GUIANA AUPLATA

# SCOPING STUDY

## Yaou & Dorlin deposits, French Guiana

Report prepared for: AUPLATA

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*Report prepared by SOFRECO – Project Number G2073*

SOFRECO

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# CAUTIONARY STATEMENT

This Scoping Study is based on low-level technical and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised.

This scoping study was prepared for AUPLATA.

Any opinion or conclusions outlined in this report depend upon numerous conditions which are outside the control of SOFRECO, and may or may not occur. Reliance upon such opinions or conclusions by any person other than AUPLATA is at this person's own responsibility.

The opinions and conclusions expressed by SOFRECO in this report are based on information supplied by AUPLATA. SOFRECO exercised due care and diligence in reviewing the supplied information; however, the accuracy and comprehensiveness of the conclusions reached by SOFRECO depend on the level of information available at the scoping study stage.

# 1 TECHNICAL REPORT

## 1.1 Summary

Yaou and Dorlin projects are associated with regional shear zones that have affected the Birrimian series and allowed the injection of quartz veins and gold bearing fluids. This metallogenic sequence is common to the Birrimian gold deposits of West Africa and it is expected that similar features are to be found both in the geology and in the mining and processing method.

Experience has shown that such deposits are economically mined if they can yield a head grade, at the CIL gold plant of about 2g/t average gold content. Resources are generally computed with 0.5g/t cut-off grade (COG) and sometimes at 0.7 or 0.8g/t.

Using open pit mining and CIL (90% metallurgical recovery), it is common to use up to 1g/t mining COG. Gold in lower grade deposits are usually recovered using Heap Leaching process.

### 1.1.1 Yaou deposit

This project was studied by RSG, who declared the following resources at 1 g/t COG. There could be as much as 1.2Mt of saprolite and 14.5Mt of transition and fresh rock. Average grade is given at 2.8ppm and it seems to prevail down to 100m. In addition, 900kt at 2.29ppm may be obtained from the tailing basins (Mélabar, 2014).

A pit optimization of the Yaou Central and Yaou J was performed and due to the lack of existing bloc model for the Chaina bloc model results of the previous pit optimization performed by RSG in 2004 at a gold price of 425$/oz. Including the tailings, the amount of ore that could be proceeds at a profit is estimated to be 13 Mt at a head grade of 2.7 g/t. The average stripping (waste:ore) ratio is estimated to be 3.5.

Yaou ore deposit appears to be valuable and would justify the preparation of a prefeasibility study and then a bankable feasibility study that will attract investors and lead to the construction of a mine, with a processing capacity of 1 000 000 tonnes of ore per year. This would lead to a total production 85 koz of gold per year.

A capital and operating expenses has been performed but is based on low-level technical and engineering level. Several assumptions will have to be studied clarified in a pre-feasibility study to confirm those estimates.

Additional drilling and sampling needs to be carried out to take the resources to the measured and indicated level. Such a program, to be conducted in accordance with the international standards, is likely to be limited in scope but is required to move to a prefeasibility stage. That program will include ore dressing test as well and an environmental base line study before the impact of the project is studied at feasibility stage.

### 1.1.2 Dorlin deposit

This project was studied by RSG, who declared the following resources at 1g/t COG:

- Laterite: 3,351kt @ 1.5ppm
- Saprolite: 1,247kt @ 1.7ppm
- Transition: 3,602kt @ 1.7ppm
- Fresh rock: 19,206kt @ 1.6ppm

Overall, the orebody would bear 27Mt at 1.6ppm average grade. This is not sufficient to attract investors, unless the ore is found amenable to heap leaching processes.

It is possible to consider a heap leaching operation for the laterite and saprolite. This option was study at a cut-off grade of 0.4 g/t.

A pit optimization of the Dorlin deposit was performed by SOFRECO. The amount of ore that could be proceeds at a profit is estimated to be 10 Mt at a head grade of 1.0 g/t. The average stripping (waste: ore) ratio is estimated to be 2.0

At this stage, it also appears that Dorlin could be processed in the Yaou Carbon-in-Leach plant directly from the deposit or after a dedicated flotation process as it appears that Dorlin ore can be concentrated by flotation (90% gold recovery in 15% of the tonnage). A scenario without flotation has been evaluated in this study and it is recommended to study the flotation pre-processing step during pre-feasibility. In this scenario a total ore tonnage of 5.8 million tonnes of ore at a head grade of 1.25 g/t could be processed at a profit.

Dorlin ore deposit appears to be valuable and would justify the preparation of a prefeasibility study and then a bankable feasibility study that will attract investors and lead to the construction of a mine.

The ore production would be 1 500 000 t/year for the Heap Leach scenario and 1 000 000 if the ore is processed in the Yaou CIL plant.

This would lead to a total production 28 koz (Heap Leach) or 35 koz (Yaou CIL) of gold per year.

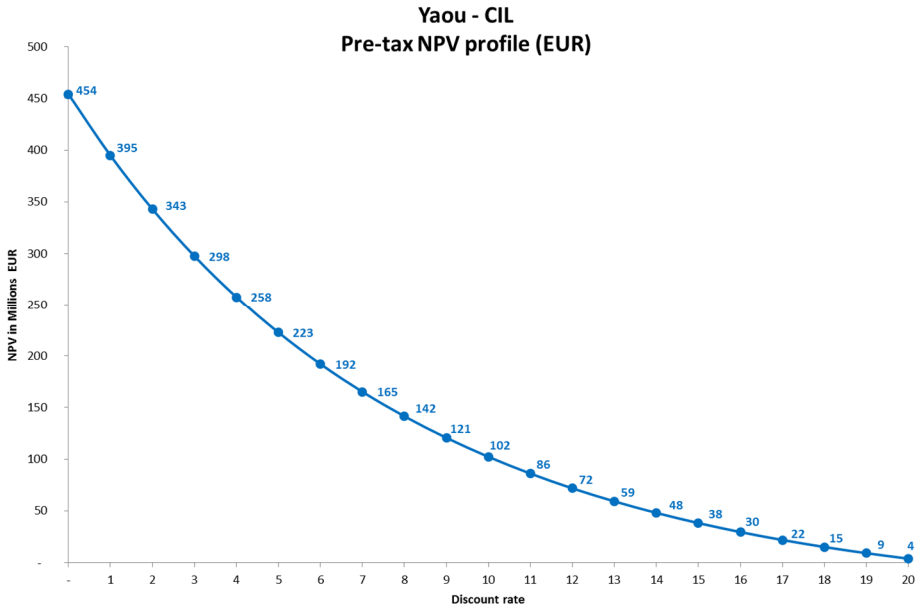
### 1.1.3 Economic Analysis

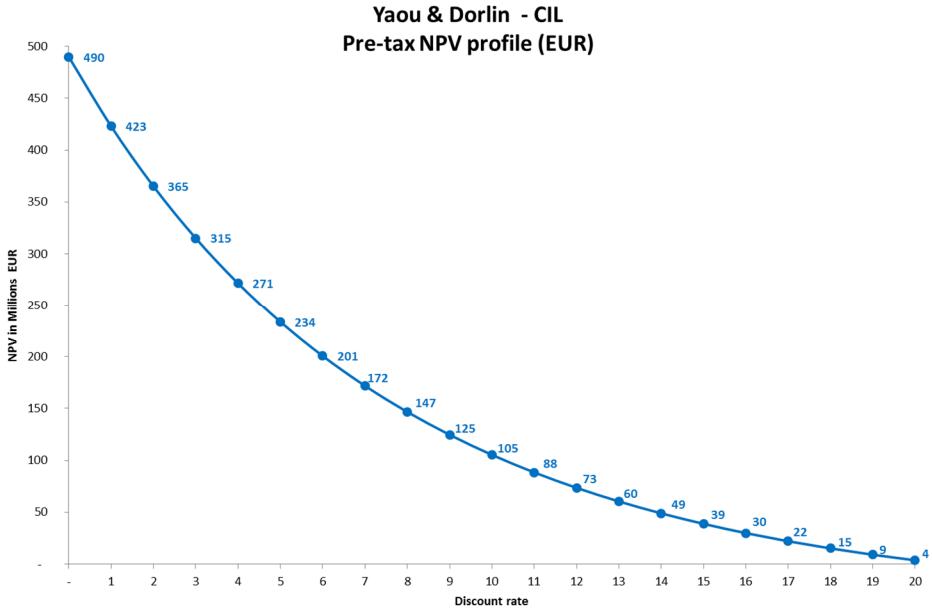
Operational scenario and associated cash-flows model have been prepared for the three studied scenario:

- Yaou – CIL;
- Yaou & Dorlin – CIL;
- Dorlin – Heap Leach.

The models are calculated before taxes and a tax model was not developed by SOFRECO. The models are presented in annexes of this report.

Net present value (pre-tax) was calculated for several discount rates.
Results are presented in the following graphs.




## 1.1.4 Conclusion

The purpose of performing a scoping study of the mining projects is to prepare for a prefeasibility and then a bankable feasibility study. The currently available information remains uncertain and even confusing concerning the resources, which are the very foundation of a mining project.

Density measurements have been taken from the core of the Dorlin Project, but nil is available for Yaou Project. This is a deficiency that needs to be addressed. The overall analytical QA/QC protocols that have been employed have led to the conclusions that the accuracy and accuracy of the analytical database cannot be fully confirmed.

In spite of high probability of reaching a satisfactory conclusion at pre-feasibility and feasibility stages, there are a number of issues that need to be clarified:

- Geological setting and orebody geometry;
- Mineralogical analysis of the ore;
- Verification of the ore grade through controlled and limited sampling repetitions;
- Construction of a new block model;
- Study of incremental mining rate and their impact on environment, waste disposal, water and power requirements and overall economic returns;
- Identify infrastructure requirements and their location to better take into account site conditions in CAPEX and OPEX estimates.

These points should be clarified prior to proceed to the pre-feasibility stage.

At this stage (scoping study), an approximate estimate of Capex and Opex (+/- 50%) have been performed, based on experience and historical projects. They demonstrate the viability of open pit mining at both projects, with a CIL treatment plant at Yaou and a heap leaching plant at Dorlin (Viable economically but permitting difficulties are foreseen) or use of the existing processing plant at Yaou.

Even if proved viable a Heap Leaching infrastructure in Dorlin might be difficult to permit. Processing the ore mined in the Dorlin deposit in the Yaou processing plant has been evaluated. The study demonstrates the economic viability of both options. Processing ore from Dorlin in the Yaou plant is an option that should be further developed at a feasibility stage. Fresh rock at Dorlin contains essentially sulphides, which in turn host gold grains. For this reason, fresh ore responds very well to flotation processes, whilst oxide and laterite ores do not. The use of flotation in processing fresh ore may prove advantageous, with high gold recovery and low tonnage output (15% of feed) that could be transported to the Yaou processing plant. The flotation stage has not been studied in this scoping study but SOFRECO recommends including it in the further studies that will be performed in view of the development of the Dorlin deposits as it should improve economics of the Dorlin project.With more data such conclusions may be optimized later.

## 1.2 Introduction

### 1.2.1 Terms of reference and purpose of the report

This report was prepared as a Scoping Study technical report for AUPLATA on the Yaou and Dorlin, located in French Guiana.

The main target of this Scoping Study is the estimation of the capital expenditures (CAPEX), the operational expenditures (OPEX) with accuracy of ±50% and to provide an assessment of the economic feasibility of the project based on these figures.

Evaluation and/or Audit of the geological resources was excluded from the scope of work and therefore SOFRECO has rely third historical information and third party

reports for all matters related to geology and resource estimation (Please refer to Section 1.3 for more information on the reliance on other experts).

The scope of the Scoping Study consists of the following:

- Prepare a conceptual mine production plan;
- Provide a conceptual process flow diagrams (PFDs) for the processing facility;
- Provide capital and operating costs of the Project with a target confidence level of ±50%;
- Prepare a cashflow model with net present value (NPV) and internal rate of return based on project parameters and economic inputs;
- Summarize key risks and make recommendations for future work.

### 1.2.2 Sources of information

Most of the information and data on the Yaou and Dorlin deposits provided to SOFRECO were either collected or prepared by AUPLATA. Such information included the following reports:

- RSG Global for Golden Star Resources Limited, Independent Resource Estimations for Paul Isnard, Yaou & Dorlin projects, French Guiana, January 2004;
- RSG Global for Golden Star Resources Limited, preliminary briefing Whittle optimisation scoping study for Dorlin project, November 2004;
- RSG Global for Golden Star Resources Limited, preliminary briefing Whittle optimisation scoping study for Yaou project, November 2004;
- Géovariances for OSEAD, Estimation de Ressources Récupérables en Or du projet Minier de Yaou,, December 2012 ;
- Géovariances for OSEAD, Estimation de Ressources Récupérables en Or du projet Minier de Dorlin,, December 2012 ;
- Mélabar for AUPLATA, estimation préliminaire Yaou RC 2013 Saprolite, April 2014 ;
- Mélabar for AUPLATA, Estimation des ressources, Yaou, Bassins Rejets B2, B3 et B4, July 2017 ;

All of the additional data used for this Report has been obtained from the public sector, either from published journals or data from public institutions such as federal and state geological surveys and state mining agencies. The information provided by AUPLATA was evaluated, and only data determined to be of acceptable detail and accuracy were used as a basis for this scoping study.

### 1.2.3 Site Visit

No site visit to either Yaou or visits have been undertaken by the authors of this report.

## 1.3 Reliance on Other Experts

In preparation for this Report, the authors have relied on historical reports, opinions, data and statements not prepared under their supervision. These items will be hereinafter identified in this Report as being either “third-party reports” or “historical information”. Analytical procedures, personnel and facilities used by the previous evaluators were not necessarily independent and it is not known if the authors of those reports were “Qualified Persons” as defined by NI 43-101 and/or ‘Competent Person’ as defined by JORC.

Data quality variations might occur due to the historical nature of some reports, which may affect the calculation of mineral resource, gold grade and tonnage, such examples being provided in this Report. Examples of variable data quality include instances of incomplete assays and missing assay intervals that may affect the estimation of mineral resource gold grade and tonnage. Despite the existing historical record, the files may not necessarily provide a complete record of exploration work or drilling results and it is not possible to know if the material represents the complete record of all information collected by the previous exploration companies. SOFRECO was not able to assess completely what part of the deposit had already been mined (saprolite mining in Yaou).

Most of the information comprising the bulk of the investigation was available through public record sources and derived from the expertise and past experiences of the authors. No engineering designs have been produced. Where assumptions and estimates are made, they are identified and are based on experience from mining operations or projects targeting gold or similar metals. Final grade and tonnage values are presented based on preliminary cut-off grades and mining and processing parameters similar to what is practiced in other projects. No reference has been given to either “ore” or “reserve” which, because of the quality of the available data as yet, does not exist. The reader is reminded that mineral resources that are not mineral reserves do not have demonstrated economic viability.

The results and opinions expressed in this Report are based upon the aforementioned geological, legal, political, environmental information or tax matters being current, accurate, and complete as of the date of this Report, and the understanding that no information has been withheld from the authors that would affect the conclusions made herein. SOFRECO reserves the right, but will not be obliged, to revise this Report and conclusions if additional information becomes known to SOFRECO subsequent to the date of this Report. SOFRECO will not be responsible for AUPLATA’s actions in distributing this Report.

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## 1.4 Property Description and Location

*Section 1.4 has been partially excerpted from the RSG Global 2004 Report.. Standardizations have been made to suit the format of this report.*

### 1.4.1 Property Location

#### 1.4.1.1 Yaou project

The Yaou Project lies close to the western border of French Guiana in South America (Figure 1), approximately 12km northeast of the village of Maripasoula (Latitude 03° 38' N, Longitude 54° 02' W), on the Maroni (Lawa) River. The river forms the border between French Guiana and Suriname.

#### 1.4.1.2 Dorlin project

The Dorlin Project is located some 200km southwest of Cayenne in French Guiana (Figure 1), and approximately 55km east-northeast of the village of Maripasoula on the Maroni (Lawa) River.