#### **MRP801**



412-4550 rue Hochelaga Montréal, Quebec H1V 1C5 Phone 514-649-1560

## NI 43-101 Technical Report, Mineral Resource and Mineral Reserve Estimates for the Nampala Gold Mine (2020)

#### Prepared for



Robex Resources Inc. 437 Grande Allée Est, Suite 100 Québec, Quebec, Canada G1R 2J5

#### **Project Location**

Latitude 11°09'11" North and Longitude 06°13'00" West Sikasso Region, Mali

#### Prepared by:

Mario Boissé, Eng. Denis Boivin, P.Geo. Antoine Berton, Eng., Ph.D

> Effective Date: July 31, 2020 Signature Date: October 23, 2020

#### **SIGNATURE PAGE - MRP801**

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(Original signed and sealed)	Signed in Montréal on October 23, 2020
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#### **CERTIFICATE OF AUTHOR - MARIO BOISSÉ**

- I, Mario Boissé, P.Eng., do hereby certify that:
- 1. I am employed by MRP801 Inc. at 412-4550 rue Hochelaga, Montréal, Quebec, Canada, H1V 1C5.
- 2. This certificate applies to the report entitled "NI 43-101 Technical Report, Mineral Resource and Mineral Reserve Estimates for the Nampala Gold Mine (2020)" (the "Technical Report") with an effective date of July 31, 2020 and a signature date of October 23, 2020. The Technical Report was prepared for Robex Resources Inc. (the "Issuer").
- 3. I graduated with a B.Eng. degree in Mining Engineering in 2002 from École Polytechnique de Montréal (Montréal, Quebec).
- 4. I am a member of the Ordre des ingénieurs du Québec (OIQ #130715).
- 5. I have worked as a mining engineer for a total of eighteen (18) years since graduating from university in 2002. I have gained experience working on economic evaluation, pushback and LOM as a chief mine engineer for two major mining companies in Africa. The companies I have worked for include QCMC (Canada), Dyno Nobel (Canada), Nordgold (Burkina Faso), Accenture (Canada), Ambatovy (Madagascar) and BBA (Canada).
- 6. I have read the definition of a qualified person ("QP") set out in National Instrument 43-101 ("NI 43-101") and certify that because of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to act as a QP for the purposes of NI 43-101.
- 7. I made one visit to the Nampala Mine from October 12, 2020 to October 19, 2020.
- 8. I am the author of items 1 to 5, 15, 16, and 18 to 22 of the Technical Report. I am co-author and share responsibility for items 6 to 8, 14, and 24 to 27 of the Technical Report.
- 9. I am independent of the Issuer applying all tests in Section 1.5 of NI 43-101.
- 10. I have not had prior involvement with the property that is the subject of the Technical Report other than the previous Technical Report. I provide technical support related to LOM contained in that Technical Report to the Nampala Mine.
- 11. I have read NI 43-101 and the items of the Technical Report for which I am responsible have been prepared in compliance with that instrument.
- 12. 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 the scientific and technical information required to be disclosed not to make the Technical Report misleading.

Signed on October 23, 2020 in Montréal, Canada.

(Original signed and sealed)

Mario Boissé, P.Eng. MRP801 Inc. mario.boisse.mrp801@gmail.com

#### **CERTIFICATE OF AUTHOR – DENIS BOIVIN**

- I, Denis Boivin, P.Geo., do hereby certify that:
- 1. I am an independent consultant for Programine, Ave. A. Prat 1724, Iquique, Chile.
- 2. This certificate applies to the report entitled "NI 43-101 Technical Report, Mineral Resource and Mineral Reserve Estimates for the Nampala Gold Mine (2020)" (the "Technical Report") with an effective date of July 31, 2020 and a signature date of October 23, 2020. The Technical Report was prepared for Robex Resources Inc. (the "Issuer").
- 3. I graduated with a B.Sc. degree in Geology in 1988 from Université du Québec à Chicoutimi (Chicoutimi, Quebec).
- 4. I am a member of the Ordre des Géologues du Québec (OGQ No. 816).
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- 6. My expertise has been acquired while working as a mine and exploration geologist for several companies in North America since 1988, South America since 1998 and West Africa since 2008. The companies I have worked for include: Placer Dome Quebec, Aur Resources Quebec & Chile, CMP Chile, Hecla Mining Venezuela, AMEC Peru, SRK Toronto, Xtrata Chile, Scorpio Mining Mexico, Nordgold Burkina Faso, Alufer Mining Guinea, Golden Star Resources Ghana and lamgold Burkina Faso.
- 7. I have read the definition of a qualified person ("QP") set out in National Instrument 43-101 ("NI 43-101") and certify that because of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to act as a QP for the purposes of NI 43-101.
- 8. I visited the property from March 5, 2020 to August 1, 2020.
- 9. I am the author of items 9 to 12 and 23 of the Technical Report. I am co-author and share responsibility for items 6 to 8, 14, and 24 to 27 of the Technical Report.
- 10. I am independent of the Issuer applying all tests in Section 1.5 of NI 43-101.
- 11. I have not had prior involvement with the property that is the subject of the Technical Report.
- 12. I have read NI 43-101 and the items of the Technical Report for which I am responsible have been prepared in compliance with that instrument.
- 13. 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 the scientific and technical information required to be disclosed not to make the Technical Report misleading.

Signed on October 23, 2020 in Bamako, Mali.

(Original signed and sealed)

Denis Boivin, P.Geo. Independent Consultant for MRP801 Inc. programine@yahoo.com

#### **CERTIFICATE OF AUTHOR – ANTOINE BERTON**

I, Antoine Berton, P.Eng., Ph.D. do hereby certify that:

- 1. I am employed by Soutex Inc. at 1990, rue Cyrille-Duquet Local 204 Québec QC G1N 4K8 Canada.
- 2. This certificate applies to the report entitled "NI 43-101 Technical Report, Mineral Resource and Mineral Reserve Estimates for the Nampala Gold Mine (2020)" (the "Technical Report") with an effective date of July 31, 2020 and a signature date of October 23, 2020. The Technical Report was prepared for Robex Resources Inc. (the "Issuer").
- 3. I graduated with a B.Sc. degree in Physics in 1998 from Université Laval (Québec, Quebec) and Ph.D. in Metallurgical Engineering in 2004 from Université Laval (Québec, Quebec).
- 4. I am a member of the Ordre des Ingénieurs du Québec (OIQ No. 128618).
- 5. I have worked as a metallurgist/process engineer for a total of fourteen (14) years since graduating from university in 2004.
- 6. My expertise has been acquired while working as a mineral processing engineer consultant the whole time for Soutex Inc. The companies I have worked for while at Soutex include: Xstrata, Cliffs Natural Resources, Agnico Eagle, IAMGold, Rio Tinto, Canadian Malartic, Potash Corp, Robex Resources.
- 7. I have read the definition of a qualified person ("QP") set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to act as a QP for the purposes of NI 43-101.
- 8. I visited the property many times (+15) from November 2015 to December 2019.
- 9. I am the author of items 13 and 17 of the Technical Report.
- 10. I am currently involved with the Nampala mine site as I work as Senior Metallurgist for Soutex that provides technical support for daily operation since November 2015.
- 11. I have read NI 43-101 and the items of the Technical Report for which I am responsible have been prepared in compliance with that instrument.
- 12. 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 the scientific and technical information required to be disclosed not to make the Technical Report misleading.

Signed on October 23, 2020 in Munich, Germany.

(Original signed and sealed)
Antoine Berton, P.Eng.,Ph.D.
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#### ITEM 1. SUMMARY

#### 1.1 PROPERTY DESCRIPTION AND OWNERSHIP

The property is in southern Mali, in the Sikasso administrative region, approximately 255 km southeast of Bamako.

The property currently holds one exploration permit and one exploitation permit. The Nampala Mine is within the Nampala exploitation permit (16.1 km²). This exploitation permit is surrounded by the Mininko exploration permit (62 km²) that is currently active.

Robex is the sole owner of the property. However, AMA retains a 1% NSR royalty on Nampala and a 1% NSR royalty on Mininko for any production from the previously described property.

#### 1.2 EXPLORATION AND DRILLING STATUS

The Nampala exploitation permit is valid. While steady production is being achieved at the mine, infill drilling was completed during 2020 solely on the east of the Nampala mine. The additional information originates from the Nampala Phase 4 campaign and included 410 RC drill holes for a total of 34 998m with an average depth of 85 meters. This effort triggered a Mineral Resource and Mineral Reserve review presented in this document.

#### 1.3 DATA VERIFICATION

The authors believe that the current sampling methods, sample preparation procedures, analytical techniques and sample security measures are considered appropriate and sufficient to meet currently accepted industry standards.

#### 1.4 SITE VISITS

One visit was completed in October 2020 by Mario Boissé, P.Eng., for a period of 8 days. The visit aimed to review the current mining production advance and examine the tailings storage facility.

One visit was completed from March 5, 2020 to August 1, 2020 by Denis Boivin, P.Geo., for a period of 149 days. The visit aimed to support the last exploration campaign.

#### 1.5 MINERAL RESOURCE ESTIMATE (2020 MRE)

The Mineral Resource Estimate was calculated from the grade interpolation performed on the Nampala exploitation permit from 2 meters drill hole composites using the grade of material analyzed and capped at 15 g/t Au. The grade model was interpolated according to the direction of mineralization using the Leapfrog Geo version 5.1.0 RBF (Radial Basis Function) method and evaluated in a (5 m x 15 m x 5 m) block model oriented at 20 degrees. In situ densities were interpolated in their respective oxidation domains, averaging: Saprolite (Oxides) = 1.67; Transition = 2.29 and Fresh Rock = 2.67 (g/cm<sup>3</sup>).

The Mineral Resource was then constrained and reported within a Pit Shell built with the Lerch-Grossman pit optimizer using the MineSight Project Evaluator 1.0.4.3902 software.

The gold price was set at USD 1,700/oz. to be consistent with current market trends. The optimizer used current operation data in the oxidized ore and conservative parameters for the material located in the Transition and Fresh Rock weathering horizon.

The conservative parameters used for heap leach stems from two important points.

First, the borehole logs available in the geological database indicate a few pyrite and arsenopyrite observations at depth. However, this information is qualitative and requires additional investigation to assess the location and scale of the occurrences. This will allow achieving meaningful metallurgical testing to evaluate the recovery rate and cost for various processing methods.

Second, if the Fresh Rock material is to be processed, it is worth noting that the current processing flowchart may be deficient regarding crushing capabilities.

On July 31, 2020, the Mineral Resource in the Indicated category was estimated at 37,887,000 t at a grade of 0.71 g/t Au and a metal content of 869 000 oz. of gold. The Mineral Resource in the Inferred category was estimated at 2,989,000 t at a grade of 0.69 g/t Au and a metal content of 66 000 oz. of gold. The presented Mineral Resource includes the Mineral Reserve.

#### 1.6 MINERAL RESERVE ESTIMATE (2020 MR)

The uncertainties linked to the possible presence of refractory material at depth and the absence of a suitable crushing facility justify caution for the material located in the Lower Transition and Fresh Rock. While gold mineralization is identified at depth, the unknowns surrounding the existing ore process flowchart for the Lower Transition and Fresh Rock prohibit the inclusion of additional Mineral Reserve in those two weathering horizons.

On July 31, 2020, the Mineral Reserve was estimated at 17,147,000 t of oxidized ore with a metal content of 391 000 oz. of gold. The average grade was 0.71 g/t using a cut-off of 0.28 g/t in the Oxide and 0.31g/t in the Lower Transition.

#### 1.7 CONCLUSION AND RECOMMENDATION

Data reliability for surveying, hole-logging data, sample collection and assaying is considered to be high based on the QA/QC protocols and procedures, including; collar locations, assays, the QA/QC program, downhole survey data, lithologies, alteration and structures present in the GeoticLog database. These methodologies used by Robex personnel, make the data adequate for Mineral Resource and Mineral Reserve estimation.

The reported Mineral Reserve allows for continuous operation in the oxidized ore and Upper Transition for almost 9 years considering a production rate similar to the current level. This mining production period will allow time to complete metallurgical testing on the Lower Transition and Fresh Rock while additional geological information is gathered in the vicinity of the 7 pits.

#### ITEM 2. INTRODUCTION

#### 21 OVFRVIEW

At the request of Augustin Rousselet, Vice-President Finance (CFO) of Robex Resources Inc. (the "Issuer"), MRP801 was chosen to prepare a NI 43-101 Technical Report on the Nampala and Mininko permits. This report supports the results of a new Mineral Resource and Mineral Reserve estimate for the Nampala gold mine (the "Project") in accordance with National Instrument 43-101, Form 43-101F1 and CIM Definition Standards.

Robex's management team requested that MRP801 validate the geological database, estimate the Mineral Resource (2020 MRE) and Mineral Reserve (2020 MR) and establish economical open pits to increase Mineral Reserve while in operation.

MRP801 is an independent consulting firm based in Montréal in the province of Quebec, Canada.

Robex is a Canadian company trading publicly on the TSX Venture Exchange (TSXV) under the symbol "RBX", and on the Frankfurt Stock Exchange under the symbol "RB4."

The 2020 MRE and 2020 MR include additional drill hole information which was gathered since the previous Mineral Resource estimate (2019 MRE) published in a 43-101 technical report.

#### 2.2 REPORT RESPONSIBILITIES

The responsibilities of each author are provided in Table 2-1.

Table 2-1 Responsibilities for each QP

QP Author	Professional association	Responsible for sections	Shared responsibility for sections
Mario Boissé	OIQ #130715	1-5, 15, 16, 18-22	6-8, 14, 24-27
Denis Boivin	OGQ #816	9-12, 23	6-8, 14, 24-27
Antoine Berton	OIQ #128618	13,17	

#### 2.3 SITE VISITS

The description of each QP's visit and the main objectives are outlined in Table 2-2.

Table 2-2 QP's visit and objectives

rabio 2 2 di o rioli alla objectivo			
QP	Period	Main objectives	
Mario Boissé	October 11, 2020 to October 19, 2020	Inspect production infrastructures Validate LOM parameters Assess mine operation efficiency	
Denis Boivin	March 5, 2020 to August 1, 2020	Validate the geological database Examine the core shack, the open pit, the SGS Robex- Nampala laboratory and the QA/QC procedures	
Antoine Berton	Multiple visits since November 2015	Senior Metallurgist for Soutex that provides technical support for daily operation	

#### 2.4 EFFECTIVE DATE

- The effective date of the 2020 MRE and 2020 MR was July 31, 2020.
- The effective date of the Technical Report was July 31, 2020.

#### 2.5 SOURCE OF INFORMATION

The documents listed in Item 27 were used as references to complete the current Technical Report. All citations are referenced in the Technical Report.

MRP801 reviewed the press release by the Issuer on SEDAR along with the technical document contained in the Issuer website (https://robexgold.com/en/investors/document-library/).

MRP801 examined the Issuer's geological database that included the drilling campaign completed in 2020.

A total of 2 site visits were conducted in 2020 to review methodologies and procedures related to geology, mining operations and ore treatment.

#### 2.6 UNIT AND CURRENCY

gpt

Unless otherwise stated, all units used in this report are metric. Gold assay values (Au) are reported in grams per tonne gold ("g/t Au") and gold content is reported in troy ounce (oz.). The USD currency is used throughout this report unless another currency is stated.

#### 2.7 GLOSSARY AND ABBREVIATION OF TERMS

In this Technical Report, the following terms have the meanings outlined in the list below.

<b>Abbreviation</b>	Meaning
μm	micrometer
2020 MR	current Mineral Reserve
2020 MRE	current Mineral Resource
AA	atomic absorption
AAS	atomic absorption spectroscopy
AC	air core drilling
Au	gold
AMA	Amalgameted Mining Assets Ltd.
CAD	currency of Canada, in dollars
CAPEX	capital cost
CIL	carbon-in-leach mineral processing
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
COG	cut-off grade
CRM	Certified Reference Materials
DCP	distance to closest point
DD	diamond drill hole
DK	disjunctive kriging
ELE	elevation level
EUR	currency of the European Union, in euros
FA	fire assay
FS	feasibility study
G&A	general and administration
g/t	grams per tonne
g/t Au	grams of gold per tonne of rock

grams per tonne

IDC International Drilling Company

IEC International Electrotechnical Commission
ISO International Organization for Standardization

kg kilogram

kg/cm<sup>3</sup> kilograms per cubic meter

kg/t kilograms per tonne

km kilometer equal to 1,000 meters
KPI key performance indicators
LFST Leap Frog structural trends

LOM life of mine

m metric meter distance

M million
max maximum
min minimum
mm millimeter

Mm³ million cubic meters
Mt millions of tonnes

NI 43-101 Canadian Securities Administrators' National Instrument 43-101

OK ordinary kriging
OPEX operating cost

OREAS ORE Research & Exploration Pty Ltd.

oz troy ounce

QA/QC quality assurance/quality control

RAB reverse air blast
RBF radial basis function
RC reverse circulation
Robex Robex Resources Inc.

ROM run of mine

ROM pad stockpile of run of mine

SCC Standards Council of Canada

SEDAR System for Electronic Document Analysis and Retrieval

SGS SGS Minerals Services

t metric tonne equivalent to 1,000 kilograms

t/a tonnes per year tpd tonnes per day

TMF Tailings management facilities

USD currency of the United States of America, in dollars

#### ITEM 3. RELIANCE ON OTHER EXPERTS

MRP801 has relied on the assumption that all information and existing technical documents listed in Item 27 of this Technical Report are accurate and complete in all material aspects. While MRP801 carefully reviewed all the available information presented, MRP801 cannot guarantee its accuracy. We reserve the right, but will not be obligated, to revise this Technical Report if additional information becomes known to us after the date of this Report.

The QPs relied on the following people or sources of information during the preparation of this Technical Report:

- The Issuer supplied information about mining titles, operating licenses, royalty agreements, environmental liabilities and permits. MRP801 is not qualified to express any legal opinion for property titles, ownership, possible litigation and environmental issues.
- Augustin Rousselet, COO and CFO of Ressource Robex Inc provided current operational KPI which were used to validate assumptions for the Oxide material presented in Table 14-4. He also provided the CAPEX forecast presented in Table 21-1.
- Jacky Tremblay, for Traduction-Québec, provided linguistic editing for a draft version of the Technical Report.

A draft copy of this Technical Report has been reviewed for factual errors by Robex and the authors have relied on Robex's historical and current knowledge of the Property in this regard. All statements and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are not false and misleading at the date of the Technical Report.

#### ITEM 4. PROPERTY DESCRIPTION AND LOCATION

#### 4.1 LOCATION

The property is located in southern Mali, in the Sikasso administrative region, approximately 255 km southeast of Bamako. The Nampala Mine coordinates are 06°12'52"W and 11°09'17"N.

The Nampala Mine is within the Nampala exploitation permit (Table 4-1). This exploitation permit, where the mining currently occurs, is surrounded by the Mininko exploration permit (Table 4-2). The Mininko exploration permit is currently active. The information regarding the status of the exploration permits was extracted from the Ministry of Mines of Mali on the online repository (<a href="https://mali.revenuedev.org/dashboard">https://mali.revenuedev.org/dashboard</a>).

Table 4-1 Exploitation permit current status

Permit name	License code	Start date	Expiry date	Area	Status
Permis d'exploitation de Nampala	PE 2011/17	21/03/2012	20//03/2042	16.1 km²	Active

Table 4-2 Exploration permit current status

Permit name	R	eference code	Start date	Area	Status
Permis de recherche de Mininko	e A	PL-I-2423	2019-09-16	46km²	Active

A map (Figure 4-1) presents the two permits included in the property. The points associated with each permit boundary are listed in Table 4-3 and Table 4-4.



Figure 4-1 Property location map

Table 4-3 Mininko exploration permit boundaries

Point	Lat (North)	Long (West)	Point	Lat (North)	Long (West)
А	011° 10′ 30″	006° 14′ 00"	К	011° 06' 00"	006° 12′ 59″
В	011° 10′ 30″	006° 11′ 30″	L	011° 06′ 00"	006 13' 29"
С	011° 07' 58"	006° 11′ 30″	M	011° 04′ 30"	006 13' 29"
D	011° 07' 58"	006° 11′ 41″	N	011° 04′ 30″	006° 16′ 00″
Е	011° 09' 52"	006° 11′ 41″	0	011° 06′ 30″	006 16' 00"
F	011° 09' 52"	006° 14′ 12"	Р	011° 06′ 30″	006 15' 31"
G	011° 07' 57"	006° 14′ 12″	Q	011° 08′ 30″	006 15' 31"
Н	011° 07' 57"	006° 12′ 00"	R	011° 08′ 30″	006 15' 00"
I	011° 07' 00"	006° 12′ 00″	S	011° 10' 00"	006 15' 00"
J	011° 07' 00"	006° 13′ 00″	Т	011° 10′ 00″	006 14' 00"

Table 4-4 Nampala exploitation Permit boundaries

Point	Lat (North)	Long (West)	Point	Lat (North)	Long (West)
U	011° 09′ 50″	006° 14′ 13″	Х	011° 07' 58"	006° 11′ 42″
V	011° 09' 50"	006° 11′ 42″	Υ	011° 07' 58"	006° 14′ 13″

#### 4.2 ROYALTIES

Robex is the sole owner of the property. However, AMA retains a 1% NSR royalty on Nampala, and Mininko.

#### 4.3 ENVIRONMENTAL LIABILITIES

The environmental liabilities associated with the property are bounded by the environmental permit (Section 20.3) and described in the mine closure plan (Section 20.5)

#### 4.4 RISK FACTOR

Exploration permits are renewed by the Malian government based on the review of the exploration effort by Robex. As such, there is a risk that the current exploration permits may not be renewed.

# ITEM 5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

This item was covered in Item 5 in a previous technical report titled "NI 43-101 Technical Report for the Nampala and Mininko Permits (Mali) and Mineral Resource Estimate for the Nampala Gold Mine," InnovExplo Inc., 2018. The author of this specific item was Kerr-Gillespie F., M.Sc., P.Geo., from InnovExplo Inc. The information presented in this section is a summary of the referenced document.

#### 5.1 TOPOGRAPHY, ELEVATION AND VEGETATION

Near the mine, the topography is generally flat as the average altitude varies from 320m to 350m. There are a few lateritic plateaus that rise 20 to 30m above the surrounding land.

The vegetation in the surrounding area is savannah-type and mainly composed of grasslands, arable fields and sparse scrubs and small trees.

#### 5.2 PROPERTY ACCESS

Mali is a landlocked country. The seaport of Dakar, in Senegal, can be accessed via the railroad line located in Koulikoro (60km east of Bamako). The major port of Abidjan, located in Ivory Coast, can be accessed by road.

The Bamako airport is accessible by regular international flights. There is a regional airport in Sikasso but no regular flight occurs between this regional airport and Bamako.

The RN7 is the closest paved highway near the mine. Using the RN7, the distance from Finkolo to Bamako is 396km. To access the mine, the remaining travel must be done on a dirt road for 9,6km.

#### 5.3 PROXIMITY

The main population center is Bamako (pop. 3,337,000; 2016 census). The town of Sikasso is the regional center (pop. 225,753; 2009 census). The mine's workers come mainly from the nearby town of Finkolo, Djikouna and Nampala.

The transportation between those communities and the mine is accomplished by paved road and dirt road.

#### 5.4 CLIMATE

The mine area is characterized by a subtropical to hot climate with long dry season and shorter wet seasons. The rainy season extends from May to October with an average rainfall of 1000mm per year.

Operations at the mine are conducted year-round. However, specific exploration activities may present certain limitations requiring additional caution during the raining season.

#### 5.5 LOCAL RESOURCES

Local skilled labor is available for most aspects of the mining operation. Specialized personnel for mine development generally come from Bamako

No electrical grid is available in the vicinity of the mine. No aqueduct is available in the mine area. However, water supply is accessible using well pumping.

#### 5.6 INFRASTRUCTURE

The infrastructure located on the Nampala mite site include:

- Lodging area (Security forces)
- Primary camp with amenities
- Analytical laboratory
- Power plant
- Buffer water tank
- Tailings pond
- Retention pond with pumping station
- Warehouse
- Containers for offices, administration
- Containers for mechanical shop
- Containers for sanitary accommodation
- Kitchen for mill employees
- Coreshack

- Hangar
- 3 structures (electrical, compressor rooms, offices
- Septic tanks and sewer system
- Medical clinic
- Mosque
- Site fencing
- Water wells(11)
- Mine access road
- Core shack
- CIL mill concentrator
- Fuel tanks and fuel bay
- Helipad
- Containers and sheds for equipment storage

An overview of the mining site infrastructures is shown in Figure 5-1.

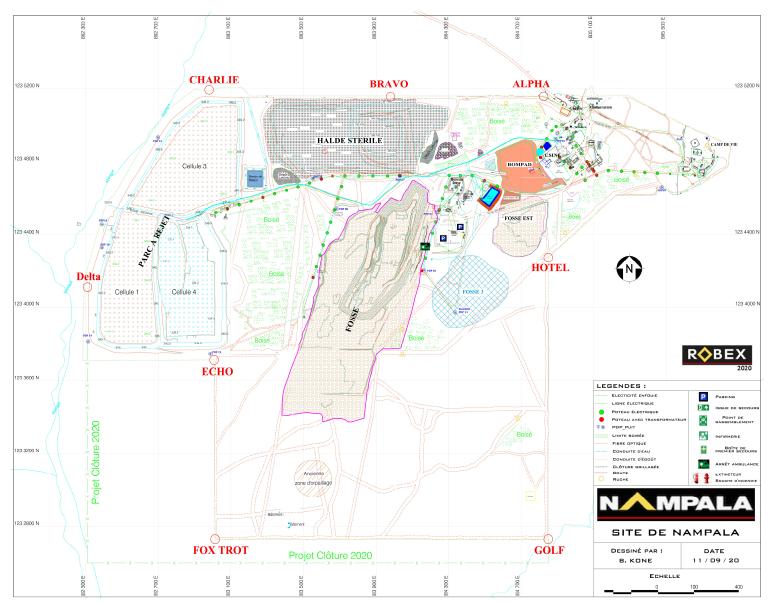


Figure 5-1 Mine site infrastructure plan

#### ITEM 6. HISTORY

#### 6.1 BEFORE 2017

Before 2017, the site history was covered in Item 6 of the previous technical report titled "NI 43-101 Technical Report for the Nampala and Mininko Permits (Mali) and Mineral Resource Estimate for the Nampala Gold Mine," InnovExplo Inc., 2018. The author of this specific item was Kerr-Gillespie F., M.Sc., P.Geo., from InnovExplo Inc. The information presented in section 6.1 is an excerpt from the referenced document.

#### 6.1.1 1964 TO 1965 – EXPLORATION PROGRAM (SONAREM)

An exploration program was carried out in southern Mali by SONAREM, Algeria's State Mining and Mineral Monopoly, in collaboration with the Soviet Union. The program targeted alluvial gold deposits (Golder et al., 1965). According to the 2012 technical report prepared for Robex, this early campaign delimited "a large anomalous area, with mineralized bedrock potential, between Dekorobougou and Koba to the north, Banifing to the south, and the Bagoé River to the west".

#### 6.1.2 1980 TO 1991 – EXPLORATION PROGRAM (UNDP)

Between 1980 and 1991, the United Nations Development Programme ("UNDP") funded an exploration program in the Bagoé River region (Bagoé Gold Project, MLI/79/003) to follow up on gold anomalies identified by SONAREM in 1965.

**1981**: The UNDP conducted a regional soil survey at a grid spacing of 1,000 m x 200 m to define a gold anomaly with a surface area of 16 km<sup>2</sup> (50 ppb to 140 ppb Au).

**1982:** A second more detailed soil sampling program was realized using a 200 m x 200 m sampling grid over the anomaly. This survey defined a larger anomaly to the south of the village of Nampala. Later that same year, a tighter 50 m x 50 m grid was defined over an area of 1 km $^2$ , in the area with the highest gold values.

**1983:** A VLF survey was conducted over the anomaly, revealing numerous N-S structures.

**1985:** The Nampala gold anomaly was confirmed in 1985 after a verification soil sampling survey with a tight grid was conducted over the anomalous area identified by the original 1,000 m x 200 m regional soil sampling survey of 1981.

**1987–1988:** An additional soil sampling survey at 1,000 m x 200 m was conducted to the south, east and north of the original Nampala anomaly. At the same time, 22 old "wells" were rehabilitated to better understand the host rock. The "wells" were logged and sampled. Also, three (3) DDH were completed.

**1988:** Two vertical core holes were drilled: Nams2 and Nams3 to depths of 86.9 m and 136.2 m, respectively.

**1990 to 1991**: Three (3) vertical holes were drilled.

#### 6.1.3 1993 TO 1994 - BROKEN HILLS PROPRIETARY COMPANY LIMITED

Broken Hills Proprietary Company Limited ("BHP") drilled 109 auger holes spaced 20 m apart on 4 drill lines spaced 200 m apart for a total of 1,333 m with an average depth of 12.2 m per hole. The holes were terminated after obtaining 5 m in saprolite. Systematic sampling was done on 2-m composite intervals; however, only the first two surface samples and the last two saprolite samples were analyzed for gold.

A VLF-EM survey was completed over the auger-drilled lines as well as two lines to the north.

BHP estimated a resource of 2.3 t of gold in three separate zones in the upper 20 m of the saprolite profile at a grade of about 2.0 g/t Au, but then abandoned the property without further work (source BHP Mali cited in Marchand, 2012).

This "resource" is historical in nature and should not be relied upon. It is unlikely it conforms to NI 43-101 requirements or CIM Definition Standards, and it has not been verified to determine its relevance or reliability. It is included in this section for illustrative purposes only and should not be disclosed out of context.

# 6.1.4 2000 TO 2001 – EXPLORATION PROGRAM (GEOSERVICES INTERNATIONAL LTD AND NEWMONT MINING CORPORATION)

In mid-2000, Geoservices International Ltd of Bamako, Mali ("GSI") acquired the original Mininko exploitation permit and undertook a work compilation study and reconnaissance program for the area. In December 2000, Newmont Mining Corporation ("Newmont") evaluated the earlier exploration work done on the Property and concluded that further drilling was warranted at Nampala. On November 26, 2001, Newmont entered into an agreement with GSI to allow Newmont to fund and carry out future exploration work on the exploration permit held by GSI. According to the terms of the agreement, Newmont would form a new company called Geoservices Resources Limited ("GSR"), which would become the holder of the Mininko Permit but would be controlled by Newmont through a shareholder's agreement in return for consideration paid by Newmont to GSI.

Preliminary reconnaissance was first conducted on the permit, followed by geophysical surveys (ground magnetics) and geochemical soil sampling. The results of the ground magnetic survey indicated that it was a suitable technique to resolve (map) geological features, and if further work was to be done on the Mininko licence, an aeromagnetic survey would be most useful. The results of the soil sampling program re-confirmed anomalies detected by earlier surveys on the N'Golola and N'Teguela prospects (on the Mininko Permit) as well as the large anomaly at Nampala.

At Nampala, 18,000 m of shallow RAB and AC drilling confirmed the presence of a zone of sporadic, low-grade gold mineralization in saprolite clays over an area of  $100,000 \text{ m}^2$  and to a depth of 40 m. The RAB holes failed to confirm the "gold resource" indicated by the BHP auger traverse results. The drilling was systematically set at a grid spacing of  $200 \times 50 \text{ m}$  or  $400 \text{ m} \times 100 \text{ m}$  over an area of  $5 \text{ km}^2$ .

At the N'Golola Prospect, 2,000 m of RAB drilling confirmed the existence of several isolated narrow zones of gold values above 1 g/t Au, hosted in saprolite clays. These occurrences are scattered over an area of 2 km<sup>2</sup>.

Table 6-1 shows the 2001 drilling statistics from the RAB/AC campaign.

Table 6-1 Drilling statistics from the 2001 RAB/AC drilling campaign

	Nampala Target	N'Golola Target	Total (m)
Metres drilled (RAB+AC)	15,098	4,315	19,413
Total RAB metres drilled	14,264	3,110	17,374
Total AC metres drilled	834	1,205	2,039
Total number of holes (RAB+AC)	355	130	485
Number of RAB holes	338	112	450
Number of AC holes	17	18	35

Despite enlarging the area of potential mineralization at Nampala, GSR's RAB drilling markedly reduced the deposit average grade.

## 6.1.5 2003 TO 2004 – GEOSERVICES INTERNATIONAL AND GOLDEN STAR RESOURCES

Between October 2003 and December 2004, a comprehensive exploration program was performed to re-evaluate the historical resources on the Property. The program, described below, was managed by GSI in joint venture with Golden Star Resources.

In October 2003, a geomorphological map was prepared using aerial and Landsat photos in order to have an accurate map of the regolith (Figure 6.1). A month later in November, a detailed soil sampling program was carried out at a grid of 400 m x 200 m over the entire Property (2,544 samples including QA/QC). This was followed by a short campaign of infill soil sampling on anomalous areas (262 samples including QA/QC). Two trenches with a total linear length of 150 m were excavated on the main Gladié anomaly with no significant results.

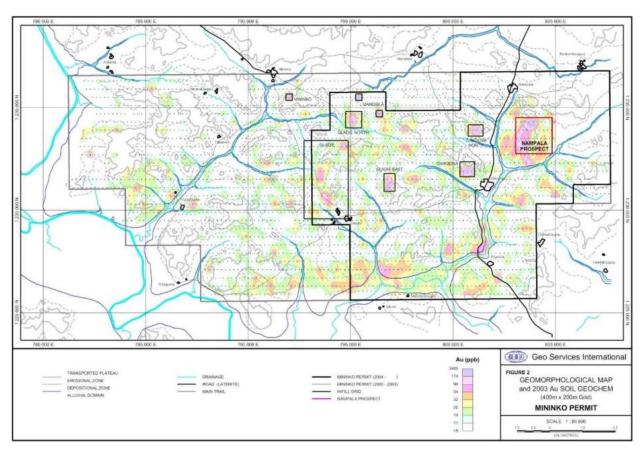


Figure 6-1 Geomorphological map showing the results of the 2003 gold-in-soil geochemistry survey (Source: Geoservice International, 2003)

Two successive drilling campaigns were completed from January to March 2004. A total of 4,715 m was drilled in 36 holes of which 4,189 m were drilled in 31 RC holes and 526 m in 5 DDH. For the RC samples, a first pass analysis was done using 3-m composites. All intervals grading over 200 ppb Au were reanalyzed on 1-m intervals.

In March 2004, Sagax Maghreb S.A. conducted a ground IP survey over a 1.2 km x 1.0 km area covering the main Nampala Prospect. The survey successfully highlighted lithological boundaries and large-scale structural/alteration patterns around the current Nampala deposit.

In August 2004, RSG Global Consulting Pty Ltd prepared a resource estimate (preliminary and non-compliant 43-101) using the results of the 5,000 m drilled on the Nampala prospect area between 2002 and 2004. This historical resource for the Nampala deposit represents 534,000 ounces of gold at a grade slightly over 1.0 g/t Au with a cut-off of 0.6 g/t Au (RSG Global 2004 cited in Marchand, 2012).

This "resource" is historical in nature and should not be relied upon. It is unlikely it conforms to NI 43-101 requirements or CIM Definition Standards, and it has not been verified to determine its relevance or reliability. It is included in this section for illustrative purposes only and should not be disclosed out of context.

#### 6.1.6 2005 TO 2008 – GSI IN COLLABORATION WITH ROBEX RESOURCES INC.

On March 8, 2005, Robex entered into an agreement with GSI to obtain an undivided interest of 51% for cash considerations and investments of USD 1,440,000 over a 3-year period. The bulk of the investment was to be focused on the Central Nampala Prospect in the form of drilling campaigns that would increase the confidence level of the existing resources.

Following the interpretation of the regional airborne Mag-EM radiometric survey, a 25-m spaced IP survey was completed over the Nampala geochemical anomaly and the Sikoro Zone.

Two drilling campaigns ran from June 2005 to January 2006 in collaboration with Robex. A total of 9,665 m was drilled, including 9,037 m in 86 RC/AC holes and 628 m in 2 DDH.

Based on the positive results, another drilling campaign was realized. In October and November 2006, a total of 6,221 m was drilled in 56 holes: 3,748 m in 34 holes on the Nampala Zone; 1,135 m in 10 holes on the Mininko NW Zone (in the northwest corner of the permit) and 1,338 m in 12 holes on the N'Golola Zone.

A summary of the 2005-2006 exploration program results can be found in Figure 6-2.

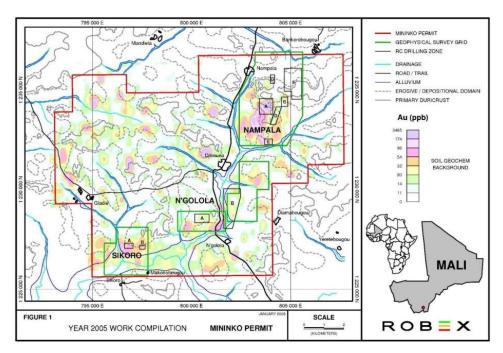


Figure 6-2 Results of the 2005-2006 exploration program an interpreted anomalies (Source: Robex, 2005)

In January 2007, as a result of the previous work, a technical report (NI 43-101 compliant) was prepared by RSG Global Consulting (Wolfe, 2007). The report presented a new resource estimate for the Nampala deposit of 760,000 oz of gold at an average grade of 0.9 g/t Au and a cut-off grade of 0.5 g/t Au. The result came from the combined sum of three mineralized zones. Areas 100 and 200 contain 689,000 oz at an average grade of 0.9 g/t Au and Zone 300 contains 71,000 oz at an average grade of 0.6 g/t. At the time of the estimate, the combined sum of the resources in zones 100, 200 and 300 were classified as Inferred based on the confidence level of the key parameters considered in the estimate.

This NI 43-101 compliant resource is historical in nature and should not be relied upon. It has not been verified to determine its relevance or reliability. It is included in this section for illustrative purposes only and should not be disclosed out of context.

Following the resource estimate, a new deep-drilling campaign was completed in November 2007 for a total of 916 m in 3 DDH.

#### 6.1.7 2009 TO 2012 - ROBEX RESOURCES INC.

In 2009, at the request of Robex, Genivar Inc. (now WSP Global) re-compiled RSG's resource model and proposed drill holes at a grid spacing of 25 m x 25 m over the saprolite portion of the Nampala deposit.

Between February and April 2009, Robex conducted field work to acquire more data on five (5) gold zones within the exploration permit (Figure 6-3). A total of 255 samples were collected.

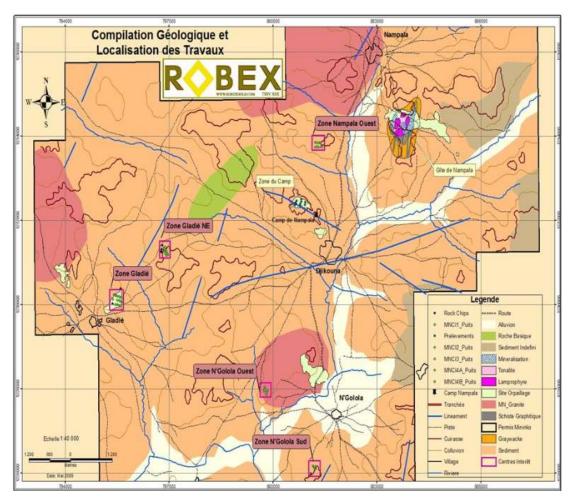


Figure 6-3 Location of the five zones of interest in 2009 and the nature of the field work (Source: Robex, 2009)

In late 2009, a total of 8,208 m was drilled in 119 RC holes.

In 2010, 73 RC/AC holes were drilled for a total of 6,500 m on Zone 100 of the Nampala deposit. In addition, as part of the feasibility study, Robex contracted local companies to conduct topographic surveys and environmental studies and to drill wells for potable water. Metallurgical testing also commenced to determine the best gold extraction method.

In 2010, an internal addendum to RSG's 2007 resource estimate included the 2009 drilling campaigns (Marchand, 2010). The result of this historical estimate indicated that Zone 100 of the Nampala deposit extends from surface to a depth of 85 m and contains 7.6 Mt at a grade of 1 g/t Au, representing 244,045 oz of gold at a cut-off grade of 0.4 g/t Au.

This "resource" is historical in nature and should not be relied upon. It is unlikely it conforms to NI 43-101 requirements or CIM Definition Standards, and it has not been verified to determine its relevance or reliability. It is included in this section for illustrative purposes only and should not be disclosed out of context.

In 2011, two phases of drilling were completed. Phase I comprised diamond drilling from March to July in the area around the Nampala deposit. The aim was to verify the results of previous RC holes by duplicating a few drill collar locations and to verify the continuity of mineralization at depth. Both objectives were attained. A total of 5,000 m was drilled in 19 holes: 8 (2,080 m) were twinned holes, 4 (386 m) were for geotechnical studies, and the other 7 (2,534 m) were to verify

the mineralization. All holes were drilled east at 090° with a dip of 50°. The best intercepts at least 5 m long are presented in Table 6-2 and Table 6-3.

Table 6-2 Best results of the Phase I & II 2011 drilling program (≥5m intervals) 1/2

II-l- ID	Inter	rval	Length	A ( /4 )	
Hole ID	From (m)	To (m)	(m)	Au (g/t)	
Mn2011dd001	90	120	30	0.74	
Mn2011dd002	70	89	19	1.12	
Mn2011dd003	11	108	97	1.20	
Mn2011dd004	31	39	8	1.12	
Mn2011dd004	57	82	25	1.40	
Mn2011dd004	101	108	7	2.41	
Mn2011dd004	121	134	13	2.25	
Mn2011dd005	36	44	8	0.98	
Mn2011dd005	49	57	8	0.96	
Mn2011dd005	61	103	42	1.00	
Mn2011dd006	13	52	39	1.16	
Mn2011dd006	68	84	16	0.81	
Mn2011dd006	96	106	10	0.92	
Mn2011dd006	145	166	21	0.51	
Mn2011dd006	183	193	10	1.49	
Mn2011dd006	198	204	6	1.10	
Mn2011dd007	39	93	54	0.91	
Mn2011dd007	147	152	5	0.97	

Table 6-3 Best results of the Phase I & II 2011 drilling program (≥5m intervals) 2/2

Hole ID	Inter	rval	Length		
noie iD	From (m)	To (m)	(m)	Au (g/t)	
Mn2011dd007	163	176	13	1.09	
Mn2011dd007	198	208	10	1.06	
Mn2011dd007	214	225	11	0.97	
Mn2011dd008	17	60	43	1.05	
Mn2011dd008	140	174	34	0.95	
Mn2011dd009	278	301	23	1.06	
including	278	289	11	1.55	
Mn2011dd009	331	338	7	1.84	
Mn2011dd015	28.5	46	17.5	1.32	
including	28.5	42	13.5	1.74	
Mn2011dd015	112	127	8	0.86	
Mn2011dd016	164	205	41	1.01	
including	164	173	9	1.11	
including	179	185	6	1.62	
including	193	205	12	1.54	
Mn2011dd017	43	48	5	1.53	
Mn2011dd018	20	27	7	2.48	
Mn2011dd018	278	283	5	0.93	

Phase II comprised RC/AC drilling in December 2011 on the southern extension of the Nampala deposit. A total of 2,819 m was drilled in 33 holes. Of the 33 holes, 19 intersected gold mineralization associated with quartz veining in greywacke.

A second addendum to RSG's 2007 resource estimate (Marchand, 2011; used in the 43-101 compliant report of Baril et al., 2011) included the 2009-2010 drilling data and the information on the significant mineralization identified in the sulphide domain (transition zone and fresh rock). The oxide resource was evaluated at 19.9 Mt at a grade of 0.82 g/t (Measured+Indicated) corresponding to 524,000 oz of gold, and 2.4 Mt at a grade of 0.63 g/t Au corresponding to 49,000 oz of gold, both at a cut-off grade of 0.3 g/t Au. The sulphide resource below the oxide resource was evaluated at 7.3 Mt at a grade of 0.81 g/t (Measured+Indicated) corresponding to 189,500 oz of gold, and 24.8 Mt at a grade of 0.96 g/t Au (Inferred) corresponding to 766,400 oz, both at a cut-off grade of 0.3 g/t Au (Table 6-4). The parameters for the resource evaluation include the following:

- 3-m vertical intervals;
- Voronoi (polygonal) method for calculating the surface influence of the assays;

- 10-m benches in the oxide material and 20-m benches in the underlying sulphide material;
- A density of 2.6 g/cm³ for all the weathering profiles and lithologies;
- Cut-off grade of 0.3 g/t Au.

Table 6-4 Nampala 2011 mineral resource estimate

Mineralization	Category	Interval	Million tonnes	Grade (g/t)	Thousand ounces
Oxide 290 to 360	Measured Indicated	290 to 360 290 to 360	11.68.3	0.86 0.76	322 202
	Total	290 to 360	19.90	0.82	524
Sulphide -60 to 290	Measured Indicated	-60 to 290 -60 to 290	0.8 6.5	0.92 0.79	23 167
	Total	-60 to 290	7.30	0.81	190
Total	Measured+Indicated	-60 to 360	27.20	0.82	714
Oxide	Inferred	290 to 360	2.40	0.63	49
Sulphide	Inferred	-60 to 360	24.80	0.96	766
Total	Inferred	-60 to 360	27.20	0.93	815

This NI 43-101 compliant resource is historical in nature and should not be relied upon. It has not been verified to determine its relevance or reliability. It is included in this section for illustrative purposes only and should not be disclosed out of context.

At the end of 2011, a 43-101 compliant feasibility study on the Nampala gold deposit was produced by Bumigeme Inc. at the request of Robex (Baril et al., 2011). The main objective of the report was to establish, apart from the Mineral Reserve, the viability of the project in regard to its technical, economical, environmental and social aspects. The study showed that the Nampala deposit, which is characterized by a low waste-to-ore ratio, would be economically viable.

The reserve amounted to 17.4 Mt at 0.70 g/t Au (390,500 oz) of which 12.2 Mt are in the proven category (70%) and 5.2 Mt in the probable category (30%) based on a cutoff grade of 0.30 g/t Au. The waste-to-ore ratio is 0.55t waste to 1.0 t of ore (Table 6-5) The Mineral Reserve is based on the 2011 measured and indicated resources.

The historical reserve estimate is based on an operational pit that includes a roadway system, berms and minimal working space. The economic pit limits were established using the "EPIT Optimizer" module of the MineSight ™ mine planning software. The calculation of the economic pit was based on the following assumptions: a gold price of USD 1,250/oz, an in-plant recovery of 88% and a total processing and mining cost of 13.00 USD/tonne.

Table 6-5 Nampala 2011 mineral reserve estimate

Category	Reserve (t)	Au (g/t)	
Proven	1,275,000	0.77	
Probable	5,176,000	0.55	
Total	17,351,000	0.7	
Stripping Ratio	0.55		

In 2012, an RC/AC drilling program over three Nampala areas totalled 11,960 m (Nampala South: 72 holes for 5,996 m; Nampala East: 43 holes for 3,682 m). Some condemnation drilling was also carried out (28 holes for 2,282 m). All holes completed and available by the close-out date of the 2012 resource database (exact date unknown) were included in the 43-101 compliant mineral resource estimate (Marchand, 2012) (Figure 6.4). Assay results were still pending for 2,730 m of drilling at the close-out date.

In March 2012, a 43-101 compliant resource estimate was prepared for the southern extension of the Nampala deposit (Marchand, 2012).

The Inferred resource was estimated at 11 Mt at 0.74 g/t Au representing 261,400 oz at a cut-off grade of 0.4 g/t Au (Table 6-6). The parameters included the following:

- Calculations from the floor of the oxide mineralization;
- Unitary block model method (Voxel);
- Grade interpolation by ID2;
- 1 m sample intervals;
- Block dimension 10 x 10 x 10 m;
- Search ellipsoid: azimuth 030°, 150 x 100 x 100 m;
- Density of 2.6 g/cm<sup>3</sup> for all weathering profiles and lithologies;
- Cut-off grade of 0.4 g/t Au.

Table 6-6 Nampala 2012 Mineral resource estimate

Туре	Category	Cut-off grade (g/t Au)	Tonnage (Mt)	Grade (g/t)	Gold (koz)
Oxide	Inferred	>0.3	13.6	0.66	291
Oxide (base case)	Inferred	>0.4	11.0	0.74	261
Oxide	Inferred	>1.0	1.5	1.08	51

This NI 43-101 compliant reserve is historical in nature and should not be relied upon. It has not been verified to determine its relevance or reliability. It is included in this section for illustrative purposes only and should not be disclosed out of context.

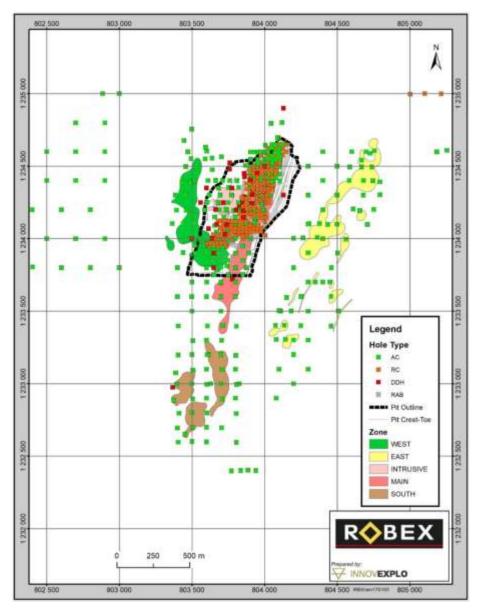


Figure 6-4 Location of drill hole collars and type of drilling included in the 2012 MRE

# 6.2 2017 TO 2018 – MINERAL RESOURCE ESTIMATE FOR THE NAMPALA GOLD MINE

Between 2017 and 2018, an exploration program was planned and supervised on-site by InnovExplo. The drilling campaign was completed by IDC and reached a total of 16,896 meters for a total of 157 holes.

InnovExplo Inc. prepared a NI 43-101 technical report on the Nampala and Mininko permits. The results supported a new Mineral Resource estimate for the Nampala gold mine in accordance with NI 43 101, which is presented in Table 6-7.

Table 6-7 Nampala 2018 – Mineral Resource estimate (2018 MRE)

Nampala 2018 Mineral Resource Estimate

Weathering	Indic	ated Resour	ited Resource		Inferred Resource		
Profiles	Tonnage (t)	Au (g/t)	Ounces	Tonnage (t)	Au (g/t)	Ounces	
Saprolite (≥ 0.40 g/t)	7,606,000	0.72	175,000	2,688,000	0.71	61,000	
Transition (≥ 0.40 g/t)	2,361,000	0.80	61,000	626,000	0.79	16,000	
Fresh Rock (≥ 0.75 g/t)	181,000	1.03	6,000	115,000	1.08	4,000	
TOTAL	10,148,000	0.74	242,000	3,429,000	0.73	81,000	

#### 6.3 2018 TO 2019 – EXPLORATION CAMPAIGNS

The Nampala Phase 2 campaign completed on February 21, 2019 was planned and supervised on-site by InnovExplo. The Nampala Phase 3 campaign was completed on April 20, 2019. This campaign was planned by Innovexplo but supervised on-site by Robex personnel. A total of 217 drill holes were completed during these two campaigns. The exploration drilling was completed by IDC and reached a total of 19,641 meters. Only DD & RC Drill holes are included in the 2019 MRE as seen in Figure 6-5.

The Nampala Phase 3 exploration campaign provided information to complete a Mineral Resource Estimate (2019 MRE) and a Mineral Reserve Estimate (2019 MR) that are presented in Table 6-8 and Table 6-9.

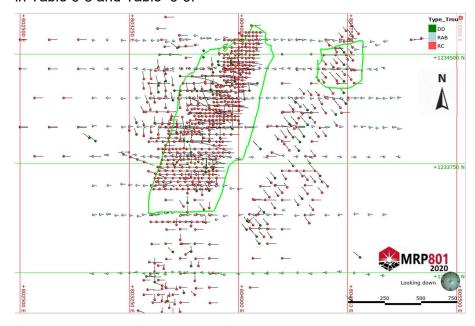


Figure 6-5 Location of drill hole collars and type of drilling (2019 MRE).

Table 6-8 Mineral Resource Estimate (2019 MRE)

Category	Cut-Off Au (g/t)	Weathering type	Tonnage (000 t)	Grade Au (g/t)	Metal content Au (000 oz.)
	0.38	Oxide	9,223	0.73	216
Indicated	0.48	Transition	3,666	0.90	105
mulcated	0.48	Fresh Rock	3,416	0.98	107
	Subtotal		16,304	0.82	429
	0.38	Oxide	693	0.64	14
Inferred	0.48	Transition	103	0.86	3
inierred	0.48	Fresh Rock	500	0.86	14
	Subtotal		1,296	0.74	31
Total			17,600	0.81	460

Table 6-9 Mineral Reserve Estimate (2019 MR)

	Probable Mineral Reserve					
Weathering type	Cut-Off Au (g/t)	Tonnage (000 t)	Grade Au (g/t)	Metal Content Au (000 oz.)		
Oxide	0.38	7,719	0.73	180		
Transition	N/A					
Fresh Rock	N/A					
Total		7,719	0.73	180		

#### 6.4 MINE PRODUCTION

#### 6.4.1 PRODUCTION HIGHLIGHTS

The information in this section is a summary of the major events before Nampala commercial production. The source of the information is the various Management's Discussion and Analysis documents available on the issuer web site.

- 2013 Start of the mineral processing plant construction
- May 2017 Partial mineral processing plant operation at 1600 tpd
- July 2014 Partial mineral processing plant operation at 2500 tpd
- October 2014 Suspended operation due to elution bottleneck
- June 2015 Operation resumption with progressive production throughput increase
- January 2017 Commercial production averaging 4400 tpd

# 6.4.2 PRODUCTION RESULTS FOR 2020-Q1

The Nampala Mine is achieving a continuous production level (Pre-COVID-19). The Management's Discussion and Analysis documents, available on the issuer web site, illustrates the quarterly production level for 2018-Q1, 2019-Q1 and 2020-Q1 (Table 6-10).

Table 6-10 Quarterly production

Operation data	2020 – Q1	2019 – Q1	2018 – Q1
Ore mined (t)	502,280	498,433	491,342
Ore processed (t)	476,720	424,561	445,226
Stripping ratio	2.7	1.6	2.1
Head grade (t)	1.10	0.95	0.93
Recovery (%)	88.8	85.0	83.9
Gold produced (oz)	14,918	11,291	9,793
Gold sold (oz)	14,646	10,935	11,989

# ITEM 7. GEOLOGICAL SETTING AND MINERALIZATION

This item was covered in Item 7 in a previous technical report titled "NI 43-101 Technical Report for the Nampala and Mininko Permits (Mali) and Mineral Resource Estimate for the Nampala Gold Mine," InnovExplo Inc., 2018. The author of this specific item was Eric Kinnan, P.Geo., from InnovExplo Inc. The information presented in this section is an excerpt from the referenced document.

### 7.1 REGIONAL GEOLOGY

The Property is located in southern Mali within the Leo-Man Shield of the West African Craton. At a regional scale, the Property is hosted within the Birimian Supergroup of the Baoulé-Mossi Domain. Gold mineralization in southern Mali is restricted to the rocks of the Birimian Supergroup of this domain. The Birimian Supergroup is also a significant host for gold mineralization in Burkina Faso, Côte Ivoire and Ghana.

#### 7.1.1 WEST AFRICAN CRATON

The geology of northwestern Africa is dominated by the Precambrian West African Craton which comprises major shields (or rises) that represent the Archean and Paleoproterozoic basements: the northern Reguibat Shield, the southern Leo-Man Shield, the smaller west-central Kedougou-Kenieba and Kays inliers, and to the east the Tuareg and Benin Nigerian shields (Figure 7-1); Schluter, 2006, Black, 1980; Villeneuve and Cornée, 1994). In general, the western portions of the Reguibat Shield and the Leo-Man Shield are mainly composed of Archean rocks, whereas the rocks to the east are predominantly Paleoproterozoic (Black et al., 1980; Abouchami et al., 1990). These shields are entirely bounded by Pan-African and Hercynian belts separated along a central axis by the Neoproterozoic to Phanerozoic Taoudeni Basin (Abouchami et al., 1990). This sedimentary basin is the dominant feature in central Mali.

#### 7.1.2 LEO-MAN SHIELD

The southern portion of the West African Craton, referred to as the Leo-Man Shield, underlies the West African countries of Ghana, Niger, Togo, Burkina Faso, Mali, Côte Ivoire, Guinea, Liberia and Sierra Leone. The Leo-Man Shield hosts multiple world-renowned gold and base

Metal deposits throughout Guinea, Mali, Ghana and Burkina Faso (Parra-Avila et al., 2016). The Leo-Man Shield is divided into a western part corresponding to the Kénéma-Man Domain (dominated by Archean granitoids) and into an eastern part corresponding to the Baoulé-Mossi Domain (alternance of Paleoproterozoic Birimian greenstone and granitoid belts) (Boher et al., 1992) (Figure 7-2 and Figure 7-3).

The Archean basement rocks are the result of two orogenic cycles: Leonian (ca. 3.0-2.9 Ga) and Liberian (ca. 2.8-2.7 Ga). The Archean domains were overprinted by medium-grade to high-grade metamorphism (amphibolite-granulite facies) with the dominant rock type consisting of TTG gneiss and younger greenstone belts, later intruded by granitoid bodies (Black et al., 1980). The Archean and Paleoproterozoic rocks are separated by a major shear zone, the Sassandra Fault to the east that extends across Liberia and Côte d'Ivoire (Boher et al., 1992).

#### 7.1.3 BAOULÉ-MOSSI DOMAIN

The Baoulé-Mossi Domain consists of three main alternating lithological or litho-structural assemblages: 1) N-S volcano-sedimentary belts (greenstone belts); 2) granitoid rocks that intrude the volcano-sedimentary units (~2,090 Ma); and 3) latedioritic to granodioritic (2,074 Ma) plugs and dykes. The last event in the region (±250 Ma) consist in a swarm of NNE-trending mafic

dykes. The majority of West African gold deposits are hosted within Birimian volcano-sedimentary belts of the BaouléMossi Domain.

The Baoulé-Mossi Domain is dominated by the 2.2-2.0 Ga Birimian Supergroup (Boher et al., 1992). The Birimian Supergroup represents a juvenile crust without any contribution from the surrounding Archean continents (Abouchami et al., 1990; Pawlig et al., 2006). In general, the Birimian Supergroup comprises narrow volcanosedimentary basins or volcanic belts (e.g. Yanfolila, Morila and Syama greenstone belts); granitoid-TTG terranes; and younger sedimentary basins. Tholeitic basalt flows, turbidites and shale-sandstone sequences are dominant in the belts and basins (Bessoles, 1977; Lompo, 2009).

The Baoulé-Mossi Domain has been regionally metamorphosed to greenschist-amphibolite facies during the 2.1-2.0 Ga Eburnean Orogeny. The Eburnean Orogeny comprises polyphase deformation and metamorphism that produced folding and multiple generations of shear zones and faults. Deformation was also accompanied by the intrusion of multiple generations of granitoids affecting all lithological units. Late (<2150 Ma) deformation within the Baoulé-Mossi Domain is characterized by E-W to NW-SE compression, whereas early (<2150 Ma) deformation phases show more dominant N-S or NE-SW compression (Feybesse et al., 2006). The metamorphic grade of the volcanic belts tends to be higher than that of the sedimentary sequences. Locally, higher-grade metamorphism (amphibolite to granulite facies) has been documented as contact metamorphism around granitoid intrusions (Hirdes et al., 1993).

#### 7.1.4 BIRIMIAN SUPERGROUP

The Birimian Supergroup corresponds to the volcano-sedimentary belts (greenstone belts) of the Baoulé-Mossi Domain. Stratigraphically, the Birimian Supergroup begins with a thick lower tholeiltic mafic volcanic and intrusive sequence, overlain by volcanic, volcaniclastic and sedimentary rocks, turbidite sequences, mudstones and carbonates. Pre-, syn- and post-tectonic granitoid rocks separate and locally intrude the greenstone belts.

More specifically in southern Mali, three major volcano-sedimentary belts are documented in the Birimian Supergroup. These are, from west to east, the Yanfolilia Belt and the Siguiri Basin, the Morila Belt, the Mandiela Basin, the Syama Belt and the Kadiola Basin. Two major shear zones cross-cut the Birimian terranes: the Siekerole Shear Zone (SSZ) along the eastern margin of the Yanfolilia Belt, and the Benafin Shear Zone (BSZ) separating the Morila and Syama belts (Figure 7-4 and Figure 7-5).

The Yanfolila Belt, situated near the Guinea-Mali border, is divided into eastern and western portions by the SSZ. The belt comprises arc-related volcanic suites known as the Nani Volcanic Formation and reworked greywacke sequences. The Nani Volcanic Formation is dominated by coarse-grained to megacrystic tholeiitic intermediate to mafic volcanic rocks interlayered with strongly deformed porphyritic rhyodacitic lavas, pyroclastic flows and breccias (Parra-Avila et al., 2016).

The Morila Belt is situated within the major granitic intrusive complex of the Bougouni region which dominates south-central Mali, namely the Massigui and Doubakoro granites. The Birimian terranes within the complex are composed of mafic to intermediate lavas locally interbedded with volcano-sedimentary rocks (Parra-Avila et al., 2016).

The Syama Belt is situated on the border between Mali and Burkina Faso in the southeast. The belt is comprised of interlayered intermediate to mafic lavas, greywackes and argillites (Olson et al., 1992). The stratigraphy of the Syama Belt is similar to that of the Yanfolila Belt but it is strongly folded and generally overturned.

Three main deformation events influenced the geology of southern Mali during the Eburnean Orogeny (Liégeois et al., 1991): an early phase (D1) of crustal thickening through thrusting, including NNW trending/plunging folds, and two subsequent phases (D2-D3) characterized by extensive NNE-striking subvertical structures such as the BSZ near the Morila Mine.

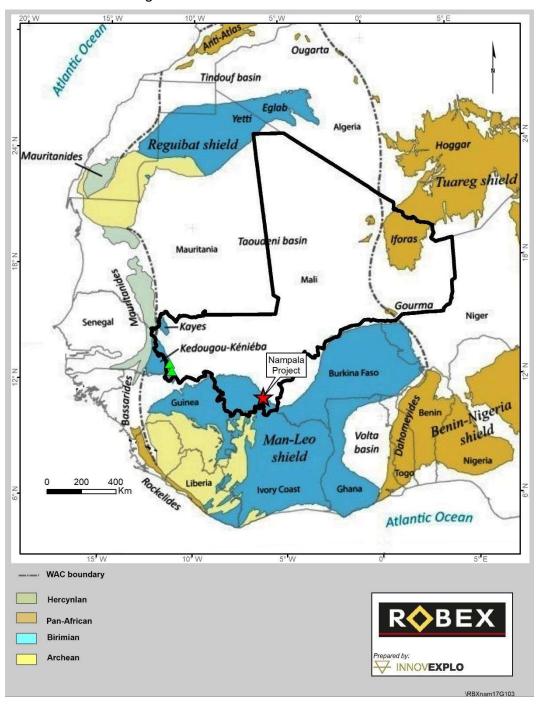


Figure 7-1 Geological map showing major tectonic units of the West African Craton and location of the Nampala Mine (modified from several sources, after Grenholm, 2014)

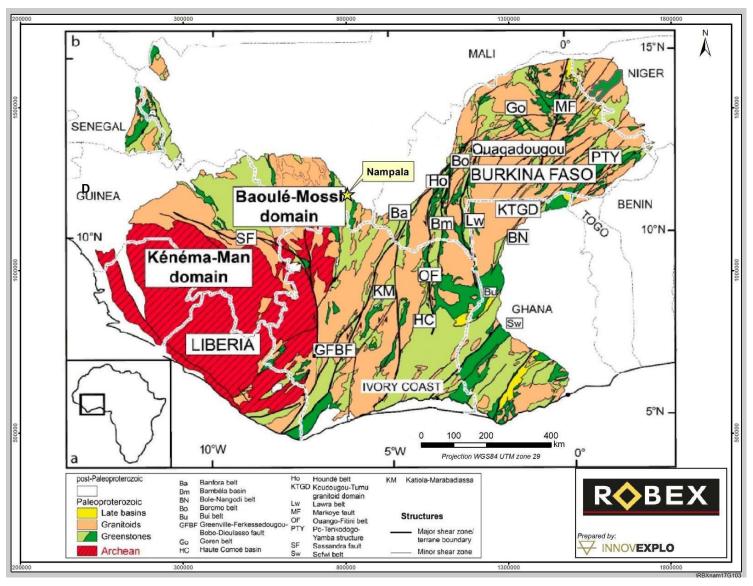


Figure 7-2 Simplified geological map of the Leo-Man Shield, modified after Milési et al. (2004)

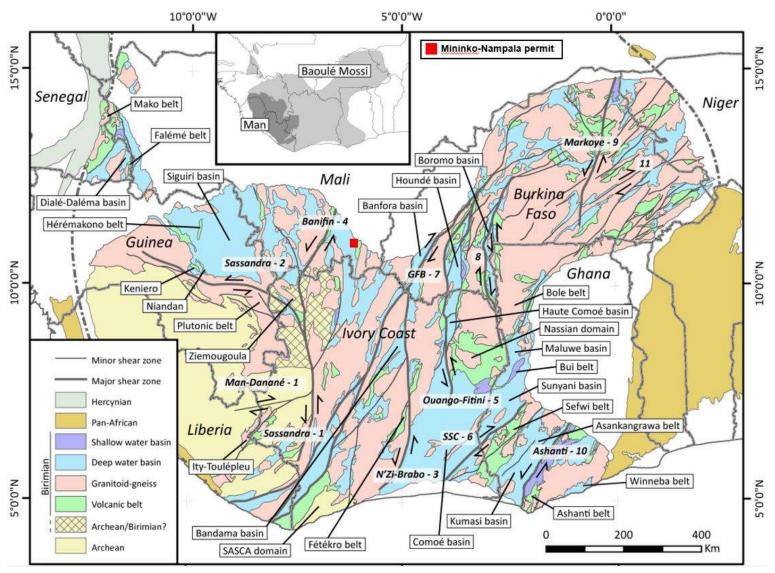


Figure 7-3 Geological map showing major tectonic units of the Leo-Man Shield (after Boher et al. 1992) and location of the Mininko-Nampala permits (red square)

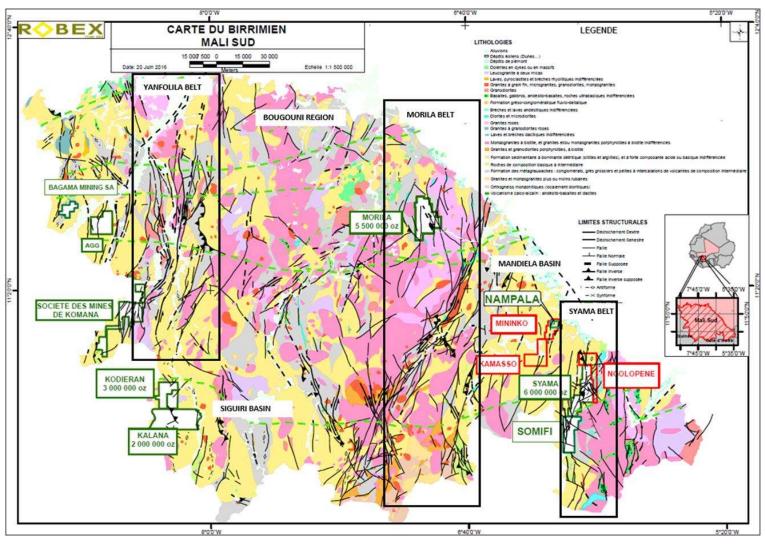


Figure 7-4 Birimian Geology of southern Mali (1:5,000,000) (source: Feybesse et al., 2006ab)

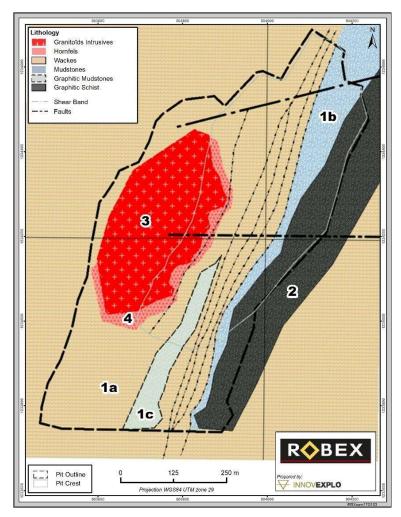


Figure 7-5 Plan view of the lithological sequence (mine nomenclature in legend) in the mine pit: (1) Turbidites composed of (a) wacke (fine- to medium-grained greywacke interlaminated with siltstone), (b) shale and siltstone ("mudstone"), and (c) graphitic shale ("graphitic mudstone"); (2) Laminated graphitic shale ("graphitic schist"); (3) Granitoid (porphyritic granodiorite-diorite); (4) Hornfels (hornfelsed flysch: contact metamorphic aureole)

#### 7.2 NAMPALA MINE AND PROPERTY GEOLOGY

The geological and structural setting documented at the Nampala Mine is representative of the entire Property. The main lithological units and marker horizon (e.g. graphitic shale) extend southward from the Nampala Permit onto the Mininko Permit and even beyond the southwestern limit of the adjacent Kamasso Permit.

The Nampala Mine and other gold zones located on the Property are hosted in turbidites of the Bagoé Formation flysch sequences belonging to the Birimian Supergroup. The Bagoé Formation is oriented NNE that extends several hundred kilometres into Côte d'Ivoire and disappears under the Taoudeni Basin to the north. In general, the turbidites are intruded by large porphyritic intermediate stocks, thin gabbroic dykes and sills, and late felsic dykes and sills.

At Nampala, the turbidites that constitute the Main and East gold zones strike NNE and dip steeply to the ESE. They are composed of thick sequences of interbedded greywacke, siltstone and shale (also described in the mine nomenclature or the literature as mudstone, claystone, schist, phyllite or argillite). A thick unit of graphitic shale separates the turbidites of the Main and East zones. This unit is not anomalous in gold and shows up as a distinct strong MAG/IP conductor on geophysical maps. The turbidites hosting the East Zone are locally interbedded with different types of sandstones (arenite, sandstone and lesser gritstone in the field nomenclature). The gritstones are siliceous sandstones that contain subrounded coarse-grained lithic fragments of graphitic phyllite suspended in a coarse sandy matrix of quartz and feldspar. The turbidite package of the Main Zone is intruded by large plugs or stocks of porphyritic intermediate composition as well as gabbroic or late felsic dykes and sills. So far, the only intrusives observed in the East Zone area have been thin gabbroic dykes and sills.

Pervasive and strong saprolitic weathering is evident on the Property. All lithologies are affected by strong to intense saprolite weathering to depths below 100 m before transitioning rapidly into unaltered fresh rock. Overlying the saprolite, a thick residual lateritic soil and duricrust covers the region and can reach thicknesses of more than 10 m. Outcrops are rare due to the thick lateritic and alluvial cover.

#### 7.2.1 LITHOLOGY (NAMPALA MAIN AND EAST ZONES)

The lithologies, mineralization, alteration and structures in the Main and East zones were interpreted from rock exposures in the mine pit and in road cuts, from drill core and cuttings, from airborne MAG and ground MAG-IP geophysical surveys, and from geochemical surveys. In addition, frequent visits to the mine pit provided additional documentation in freshly excavated grade-control trenches up to 2 m deep. These trenches proved valuable by providing a general sense of the spatial geometry of the geology, structures, mineralization styles and hydrothermal alteration in the saprolitic weathering profile. Because the main priority was the 2017-2018 drilling program, the trenches were not subjected to recent systematic geological or structural mapping; in addition, few to no outcrops were available for mapping.

The sedimentary rock nomenclature in this section is based on the Pettijohn et al. (1972) classification of siliciclastic rocks.

A section through the pit from west to east (starting 200 m west of the pit and ending at the easternmost limit of the East Zone) reveals a large porphyritic granodiorite/diorite body (450 m x 600 m) intruding low-energy turbidites. The turbidites trend NNE-SSW and dip steeply to the SE. A thermo-metamorphic contact aureole is expressed as a well-developed system of fractures and tension veins along the inside border of the intrusive to the west, and as a hornfelsed rim in the sediments to the east where the effects extend 10 m to 20 m into the host rock before abruptly transitioning into regular turbidite. The sedimentary units close to the intrusive are locally intruded by late decimetric to metric subaphanitic and porphyritic gabbro or diabase dykes and sills.

The turbidites are composed of fine- to medium-grained greywackes interlaminated with siltstone and shale. The greywacke is the dominant sedimentary rock on the Property and represents roughly 75-80% of the material observed in the pit. Medium- to coarsegrained sandstone and arenite beds are also found within the greywacke, as well as a gold-barren graphitic shale bed 50 to 60 m thick, located roughly in the middle of the pit in the southern part of the deposit. This latter bed pinches out going north, disappearing through the northern edge of the pit.

To the east of the flysch package, a 200-m-thick unit of intensely graphitic, laminated shale is easily distinguished by its darker colour and graphitic texture. This barren bed starts just beyond the eastern wall of the pit and defines the limit between the Main and East zones. It is characterized by a strong geophysical IP conductor and a low magnetic signature that can be

traced continuously beyond the northeastern limit of the Property and beyond the southwestern limit of the Kamasso Permit. The East Zone is characterized by a turbiditic sequence similar to the one encountered in the Nampala deposit. These rocks are intruded by three gabbroic to dioritic intrusives displaying amphiboles and biotite in a medium- to coarse-grained matrix. Many of the mineralized intercepts, strong hydrothermal alteration envelopes and silica-flooded hydraulic breccias are found in their vicinity. The intrusives have not yet been well defined but are known to be smaller in volume than the main intrusive body west of the Nampala pit. The Main and East zones have similar weathering profiles. The area is covered by a very thick layer of ferricrete (iron-rich duricrust) overlain by a thin horizon of colluvial material, both of which overlie saprolitic sediments and intrusive rocks. The duricrust is up to 10 m thick, whereas laterized rock typically reaches depths of 4 to 8 m and saprolitic weathering profiles have been observed as deep as 100 m.

# 7.2.1.1Metasedimentary rocks (turbidite sequence) Shale/Siltstone

This rock package is composed of alternating beds and laminations of light bluish shale (mudstone, Figure 7-6) to light yellowish-gray shale and siltstone (Figure 7-7). The dominant composition of this rock is a combination of clay and silt that contain traces of very fine subrounded sand grains of plagioclase and quartz. The fresh rock displays a light bluish tint with yellowish-white hues caused by the presence of plagioclase lathes suspended in a clay matrix. Graphite has been observed in places.



Figure 7-6 Shale bed interlaminated with siltstone, between greywacke beds



Figure 7-7 Interbedded siltstones and fine-grained greywackes

# Greywacke

Greywacke is the dominant rock type on the Property. In general, the wackes are composed of a matrix of light blueish-gray clay and silt supporting fine to medium, wellrounded sands with medium sphericity. The latter are present in greater proportions than in the siltstones. The fine to medium sands represent over 15% of the rock material. The quartz and feldspar sands and occasional small quartz clasts are generally subrounded to well-rounded with medium sphericity. The sands are mostly composed of feldspar (plagioclase laths) and to a lesser extent a mixture of quartz and feldspar. On occasion, some wacke horizons contain very coarse sand grains to silt-size clasts that are subrounded to subangular. The wackes in the East Zone locally contain small subrounded lithic fragments.

Although some upward fining has been observed in isolated laminae and beds, no definitive polarity of the stratification has yet been defined.

In fresh rock, the sediment colour can vary from greyish blue with light greenish hues to dark grey. These colours seem to be associated with the presence of pervasive chlorite and graphite in various concentrations.

#### Arenite/Sandstone

Arenites in the sequence, which are composed of various proportions of quartz and feldspar, have the same dominantly plagioclase composition as the wackes. The clast/matrix ratio classifies this rock in the feldspathic arenitic field according to Pettijohn et al. (1972).

The rocks are composed of at least 15% very coarse sand and small clasts, up to 3 mm across, cemented in a clay or silty clay matrix. The clast composition is dominated by subrounded feldspar laths (possibly plagioclase sands) and lesser amounts of rounded quartz-rich coarse sand. In the

Nampala pit, the arenites are exclusively of quartzfeldspar composition, while in the East Zone, some arenite stone beds contain subcentimetre, subrounded graphitic lithic fragments and mudstone or shale clast fragments. The latter are matrix-supported but are occasionally clast-supported.

A few isolated, very thin beds of quartz arenite cemented with saccharoidal silica were observed in drill core through fresh rock. It was unclear if the saccharoidal texture was the product of hydrothermal silica flooding that underwent deformation or if it was the result of carbonate leaching.

#### **Graphitic shale**

Graphitic shale, also reported as graphitic "schist", "argillite" or "mudstone", is characterized by abundant black (graphitic) laminations. Thick dark graphitic beds are interlaminated with shale horizons (Figure 7-8). This lithology is often strongly to intensely sheared and there is a strong presence of late cubic pyrite porphyroblasts (>1 cm) that are slightly skewed, partially rotated and smeared along interbed and lamination planes. In the saprolite horizon, this lithology can be recognized by cubic hematitic vugs (remnants of cubic pyrite), intense hematite staining of the clays, tight foliation/parting and intense black (graphitic) colouration. In general, this unit is typical of the classic Birimian graphitic rocks documented along several thrust faults in the Ashanti trend.



Figure 7-8 Graphitic shale on the west wall in the mine pit

This unit can reach thicknesses in excess of tens of metres and has a strong conductive signature (IP, MAG) that can be traced at the regional scale, passing from NNW to SSE through the Property and the full length of the adjacent Kamasso Permit to the south. This lithological unit represents the litho-structural division between the mine pit and the East Zone.

#### 7.2.1.2 Intrusive rocks

Three types of intrusive rock were observed in drill core from the Property and in the mine pit: granodiorite-diorite to tonalite intrusives, mafic intrusives, and leucocratic felsic to intermediate intrusives.

#### **Granodiorite-diorite to tonalite**

Granodiorite-diorite to tonalite are the dominant types of intrusive rock on the Property. A significant intrusive stock of that type is located immediately west of the Nampala pit. The rock is composed of equigranular leucocratic plagioclase feldspar, coarse crystalline quartz, and accessory minerals such as biotite, amphibole and chlorite. This rock is generally porphyritic where plagioclase and quartz porphyritic crystals are cemented in an equigranular phaneritic matrix.

#### **Mafic intrusives**

Mafic intrusives are represented by centimetric, decimetric or metric dykes and sills of gabbroic composition injected in the turbidites (Figure 7-9). These subaphanitic- to medium-grained intrusives are dominantly dark brown to dark grey. Some of the gabbroic intrusives show an inner chill margin characterized by disseminated microporphyritic automorphic off-white plagioclase laths set in an aphanitic mafic matrix (Figure 7-10). This texture evolves inwards into automorphic equigranular phenocrysts measuring 1 mm to 3 mm across. Some parts of the intrusives are of dioritic composition.



Figure 7-9 Gabbroic intrusive (A) in contact with turbidite (B) (hornfelsed flysch).



Figure 7-10 Porphyritic gabbroic dyke displaying kaolinized tabular

#### Leucocratic felsic intrusive

Leucocratic quartz-feldspar dykes and sills cut the mineralization and appears to be post- to synmineralization (Figure 7-11). A few examples of these injections have been observed in saprolite next to the main granodioritic intrusive on the west wall of the mine pit. The intrusives are mostly whitish-pink, very rich in silica/quartz, and have a coarse saccharoidal texture. Their widths range from 10 to 60 cm but they are not well understood as only two or three occurrences are observed in the same area and their orientations are different. They may be the result of granodiorite intrusions along planes of weakness. They occur as narrow isolated dykes in the hornfels rim.



Figure 7-11 Late felsic intrusive dyke intruding fine-grained gabbroic rock

#### 7.2.2 MINERALIZED ZONES

Gold mineralization is primarily hosted in competent coarse-grained sedimentary rock where brittle fracturation, openings and veining occurred. Gold is associated to structurally controlled tension quartz vein systems and stockworks developed in the brittle fractures and in areas of increased porosity as a result of the deformation of the more competent coarse-grained greywacke, siliciceous sandstone and sandstone.

Shear zones are developed in the more ductile adjacent (or locally intercalated) shales (particularly the graphitic shale) and are commonly barren. Some narrow NNE-trending subvertical shear corridors are exposed in the pit from north to south and have been traced nearly continuously to the southernmost drill hole of the 2017-2018 drilling program.

Some anomalous gold values can also be found locally in the chill margins or along the contact of the intermediate intrusives. Local brittle deformation seems to have created space for tension quartz veins to penetrate the fringe of the stock and this seems to be confirmed by resistivity and conductivity geophysical maps which display what seem to be a slight NE/SW and NW/SE fracture pattern. This corresponds to the general orientation of the mineralization in the mine where mineralized domains are oriented 020°N and are controlled laterally by subvertical structures and stratigraphy. Within these delineations, as many as five generations of veins are observed and there seems to be a global plunge of 25-30° to the SW as well as the SE where flatter undulating guartz veins are noted. The mineralization type found at the Main and East zones is structurally controlled sediment-hosted orogenic gold affected by late intrusives. In both zones, the mineralized quartz veins have propagated into the more competent coarsegrained wakes, sandstones and arenites affected by brittle deformation. Through rheological contrasts between the different sediments, the plastic planar shear slipping along the ductile and less permeable siltstones and mudstones resulted in the propagation of interplanar shear bands, the brittle fracturing of arenitic rocks, the opening of tension jogs and the formation of dilation joints. As a result, quartz vein propagation and hydrothermal alteration of the protolith was favourable in the more porous sandstones and arenitic rocks. Hydrothermal alteration and quartz vein development patterns follow the structural corridors, filling extension gashes and jogs along shear corridors in the sediments and along the intrusives.

The dominant hydrothermal alteration in both zones is characterized by pervasive carbonatization-silicification and pyrite-arsenopyrite disseminations accompanied by chlorite and clay minerals (kaolinitization). The hydrothermal alteration displays outward zonation around quartz veins. The bulk of the sulphides occur as widespread disseminations of fine (submillimetre) pyrite and arsenopyrite. They are found within silicate-carbonate alteration rims in the wall rock around individual quartz veins, within quartz-carbonate veins. The degree of silicification and arsenopyrite concentrations appear to be slightly higher in the East Zone than in the Main Zone.

Being a low-grade deposit, visible gold was rarely observed during the 2017-2018 drilling program. In those rare cases, the specks, 1 to 2 mm across, are always confined to milky or rusty-white quartz veins as shown in Figure 7-12.



Figure 7-12 Speck of visible gold in a rusty-white quartz vein in HQ drill core (6.35 cm diameter) (NAM2017DD-004 at 78.80 m)

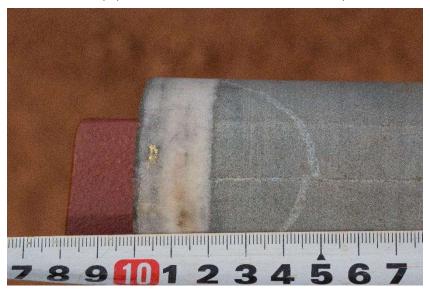


Figure 7-13 Visible gold in the selvege of a milky white quartz vein in NQ (4.76 cm diameter) drill core (NAM2017DD-008 at 118.37m)

An atypical gold intercept (Figure 7-13) was documented at depth in DDH NAM2018DD010 to the west of the mine pit along the contact between granodiorite and a mafic dyke ("lamprophyre" according to the mine nomenclature). The gold is hosted within a small tension vein. This was the only example of gold found in this type of setting during the drilling campaign.

#### 7.2.3 ALTERATION

The main alteration observed in the Main and East zones is the result of hydrothermal fluids that percolated through the porous coarse-grained wackes, sandstones and arenites. Alteration assemblages such as quartz-carbonate, quartz-carbonate-chlorite and pyrite-arsenopyrite were observed in association with tension quartz vein corridors and occasional hydraulic breccias. Pyrite and arsenopyrite are usually found disseminated along with carbonate and silica in alteration haloes in areas displaying structural strains. This type of alteration is usually associated with gold.

The Main and East zones have similar alteration styles in terms of hydrothermal mineral assemblages, "clouds" of disseminated sulphides, silica-carbonate enrichment, and quartz vein stockworks. Nevertheless, silicification intensity and arsenopyrite concentration is higher in the East Zone than the Main Zone. This stronger silicification rendered the protolith more resistant to weathering by meteoric water, resulting in thinner saprolitic rock compared to the profile in the mine pit.

In non-saprolitic "fresh" rock alteration typically manifests as laterally zoned envelopes characterized by "clouds" of very fine but visible disseminated sulphides associated with silica+carbonate enrichment and greater concentrations of kaolin and chlorite.

In saprolitic weathered rock, hydrothermal alteration is generally only visible as limoniteyellow, hematite/goethite-red and dark reddish-brown staining on heavily kaolinized and argillized rock. The original proto-alteration envelopes are strongly weathered and mostly washed away. As a result, sulphides and carbonates have generally been replaced by iron oxides. This "oxide staining" along with silica flooding and quartz veining are used as identifiers for potential gold mineralization in drill core.

#### 7.3 STRUCTURAL GEOLOGY

InnovExplo geologists conducted structural mapping in April 2017 on pit faces and some mining benches. The geologists also examined several trenches and mining benches during the 2017-2018 drilling program.

Major structures were observed in drill core, trenches, pit walls and as major lineaments interpreted from ground and airborne geophysics (MAG, gradient EM, IP-RES).

Structures and quartz vein propagation in the pit area, specifically the Main Zone, can be subdivided into three mineralized structural domains along a N-S axis separated by at least two brittle faults: 1) northern domain; 2) central domain; 3) southern domain (Figure 7-14).

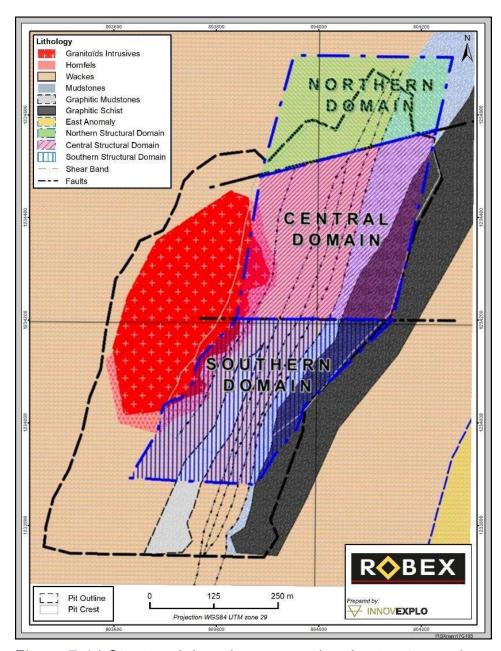


Figure 7-14 Structural domains map and main structures observed in the pit (Main Zone).

#### **7.3.1 BEDDING**

The sedimentary sequence at the mine is generally subvertical and trends NNE-SSW (Figure 7-15). Local variations in bedding are observed in the immediate vicinity of shears and faults.

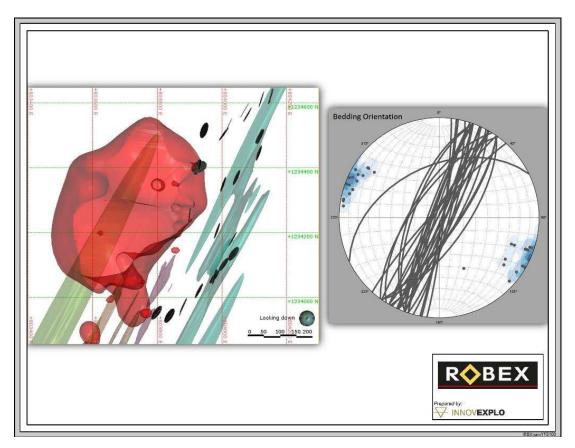


Figure 7-15 (Left) Spatial representation of bedding ( $S_o$ ) measurements; (right) Stereographic projection of  $S_o$ 

#### 7.3.2 QUARTZ VEIN STRUCTURAL DOMAINS IN THE MAIN ZONE

- 1. The Northern Domain is characterized by NE-SW envelopes enclosing two sets of quartz veins:
  - a. moderately mineralized, subvertical, en echelon white to smokey lenticularveins trending ENE-WSW and dipping steeply to the SSE, measuring 10 to 20 m long by 10 to 20 cm thick; and
  - b. a conjugate set (stockwork) of narrower, shallow-dipping, vertically stacked white veins and veinlets trending E-W.

The stockwork in Northern Domain is generally confined to the arenitic and sandstone beds and, to a certain extent, the coarse-grained wackes. The stockworks are delineated by decametric sigmoidal (augen-shaped) envelopes.

- 2. The Central Domain corresponds to an envelope enclosing three sets of veins:
  - a. subvertical en echelon white veins trending ENE-WSW (Figure 7-16) and dipping steeply SSE, ranging in thickness from 10 to 60 cm;
  - b. a significant amount of undulating flat veins dipping 25-30° SSW to SSE (Figure 7-17); and
  - c. a conjugate set (stockwork) of stacked smokey and white veins striking roughly N100 and dipping 50° SSW (Figure 7-18).

The stockwork in the Central Domain is denser than in the Northern Domain. In both domains, the largest and highest-grade packets occur where stockworks overprint en echelon veins.



Figure 7-16 Thick subvertical ENE-WSW en echelon quartz veins in a trench in the Central Domain. The steep dip is to the SSE.



Figure 7-17 Undulating flat veins dipping 25-30° SSW to SSE, Central Domain.



Figure 7-18 Dense stockwork (looking west) in the Central Domain.

- 3. The Southern Domain, from north to south, is characterized, by:
  - a. An envelope of quartz veins oriented roughly 020°N. The envelope is truncated laterally by N-S structures or terminates at stratigraphic contacts. These veins propagated in coarse-grained sediments along the intrusive contact and in the hornfels (Figure 7-19). Along the intrusive contact, the stockwork (not as dense as in the Central Domain) developed as quartzcarbonate veinlets and stringers with disseminated sulphides, whereas in the hornfels, veinlet density quickly diminishes to the east (over 15-20 m) and only the tension quartz veins remain.

- b. At least three distinct anastomosing subvertical shear corridors oriented NNE-SSW in turbidites. These corridors converge near the south wall of the mine pit. The mineralization and associated hydrothermal alteration are generally confined to more competent coarsegrained greywacke and sandstone bounded by less competent sheared mudstone and siltstone.
- c. Conjugate en echelon tension quartz veins documented in the coarsegrained sediments characterized by: (i) flat veins 2 to 3 m wide and less than 5 cm thick, dipping 25-30° S to SSE; and (ii) narrow quartz veins with a subvertical SSE dip or a steep dip (60-70°) to the W. The W-dipping veins often display sigmoidal shapes (Figure 7-20). The tension veins are confined to coarser sediments and do not propagate in shale (Figure 7-21).

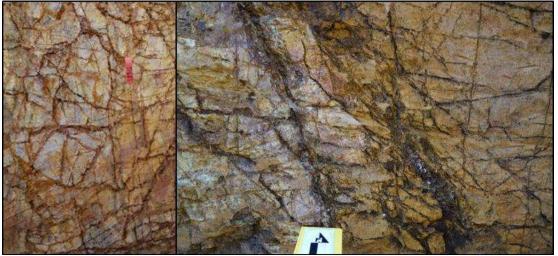


Figure 7-19 Main Zone (left) Criss-crossing vein system in hornfels at the intrusive contract; (right) Quartz veins in the intrusive.



Figure 7-20 En echelon quartz veins in greywackes in the Southern Domain (looking south)



Figure 7-21 Example of lithological control on tension veins in greywackes in the southern Domain. The veins stop at the contact with a bed of siltstone

As previously described, quartz vein system in the Main Zone is structurally and lithology controlled. The individual quartz veins display numerous distinct orientations (Figure 7-22) and form stockworks hosted in brittle coarser clastic rock.

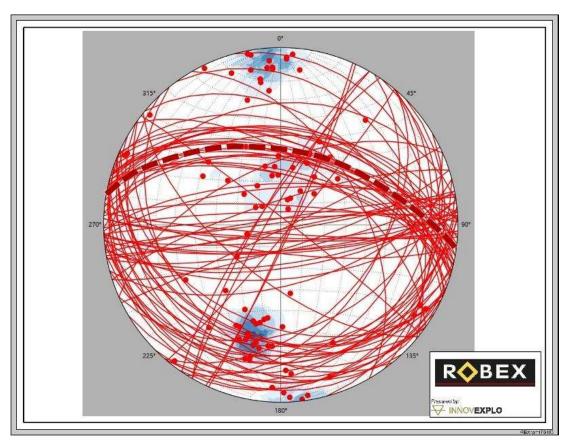


Figure 7-22 Figure 7.22 – Stereographic projection showing the orientations of five major quartz vein families: 1) E-W trending, subvertical; 2) NNE-SSW trending, subvertical; 3) NNE-SSW trending, dipping 42° NE; 4) NE-SW trending, W-dipping; 5) SSE-NNW trending, shallow dipping

#### 7.3.3 FAULTS AND SHEARS

Faults and shears observed in drill core confirmed surface observations, specifically that there are four types of faults in the deposit area: 1) regional graphite-rich reverse shear zones; 2) subvertical planar interbed shears oriented SSW-NNE; 3) low-angle, SE-dipping and NE-trending normal faults with little displacement; 4) "flat shears", which are NE-SW and E-W trending faults that appear to both follow and shear the flat quartz veins dipping 25 to 30° S (Figure 7-23 and Figure 7-24).

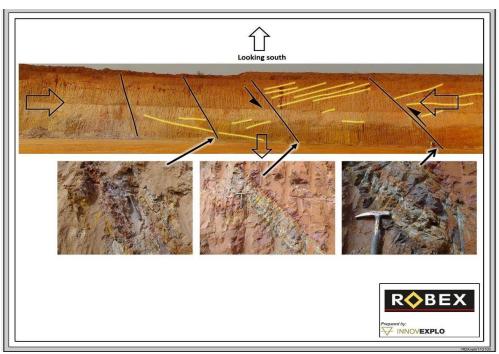


Figure 7-23 Faults (black lines and arrows) and en echelon quartz veining (yellow traces) on the south wall of the pit (April 2017)

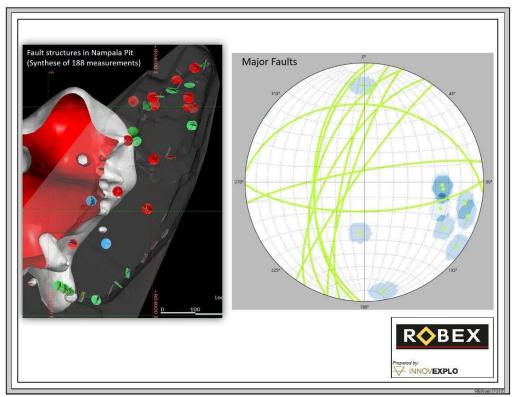


Figure 7-24 (left) Spatial representation of 3D disks representing the orientations of major faults; (right) Stereographic projection of the fault measurements

# **ITEM 8. DEPOSIT TYPES**

This item was covered in Item 8 in a previous technical report titled "NI 43-101 Technical Report for the Nampala and Mininko Permits (Mali) and Mineral Resource Estimate for the Nampala Gold Mine," InnovExplo Inc., 2018. The author of this specific item was Eric Kinnan, P.Geo., from InnovExplo Inc. The information presented in Item 8 is an excerpt from the referenced document.

#### 8.1 DESCRIPTIVE MODEL

Much has been published on gold deposits in the last decade, leading to significant improvement in the understanding of some models, the definition of new types or subtypes of deposits, and the introduction of new terms (Robert et al., 2007). However, significant uncertainty remains regarding the specific distinction between some types of gold deposits. Consequently, some giant gold deposits are ascribed to different deposit types by different authors.

As represented in Figure Figure 8-1, many significant types of gold deposits have been recognized, each with its own well-defined characteristics and environment of formation. As proposed by Robert et al. (1997) and Poulsen et al. (2000), many of these can be grouped into clans; i.e., families of deposits that either formed by related processes or are distinct products of large-scale hydrothermal systems. These clans effectively correspond to the main classes of gold models, such as the reduced or oxidized classes of the intrusion-related orogenic clan (Hagemann and Brown, 2000). Deposit types such as Carlin, gold-rich VMS and low-sulphidation are viewed by different authors as either stand-alone models or members of the broader oxidized intrusion-related clan. They are treated here as stand-alone deposit types, whereas high-sulphidation, intermediate-sulphidation and alkaline epithermal deposits are considered as part of the oxidized intrusion-related clan.

The term orogenic (as per Robert et al., 2007) was originally introduced by Groves et al. (1998) in recognition of the fact that quartz-carbonate vein deposits in greenstone and slate belts, including those in BIF, have similar characteristics and are formed by similar processes. The term has been progressively broadened to include deposits that are post-orogenic relative to processes at their crustal depth of formation. Specific deposit types in this clan include the turbidite-hosted and greenstone-hosted vein deposits, as well as the BIF-hosted veins and sulphidic replacement deposits.

Orogenic deposits of all three types share a number of additional characteristics (Robert et al., 2007). They consist of variably complex arrays of quartz-carbonate veins that display significant vertical continuity, commonly in excess of 1 km, without any significant vertical zoning unless post supergene enrichment is involved, but this will not be discussed here as those processes overprint the original state of the deposit independently of their formation processes. The dominant sulphide mineral is pyrite at greenschist grade and pyrrhotite at amphibolite grade, and Au:Ag ratios are generally >5. Arsenopyrite is the dominant sulphide in many clastic sediment-hosted ores at greenschist grade, and loellingite is also present at amphibolite grade. Orebodies are surrounded by zoned carbonate-sericite-pyrite alteration haloes that are variably developed depending on host rock composition. At the regional scale, a majority of deposits are spatially associated with regional shear zones and occur in greenschist-grade rocks, consistent with the overall brittle-ductile nature of their host structures. As an example, greenstone-hosted quartz-carbonate-vein deposits of the Birimian greenstone belts and the West African Craton are associated with large-scale carbonate alteration commonly distributed along shear zones and associated subsidiary structures (Hammond, 2011).

The quartz-carbonate veins in these deposits typically combine shear veins in moderately to steeply dipping reverse shear zones with arrays of shallow-dipping extensional veins in adjacent competent and lower strain rocks. The reverse character of the shear zone-hosted veins and the

shallow dips of extensional veins attest to their formation during crustal shortening (Sibson et al., 1988; Robert and Poulsen, 2001).

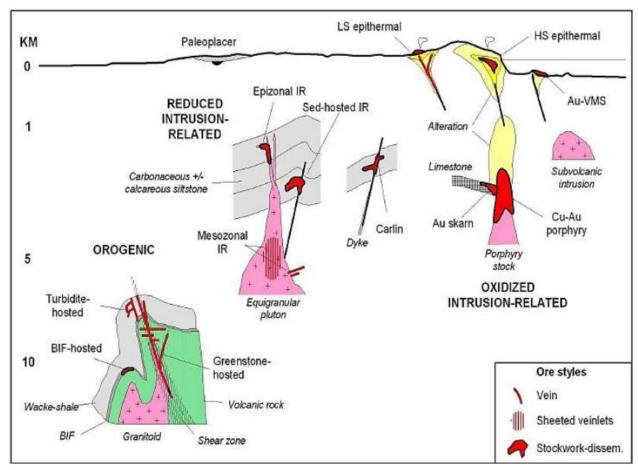


Figure 8-1 Inferred crustal levels of gold deposition showing the different types of gold deposits and inferred deposit clans. From Dubé and Gosselin (2007), modified from Poulson et al.(2000)

In greenstone belts, significant vein deposits are typically distributed along specific regional compressional to transpressional structures. By virtue of their association with regional structures, these camps are also located at the boundaries between contrasted lithologic or age domains within the belts. Along these structures, the deposits commonly cluster in specific camps, localized in bends or at major splay intersections, and where deposits typically occur in associated higher-order structures (Goldfarb et al., 2005; Robert et al., 2005). The larger camps and deposits are commonly spatially associated with late conglomeratic sequences as exemplified by the Timiskaming polymictic conglomerates of the Abitibi Greenstone Belt and the Tarkwaian quartz pebble conglomerates of the Birimian Supergroup. The deposits occur in any type of supracrustal rocks within a greenstone belt and cover stratigraphic positions from lower mafic-ultramafic volcanic to upper clastic sedimentary stratigraphic levels. However, large deposits tend to occur stratigraphically near the unconformity at the base of conglomeratic sequences, especially if developed above underlying mafic-ultramafic volcanic rocks (Robert et al., 2005).

At the local scale, favourable settings for these deposits represent a combination of structural and lithologic factors (Groves, 1993; Robert, 2004). Favourable structural settings are linked mainly to the rheologic heterogeneities in the host sequences. Shear zones and faults, universally present in these deposits, developed along lithologic contacts between units of contrasting competencies and along thin incompetent lithologies. Along these contacts and within the

incompetent units, deposits will preferentially develop in bends and at structural intersections. Competent units enclosed by less competent rocks favour fracturing and veining. Common lithologic associations include Fe-rich rocks such as tholeiltic basalts, differentiated dolerite sills and BIFs, and competent porphyry stocks of intermediate to felsic composition, whether they intrude mafic-ultramafic volcanic or clastic sedimentary rocks.

At the deposit scale, the nature, distribution and intensity of the wall-rock alteration is largely controlled by the composition and competence of the host rocks and their metamorphic grade. Typically, the alteration haloes are zoned and characterized at greenschist facies by iron-carbonatization and sericitization, with sulphidation of the immediate vein selvages (mainly pyrite, less commonly arsenopyrite). (Robert et al., 1994; Robert and Poulsen, 2001)

#### 8.2 NAMPALA GOLD DEPOSIT

Specifically, the Nampala deposit can be classified as a turbidite-hosted structurally-controlled orogenic (mesothermal) lode-gold system and share many similarities with deposits described in Item 8.1. The mineralization also shares many geological attributes with other vein-type gold (orogenic) deposits of the West African Craton and with lode gold deposits in general in terms of its host rock composition, mineralogy and hydrothermal alteration. The structural control consists of brittle structures formed during late Eburnean deformation between 2120 and 2000 Ma. (Le Mignot et al., 2017)

The Nampala gold zones and mineralization are situated in the Paleoproterozoic Birimian turbidites at the northern end of the Bagoé Formation. The mineralized zones consist of subvertical envelopes defined by en echelon tension veins and narrow vein stockworks hosted in turbidite. The mineralized zones are confined to sheared arenitic rocks and dilation jogs that propagated along an intermediary granitoid intrusive, and are injected by a mafic (gabbroic) and late felsic dyke and sill system.

The occurrence of gold in stockworks and veins in arenitic units in proximity to dioriticgabbroic to tonalitic intrusions is a distinct feature of the deposit that can be explained by the fracturing of competent sandstone and wacke units during shearing and by the plutonic units acting as the engine that generated mineralizing fluids and/or as the driver for gold remobilization. The barren impervious graphitic schist (or mudstone) units may have played a role in trapping the hydrothermal fluids and restricting the gold-bearing veins to the more porous arenite and greywacke units.

In response to the rheological contrast between different sediment types, plastic planar shear slipping along the ductile and less permeable siltstones and mudstones caused interplanar shear bands to form, whereas the main mode of deformation in arenitic rocks was brittle fracturing, the opening of tension gaps and the formation of dilation jogs. As a result, quartz vein propagation and hydrothermal alteration is widespread in the more porous sandstone. Hydrothermal alteration and quartz vein patterns follow structural corridors, filling tension gash and dilation jogs along shear corridors in the sediments and along hornfelsed rims around intrusives.

The region is affected by a subtropical weathering that formed a lateritic cover and an underlying saprolitic oxidation profile that is typically 60 to 100 m deep. This altered the original signature of the gold mineralization, at least in the upper part of the deposit where heavy argillitic and kaolinitic alteration were instrumental in the supergene concentration of gold (remobilization). This process dissolved sulphide minerals to produce metal-charged acidic solutions which in turn dissolved other minerals such as feldspars and carbonates, in contrast to the typical alteration haloes of greenstone hosted quartz-carbonate-vein deposits.

# ITEM 9. EXPLORATION

Other than drilling, no exploration work has been conducted on the Property by the Issuer.

# **ITEM 10. DRILLING**

All drill hole data were received on July 31, 2020 from the exploration team at the Robex Nampala mine site.

#### 10.10VERVIEW

The drill holes completed on the Nampala Exploitation Permit are reported in Table 10-1. The Nampala Phase 4 campaigns, as of July 31, 2020, has a total of 410 holes with a cumulated length of 34,998m with an average depth of 85. This campaign should be completed by the end of 2020. The Nampala Phase 4 (Red collar) is highlighted in plan view on Figure 10-1 along with a representative section in Figure 10-2. The initial topography along with the current Nampala open pit outlines are provided for reference location.

Table 10-1 Drill holes reported on the Nampala Exploitation Permit

Years	Phases	Types	Started	Holes	Meters	Avg.Depth
1987	Histo_201308	DD		1	87	87
1988	Histo_201308	DD		2	223	112
1991	Histo_201308	DD		3	329	110
2001	Histo_201308	RC		17	834	49
2001	Rab2001	RAB		338	14,301	42
2004	Histo_201308	DD		5	1,026	205
2004	Histo_201308	RC		36	4,688	130
2005	Histo_201308	RC		52	6,170	119
2006	Histo_201308	RC		30	3,312	110
2007	Histo_201308	DD		3	917	306
2009	Histo_201308	AC		119	8,171	69
2010	Histo_201308	AC		25	1,665	67
2010	Histo_201308	RC		3	190	63
2011	Histo_201308	AC		82	6,101	74
2011	Histo_201308	DD		19	5,000	263
2012	Histo_201308	AC		137	11,579	85
2017	Nampala 1	DD	20171028	25	3,662	146
2017	Nampala 1	RC	20171202	34	3,707	109
2018	Nampala 1	DD	20180113	15	2,250	150
2018	Nampala 1	RC	20180113	83	7,814	94
2018	Nampala 2	DD	20181009	34	3,379	99
2018	Nampala 2	RAB	20181207	17	883	52
2018	Nampala 2	RC	20180925	56	5,178	92
2019	Nampala 2	DD	20190125	1	110	110
2019	Nampala 2	RC	20190221	6	591	99
2019	Nampala 3	RC	20190315	103	9,500	92
2020	Nampala 4	RC	20200205	410	34,998	85

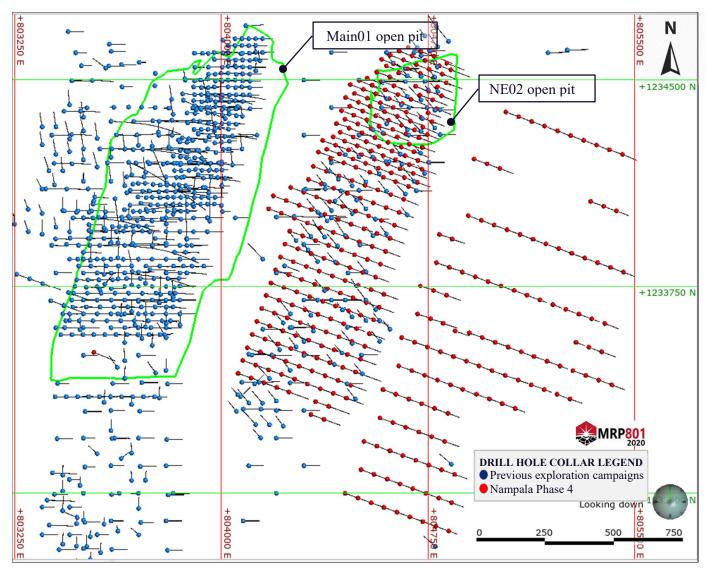


Figure 10-1 DD & RC Drill holes collar location included in the 2020 MRE – Plan view – Colored by campaign

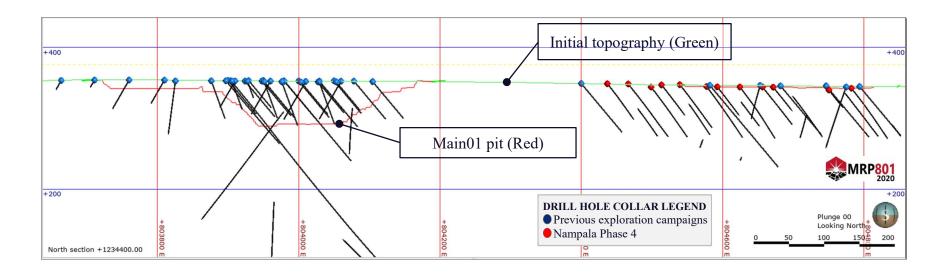


Figure 10-2 DD & RC Drill holes collar location Drill hole collar location – North section 1234400 – Colored by campaign

#### 10.2 DRILLING METHODS

The International Drilling Company (IDC) <u>www.idc-drilling.com</u> has drilled the entire Nampala Phase 4 (as of July 31, 2020) and all the previous campaigns since 2017.

The following paragraphs describe the procedures for drill hole field implementation, surveying, material recovery and sample collection during the program.

- A Garmin GPSMAP76CSX instrument was used to locate the position of the drill pad. If needed, the area was cleared of vegetation and levelled with a bulldozer. Surveyors then used a Leica GPS1200 instrument to locate the position of the planned hole. A survey crew aligned the rig with front sight markers using a Brunton compass.
- After drilling, surveyors would return to resurvey the exact position of the collar. Survey data were logged and monitored daily. The coordinate system is UTM WGS84 Zone 29.
- After completing each hole, a PVC pipe was left protruding out of the collar with a metal identification tag displaying the hole identification (hole ID). Once the cement was poured, the hole ID was inscribed into the drying cement.
- Downhole surveys were performed on every hole. Downhole deviation surveys included single-shot and multi-shot pickups using the electronic downhole Reflex EZ-TRACTM instrument, which simultaneously measures azimuth, inclination, total magnetic field and magnetic dip. A measurement was taken after the first 6 m to validate the azimuth and dip and then single-shot measurements were taken every 30 m during drilling. The Reflex tool was managed by IDC personnel under the supervision of Robex geologists.
- RC drilling used a high-pressured 5.5-inch percussion hammer equipped with 4.5-inch steel rods powered by a Sullair Open frame 1150XHH (1150/1350 CFM – 500/350 PSI) compressor.
- Drill cuttings are collected in a cyclone equipped with a MJ SAMCORE sampling tower consisting of two drop boxes and a double-chute automatic cone splitter.
- The collar and downhole survey data were entered into a GeoticLog drilling database.
- All drill hole samples went through the drill rods.

The methods used preserves the integrity of the raw results and meet current industry standards for data capture and management.

#### 10.3 GEOLOGICAL LOGGING

The RC drill cutting descriptions are made by a geologist in the field with detailed information on lithology, structures, mineralization, alteration, color, veins or other potential signs of mineralization on a log sheet. The data is then entered into a GeoticLog database. The sampling intervals are systematically defined every meter and the samples are collected at the divider cone in bags placed under the cyclone concentrator. Sample tags are inserted by the geologist overseeing the RC drilling operations and sample identification numbers are written on the sample bags.

#### 10.4 CORE RECOVERY

The intervals without recovery are reported in summarized tables presented in Table 10-2.

Table 10-2 Drill hole intervals without recovery -Nampala Phase 4 program

Hole	From	To	Interval	Comment	Date
NAM2020RC-308	0	1		No Recovery	20200226
NAM2020RC-323	67	68		No Recovery	20200316
NAM2020AC-1244	83	84		No Recovery	20200310
NAM2020AC-249	6	7		No Recovery	20200321
NAM2020RC-351	36	37		No Recovery	20200207
				No Recovery	20200323
NAM2020RC-351	37	38			
NAM2020RC-351	60	61		No Recovery	20200323
NAM2020RC-351	0	1		No Recovery	20200323
NAM2020RC-351	1	2		No Recovery	20200323
NAM2020AC-1243	29	30		No Recovery	20200323
NAM2020AC-344	47	48		No Recovery	20200331
NAM2020AC-360	3	4		No Recovery	20200403
NAM2020AC-361	2	3		No Recovery	20200404
NAM2020AC-368	24	25	1	No Recovery	20200408
NAM2020AC-368	25	26	1	No Recovery	20200408
NAM2020AC-371	30	31	1	No Recovery	20200409
NAM2020AC-371	31	32	1	No Recovery	20200409
NAM2020AC-371	32	33	1	No Recovery	20200409
NAM2020AC-374	5	6	1	No Recovery	20200413
NAM2020AC-382	24	25	1	No Recovery	20200416
NAM2020AC-382	25	26	1	No Recovery	20200416
NAM2020AC-382	26	27	1	No Recovery	20200416
NAM2020AC-382	27	28		No Recovery	20200416
NAM2020AC-382	28	29		No Recovery	20200416
NAM2020AC-382	30	31		No Recovery	20200416
NAM2020AC-382	31	32		No Recovery	20200416
NAM2020AC-382	32	33		No Recovery	20200416
NAM2020AC-400	18	19		No Recovery	20200429
NAM2020AC-400	19	20		No Recovery	20200429
NAM2020AC-402	26	27		No Recovery	20200429
NAM2020AC-402	27	28		No Recovery	20200429
NAM2020AC-402	28	29		No Recovery	20200429
NAM2020AC-402	3	4			20200429
				No Recovery	
NAM2020AC-1256	24	25		No Recovery	20200518
NAM2020AC-1269	44	45		No Recovery	20200523
NAM2020AC-437	72	73		No Recovery	20200602
NAM2020AC-439	0	1		No Recovery	20200603
NAM2020AC-440	30	31		No Recovery	20200603
NAM2020AC-442	0	1		No Recovery	20200604
NAM2020AC-442	48	49		No Recovery	20200604
NAM2020AC-441	9	10		No Recovery	20200604
NAM2020AC-447	43	44		No Recovery	20200606
NAM2020AC-460	72	73	1	No Recovery	20200612
NAM2020AC-463	15	16		No Recovery	20200613
NAM2020AC-1282	53	54	1	No Recovery	20200625
NAM2020AC-1282	71	72	1	No Recovery	20200625
NAM2020AC-505	89	90	1	No Recovery	20200630
NAM2020AC-512	85	86	1	No Recovery	20200703
NAM2020AC-558	0	1	1	No Recovery	20200722
NAM2020AC-544	126	127		No Recovery	20200727
NAM2020AC-567	30	31		No Recovery	20200729
NAM2020AC-569	0	1		No Recovery	20200729
147 11712020AC 303	U			140 NCCOVCTY	20200723

# ITEM 11. SAMPLE PREPARATION, ANALYSIS AND SECURITY

The following paragraphs describe the preparation for analysis and the security procedures for the 2020 Nampala Phase 4 drilling campaign. The program information was provided by Robex's geologists responsible for the drilling campaign management, the analytical result integration in the database, the Quality Assurance and Quality Control (QA/QC), the program and the results.

#### 11.1 SAMPLING METHOD AND APPROACH

To reduce variability and build confidence in the strength of the analytical database, it is important to establish sample collection, preparation, assay and test work protocols appropriate for the mineralization type, combined with a suitable QA/QC program.

#### 11.1.1 CORE HANDLING, SAMPLING AND SECURITY

No core drilling was completed during the Nampala Phase 4 program (as of July 31, 2020).

#### 11.1.2 RC DRILLING, SAMPLING AND SECURITY

- Drill cuttings are collected in a cyclone equipped with a MJ SAMCORE sampling tower consisting of two drop boxes and a double-chute automatic cone splitter.
- RC cuttings fall into plastic sample bags installed under both chutes of the cone splitter, creating one original sample and one duplicate. Each pair was identified with the hole ID and the interval depth, and identification tags were placed in the bag with the samples. The bags were then sent to the core shack where one bag is shipped to the laboratory and the other is placed in the RC sample lay down area. Fine and coarse fractions were taken from the sample, sequentially described on a rice bag, then some of the remaining material was placed in a 10-compartment chip tray. Chip trays are identified by hole ID and depth interval, photographed with a digital camera then stored at the new core shack building as shown in Figure 11-1and Figure 11-2.
- Each sample was placed in an identified plastic bag with a matching sample tag and then sealed with a zip tie. QA/QC samples were inserted by the core shack supervisor. Under the supervision of the project geologist, sample bags (usually 8 to 10 at a time) were placed in rice sacks and sealed with zip ties. The sample numbers and sequential bag numbers were written on each rice sack and such information was recorded on a form.
- The Nampala Phase 4 RC drilling program was planned and supervised on-site by Robex personnel.
- The main purpose of the program was to provide exploration and "infill" drilling to test mineralized zone continuity between "exploration" diamond drill holes.
- Each RC sample represents 1 m of drilling and consists of pulverized material with a
  particle size rarely exceeding 2 mm. Pressurized air is used to push the pulverized
  material to the surface through the steel rods and into a cyclone that delivers the drill
  cuttings to an automatic cone splitter equipped with two chutes to facilitate the collection
  of a field duplicate.



Figure 11-1 RC Hole storage



Figure 11-2 Core shack storage

- For each meter drilled, a numbered plastic sample bag is placed directly under the tray of each chute to recover the sample and a witness (or duplicate) sample.
- At the drill site, the geologist logs the sample's description (color, quartz content, mineralization, alteration, weathering profile, etc.).
- The bag is then sealed with a zip tie and placed on the ground in sequential order.
- The geologist is also responsible for inserting the QA/QC samples into the sequence at the drill site.
- At the end of every working shift, the sample bags are transported by truck to the core shack and prepped for shipping to the SGS laboratory in Bamako (or in Nampala) or in ALS laboratory Bamako (for preparation only) then send to ALS Ouagadougou for analysis.
- Robex employees deliver the rice sacks to one of the 3 laboratories, depending on the lab availability, along with a sample submission form providing contact and project information, date, sample type and quantities, requested preparation and analytical methods, etc. A copy of the form is also sent by email to the laboratory and another copy is saved in the archives.
- Upon receipt, assay results are checked for inconsistencies and QA/QC compliance before being compiled in the GeoticLog database.

## 11.2LABORATORY ACCREDITATION AND CERTIFICATION

The International Organization for Standardization ("ISO") and the International Electrotechnical Commission ("IEC") form the specialized system for worldwide standardization. ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories sets out the criteria for laboratories wishing to demonstrate that they are technically competent, operating an effective quality system, and which are able to generate technically valid calibration and test results.

Since 2017, Robex has used two independent commercial laboratories to analyze their samples: SGS and ALS. The SGS Mali laboratory in Bamako has its ISO/IEC 17025:2005 accreditation through the SCC. Although the SGS Robex-Nampala laboratory at the Nampala mine site has no accreditation, the methods used at their facility are the same as those used at the SGS Mali laboratory. Consequently, the results are considered valid. In addition, SGS operations are controlled by the regional laboratory. The ALS laboratory in Ouagadougou is ISO 9001: 2015 certified for the "provision of geochemical testing and analysis services" by QMI Quality Registry Managers.

## 11.3LABORATORY PREPARATION AND ASSAYS

RC drilling preparation (PRP87)

- Samples are sorted, bar-coded and logged in the laboratory program, then dried and weighed;
- Samples are crushed to a fineness of 75%, passing below 2 mm and split;
- The sample is pulverized to a fineness of 85%, passing 75 μm (200 mesh).

## RC drilling assaying

Samples were analyzed by FA with AAS finish (FAA505);

 For samples grading over 10.0 g/t Au, pulps (50 g) were reassayed by FA with a gravimetric finish (FAG505).

## 11.4 DENSITY MEASUREMENTS

No density measurement was conducted during the Nampala Phase 4 program.

During the 2017-2018 program, InnovExplo conducted systematic density measurements to reassess the bulk density parameters for all lithologies and weathering profiles. A total of 1,483 density measurements were taken on core samples including 252 measurements inside the Nampala pit limits. The density was determined using standard water immersion methods on core samples and calculated with the following formula:

$$\label{eq:Density} Density = \frac{Weight\ of\ sample}{Weight\ of\ sample - Weight\ of\ sample\ submerged}$$

## 11.4.1 DENSITY RECONCILIATION

A density comparison, carried out by Robex at the end of July 2020, between the drillhole core measurements (Core\_DD) used to interpolate the density model and the six (6) million tonnes of ore processed (Milled) since January 2017 showed a positive difference of 9.8% for the ore processed with an average of 1.90 t/m³, increasing in depth, shown on Figure 11-3.

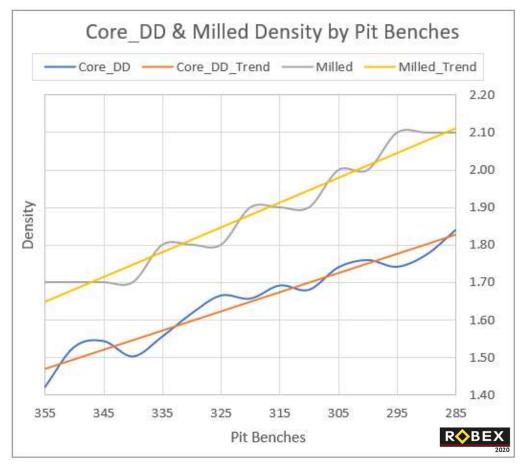


Figure 11-3 Core and Milled Density by Pit Benches

The drill hole core density measurements (Core\_DD) has been adjusted in an Excel spreadsheet to reflect the positive difference of 9.8% then used to interpolate the MRE 2020 density model.

# 11.5 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

For the Nampala Phase 4 program, a total of 34,946 samples were submitted to the laboratories, including 3,115 QA/QC samples.

The 2020 QA/QC program, supervised by Robex geologists, includes the insertion of standards, blanks and field duplicates, as well as pulp checks. Certified Reference Materials (CRM) were used as standards. One standard, one blank and one field duplicate were inserted into every batch of samples, for a total of 20 samples per batch. In a batch, the insertion of the blank is usually placed (by the geologist) after any interval with potentially significantly high gold concentrations. A check was also performed on a selection of approximately 10% of rejects and pulps grading over 0.1 g/t Au. Those rejects and pulps were retagged and reassayed and handled as duplicates. During the program, actions were taken for solving QA/QC issues, which included reanalyzing sample batches when required.

Both laboratories have their own internal QA/QC program. Each routinely used blanks and standards as well as pulp and reject duplicates to test procedure quality and consistency. In the event of non-compliance with internal quality standards, the laboratory automatically reanalyzed and reprocessed the batches containing the failed QA/QC samples using the laboratory's internal procedures.

The graphics below detail the results of the Issuer's QA/QC program. They do not present the results of the internal QA/QC program of the laboratories.

#### 11.5.1 BLANKS

Blanks for the 2020 Nampala Phase 4 program were supplied by OREAS (<u>www.ore.com.au</u>) as 50 g individual bags with a certified gold concentration below 0.004 g/t Au.

Blanks are used to determine if contamination occurs during the preparation and/or analytical process. If a failed blank is observed (i.e., a value above the designated level of acceptance), further action must be taken to determine whether the batch results are accepted or rejected.

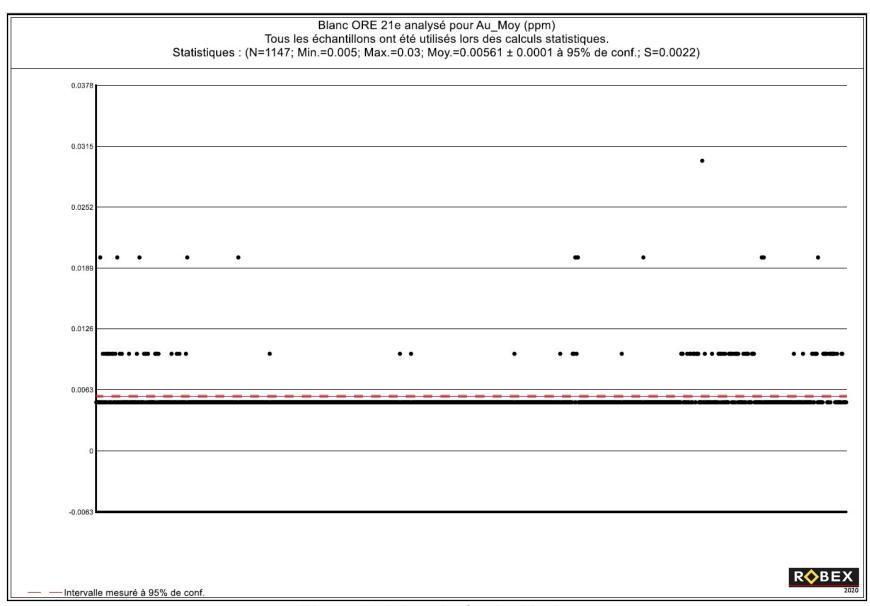


Figure 11-4 Results for the Blanks

## 11.5.2 CERTIFIED REFERENCE MATERIALS (STANDARDS)

Accuracy is monitored by inserting standards. Standards are used to detect assay problems within specific sample batches and long-term biases in the overall dataset. The definition of a failure is when assays for a standard fall outside three standard deviations (3SD). Outliers are excluded from the calculation of the standard deviation.

13 different CRMs were used during the Nampala Phase 4 program representing a range of grades and matrix types (oxide, sulphide or silica-rich). Standards were inserted at the rate of one every 20 samples. CRM results are shown in their respective graphic in the next pages (Figure 11-5 to Figure 11-17).

In the case of a failed CRM sample, the project geologist decides whether the batch should be reanalyzed.

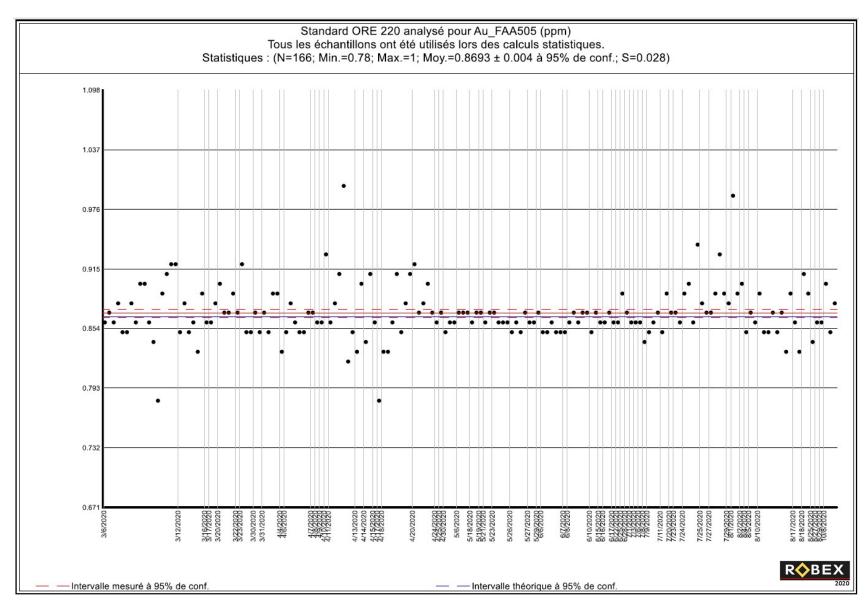


Figure 11-5 Standard ORE 220

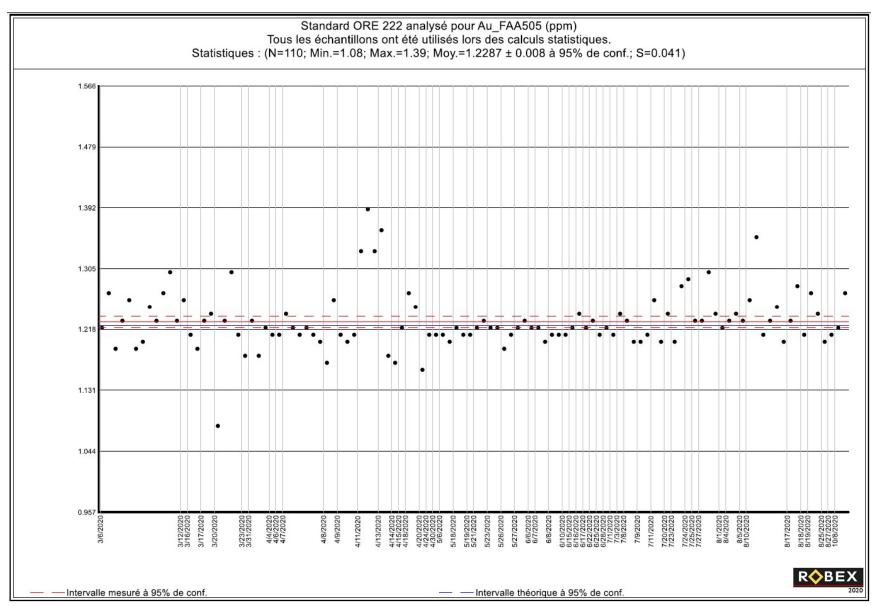


Figure 11-6 Standard ORE 222

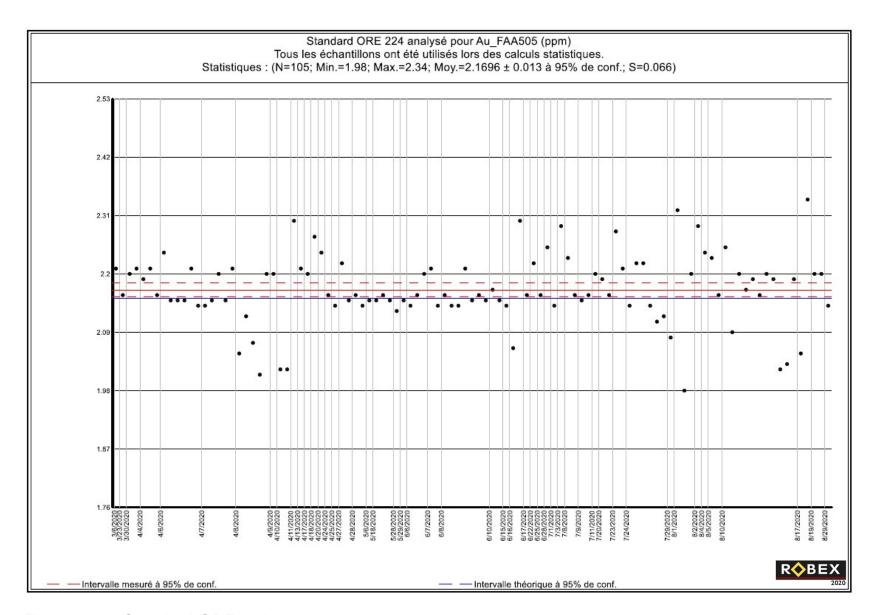


Figure 11-7 Standard ORE 224

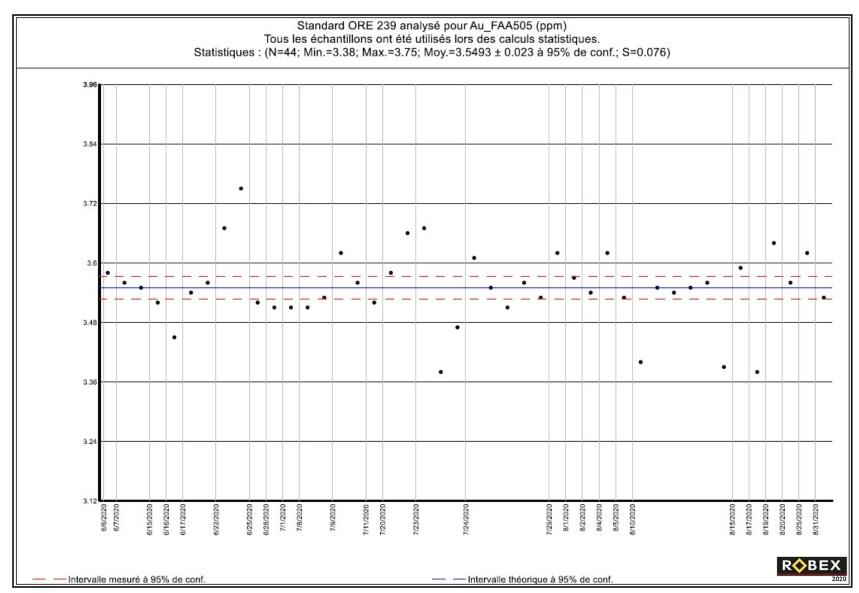


Figure 11-8 Standard ORE 239

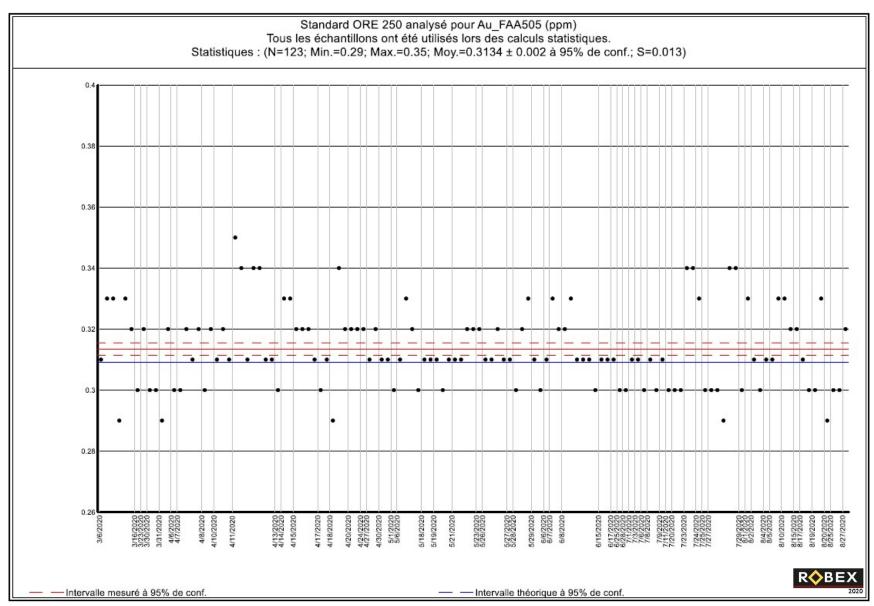


Figure 11-9 Standard ORE 250

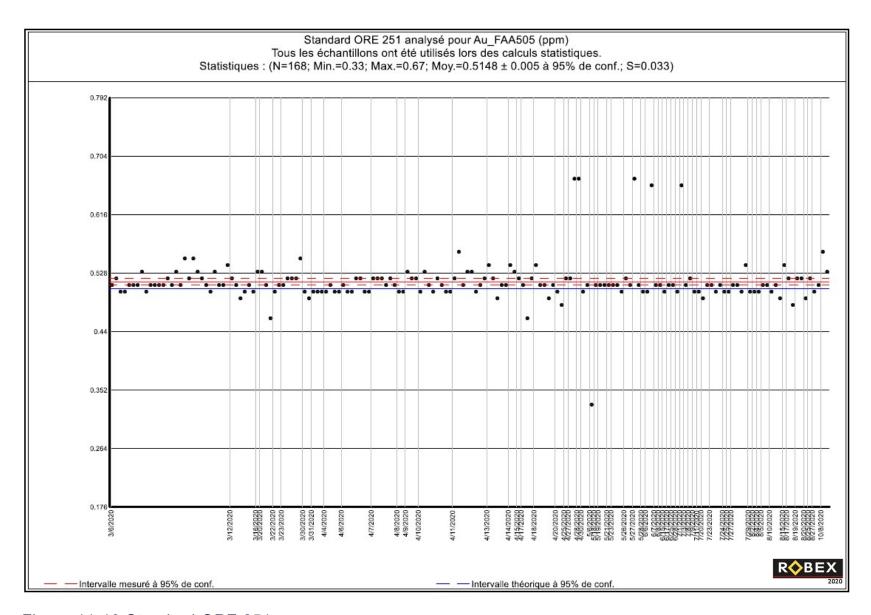


Figure 11-10 Standard ORE 251

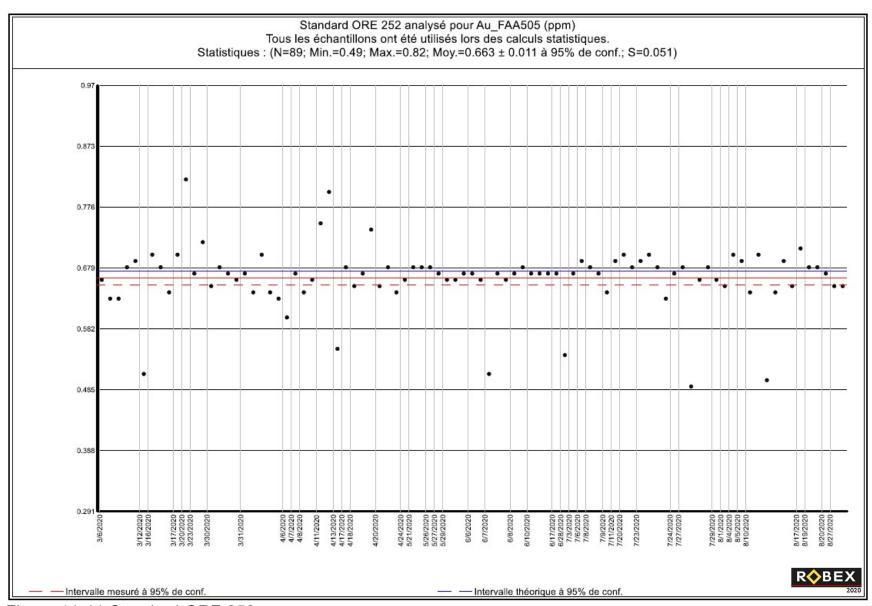


Figure 11-11 Standard ORE 252

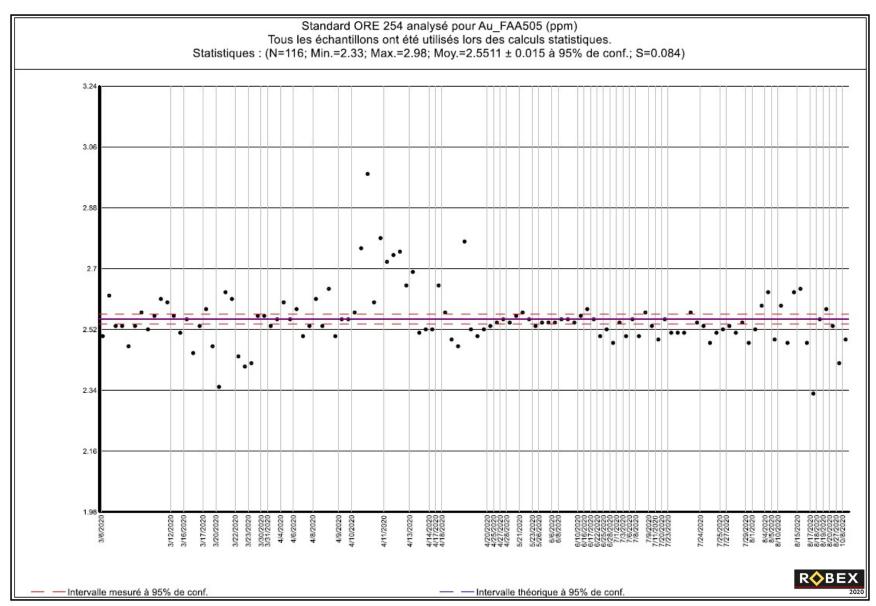


Figure 11-12 Standard ORE 254

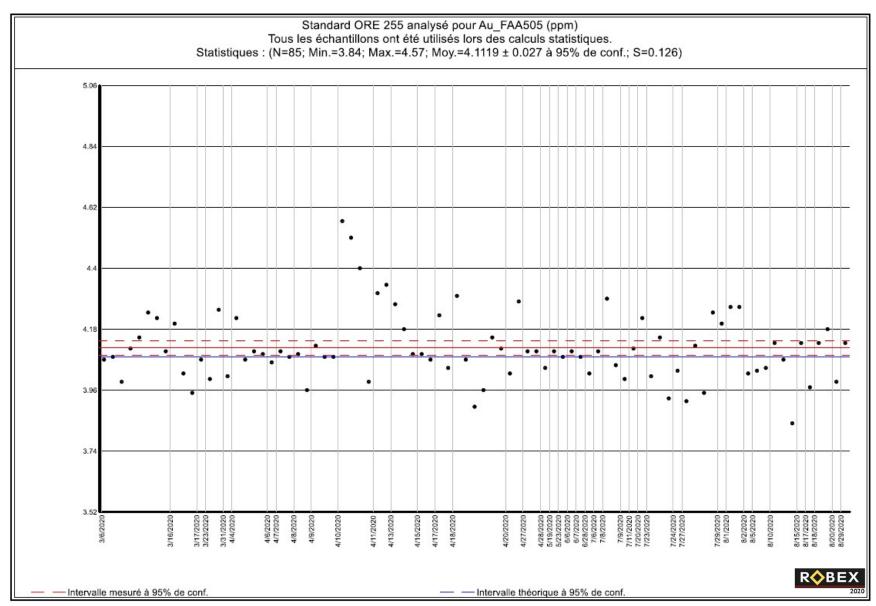


Figure 11-13 Standard ORE 255

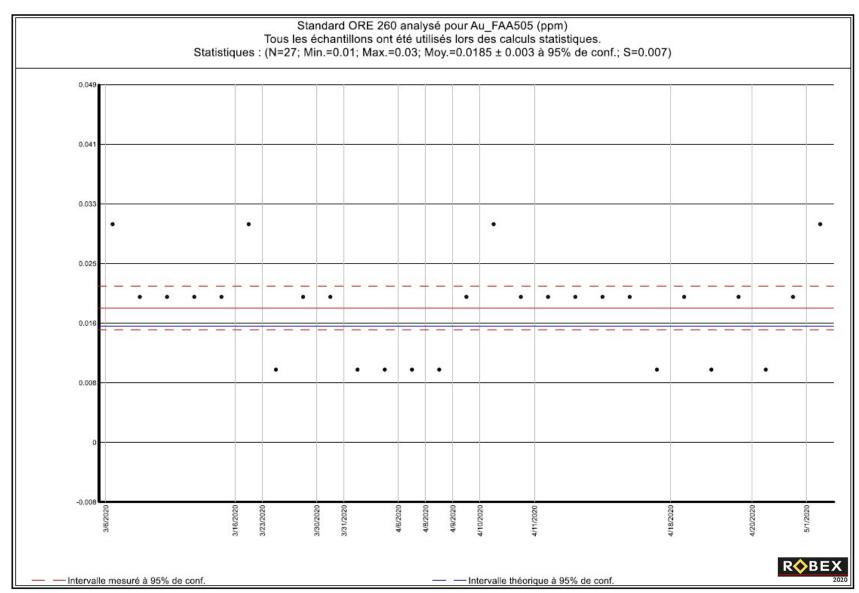


Figure 11-14 Standard ORE 260

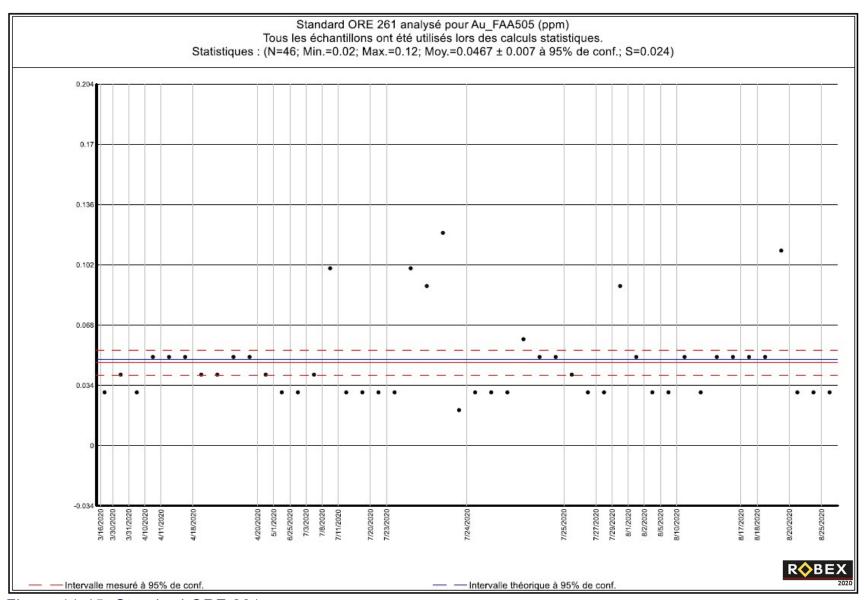


Figure 11-15 Standard ORE 261

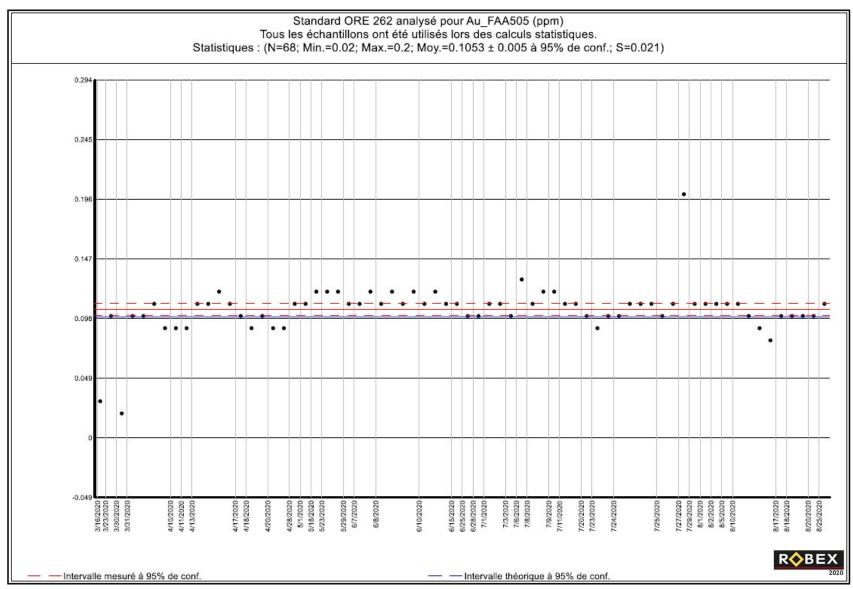


Figure 11-16 Standard ORE 262

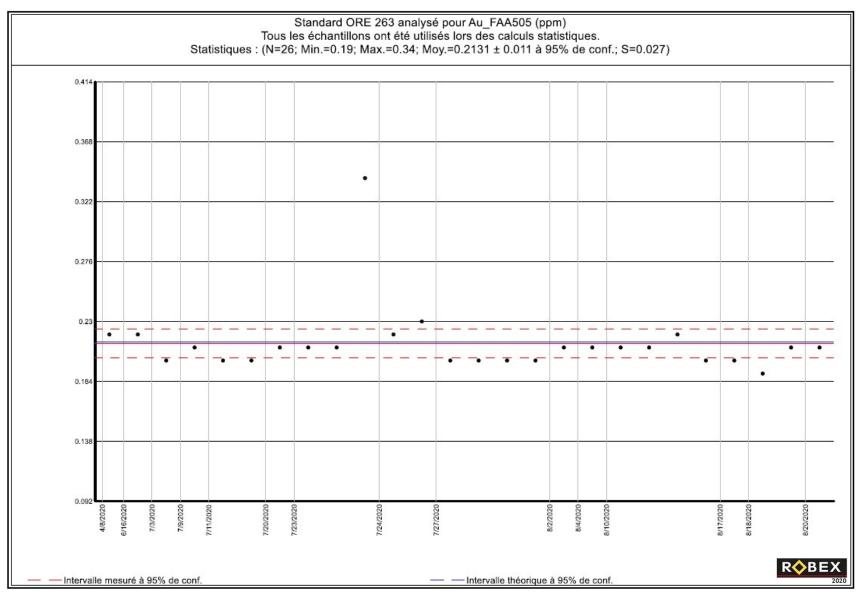


Figure 11-17 Standard ORE 263

## 11.5.3 DUPLICATES

A component of the QA/QC program included the determination of the analytical precision (repeatability) of the original gold assay data from the laboratory. The 2020 Nampala Phase 4 program used three types of duplicates: field, reject (coarse) and pulp. Duplicate assays provide an estimate of the reproducibility and are related to sample type and size, sample preparation (homogenization, crushing, pulverization, subsample weight), the analytical method and the homogeneity of the mineralization itself (e.g., nugget effect).

#### FIELD DUPLICATES

Field duplicates consist of a full second sample bag for the RC cuttings. One field duplicate was added to every batch. For the 2020 Nampala Phase 4 program, the rate was set at one filed duplicate every 20 samples. Field duplicates consisted of a second sample taken from the drill cuttings that matched the original sample. The split was performed with a riffle splitter.

A total of 795 field duplicates were assayed over that period of drilling (Figure 11-18).

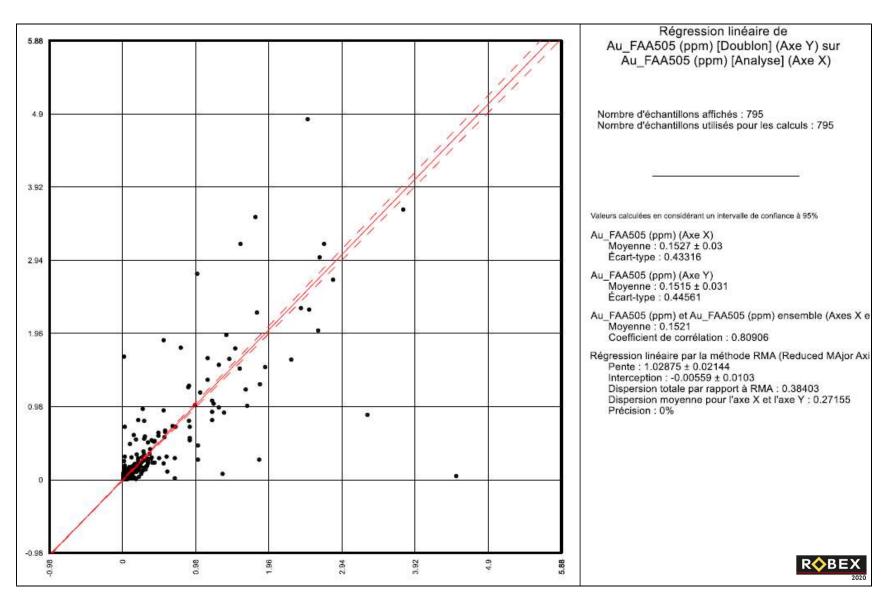


Figure 11-18 Results for Field Duplicates

## **PULP DUPLICATES**

Pulps are subsamples that have been pulverized to a finer particle size for assaying. Pulp duplicates are necessary to ensure proper sample preparation and homogenization during the pulverization stage. The precision of pulp duplicates indicates whether the two subsamples taken after pulverization are representative and reproducible.

As of the date of this report, 81 assay results have been received (Figure 11-19 and Figure 11-20).

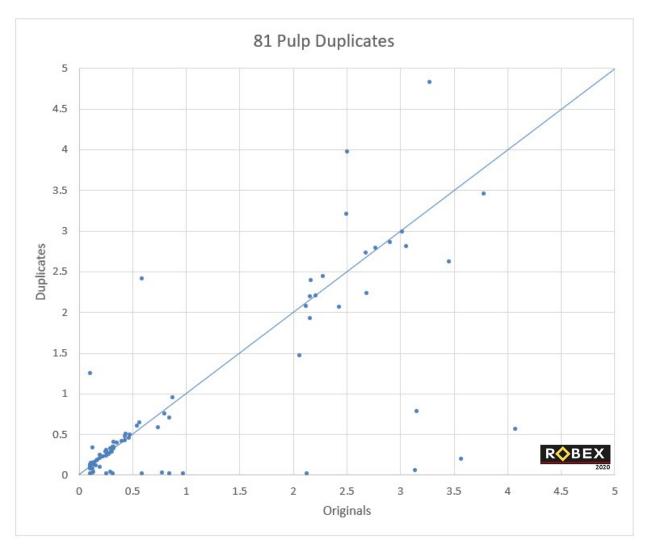


Figure 11-19 Pulp Duplicates

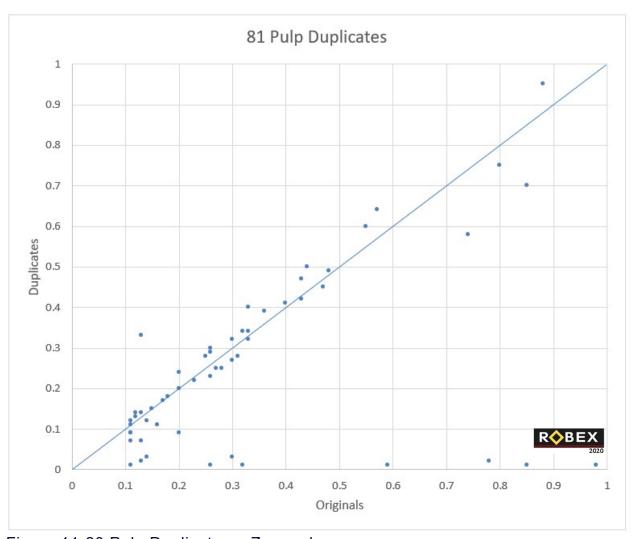


Figure 11-20 Pulp Duplicates - Zoomed

# 11.6 CONCLUSION

While some of the Pulp Duplicates results must be verified, the current sampling methods, sample preparation procedures, analytical techniques and sample security measures are considered appropriate and sufficient to meet currently accepted industry standards.

## ITEM 12. DATA VERIFICATION

The drill hole database provided by the issuer contained all the drilling assays for the entire Nampala Drill hole programs in order to obtain a single and uniform dataset. The closeout date for the drill hole information was July 31, 2020 and the information was complete for all tables as collar locations, assays, the QA/QC program, downhole survey data, lithologies, alteration, structures present in the GeoticLog database The database used for the Mineral Resource Estimate (2020 MRE) contains a total of 1656 drill holes including the 410 drill holes completed during the Nampala Phase 4 campaign as at July 31, 2020 Table 10-1.

Also, the Nampala pit survey of July 31, 2020 was provided to take into consideration the mine depletion (Figure 12-4).

## 12.1 DRILL HOLE LOCATIONS

During the site visit that occurred at some point in the Nampala Phase 4 campaign, it was witnessed that the mine surveyors used a Leica GPS1200 instrument to locate the position of the predicted hole. A survey team aligned the platform with the sighting marks using a Brunton Compass.

After the drilling, the surveyors would come back to make a new measurement of the exact position of the collar. The survey data was recorded and monitored daily. The database contains the last and most precise information from the survey team. The coordinate system is UTM WGS84 Zone 29.

Also, the previous method and equipment from the previous campaign was reviewed and deemed suitable for the current Mineral Resource Estimate.

## 12.2 DOWNHOLE SURVEYS

During the Nampala Phase 4 campaign, it was observed that a downhole survey was performed on every drill hole, except for 160 of them. A delay occurred because of a logistic issue holding-up the survey equipment shipped for maintenance outside Mali. Downhole deviation surveys included single-shot and multi-shot pickups using the electronic downhole Reflex EZ-TRACTM instrument, which simultaneously measures azimuth, inclination, total magnetic field and magnetic dip. A measurement was taken after the first 6 m to validate the azimuth and dip, and then single-shot measurements were taken every 30 m during drilling. The Reflex tool was managed by IDC personnel under the supervision of Robex geologists.

## 12.3 ASSAYS

The author was granted access to the original assay certificates for all holes drilled during the Nampala Phase 4 program. The assays recorded in the database were compared to the original certificates from the SGS Bamako (59%), SGS Robex Gold (28%) and ALS (13%) laboratories. Gold assays were verified for 100% of the database and all Au and Kg results in the drill hole database were found to be identical to the Au original certificate results.

## 12.4 DRILL HOLE LOG

No additional information concerning the presence of contaminant was recorded in the RC drill logs during Phase 4. In the previous Technical Report, the DD drill hole logs were investigated for the presence of arsenopyrite and pyrite. The logs contained pictures of the diamond drilled core. 41 occurrences were identified averaging a length of 1.3m. The 3 occurrences containing the most arsenopyrite and pyrite are presented in Table 12-1. As an example, the photo of an occurrence is presented in Figure 12-1.

Table 12-1 The 3 highest arsenopyrite and pyrite occurrence

Highest arsenopyrite and pyrite occurrence in DD								
Hole	Azimuth	Dip	From	То	Length	Title	Resume	Description
NAM2018DD-018	310	-55	37.8	39.2	1.4	Arsénopyrite 5%	Asp05	Présence de <5% de boxwork d'arsénopyrite (ou de pyrite?) disséminée à grains fins à moyens. Associé spatialement à des filonnets de quartz.
NAM2018DD-017	350	-68	76.4	77.2	0.8	Arsénopyrite 4%	Asp04	Forte à intense dissemination d'arsenopyrite et de pyrite dans l'encaissant ainsi que dans des epontes de veines de quartz cisaillées,
NAM2017DD-015	350	-65	92.9	94.2	1.3	Arsénopyrite 3%; Pyrite 3%	Asp03; Py03	1 à 2% de pyrites le long des bordures internes des veines et en trace au cœur des veines. Très forte altération en pyrite/arsénopyrite disséminées dans la roche, et plus particulièrement le long des épontes des veines.



Figure 12-1 Drill Hole NAM2018DD-017 - 67.35m to 77.70m

The relatively small length of the observed pyrite and arsenopyrite occurrences compared to the orebody width suggest that this may be an infrequent issue. Quantitative analysis is required to assess how these occurrences are impacting mineral processing and to what extend.

# 12.5 EXCAVATED SURFACE

The pit survey completed on July 31, 2020 was compared to some photos taken on October 15, 2020 during a tour of the excavations (Figure 12-2 and Figure 12-3). The excavated surface is considered current for the effective report date of July 31, 2020 and is shown in Figure 12-4 and in a cross section in Figure 12-5.



Figure 12-2 Main01 pit, 2020/10/15. Aerial view looking south.



Figure 12-3 NE02 pit, 2020/10/15. Aerial view looking east.

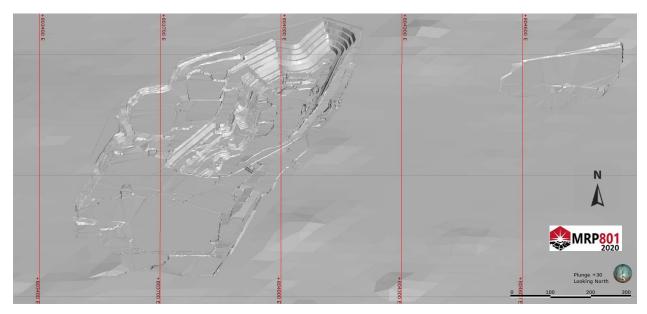


Figure 12-4 Surveyed Nampala pit on 2020/07/31

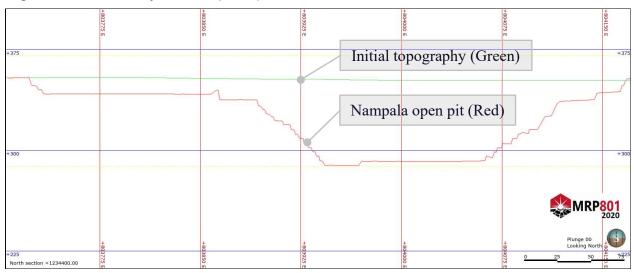


Figure 12-5 Nampala pit on 2020/07/31, North section 1234400

# 12.6 CONCLUSION

Data reliability from surveying, hole-logging, sample collection and assaying is considered high based on the QA/QC protocols and procedures. This information includes collar locations, assays, the QA/QC program, downhole survey data, lithologies, alteration, structures present in the GeoticLog database and surveyed surface. These practices used by Robex personnel, make the data adequate for Mineral Resource and Mineral Reserve estimation.

# ITEM 13. MINERAL PROCESSING AND METALLURGICAL TESTING

In the original testing leading to the project development (Marchand, 2012), two separate metallurgical testing campaigns were conducted to determine the metallurgical response of the Nampala gold deposit. In 2010, preliminary gravity concentration tests were performed at McGill University, and in 2010-2011 preliminary cyanide leaching tests were performed at SGS Lakefield. The gravity recovery tests led to recoveries in the range of 14% to 23%. The standard cyanidation tests led to recoveries between 86% and 90%, with tails gold grades between 0.14 g/t and 0.36 g/t.

In 2019 and 2020, metallurgical analysis were conducted on the Upper Transition weathering horizon using samples from excavated material in Main01 (production samples) pit and from exploration drill hole samples. Standard Bottle Roll leach tests were realized on the samples for a period of 24h. The 21 samples from the pit excavated ore located in the Upper Transition below level 298m returned an average recovery of 88,0%. As for the 18 samples from the exploration, Leach Well tests presented an average recovery of 86,8%. As a conservative approach, a recovery of 86% for the Upper Transition material is used as a base for the 2020 MR.

The Nampala Mine is currently in operation and is realizing consistent recovery between 85% and 90%, despite lower grade than during 2011 testing and lower residence time. The tails gold grades are in the 0.10-0.14 g/t range, which is much better than the 2011 testing.

The processing plant is currently in operation with a feed composed mostly of oxide material (saprolite). From July 1, 2019 to July 1, 2020 the mill operated with the mineral sizer. This period recorded a recovery rate of 88,9%. This result is the recovery rate assumption for the oxidized ore used in the 2020 MRE and the 2020 MR.

# ITEM 14. MINERAL RESOURCE ESTIMATE

## 14.1 MRE UPDATE

The 2020 MRE was required for the following reasons:

- The Nampala Phase 4, containing 410 drill holes added a total of 34 998m to the geological database. These drill holes were mainly drilled east of the current open pit.
- The price of gold has increased significantly in the last year. The last Mineral Resource Estimate (2019 MRE) used a price of gold of USD 1250 /oz. This value was increased to USD 1700 /oz. for the 2020 MRE and USD 1500 /oz. for the 2020 MR.
- The density model was updated to take into account the results from the mine-to-mill mass balance done in 2020.
- Mineralized material contained in the Upper Transition weathering horizon was metallurgically tested in 2019-2020. The average tests returned some suitable recovery rates of 86,8% and 88,0% for the two sampled populations.

## 14.2METHODOLOGY - RESSOURCES ESTIMATION

As mining production progress in the Main01 pit, there is a need to integrate the ongoing exploration campaigns and the resource estimation process with the mining activities. The steps to complete the 2020 MRE using RBF interpolation and structural trends were the following:

- Compile the drill hole database for all the exploration campaigns and validate each drill hole that was used for the 2020 MRE.
- Setup the block model geometry and attributes.
- Using implicit modeling on the drill hole intersect to create the Geology Models for the lithologies and the weathering horizons (Weathering horizon).
- Determine a 3D structural trend for each mineralized zone.
- Determine the grade capping from assay statistics.
- · Complete grade compositing.
- Determine search ellipse dimensions and interpolate grade using RBF function
- Interpolate densities for each weathering horizon and lithology domain
- Validate Grade Model
- Create the Mineral Resource Pit Shell with the optimizer
- Constrain the Mineral Resource model
- Classify Mineral Resource
- Summarize 2020 MRE results

## 14.3 DATABASE

The drill holes from the Nampala Phase 4 campaign, as of July 31, 2020, are included in the Nampala Drillhole database in the Geotic software as a MS Access database. As described in Item 12, drill hole data were verified with the Geotic-Log and Leapfrog Geo software as well as on plan and vertical views.

## 14.4 BLOCK MODEL

The block model was oriented along the main trend using an azimuth of 20 degrees and covered the main pit and the adjacent satellite mineralization occurrences located in the Nampala exploitation permit (Table 14-1). The block size of 5mX15mX5m matched the ore body width and the mining method described in section 16.1. The bloc model attributes were the following:

X, Y, Z: Block center coordinates

• Litho1 num: Lithology code

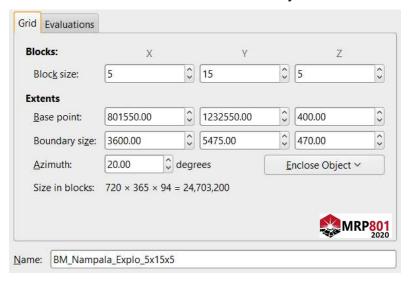
• Ox num: Oxidation code

• DCP: Distance from the closest point of a composite to the block center (m)

AU: Au grade (g/t)

• SG: Density (t/m<sup>3</sup>)

Table 14-1 Bloc model layout



The Base Point is at the Top Lower Left Corner. Coordinates (UTM WGS84, Zone 29N)

## 14.5 GEOLOGICAL MODELS

#### 14.5.1 LITHOLOGY MODEL

The Implicit Lithology Model contains the six main lithology units interpolated along with their structural trend using the Leapfrog Geo software. A cross section of the Lithology Model is presented in Figure 14-1. This model presents the following lithologies:

- Intrusive felsic (I Fels)
- Intrusive mafic (I Maf)
- Laterite (Lat)
- Sediments (Sed)
- Silty sediments (Sed Silt)
- Soil (Sol)

#### 14.5.2 OXIDATION MODEL

The Implicit Oxidation Model contains the five main oxidation units interpolated horizontally with the Leapfrog Geo software, as illustrated in Figure 14-2 and listed below.

- Oxide Soil (SOL)
- Oxide Laterite (LAT)
- Oxide Saprolite (SAP)
- Transition (TRAN)
- Fresh Rock (ROC)

For the Mineral Reserve Estimation, the Transition weathering horizon was split horizontally into equal parts: Upper Transition and Lower Transition. This change was required to complete the 2020 MR by attributing the recovery rate from the metallurgical testing completed in 2019-2020 to the Upper Transition.

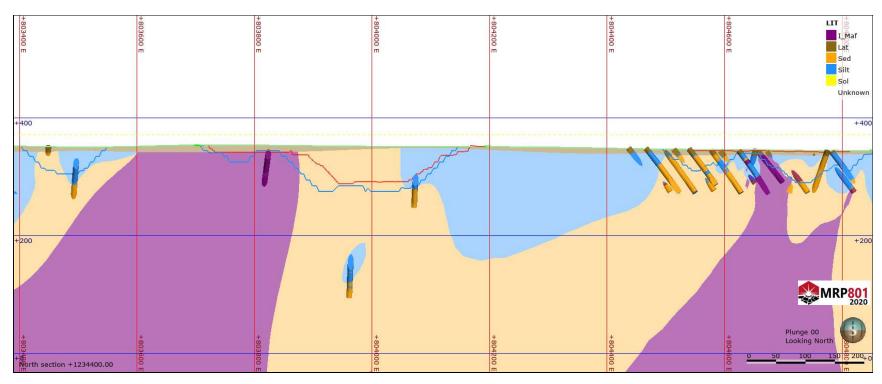


Figure 14-1 Implicit Lithology Model – North section 1234400

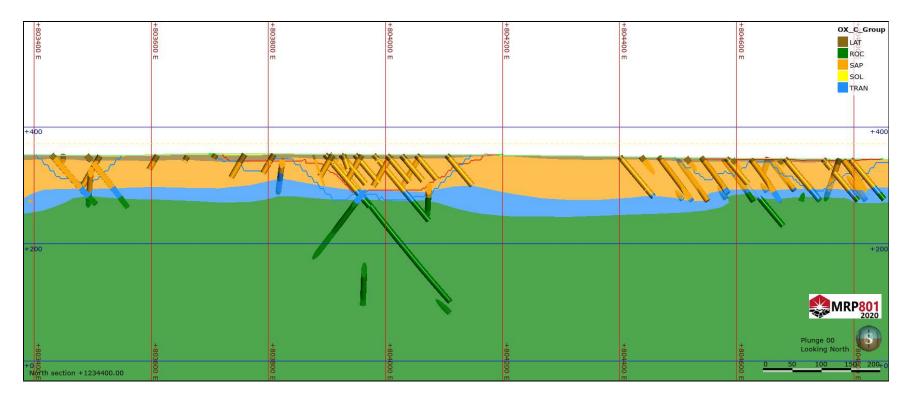


Figure 14-2 Implicit Oxidation Model – North section 1234400

# 14.6 STRUCTURAL TRENDS

The structural trends are determined from the mineralized intersects and the lithology model. Each trend is represented by 3D Disks that follows the orientation, dip and fold of the ore body or the geophysical and geochemical anomalies.

A visual representation of the structural trends with the Nampala open pit for location reference is provided in Figure 14-3.

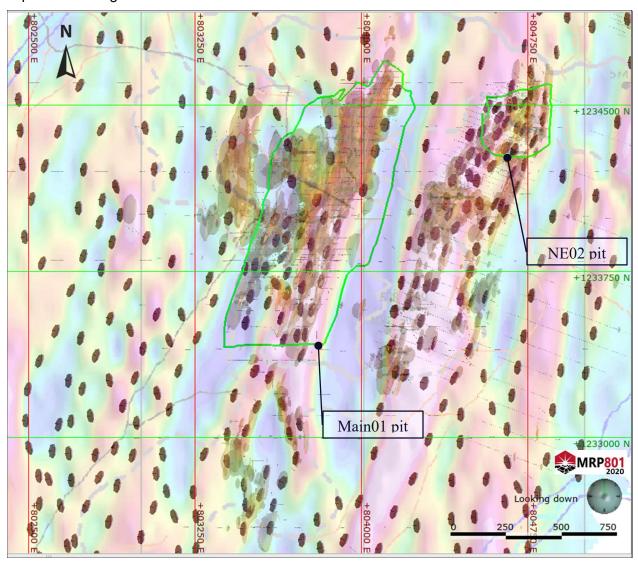


Figure 14-3 Structural Trends Disks on orebodies and geophysical anomalies at the Nampala mine site

## 14.7 GRADE CAPPING

A cumulative log probability graph was made from all the drill holes assay population (Figure 14-4). In this case, capping is required as the nugget effect is usually present in gold mineralized ore body.

The cumulative log probability function is well distributed as no plateau or spike is witnessed until the cumulative probability reaches over 99.9%. In this graph, the distribution behavior changes as the nugget effect is observed where the curve flattens. The current data correspond to a required grade capping of 15 g/t.

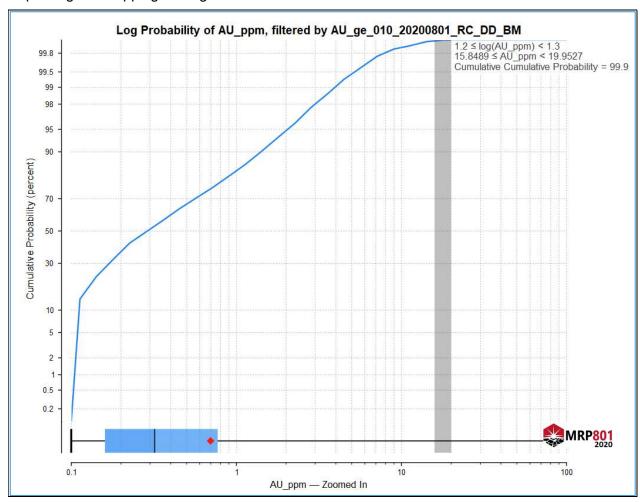


Figure 14-4 Gold grade Cumulative Log Probability graph

The capping effect can be visualized on the 2020 MRE Indicated Resources when compared with the uncapped composites shown in Figure 14-10.

# 14.8 COMPOSITING

As more than 90% of the assay samples length is 1 meter, as shown in Figure 14-5, the drill hole composite length is set at a constant 2 meters long starting at the collar as no significant difference between the Assays and the 2 m composites as shown in Figure 14-6.

Composites without assay samples were assigned an Au grade of 0 g/t.

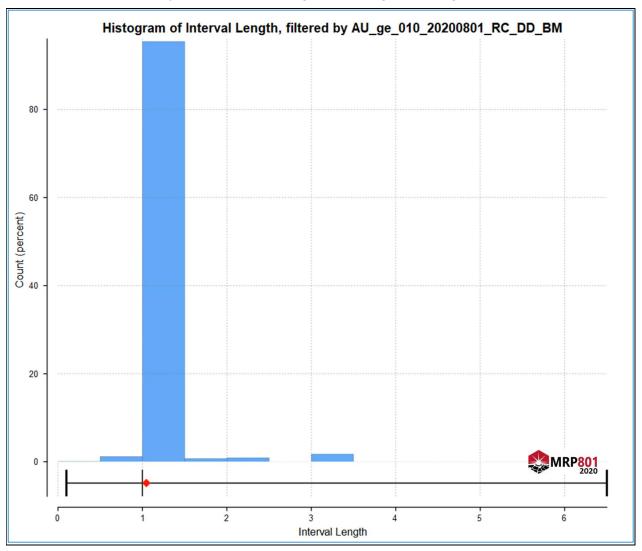


Figure 14-5 Histogram of Sample Interval Length

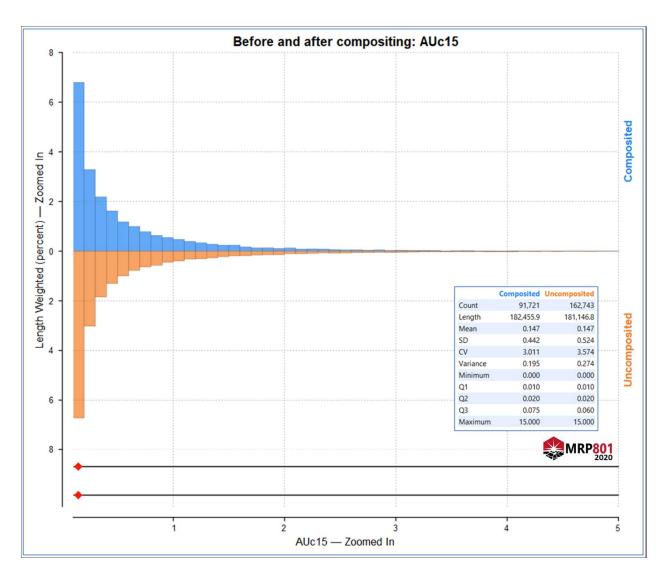


Figure 14-6 Comparison between Assays and the 2 meters composites

## 14.9 GRADE INTERPOLATION AND VARIOGRAPHY

The grade interpolation is completed with Leapfrog Geo version 5.1.0 RBF (Radial Basis Function). The grade interpolation method uses the RBF function along with structural trends that follow the ore body orientations. The search ellipses are oriented tangent to the structural trends. The strength parameter is set at 10 while the base range is fixed at 50m (Figure 14-7). These two parameters result in a search ellipse with a dimension of 50mX50mX5m. The search ellipses have varying orientation in space.

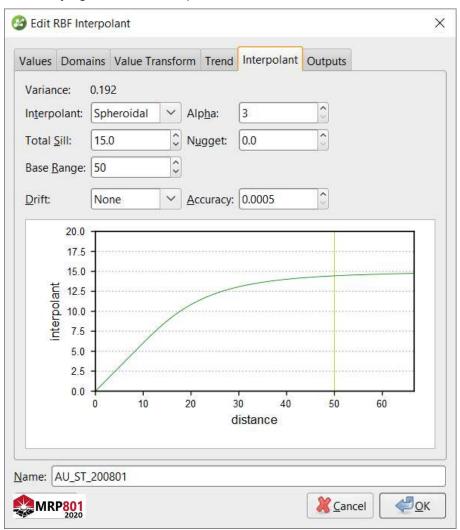


Figure 14-7 Interpolant characteristics

The Grade Model first interpolates the entire composites (0 to capped 15 g/t) then the 3D contour are created at 0.30 g/t then evaluated into the Block Model.

#### 14.9.1 INTERPOLATION METHOD - RBF

The RBF is a fast interpolation method that allows to produce models that are updated dynamically. Thus, geological model revisions can be done swiftly during the ongoing exploration. A simple description of this concept can be found on the software developer site: <a href="https://www.seequent.com/leapfrog-interpolation-basics/">https://www.seequent.com/leapfrog-interpolation-basics/</a>.

As a validation approach, Radial Basis Function (RBF) and kriging were previously compared in the cited document "2014\_Stewart et al\_Grade Estimation from Radial Basis Functions". Below is an excerpt of the mentioned document.

"Implicit models are now widely used for the modelling of surface geometry from categorical logging data, and for the modelling of 'grade iso-surfaces' based on continuous grade variables. One of the underlying engines of implicit modelling is the RBF. The mathematics of the RBF is equivalent to DK (Disjunctive Kriging), in which a unique solution for both drift coefficients and covariance weightings are found directly from the data. Once derived, the RBF may be solved for any unsampled point or averaged over any volume to provide an estimate of grade."

"Comparison interpolations developed in this paper show that in a situation such as grade control where the data spacing is less than the range of the variogram, the results of estimation using RBF interpolation are virtually indistinguishable from OK (Ordinary Kriging) of grades."

For the author, the RBF mathematics being equivalent to DK and the previous demonstration showing some strong equivalence to OK is enough to validate the effectiveness of the RBF interpolation tool for the current 2020 MRE.

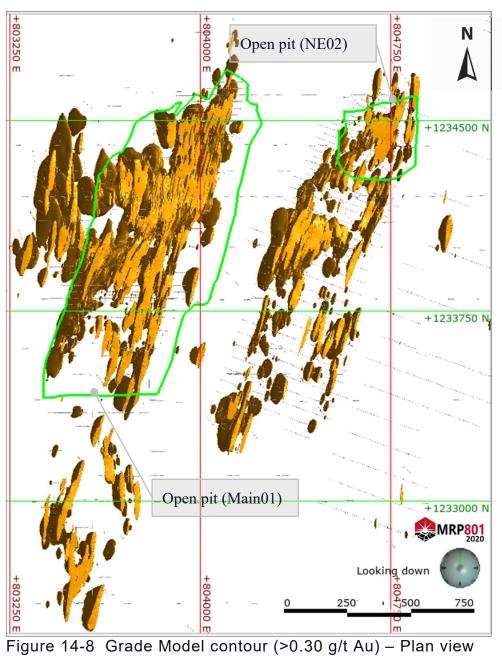
## 14.10GRADE MODEL VALIDATION

#### 14.10.1 VISUAL VERIFICATION

From the Au Grade Model, one grade contour was created at 0.3 g/t Au, then visualized beside the composites in plan view (Figure 14-8) and in a vertical section (Figure 14-9). The vertical section shows clearly that the ore contour follows closely the drill hole composite results.

#### 14.10.2 GRADE MODEL DISTRIBUTION

Figure 14-10 shows the orebody grade distribution from uncapped composites and the grade distribution of the Indicated Resources from 2020 MRE interpolated with Leapfrog Geo along the Structural Trends. The two distributions are similar with some overestimation below 0.30 g/t Au which validates the 2020 MRE model. Also, in this figure, the capping effect can be witnessed for the 2020 MRE model as the last range interval show less than 1% above 5 g/t Au.



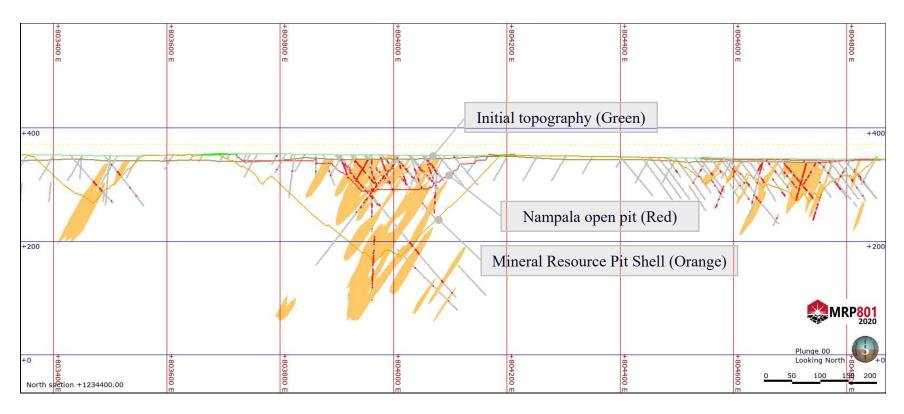


Figure 14-9 Grade Model contour (>0.30 g/t Au) - North section 1234400

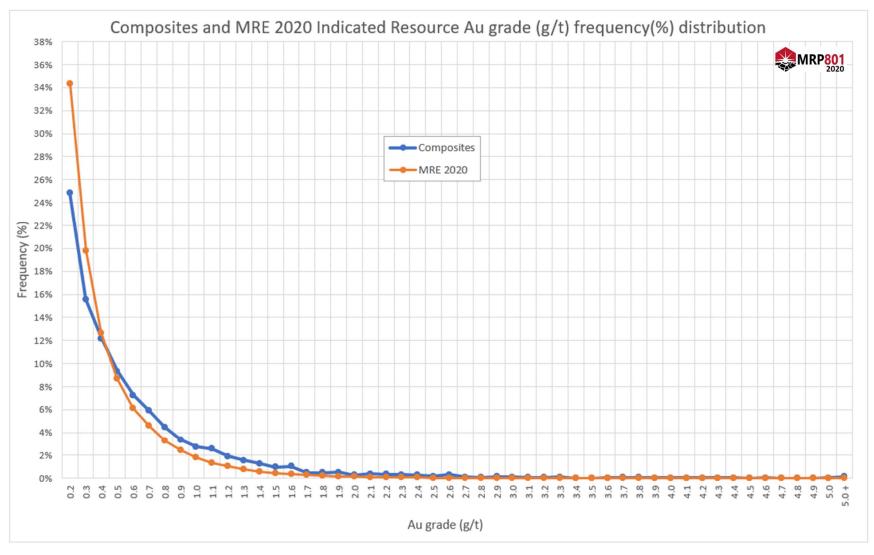


Figure 14-10 Uncapped Composites and MRE 2020 Indicated Resource Au grade (g/t) frequency(%) distribution

## 14.11 DENSITY INTERPOLATION

Based on the Density Reconciliation in item 11.4.1, the Density Model interpolates 1,651 density measures adjusted in an Excel spreadsheet. Like for the Grade Model, the RBF was used to interpolate the density values using a linear model. A base range of 3000m resulted in a search ellipse with dimensions of 3000mX3000mX1000m. The large search ellipse dimensions were required to spread the interpolation in all the block model as the density measurements are relatively sparse.

For the Oxides and the Transition, the densities were interpolated independently for each of the four domains (SOL, LAT, SAP and TRAN). The interpolation used the RBF without any defined structure trend and the search ellipses were oriented horizontally.

In the Fresh Rock, the density interpolation was oriented for each lithology domain along the structural trends defined in section 14.6. However, the search ellipse dimensions remained 3000mX3000mX1000m.

As a result, the block model contains an interpolated density for each bloc centroid. A representative section of the density can be seen in Figure 14-11. The density for the Oxide, Transition, and Fresh Rock is averaging:

- Oxides = 1.67 g/cm<sup>3</sup>;
- Transition = 2.29 g/cm<sup>3</sup>;
- Fresh Rock = 2.67 g/cm<sup>3</sup>.

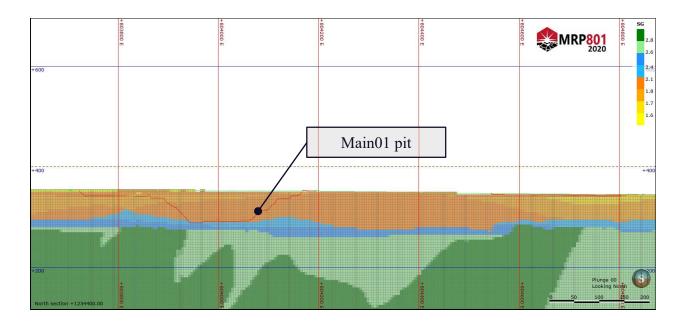


Figure 14-11 Densities in the Block Model – North section 1234400

## 14.12MINERAL RESOURCE ESTIMATE

Prior to the Mineral Resource Estimate, the model is constrained and reported within a Mineral Resource Pit Shell built with the Lerch-Grossman pit optimizer using the MineSight Project Evaluator 1.0.4.3902 software.

The input parameters were gathered from the current mine operation in the oxide material and in the Upper Transition. As mining did not occur in the Fresh Rock yet, the required parameters for a heap leach operation were inspired by a technical report about a similar mine.

#### 14.12.1 OPERATIONAL PARAMETERS

#### CIL PROCESSING - OXIDE - NAMPALA

Robex provided information concerning the current operation at the Nampala mine operating in oxide ore. The data was used as it is by MRP801 to produce assumptions for the optimizer. The data set is shown in Table 14-4.

#### CIL PROCESSING - TRANSITION - NAMPALA

As described in Item 13, metallurgical testing was completed on the Upper Transition material yielding average recovery values of 88.0% and 86.8% for the two sample populations. As the recovery in the Lower Transition was not measured, a conservative recovery of 71.9% is set to represent the complete Transition weathering horizon that includes the Upper Transition and the Lower Transition.

#### HEAP LEACH - FRESH ROCK - NORTH KAO DEPOSIT

Metallurgical testing was not completed on the Fresh Rock at the Nampala mine site. The heap leach process is a working hypothesis that aims at showing a reasonable economical potential for the Fresh Rock material. To support this assumption, the results from a technical report on the North Kao deposit is used as a reference for heap leach.

The referenced document is titled "Technical report on an updated feasibility study (GCI, GGII, Kao, Rambo & Nami deposits) and a preliminary economic assessment (North Kao deposit) for the Karma Gold Project, Burkina Faso, West Africa" Puritch E. and al., P&E Mining Consultants Inc., 2014. This document is archived on the SEDAR platform.

The section entitled "1.10 PRELIMINARY ECONOMIC ASSESSMENT OF THE NORTH KAO DEPOSIT" establishes the average heap leach processing cost at USD 8.08/t. An increase of this figure by 8.5% due to inflation and the addition of USD 0.42/t to account for refining establishes the processing and refining cost estimate at USD 9.19/t for heap leach of Fresh Rock material.

In the same document, Table 14-2 and Table 14-3 describe the column leach testwork results for Transition and Fresh Rock material at various locations. The recovery results range from 67.7% to 87.4%. For the purpose of this Technical Report, a conservative recovery assumption is set at 70% for the Fresh Rock.

Table 14-2 Transition - Column leach testwork recovery - North Kao Deposit

Table 13.9  Transition Column Leach Testwork Recovery & Cyanide Consumption						
Description	Units	GGI			omposite Rambo	Nami
Column Leach Au Recovery - Tail Assay	%	70.5		88.5	83.1	79.6
Column Leach Au Recovery - Tail Screened Assay	%	68.1	67.7	86.3	80.3	79.6
Column Leach Au Recovery - Design	%	69.3	67.7	87.4	81.7	79.6
Cyanide Consumption (Testwork)	kg/t	1.88	1.72	1.04	1.14	1.04
Cyanide Consumption (Model)	kg/t	0.94	0.86	0.52	0.57	0.52

Table 14-3 Fresh Rock - Column leach testwork recovery - North Kao Deposit

SULPHIDE COLUMN LEACH TESTWORK RECOVERY & CYANIDE CONSUMPTION  Beautiful Sulphide Composition  Light Sulphide Composition						
Description	Units	Rambo	Nami			
Column Leach Au Recovery - Tail Assay	%	77.9	85.7			
Column Leach Au Recovery - Tail Screened Assay	%	77.9	85.7			
Column Leach Au Recovery - Design	%	77.9	85.7			
Cyanide Consumption (Testwork)	kg/t	5.76	5.76			
Cyanide Consumption (Model)	kg/t	2.88	2.88			

# 14.12.2 PIT OPTIMIZATION PARAMETERS

## **ECONOMIC PARAMETERS**

The economic parameters used in the optimizer to form the Pit Shell are contained in Table 14-4. The oxide values come from the Nampala mine operation and the values for Transition and Fresh Rock are estimates.

Table 14-4 Input parameters used for cut-off grade estimate

Parameters	UOM	Oxide	Transition	Fresh Rock
Gold price	USD/oz		1700	
Mining cost	USD/t mined	2.08	2.51	2.65
G&A cost	USD/t milled	2.48	2.48	2.48
Processing cost*	USD/t milled	9.31	10.24	-
Heap Leach cost*	USD/t milled	-	-	9.19
Mill recovery	%	88.9	71.9	-
Heap Leach recovery	%	-	-	70
Optimizer Cut-off grade	g/t	0.25	0.33	0.31

<sup>\*</sup>Includes transport and refining cost

#### GEOTECHNICAL PARAMETERS

The wall angle for the Pit Shell is taken from Table 14-5. The wall angle was set at 45 degrees for all elevations using ACTEngineering in the FS completed in 2011.

Table 14-5 Geotechnical parameters

Global Wall angle	Value	Reference
All elevation	45°	ACTEngineering, 2011 FS (Baril and al.)

#### 14.12.3 SURFACE CONSTRAIN

The Mineral Resource Estimate is constrained by two surfaces. The first is represented by the current mining advance as of July 31, 2020 previously shown in Figure 12-4. The second is the Mineral Resource Pit Shell (Figure 14-12) calculated by the optimizer based on the parameter described in section 14.12.2. A section illustrating those two surfaces along with the original topography is also provided in Figure 14-13.

#### 14.12.4 CLASSIFICATION

In the context of a producing issuer and from field observations, the classification was organized around the Distance to the Closest Point (DCP). This value is the distance from the center of a block to the nearest composite. For the 2020 MRE, the criterion is the following:

Indicated Resource: DCP <= 30m</li>

Inferred Resource: 30m < DCP < 100m</li>

The distance of 30m to identify Indicated Resource is consistent with the tightest exploration drilling pattern that ranges between 25m and 30m. Also, a DCP under 100m used to classify Inferred Resource is aligned with the search ellipses described in section 14.9.

#### 14.12.5 MINERAL RESOURCE ESTIMATE

The Mineral Resource can be described as follows:

- Includes the Mineral Reserve:
- Inferred Resource presents a 30m < DCP < 100m. The DCP must be inferior or equal to 30 m to be considered Indicated Resource;
- Not Mineral Reserve as it does not have demonstrated economic viability;
- Complies with 2014 CIM definitions and guidelines;
- Results are presented in situ and undiluted for open pit scenarios and considered to have reasonable prospects for economic extraction;
- Not used in the LOM scheduling.
- Constrained by a Pit Shell

The 2020 MRE results are presented in Table 14-6.

Table 14-6 Mineral Resource Estimate (2020 MRE)

Category	Cut-Off Au (g/t)	Weathering type	Tonnage (000 t)	Grade Au (g/t)	Metal content Au (000 oz.)
	0.25	Oxide	21,422	0.63	435
Indicated	0.33	Transition	6,158	0.82	163
mulcated	0.31	Fresh Rock	10,307	0.82	271
	Subtotal		37,887	0.71	869
	0.25	Oxide	542	0.55	10
Inferred	0.33	Transition	213	0.71	5
illielled	0.31	Fresh Rock	2,235	0.72	52
	Subtotal		2,989	0.69	66
Total			40,876	0.71	936

#### 14.12.6 VERIFICATION

The economic envelope defined with the Lerch-Grossman pit optimizer was verified visually and by volumetric calculation with the Block Model using MineSight 15.70.

#### 14.13 MODEL COMPARISON

## 14.13.1 DRILL HOLE DISTANCE MODELS

To quickly identify the zones where additional drill hole information was added during the Nampala Phase 4 campaigns, the DCP is displayed (Figure 14-14). The side by side comparison represents the Distance to Closest Point (DCP) including the Nampala Phase 2 and Phase 3, named 2019, and with the Nampala Phase 4 campaign, named 2020. This figure is colored in red for DCPs less than 10 m and green for DCPs between 10 and 30 meters. Figure 10-1 corroborates this information.

#### 14.14OTHER FACTOR

The key parameters and assumptions used to complete the Mineral Resource Estimate were previously described. However, additional factors may materially affect these calculations.

The ongoing Northern Mali conflict that started in January 2012 is a political risk that may impact the mine operation. If the unrest spreads to the southern part of the country, this political risk could cascade into additional security costs that could modify the main economical parameters and the mining operation.

The continuing COVID-19 epidemic may affect the mining operations baseline. Working schedule, total workforce on site, site access, supply chain and standard procedures are being reviewed to ensure workers safety.

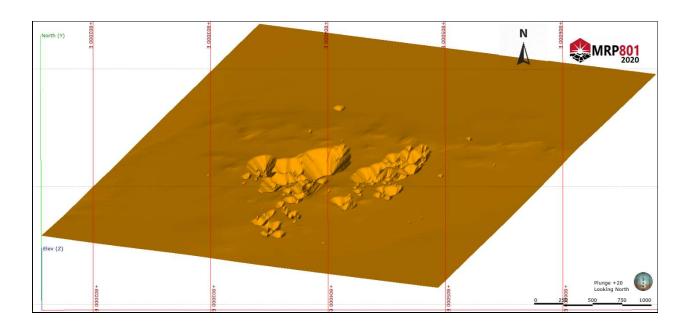


Figure 14-12 Mineral Resource Pit Shell

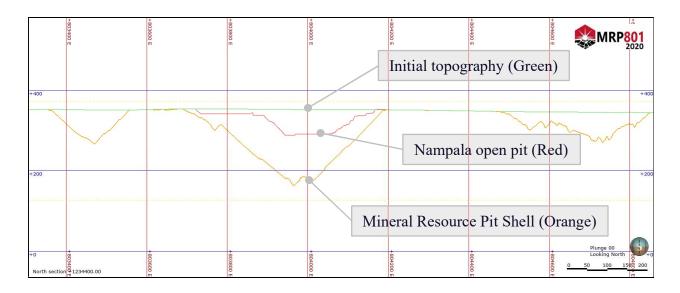
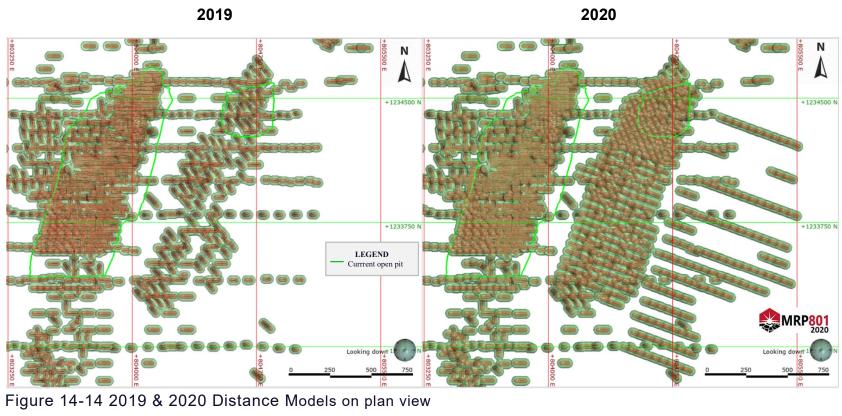


Figure 14-13 Mineral Resource Pit Shell – North section 1234400



# ITEM 15. MINERAL RESERVE ESTIMATE

## 15.1 SUMMARY

The Mineral Reserve is:

- Reported in accordance with Canadian Institute of Mining, Metallurgy and Petroleum (CIM) standards
- Constituted of Oxide and Upper Transition ore only;
- Based on a Pit Shell that does not include Inferred Material. In that case, the DCP must be inferior or equal to 30 m to be considered indicated;
- Classified as probable;
- Included in the Mineral Resource;
- Identified as minable using standard open-pit mining only;
- Located within 7 pit designs based on a Pit Shell;
- Excluding Lower Transition and Fresh Rock mineralization as current ore processing
  infrastructures may be unsuitable if the ore is refractory or too hard for the current
  processing equipment. For calculation purposes, the recovery was set at 0% for Lower
  Transition and Fresh Rock, which is very conservative;
- Taking into account a mining recovery of 97%;
- Assuming a dilution factor of 0% based on the composites used to interpolate the grade in the block model, the current ore control process, the mining method and the ore body characteristics.
- Excluding any pit design that would be smaller than 100 m in diameter;
- Used as a base for the life of mine (LOM) production plan.

#### 15.2 KEY ASSUMPTIONS

#### 15.2.1 PIT OPTIMIZATION – ECONOMIC PARAMETERS

The economic parameters used in the pit optimizer to evaluate the Mineral Reserve are contained in Table 15-1.

The parameters are based on processing only Oxide and Upper Transition ore through the CIL mill currently in operation at the Nampala mine. Following that rationale, the Lower Transition and Fresh Rock materials are assigned a recovery rate of 0% to avoid having those two weathering horizons included in the Mineral Reserve.

Table 15-1 Input parameters used for cut-off grade estimate

Parameters	UOM	Oxide	Upper Transition	Lower Transition	Fresh Rock
Gold price	USD/oz		150	00	
Mining cost	USD/t mined	2.08	2.51	2.51	2.65
G&A cost	USD/t milled	2.48	2.48	2.48	2.48
Processing cost*	USD/t milled	9.31	10.24	10.24	-
Heap Leach cost*	USD/t milled	-	-		9.19
Mill recovery	%	88.9	86.0	0	-
Heap Leach recovery	%	-	-	-	0
Optimizer Cut-off grade	g/t	0.28	0.31	-	-

<sup>\*</sup>Includes transport and refining cost

#### 15.2.2 PIT OPTIMIZATION – GEOTECHNICAL PARAMETERS

The geotechnical parameters required for the Mineral Reserve Pit Shell calculations are shown in Table 15-2. These parameters are more conservative than those used for the Mineral Resource Pit Shell.

Table 15-2 Geotechnical parameters

Global Wall angle	Value	Reference
First 20m in height	40°	MRP801
Deeper than 20m	45°	ACTEngineering, 2011 FS (Baril and al.)

#### 15.2.3 SURFACE CONSTRAIN

The Mineral Reserve is constrained by two surfaces. The first is represented by the current mining advance as of July 31, 2020 previously shown in Figure 12-4. The second is formed by the 7 pit designs (Figure 16-1). The Pit Designs are based on the Mineral Reserve Pit Shell (Figure 15-1) was calculated by the optimizer based on the parameters described in section 15.2. A section showing the original topography, the current Nampala open pit, the Mineral Reserve Pit Shell and the Pit Designs is provided in Figure 15-2.

Also, the footprints of the ROM pad/Mill, the waste dump and the tailings pond were identified as "no-go" areas for mining (Figure 5-1).

# 15.3 MINERAL RESERVE RESULTS

The Mineral Reserve for the Nampala Mine is summarized in Table 15-3. As previously stated, no Lower Transition or Fresh Rock materials are included in the Mineral Reserve.

Table 15-3 Nampala mine Probable Mineral Reserve

	Probable Mineral Reserve					
Weathering type	Cut-Off Au (g/t)	Tonnage (000 t)	Grade Au (g/t)	Metal Content Au (000 oz.)		
Oxide	0.28	15,291	0.69	339		
Upper Transition	0.31	1,857	0.87	52		
Lower Transition	N/A					
Fresh Rock	N/A					
Total		17,147	0.71	391		

# 15.4 MINERAL RESERVE DETAILED BY PITS

Table 15-4 presents a breakdown of the Mineral Reserve based on pit location. Waste material includes waste and non-reserve material.

Table 15-4 Mineral Reserve by pit

	Probable Mineral Reserve			Waste	Stripping
Pits	Tonnage (000 t)	Grade Au (g/t)	Metal Content Au (000 oz.)	Tonnage (000 t)	ratio (Waste/Ore)
Main01	9,237	0.74	220	17,394	1.88
NE02	1,971	0.67	42	4,399	2.23
NE03	3,313	0.67	71	5,616	1.70
NE04	707	0.68	15	2,229	3.15
NE05	711	0.77	18	2,552	3.59
NS06	120	1.10	4	1,062	8.85
NS07	1,089	0.57	20	2,240	2.06
TOTAL	17,147	0.71	391	35,492	2.07

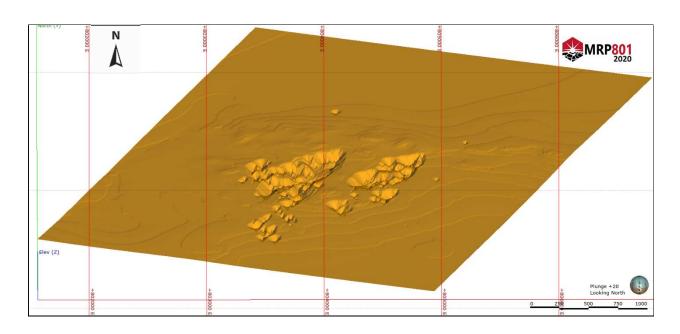


Figure 15-1 Mineral Reserve Pit Shell

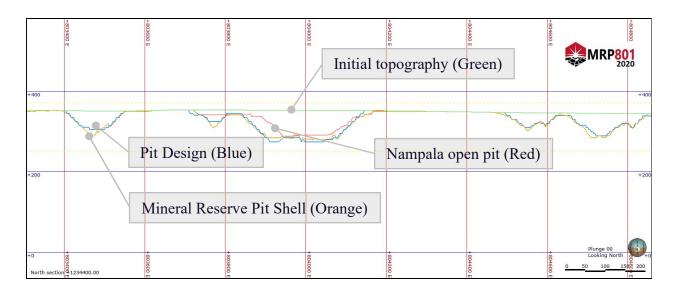


Figure 15-2 Mineral Reserve – North section 1234400

## 15.5 DETAILED ASSUMPTION

The following elements elaborate on the previous assumptions used to calculate the Mineral Reserve and on other factors that can impact the conversion of Mineral Resource into Mineral Reserve.

## 15.5.1 MINING

The ore body is subvertical and located predominantly in the center of each pit. This allows the access ramps to be positioned mostly in the waste to avoid leaving ore in the pit walls. Also, since the Lower Transition material is not part of the Mineral Reserve, it is left in place in the lower part of the pit. This constrains the pit design along the near-horizontal boundary between the Upper Transition and the Lower Transition. The flat surface grants easy access to the Oxide and Upper Transition located at the lowest levels of the pits. The previously enumerated elements constitute the base for the mining recovery assumption of 97%.

The 2020 MRE provides a grade for each block based on 2m assay composites that are not constrained by the lithology contact. Also, the mine operation has set in place a rigorous ore control process described in section 16.6.2 to lower dilution. In addition, the orebody is subvertical, presents generally a large width and does not require intensive blasting prior to excavation. The previous points allow us to assume that the dilution from mining operation is marginal. From that hypothesis, the Mineral Resource block model dilution required to reflect mining operation is deemed very small thus set at 0%.

As the Mine-to-Mill reconciliation process is ongoing, adjustment to the 2020 MRE parameters may be required.

# 15.5.2 MINERAL PROCESSING

The current ore processing flow chart is not suitable for a continuous feed of hard rock material. The mill was originally designed for handling only oxidized ore like saprolite. This material requires less comminution effort than Transition and Fresh Rock.

Also, no metallurgical testing was completed on the Mineral Resource located in the Lower Transition and Fresh Rock. The review of the core logs and sample photos highlighted the presence of arsenopyrite and pyrite in the Transition and Fresh Rock weathering horizon (Section 12.4). The presence of pyrite and arsenopyrite is common in refractory ore and requires a different processing flow chart. Otherwise, a standard CIL may experience a steep reduction in recovery for refractory ore. The occurrence of refractory ore and the impact on recovery has yet to be identified in the Lower Transition and Fresh Rock. Consequently, additional work is required to identify the next steps before any production occurs in those areas.

Thus, the level of uncertainties concerning the mineralized material located in the Lower Transition and Fresh Rock weathering horizon does not allow these materials to be qualified as Mineral Reserve.

#### 15.5.3 PERMITTING

The current Mineral Reserve is conditional to the good standing of the current exploitation permit (Permis d'exploitation de Nampala, PE 2011/17). The legal conditions include work obligations, technical reporting, taxes, duties, any duty-free arrangements, and state equity participation. It also requires a Community Development Plan and a Closure Plan. The Nampala Mine must also maintain in good standing the environmental permit (No. 0110027 MEA-SG). To the extent of the knowledge of the author, these permits are in good standing.

# **ITEM 16. MINING METHODS**

## 16.1 SUMMARY

The Nampala Mine is excavated using a conventional truck and shovel operation. The widest equipment used by the contractors is a Caterpillar 773B haul truck matched with a 385 hydraulic excavator. The ore and waste are composed mostly of saprolite located in the oxidized horizon. The Upper Transition weathering horizon may require some drilling and blasting as it is part of the current Mineral Reserve. A total of 7 pits are planned to recover the identified Mineral Reserve.

## **16.2 PIT DESIGN PARAMETERS**

The pit designs follow closely the Pit Shell provided by the pit optimizer when evaluating the Mineral Reserve and the pit design parameters (Table 16-1). The access ramp centerline follows mostly the Pit Shell of the Mineral Reserve. For operational purposes, only openings identified by the optimizer which are wider than 100 m in diameter are converted to pit designs.

Table 16-1 Pit design parameters

Parameters	Value	Source
Ramp Grade	10%	Met-Chem, 2011 FS (Baril and al)
Bench height	10 m	Met-Chem, 2011 FS (Baril and al)
Minimum catch bench width	5 m	Robex (2019/06/01)
Maximum face angle	70°	ACTEngineering, 2011 FS (Baril and al)
Design face angle	67°	Robex (2019/06/01)
Maximum pit slope	45°	ACTEngineering, 2011 FS (Baril and al)
Minimal opening diameter	100 m	MRP801

## 16.3 PIT DESIGN RESULTS

The results of the design exercise have yielded 7 pits shown in Figure 16-1 along with their name and final elevation.

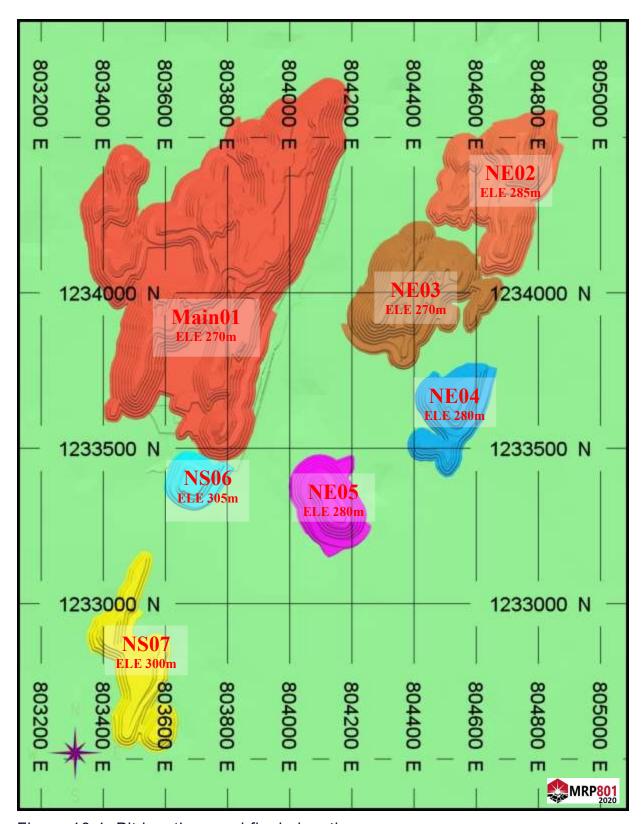


Figure 16-1 Pit locations and final elevation

## 16.4 DUMP DESIGN

The waste dump is located north of the main pit. It is currently used for material that contains less than 0.25 g/t. The required dump design offers storage for about 15 Mm³ of waste. An estimated 6.5 Mm³ of the dump is currently filled, which leaves about 8.5 Mm³ of storage. Taking into account the LOM, this volume is insufficient to hold an additional 35,492,000t of waste.

However, this location is subject to change as the east and west sides of the base of the dump have not been sterilized. Furthermore, the dump's location may be displaced closer to the pit located on the east to reduce hauling costs.

Table 16-2 Dump design parameters

Parameters	Value	Source
Ramp width	21 m	Robex (2019/06/01)
Ramp grade	10%	Met-Chem, 2011 FS (Baril and al)
Bench height	10 m	Met-Chem, 2011 FS (Baril and al)
Face angle (Deposition)	35°	Met-Chem, 2011 FS (Baril and al)
Catch bench for rehabilitation	10 m	MRP801
Overall slope angle	3:1	MRP801

The dump overall slope angle replicates the long-term 3:1 stabilization slope generally used for mine closure.

The required dump design location is conditional to the sterilization of the area.

## 16.5 PROCESS PLANT OPERATION

The LOM is solely based on mining the Mineral Reserve. The mining rate is based on the following operation parameters used at the processing plant described in Table 16-3.

Table 16-3 Process plant operational parameters

Parameters	Value	Source
Ore process rate	5,800 tpd	Robex (2020/10/15)
Mill availability	90%	Robex (2020/10/15)
Annual production	1,905,300t/a	Robex (2020/10/15)
Mill operation	343 days/year	Robex (2020/10/15)

The processing plant is subject to regular maintenance and yearly shutdowns. To consider this reality, the maintenance schedule counts 2 major shutdowns of 5 days in May and November. Smaller shutdowns of 1 day per month are also added to this calendar. These maintenance requirements constitute a total of 22 days of maintenance per year for the processing plant. Adding unscheduled maintenance, the availability is estimated at 90%.

## **16.6 MINE OPERATION**

#### 16.6.1 ASSUMPTION

The LOM is based on providing a minimal constant feed equivalent to 5,800 tpd of ore to the mill. The initial assumptions regarding the mine operation are presented in Table 16-4.

Table 16-4 Mine operation assumption

Parameters	Value	Source
Ore feed rate	5,800 tpd	Robex (2020/10/15)
Fleet constrain	None	Robex (2020/10/15)
Mine operation	353 days/year	Robex (2020/10/15)
Shift duration	10 h/day	Robex (2020/10/15)
ROM pad size + SP	250,000 t	Robex (2020/10/15)

There are no constraints on the production fleet as the production equipments and the operators are provided by different mining contractors.

The mine operation is subject to weather conditions. During the raining season, heavy rains may render the mine access road slippery and inaccessible. Thus, under those conditions, the mill feed is provided from the ROM pad only. To account for the yearly mining production reduction due to rain, a total of 12 days are considered lost: 2 days in July, 4 days in August, 4 days in September and 2 days in October. Considering the above, the mine is in operation 353 days per year.

The ROM pad size is targeted at 250,000 t including a low grade stockpile near the ROM Pad to provide for sufficient blending capabilities and a fallback plan in case of unforeseen problems.

#### 16.6.2 ORE CONTROL

Prior to mining, trench sampling is methodically accomplished (Figure 16-2). During this procedure, a 2.5m trench is dug perpendicular to the ore body to produce 1m composites along the trench. This procedure is repeated each 12m along the trend. The assay results allow to precisely identify the ore boundary using an Au grade cut-off of 0.25g/t. The ore body polygon is then staked by the surveyor prior to any excavation. Also, the ore excavation is completed exclusively during the day following the surveyed ore contour and under the ore controller direct supervision.



Figure 16-2 Ore control - Trench sampling

## 16.6.3 PIT CONSTRAINTS

The Nampala mine is divided into 7 pits. The main production destination is named Main01. NE02, located east, has started ore production in 2020. The other pits are not in operation yet.

Mining starts with pits that present a low stripping ratio. As more information is available the mining schedule may be modified to reach the highest grade available.

## 16.6.4 PRODUCTION LEVEL

Table 16-5 shows the mining production rate required to achieve a constant feed at the processing plant during the LOM. These calculations were completed using the Mine Plan<sup>TM</sup> Schedule Optimizer 12.00-00 software and analyzing various production scenarios.

Table 16-5 Mining production level required to meet the LOM

Period	Production rate
Year 1	19,700 tpd
Year 2	19,700 tpd
Year 3	19,500 tpd
Year 4	17,500 tpd
Year 5	19,700 tpd
Year 6	19,600 tpd
Year 7	13,500 tpd
Year 8	9,400 tpd
Year 9	9,900 tpd

It is important to mention that the estimated mining rate requirement is likely overestimated. As mining progresses, some Mineral Resource already included in the designed pits may be fed to the mill, thereby lowering the required stripping ratio. The required mining rate is based on mining Mineral Reserve material only, which is a conservative approach.

Also, the mining rate needs to be revised after the current exploration campaign. Additional geological information at the south and the west of Main01 will likely trigger the use of push back to lower the initial waste stripping effort in the early production stage of the new open pits. Besides, this will allow to access higher grade ore and flatten the production requirements.

#### 16.6.5 FLEET

The contracted production fleet contains 10 wheelers, articulated trucks and rigid frame trucks like the Caterpillar 773B. The different usage proportion of these equipment depends on contractor equipment availability, the task at hand and weather conditions. For those reasons, the production fleet is not detailed but rather based on the required production level shown in Table 16-5.

# 16.7LOM

The LOM was completed with Mine Plan™ Schedule Optimizer 12.00-00 software using the Block Model constructed with Leapfrog Geo v5.1.0 and the pit surfaces designed with MineSight 15.70. The results are displayed in a graph for easy referencing. Each period represents 12 months and the calendar begins on August 1, 2020.

# 16.7.1 PRODUCTION SCHEDULE AND MATERIAL CLASS

Starting on August 1, 2020, the LOM production schedule is displayed in Figure 16-3. The total production for a period of 12 months is detailed using waste or ore as follow:

- ORE (Red): Oxide, DCP ≤ 30 m, AU ≥ 0.28 g/t
- ORE (Red): Upper Transition, DCP ≤ 30 m, AU ≥ 0.31 g/t
- WASTE (Gray): Other material including Lower Transition and Fresh Rock

The ore material is made of Mineral Reserve only.

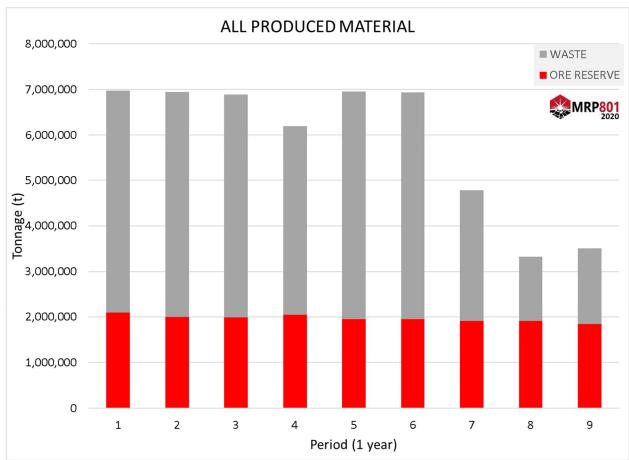


Figure 16-3 Production schedule

## 16.7.2 PRODUCTION LOCATION

The production location from the 7 pits is displayed in Figure 16-5. The main production is extracted from Main01. The other pits are gradually opened based on their stripping ratio and grade. The schedule always aims to maintain 2-3 openings active to blend and reduce operational risks.

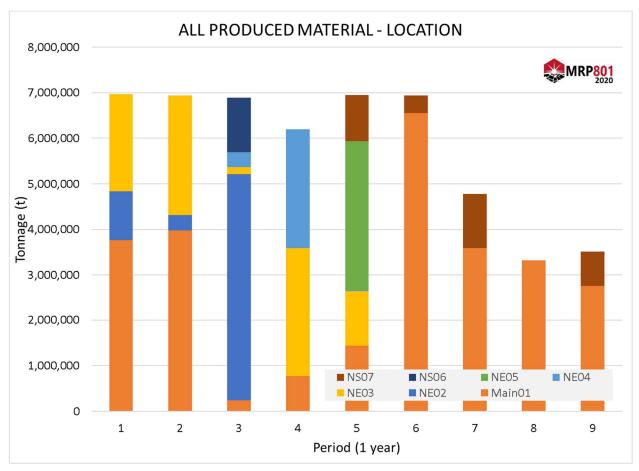


Figure 16-4 Material production location

# 16.7.3 ORE PRODUCTION LOCATION AND GRADE

The ore production location follows the same production pattern as the material coming from the different pits. During the 9 periods, the grade varies from 0.60 g/t to 0.94 g/t. The grade spike in year 8 is explained by a feed composed mostly of Upper Transition. Adding a push back in the development of Main01 would blend this material more evenly throughout the LOM. This approach would likely result in a higher metal content in the early years.

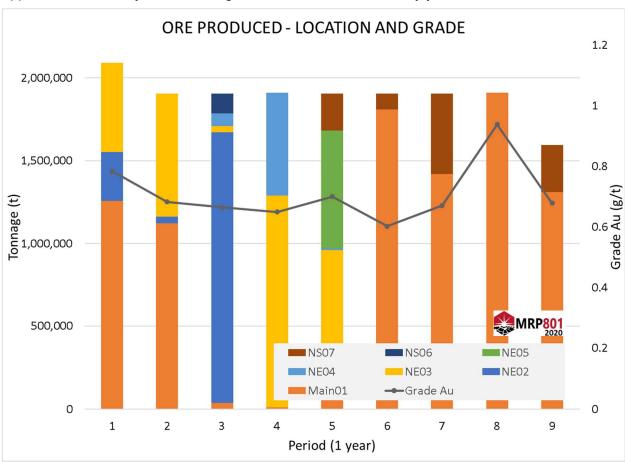


Figure 16-5 Ore production location and grade

# 16.7.4 STOCKPILE LEVEL

The ore stockpile quantity and grade located on the ROM pad are shown in Figure 16-6. On August 1, 2020, the ROM pad contained 58,884t of ore with an estimated grade of 1.44 g/t. This inventory included 41,068t of mill rejects made of hard quartz with an estimated grade of 1.72 g/t that requires additional crushing.

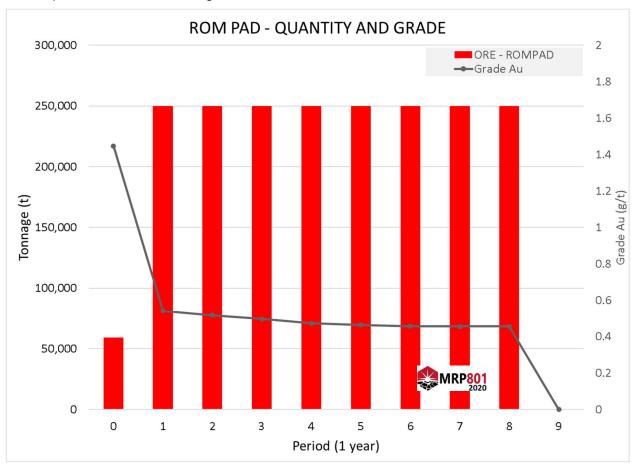


Figure 16-6 ROM pad tonnage and grade

## **16.7.5 WASTE DUMP**

Figure 16-7 displays the cumulative amount of material that needs to be added to the waste dump. The waste dump contains all the material that is not considered in the Mineral Reserve.

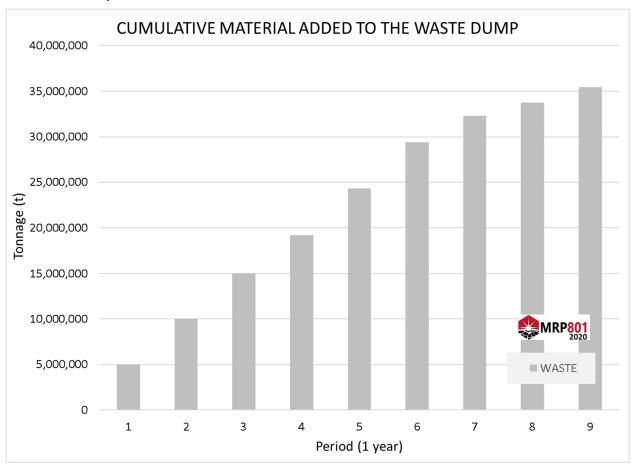


Figure 16-7 Cumulative material added to the waste dump

It is important to mention that the bottom of the pits is not considered a suitable dumping location until proven otherwise by metallurgical testing and economic evaluation of the lower benches.

# 16.8 YEARLY SEQUENCE

This section features the mining advance of the designed pits (Figure 16-8 to Figure 16-15).

# 16.8.1 AUGUST 1, 2020 - YEAR 0

- Production has already started in Main01 from previous years
- Overburden excavation has started in NE02

# 16.8.2 AUGUST 1, 2023 – YEAR 3

- Mining has started in NE03, NE04 and NE06
- NE02 and NE06 are depleted

# 16.8.3 AUGUST 1, 2026 – YEAR 6

- Mining has started in NE05 and NS07
- NE03, NE04 and NE05 are depleted

# 16.8.4 AUGUST 1, 2029 – YEAR 9

- Main01 and NS07 are depleted
- All pits are completely excavated

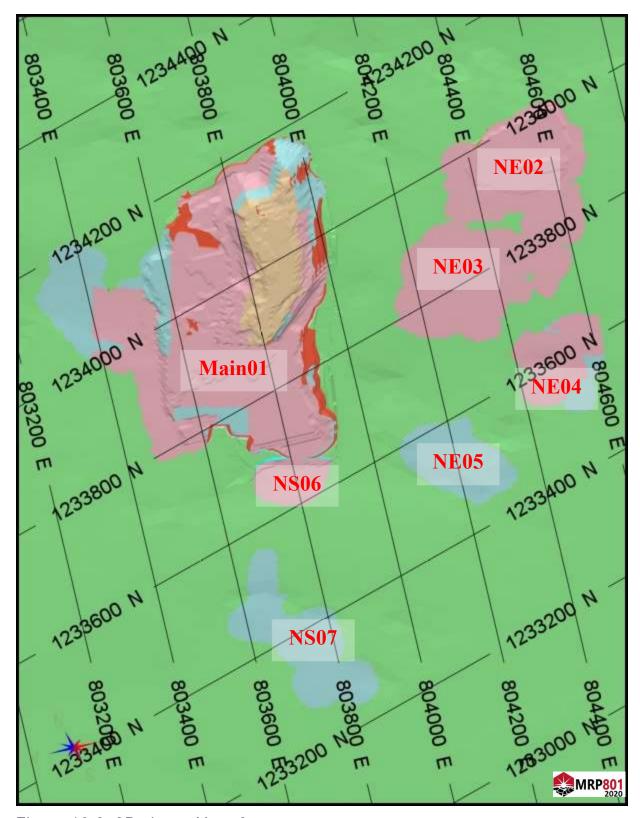


Figure 16-8 3D view - Year 0

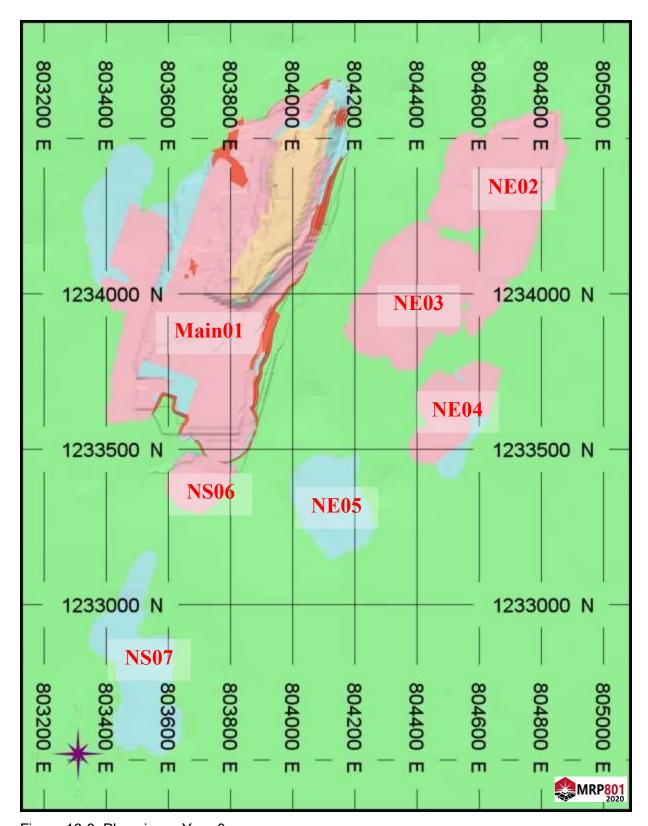


Figure 16-9 Plan view - Year 0

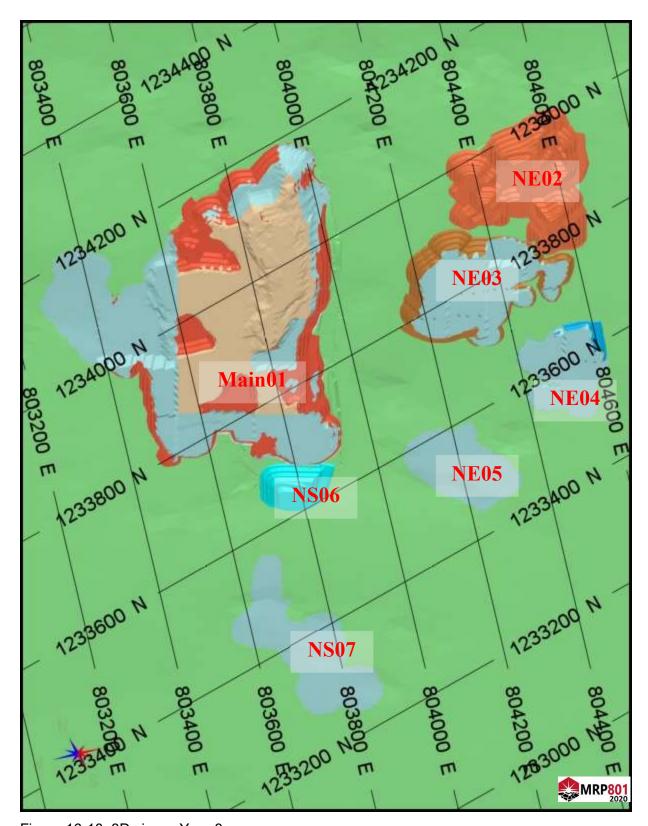


Figure 16-10 3D view - Year 3

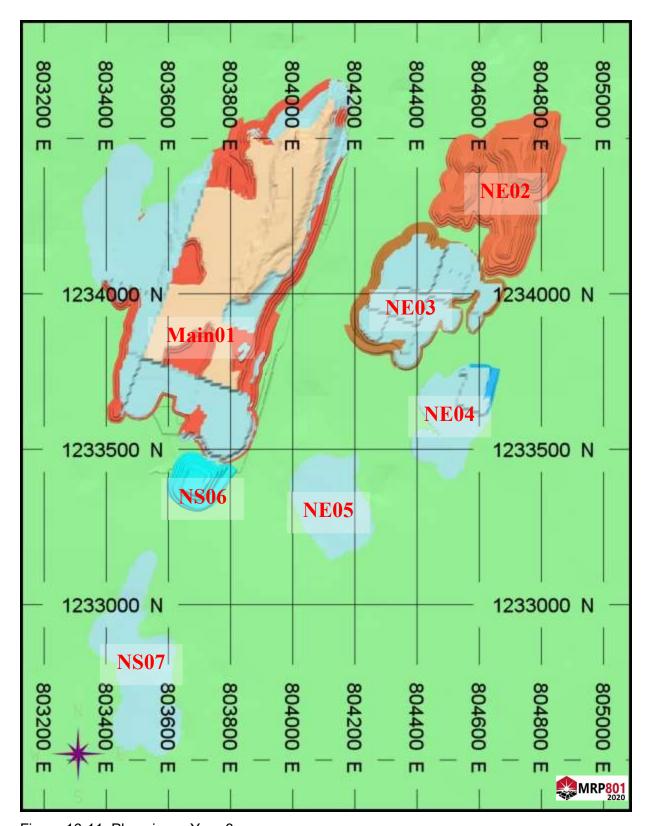


Figure 16-11 Plan view – Year 3

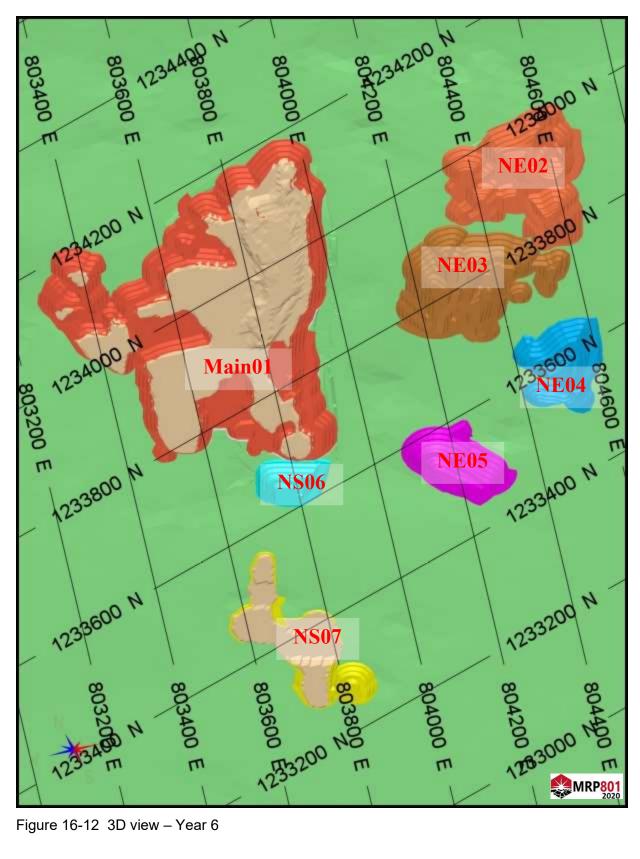


Figure 16-12 3D view - Year 6

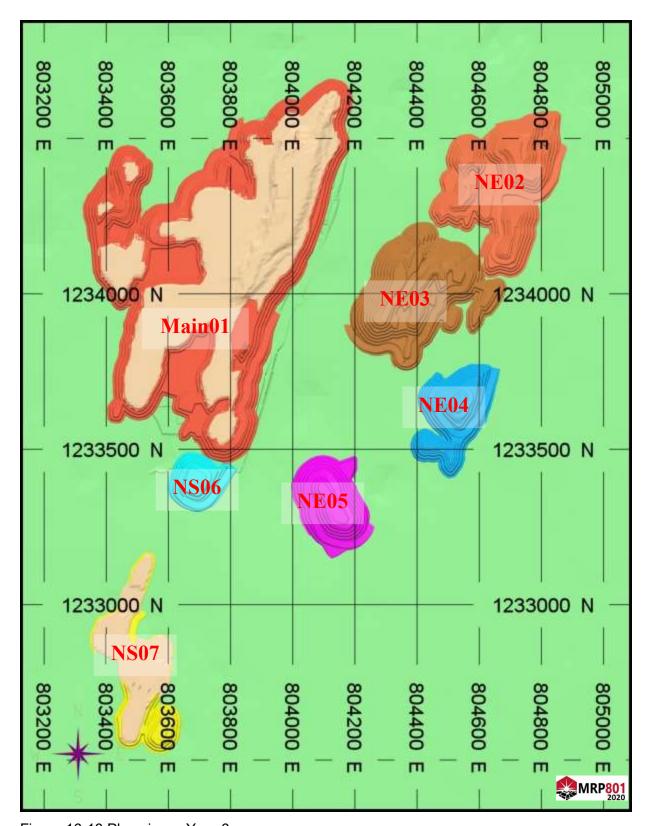


Figure 16-13 Plan view - Year 6

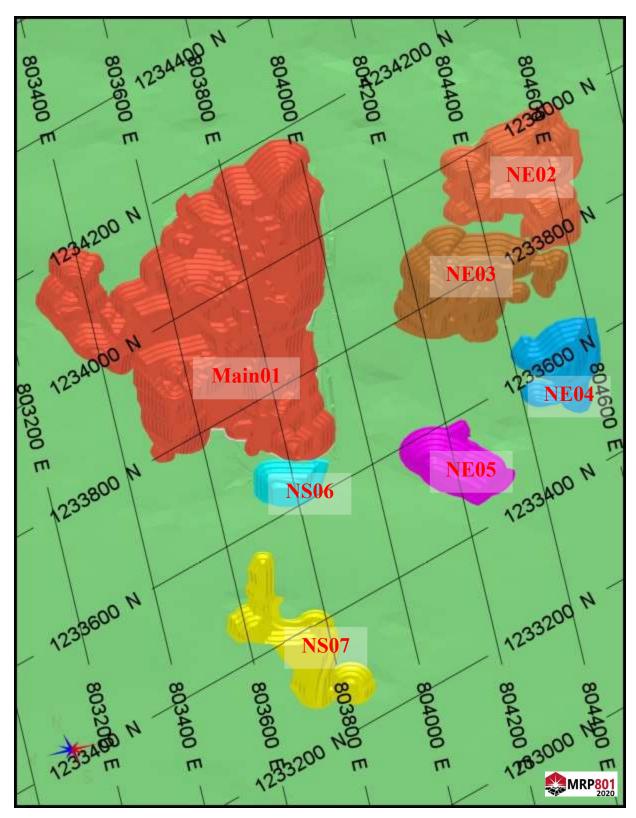


Figure 16-14 3D view - Year 9

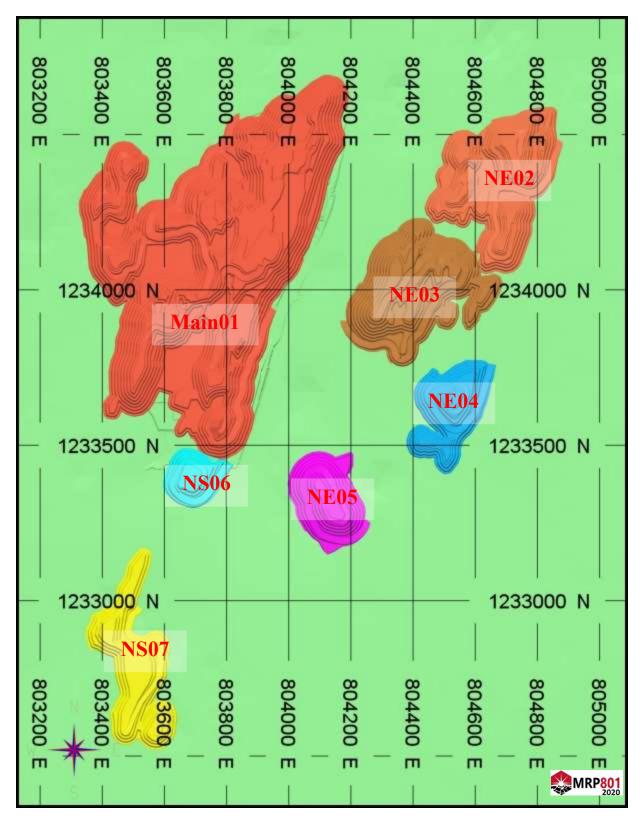


Figure 16-15 Plan view - Year 9

## 16.9 PROCESS PLANT PRODUCTION FORECAST

The mill production forecast can be produced from the LOM schedule based on previously established assumptions. Table 16-6 provides the forecast gold production for the next 9 years for each 12 months period starting August 1, 2020. This table includes the processing of the ore that was located on the ROM pad.

Table 16-6 Mill production forecast

Period (12 months)	Mill feed tonnage (t)	Feed grade (g/t)	Metal content (Au oz.)	Mill recovery (%)	Metal recovered (Au oz.)
1	1,905,000	0.83	51,100	88.8%	45,400
2	1,905,000	0.69	42,000	88.9%	37,400
3	1,905,000	0.67	40,900	88.8%	36,300
4	1,911,000	0.65	40,100	88.8%	35,600
5	1,905,000	0.70	43,000	88.6%	38,100
6	1,905,000	0.60	36,900	88.9%	32,800
7	1,905,000	0.67	41,100	88.8%	36,500
8	1,911,000	0.94	57,600	87.4%	50,400
9	1,837,000	0.65	38,300	88.1%	33,800
Total	17,090,000	0.71	391,100	88.5%	346,300

## **ITEM 17. RECOVERY METHODS**

## 17.1 CURRENT FLOW SHEET

For gold recovery, gravity concentration followed by CIL process is used (Figure 17-1).

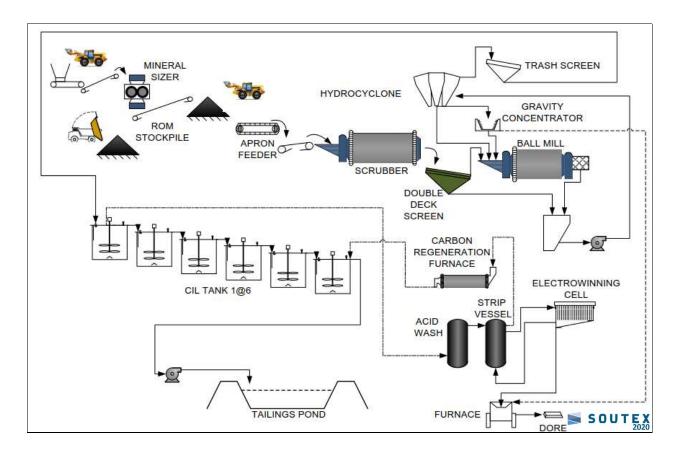


Figure 17-1 Current process flowsheet – Nampala mine

#### 17.2REQUIREMENTS

The requirements associated with the current process are the following:

- Ore: 5,800 tpd of oxidized material with a minimal feed grade of 0.50 g/t Au
- Water: 1m³ of water per tonne of processed ore which 2/3 is recirculated
- Energy: 10 to 12 kWh/t for the mill including operation support infrastructures

## **ITEM 18. PROJECT INFRASTRUCTURE**

#### 18.1.1 CURRENT INFRASTRUCTURE

This item is covered in the current document in section 5.6.

#### 18.1.2 REQUIRED INFRASTRUCTURE

In addition to existing infrastructures, additional development will be required to support the LOM.

#### **WASTE DUMP**

The current waste dump located north of the main pit needs to be expanded from its current position to the east and west to accommodate an increase of 35,5 Mt that includes waste and non-reserve material, as described in section 16.4.

The current dump design, which footprint is identified in Figure 5-1, has a total capacity of 15 Mm<sup>3</sup> and currently contains about 6.5 Mm<sup>3</sup> of waste. The required dump design is conditional to the sterilization of the area before the deposition of waste material.

The waste dump location should be revisited after condemnation drilling is complete to reassess the required capacity and location as additional alternatives could reduce cycle time when considering the location of the new pits and the LOM update.

#### **TAILINGS POND**

The tailings pond (TMF) presents a remaining capacity of 1.7 Mm3 which represents about 19 months of storage capacity based on a density of 1.2 t/m<sup>3</sup>.

Based on the LOM, an additional capacity is required to store the tailings that will be produced by the processing plant. A suitable site was identified as Cell #5 at the south of Cell#1 and Cell#4. However, this site needs to be sterilized and the farmers compensated before starting any work in the area.

#### FENCING AND ACCESS

The site is completely fenced. The access is gated and secured.

#### ITEM 19. MARKET STUDY AND CONTRACT

No market study is required to assess gold demand as this commodity trades in an open market. Considering a closing gold price of USD 1,890.35/oz. on 2020/10/13, the Mineral Resource is set at USD 1,700/oz. gold. The Mineral Reserve is based on a USD 1,500/oz. gold price scenario for the LOM duration. These assumptions were reviewed by the author and are considered reasonable and in line with the industry.

# ITEM 20. ENVIRONMENTAL STUDY, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

MRP801 is not qualified to issue a professional opinion concerning environmental, legal, permitting or community impact. Consequently, the author relies on the information contained in the document "Management's Discussion and Analysis, Second quarter ended June 30, 2020" (<a href="https://robexgold.com/wp-content/uploads/2020/08/Robex-Managements-Discussion-and-Analysis-Q2-2020.pdf">https://robexgold.com/wp-content/uploads/2020/08/Robex-Managements-Discussion-and-Analysis-Q2-2020.pdf</a>).

#### 20.1 MATERIAL IMPACT

To the best of the author's knowledge, there is no known environmental issue that could materially impact the Issuer's ability to extract the Mineral Reserve.

#### 20.2 REQUIREMENTS AND PLANS

#### WASTE DUMP AND TAILING

The relevant infrastructure for waste and tailing disposition are identified in Figure 5-1. To match the current LOM, sterilization of additional areas is required before the construction of those infrastructures. This process is ongoing for both infrastructures.

#### **WATER**

Process water is recirculated from the tailings pond to the mill. Additional water required to the closed-circuit is pumped from the nearby 11 wells.

#### 20.3 PERMITTING

The Nampala mine operates under environmental permit No. 0110027 MEA-SG delivered by the "Ministère de l'Environnement et de l'Assainissement"

#### 20.4 COMMUNITIES

Corporate social responsibility calls for responsible mining and a sustainable impact, namely by getting involved in these projects:

- UN Global Compact
- Charter of Responsible Procurement
- Site rehabilitation plan
- HSSE/OHS policy
- Health policy
- Environment policy
- Mine-school.

#### 20.5 MINE CLOSURE

The mine closure plan covers the return of the mining site to a state that requires no expenditure by any party to maintain or use, in a healthy condition, without danger and any risks ("Plan de fermeture de la mine d'or de Nampala, Commune rurale de Finkolo Ganadougou, Cercle de Niena – Region de Sikasso, BIDDEA, 2018). The mine closure plan needs to be updated based on the new LOM figures.

## ITEM 21. CAPITAL AND OPERATING COSTS

#### 21.1 CAPITAL COSTS

As an operating mine, the main capital expenditures had already been incurred during the infrastructure construction phase. However, sustaining capital expenditures are forecast in the coming years to increase efficiency, reduce operational risks, meet health and safety objectives, ensure a positive impact on the surrounding community and maintain compliance. The following table shows the extent of that commitment.

Table 21-1 Yearly CAPEX forecast (in million USD)

Year		Total		
	Processing	Mining Exploratio		Total
2021	3.5	4.5	6.0	14.0
2022	3.5	4.0	6.0	13.5
2023	3.0	4.0.	6.0	13.0
2024	3.0	3.5	6.0	12.5

#### 21.2 OPERATING COSTS

The current operating costs along with the assumptions used for the calculations of the 2020 MR that contains Oxide and Upper Transition material are described in Table 14-4.

### ITEM 22. ECONOMIC ANALYSIS

The Nampala Mine is a producing asset. Robex management provides quarterly updates regarding production levels and costs along with forecasts based on the most recent information. Robex is a producing issuer, thus the economic analysis of the Nampala Mine is excluded from the scope of this Technical Report.

## **ITEM 23. ADJACENT PROPERTY**

The Mali Online Repository (https://mali.revenuedev.org/dashboard) contains records of mineral exploration work and mining activity on adjacent properties. Figure 23-1 (Source: InnovExplo 2018) shows the nearest adjacent properties.

MRP801 has not verified the information about mineralization on adjacent properties. The authors relied exclusively on information submitted by the issuer and information found on the Mali Online Repository. The presence of significant mineralization on these properties is not necessarily indicative of similar mineralization on the issuer's Property.

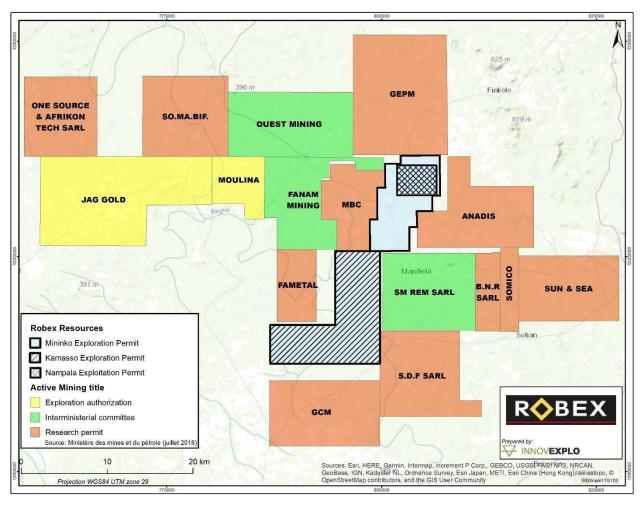


Figure 23-1 Adjacent property map (Mali Online Repository and Ministry of Mines and Petroleum, April, 2018

#### 23.1 PROPERTY HELD BY THE ISSUER

Kamasso is a valid exploration permit that is nearby the Nampala mine. The exploration work is at an early stage. If ever there is production from this property, it may require different infrastructures than the one present at the Nampala mine.

The following information presented in this section is cited from the issuer' web site (https://robexgold.com/en/our-projects/explorations/)

[The Kamasso property] includes the Kamasso exploration permits covering 100 km². Robex owns 100% of the permit and a 1% NSR is liable. It is located about 74 km southwest of Sikasso and 35 km south of Niéna village, which is accessible via the Nampala mine trail. In the prospecting Sikoro area, the geochemical anomaly is combined with an induced polarization anomaly. This gold anomaly is located on the southern extension of the stratigraphic and structural sequence where the Nampala deposit is. In 2009, 700 meters of drilling were completed and show a rooting under the surface of the soil anomaly.

The Kamasso permit offers very interesting prospects. It is located on the southern extension of the stratigraphic and structural sequence in which the Nampala deposit (Mininko) is located. It is located a few kilometers from Nampala. Exploration work previously carried out had helped to identify several geochemical anomalies in soils including the Sikoro, as well as those of Kadjila

and Sirakoroni confirmed by wells and short-destructive surveys. The completion of a geological map using aerial and satellite images and an airborne geophysical survey of the Sysmine project in the territory of the Kamasso permit had also showed the continuation of large structures of the Nampala anomaly (Mininko permit) defined by faulting and fracture networks. Geochemical and geophysical studies have been planned on this property to determine drilling sites conducive to discoveries that may lead to future exploitation.

## ITEM 24. OTHER RELEVANT DATA AND INFORMATION

No additional information or explanation is necessary to make the Technical Report understandable and to ensure that it is not misleading.

## **ITEM 25. INTERPRETATION AND CONCLUSION**

#### 25.1 RESULTS INTERPRETATION

- The Mineral Reserve estimate (2020 MR) presents a LOM of almost 9 years. The Mineral Resource (2020 MRE) is encouraging but requires additional work to reduce uncertainties and ensure qualification for a portion as Mineral Reserve.
- A total of 7 pits are required to mine the identified Mineral Reserve. These pits are located close to each other following the identified geological trends.
- Additional infrastructures are required to support the LOM. Most importantly, the current capacity of the waste dump and tailings pond is insufficient.
- Sterilization drilling is required to allow the construction of the next tailings pond cell located south of the current impoundment facilities.
- At year 8, the increase in the feed grade is explained by the high proportion of Upper Transition ore. This ore has a higher grade but requires also more comminution energy. Adding push back in the next LOM would favor higher grades in the early years and would ensure that this material is properly blended to reduce any drawback on the milling process.

#### 25.2 RISK AND UNCERTAINTIES

- The mineralized material located in the Lower Transition and Fresh Rock zones has not undergone sufficient metallurgical testing to assess the recovery rate and processing costs using the current processing plant flowchart. Thus, the economic potential of these materials shows high uncertainties. In the case of the presence of a highly refractory ore located in those weathering horizons, the identified Mineral Resource could become uneconomical with the current production mean. On the other hand, pyrite and/or arsenopyrite may be present in marginal quantities or located in a limited area of the mine. This second scenario would allow an increase of the Mineral Reserve located in the Lower Transition and Fresh Rock.
- So far, the 2020 MRE block model was partially reconciled with the production data from the mine/mill. The reconciliation process allows to adapt the model to the production results and gain certainty when creating a short term planning or a LOM. Completing the reconciliation would reduce the risk associated with the 2020 MRE modelling. Estimation of the mining recovery and dilution level is part of the reconciliation process.
- The Density Model was modified after completing a mass balance reconciliation with the mill. As mining progress, additional exploration drill holes and in-pit density measurements are added to the model.
- Core log observations indicate some intervals with arsenopyrite and pyrite. The core
  digital photos of those intervals were reviewed and did not show a significant amount.
  However, the impact of those occurrences has not been quantified yet.

#### 25.3 CONCLUSION

- Additional ore characterization work on Lower Transition and Fresh Rock is required to assess the gold extraction economic potential of these two weathering horizons.
- The increase in the LOM requires CAPEX investments in supporting infrastructure. The TMF, the waste dump and water storage/production need to increase in capacity before becoming a production bottleneck.
- The pit proximity allows the potential to merge some. Completing the definition drilling program could lead to an increase in Mineral Resource and Mineral Reserve.

## **ITEM 26. RECOMMENDATIONS**

- Prioritize drilling target surrounding current open pit designs to connect small open pits following the identified mineralization trend.
- Sterilize the zones required for the mine supporting infrastructures, such as the future tailings pond cell #5.
- Conduct metallurgical testing on ore located in the Lower Transition and Fresh Rock zones. The goal is to evaluate processing costs and gold recovery with the current mill process and alternative recovery methods. The material can be provided from bulk samples or recent diamond drilling cores. If the ore is refractory to the current CIL process, the root cause must be identified.
- Prior to metallurgical testing, the occurrence map from the core logs of arsenopyrite, pyrite and graphite must be transposed to the block model to allow meaningful sample preparation for metallurgical testing.
- The block model must be used for ongoing mine to mill reconciliation. This process will help to validate current dilution levels and to confirm the mining method efficiency.
- Reduce operational risks by strengthening the water management plan, consolidating the information and establishing KPIs linked to the ore processing plant water requirements.
- Increase Nampala mine operational resilience by listing bottlenecks, critical parts and risks. This process must be supported by CAPEX to reduce potential impact/risk.
- Update the LOM yearly to support the business plan and CAPEX justification.
- Adding push back in the LOM would favor higher grades in the early years and would ensure that the Upper Transition ore is properly blended to reduce any drawback on the milling process.

## **ITEM 27. REFERENCES**

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