closure Planning and Closure Costs

Exploitation applicants must include a closure plan for review and approval by the Minister of Mines. The closure plan must include provisions for site clean up, demolition and removal of site infrastructure and plans for rehabilitation. The closure plan does not account for the salvage value of any equipment or the remediation at the Port of San-Pédro.

The cost to implement the final closure measures is estimated to be approximately $29.5M. It is assumed that the implementation of monitoring and closure measures will occur over a 5-year period (Years 17 through 21, evenly distributed over 5 years). It is also assumed that water from the site will be discharged without treatment at the end of this 5-year period.

21. Capital and Operating Costs

This chapter presents the costs incorporated into the project's economic analysis.

21.1 Introduction

The PEA includes the development of three sulphide open pits (Grata, Main, and Extension), which are the main contributors providing nickel and copper concentrates, along with the Sipilou Sud laterite deposit will provide "direct shipping laterite mined" (DSO). The sulphide open pit mining will be owner-operated and mining operations will be outsourced to a mining contractor for the Sipilou Sud laterites deposit. The PEA also includes constructing on-site processing facilities including nickel and copper concentrate production lines and required infrastructure. Nickel and copper concentrates, as well as DSO, will be transported to San-Pédro Port, Côte d'Ivoire (approx. 450 km from site).

The main components of the project include:

- Three sulphide open pits (Grata, Main, and Extension);
- One nickel laterite open pit (Sipilou Sud);
- Mine (fresh rock and saprolite) storage areas;
- ROM stockpile;
- Concentrator plant facility with an average plant feed of 5,475,000 t/y;
- TSF and associated tailings and water management infrastructure;
- Transmission line;
- Mine access road;
- Buildings and supporting infrastructure;
- Mine water treatment facility;
- Domestic water treatment facility;
- Water supply and distribution system.

Responsibility for the cost estimates is divided amongst the study contributors presented in Table 21-1.

Table 21-1: Estimate Scope Division

Scope	Responsible Party
Open Pit Mining ▪ Capital Costs ▪ Operating Costs	BBA
Process Plant ▪ Capital Costs ▪ Operating Costs	BBA
Site Infrastructure ▪ Capital Costs ▪ Operating Costs	BBA
Site Closure ▪ Capital Costs	KP
Tailings Storage Facility & Water Management ▪ Capital Costs ▪ Operating Costs	KP
Indirects ▪ Capital Costs	BBA

21.2 General Basis

- The estimate is based on metric units of measurement.
- All cost estimates are referenced in United States dollars (USD or $) as of Q4 2023.
- The estimate has been developed in native (quoted) currencies for equipment and bulk materials. Exchange rates used to convert the different currencies are provided in Table 21-2.
- Numbers presented in the tables may not add up precisely due to rounding.

Table 21-2: Currency exchange rates (per USD)

Currency Code	Currency Name	Rate (per USD)
CAD	Canadian Dollar	1.33
XOF	West African CFA Francs	600
EUR	Euro	0.914

21.3 Capital Costs

21.3.1 Summary of Results

The capital cost estimate consists of the direct capital costs for the mine, the process plant facility, the associated mine site infrastructure, and the indirect costs associated with the project.

The capital cost estimate has been prepared with an expected accuracy of -30% to +50%. It is based on engineering deliverables developed to a level sufficient for supporting a Class 5 conceptual planning estimate as defined in American Association of Cost Engineers ("AACE") Recommended Practice No. 47R-11.

The cost estimate is divided into work breakdown structure ("WBS") categories and split between direct costs and indirect costs. The summary is further divided into the relative stages of the project:

- Initial Capital refers to:
  - Initial purchase of mobile equipment for the commencement of mining at the Main open pit area;
  - Construction of the process plant;
  - Construction of site infrastructure to support mine start-up;
  - TSF initial construction.
- Sustaining Capital refers to:
  - Initial purchase of mobile equipment for the commencement of mining at Extension and Grata open pit areas;
  - Replacement of mobile mining equipment;
  - Any deferred infrastructure construction related to the Grata mining area;
  - TSF expansion;
  - Closure and reclamation costs.

Table 21-3 presents a summary of the initial capital, sustaining capital, and closure costs for each period, as well as the total cost over the LOM.

Table 21-3: Initial, Sustaining and Closure Capital Costs by Period

Cost Item / Description	Total LOM (M$)	Pre-production Y-2 to Y-1 (M$)	Production Y01 to Y17 (M$)	Post-production Y17+ (M$)
Open Pit Mining	99.4	43.8	55.6	-
Milling and Processing	117.0	117.0	-	-
Tailings and Water Management	43.2	28.8	14.4	-
Infrastructure & Power	26.7	26.7	-	-
Reclamation & Closure	22.7	-	-	22.7
Direct Costs	**309.1**	**216.4**	**70.0**	**22.7**
Owners Cost & Construction Indirect Costs	60.8	60.8	-	-
Contingency	79.9	60.7	-	19.2
Total Capital Costs	**449.8**	**337.9**	**70.0**	**41.9**

Table 21-4 presents a summary of the initial capital costs and annual expenditures disbursed during the site development period, prior to the start of production.

Pre-production costs cover the mining operating expenditure during the pre-production period. Mining equipment and development includes initial mobile mining equipment, road construction, and clearing and grubbing costs.

Table 21-4: Initial Capital Cost – Annual Expenditures Summary during Pre-production

Initial Capital Costs	Total (M$)	Y-2 (M$)	Y-1 (M$)
Mining Pre-production	18.8	0.0	18.8
Mining Equipment and Development	25.0	2.5	22.5
Milling and Processing	117.0	17.6	99.5
Tailings and Water Management	28.8	4.3	24.5
Power	25.0	3.8	21.3
Infrastructure	1.7	0.3	1.4
Indirect Costs & Contingency	121.5	17.3	104.2
Total Initial Capital Costs	**337.9**	**45.7**	**292.2**

A summary of the initial and sustaining capital costs by area is presented in Table 21-5.

Table 21-5: Initial and Sustaining Capital Cost Estimate Summary

Capital Costs Summary	Total (M$)	Initial Capital (M$)	Sustaining Capital (M$)
Mining Pre-production	18.8	18.8	-
Mining Equipment and Development	80.6	25.0	55.6
Milling and Processing	117.0	117.0	-
Tailings and Water Management	43.2	28.8	14.4
Power	25.0	25.0	-
Infrastructure	1.7	1.7	-
Indirect Costs & Contingency	140.7	121.5	19.2
Total	**427.1**	**337.9**	**89.2**
Reclamation and Closure Costs	22.7	0.0	22.7
Total LOM Capital Costs	**449.8**	**337.9**	**111.9**

21.3.2 Major Assumptions

- All backfill materials (mainly for TSF construction) will be available from the pits or other sources located close to the site, if needed.
- All excavated material will be disposed of within the site battery limits;
- Primary transportation roads from ports and site access roads are suitable for the transportation of construction, mining and process plant equipment;
- Implementation of the 90-kV line along the existing 33-kV line infrastructure will be executed by the authority (Côte D'Ivoire Énergies);
- Access roads are available to be used to transport nickel and copper concentrates, as well as DSO, to San-Pédro Port, Côte d'Ivoire (approx. 450 km from site);
- San-Pédro Port has the capacity to support the project.

21.3.3 Major Exclusions

The following items are excluded from this capital cost estimate:

- Any impact from new government regulations;
- All costs incurred as a result of extreme weather conditions;
- Force majeure;
- Major strikes;

- Sunk costs for equipment already purchased or studies completed;
- Contaminated soil excavation / disposal / removal;
- Miscellaneous hazardous waste disposal / removal;
- Any extra costs that might be incurred to advance engineering, construction or delivery of equipment and materials or premiums necessary to procure items in short supply;
- Government (federal / provincial / regional) incentives;
- Capitalized interest.

21.3.4 Scope and Structure of Quantity and Pricing Basis

The main engineering deliverables that allowed the production of the quantities included:

- Preliminary life of mine plan;
- Preliminary process plant flowsheet;
- Preliminary mechanical equipment list for the process plant;
- Preliminary single line diagram and load list;
- Preliminary infrastructure general arrangement drawings;
- Preliminary tailings and water management systems;
- General site plan.

Material take-offs produced by the engineering team were used to obtain pricing from local contractors for the site infrastructure. In some cases, unit rates were based on recent international experience. Lump sum allowances were also included for select items based on recent and relevant experience.

The sources for the capital costs include vendor budget quotations, historical data, similar projects, and factors. The Table 21-6 summarizes the origin of the process and mine equipment costs.

Table 21-6: Origin of Capital Cost (Mine and Process Equipment only)

Origin of Prices	Total (M$)	Initial Equipment Capital Cost (M$)	Sustaining Equipment Capital Cost (M$)	Representation
Quotes	90.8	51.5	39.3	68%
Database	26.0	14.5	11.4	19%
Estimated	16.8	9.7	7.2	13%
Total	**133.5**	**75.7**	**57.8**	**100%**

21.3.5 Open Pit Mine

The initial and sustaining capital costs for the open pit mine are presented in Table 21-7. The mining pre-production covers the mining operating expenditure during the pre-production period. Mining development costs include the following:

- Mining road construction (external-pit haul roads);
- Site clearing and grubbing activities cover the three pits (Main, Grata, and Extension) and the four rockpiles.

Table 21-7: Open Pit Mining Capital Costs

Description	Total LOM (M$)	Initial Capital (M$)	Sustaining Capital (M$)
Mining Pre-production	18.8	18.8	-
Mining Development	6.8	1.8	4.9
Mobile Equipment Purchase – New	47.7	23.1	24.6
Mobile Equipment Purchase – Replacement	26.1	-	26.1
Total	**99.4**	**43.3**	**55.6**

The capital estimate for the mining equipment includes items related to the purchase of the mining mobile equipment fleet for the open pit operations, maintenance and mine support equipment. These are categorized into new acquisitions and replacements based on the equipment's life cycle.

Estimates for mining equipment are based on the mining fleet equipment schedules and either the equipment budgetary pricing provided by vendors for supply, delivery, assembly, and commissioning, or from historical data. Mobile equipment capital costs including major equipment (mining trucks, mining excavators and drills), and support and service equipment are summarized in Table 21-8.

Table 21-8: Mining Equipment Capital Costs

Description	Initial Capital (M$)	Sustaining Capital (M$)
Major Equipment	10.6	31.2
Support Equipment	8.4	13.3
Service Equipment	4.1	6.2
Total	**23.1**	**50.7**

21.3.6 Process Plant

Table 21-9 presents the initial capital cost estimate for the process plant. Initial capital costs include equipment as well as material and workforce for construction and installation.

The crushing plant includes the primary crushing equipment and crushed mineralized material storage. The concentrator facilities detailed in Table 21-10 include:

- Grinding circuit;
- Copper flotation;
- Nickel flotation;
- Concentrate dewatering;
- Tailings dewatering and pumping;
- Reagent systems;
- Plant utility systems;
- Process monitoring and control systems.

Table 21-9: Process Plant Initial Capital Costs

Description	Cost M$
Crushing Plant	12.9
Concentrator Facilities	104.2
Total	**117.0**

Table 21-10: Concentrator Facilities Initial Capital Costs

Description	Cost M$
Grinding	43.3
Copper Flotation	15.1
Nickel Flotation	11.6
Concentrate Dewatering	13.4
Tailings Dewatering and Pumping	8.4
Reagents	4.8
Plant Utility Systems	4.5
Plant Process Monitoring & Control Systems	3.0
Total	**104.2**

Equipment costs for the process plant are presented in Table 21-11. The costs listed include major equipment for which budgetary quotes were received and are listed in the equipment list as well as a factor applied for minor unlisted equipment. The process equipment list was organized by area with preliminary dimensions and cost values. The total installed costs for process plant equipment were estimated based on factors for each discipline obtained through benchmarking of projects of similar size and type. The factors applied are presented in Table 21-12.

Table 21-11: Process Plant Equipment Costs

Process Plant Area	Cost (M$)
Crushing and Crushed Mineralized Material Storage	6.2
Grinding	19.5
Copper Flotation	6.3
Nickel Flotation	4.8
Concentrate Dewatering	5.6
Tailings Dewatering and Pumping	3.5
Reagents	2.0
Plant Utility Systems	2.1
Plant Process Monitoring & Control Systems	2.5
Total	**52.6**

Table 21-12: Estimate Factors

Area	Factor
Civil	18%
Concrete	24%
Structural	20%
Architectural	3%
Piping	24%
Electrical	20%
Automation / Telecommunication	5%

21.3.7 Infrastructure Buildings

Initial capital costs related to the construction of site infrastructure are presented in Table 21-13.

Table 21-13: Infrastructure Capital Costs

Infrastructure Capital Costs	Cost (M$)
Administration Building	0.1
Truck/Maintenance Shop	0.3
Warehouse	0.1
Shops	0.1
Cafeteria	0.2
Construction/Operations Camp	0.3
Fuel Farm	0.4
Explosives Storage	0.1
Transmission Line, Substation and Electrical Infrastructure	25.0
Total	**26.7**

21.3.8 Tailings and Water Management Facilities

The capital cost to construct the Stage 1 TSF, tailings and water management infrastructure, freshwater diversion dam, WMP, and most surface water management components is accounted for in the initial capital costs, as Stage 1 would be completed during the pre-production period. Sustaining capital costs include raising TSF construction and constructing additional surface water management measures to align with the open pit and stockpile development.

Initial and sustaining capital costs tailings and water management are presented in Table 21-14.

Table 21-14: Initial and Sustaining Capital Costs – Tailings Management Facility

TMF Capital Costs	LOM Total (M$)	Initial Capital (M$)	Sustaining Capital (M$)
Engineering and Construction Management	1.2	-	1.2
Mobilization and Demobilization	1.6	0.9	0.7
Earthworks	17.9	6.3	11.6
Pumps, Pipework, Concrete Sumps and Appurtenances	22.1	21.5	0.6
Geotechnical Instrumentation	0.3	0.1	0.2
Total	**43.2**	**28.8**	**14.4**

21.3.9 Site Closure and Reclamation

The site closure and reclamation costs are presented in Table 21-15. These costs assume that the implementation of monitoring and closure measures will occur over a 5-year period. It is also assumed that water from the site will be discharged without treatment at the end of this 5-year period.

Table 21-15: Closure Costs

Closure Costs	Cost (M$)
Mobilization and Demobilization	0.8
Earthworks	26.1
Pipework and Appurtenances Removal	0.7
Monitoring	1.3
Concentrator Area	0.6
Total	**29.5**

21.3.10 Indirect Costs

The Indirect costs carried out in the initial capital cost estimate are summarized in Table 21-16. Indirect costs for sustaining capital are not considered.

Table 21-16: Indirect Costs Summary

Indirect Costs	Cost (M$)
Engineering, Procurement and Construction Management Services	30.9
Temporary Construction Facilities and Services	10.8
Freight	5.3
First fills	0.8
Capital Spares	1.5
Vendor Representation	0.8
Owner's Costs	10.8
Total	**60.8**

21.3.11 Contingency

Contingency is an integral part of the estimate and can best be described as an allowance for undefined items or cost elements that will be incurred, within the defined project scope, but that cannot be explicitly foreseen due to a lack of detailed or accurate information.

Contingency has been applied as a factor on direct and indirect initial and sustaining capital costs. No formal financial risk assessment was performed to estimate the contingency. Table 21-17 and Table 21-18 provide summaries of the contingency applied to the project costs.

The contingency analysis does not consider project risk, currency fluctuations, escalation beyond predicted rates, or costs due to potential scope changes or labour disruptions.

Table 21-17: Project Initial Capital Cost Contingency

Contingency	Factor (%)	Cost (M$)
Direct Costs	25	47.9
Mine Equipment	15	3.7
Indirect Costs	15	9.1
Total	**-**	**60.7**

Table 21-18: Project Sustaining Capital Cost Contingency

Contingency	Factor (%)	Cost (M$)
Mine Equipment	15	8.3
Tailings Management Facility	25	3.6
Closure [(1)]	25	7.2
Total	**-**	**19.2**

[(1)] Associated with the Tailings Storage Facility, Water Management Pond, and ditching.

21.4 Operating Costs

21.4.1 Summary of Results

This section summarizes the operating cost estimate developed for the project. Similar to the capital cost summary, the operating costs encompass the open pit mine, the process plant facility and the associated mine site infrastructure. In addition to the on-site operating costs, off-site costs such as treatment and refining charges, royalties payable and transportation costs to deliver the laterite mineralized material as well as the concentrates to the San-Pédro Port, Côte d'Ivoire (approx. 450 km from site) are included.

The total operating costs are based on:

- Sipilou Sud laterite contract mining operation commences in Year -2;
- Main pit mining and process plant operations commences in Year 01;
- Extension and Grata pit mining operations commences in Year 04;
- Total milled tonnage over the LOM is 86.5 Mt, while the total direct shipping laterite mined over the 3-year life of mine is 1.6 Mt.

The operating costs of the site are presented in Table 21-19. The total site operating costs are estimated to be $2,051M over the LOM, with the open pit mines and process plant costs approximately $1,530M. Mining and mill processing costs represent 31% and 44% of this total cost respectively. Mine services and G&A, royalties, and off-site operating costs represent the remaining 25%. Further breakdowns of each item are provided in the following sections.

Table 21-19: Project All-in Operating Costs

Project All-in Operating Costs	LOM Total (M$)	Unit Cost ($/t milled)	Percentage of Total
Operating Costs On-site			
Open Pit Mining	631	7.29	31%
Milling and Processing	899	10.40	44%
Tailings and Water Management	60	0.69	3%
G&A	112	1.30	5%
Royalties	93	1.08	5%
Total Operating Costs On-site	**1,796**	**20.76**	**88%**
Operating Costs Off-site			
Refining	39	0.45	2%
Treatment	65	0.75	3%
Freight/Transport	152	1.75	7%
Total Operating Costs Off-site	**255**	**2.95**	**12%**
Total Operating Costs (on-site + off-site)	**2,051**	**23.71**	**100%**

21.4.2 Major Assumptions

- A diesel price of $1.19 per litre was considered.
- Electricity price of $0.12 per kWh was used.
- The mine labour is based on operating crews on a 14-day on 14 days off rotation.
- Expats are being considered for key positions on site.
- Labour requirements were estimated to support the mine site developed in this study. The labour rates were determined by benchmarking similar positions with BBA's database of projects and experience in similar projects.
- All salaries and wages estimated include the entire labour burden (e.g., benefits, insurance, etc.) as well as allowances for overtime and bonus.
- Salaries exclude fly-in fly-out ("FIFO") and accommodation costs, which are included in the G&A.

21.4.3 Major Exclusions

The following items are not considered as operating costs:

- Contingency;
- Escalation;
- Depreciation;
- Amortization;
- Exhaustion.

21.4.4 Open Pit Mine

Mining operating costs have been developed based on the mining plan for the project. Mining operating costs are built up from first principles based on operating the mining equipment, the labour associated with operating the mine, the cost for explosives, as well as pit dewatering, road maintenance, material rehandling, and other miscellaneous activities.

Inputs are derived from experience, historical data on similar projects, as well as original equipment manufacturer ("OEM") budgetary quote information. OEM budgetary information is based on Q4 2023. Equipment cost includes fuel, lubes, fluids, tires, undercarriage, ground engaging tools ("GET"), machine parts and major components.

Total open pit mining operating costs over the 16.1-year mine life are estimated to be $631M, averaging $2.58/t of material mined ($7.29/t of mill feed). A breakdown of the LOM operating costs related to the open pit mining activities is presented in Table 21-20.

Table 21-20: Open Pit Mine Operating Costs

Open Pit Mining Cost Summary	LOM Total (M$)	Unit Cost ($/tonne mined)	Percentage of Total
Drilling & Blasting	132	0.54	21%
Loading	48	0.20	8%
Hauling	206	0.84	33%
Support Equipment	92	0.38	15%
Service Equipment	31	0.13	5%
Labour	100	0.41	16%
Mine G&A Expenses	21	0.09	3%
Total	**631**	**2.58**	**100%**

Equipment Fuel

Diesel fuel is used to operate mine trucks, excavators, loaders, drills, dozers, and other mine equipment. Fuel consumption was estimated for each year of operation based on equipment specifications and equipment utilization. The price of diesel fuel is assumed to be $1.19/L.

Stockpile Reclaim

Over the life of the open pit mine operation, a ROM stockpile is accumulated in the vicinity of the primary crusher. The purpose of the stockpile is to defer low-grade material and to have material available if mill feed is not available from the pits. The material will be reclaimed by front-end loader and trammed to the crusher.

Blasting Cost

An emulsion cost of $1.20/kg was used, which is based on budgetary pricing from local explosives suppliers. Suppliers have also provided pricing for explosives accessories such as detonators, boosters, connectors, etc.

Mine General and Miscellaneous Costs

This item includes allowances for costs of items such as technical services consulting, specialized mining software, equipment rental, mineralized material grade control, and pit dewatering.

21.4.4.1 Laterite Direct Shipping Operating Costs

Mining operations will be outsourced to a mining contractor for the Sipilou Sud laterites pits. The following are the basis used for contract mining operating cost estimate according to data received from similar mining operations close to the site:

- Mining cost of $2.00/wmt for waste material;
- Direct shipping laterite loading cost of $0.50/wmt;
- Direct shipping laterite transportation and port costs of $29.00/wmt;

Table 21-21 presents a summary of the Sipilou Sud laterite mine operating cost.

Table 21-21: Sipilou Sud Laterite Operating Costs

Open Pit Mining Cost Summary	LOM Total (M$)	Unit Cost ($/wmt DSO)	Unit Cost ($/wmt mined)
Laterite Direct Shipping Costs	62	38.4	7.1

21.4.5 Process Plant

Table 21-22 presents a summary of the life of mine operating costs of the process plant. The costs presented include the following:

- Labour, including local workforce and expats where expertise is required;
- Material handling;
- Reagents for the nickel concentrator and copper concentrator.

Table 21-22: Mill and Process Plant Operating Costs

Process Plant Operating Costs	LOM Total (M$)	Unit Cost ($/tonne milled)	Percentage of Total
Labour	79	0.91	9%
Electrical Power	355	4.11	40%
Grinding Media	111	1.28	12%
Reagent Consumption	198	2.29	22%
Maintenance Consumables and Spare Parts	131	1.51	15%
Process Plant Equipment Rental	25	0.29	3%
Total	**899**	**10.40**	**100%**

Plant Equipment Maintenance

Maintenance consumables and spare parts estimate is assumed to be 20% of the total equipment capital cost per year.

Reagents, Grinding Media & Liners

A process consumables list was created and includes various reagents sourced from vendors, such as SAG Media (125 mm), Ball Mill steel balls (63.5 mm), and Regrind Mill steel balls (25.4 mm) for grinding media. Additionally, included are reagents like pH modifier (lime - CaO), Ni depressant (sodium sulphite - Na_2SO_3), Ni depressant (diethylenetriamine - DETA), and others.

Reagent unit costs are based on the North American supply and its Montreal-based ports and does not include freight costs; however, it is assumed that the reagent price will be similar to Africa.

Material Handling

An operating estimate for the equipment required for material handling in the plant was prepared using in-house database. The material handling equipment includes wheel loaders, skid steer loader and forklifts.

21.4.6 Tailings and Water Management Facilities

The operating costs for tailings and water management facilities are summarized in Table 21-23. These operating costs include the following items:

- Power costs for pumping tailings and water;
- Power to run the seepage and runoff collection pump systems;
- Labour;
- Annual inspections and periodic Dam Safety Reviews.

Table 21-23: Tailings Management Facility Operating Costs

TMF Operating Costs	LOM Total (M$)	Unit Cost ($/tonne milled)	Percentage of Total
Pumping	25	0.29	42%
TSF	35	0.40	58%
Total	**60**	**0.69**	**100%**

21.4.7 General & Administrative and Site Services

General & Administrative ("G&A") costs are expenses not directly related to the production of concentrate and include expense items that are not covered in mining, milling/processing, and transportation costs. The site services costs over the LOM are estimated to average $1.30/t milled.

The G&A and site services costs have allowances for items such as, but not limited to:

- G&A labour;
- G&A expenses:
  - Communications/IT/computers/cybersecurity;
  - Medical and first aid supplies;
  - Office supplies;
  - Freight;
  - Insurance;
  - Memberships, audits, recruitment, legal;
  - Access roads maintenance;
  - Mobile vehicles;
  - Agreement payments;
  - Consultants and equipment rental.

- Site services:
  - Power and heating costs not included in the concentrator plant facility;
  - Water treatment for potable water system, domestic water system, and site effluent treatment system;
  - Surface water pumping.
- Employee accommodations and crew rotation expenses.

21.4.8 Working Capital

The working capital for the project has deferred revenue and payment periods of 40 days and 60 days respectively. The amount of unearned revenue includes both a "cost of delivery" component and an "operating profit" component. The project is therefore at a zero-working capital cost as all liabilities are paid by the revenues.

21.4.9 Salvage Value

The salvage value is factored at 5% of the process plant equipment initial capital, 2% of the infrastructure equipment initial capital, and 5% of the mining equipment sustaining capital after Year 10. The salvage value is $6.8M for the equipment assets after the life of the operation.

22. Economic Analysis

22.1 Overview

The economic/financial assessment of the Samapleu and Grata Deposits Project was carried out using a discounted cash flow approach on a pre-tax and post-tax basis, with laterite DSO, nickel concentrate and copper concentrate prices. The product sales prices and the cost estimates are in United States dollars (USD or $) unless otherwise stated. No provision was made for the effects of inflation.

The internal rate of return ("IRR") on total investment was calculated based on 100% equity financing. The net present value ("NPV") was calculated from the cash flow generated by the project, based on a discount rate of 8%. The payback period, based on the undiscounted annual cash flow of the project, is also indicated as a financial measure. The payback period starts after the initial capital is spent to start laterite DSO production. Furthermore, a sensitivity analysis was performed for the pre-tax base case to assess the impact of variations in commodity prices, operating costs, initial capital costs, and sustaining costs on NPV and IRR.

Tax rates were provided through a signed letter from SNC and added to the financial analysis. The QP is not a tax expert and is relying on other experts to complete the tax analysis model, as disclosed in Chapter 3.

22.2 Cautionary Statement

Certain information and statements contained in this section and in the report are "forward-looking" in nature. Forward-looking statements include, but are not limited to, statements with respect to the economic and study parameters of the project; mineral resource estimates, mineral reserve estimates; the cost and timing of any development of the project; the proposed mine plan and mining methods; dilution and extraction recoveries; processing method and rates and production rates; projected metallurgical recovery rates; infrastructure requirements; capital, operating and sustaining cost estimates; the projected life of mine and other expected attributes of the project; the NPV and IRR and payback period of capital; working capital; future metal prices; the timing of the environmental assessment process; changes to the project configuration that may be requested as a result of stakeholder or government input; government regulations and permitting timelines; estimates of reclamation obligations; requirements for additional capital; environmental risks; and general business and economic conditions.

All forward-looking statements in this report are necessarily based on opinions and estimates made as of the date such statements are made and are subject to important risk factors and uncertainties, many of which cannot be controlled or predicted.

22.3 General Assumptions

General assumptions regarding the economic analysis disclosed in this report, where applicable. In addition to, and subject to, such specific assumptions discussed in more detail elsewhere in this report, the economic analysis is subject to the following assumptions:

- There being no significant disruptions affecting the development and operation of the project.
- The availability of certain consumables and services and the prices for power and other key supplies are approximately consistent with the report's assumptions.
- Labour and material costs are approximately consistent with assumptions in the report.
- The timelines for prior consultation and baseline data collection are generally consistent with assumptions, and permitting and arrangements with stakeholders are consistent with current expectations as outlined in the report.
- All environmental approvals, required permits, licenses and authorizations will be obtained from the relevant governments and other relevant stakeholders.
- The project has been evaluated on a pre-tax and post-tax basis. It must be noted that there are many potential complex factors that affect the taxation of a mining project. The taxes, depletion, and depreciation calculations in the PEA economic analysis are simplified and are intended only to give a general indication of the potential tax implications; like the rest of the PEA economics, they are only preliminary.
- The timelines for development activities on the project are assumed to be 2 years.
- The Mineral Resource Estimate and the financial analysis based on that estimate include assumptions made regarding geological interpretation, grades, commodity price assumptions, extraction and mining recovery rates, geotechnical, hydrological, and hydrogeological assumptions, capital and operating cost estimates, and general marketing, political, business, and economic conditions.
- The production schedules and financial analysis annualized cash flow tables are presented, and conceptual years are shown. The years shown in these tables are for illustrative purposes only. If additional mining, technical, and engineering studies are conducted, these may alter the project assumptions discussed in this report and may result in changes to the calendar timelines.
- Discounting begins in Year -2, using a mid-year discounting approach.

- Tonnes of concentrate are in dry tonnes.
- Open-pit mining production begins in Year -1, to generate waste material for construction. Milling of sulphide material starts in Q1 of Year 01.
- The base case prices used for the project are shown in Table 22-1.

Table 22-1: Commodity Prices (USD)

Commodity Prices	Unit	Price
Ni Price Assumption	$/lb	8.83
Cu Price Assumption	$/lb	3.99
Co Price Assumption	$/lb	22.62
Pt Price Assumption	$/oz	1,146
Pd Price Assumption	$/oz	1,218
Au Price Assumption	$/oz	1,700
Laterite Direct Shipping Price Assumption	$/wmt	45

- All cost estimates are in constant Q1 2024 United States dollars with no inflation or escalation factors taken into account.
- Class specific capital cost allowance rates are used to determine the allowable taxable income was performed by a third-party accounting firm.
- Final rehabilitation and closure costs are started in Year 17, at the end of site operations.
- Project revenue is derived from the sale of laterite DSO, nickel concentrate and copper concentrate.
- Exploration costs for growth are excluded from the economic assessment.
- Royalties are considered in the financial analysis.
- All projects related payments and reimbursements incurred prior to Year -2 are considered sunk costs, and not included in the economic analysis.

This financial analysis was performed on both the pre-tax and post-tax basis. Table 22-2 shows the key parameters and assumptions basis used in the project.

Table 22-2: Summary of Parameters and Assumptions Basis

Parameters	Unit	Value
Physicals		
Life of Mine	year	16.1
Processing Rate	t/y	5,475,000
	t/d	15,000
Ni Concentrate	t	887,414
Cu Concentrate	t	621,888
Discount Rate		
Discount Rate	%	8
Recovery		
LOM Ni Recovery	%	53.0
LOM Cu Recovery	%	85.5
LOM Co Recovery	%	44.8
LOM Pt Recovery	%	54.0
LOM Pd Recovery	%	50.3
LOM Au Recovery	%	51.0

22.4 Production

The project is expected to produce 86.5 Mt of mill feed. With this mill feed, 0.89 Mt of Nickel concentrate and 0.62 Mt of Copper concentrate can be economically produced. Concentrate production will begin in Year 01 of the project and continue to the life of mine. The average annual nickel concentrate production is 55.0 t, the average annual copper concentrate production is 38.6 t.

In addition to the concentrates, 1.62 M wmt of laterite material will be produced and shipped directly to the port from the mine. This laterite production will begin at the onset of the project (Year -2 to Year 1) over a 3-year period. The laterite production costs and revenues are separate from the sulphide production costs and revenues.

A summary of this information and additional production factors is provided in Table 22-3.

Table 22-3: Concentrate and Direct Shipping Laterite Production Data

Parameters	Unit	Value
Pre-production Mined Tonnage	Mt	5.7
Total Mined Tonnage (including pre-production) from Open Pit Mining	Mt	244.3
Total Milled Tonnage from Open Pit Mining	Mt	86.5
Overall Mined Strip Ratio	t:t	1.8
Average Annual Ni Concentrate Production	t/y	55,119
Average Annual Cu Concentrate Production	t/y	38,627
Average Annual Payable Ni	t/y	5,732
Average Annual Payable Cu	t/y	9,319
Average LOM Mill Feed Grade	% Ni	0.25
	% Cu	0.24
	% Co	0.02
	g/t Pt	0.10
	g/t Pd	0.31
	g/t Au	0.04
Direct Shipping Laterite	wmt	1,620,000
Direct Shipping Laterite Mined Strip Ratio	t:t	4.4
Direct Shipping Laterite Ni Grade	%	1.8

Figure 22-1 and Figure 22-2 present the annual nickel and copper concentrate production and DSO laterite, respectively.

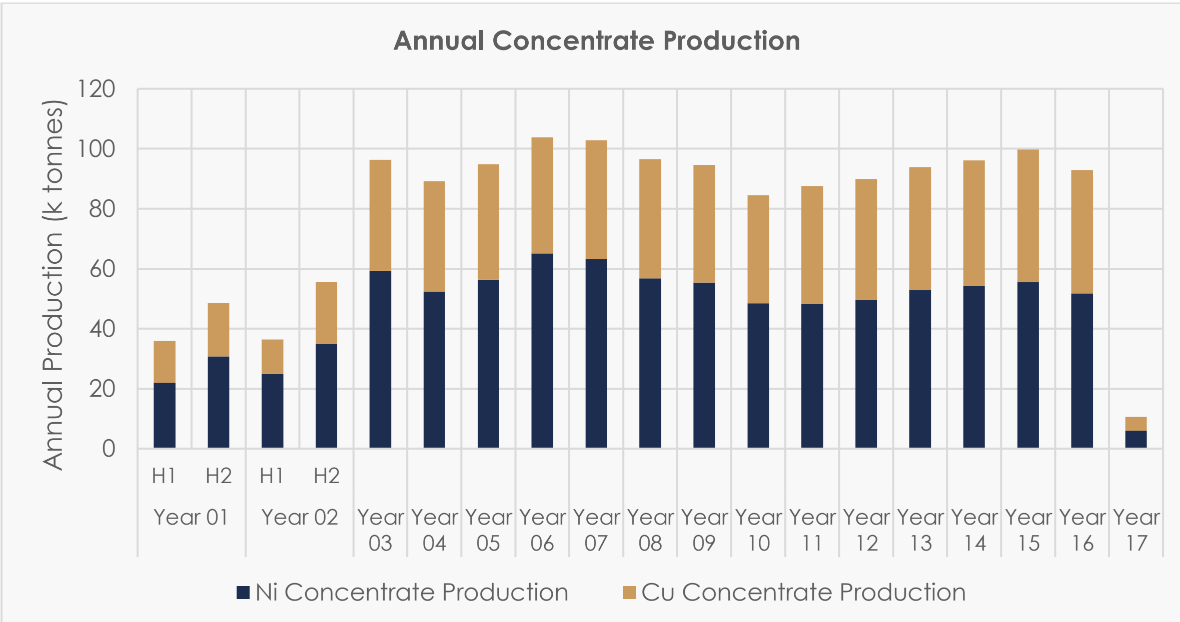


Figure 22-1: Annual Nickel Concentrate Production

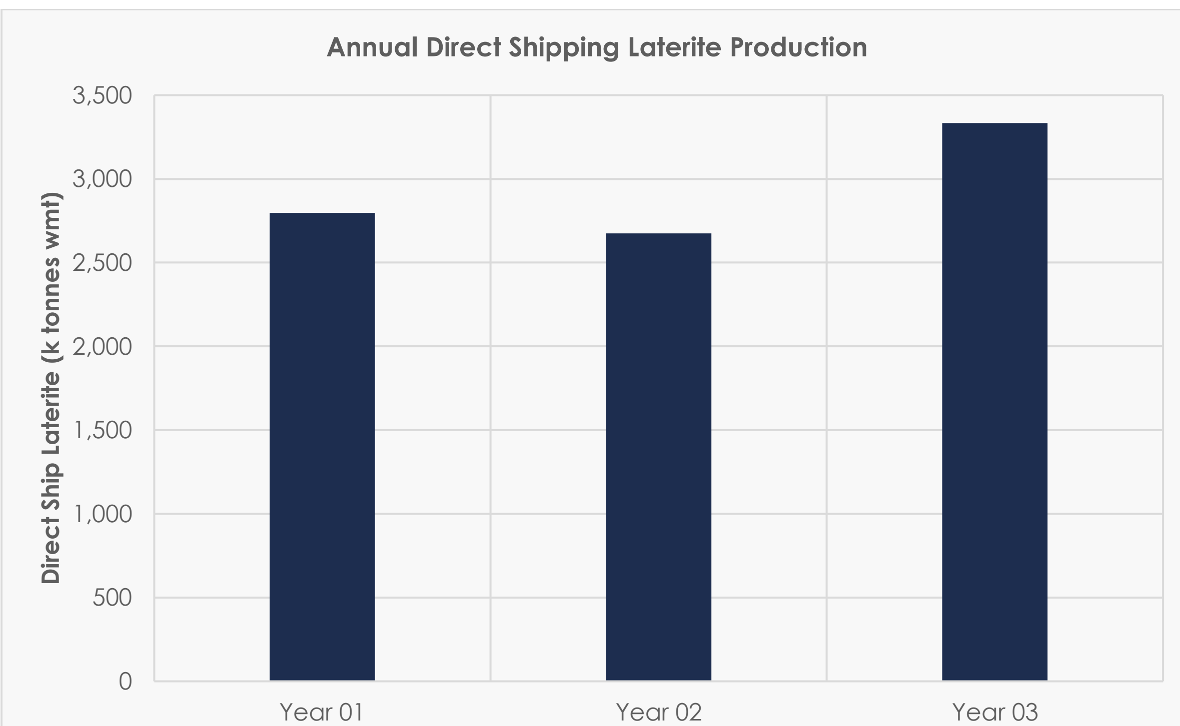


Figure 22-2: Annual Direct Shipping Laterite Production

22.5 Initial and Sustaining Capital Costs

The capital costs are allocated as initial capital (pre-production), sustaining capital, and closure and reclamation costs. The initial capital includes site infrastructure, mining equipment, process plant, and TMF developed during the construction of the project. The sustaining capital includes the mine mobile equipment purchases, replacement and overhauls, site upgrades, and TMF expansion to maintain the operation of the project. Reclamation and closure include the costs to close and reclaim the project site and include the revenue from the salvage of major equipment. Table 22-4 shows the capital expenditures summary.

Table 22-4: Capital Expenditures Summary

Capital Costs	Value (M$)
Initial Capital, Direct Costs Estimate	216.4
Initial Capital Indirect Costs and Contingency	121.5
Total Initial Capital Costs	**337.9**
LOM Sustaining Capital	70.0
LOM Sustaining Capital, Indirect Costs and Contingency	19.2
Total LOM Sustaining Capital	**89.2**
Reclamation and Closure Costs	22.7
LOM Total Capital	**449.8**

No initial or sustaining capital costs are applied against the laterite material as this site is contractor-operated.

The following contingency basis was applied:

- 15% on mining equipment;
- 25% on all other direct costs;
- 15% on indirect costs.

The initial capital spend is in Year -1 and Year -2. Details of the capital costs are provided in Chapter 21. All capital costs (pre-production, sustaining, reclamation and closure) for the project are distributed against the development schedule to support the economic cash flow model.

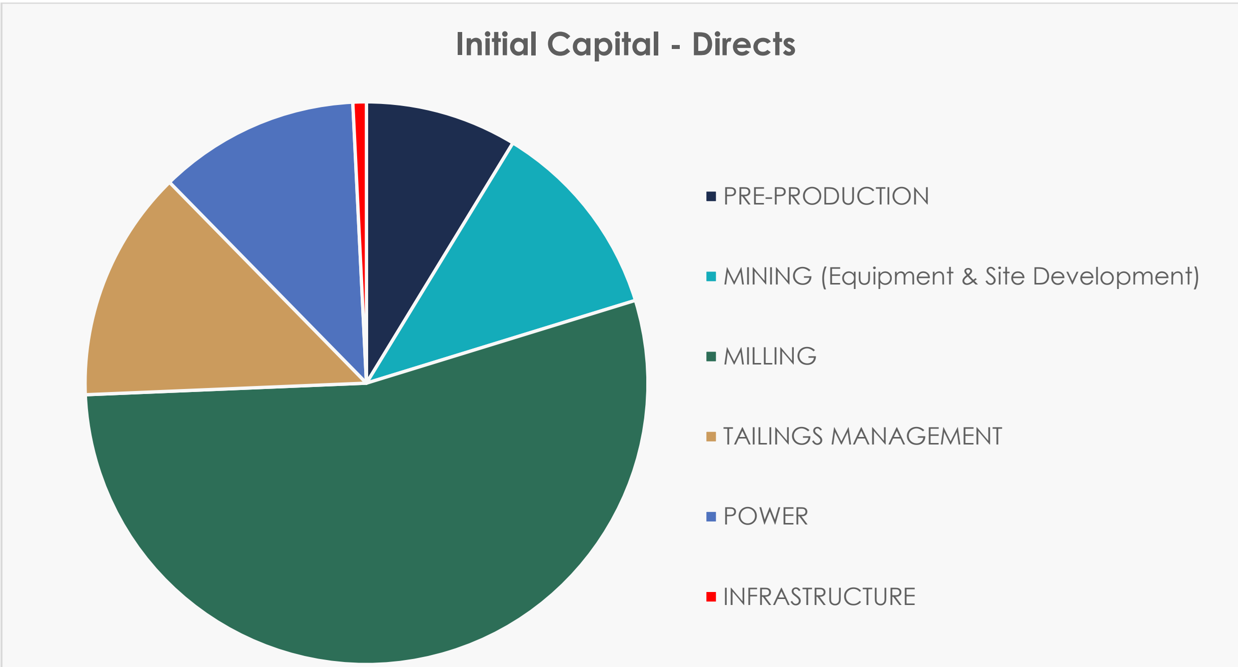


Figure 22-3: Initial Capital Costs Distribution

The capital intensity summary presented in Table 22-5 represents the dollar per tonne of total concentrate (nickel + copper) produced on the project.

Table 22-5: Capital Intensity

Capital Intensity	Unit	Value
Initial Capital Intensity	$ / tonne conc. [Ni + Cu]	223.90
Sustaining Capital Intensity	$ / tonne conc. [Ni + Cu]	74.20

22.6 Working Capital

The working capital for the project is represented by deferring revenue and payments based on estimate accounts receivable and accounts payable. The amount of unearned revenue includes both a "cost of delivery" component and an "operating profit" component. The change of working capital on an annual basis is the cash required by the operation to services the operating debts. The change in working capital over the life of the project is zero.

Table 22-6 provides the basis applied for the estimate of the working capital.

Table 22-6: Criteria for the Estimate of Working Capital

Description	Days	Notes
Calendar days per year	365	
Days in accounts receivable	51	This period considers the ship-out of material every three weeks. The invoice is sent with the shipment. Payment is received 30 calendar days after invoice submission.
Days of cost of good sold in inventory	15	Two weeks of consumable inventory stored on site.
Days in accounts payable	60	SNC will pay invoices 60 days after receipt.

22.7 Salvage Value

The salvage value is factored at 5% of the mine and process plant equipment. Additionally, 2% of the infrastructure equipment is factored into the salvage value. The total salvage value was estimated at $6.8M for the equipment assets after the life of the operation. The salvage value factor was determined from experiences of peers and common industry practice.

22.8 Royalties

Royalty payments are considered in the financial analysis based on the following factors:

- No royalties for DSO laterite;
- 2.5% royalty on nickel and copper concentrates;
- 1% royalty on 90% of the revenues from the Grata deposit;
- 1% royalty on 60% of the revenues from the Samapleu deposits.

22.9 Taxation

A Tax Advice Report (Sama Resources - *Rapport de Mission d'avis Fiscal*) was commissioned by SNC and provided by Cabinet Icosas on February 22, 2024 (the "Tax Advice Report") (Cabinet Icosas, 2024). The following are the adjustments provided by Sama Resources Inc. dated March 1, 2024 that clarify the Tax Advice Report:

- Government Carried Free Interest & Royalties – The assumption is that the revenue from the 10% government carry-free interest revenue will be imposed after the payback period, i.e. starting on Year 04. Same will apply to the 2.5% mineral royalties. These assumptions are based on discussions with the Director General of Mines in 2019 and will be discussed/ negotiated in the future Mining Convention.
- Income Tax - According to Mining Code 2014 Article 169e, a tax break for 5 years is stipulated. The article 169e was then modified in 2018 with a tax holiday of 75% in Year 01 and 50% in Year 02. The 2014 Mining Code is still valid (saying that three is a 5-year holiday) and has not been modified even though ordonnance was issued in 2018.

  As a summary – The income tax rate will be assumed at 6.25% in Year 01 of production, 12.5% in Year 02 and 25% afterwards.
- Surface Tax – Flat rate $3.33 per hectare of surface occupied by project.

In addition to the above, the Mining Code Articles 166 to 169 stipulates that Sama Resources Inc. is exonerated of all TVA and importation duties on imported goods. Therefore, none should be applied in the financial model.

A summary of the taxes payable over the life of mine is presented in Table 22-7.

Table 22-7: Summary of Taxes

Taxes Payable	Unit	Value
Income Taxes	M$	319.9
CI Government Carried Interest	M$	88.8
Surface Tax	M$	0.6
Total Taxes Payable	**M$**	**409.3**

22.10 Financial Analysis Summary

An 8% discount rate was applied to the cash flow to derive the NPV for the project on a pre-tax and post-tax basis. Cash flows have been discounted starting in Year -2 with a mid-year discount under the assumption that major project financing would be carried out at this time. The summary of the financial evaluation for the project's base case is presented in Table 22-8.

The pre-tax base case financial model results in an internal rate of return of 28.2% and a net present value of $463M with a discount rate of 8%. The simple pre-tax payback period is 3.3 years. On a post-tax basis, the base case financial model results in an IRR of 21.9% and an NPV of $277M with a discount rate of 8%. The simple post-tax payback period is 3.9 years.

Table 22-8: Financial Analysis Summary

Parameters	Unit	Value
Pre-tax NPV 8%	M$	463
Pre-tax IRR	%	28.2
Pre-tax Payback	year	3.3
Post-tax NPV 8%	M$	277
Post-tax IRR	%	21.9
Post-tax Payback	year	3.9
Pre-tax Unlevered Free Cash Flow	M$	1,189
Post-tax Unlevered Free Cash Flow	M$	779
LOM Direct Income and Mining Taxes	M$	409

The summary of the project discounted cash flow financial model (pre-tax and post-tax) is presented in Table 22-9 and Figure 22-4.

Table 22-9: Financial Model Summary

	LOM		Pre-production		Production																Closure				
	Total	Unit	Y-2	Y-1	Y01	Y02	Y03	Y04	Y05	Y06	Y07	Y08	Y09	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19	Y20	Y21
Mill feed production tonnage	**86.5**	Mt	-	-	4.45	5.47	5.48	5.48	5.48	5.48	5.48	5.48	5.48	5.48	5.48	5.48	5.48	5.48	5.48	4.97	0.43	-	-	-	-
Ni Concentrate	**887,414**	t	-	-	52,714	59,761	59,343	52,403	56,315	65,053	63,288	56,729	55,387	48,467	48,174	49,455	52,837	54,262	55,433	51,774	6,020	-	-	-	-
Cu Concentrate	**621,888**	t	-	-	31,742	32,179	37,018	36,725	38,517	38,706	39,480	39,751	39,221	35,955	39,380	40,434	41,046	41,806	44,284	41,091	4,552	-	-	-	-
Direct Shipping Laterite	**1.6**	M wmt	0.55	0.52	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Assumptions																									
Ni Price		$/lb	8.83	8.83	8.83	8.83	8.83	8.83	8.83	8.83	8.83	8.83	8.83	8.83	8.83	8.83	8.83	8.83	8.83	8.83	8.83				
Cu Price		$/lb	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99	3.99				
Co Price		$/lb	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62				
Pt Price		$/oz	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146				
Pd Price		$/oz	1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218				
Au Price		$/oz	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700				
Gross Revenue	**3,752**	**M$**	**24.6**	**23.6**	**228.5**	**227.2**	**240.1**	**219.9**	**234.5**	**258.8**	**257.9**	**237.6**	**229.2**	**204.3**	**213.4**	**217.2**	**224.9**	**229.2**	**238.9**	**218.0**	**23.9**	**-**	**-**	**-**	**-**
Selling Costs & Royalties	**349**	M$	-	-	13.8	14.7	15.9	21.9	23.1	24.7	24.7	23.7	23.2	20.9	22.1	22.6	23.3	23.8	24.9	22.9	2.6	-	-	-	-
Operating Costs	**1,764**	M$	20.6	19.8	102.5	102.6	105.0	104.7	107.9	114.5	115.5	112.4	112.7	113.2	111.0	109.8	105.7	102.3	101.4	88.3	14.4	-	-	-	-
Sustaining Capital Costs	**93**	M$	-	-	6.1	10.1	4.3	1.6	8.2	5.5	1.1	5.7	3.0	8.0	8.8	3.8	0.9	-	3.0	-					
Initial Capital Costs	**216**	M$	28.4	188.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reclamation & Closure Costs	**0**	M$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(1.0)	5.9	5.9	5.9	5.9
Indirect Capital Costs	**61**	M$	9.1	51.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Contingency	**80**	M$	8.2	52.5	1.0	1.6	0.7	0.3	1.3	0.8	0.2	1.2	0.7	1.5	1.3	0.6	0.1	-	0.7	-	1.4	1.4	1.4	1.4	1.4
Change in Working Capital	**0**	M$	0.3	(0.2)	11.0	(0.3)	1.0	(3.0)	1.1	1.7	(0.2)	(1.8)	(0.9)	(2.6)	1.1	0.5	1.3	0.8	1.1	(0.5)	(10.1)	(0.6)	-	-	-
Taxes	**404**	M$	-	-	0.0	10.6	25.0	19.2	27.4	34.1	35.2	28.5	26.7	17.6	21.9	25.1	29.6	32.3	34.3	33.6	2.5	-	-	-	-
Cash flow results																									
Pre-tax cash flow	**1,189**	M$	**(42.1)**	**(288.2)**	**94.2**	**98.5**	**113.2**	**94.4**	**92.8**	**111.5**	**116.7**	**96.4**	**90.4**	**63.2**	**69.1**	**79.9**	**93.5**	**102.3**	**107.9**	**107.2**	**16.7**	**(6.8)**	**(7.4)**	**(7.4)**	**(7.4)**
Cumulative Pre-tax Cash Flow		M$	(42.1)	(330.3)	(236.1)	(137.6)	(24.5)	69.9	162.7	274.2	390.9	487.3	577.8	641.0	710.1	789.9	883.5	985.8	1,093.7	1,200.9	1,217.6	1,210.8	1,203.4	1,196.0	1,188.6
Post-tax cash flow	**779**	M$	**(42.1)**	**(288.2)**	**88.4**	**87.8**	**88.2**	**75.2**	**65.5**	**77.4**	**81.5**	**67.9**	**63.8**	**45.6**	**47.2**	**54.8**	**63.9**	**70.0**	**73.6**	**73.6**	**14.1**	**(6.8)**	**(7.4)**	**(7.4)**	**(7.4)**
Cumulative Post-tax Cash Flow		M$	(42.1)	(330.3)	(241.8)	(154.0)	(65.8)	9.3	74.8	152.2	233.7	301.6	365.3	410.9	458.1	512.9	576.9	646.9	720.4	794.0	808.2	801.4	794.0	786.6	779.2

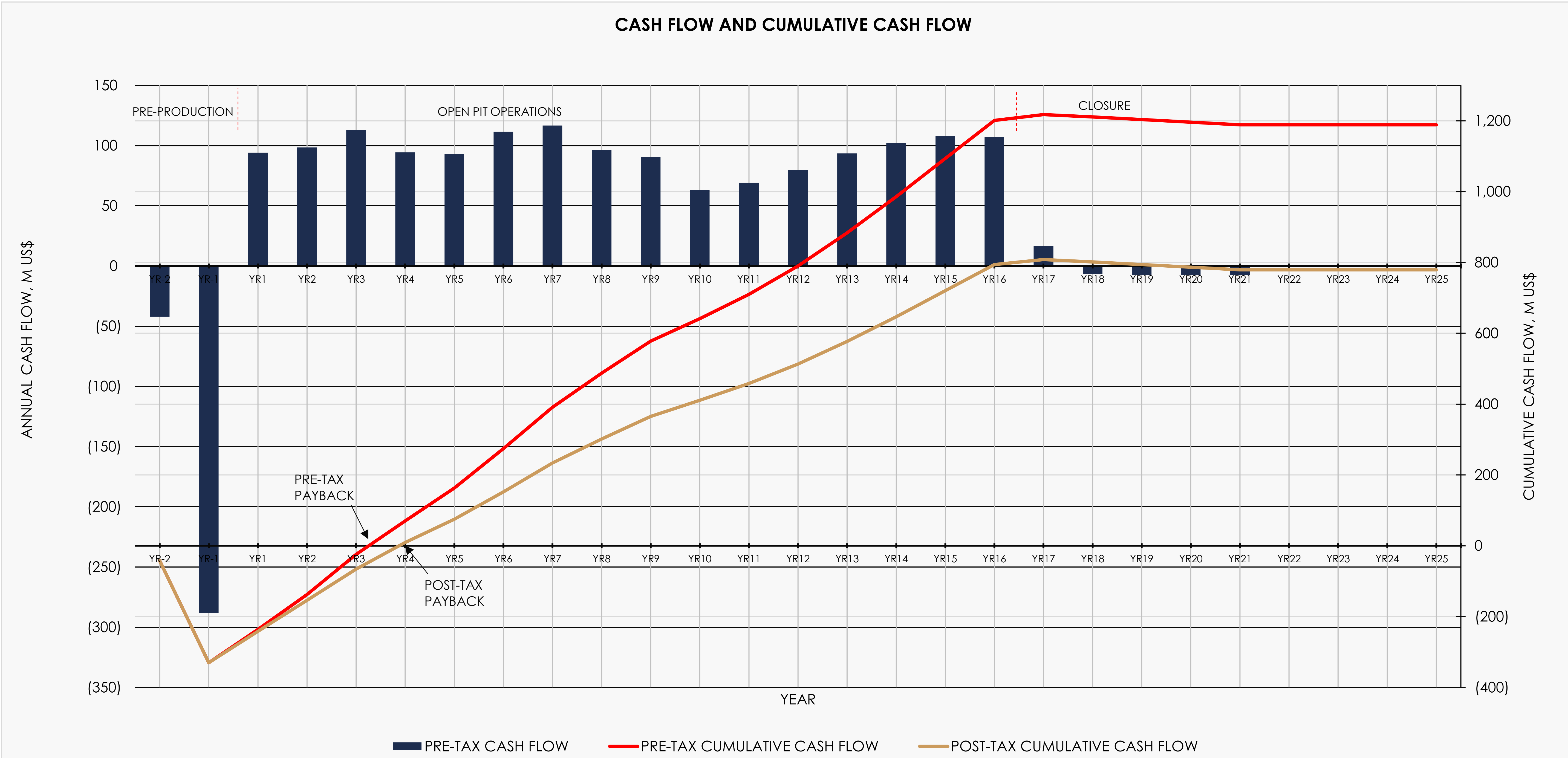


Figure 22-4: Project Cash Flow Summary

22.11 Production Costs

The production costs for the LOM are presented in Table 22-10. The all-in sustaining cost ("AISC") includes on-site operating costs, off-site operating costs, sustaining CAPEX, and closure cost. The AISC is estimated to be $4.05/lb [Cu+Ni] payable before the by-product credit of $1.05/lb [Cu+Ni]. The by-product credits include the saleable cobalt, gold, and silver in each of the concentrates. The AISC net by-product credit is $3.00/lb [Cu+Ni].

The AISC before by-product credits based on nickel and copper co-products is $6.13/lb Ni and $2.77/lb Cu. The AISC net by-product credits is $4.34/lb Ni and $2.17/lb Cu.

Table 22-10: Project All-in Operating and Sustaining Costs

Project All-in Operating & Sustaining Costs	LOM Total M$	$/lb [Cu + Ni] Payable	$/lb Ni Co-Product Payable	$/lb Cu Co-Product Payable
Operating Costs On-site				
Open Pit Mining	631	1.18	1.79	0.81
Milling and Processing	899	1.68	2.55	1.15
Tailings and Water Management	60	0.11	0.17	0.08
G&A	112	0.21	0.32	0.14
Royalties	93	0.17	0.26	0.12
Total Operating Costs On-site	**1,796**	**3.36**	5.09	2.30
Operating Costs Off-site				
Refining	39	0.12	0.11	0.05
Treatment	65	0.07	0.19	0.08
Freight/Transport	152	0.28	0.43	0.19
Total Operating Costs Off-site	**255**	**0.48**	**0.72**	**0.33**
Total Operating Costs (on-site + off-site)	**2,051**	**3.84**	**5.81**	**2.63**
Sustaining and Closure Costs				
Sustaining Capital	70	0.13	0.20	0.09
Reclamation and Closure	23	0.04	0.06	0.03
Sustaining Contingency	19	0.04	0.05	0.02
Total Sustaining and Closure Costs	**112**	**0.21**	**0.32**	**0.14**
AISC Cost (before by-product credits)	**2,163**	**4.05**	**6.13**	**2.77**
By-products Credits	**562**	**1.05**	**1.78**	**0.60**
AISC Cost (net of by-product credits)	**1,601**	**3.00**	**4.34**	**2.17**

Note: Does not include costs related to the direct shipping laterite production.

A visual representation of the distribution of the operating costs is provided in Figure 22-5.

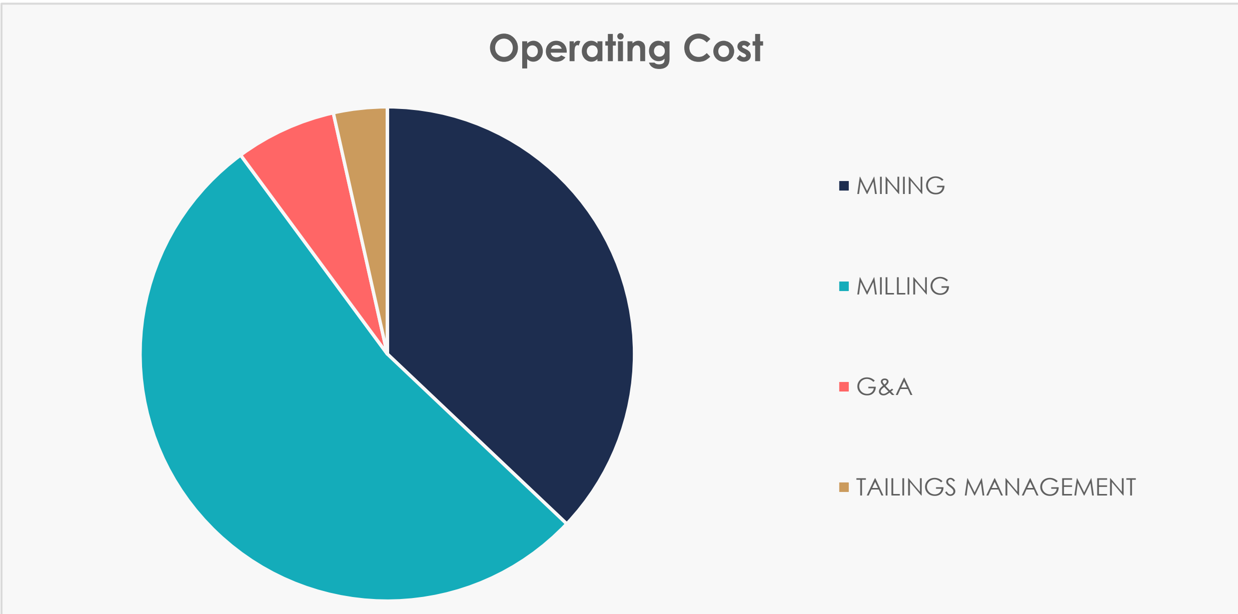


Figure 22-5: Operating Costs Distribution

22.12 Value Drivers

The project value drivers graphically show the value of project areas and high-spending areas that can be reviewed for further study and optimization. The project value shows that besides the initial capital, the mining and milling costs and the taxes are the key drivers of the project. Figure 22-6 shows the value drivers for the project.

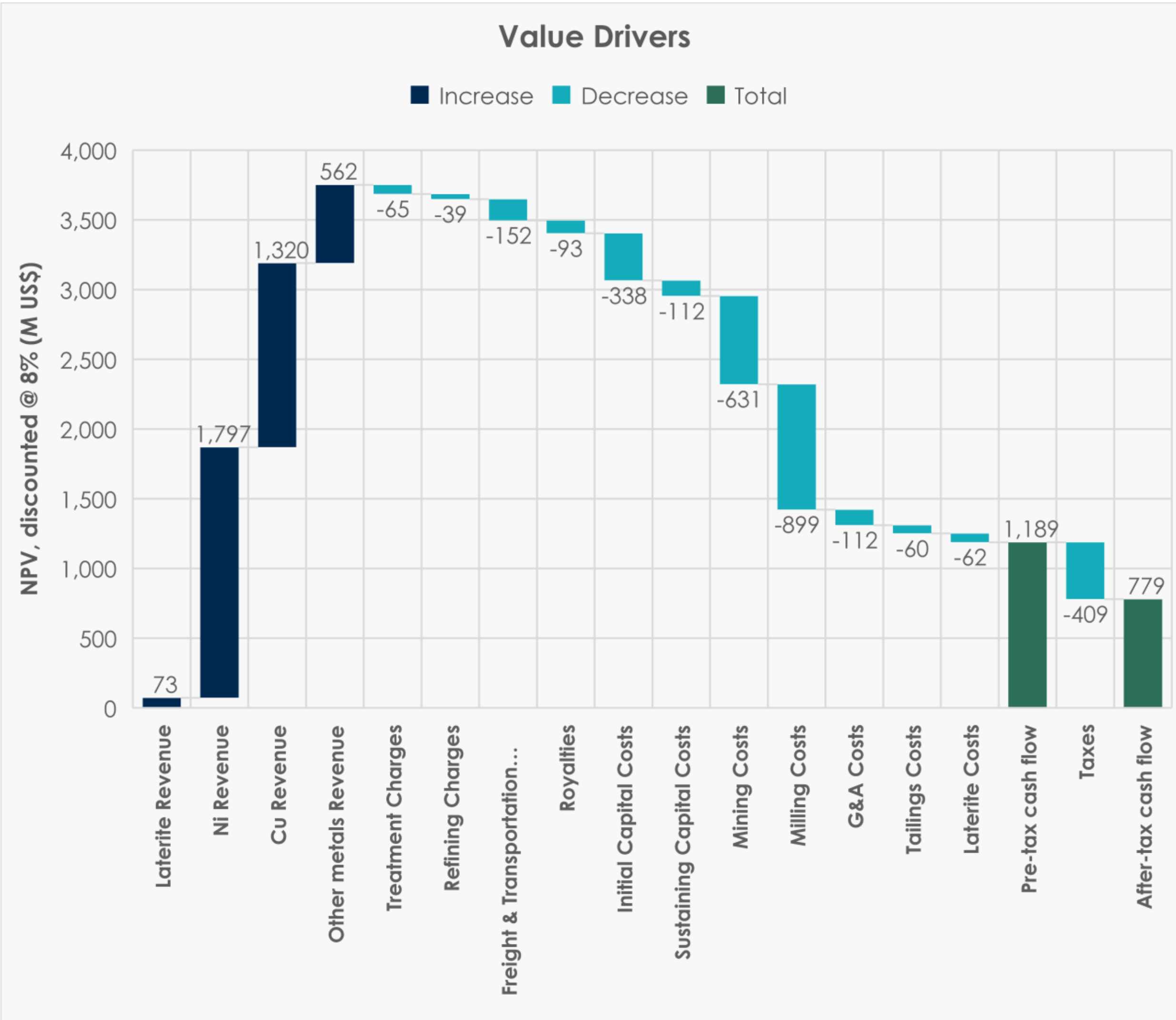


Figure 22-6: Value Drivers

22.13 Sensitivity Analysis

A financial sensitivity analysis was performed on the base case pre-tax cash flow NPV (8%) and IRR of the project, considering variations in nickel and copper prices, initial capital costs, sustaining capital costs, and operating costs.

For the base case assumptions, refer to Table 22-2. The pre-tax results for the project IRR and NPV based on the sensitivity analysis are presented in Table 22-11 through Table 22-15. The summary of the pre-tax NPV (8%) and IRR are presented in Table 22-16 and Table 22-17 and shown graphically in Figure 22-7 and Figure 22-8. Table 22-11 through Table 22-15 present the project NPV at a range of discount rates from 0% to 15% and sensitivities from -40% to +40%. The NPV (8%), which is the base case, is bolded in the tables below.

Table 22-11: Nickel Price Sensitivity Analysis

Ni Price					
Variation	-20%	-10%	0%	10%	20%
Ni Price	$7.06	$7.95	**$8.83**	$9.71	$10.60
Discount Rate	**Pre-tax NPV (M$)**				
0%	829	1,009	**1,189**	1,368	1,548
5%	429	543	**657**	770	884
8%	**284**	**373**	**463**	**552**	**641**
10%	212	289	**366**	443	519
15%	154	221	**288**	354	421
Payback Period	4.3	3.7	**3.3**	2.9	2.7
IRR	21.1%	24.7%	28.2%	31.6%	35.0%

Table 22-12: Copper Price Sensitivity Analysis

Cu Price					
Variation	-20%	-10%	0%	10%	20%
Cu Price	$3.19	$3.59	**$3.99**	$4.39	$4.79
Discount Rate	**Pre-tax NPV (M$)**				
0%	925	1,057	**1,189**	1,321	1,453
5%	494	575	**657**	738	820
8%	**336**	**399**	**463**	**526**	**589**
10%	258	312	**366**	420	474
15%	194	241	**288**	334	381
Payback Period	3.9	3.5	**3.3**	3.0	2.9
IRR	23.5%	25.9%	28.2%	30.5%	32.7%

Table 22-13: Initial Capital Costs Sensitivity Analysis

Initial Capital Costs (M USD)					
Variation	40%	20%	0%	-20%	-40%
Initial Capital Costs (M$)	473	405	**338**	270	203
Discount Rate	**Pre-tax NPV (M$)**				
0%	1,053	1,121	**1,189**	1,256	1,324
5%	530	593	**657**	720	783
8%	**341**	**402**	**463**	**523**	**584**
10%	247	306	**366**	425	484
15%	172	230	**288**	345	403
Payback Period	4.7	4.0	**3.3**	2.6	2.0
IRR	19.3%	23.1%	28.2%	35.7%	47.8%

Table 22-14: Sustaining Capital Costs Sensitivity Analysis

Sustaining Capital Costs (M USD)					
Variation	40%	20%	0%	-20%	-40%
Sustaining Capital Costs (M$)	157	134	**112**	90	67
Discount Rate	**Pre-tax NPV (M$)**				
0%	1,144	1,166	**1,189**	1,211	1,233
5%	630	643	**657**	670	683
8%	**442**	**452**	**463**	**473**	**483**
10%	348	357	**366**	374	383
15%	272	280	**288**	295	303
Payback Period	3.4	3.3	**3.3**	3.2	3.2
IRR	27.4%	27.8%	28.2%	28.6%	29.1%

Table 22-15: Operating Costs Sensitivity Analysis

Operating Costs (M USD)					
Variation	40%	20%	0%	-20%	-40%
Operating Costs (M$)	2,470	2,117	**1,764**	1,412	1,059
Discount Rate	**Pre-tax NPV (M$)**				
0%	483	836	**1,189**	1,541	1,894
5%	207	432	**657**	881	1,106
8%	**108**	**285**	**463**	**640**	**817**
10%	59	212	**366**	519	672
15%	20	154	**288**	421	555
Payback Period	6.0	4.3	**3.3**	2.7	2.3
IRR	13.3%	21.0%	28.2%	35.4%	42.8%

Table 22-16: Summary of Sensitivity Analysis Results (Pre-tax NPV @ 8%)

Item	**Results**						
Discount Rate	**8%**						
Pre-tax NPV @ 8% (M$)	-40%	-20%	-10%	0%	10%	20%	40%
Ni Price	-	284	373	463	552	641	-
Cu Price	-	336	399	463	526	589	-
Initial Capital Costs (M$)	341	402	-	463	-	523	584
Sustaining Capital Costs (M$)	442	452	-	463	-	473	483
Total Capital Costs (M$)	320	392	-	463	-	534	605
Operating Costs (M$)	108	285	-	463	-	640	817

Table 22-17: Summary of Sensitivity Analysis Results (IRR)

Item	**Results**						
Discount Rate	**8%**						
IRR (%)	**-40%**	**-20%**	**-10%**	**0%**	**10%**	**20%**	**40%**
Ni Price	-	21%	25%	28%	32%	35%	-
Cu Price	-	24%	26%	28%	30%	33%	-
Initial Capital Costs (M$)	19%	23%	-	28%	-	36%	48%
Sustaining Capital Costs (M$)	27%	28%	-	28%	-	29%	29%
Total Capital Costs (M$)	19%	23%	-	28%	-	36%	49%
Operating Costs (M$)	13%	21%	-	28%	-	35%	43%

Table 22-18: Alternate Financial Analysis Summary (Various Discount Rates)

Economic Indicators	Unit	Pre-tax	Post-tax
Payback Period (from start of production)	year	3.3	3.9
Internal Rate of Return, IRR	%	28.2	21.9
NPV / Initial Capital	ratio	1.4	0.8
Net Present Value @ 5%	M$	657	412
Net Present Value @ 8%	M$	463	277
Net Present Value @ 10%	M$	366	209
Net Present Value @ 12%	M$	288	155

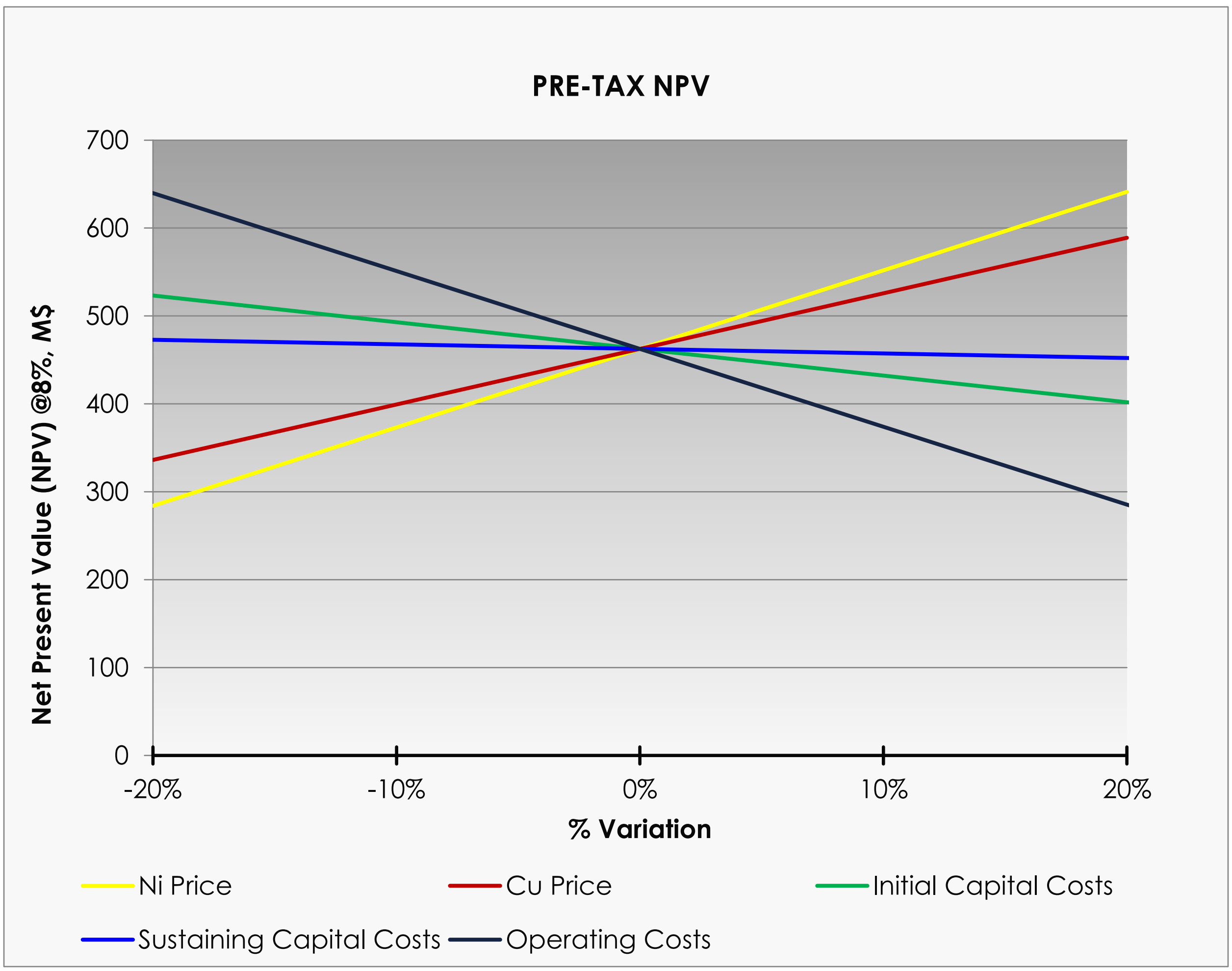


Figure 22-7: Sensitivity of Pre-tax NPV to Financial Variables

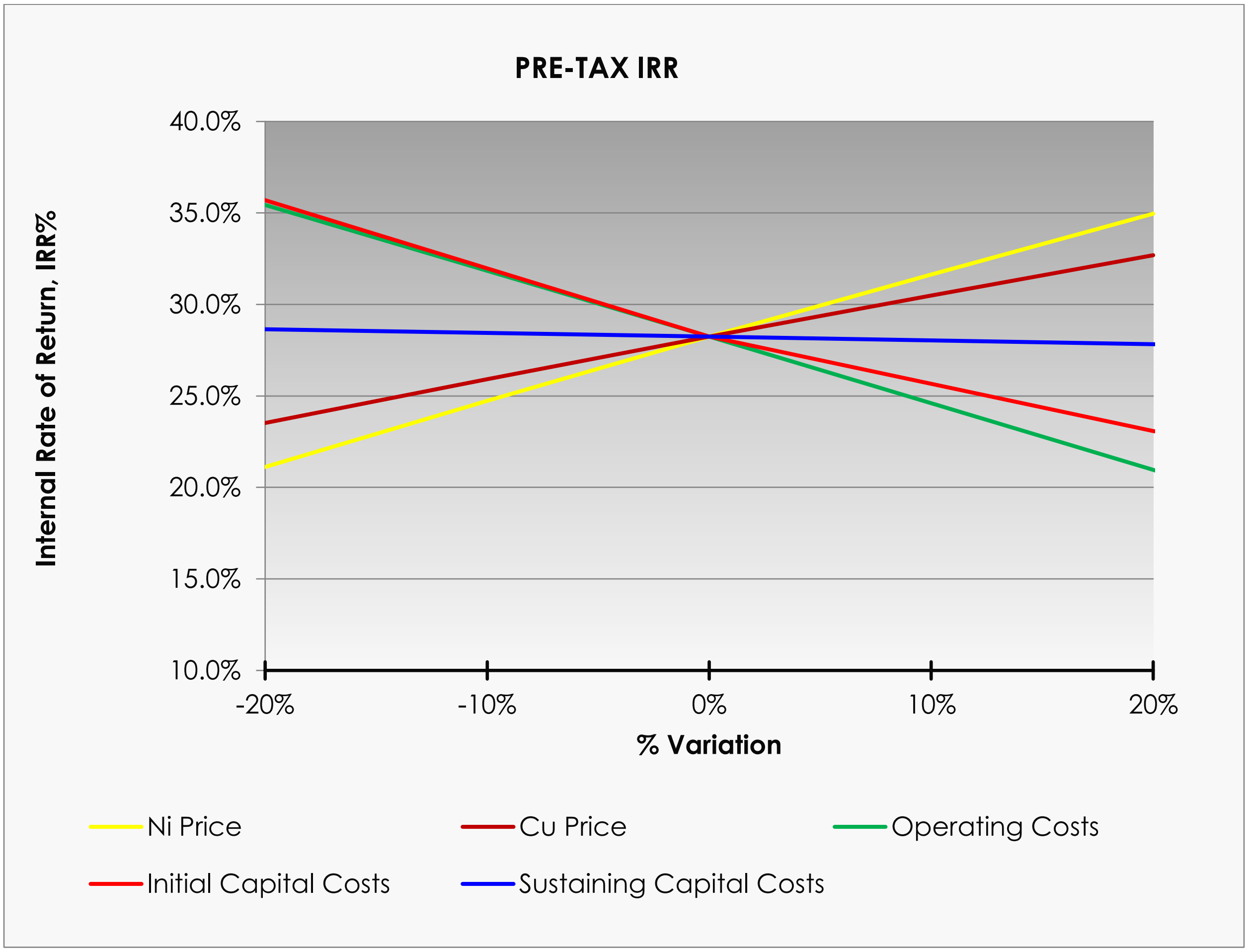


Figure 22-8: Sensitivity of Pre-tax IRR to Financial Variables

23. Adjacent Properties

The Samapleu East Exploration Permit 838 ("*Permis de recherche minière*"; PR838) is close to the village of Yorodougou, in west-central Côte d'Ivoire, Montagnes District, Tonkpi Region. The project is about 50 km west of Biankouma and 25 km east of the border with Guinea.

PR838 has an irregular shape with a maximum N-S extent of 24 km and 16 km along the E-W direction, for a total area of 258 km² (Figure 23-1). The permit is approximately centred on latitude 7° 43' 00" N and longitude 7° 55' 00" W (UTM 619,800E; 854,000N).

The reader is referred to the Public Mining Cadastre Portal for Ivory Coast (*Portail du Cadastre Minier de la Côte d'Ivoire*) for official and up to date information on the adjacent properties, at the following link: http://portals.flexicadastre.com/CoteDIvoire/FR/. The reader is cautioned that the information on adjacent properties does not necessarily indicate the mineralization on the property.

The QP has been unable to verify the information about the adjacent properties, but the reader can find official information on the mining registry's publicly available website by following the link provided above.

23.1 NOCI Exploration Permits PR585

SNC's properties are bounded to the north by the SODEMI/NOCI's Exploration Permit PR585 (*Nickel de l'Ouest Côte d'Ivoire* ("NOCI")), which contains the Sipilou North Ni-Co laterite deposit and the northern part of the Sipilou Sud deposit (Figure 4-1 and Figure 23-1). The Sipilou Sud deposit extends partially into SNC's properties.

Falconbridge worked the property under a Joint Venture agreement between 1993 and 2002. The Sipilou North nickel-cobalt laterite deposit is up to 10 km long by 1.5 km wide and was well delineated by drilling.

The property also includes the Sipilou Sud nickel-cobalt deposit with approximately 70% of the global surface area laying with the PR585 and the remaining within the Samapleu PR838.

23.2 Exploration Permits in Application

There are four Exploration Permits in application with the Department of Mines surrounding the SNC's PRs, they are as follow:

1. Sama Nickel Côte d'Ivoire SARL: Sector Grata North (NE of Sama's PR's).
2. Société Minière du Tonkpi SARL ("SMT"): Sector Daleu (SW of Sama's PR's).
3. Yams Mining: East of Sama's PR's.
4. Force Ivoire: Southeast of Sama's PR's.

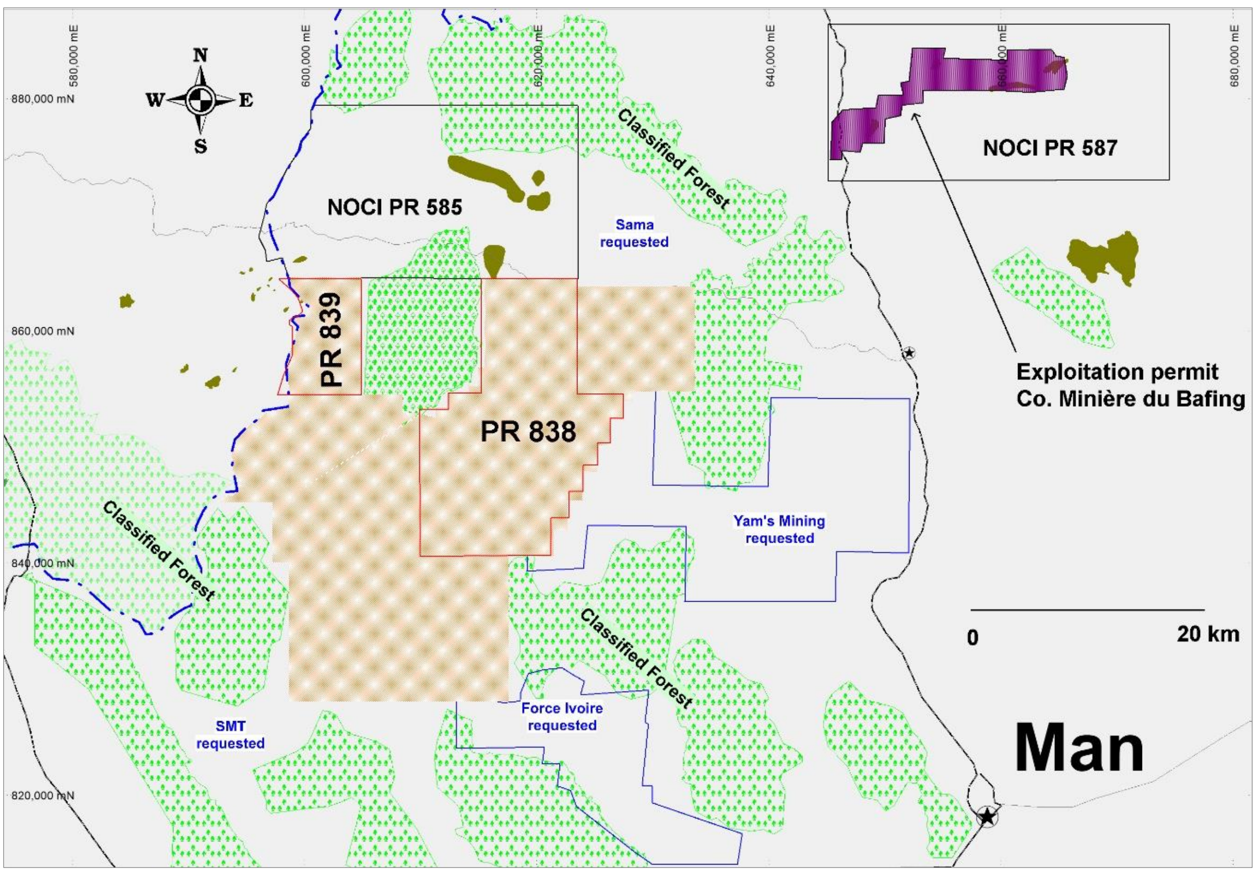


Figure 23-1: Adjacent Property Map
(SNC, 2024)

24. Other Relevant Data and Information

24.1 Project Execution Plan

The high-level execution plan presented here is conceptual in nature. In general, the project is expected to proceed through the next stage of studies following the completion of the current PEA study.

In this case, SNC will use the content of this technical study to request the "*Termes de Références*" from the Ivorian's ANDE (*Agence Nationale de l'Environnement*) to complete the environmental and social assessment that will lead to requesting a mining permit. Additional technical studies will be completed while waiting for the delivery of the requested mining permit.

SNC aims to bring the project into operation with the following key objectives:

- Health, safety and environment considerations being at the forefront during all phases of the project.
- Controlling the project costs and schedule to deliver the most value out of the project.
- Create positive relations and bring prosperity to the community.
- Respect the legislative requirements.

24.1.1 Key Project Phases

A phased project approach allows for systematic and organized progression through the project lifecycle, breaking down complex tasks into manageable stages. This facilitates better planning, resource allocation, and risk management, as each phase can be thoroughly assessed and evaluated before proceeding to the next phase. The key project phases identified are:

1. Bridging Phase and ANDE;
2. Requesting a Mining permit;
3. Additional technical studies;

The following sections provide guidelines on the key objectives of each phase.

24.1.1.1 Bridging Phase

The bridging phase will allow SNC to obtain the necessary data required to begin the next study phase as well as support the mine permitting process. The key data to be collected would include:

- Infill drilling;
- Condemnation drilling;
- Geotechnical drilling;
- Metallurgical test program;
- Geochemical characterization;
- Hydrogeological characterization;
- Hydrology analysis;
- Environmental characterization.

The bridging phase can take 12 to 18 months to complete.

24.1.1.2 Additional Study

The additional study phase will form the basis for control budget; therefore, the cost estimate prepared will require a high-degree of deterministic estimating. The cost estimate will attempt to capture a detailed materials list.

Deliverables to be prepared during this phase of the project would include:

- Proven and Probably mineral reserves;
- Detailed mine design;
- Detailed hydrogeology and geotechnical studies;
- Final equipment list;
- Piping and instrumentation diagrams;
- Detailed site plan;
- Electrical single line diagrams;
- Major equipment specifications;
- Infrastructure general arrangement drawings;
- Material take-offs by all disciplines;
- List of long lead items;
- Scope of work for EPCM Contractor.

During this phase of the project, updated major equipment pricing will be obtained and a detailed execution plan, detailed capital cost estimate and schedule will be prepared. Additionally, long lead major equipment, such as ball mills and transformers, will be ordered towards the end of this study. Early works such as civil and earthworks, interconnection to the grid and key infrastructure such as roads will be authorized.

This phase is expected to take 12 months.

25. Interpretation and Conclusions

The finding of this technical report are based on the Samapleu and Grata Deposits Project, which includes four mining areas:

- Nickel sulphides deposits hosted at Main, Extension, and Grata (Main and Extension being collectively the Samapleu deposit);
- Nickel laterites deposit hosted at Sipilou Sud.

25.1.1 Geology

Drill holes at the Main, Extension, and Grata deposits recognized the Yacouba mafic and ultramafic intrusive complex. The airborne HTEM survey, VTEM survey, and Titan survey have outlined more than 20 prospective areas for follow-up.

Mineralization in the Samapleu and Grata deposits consists predominantly of pyrrhotite, pentlandite and chalcopyrite, with subordinate amounts of pyrite, PGE and chromite hosted in pyroxenite similar to other nickel sulphide deposits identified around the world.

The types of sulphide mineralization at Samapleu and Grata deposits are matrix textures, net textures, droplets, breccia, dragged sulphide, sometimes with semi-massive sulphides, massive, veins, and veinlets.

Mineralization at Sipilou Sud is typical of a nickel laterite deposit, with limonite transitioning to saprolite above the bedrock surface similar to other nickel laterite deposits identified around the world.

In conclusion, Sama has a good understanding of the project's geology. Based on the understanding of the geology and geophysical surveys, several additional near surface targets with similar signatures have been identified on the project.

25.1.2 Mineral Resource Estimate

Mineral resource estimates have been completed on the Main, Extension, and Grata deposits based on 258 diamond drill holes totalling 51,282 m.

The MRE for the Grata deposit is based on eight geological domains. Using an NSR cut-off value of $16.34/t, the pit constrained Indicated Mineral Resource totals 3.6 Mt at 0.28% Ni, 0.29% Cu, 0.11 g/t Pt, 0.32 g/t Pd, 0.04 g/t Au and 0.02% Co, with an additional pit constrained Inferred Mineral Resource of 67.2 Mt at 0.24% Ni, 0.25% Cu, 0.10 g/t Pt, 0.26 g/t Pd, 0.04 g/t Au and 0.01% Co.

The MRE for the Main deposit is based on six geological domains. Using an NSR cut-off value of $16.34/t, the pit constrained Indicated Mineral Resource totals 15.2 Mt at 0.26% Ni, 0.22% Cu, 0.10 g/t Pt, 0.31 g/t Pd, 0.04 g/t Au and 0.02% Co, with an additional pit constrained Inferred Mineral Resource of 21.3 Mt at 0.25% Ni, 0.21% Cu, 0.07 g/t Pt, 0.28 g/t Pd, 0.04 g/t Au and 0.02% Co.

The MRE for the Extension deposit is based on six geological domains. Using an NSR cut-off value of $16.34/t, the pit constrained Indicated Mineral Resource totals 0.5 Mt at 0.25% Ni, 0.16% Cu, 0.10 g/t Pt, 0.45 g/t Pd, 0.02 g/t Au and 0.02% Co, with an additional pit constrained Inferred Mineral Resource of 10.9 Mt at 0.28% Ni, 0.22% Cu, 0.10 g/t Pt, 0.48 g/t Pd, 0.02 g/t Au and 0.02% Co.

The MRE for the Sipilou Sud deposit is based on three geological domains. Using a cut-off grade of 1.10% Ni, the pit constrained Inferred Mineral Resource totals 2.1 Mt at 1.75% Ni and 0.05% Co.

In conclusion, the MRE is supported by sufficient drilling, analysis, and specific gravity data. Reasonable parameters were used to constrain the mineralization within a pit shell. The geology remains open along strike and down dip to host mineralization.

There is the potential to convert Inferred Mineral Resources to Indicated Mineral Resources at all three deposits by conducting additional diamond drilling.

25.1.3 Mining Methods

The mining operations as described in the PEA, demonstrate a comprehensive and systematic approach to resource extraction across its various deposits. The strategic selection of conventional open pit mining methods for the sulphide deposits (Grata, Main and Extension), and traditional free-dug loading and hauling for the Sipilou Sud laterite deposit, are tailored to maximize economic viability.

The mine plan sequencing and equipment determination are planned to ensure consistent production rates, emphasizing the project's commitment to sustainable practices and economic efficiency.

The mining sequence will begin with clearing, removing and stockpiling vegetation and any usable soil, and constructing pit protection berms and diversion drains.

Owner-operated open pit mining methods will be used to mine the material within the designed open pits of the sulphide deposits including Grata, Main and Extension.

A mine plan with a LOM of 16.1 years was prepared for sulphide deposits. In-pit mineable resources within the pit designs using an NSR cut-off value of $16.34/t includes approximately 17.4 Mt of Indicated at 0.26% Ni and 0.24% Cu, and 69.1 Mt of Inferred at 0.25% Ni and 0.24% Cu. It incorporates mining dilution and mining loss assumptions for the open pit mining method. A total of 244 Mt of saprolite and waste rock is included in the pit designs resulting a strip ratio of 1.8 to 1. The PEA's reliance on both indicated and inferred resources, while not yet classified as reserves, in accordance with NI 43-101 guidelines. During full production, the mine equipment fleet requirements were calculated to be 17 haul trucks, two hydraulic excavators, one wheel loader, and three production drills, in addition to the fleet of support and service equipment. The total mine workforce will reach a peak of 236 employees.

The mining method to extract the Sipilou Sud laterite pit will use traditional loading and hauling (free-dug) and mineable laterite resource material will be shipped directly to the port from the mine over a span of 3 years. Mining operations will be outsourced to a mining contractor for the Sipilou Sud laterite deposit.

Overall, the mining strategy is well-positioned to leverage the site's geological diversity, with a clear operational roadmap aimed at achieving long-term profitability and resource stewardship. The preliminary planning reflected in the mine design, cut-off values, and phased extraction plans underscore a robust framework for the project's anticipated lifecycle.

25.1.4 Mineral Processing and Metallurgical Testing

Flotation testing was conducted on samples from the Samapleu and Grata deposits between 2022 and early 2023. The purpose of this work was to de-risk the project technically and to create a mechanism for revenue generation from the cobalt and precious metals contained in the resource. The studies established a conventional flotation flowsheet capable of yielding saleable copper and nickel concentrates containing, where possible, payable levels of cobalt, platinum, palladium, gold and silver.

The three composites studied were designed to represent the Main and Extension zones in the Samapleu deposit plus the Grata deposit.

Forty-three (43) batch flotation tests and four locked cycle tests were conducted on these composites. These tests allowed for the preliminary development of a flotation flowsheet that sequentially yields a copper and a nickel concentrate. This flowsheet uses a grind of 80% passing 140 microns, and rougher and cleaner flotation for copper and nickel. Copper flotation was achieved using conventional nickel and gangue depressants with Solvay AEROPHINE 3418A as collector. The nickel flotation was achieved using a xanthate collector and additional gangue depressant. All reagent doses were typical of many commercial copper/nickel flotation circuits.

The copper, nickel and cobalt metallurgy from tests on the three composites are shown in Table 25-1. The precious metals (Pt, Pd, Au) are floated into both the copper and nickel concentrates, the grades and recoveries of which are shown below.

The metallurgy of Grata and Main composites is based on locked cycle testing, while Extension is based on batch testing, and likely represents an underestimate of the final metallurgy.

Table 25-1: Summarized Metallurgy on Main, Extension, and Grata Composites

Deposit	Feed grade, %			Copper flotation						Nickel flotation					
				Conc grade, %			Recovery, %			Conc grade, %			Recovery, %		
	Cu	Ni	Co	Cu	Ni	Co	Cu	Ni	Co	Cu	Ni	Co	Cu	Ni	Co
Main	0.31	0.34	0.02	25.7	1.2	0.05	83	3	3	1.6	12.6	0.5	9	67	51
Extension*	0.19	0.27	0.02	22.9	0.9	0.04	72	2	2	1.2	14.6	0.6	6	50	37
Grata	0.50	0.40	0.02	26.8	1.1	0.04	88	4	4	1.3	12.5	0.5	6	72	61
Deposit	Feed grade, g/t			Copper flotation						Nickel flotation					
				Conc grade, g/t			Recovery, %			Conc grade, g/t			Recovery, %		
	Pt	Pd	Au	Pt	Pd	Au	Pt	Pd	Au	Pt	Pd	Au	Pt	Pd	Au
Main	0.16	0.34	0.05	2.1	6.4	1.4	13	19	26	5.2	7.6	0.3	58	41	10
Extension*	0.10	0.47	0.04	2.5	15.6	3.2	14	20	53	4.3	14.2	0.2	38	28	5
Grata	0.08	0.54	0.05	1.1	7.3	1.2	23	22	43	1.5	8.7	0.3	40	37	12

* batch tests only

In addition to copper and nickel in their respective concentrates, palladium should attract good payments from all concentrates, cobalt from all nickel concentrates, and the platinum and gold should trigger payments from a number of concentrates. Silver (not shown) will also attract minor payments from some copper concentrates.

In conclusion, metallurgical testing has generated viable copper and nickel concentrates. Further testing could optimize the process further and would provide better information on the metallurgical response of each zone to the grinding and flotation processes.

Metallurgical testwork on the Sipilou Sud laterite deposit will allow the project to determine if the material currently not in a mineral resource category could have reasonable prospect of eventual economic extraction.

25.1.5 Recovery Methods

The process plant nominally processes approximately 5.5 Mt/y of ROM mineralized material to produce approximately 55,100 t/y of nickel concentrate at 13% Ni grade and approximately 38,600 t/y of copper concentrate at 26% copper grade. Global nickel and copper recoveries are 53.0% and 85.5%, respectively. These concentrate production and recovery values are annual averages based on the LOM plan.

The process plant design developed provides a sufficient basis for the capital and operating cost estimates for the process plant.

The process plant design and predicted metallurgy are largely based on the testwork campaign performed by Blue Coast Research in 2022 and 2023. Where testwork is incomplete, design values have been based on experience in the industry.

25.1.6 Tailings and Water Management

The tailings and water management layouts developed confirm that sufficient capacity can be established in the project area to store the required tailings from processing. The conceptual layouts also demonstrate that water can be suitably managed and that excess water can be discharged to the environment.

25.1.7 On-site and Off-site Infrastructure

Infrastructure layouts developed indicate that infrastructure components such as the crushing and process plant can be accommodated in a relatively compact footprint which will be a benefit to the future final siting selection. Siting locations should be further evaluated in future phases to minimize civil works through efforts such as using existing elevation differences for crusher plant siting as well as balancing cut and fill quantities.

25.1.8 Environmental Permitting and Community Impact

Comprehensive baseline environmental and social studies were undertaken for the project between 2011 and 2013. Since that time, the authorities have updated the regulatory requirements for mining projects, including a new Mining Code (2014) and Forestry Code (2109). The Mining Code provides for protection of cultural sites and requires exploitation permit holders to sign agreements with local communities, have an account in place for closure costs, and follow the Equator Principles throughout operations. These new requirements may result in additional costs and permitting delays for the project.

The project contemplates water withdrawals that can be supported by the local environment; however, the project will operate at a hydrological surplus and require discharge of large volumes of water to the natural environment. The discharge location is not well defined and water treatment technologies have not been identified to confirm the quality of the planned discharge.

The project contemplates siting a tailings storage facility that overprints several small rivers and is directly adjacent to a sacred forest. These are notable impacts to the local community, in addition to loss of agricultural land. A community development plan and supporting fund must be put in place to mitigate these potential impacts.

Documented community concerns include the exploration team's lack of transparent communication and the lack of jobs provided to community members, particularly local youth. The area is underserved with regard to electricity, internet, roads, medical facilities, educational institutions, and drinking water.

25.1.9 Economic Analysis

The PEA is preliminary in nature, in that it includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA outcomes economically will be realized.

The economic analysis of the estimated cash flows for the project indicate the potential for an economic project across a fairly broad range of input assumptions. The pre-tax NPV calculated at an 8% discount rate is $463M, and the pre-tax internal rate of return calculated for the project is 28.2%. The post-tax NPV calculated at an 8% discount rate is $277M, and the post-tax internal rate of return calculated for the project is 21.9%

The AISC includes on-site operating costs, off-site operating costs, sustaining Capex, and closure cost. The AISC is estimated to be $4.05/lb [Cu+Ni] payable before the by-product credit of $1.05/lb [Cu+Ni]. The by-product credits include the saleable cobalt, gold, and silver in each of the concentrates. The AISC net by-product credit is $3.00/lb [Cu+Ni].

The AISC before by-product credits based on nickel and copper co-products are $6.13/lb Ni and $2.77/lb Cu. The AISC net by-product credits are $4.34/lb Ni and $2.17/lb Cu.

25.2 Opportunities

Area	Opportunity Explanation	Benefit
Geology and Mineral Resource	Exploration potential for discoveries around the project area.	The possibility exists to increase resources and extend the mine life.
	Definition drilling to convert Inferred Mineral Resources into Indicated Resource.	Increase in mineral resource confidence possibly allowing to conduct an economic study on a larger Indicated Mineral Resource.
	Steeper saprolite and pit wall slopes with better characterization.	Potential reduction in strip ratio resulting in decreased Opex.
	Improve rock mass characterization for the mine design.	Optimize geotechnical design.
Open Pit Mining	Changes to current geomechanical and hydrogeological parameters may affect mine design and capacity to reach production targets and the mining production schedule.	Improve project economics.
	Saprolite and fresh rock pile sizes may be overestimated due to a lack of geotechnical data.	Conduct geotechnical and hydrogeological investigations, and perform modelling and simulations, and review the mine design.
	Fresh rock and saprolite piles capacity might be optimistically estimated.	Perform a geotechnical assessment on the piles and review mine design as well as backfilling opportunities.
	In-pit dumping would be a possibility to decrease the environmental disturbing area.	Improve project economics.
Mineral Processing and Metallurgy	Metallurgical testwork on the Sipilou Sud laterites.	Allow material currently not in a mineral resource, which could have reasonable prospects for eventual economic extraction ("RPEEE").
	Additional metallurgical testing.	Potentially improve recoveries and concentrate grades.
	HPGR may be more economic.	Cheaper comminution.
	Potential to make a higher-grade nickel concentrates.	Better payability of Ni conc. may outweigh recovery loss.
Economics	Silver and rhodium may be payable in some concentrates.	Added by-product revenue at no cost.
	Review mine costs at Sipilou Sud.	Lower costs will increase the mineable resource.
	Review the direct shipping laterite selling price.	Higher selling price will increase the in-pit mineable resource estimate.
	Infrastructure Capex and timing can be optimized.	Improve the cash flow.

25.3 Risks

Area	Risk Description and Potential Impact	Mitigation Approach
Geology and Mineral Resource	Accuracy of interface between Topo and Saprolite surface.	Perform updated surveys.
	Lack of geological understanding of Sipilou Sud laterite deposit.	Additional drilling.
	Rock and Saprolite piles slopes used empirical basis.	Conduct site-specific geotechnical investigation (rock mechanics) and review mine and piles design basis.
Hydrogeology and Mine Dewatering	No mine dewatering assessment.	Conduct hydrogeological investigations.
Open Pit Mining	Smelter terms are based on similar projects.	Investigation smelter terms that are more specific to the project.
	Accuracy of estimated dilution and mining recovery.	Review dilution and mining recovery estimate for each pit and adjust mine plan and mine equipment selection.
Mineral Processing and Metallurgy	Limited metallurgical testwork.	Perform further testwork.
	Lack of comminution testing.	Perform comminution testwork.
	No understanding of metallurgical variability.	Initiate geo-metallurgical approach to testing.
	Links between geology and metallurgy poorly understood.	Initiate geo-metallurgical approach to testing.
	No locked-cycle work on Extension deposit.	Conduct locked-cycle testwork on Extension samples.
	Metallurgical composites higher-grade than current mine plan.	Would be addressed in geo-metallurgical study
	Pyrrhotite flotation circuit not tested.	Pyrrhotite flotation tests on final tails.
	Effect of water circulation between Cu and Ni circuits not determined.	Additional flotation testwork considering water re-use between circuits.
Mine Infrastructure	Lack of geotechnical data for foundation design.	Conduct geotechnical (soil) assessment.
	Traffic routing in proximity to local communities.	Ensure safe operating procedures.
Offsite Infrastructure	Electrical authority contract and schedule challenges for new transmission line.	Engaging electrical authority.
	Logistics challenge for transportation of large equipment.	Logistics analysis.
	Capability of Port San-Pédro for shipping concentrates as well as nickel laterite direct shipping.	More investigation about San-Pédro capacity/development plan for material shipment and costs associate with that.

Area	Risk Description and Potential Impact	Mitigation Approach
Site Water Management	Saprolite and fresh rock could be metal leaching / acid generating.	Carry out geochemical testwork and characterization studies.
Environmental, Permitting and Social	Location of rock and saprolite piles.	Site-specific investigations to confirm the social aspects.
	Baseline environmental and social studies are more than 10 years old.	Conduct an environmental and social impact assessment.
	The Mining Code provides for protection of cultural sites.	Investigate the Mining Code.
	TSF directly adjacent to a sacred forest and in close proximity to villages.	A community development plan and supporting fund must be put in place to mitigate these potential impacts.
	Mine site close to community.	Ensure safe operating procedures, especially for blasting, and develop control and monitoring plans, including regular inspections.
	Documented community concerns include lack of transparent communication.	Re-evaluate the community concerns.
	EA and Permitting Schedule may be longer than planned.	Advance the planning process to support schedule risk analysis.

26. Recommendations

26.1 Proposed Work Programs

Two separate work programs are proposed. The successful completion of Phase 1 will have an impact on how Phase 2 is conducted. The intention of the programs is to continue advancing the project and the permitting process for an exploitation permit.

26.1.1 Phase 1

Phase 1 is designed to further refine the geological and metallurgical understanding around the Samapleu and Grata deposits while starting on updating the environmental baseline and the social impact study using the Ivorian *Agence Nationale de l'Environnement* ("ANDE") terms of reference. The ANDE is responsible for drawing up the *Terms* of *Reference* for the Environmental and Social Impact Assessment ("ESIA") based on the project's technical studies and in consultation with the relevant technical administration.

The budget of $1.0M is estimated to be required to complete the Phase 1 program. A summary of the recommendation is listed below. Table 26-1 summarizes the Phase 1 budget.

Table 26-1: Phase 1 Budget Summary

Task	Estimated Cost ($)
Infill Drilling and Geology Work	500,000
Waste and Water Management Testing	70,000
Metallurgical Testwork	150,000
ANDE Terms of References	50,000
ESIA	230,000
Total	**1,000,000**

26.1.2 Phase 2

Phase 2 is designed to enhance the project leading towards a FS by gathering additional data required to complete previous technical studies. The budget of $8.0M is estimated to be required to complete the Phase 2 program. A summary of the Phase 2 budget recommendation is listed in Table 26-2. Phase 2 is dependent on the results of Phase 1.

Table 26-2: Phase 2 Budget

Task	Estimated Cost ($)
Exploration Drilling	2,000,000
Infill Drilling	3,000,000
Mineral Resource Update	100,000
Geotechnical Drilling	750,000
Hydrogeological Drilling	500,000
Geotechnical Study	350,000
Hydrogeological Study	250,000
Hydrology Study	200,000
Geological Studies	250,000
Metallurgical Testwork	600,000
Total	**8,000,000**

26.2 Other Recommendations

26.2.1 Mining

The following key recommendations related to mine design and mine planning are provided to assist SNC with future, more detailed levels of study:

- A mineral reserve estimate;
- Investigation of smelter terms more specific to the project;
- Hydrology, hydrogeology and geotechnical studies.

26.2.2 Mineral Processing and Metallurgical Testing

The following key recommendations and potential opportunities related to metallurgy and mineral processing are provided to assist SNC with future, more detailed levels of study:

- Representative samples of the laterite should be collected and tested for potential upgrading. Metallurgical testwork on the Sipilou Sud laterites will allow the project to determine if the material currently not in a mineral resource could have a reasonable prospect of eventual economic extraction.
- Testing is required to define all aspects of the circuit better:
  - Primary and concentrate regrind(s) in terms of required size distribution, hardness and power requirements;

  - Reagent selection and consumption rates;
  - Process water chemistry and the impact of recycled process water on flotation metallurgy;
  - Retention time required in the various flotation stages;
  - Settling, thickening, and filtration characteristics of the concentrate materials;
  - Physical, material handling, and flowability characteristics of the concentrate materials;
  - Self-heating characteristics of the concentrate materials;
  - Tailings settling characteristics;
  - Rheological characteristics of the thickened tailings.
- Physical, chemical, and environmental characterization of tailings.
- A geo-metallurgical assessment of the different mineralized zones is required to establish an understanding of the range and variation in mineralogy and metallurgy for the different deposits.
- Samples representing the geo-metallurgical variation of the mineralized zones and waste materials within the mineralized zones should be collected and subjected to of comminution testwork.
- Metallurgical tests should be performed to assess the impact of different blends of mineralized materials on metallurgy. This testing should be based on samples and blends that are representative of the initial years of open pit mining and concentrator feed, as created from the geo-metallurgical sample suite.

26.2.3 Recovery Methods

The following key recommendations and potential opportunities related to the recovery methods are provided to assist SNC with future, more detailed levels of study:

- Conduct trade-off study work to assess HPGR vs SAG mill comminution options, including Jameson (or other) flotation technologies, copper concentrate regrind options, and source of reagents, e.g. lime.
- Collect representative samples of materials from the different mineralized zones of each deposit and subject them to batch bench-scale flotation tests to reproduce the flotation flowsheet.
- Confirm understanding of differing metallurgical response of each mineralized zone by completion of Qemscan and modal mineralogy testwork to define the occurrence of the nickel and copper sulphides with associated minerals, and their liberation characteristics with respect to size and occurrence.

- Following successful confirmation of the effectiveness of the bench-scale flowsheet on a variety of samples from different mineralized zones, perform larger-scale extended duration mini plant tests of the complete mineral processing flowsheet to produce representative concentrate and tailings sample materials for characterization and design criteria development.

26.2.4 Tailings and Water Management

The following key recommendations and potential opportunities related to tailings and water management are provided to assist SNC with future, more detailed levels of study:

- This study has assumed that the geotechnical conditions in the vicinity of the TSF and WMP are conducive to physical stability and provide appropriate construction materials for processing and developing the proposed concepts. Site investigations, including geotechnical drilling, test pit excavations, geophysical surveys, in situ testing, sampling, instrumentation installation, and laboratory testing, are required to gain an understanding of the geotechnical, hydrogeological, and geological site conditions and develop design parameters to support more detailed levels of design.
- Physical and geochemical characterization of the tailings, saprolite, and waste rock should be undertaken to estimate in situ placed densities, stable slope angles, tailings management requirements, and potential ARD and ML potential of the wastes.
- Studies should be completed to determine if tailings or PAG waste rock can be stored in mined-out open pits.
- The existing meteorological and hydrological data should be reviewed and updated, if required, to confirm climate normals, extreme storm event estimates, and flood estimates, as well as to estimate the water management requirements at the site.
- A monthly site-wide water balance over the mine life is recommended to better estimate internal flow transfers and discharges to the environment.
- A seismic hazard assessment for the site should be completed to estimate the magnitude of extreme earthquake events.

26.2.5 Site Development and Infrastructure

The following key recommendations and potential opportunities related to the site development are provided to assist SNC with future, more detailed levels of study:

- This study sited the process plant primarily considering separation from surrounding villages, mine pits, and TSF, in addition to the avoidance of impacts to primary waterways. It is expected that future study phases will develop design criteria establishing specific proximities to above identified elements as well as prevailing wind directions, blasting standoff distances, etc.

- Plant infrastructure layouts such as the primary crusher and flotation cells placement should consider the use of the area's topography to minimize site civil works.
- Availability of services including power, water, roads, port etc. should be confirmed.
- Complete a logistics study, including the off-site roads and the port

26.2.6 Environmental Permitting and Community Impacts

The following key recommendations and potential opportunities related to environmental permitting and community impacts are provided to assist SNC with future, more detailed levels of study:

- Requesting Term of References for ANDE;
- Undertake updated environmental and social baseline studies;
- Undertake hydrological modelling of the planned discharge location;
- Undertake an analysis of contaminants of concern within planned discharge and confirm availability of treatment technologies to meet desired quality prior to discharge;
- Undertake multiple accounts analysis of tailings facility siting to evaluate potential alternatives;
- Implement a community development plan and supporting community fund to mitigate impacts from loss of agricultural land and potential impacts including increased noise and reduced air quality;
- Implement local employment quotas and training programs to increase opportunities for employment of local youth.

26.2.7 Economics

The economic analysis supports the proposition that the project may have economic merit across a reasonably wide range of assumptions. Additional precision in terms of analysis is indicated and recommended if the study moves to a full FS. Costing inputs will be refined. Additional resolution in terms of production scheduling should be achieved by moving to quarterly scheduling for mine planning, processing and construction activities.

The tax model should be updated to reflect the detailed tax environment in Côte d'Ivoire, as well as to incorporate the existence of any opening balance for tax losses, prior expenditure and depreciation balances.

A market study needs to be completed during the PFS to better understand the available smelter terms on each concentrate.

27. References

BBA Inc. (2024a). Samapleu PEA - Preliminary Mine Plan (PLAN_09). January 16. BBA Document No. 7762002-000200-4M-ERA-0001 / RAB. In Progress.

BBA Inc. (2024b). Email from: Bahareh Asi. Email to: Wilson Muir, Knight Piésold Ltd. Re: FW: 7622002 - Sama Concentrator Water Balance Summary for KP. January 17. NB301-988/2.

BBA Inc. (2024c). Email from: Todd McCracken. Email to: Wilson Muir, Knight Piésold Ltd. Re: FW: 7622002 – Sama – Thickness of Saprolite and Weathered Bedrock. February 5. NB301-988/2.

BBA Inc. (2024d). Rock Mechanics Design Basis - Desktop Review. BBA Report No. 7762002-000200-4G-ERA-0001/R00. April 18, 2024, 17 pages.

BCMOE (2015). British Columbia Ministry of Environment. Technical Guidance 7 - Environmental Management Act - Assessing the Design, Size, and Operation of Sediment Ponds Used in Mining. Version 1.0. December 2015.

Cabinet Icosas (2024). Tax Advice Report – Sama Resources - *Rapport de Mission d'Avis Fiscal* submitted by Cabinet Icosas on February 22, 2024.

CIM (2014). Canadian Institute of Mining, Metallurgical and Petroleum, CIM Definition Standards for Mineral Resources and Mineral Reserves, adopted by the CIM Council on May 10, 2014.

CIM (2019). Canadian Institute of Mining, Metallurgical and Petroleum, CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines, adopted by the CIM Council November 29, 2019.

CIM (2020). Canadian Institute of Mining, Metallurgical and Petroleum, CIM Guidance on Commodity Pricing and Other Issues related to Mineral Resource and Mineral Reserve Estimation and Reporting, adopted by CIM Council August 28, 2020.

Ayad, M.A.B., Corbeil, J., Hayek, C., Lafleur, P. (2013). NI 43-101 Technical Report. Mineral Resource Estimate prepared by WSP for Sama Nickel Corporation.

Ayad, M.A.B., Corbeil, J., Hayek, C., Lafleur, P. (2015). NI 43-101 Technical Report. Updated Mineral Resource Estimate prepared by WSP for Sama Nickel Corporation.

Barton, N., Lien, R. & Lunde, J. (1974). Engineering Classification of Rock Masses for the Design of Tunnel Support. Rock Mechanics. 6: 4: 189-236.

Camil, J. (1984). Pétrographie, chronologie des ensembles granulitiques archéens et formation associées de la région de Man (Côte d'Ivoire). Implication pour l'histoire géologique du craton Ouest Africain. Thèse No 79. Univ. Abidjan, Côte d'Ivoire.

DGPE (2018). Rapport Annuel DGPE 2017-2018 – Direction Générale du Portefeuille de l'État, Abidjan.

Eckstrand, O.R. (1984). Geological Survey of Canada, Canadian Mineral Deposit Types: A Geological Synopsis. Economic Geology, report 36, pp. 39-43.

Elias, M. (2002). Nickel laterite deposits - Geological overview, resources and exploitation. In Giant Ore Deposits: Characteristics, Genesis and Exploration. CODES Special Publication 4, Centre for Ore Deposit Research, University of Tasmania.

Gagnon, D., Ibrango, S., Sigh, N., Cunningham, R., Liskovych, V., and Dion, M. (2020). NI 43-101 Technical Report by DRA/Met-Chem - Preliminary Economic Assessment, Samapleu Project.

Gouedji, Gnamba-Emmanuel-Franck (2014). Les séquences mafiques-ultramafiques de Samapleu et leur minéralisation en Ni-Cu-EGP : un dyke nourricier éburnéen (2,09 Ga) du complexe lité Yacouba (craton archéen de Man – Côte d'Ivoire). Doctorat – PhD co-tutelle Université de Franche Comté-Besançon – Dir. Thèse 1 : Pr Christian PICARD / Université Felix Houphouet Boigny-Abidjan-Dir. Thèse 2 : Pr Yacouba COULIBALY.

Gouedji, F., Picard, C., Coulibaly, Y., Audet, M-A., Auge, T., Goncalves, P., Paquette J-L., Ouattara, N. (2014). The Samapleu mafic-ultramafic intrusion and its Ni-Cu-PGE mineralization: an Eburnean (2.09 Ga) feeder dyke to the Yacouba Layered Complex (Man Archean craton, Western Ivory Coast); Submitted in January 2014, accepted for publication on June 25, 2014; Bull. Soc. Geol. Fr.

Grand View Research. (2023). Nickel Market Size, Share & Trends Analysis Report By Application (SS, Non-ferrous Alloys, Plating, Batteries), By Region (Asia Pacific, North America, MEA, Central & South America), And Segment Forecasts, 2023 - 2030. San Francisco, CA: Grand View Research.

Horsfield, K. and Muir, W. (2024a). Samapleu Nickel Copper Project - Conceptual Level Tailings and Water Management Plan, Figure 2. Submitted to Sama Nickel Corp. Inc. by by Knight Piésold Ltd. on February 7, 2024. File No. NB301-00988/02-A.01.

Horsfield, K. and Muir, W. (2024b). Samapleu Nickel Copper Project - Conceptual Level Tailings and Water Management Plan, Figure 3. Submitted to Sama Nickel Corp. Inc. by Knight Piésold Ltd. on February 7, 2024. File No. NB301-00988/02-A.01.

IVNE (2019). Yacouba Intrusive Complex. Internal Company Report.

KP (Knight Piésold Ltd.) (2023). Transmittal to Mr. Glen Kuntz, P.Geo., Ivanhoe Electric Inc. Re: Sama Project - Scoping Level Cost Estimates for Tailings and Water Management. June 21. North Bay, Ontario. Ref. No. NB23-00669 (NB302-988/1).

Koffi, G.R-S., Kouamelan, A., Allialy, M., Coulibaly, Y., and Peucat, J-J. (2020). Re-evaluation of Leonian and Liberian events in the geodynamical evolution of the Man-Leo Shield (West African Craton), Precambrian Research, Volume 338.

Kouamelan, A, N., Delor, C., Peucat, J.J. (1997). Geochronological evidence for reworking of Archean terrains during the Early Proterozoic (2.1Ga) in the western Côte d'Ivoire (ManRise-West African Craton). Precambrian Research 86 (1997), pp 177-199.

Landen (2010). Landen Capital Corporation. Press Release, March 29, 2010.

Major countries in worldwide nickel mine production in 2023. Retrieved on February 26, 2024 from statista.com: https://www.statista.com/statistics/264642/nickel-mine-production-by-country/

McCracken, T. and Martin, C. (2023). NI 43-101 Technical Report for the Mineral Resource Estimate for the Samapleu and Grata Deposits. Chapter 4. June 19, 2023.

MDEng (2019). Geotechnical Scoping Study for Samapleu Ni-Cu-PGE project. MDEng Report #18022-104, submitted to Sama Resources. March 21, 2019. 31 pg.

Nahon, et al. (1982). Lateritic weathering of Rocks and the Concentration of Nickel in the Western Ivory Coast. Economic Geology, Vol. 77 pp. 1159-1175.

Naldrett, A.J. (1999). World-class Ni-Cu-PGE deposits: key factors in their genesis. Mineral. Deposits 34, 227–240.

Ocean Partners (2023). Copper and Gold Concentrate Market Study, Cordoba Minerals Corp. Alacrán Project, Prepared by Ocean Partners Rev 1. November 22, 2023.

Ouattara, N. (1998). Pétrologie, géochimie et métallogénie des sulfures du groupe du platine des ultrabasites de Côte d'Ivoire: Signification géodynamique et implications sur les processus de croissance crustale à l'archéen et au paléoprotérozoîque. Thèse de doctorat, Univ. Orléans France, 199 p.

Picard et al. (2010). Research Projects on the Yacouba Complex, and the Ni-Cu-PGE and Chromite Mineralization performed by Prof. C. Picard, F. Gouedji, N. Ouattara, B. Bakayoko, M.A. Audet, and others for Sama Nickel Corporation.

Rivard, D., Ayad, M. A. B., Billington, F., Martin, C. (2012). NI 43-101 Technical Report for the Mineral Resource Estimate for Samapleu deposits. July 20, 2012.

S&P Capital IQ Pro. (2024). Commodity Market Outlook. New York, NY, USA. February 27, 2024.

S&P Global Capital IQ Pro. (2024). CIQ Mapping. New York, NY, USA. February 27, 2024.

SNC (2015). Sama Nickel Corporation. Internal Company Report.

SNC (2018). Sama Nickel Corporation. Internal Company Report.

SNC (2023). Sama Resources Doubles Mineral Resources at the Samapleu-Grata Nickel-Copper Deposits in Côte d'Ivoire, West Africa. Metallurgical Copper Recovery up to 88% in a 26% Copper Grade Concentrate and up to 72% Nickel Recovery in a 13% Nickel Grade Concentrate. Press Release.

SGS Environment Côte d'Ivoire (2013a). *Étude de l'état initial du milieu bio-physique de la zone du projet Samapleu.* July 2023. Doc. No. SAMA_Samapleu_Baselinebioph_d1_r1.

SGS Environment Côte d'Ivoire (2013b). *Étude de l'état initial socio-économique de la zone du projet Samapleu,* July 2013. Doc. No. SAMA_Samapleu_Baselinesocio_d1_r1.

SODEMI (1976). Internal Company Report.

Thorpe, R. and Anderson, J. (2023). Samapleu Metallurgical Testing Report, by Blue Coast Research. Date: July 7, 2023.

Trillion Resources Ltd. (1991). Geological Evaluation of the Samapleu Research Permit, Département de Biankouma, Côte d'Ivoire.

USDA (1986). United States Department of Agriculture. Urban Hydrology for Small Watersheds - TR-55. June 1986.

Van Schie, J. and Asi, B. (2024). Site Layout and Infrastructure List. BBA Drawing No. 7762002-000400-41-D20-001. February 14, 2024.

WMO; data for the period 1961-1990; Precipitations Etude Climatologique des Sites de Lola et de N'zerekore 2017; Mamadou Tounkara; Direction Nationale de la Météorologie; Décembre 2017, data collected in 1979-2009; Wind speed: www.weatherbase.com; Years on Record: 112.

Yang, D. and G. Marjovsky (2024). Samapleu PEA - 90 kV Primary Substation Single Line Diagram. BBA Drawing No. SLD 7762002-000400-47-D10-0001.

Yao Kouamé, Raoul (2010). *Rôle de la SODEMI dans le développement du secteur minier.* Presentation dated June 8, 2010.

27.1 Websites

Endeavour Mining website: Homepage | Endeavour Mining.

https://ivanhoeelectric.com – March 25, 2024

https://natural-resources.canada.ca – Copper facts

https://www.usgs.gov/centers/national-minerals-information-center/cobalt-statistics-and-information#:~:text=Cobalt%20is%20also%20used%20to,for%20porcelain%20enamels%3B%20high%2Dspeed

https://www.usgs.gov/centers/national-minerals-information-center/platinum-group-metals-statistics-and-information

https://natural-resources.canada.ca/our-natural-resources/minerals-mining/mining-data-statistics-and-analysis/minerals-metals-facts/gold-facts/20514

https://ivanhoeelectric.com/news/ivanhoe-electric-announces-completion-of-earn-in-to-acquire-a-60-interest-in-the-samapleu-grata-nickel-copper-project-in-the/

Ivory Coast Population 2023 (worldpopulationreview.com

Yamoussoukro Population 2023 (worldpopulationreview.com

http://worldpopulationreview.com/countries/ivory-coast-population/