



**SimFer**

**RioTinto**



# **Environmental and Social Impact Assessment**

**Ouéléba North Pit Project  
Simandou Mine in the Prefecture of Beyla,  
N'zérékoré Region**

**Simfer S.A.**

**Non-Technical Summary**

**June 2025**





## Table of Contents

<b>Disclaimer</b>	<b>1</b>
<b>1 Introduction to the Ouéléba North Pit Project</b>	<b>2</b>
1.1 Overview	2
1.2 Project Setting	3
1.3 Project Justification	5
1.4 Environmental and Social Studies	6
1.5 This Document	6
1.6 ESIA Team	7
<b>2 Administrative and Legislative Framework</b>	<b>8</b>
2.1 The Guinean Regulatory Framework	8
2.2 Project Standards	9
2.3 Rio Tinto HSEC Policies and Standards	9
<b>3 Ouéléba North Pit Project</b>	<b>10</b>
3.1 Overview of the Ouéléba North Pit Project	10
3.2 Permanent Infrastructure	10
3.3 Construction Activities	11
3.4 Potential for Extensions to the Mine Life	11
3.5 Mine Closure	11
3.6 Consideration of Alternatives	11
<b>4 Stakeholder Engagement</b>	<b>12</b>
4.1 Stakeholder Engagement Tools	12
4.2 2024 ESIA Community Forums	12
<b>5 Summary of Environmental and Social Impacts Addressed in the ESIA</b>	<b>15</b>
5.1 Overview	15
5.2 Biodiversity and Natural Resources	18
5.2.1 Managing Biodiversity	18
5.2.2 Managing Impacts on Water	19
5.2.3 Acid and Metalliferous Drainage	20
5.2.4 Erosion and Protection of Soils	20

## Table of Contents

5.3 Atmospheric Environment .....	20
5.3.1 Noise and Vibration .....	20
5.3.2 Air Quality .....	21
5.3.3 Greenhouse Gas Emissions .....	22
5.4 Cultural, Economic and Social Conditions .....	23
5.4.1 Identifying and Protecting Cultural Heritage .....	23
5.4.2 Changing the Local Landscape .....	23
5.4.3 Contributing to the National and Local Economy .....	24
5.4.4 Community Life, Social Structures and Infrastructure .....	24
5.4.5 Impacts on Land Use and Access .....	24
5.4.6 Project-induced Migration and its Effects .....	25
5.4.7 Community Health and Safety .....	25
5.4.8 Ecosystem Services .....	26
5.4.9 Labour and Working Conditions .....	26
5.4.10 Respecting Human Rights .....	26
5.4.11 Establishing a Social Management Framework .....	27
5.5 Cumulative Impacts .....	27
<b>6 Planning for Mine Closure .....</b>	<b>28</b>
<b>7 Translating the ESIA into Environmental and Social Management .....</b>	<b>29</b>
<b>8 Next Steps .....</b>	<b>30</b>
8.1 ESIA Disclosure and Consultation .....	30
8.2 Managing Stakeholder Feedback .....	31



---

## Disclaimer

---

This document is a high-level summary of the findings of the Environmental and Social Impact Assessment that Simfer S.A., a subsidiary of Rio Tinto, conducted for the Ouéléba North Pit Project (the Project) at the Simandou Mine in the Prefecture of Beyla, N'zérékoré Region. The Ouéléba North Pit Project is being carried out by Simfer.

The purpose of this document is to summarise the key findings of the ESIA into a document that provides a non-technical overview of the work undertaken for, and results of, the ESIA. For further details regarding the entire study please refer to the full ESIA.

# 1 Introduction to the Ouéléba North Pit Project

## 1.1 Overview

This Environmental and Social Impact Statement (ESIA) covers the Ouéléba North Pit Project, which is a small satellite iron ore deposit located about 1.2 km north of the Ouéléba pit, at Simfer S.A.'s (Simfer's) Simandou Mine. The Ouéléba pit and associated infrastructure was subject to a previous ESIA (Rio Tinto Simfer, 2024).

The Simandou Project involves the exploitation, transportation and export of world-class iron ore extracted from deposits located within the perimeters of mining concessions covering Blocks 3 and 4 of the Simandou mountain range in Guinea's N'zérékoré Region (Figure 1). The mining concessions covering Blocks 3 and 4 are held by Simfer. Transportation

infrastructure is being developed in conjunction with Winning Consortium Simandou (WCS), which holds mining concessions covering Blocks 1 and 2 of the Simandou mountain range (Figure 2).

Simfer is owned by the Government of Guinea (15%) and Simfer Jersey Limited (85%). Simfer Jersey Limited is a joint venture between the Rio Tinto Group (53%) and Chalco Iron Ore Holdings (CIOH) (47%).

Rio Tinto is one of the largest mining companies in the world. Rio Tinto produces iron ore for steel, aluminium for cars and smart phones, copper for wind turbines, diamonds that set the standard for responsible sourcing, titanium for household products, and borates for crops that feed the world.

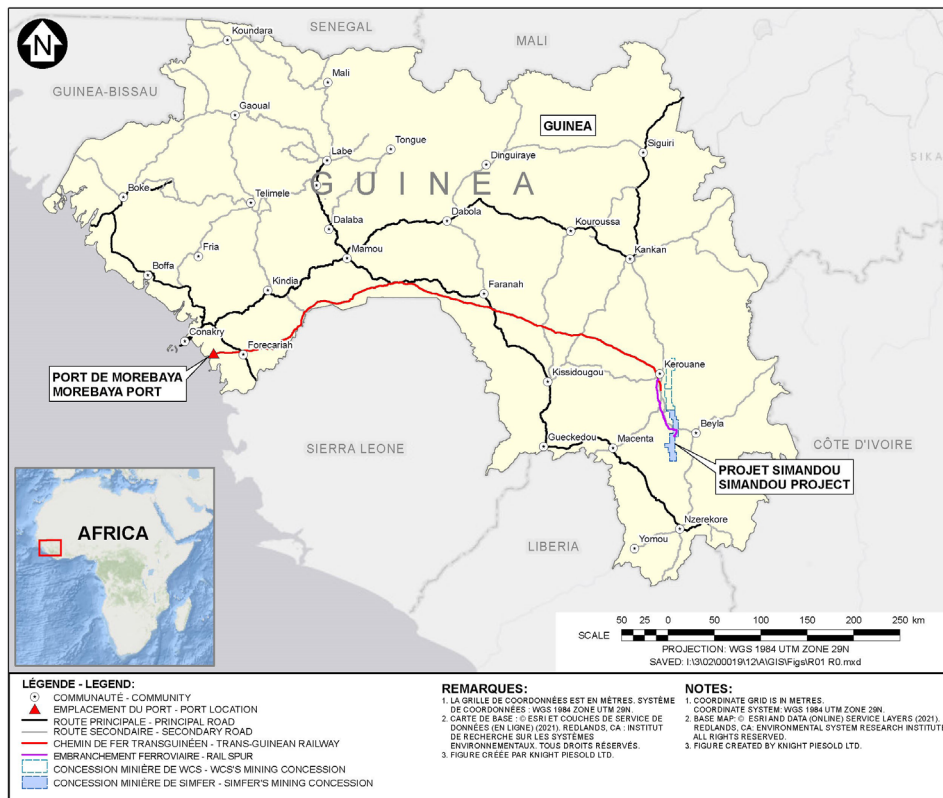


Figure 1 Project Location Map

Chinalco, a major shareholder of CIOH, is a leading state-owned enterprise in the global nonferrous metals industry. It supplies strategic mineral resources and advanced high-end materials, and the leader in industry innovation and green development. Chinalco's industry chain includes aluminium, copper, lead, zinc, gallium and germanium and is a leading player in China's copper, zinc and lead industries. Chinalco is present in over 20 countries and regions and is a major shareholder of Rio Tinto. Being future focused, Chinalco aims to continue to uphold the corporate spirit of "Striving for Excellence and Strength through Diligence and Innovation", with a focus on technological innovation, mineral resources, high-end advanced materials, and green and smart digitalisation.

The Simandou Project is anticipated to be the largest integrated mining and infrastructure project ever developed in Africa. It will significantly contribute to the economy of Guinea by generating government revenues, creating jobs, increasing demand for local goods and services, and fostering social and economic development.

## 1.2 Project Setting

The Ouéléba North Pit Project is situated in the southern part of the Simandou Range in south-eastern Guinea. The Simandou Range follows a north-south axis and covers about 110 km. The southern range has its highest peak at Pic de Fon with an altitude of over 1,650 m. There is up to 700 m difference in elevation between the top of the range and the surrounding undulating plains.

The Ouéléba North deposit is located within the Pic de Fon Classified Forest, an area of 252 km<sup>2</sup> that was established in 1953 mainly to protect water, forests, and soil resources (Figure 3). The Pic de Fon mine area was established through government process and integrated into the Pic de Fon Classified Forest Management Plan. The Simandou Ridge and Pic de Fon Classified Forest support a range of ecosystem types that follow an elevation gradient, from lowlands to submontane grasslands. The main habitats in the Classified Forest are submontane grassland on the crest of the ridge with forested spurs and ravines running off the sides. The area

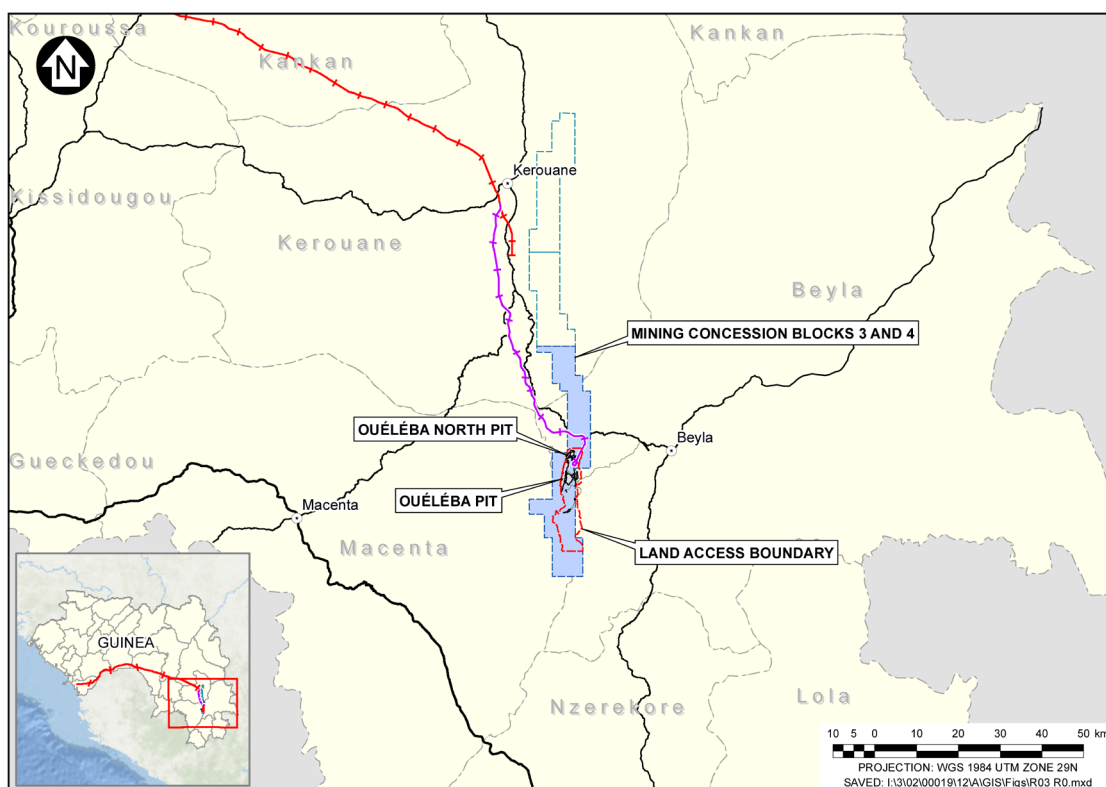


Figure 2 Ouéléba North Pit Project Overview Map



contains some of the best examples of these ecosystems in the region. The species assemblages found within these ecosystems are differentiated from the surrounding lowland habitats and have a high concentration of species of conservation interest.

Small populations of the Western Chimpanzee are found in the forest on the western side of the Simandou Range. The International Union for the Conservation of Nature elevated the conservation status of the Western Chimpanzee from “endangered” to “critically endangered” in 2016

(Humble et al., 2016). There are many vulnerable, endangered, critically endangered, and range-restricted plant and animal species present in The Ouéléba North Pit Project area.

The Simandou Range is an important surface water catchment and source of groundwater recharge. Perennial spring-fed streams that run through the steep-sided valleys provide water supply for ecosystems, local villages, and agriculture. The range also has an influence on local climate.

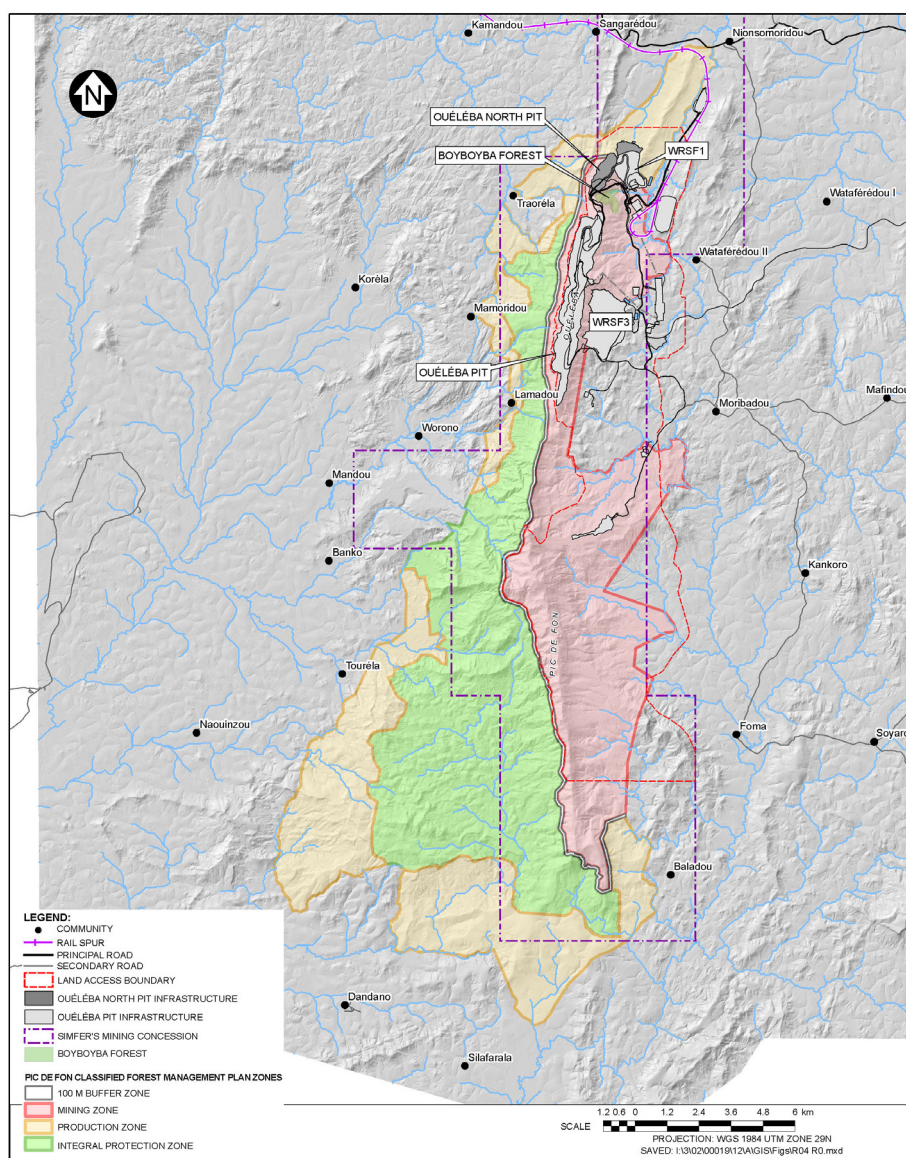


Figure 3 Project Setting in the Pic de Fon Classified Forest

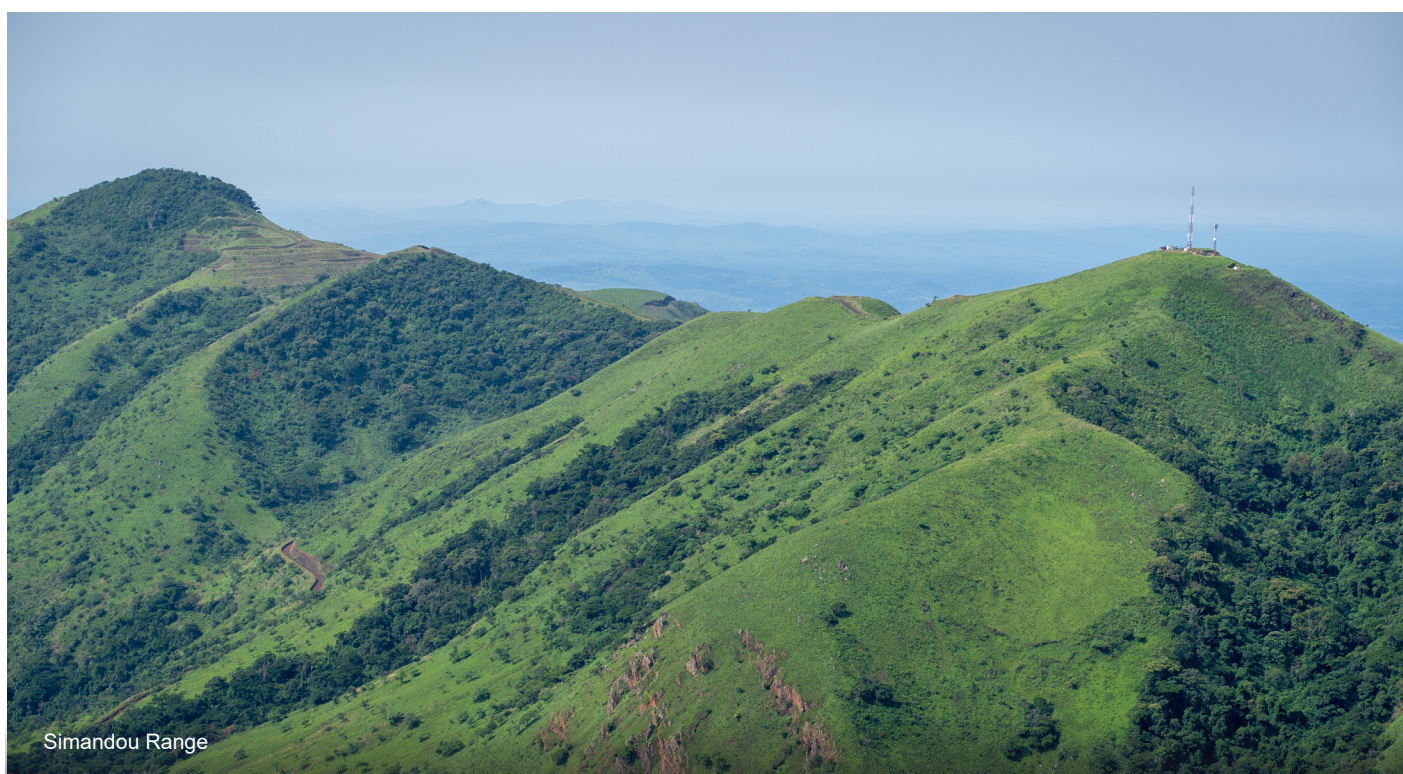
### 1.3 Project Justification

The Ouéléba North deposit is important to support early production of the larger Ouéléba deposit. Portions of the Ouéléba ore body, primarily the upper weathered zones, have moderate concentrations of aluminium and to a lesser extent phosphorus. The presence of these elements can reduce the quality of steel produced from the ore if concentrations are too high. To mitigate the potential for elevated concentrations of aluminium and phosphorus that would lower the quality of the ore, it is proposed to blend the ores from both pits to produce a consistent quality product.

The Simandou Project as a whole holds significant potential for both Guinea and other project stakeholders. The following are some key benefits and justifications for proceeding with the Simandou Project, which includes the Ouéléba North Pit Project.

#### These include:

- **Economic Growth:** The Simandou Project has the potential to contribute significantly to Guinea's economic growth and long-term economic development. Guinea is estimated to have one of the world's largest untapped high-grade iron ore reserves. The extraction and export of iron ore will generate substantial revenue for the country, allowing for investments
- in infrastructure, education, healthcare, and other sectors.
- **Job Creation:** The Simandou Project will create numerous job opportunities, both directly and indirectly. From construction and operation of the mine and rail spur, to support services and local businesses, The Ouéléba North Pit Project will boost employment rates, reduce poverty, and enhance standards of living in the region.
- **Infrastructure Development:** To facilitate the Simandou Project, infrastructure investments will be required, such as roads, railways, ports, and power supply. These developments will not only support the mining operations but also improve the overall transportation and logistics network in Guinea, benefitting other industries and communities.
- **Revenue for Stakeholders:** Apart from Guinea, the Simandou Project will benefit other stakeholders, such as its shareholders (Rio Tinto and its partners, including the Republic of Guinea), investors, and international buyers. The high-quality iron ore from Simandou can attract global demand, providing a stable supply of raw materials for the steel industry and contributing to economic development worldwide.
- **Green Steel:** The premium-grade iron ore from Simandou will be a vital part of the energy transition, as steelmakers seek to reduce their carbon emissions.





Minimising environmental impact through proper mine planning, land rehabilitation, and biodiversity conservation will be key components of ensuring the Simandou Project's success. The Simandou Project will promote social development programmes, including education and healthcare initiatives, to uplift local communities.

Overall, the Simandou Project represents a transformative opportunity for Guinea and other stakeholders. It has the potential to spur economic growth, create jobs, develop infrastructure, generate revenue, and promote social and environmental responsibility. With careful planning and implementation, the Simandou Project can bring long-term benefits to Guinea while meeting international standards for sustainability and corporate responsibility.

## 1.4 Environmental and Social Studies

Simfer's team has conducted a progressive and evolving programme of environmental and social studies from 2008 to 2024. These have included: (1) wide-ranging baseline surveys to collect data on physical, biological, social, and cultural conditions in the Simandou Project's area of influence; (2) inputs to siting facilities and the design of project components; and (3) an extensive stakeholder engagement programme with government and affected local communities.

Comprehensive baseline studies were conducted from 2008 to 2011 in support of a Social and Environmental Impact Assessment completed for the Simandou Project in 2012. Some monitoring continued beyond that period, followed by a substantial baseline studies update undertaken for the mine and rail spur components in 2022 and 2023 and supplemental baseline data collection in 2024 to support the Ouéléba North Pit Project.

A number of these studies will continue as part of ongoing monitoring and assessment. They will be used to inform successive project stages, including the detailed engineering phase, planning for construction and operation, and the implementation of social and environmental mitigation measures.

## 1.5 This Document

Major development projects require a comprehensive evaluation of the potential risks and impacts on the surrounding physical, biological, cultural, social, and socio economic environment. The Ouéléba North Pit Project is classified as a Category A project according to Guinean Order 2023/1595, requiring a detailed ESIA. Once published, the ESIA will undergo a detailed review by the Agence Guinéenne d'Evaluations Environnementales (AGEE), the Guinean Government regulator responsible for the review of ESIA's for projects in Guinea.

This ESIA is an addendum to the Mine and Rail Spur ESIA published in 2024 and approved by the Republic of Guinea in 2024.

**The 2025 Ouéléba North Pit Project ESIA is presented in two volumes:**

- **Volume 1** : Environmental and Social Impact Assessment (ESIA)
- **Volume 2** : Environmental and Social Management Plan (ESMP)

This document provides a Non-Technical Summary of Volume 1. It provides an overview and summary of the ESIA findings, focusing on the key social and environmental impacts arising from the construction, operation, and closure of the Ouéléba North Pit Project and the mitigation measures necessary to manage these impacts.

**This Non-Technical Summary of the ESIA is structured as follows:**

- **Chapter 1** presents an overview of the Ouéléba North Pit Project.
- **Chapter 2** summarises the legal and administrative context.
- **Chapter 3** describes the Ouéléba North Pit Project and alternatives considered.
- **Chapter 4** outlines the stakeholder engagement programme followed for the ESIA.
- **Chapter 5** provides a summary of the environmental and social impacts and proposed mitigation measures.
- **Chapter 6** describes the approach to mine closure.



- **Chapter 7** describes translating the ESIA into the environmental and social management framework.
- **Chapter 8** describes the next steps in the ESIA process.

## 1.6 ESIA Team

The Ouéléba North Pit Project ESIA was prepared by international consultancy Knight Piésold Ltd. (KP), in collaboration with Guinean consultancy AMERI SARL (AMERI), as well as ESIA specialists from a broader ESIA team.

### Knight Piésold



Knight Piésold is an employee-owned, global consulting firm providing specialist services in the mining, power, water resources, and infrastructure industries. The firm is comprised of engineers, environmental scientists, geoscientists, and technologists, focusing on what it can do best to create value for its clients at every stage of a project.

Founded in 1921, KP has a 1,200-person team operating from 28 offices across 16 countries. Its globally integrated team, together with its industry expertise and regional understanding, allows the firm to support clients in identifying and mitigating risk, navigating challenges, and achieving long-term success. The Canadian practice of KP led this assessment, with involvement of staff from its Ghana, Zambia, South Africa, and Peru practices. KP is an accredited ESIA Consultant in Guinea under Decree 2022/1647 (AGEE Decision D/2024/00021/MEDD/CAB/AGEE, dated March 22, 2024).

### AMERI SARI



AMERI is a Guinean environmental consultancy that has been operating since 2008 (RCCM/GC-KAL/036/2011; NIF: 641916655, NUEMRO VAT: 2V; CNSS: 8204093650400/2014). It is an accredited ESIA Consultant in Guinea, in accordance with Decree 2022/1647 (AGEE Decision D/2024/00027/MEDD/CAB/AGEE, dated March 22, 2024).

The company's core areas of expertise include ESIAs, environmental audits, population and migration studies, socioeconomic and basic health studies, risk assessments, cultural heritage, and communities. The firm has a long history of consulting for both the public and private sectors in Guinea. AMERI has been involved with the Simandou Project since it started operating in 2008 and has also worked for other major mining interests in Guinea, including Le Compagnie des bauxites de Guinée (CBG), Guinea Alumina Corporation (GAC), and BHP Billiton, along with several international ESIA consultancies.

### Broader ESIA Team

The KP-AMERI team was supported by a broader team of ESIA practitioners and discipline specialists from many International and Guinea-based consultancies, as follows:

- Insuco – cultural heritage and socioeconomics
- Muller Acoustic Consulting Pty Ltd. – noise and vibration
- WKC Group Pty Ltd. – air quality
- Sylvatrop Consulting – biodiversity and ecosystem services

## 2 Administrative and Legislative Framework

Ministerial names provided throughout the document are current as of production of the ESIA, but may change as a result of ministerial appointments/re-assignments.

### 2.1 The Guinean Regulatory Framework

The regulatory framework within which Environmental and Social Impact Assessments (ESIA) are now conducted in Guinea is defined by the 2023 Administrative Process for Environmental Assessments (Order A/2023/1595/MEDD/CAB/SGG of 05 May 2023). Other key Guinean environmental legislation includes but is not limited to the following:

- Presidential Decree 200/PRG/SGG/89 of 8 November 1989 on the legal status of classified installations;
- 2019 Environmental Code (Law No. L/2019/0034/AN of 04 July 2019)
- 1994 Water Code (Loi L/94/005/CTRN of February 14, 1994) and Decree A/2013/173/MEE/CAB/SGG) of February 12, 2013, concerning the procedures for establishing the protection perimeters of water catchments intended for human consumption and water supply works in rural and semi-urban areas;
- Law No. L/2011/006/CNT of September 9, 2011, modified on April 8, 2013, by the law L/2013/053/CNT, concerning modification of certain provisions of the Mining Code of the Republic of Guinea;
- Law No. L/2017/060/AN of December 12, 2017, concerning the Forestry Code of the Republic of Guinea;
- Land and State Code (L/99/013/AN of 30 March 1992);
- Urban Planning Code (L/98 n° 017/98 of 13 July 1998);
- Biodiversity legislation including:
  - » 2018 Law on the Protection of Wildlife and hunting regulations (Loi ordinaire N° 2018/0049/AN of June 20, 2018);

- » Decree A/2019/5663/MEEF/CAB Attributions and Organization of the National Coordination of Control Posts for Wood, Non-wood and Wildlife Forest Products; and
- » Joint Decrees A/2020/1591/MEEF/MPAEM/SGG and A/2020/1591/MEEF/CAB/SGG concerning the protection of species of wild flora and fauna in the Republic of Guinea.

These are referenced as appropriate throughout the ESIA.

As required under the Environment Code, the ESIA will be submitted to the Minister responsible for the Environment and Sustainable Development, (Ministère de l'Environnement et du Développement Durable or MEDD), to apply for a Certificate of Environmental Conformity (CCE) for the Ouéléba North Pit Project. The AGEE (l'Agence Guinéenne d'Evaluation Environnementale), an entity of the MEDD, will commission a public enquiry or forum led by the AGEE through which the public will be entitled to express their comments on the Ouéléba North Pit Project and on the ESIA. During the public enquiry or forum, a Technical Committee on Environmental Analysis (CTAE) in collaboration with representatives of other national and regional authorities having an interest in the Ouéléba North Pit Project, will invite the Proponent (Simfer) to respond to the issues raised during the public enquiry or forum. The CTAE will then make a recommendation on the acceptability of the ESIA to the Minister responsible for the MEDD who will then make a decision regarding the granting of a CCE.

Simfer submitted a Project Notice for the Ouéléba North Pit Project on 9 September 2024. On 24 September 2024, AGEE determined the Ouéléba North Pit Project is a Category A project and that Simfer prepare an Addendum to the Mine Component of the approved ESIA for the Simandou Mine and Rail Spur Project and that the ESIA for the Ouéléba North Pit Project will be subjected to the review process applicable to a Category A project as per Arrêté 1595. A new ESIA Terms of Reference

(TOR) was developed and submitted to AGEE on 2 December 2024. The TOR was evaluated and approved by the Minister of Environment and Sustainable Development. The ESIA has been prepared based on those approved Terms of Reference.

## 2.2 Project Standards

Simfer is committed to conducting its activities in compliance with Guinean legislation and regulatory requirements, while meeting international standards and best practice in terms of environmental conservation and human health and safety.

The Amended and Consolidated Convention de Base, a 2014<sup>1</sup> agreement signed by Simfer Rio Tinto Mining and Exploration Limited and the Republic of Guinea, governs the conditions of development and implementation of the Simandou Project, including the Project Standards to be applied. Project Standards refers to international best practices in corporate governance, business ethics, sustainability and transparency, and the applicable international laws and legislation in force in relation to these matters. The following are identified as the Project Standards:

- Rio Tinto's Health, Safety, Environment and Community (HSEC) policies and standards
- Equator Principles IV (Equator Principles Association, 2020)
- International Finance Corporation's (IFC) Performance Standards on Social & Environmental Sustainability (IFC, 2012)
- Voluntary Principles on Security & Human Rights (The Voluntary Principles Initiative, 2021)
- World Economic Forum's Partnering Against

Corruption Initiative (PACI; WEF, 2021)

- Transparency International's Business Principles for Countering Bribery (Transparency International, 2013)
- The Extractive Industries Transparency Initiative (EITI) Standard (EITI, 2023)
- Principles and Guidance required by the membership of the International Council on Mining and Metals (ICMM), of which Rio Tinto is a founding member (ICMM, 2019a,b,c; 2020; 2021a,b,c)

These are international voluntary agreements to which Rio Tinto already subscribes.

Rio Tinto's HSEC Policies and Standards are further described below.

## 2.3 Rio Tinto HSEC Policies and Standards

Rio Tinto is committed to excellence in environmental and social performance. It operates in accordance with strict corporate policies covering environmental and social responsibility, corporate governance and sustainability established under its a global code of business conduct, "The Way We Work." This framework sets out Rio Tinto's continuing commitment to undertaking its business with integrity. It requires the company to adhere to rigorous standards of corporate governance and contribute to sustainable development. The framework includes a series of publicly available policy statements, covering sustainable development, environment, communities, human rights, and health. These policies can be accessed via the Rio Tinto website.

Together, these national, international, and corporate standards establish a set of requirements by which the Ouéléba North Pit Project will be designed and operated. These are in place to protect the environment and society from project-related adverse impacts and maximise the Project's benefits through design, construction, operation, and closure.

<sup>1</sup> The Simandou Build-Operate-Transfer Convention (Simandou BOT Convention) was also signed in 2014 and is an agreement between the State, various entities of the Rio Tinto group (including Simfer) and other parties, to build, own and operate the rail and port infrastructure necessary for the transportation of the iron ore of Ouéléba North Pit Project. The Simandou BOT Convention clearly defines the respective roles of Rio Tinto and WCS in the co-development of the Simandou Project concerning notably the infrastructure they will both have to respectively build in view of their transfer to CTG. Simfer Infracore Guinée S.A. was created for this very purpose.



## 3 Ouéléba North Pit Project

### 3.1 Overview of the Ouéléba North Pit Project

Ouéléba North is a satellite deposit located 1.2 km north of the main Ouéléba deposit. The proposed Ouéléba North pit will measure up to 575 m wide and 1.8 km in length, extending to a depth of approximately 286 m below surface. It is small in comparison to the Ouéléba pit, which measures 1 km wide and 7 km in length with ore extending 500 m below surface.

Ore from the Ouéléba North deposit will be mined in an open pit created by drilling and blasting the rock; it will then be loaded onto haul trucks and moved to primary and secondary crushers. The pit will develop progressively over the life of mine with phases of works progressing across the pit area. The pit will be formed by mining in “benches” (platforms down the side of the pit) until the base of the deposit is reached.

Based on current mine planning, the Ouéléba North pit will be developed in three stages, with the first two stages occurring during the first years of production and the third stage occurring following an idle time of 15 years. As the pit is excavated, it will be dewatered using dedicated wells and by pumping from sumps located in the pit to keep the working area dry.

Ore will be transported by haul trucks to the early ore stockpile located within the footprint of waste rock storage facility 1. Two mobile crushers will crush ore prior to transport, initially to a crushed ore stockpile located adjacent the rail spur, and subsequently to the stockyard by haul truck. Ore from Ouéléba and Ouéléba North deposits will be blended at the stockyard prior to transfer onto ore wagons for transport via rail to a port in the Forécariah Prefecture on the Guinean coast.

Waste rock will be generated during the extraction of saleable ore. The waste rock will be hauled by truck from the pit to the waste rock storage facility 1 located east of the Ouéléba North pit. Once

sufficient space is available within the Ouéléba North pit, mineral waste will be backfilled into the voids, reducing the volume of waste rock that needs to be disposed of out of pit.

### 3.2 Permanent Infrastructure

The Ouéléba North pit will rely on permanent infrastructure being constructed for the approved Simandou Mine. The development of the Ouéléba North Pit Project requires the existing land access boundary to be extended slightly to the north and west representing a 2.3% increase in the approved land access boundary.

To allow for the development of the Ouéléba North pit, some design optimisation / updates are required to some mine components to promote integration and achieve operational efficiency. The major changes or updates relate to the following:

- Ouéléba North pit development
- Early Ore Stockpile located within the waste rock storage facility 1 footprint
- Crusher area
  - » Within the crushed ore stockpile adjacent to the rail spur up to two years (crusher moved to the early ore stockpile area in 2028)
  - » Within the waste rock storage facility 1 footprint
- Expanded waste rock storage facility 1
- Heavy Mobile Equipment Road
  - » Realignment of Heavy Mobile Equipment Road 2 (HME2) connecting to Ouéléba North
  - » New HME access roads connecting Ouéléba North to waste rock storage facility 1 and the crushed ore stockpile access road (Ouéléba North Access Road)
  - » Upgrade portions of Light Mobile Equipment Road 3 (LME3) to an heavy mobile

equipment road with a connection to the stockyard

### 3.3 Construction Activities

The construction phase of the Ouéléba North Pit Project will be approximately six months, occurring in the second half of 2025. Work entails the construction of access roads and stripping of overburden, in preparation for mining activities.

Structures not required for other purposes post-construction will be removed and the work areas will be cleaned and rehabilitated. As much as possible, the areas will be either returned to natural vegetation (for example, forest) or made available for safe use by local communities post-construction.

### 3.4 Potential for Extensions to the Mine Life

Further exploration work is also planned over the next 5 years to identify additional areas of potential mineralisation that may be mined in the future, including potentially developing the Pic de Fon deposit.

### 3.5 Mine Closure

At the conclusion of mining saleable ore, the mine will be closed, and the land will be rehabilitated. A conceptual mine closure plan has been developed considering site closure options that will restore the land to its best future use. Closure planning is an iterative process, and ongoing technical studies as well as consultation with local stakeholders will feed into future refinements of the current closure concepts, in accordance with Rio Tinto's Mine Closure Standard.

### 3.6 Consideration of Alternatives

As a key component of the ESIA, feasible alternatives were examined to evaluate pathways for achieving project objectives while minimising impacts on the environment and society. The feasible alternatives were evaluated based on their technical

feasibility, cost-effectiveness, environmental acceptability, and social acceptability.

#### Key alternatives were considered in the following areas:

- **Production rate:** The approved project involves a production rate of 65 wet Mtpa. The Ouéléba North pit will average approximately 4 wet Mtpa. While production from Ouéléba North will be intermittent over the mine's life, the material handling and rail loading equipment have been designed to accommodate 65 wet Mtpa, which does not allow for an increase in production. Thus, the overall production rate of 65 wet Mtpa established for the approved Ouéléba Mine will remain unchanged with the additional mining activities at Ouéléba North.
- **Mining Methods:** Open pit mining is the only economically viable alternative given the Ouéléba North ore body's proximity to surface and its geometry, and it has therefore been selected for the Ouéléba North Pit Project. Underground mining (or a combination of open pit and underground mining) is neither technically feasible nor economically viable since the deposit is at surface.
- **Ouéleba mining sequence:** Two approaches to mine the Ouéléba North deposit have been evaluated including the mining of Ouéléba North in relation to the main Ouéléba pit and the timing of mining the Ouéléba North deposit. The preferred alternative selected was to mine Ouéléba North concurrently with Ouéléba, while incorporating a phased mining approach at Ouéléba North.

Several other more minor alternatives were also considered, including:

- Decarbonisation options
- Ore handling
- Waste rock disposal

## 4 Stakeholder Engagement

When undertaking environmental and social impact assessments it is customary for developers to identify and engage with relevant stakeholders through proactive and timely consultation and disclosure about the Ouéléba North Pit Project and its impacts. Stakeholders include relevant regulatory and administrative bodies, communities affected by the Ouéléba North Pit Project, and other interested parties such as local businesses, associations and cooperatives, Guinean and international non-governmental organisations, and other interest groups.

### 4.1 Stakeholder Engagement Tools

A Stakeholder Engagement Plan for the Simandou Project was developed and has been followed by Simfer (included in Volume 2 of the ESIA). The Stakeholder Engagement Plan sets out the approach which the Simfer has followed to implement a robust, open, and transparent engagement programme with different groups of stakeholders, in accordance with Guinean legislation, IFC Performance Standards, other relevant international standards and Rio Tinto requirements. It also built on and was aligned with the existing public consultation and disclosure practices and systems which have been followed to date during planning for The Ouéléba North Pit Project.

A Grievance Mechanism (Volume 2) has also been developed and implemented in tandem with the Stakeholder Engagement Plan. It has been established to receive and facilitate resolution of concerns and grievances about the Project's environmental and social performance.

Simfer has been recording its stakeholder engagements activities in a web-based software programme and database since 2011. This includes a listing of all stakeholders, and an entry for each stakeholder engagement event, including presentation materials and meeting notes. Simfer's complaints register is also maintained utilising the same software.

### 4.2 2024 ESIA Community Forums

Two rounds of community forums to engage with local communities were undertaken in 2024 in support of the Ouéléba North Pit Project at the following locations:

- Beyla Centre
- Nionsomoridou
- Kouankan
- Kérouané Centre

The community forums occurred between October 22 and 25 (the October 2024 community forums) and December 17 to 21, 2024 (the December 2024 community forums). Participants from the above-mentioned communities and surrounding communities were invited and included local leaders, village leaders, traditional leaders, Prefects, elders, women, and the youth. The meetings were organised and hosted by Simfer's Communities and Social Performance team and ESIA specialists from Rio Tinto, with support from the ESIA consultant team. The list of participating communities is shown on Figure 3.

At the October 2024 community forums, participants were asked to provide feedback on potential project impacts as well as respective mitigation measures (solutions). During the December 2024 community forums, Simfer presented how it had incorporated affected communities' comments on the Ouéléba North Pit Project's potential impacts and their recommended mitigations into the Ouéléba North Pit Project.



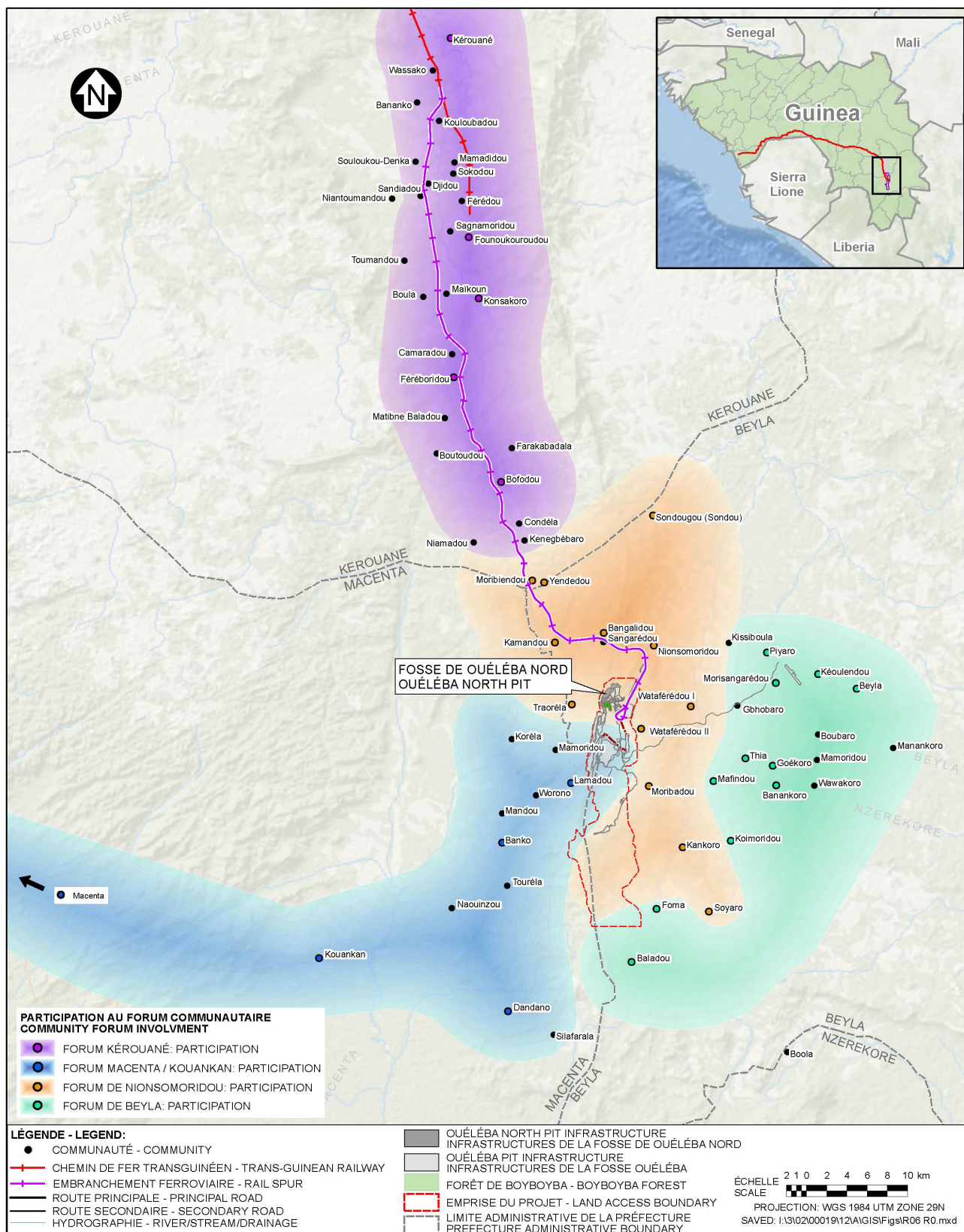
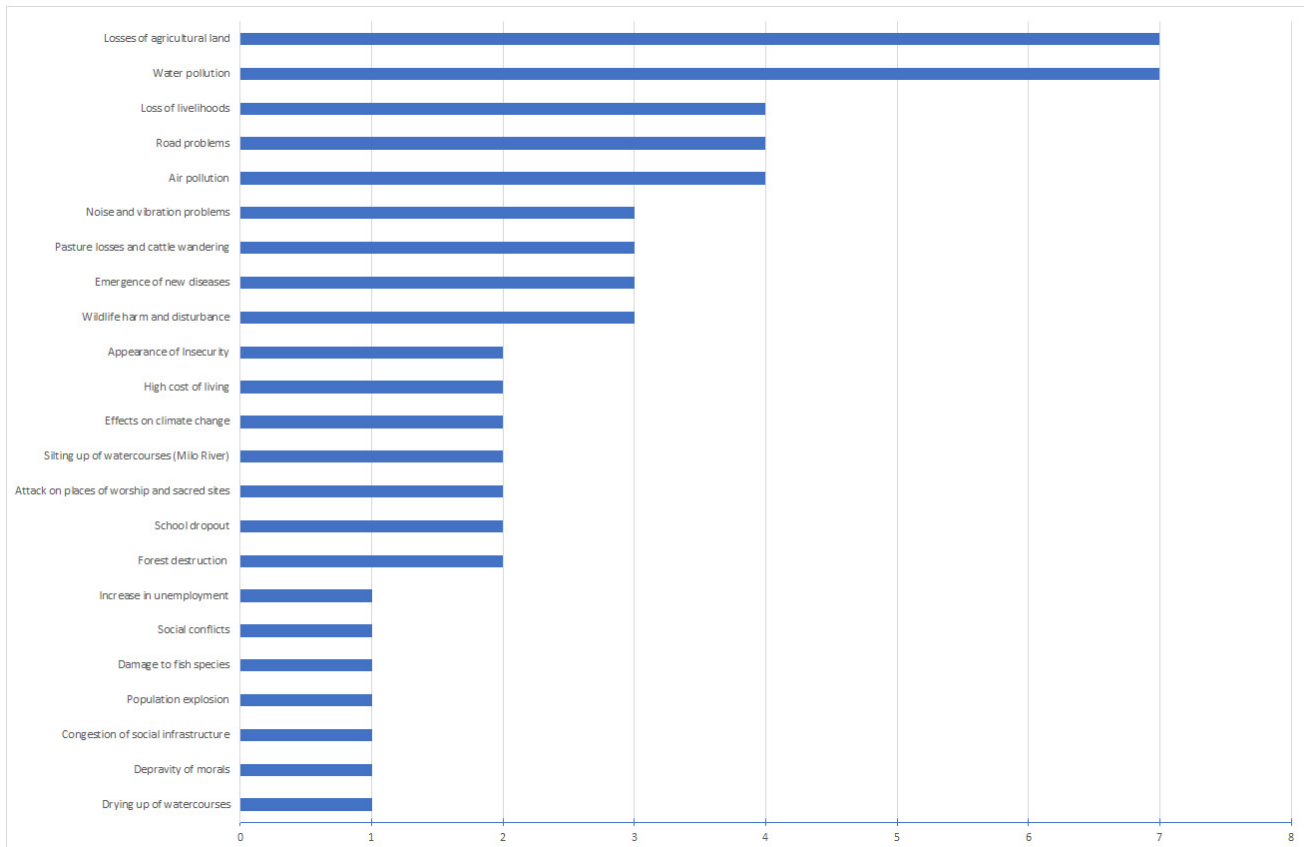


Figure 4 Community Involvement in the 2024 ESIA Community Forums

Figure 5 presents a tally of the potential environmental and social impacts identified by the focus groups in October. The most frequently discussed impact themes amongst the community members were the loss of arable land, water/air pollution, loss of livelihoods, air pollution, and road problems.

The findings from the Community Forums were considered during the process of completing the impact assessment and are discussed in the ESIA Report. Simfer will also participate in AGEE-led stakeholder consultations as part of AGEE's review of the ESIA Report for the Ouéléba North Pit Project.



**Figure 5** Key Issues Raised During the October 2024 Community Forums





## 5 Summary of Environmental and Social Impacts Addressed in the ESIA

### 5.1 Overview

The Ouéléba North Pit Project will be part of one of the largest iron ore mines to be constructed in Africa, with a large physical footprint in an environment characterised by several environmental and social sensitivities. The ESIA addendum addresses the Ouéléba North Pit Project's impacts on the environment and local communities and is divided into separate chapters each addressing a particular topic.

Mining of the Ouéléba North deposit will require minimal new infrastructure. The surface footprint of the future Ouéléba North pit will be only a modest increase compared to the already approved Ouéléba mine. The environmental and social impact of mining Ouéléba North varies across different subject areas. Some subject areas will experience no significant additional effects beyond those assessed in the approved 2024 ESIA. Others can be evaluated independently for Ouéléba North, while a few must be assessed in conjunction with the approved 2024 ESIA.

Based on these differences, the assessment for the Ouéléba North ESIA is divided into three categories:

- 1. Independent Assessments:** Subject areas that can be evaluated solely for the Ouéléba North deposit, without considering the larger Ouéléba deposit. For these areas, new assessments focus only on the impacts of mining Ouéléba North.
- 2. Integrated Assessments:** Subject areas where the combined effects of mining both Ouéléba North and the larger Ouéléba deposit must be considered. These assessments present both direct and combined effects.
- 3. Unchanged Subject Areas:** Subject areas where the predicted effects will remain the same, even with the addition of the Ouéléba North deposit. In these cases, the existing assessment from the 2024 ESIA remains valid, and the chapter will simply explain why no further analysis is needed.

This approach ensures that the assessment remains focused and appropriately considers the interactions between Ouéléba North and the broader mining project.

Table 1 presents the assessment approach for applicable chapters of the ESIA.



Community Forum in Beyla

Table 1 Assessment Approach to ESIA Chapters

Chapter	Description of Update
1 Introduction	The introduction acknowledges completion of the previous ESIA (Simandou Mine and Rail Spur Project) and sets the context for the Ouéléba North Pit Project assessment. The regulatory context and project standards sections remain unchanged
2 Project Description	The focus is on describing the new infrastructure and proposed modifications to existing/approved infrastructure in support of the development of the Ouéléba North deposit. Existing project components that will not be affected by the Ouéléba North Pit Project are not discussed in detail. Operations of the Ouéléba North Deposit and how it integrates with the broader Simandou Mine and Rail Spur Project is discussed in the chapter.
3 Alternatives	Alternatives to the development of the Ouéléba North Pit Project are described and evaluated, including the no-project option and alternative means of mining the Ouéléba North deposit. Solar farm options were also considered.
4 Scoping and Stakeholder Engagement	Consultation efforts and stakeholder concerns specifically related to the Ouéléba North Pit Project are described.
5 Geology, Soils and Mineral Waste	The results of an assessment based on geochemical evaluations of Ouéléba North deposit are described.
6 Water Environment	The assessment focusses on impacts that will result from the development of the Ouéléba North Pit Project, relying on conceptual water management plans and numerical groundwater modelling and predictive water quality modelling completed for the main Ouéléba deposit.
7 Noise, Vibration and Blasting	A new assessment based on the modelling of the combined effects of the Ouéléba North impacts with the approved Ouéléba pit.
8 Air Quality	A new assessment based on the modelling of the combined effects of the Ouéléba North impacts with the approved Ouéléba pit.
9 Climate	An explanation is provided rationalising why the previous assessment (Simandou Mine and Rail Spur Project) of local climate, including results, remains valid.
10 Greenhouse Gases	An updated emissions forecast and assessment for the Simandou mine that includes the Ouéléba North Pit Project is provided.
11 Resource and Non-Mineral Waste	An explanation is provided rationalising why the previous assessment (Simandou Mine and Rail Spur Project) of resources and non-mineral waste, including results, remains valid.
12 Biodiversity	Updated assessment based on supplementary baseline data, considering the combined effects of mining the main and Ouéléba North deposits.
13 Cultural Heritage	A new assessment of the impacts on cultural heritage based on supplementary baseline surveys conducted within the Ouéléba North Pit Project footprint.
14 Landscape and Visual Assessment	Cumulative assessment considering the combined landscape and visual impacts from mining the main and Ouéléba North deposits.
15 Socioeconomics	An explanation is provided rationalising why the previous assessment (Simandou Mine and Rail Spur Project) including results remains valid.



Chapter	Description of Update
16 Land Use and Ownership	An assessment of impacts to land use associated with the expanded land access boundary required to encompass the Ouéléba North Pit Project, incorporating supplementary social surveys.
17 Labour and Working Conditions	An explanation is provided rationalising why the previous assessment (Simandou Mine and Rail Spur Project) of labour and working conditions, including results, remains valid.
18 Project-Induced Migration	An explanation is provided rationalising why the previous assessment (Simandou Mine and Rail Spur Project) of project-induced migration, including results, remains valid.
19 Community Health and Safety	An explanation is provided rationalising why the previous assessment (Simandou Mine and Rail Spur Project) of community health and safety, including results, remains valid.
20 Ecosystem Services	A new assessment focussed on the incremental impacts to ecosystem services from development of the Ouéléba North Pit Project, considering any new information collected in supplementary social surveys.
21 Human Rights	An explanation is provided rationalising why the previous assessment (Simandou Mine and Rail Spur Project) of human rights, including results, remains valid.
22 Mine Closure	A description of the updates to the Mine Closure Plan (Volume 2) that will be required to encompass the closure of the Ouéléba North Pit Project.
23 Cumulative Impacts	An assessment of the incremental and cumulative effects from the Ouéléba North Pit Project and previous and existing developments, including the approved Simandou Mine and Rail Spur Project, as well as reasonably foreseeable developments that may interact spatially and temporally with residual environmental effects from the Ouéléba North Pit Project.





The key topics addressed in the ESIA include:

- **Biodiversity, ecosystem services and natural resources:** including vegetation, mammals, birds, amphibians and reptiles, and aquatic life, water environment, as well as geology and soils.
- **Atmospheric environment:** air quality, noise and vibration, local climate, climate change, and greenhouse gas emissions.
- **Social and cultural environment:** cultural heritage, landscape and visual features, socioeconomics, land use and ownership, working conditions, Project-induced migration, community health and safety, ecosystem services, and human rights.

A summary of these impact assessments follows.

## 5.2 Biodiversity and Natural Resources

### 5.2.1 Managing Biodiversity

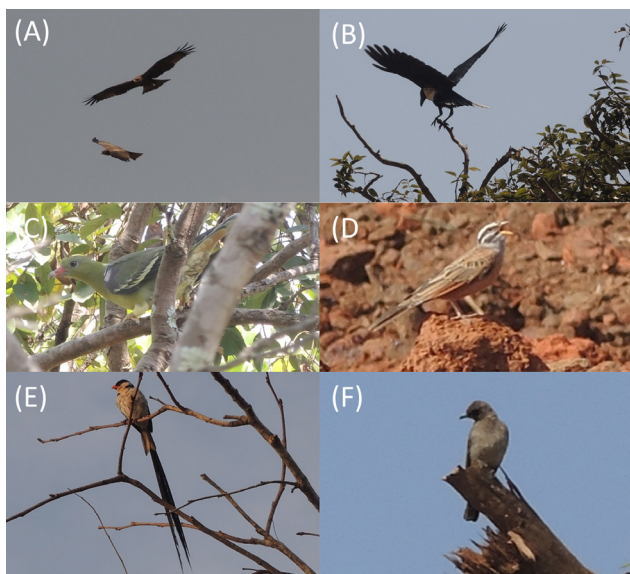
Biodiversity is a key environmental sensitivity requiring active management in the Oueléba North Pit Project. The proposed mining activities will take place within the Pic de Fon Classified Forest, designated in 1953. To ensure sustainable management, the Pic de Fon Classified Forest Management Plan was developed through

collaboration between the Guinean government, local communities, biodiversity organisations, and Simfer. The forest is zoned into:

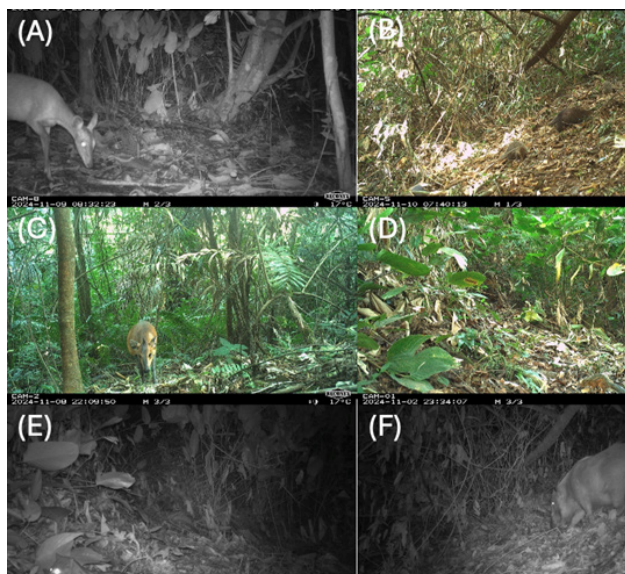
- Mining Zone – designated for mining activities and infrastructure.
- Fully Protected Area – strictly off-limits to human activities.
- Production Area – where local communities can engage in limited, sustainable resource use.

Extensive biodiversity studies, conducted since 2006, have established a strong knowledge base of the Pic de Fon Classified Forest. It is of high conservation value, hosting numerous threatened habitats, including high-altitude ferrallitic bowal grassland, submontane forest, lowland forest and species such as the Critically Endangered Western Chimpanzee (*Pan troglodytes verus*). Under the IFC Performance Standard 6, the entire forest qualifies as Critical Habitat for several species and habitats. The area has also been designated as a Key Biodiversity Area, a Tropical Important Plant Area, and an Important Bird Area.

The Oueléba North Pit Project Biodiversity Study Area consists primarily of woodland and wooded grassland, with smaller patches of submontane forest, submontane grassland, gallery forest, forest/grassland transition zones, secondary forest, and



Pictures of selected bird species observed in the ONSA (A) *Milvus migrans*, (B) *Covus albus*, (C) *Treron calvus*, (D) *Embreiza tahapisi*, (E) *Vidua macroura*, (F) *Pycnonotus barbatus*



Pictures of mammal species caught in camera trap, during the ONSA (A) *Tragelaphus scriptus*, (B) *Crossarchus obscurus*, (C) *Cephalophus rufilatus*, (D) *Funisciurus pyrrhopus*, (E) *Genetta* sp., (F) *Potamochoerus porcus*

fallow land. Fieldwork undertaken in the area in 2024 and previously, highlighted the following:

- The presence of 11 Critical Habitat Qualifying (CHQ) plant species, 7 CHQ aquatic species (fish and crabs), 3 CHQ frog species, the CHQ bird, the Sierra Leone Prinia, and 2 CHQ mammal species.
- The presence of a small area used by the Ouéléba Western Chimpanzee group about 1 km south of the Ouéléba North pit, although the use of the predicted impact zone by the Western Chimpanzee appears very limited.
- The presence of Boyboyba Forest just to the south of the Ouéléba North pit, and HME2. This area is arguably the most important example of submontane forest on the Simandou range, hosting several rare and restricted range plants, some of which were first described from this site. It also has a remarkable diversity of biome-specific bird species and amphibians and crabs of conservation concern.

The additional impacts specific to the Ouéléba North mine that were not assessed as part of the previous ESIA for the Ouéléba and PdF mines (Rio Tinto Simfer, 2024), include direct habitat loss and habitat degradation, resulting from changes to hydrology and water quality, increased noise and vibrations, diminished air quality, and the introduction of invasive species.

The Ouéléba North Pit Project has applied the mitigation hierarchy, and strict biodiversity management measures presented in the various Biodiversity Management Plans are integral to the Project's environmental commitments. This includes project specific mitigation such as environmental flow compensation to support aquatic ecology and ecosystem services, as well as broader initiatives to control bushmeat hunting and the illegal trade.

Despite these measures, there will be some residual impacts on biodiversity. These include the loss of 109 ha of Critical Habitat, and the possible degradation of an additional 95 ha of Critical Habitat. This could result in impacts to CHQ species ranging from negligible to moderate, with very limited additional impacts on the Western Chimpanzee, as impacts to this species were fully addressed the 2024 ESIA. These additional losses have been incorporated into the existing offset strategy and will

be compensated to achieve not net loss for natural habitat and net gain for critical habitat.

Whilst particular effort has been expended to protect the Boyboyba Forest, residual air quality and blast impact impacts to the Boyboyba Forest are assessed as major, and further studies will explore options to further reduce these impacts.

## 5.2.2 Managing Impacts on Water

The Simandou Range forms the headwaters of four major rivers: the Dion and the Mala Rivers to the north (both tributaries of the Niger River); the Diani River to the southwest, which flows into Liberia; and the Loffa River to the southeast, a tributary of the Diani. Information on surface and groundwater flows and water quality has been collected since 2004, and the uses of water resources were surveyed across a wide area focusing on both community and biodiversity receptors.

The Ouéléba North pit is in the Miya River catchment, which flows into the Dion River. Impacts to the catchment are similar to, and overlap with, impacts from the approved project, namely catchment reduction, streamflow reduction due to pit dewatering, and potential for water quality impacts. The Ouéléba North Pit Project will have limited adverse impacts on existing surface water and groundwater supplies within local communities. However, the progressive excavation and dewatering of the mine pit will lead to material changes in the baseflow of adjacent streams. Impacts will also occur due to the removal of catchment due to the pit and diversion of surface water flows where the upper catchment areas of some streams are isolated within the footprint of the mine, or where waste rock storage facilities and flow retention structures are introduced. Such changes to the natural surface water patterns have the potential to affect community water resources, as well as terrestrial and freshwater ecosystems present along the flanks of the mountain. Measures have been identified to mitigate these impacts during mine operations, but there will be a residual impact at closure due to the pit.

Simfer has developed a Mine Water Management System that will also be applied to the Ouéléba North mining operation. The Mine Water Management System will provide an integrated approach to distributing dewatering flows and ensuring that

discharges from the site meet established water quality criteria. Dewatering flows will be directed to protect sensitive catchments and provide water supplies to the operation. The aim will be to define flow compensation requirements to maintain adequate flows in streams used by the community or important for biodiversity before meeting operational requirements. Protection of water quality will be achieved by implementing appropriate sediment controls, collecting and treating any acid drainage that may occur, treating process effluents, and ensuring that emergency procedures are in place to manage leaks or spills of polluting substances.

Simfer will continue to work with and support the local authorities in planning community water supplies as part of its Project-Induced Migration Management Plan.

### 5.2.3 Acid and Metalliferous Drainage

A common risk in mining is acid and metalliferous drainage (AMD). AMD is caused when rock containing sulphides is exposed or otherwise disturbed (for example, crushed) and becomes exposed to oxygen and water. This can lead to the formation of acidic conditions and the mobilisation of metals contained in the rock affecting water and soil quality. This is a potential concern during construction of the mine and rail spur when quarrying rock and excavating soils as well as when mineral waste is produced and stockpiled during mining.

Simfer has undertaken geochemical testing to develop an understanding of AMD potential from the mineral waste that will be produced during mining, and it has been established that the main risk will come from a small proportion (approximately 1-3%) of waste rock.

To manage this risk associated with the Ouéléba North Pit Project, Simfer will implement its AMD Management Strategy developed for the Simandou Project. Studies are ongoing and a Mineral Waste Management Plan will be developed consistent with the Strategy that specifically focuses on AMD Management. This includes the identification of all potentially acid-forming and/or metal leaching material, safe containment of this material within the waste rock storage facility, and the collection and treatment of any polluted water leached from affected areas.

### 5.2.4 Erosion and Protection of Soils

Erosion is an issue commonly associated with mining and infrastructure projects. During rainfall events, disturbed soil and mineral waste material can be eroded by surface water run-off. This leads to loss of soil resources and high sediment levels in local streams, with effects on aquatic life and downstream users. Measures will be taken to limit erosion by designing waste rock storage facility 1 to avoid exposing highly erodible material to run-off. In addition, Simfer will construct sediment ponds downstream of areas at risk of erosion, limit the slope of exposed rock faces, and stabilise slopes on haul road embankments and other earthworks to minimise the speed of water run-off. Exposed surfaces will be rehabilitated as soon as possible after work is completed.

Development of the Ouéléba North pit will also lead to sterilisation of soil resources beneath the works. To minimise impacts, viable topsoil will be removed before construction starts and stored for use in site rehabilitation. Soils will also be protected against contamination using best practice in the storage, transportation and distribution of fuel and any other potentially polluting substances.

Residual impacts on soil resources were of minor significance for contamination of soil from acid mine drainage, and of negligible to minor significance for erosion of soils, and sterilisation of soil resources.

## 5.3 Atmospheric Environment

### 5.3.1 Noise and Vibration

Major construction projects and mining can be sources of significant noise pollution. Existing noise levels in the area are low and typical of rural villages (people, animals, insects, traffic, music, etc.). In these circumstances, new and elevated sources of noise can cause disturbance for people and animals.

During construction, noise will be emitted from mobile earthmoving equipment, drilling and blasting, piling, general building works, and construction traffic at the Ouéléba North pit and waste rock storage facility 1. Construction activity will predominantly occur during daylight hours, but nighttime construction may be required during certain periods of the construction schedule.



During mine operations, noise will be generated by drilling and blasting the ore; operating large excavators, haul trucks, crushing; placing waste rock in stockpiles; and reclaiming ore from the stockyard and loading it onto trains. Mining operations will be 24-hours, seven days a week but blasting will generally be undertaken during daylight hours.

Modelling has been used to predict the effect of the Oueléba North Pit Project on the noise levels in villages surrounding the mine and these have been compared with thresholds derived for daytime and nighttime noise levels defined by the Republic of Guinea, the International Finance Corporation, and the World Health Organisation (WHO).

Two types of noise impacts were considered:

- Intrusive noise impacts are measured relative to daytime and nighttime thresholds.
- Amenity noise impacts consider the increases in noise emissions at receptor locations relative to baseline noise levels.

Intrusive noise impacts will be negligible at all nearby villages. All modelled noise impacts at the nearest villages are amenity related as they represent an increase over an assumed baseline noise level.

Minor amenity noise impacts are predicted in Wataférédou II and Nionsomoridou in 2026 when mining is only underway at the Oueléba North pit. Once both mining operations are active in 2029, amenity noise impacts are predicted at Mamoridou (minor significance), Traoréla (moderate significance), and Wataférédou II (major significance). Simfer will apply a phased approach to managing noise in consultation with the community of Wataférédou II. This will involve noise monitoring to validate predicted noise levels, consulting the community on how the increased noise levels are being felt, and adaptively managing the noise impacts.

Noise has the potential to also affect animals. At the Boyboyba Forest, noise levels will be dominated by mining, haulage, and ore crushing activities associated with the Oueléba and Oueléba North pits. Most of the time, background noise levels (due to mosquitos) will be most evident. Project-related noises will be evident only when background noise levels in the Boyboyba Forest are below 40 dBA, which does not occur on a regular basis.

The effects of blasting was evaluated and major impacts on human receptors were unlikely to occur given the distance from villages. Although evidence suggests that species such as Chimpanzees can become acclimatised, consideration must be given to the effects on nearby habitats. The introduction of blasting to the Oueléba North area will be gradual with smaller blasts early on, allowing animals to become accustomed to the disturbance. Blasting methods will be carefully designed (size of charge, drilling and detonation pattern, stemming of blast holes) to minimise noise and vibration and will follow a fixed schedule which will be communicated in the local area.

### 5.3.2 Air Quality

Monitoring data has been collected over recent years around the mine. Results show that air quality is generally good with occasional elevated levels of pollution mostly caused by natural sources. These include dust-laden Harmattan wind during the dry season, bushfire, or local activities, such as cooking, using fire to clear land, and emissions from old and poorly maintained vehicles.

Emissions associated with the Oueléba North Pit Project will include dust from traffic moving on unsealed roads, earthworks, ore handling, crushers and stockpiles, and gaseous emissions from the combustion of fossil fuels in vehicles and from electricity generation.

A computer model has been used to predict the effect of the Oueléba North Pit Project on air quality in two scenarios including the years 2026 and 2029. The 2026 scenario covers the temporary ore handling period, while the train load out infrastructure is being constructed, while the 2029 scenario is representative of a typical operation year. The predicted levels were compared to WHO air quality standards. Air quality impacts evaluated under the 2026 scenario are anticipated to be negligible at all the assessed human receptors. Project contributions are expected to be below 10% of the applicable ambient air quality standards. Deposition levels are expected to be below 350 mg/m<sup>2</sup>/day which is the lower threshold for nuisance and damage to plants from dust.

Air quality impacts evaluated under the 2029 scenario are anticipated to be negligible to minor

for most the human receptors. Deposition levels are expected to be below 350 mg/m<sup>2</sup>/day. For 10 of the assessed human receptors, Project contributions of particulate matter are expected to result in minor impact significance, and for Wataférédou II Project contributions of particulate matter (PM) are expected to result in moderate impact significance for PM<sub>10</sub> (Project PM<sub>10</sub> emissions will be 50-100% of the air quality standard). In terms of NO<sub>2</sub> contributions, minor impacts are anticipated at five receptors where Project contributions are expected to exceed the 10% threshold of the WHO annual NO<sub>2</sub> standard (10 µg/m<sup>3</sup>). Deposition levels are expected to be below 350 mg/m<sup>2</sup>/day.

The Boyboyba Forest will experience major significant impacts due to increased particulate matter associated with material handling and increased gases associated with the operation of equipment with internal combustion engines. The Boyboyba Forest is surrounded by various emission sources including the Ouéléba North pit, Ouéléba North access road and the early ore stockpile area to the northeast, and the Ouéléba pit to the south.

Based on the predicted air quality for the 2029 operations scenario at the representative receptors / nodes in the Boyboyba Forest, the forest and wildlife inhabitants will experience major significant impacts for increased particulate matter, and major significant impacts for increased gases (NO<sub>2</sub>). The main source of air contaminant emissions impacting the Boyboyba Forest originates from the material transport that will take place along the HME2 route, as well as the operations associated with the increased operations at Ouéléba North pit, Ouéléba North access road and the early ore stockpile area to the northeast.

Control measures have been built into the design and operation of the mine, including the use of water



Boyboyba Forest

sprays or other means of managing dust on roads in dry weather, variable height stackers to limit dust, and, most importantly, maintenance of ore moisture levels above a threshold at which dust generation is suppressed.

An adaptive management approach will be utilised to minimise the potential impacts the Project has on air quality. This includes monitoring at representative community receptors and in the Boyboyba Forest and learning from experience and adapting Project plans and mitigation measures accordingly.

### 5.3.3 Greenhouse Gas Emissions

Greenhouse gas (GHG) emissions are of concern because of their contribution to global climate change. It is good practice for any major project that results in significant quantities of GHG emissions to calculate these and identify mitigation measures to minimise the potential contribution to climate change.

The development of Ouéléba North will contribute additional GHG emissions over the operation phase of the Simandou Project. The increase represents additional average annual emissions of approximately 38,500 tCO<sub>2</sub>e, which leads to annual average emissions of 1,388,490 tCO<sub>2</sub>e, increasing the Simandou Project's contributions to Guinea's forecasted unconditional annual emissions for 2030 (excluding land use, land use change, and forestry [LULUCF]) from 6.4% to 6.6%. The impact remains of moderate significance on Guinea's GHG emissions. Such an increase is unlikely to prevent Guinea from achieving its stated goal.

Measures for limiting GHG emissions have been built into the design of the Project, focusing on actions to reduce fuel use and improve energy efficiency. Rio Tinto operates a strict GHG policy for all its operations and this will be applied at Simandou Project. This will include the preparation and regular updating of a GHG and Energy Efficiency Action Plan focused on setting and meeting targets for improvements in emissions. GHG emissions will be monitored and reported throughout the Project lifetime, and opportunities for reduction will be considered wherever possible.

## 5.4 Cultural, Economic and Social Conditions

### 5.4.1 Identifying and Protecting Cultural Heritage

The history and the archaeology of Guinea has not been widely studied and is therefore poorly understood. However, it is apparent from the information that is available that Guinea has a long history of human occupation dating to the Early Stone Age (200,000 – 10,000 BC). The Simandou area, located in the iron rich southeast of Guinea, provided an important resource for early Iron Age populations (500 BC – AD 1,000) and there is archaeological evidence that iron smelting technology originated in West Africa. In addition to this archaeological heritage, modern Guinea has a strong tradition of living cultural heritage founded in the important role sacred sites play in community life. Trees, rocks and water are often identified as sites of spiritual significance and can be important as sacrifice sites and in rites of passage. As well as such physical sites, intangible traditions and cultural knowledge are also important cultural assets.

The area occupied by the Ouéléba North pit and expanded land access boundary does not include any newly identified cultural or archaeological sites. Some scattered ceramic shards were located in the buffer zone north of the Ouéléba North pit in a poor state of preservation.

Two cultural heritage sites belonging to the village of Traoréla, which were identified in the 2024 ESIA, are located near the Ouéléba North pit and are recommended for relocation following consultation with the community of Traoréla and the sites' officials.

It is possible that more archaeological and living cultural heritage sites will be encountered in other areas of the mine and its infrastructure as works progress.

To protect cultural heritage, Simfer has developed a Cultural Heritage Management Plan which describes the processes, procedures, and resources that will be used by Simfer to manage all cultural heritage found around the mine, including the provision for further studies to identify and evaluate sites prior to construction.



Scattered Ceramic Shards

Where sites are identified, they will be avoided wherever possible. If they cannot be avoided, Simfer will investigate archaeological sites and use rescue archaeology to preserve the remains. For all cultural heritage sites, Simfer will consult communities regarding appropriate means for relocation, if possible, or compensation when relocation is not possible.

During construction of the Ouéléba North Pit Project, a "Chance Finds" procedure will be implemented to identify, protect, or rescue finds encountered on the ground. There will also be ongoing stakeholder engagement to identify and conserve cultural heritage assets. High importance will be placed on securing consent from Guinean authorities and from affected communities on the disturbance, or relocation, of cultural heritage sites.

The Cultural Heritage Management Plan includes actions directed at protecting important aspects of the intangible cultural heritage of local people by supporting local cultural events and ensuring Simfer understands and respects traditions that are important for local life.

Simfer has adopted a Code of Conduct which will include provisions directed at preventing interactions with the local community by Project personnel which could interfere with or endanger local traditions.

### 5.4.2 Changing the Local Landscape

Landscape and visual impacts may occur when new elements are introduced into a landscape or existing elements are altered or removed leading to a change in the way stakeholders access, perceive, or experience landscape resources.



Ouéléba

The Ouéléba North deposit is not a dominant landscape feature based on its lower maximum elevation of 960 m compared to Ouéléba with a maximum elevation of 1,332 m. The elevation of the Ouéléba North ridge will be reduced vertically by approximately 110 m following mining activities. The additional landscape impacts of the Ouéléba North Pit are minor and do not change the previously assessed major significant impact to the landscape from the 2024 ESIA.

The Ouéléba North pit area is partially visible from Wataférédou I, Wataférédou II, Nionsomoridou, and Traoréla, based on viewshed analysis. The expected changes to the Ouéléba North pit area will be most noticeable from Wataférédou I and Traoréla. Only a small portion of the Ouéléba North pit area is visible from Wataférédou II and Nionsomoridou.

Landscape and visual changes are common in open-pit mining. Simfer has committed to measures that will help to mitigate visual impacts, including progressively revegetating disturbed areas wherever possible.

### 5.4.3 Contributing to the National and Local Economy

Ouéléba North will have minor additional contributions to the national and local economy, in addition to the already considerable contributions of the overall Simandou Project. Up to an additional 100 positions may be created to support the Ouéléba North Pit Project, which accounts for approximately 5% of the peak workforce. Most of these positions will be equipment operators, with a small number of additional support staff. The contribution of the

Simandou Project to the national and local economy will foster:

- Economic development
- Indirect and induced employment
- Local procurement opportunities
- Community development with programmes covering:
  - » Education
  - » Professional training
  - » Public infrastructure
  - » Health

### 5.4.4 Community Life, Social Structures and Infrastructure

The Ouéléba North Pit Project and is not expected to introduce any new factors that could impact community life and social structures. Given the limited external visibility of the Ouéléba North Pit Project within the context of the Simandou Mine, it is anticipated that the additional social impacts will remain minimal and align with the impact assessment predictions outlined in the 2024 ESIA. The Ouéléba North Pit Project is not expected to effect local infrastructure and services, given its smaller scale.

Simfer's social monitoring programs have noted that, in some cases, compensation provided through the PARC to potentially affected individuals have led to community division, affecting social cohesion. As the Simandou Project progresses, including development at Ouéléba North, Simfer will continue to monitor various socioeconomic impacts and will implement or adjust mitigation measures as necessary, as detailed in the Environmental and Social Management Plan commitments register, to address any issues.

### 5.4.5 Impacts on Land Use and Access

The development of the Ouéléba North Pit Project will require an additional land take of approximately 245 ha, which will no longer be accessible to local people. The land is located within the Pic de Fon Classified Forest where many activities (grazing, collecting fuelwood, commercial logging, fishing and use of fire) are prohibited.

Simfer conducted a detailed survey within the



additional land take which indicated that the area under cultivation was 1.93 ha, with 6.48 ha of plantation. This included eight plots including two fields and six plantations. A significant number of fruit trees (5,517) were identified within the six plantation plots. All agricultural plots were located within the Classified Forest. Eight persons will be economically displaced because of the expansion on the land access boundary.

Nearly all the land and all the economic displacement that will occur from the Project is within State owned lands of the Classified Forest. Thus, there will be no changes to land ownership or tenure, and no physical resettlement will be required. While the Project benefits from operating on State-owned land and avoiding physical resettlement, it will carefully manage the economic displacement and environmental impacts to ensure sustainable and socially responsible development.

The principles of the Mine PARC, originally approved for the 2024 ESIA, will be applied to address the impacts resulting from the additional land take.

#### 5.4.6 Project-induced Migration and its Effects

The 2024 ESIA concluded that a substantial level of project-induced migration will occur in the area and is likely to concentrate in the larger settlements of Beyla, Nionsomoridou and Moribadou, but may extend out into smaller settlements and the surrounding countryside.

The primary effects of uncontrolled in-migration will be the rapid increase in population and resulting expansion of towns and villages. If not adequately managed, this may result in various indirect adverse impacts, notably in relation to water resources and pollution, loss of biodiversity and cultural heritage, conflicts over land and resources, and changes in social structures and community life and health.

The Ouéléba North Pit Project is not a publicly visible project, in that it forms a part of the overall Simandou Project, rather than a stand-alone development. Thus, development of the Ouéléba North Pit Project is not expected to induce additional in-migration, and the impact is predicted to be negligible.

Mitigation of the effects of project-induced migration

has been underway for several years and has consisted of three main components:

- **Prevention/Reduction** – Simfer conducted sensitisation campaigns in the originating locations to explain the alternative ways of applying to job opportunities (online application) without having to travel to the site. This has changed the perception of job seekers that it is necessary to move to the Project area to obtain employment.
- **Monitoring** – Project-induced migration committees were established involving key people in the host communities trained on monitoring in-migration and preventing conflict between migrants and the host communities. The committees also help register and track all the arriving migrants in the Project-induced migration hotspots.
- **Mitigation of Project-induced Migration Impacts** - Simfer has been assisting host communities to upgrade social infrastructure in the Project-induced migration hotspots.

The Project-Induced Migration Management Plan determined in-migration growth ideally should be restricted to less than 10% for the construction phase. At present, the average in-migration growth rate is 5%, suggesting that mitigation measures identified in the Project-Induced Migration Management Plan are effectively being implemented and operationalised.

In-migration will continue to be monitored, and the plan updated as necessary throughout the life of the Simandou Project.

#### 5.4.7 Community Health and Safety

Guinea, as a low-income country, with multiple political, socioeconomic and health challenges, ranks low on the global human development index. Life expectancy, access to basic services, education and standards of living are low, all of which are important social determinants that influence national health outcomes. Despite progress made in the past decades, health outcomes in Guinea remain poor compared to similar countries in sub-Saharan Africa and the targeted objectives of the 2030 Sustainable Development Goals.

The development of the Ouéléba North Pit Project

will not raise any additional impacts related to community health and safety, nor is it predicted to change the impact assessment conclusions from the 2024 ESIA. This is because the Ouéléba North pit is a small component of the overall Simandou Project and is not expected to exert additional pressures or adverse impacts on community health and safety.

Simfer has developed a Community Health and Safety Management Plan to manage and monitor against impacts on community health and safety resulting from the development of the Simandou Project. The follow-up measures described in the 2024 ESIA will be carried out for the Ouéléba North Pit Project. These follow-up measures include core plans and programmes summarised as key mitigation measures divided into a workplace focus and a community focus.

#### 5.4.8 Ecosystem Services

The Ouéléba North Pit Project involves a slight increase in overall impacts compared to the 2024 ESIA. The key change is the loss of an additional 109 ha of natural habitat, 1.93 ha of cultivated land and 6.48 ha of plantations, potential impacts to two living cultural heritage sites, and alteration to local catchments. After mitigation, these impacts are assessed as negligible in the context of ecosystem services pertaining to the development of the Ouéléba North pit. The ecosystem services monitoring process for the Ouéléba North Pit Project is identical to and integrated with that of the 2024 ESIA.

#### 5.4.9 Labour and Working Conditions

The 2024 ESIA identified several commitments and measures to protect direct employees and contractors and ensure safe and equitable working practices are implemented for the Simandou Project. Implementation of these commitments is ongoing and will apply to the additional mining operation at Ouéléba North. This includes:

- Compliance with Guinean legislation and international labour standards
- Clear and equitable human resource policies
- Providing appropriate wages
- Respecting workers rights to organise and be represented
- Enforcing non-discrimination and equal

opportunities

- Protecting migrant workings
- Grievance mechanisms
- High standards of health and safety

Through local supplier support programmes implemented within the Simfer's Social Management Framework, Simfer will also seek to support the adoption of improved labour practices by Guinean companies involved in the Simandou Project.

#### 5.4.10 Respecting Human Rights

Simfer is fully committed to respecting human rights in accordance with the UN Guiding Principles on Business and Human Rights and the other international standards, internal policies and national laws that support human rights. As part of this commitment, Simfer has implemented an ongoing process of human rights due diligence that includes periodic assessment of human rights risks and impacts and ongoing mitigation, tracking and communications.

The potential impacts of human rights on the Ouéléba North Pit Project are not considered materially different from those of the Simandou Project. The Ouéléba North Pit Project does not introduce any new salient human rights issues, and no changes to the human rights guidance or mitigation measures in the Human Rights Management Plan and other management plans are proposed for the Ouéléba North Pit Project. For each of the overarching salient human rights issues identified below, there are a series of mitigation measures that will be incorporated into the relevant mitigation and management plans as well as the overarching Human Rights Management Plan as part of Simfer's due diligence. The successful implementation of the mitigation measures and Human Rights Management Plan is expected to improve adverse impacts on human rights from the Simandou Project.

The salient human rights issues described in the Human Rights assessment include:

- Information and consultation
- Grievance mechanisms
- Community health, safety and wellbeing as

related to:

- » Environmental impacts
- » Influx (Project-induced migration)
- » Worker interactions with communities
- Security
- Land access and use, including land acquisition and resettlement
- Labour rights for employees
- Workplace health and safety
- Inclusion and diversity
- Labour rights for contractors and supply chain
- Right to work
- Social investment

Simfer has established a cross-functional Human Rights Collaboration Committee that oversees the implementation of the various commitments and mitigation measures for the Project's salient human rights issues. In this regard, the Human Rights Collaboration Committee will develop and implement a Human Rights Action Plan that will be updated periodically and will include tailored Key Performance Indicators for each salient issue

#### 5.4.11 Establishing a Social Management Framework

Simfer has also developed a Social Management Framework to provide a structure for the detailed design and implementation of measures to mitigate the adverse impacts of the Simandou Project and maximise its benefits. A range of more detailed Social Management Plans will be developed as part of this framework.

The detailed design and implementation of these plans will be influenced by several factors, as outlined below:

- **Prioritisation:** Simfer will prioritise mitigation measures that address negative impacts and risks. Implementation timeframes will consider the Ouéléba North Pit Project schedule and prioritise measures responding to immediate needs, which may then be enhanced and expanded in subsequent years to foster broader and lasting benefits. Simfer will also consider appropriate target populations for mitigation, prioritising those affected directly, by Project activities, indirectly, by in-migration pressures, as well as vulnerable groups.

- **Alignment:** Where possible, Simfer will align its mitigation with the development policies and plans of local communities and government authorities and with objectives identified in relevant development forums.
- **Stakeholder Engagement:** Simfer will endeavour actively to engage with a variety of stakeholders to consult, exchange information, and work in partnership on detailed design and implementation of mitigation measures. Consultation with Project-affected communities will be a critical priority. Any concerns regarding mitigation measures or Project activities will be managed through The Grievance Procedure, and the outcomes arising from grievance resolution will inform the evolution of mitigation. In addition, Simfer will seek to support capacity building within government and civil society organisations to enhance their capabilities over time to participate in mitigation design, implementation, and monitoring. Simfer's Stakeholder Engagement Plan describes the processes by which these engagements and partnerships will be managed, and their efficacy will be monitored, and the plan adapted as needed to support the achievement of Project goals.

## 5.5 Cumulative Impacts

Cumulative impacts are those that result from the incremental impact of a project when added to other existing, planned, and/or reasonably foreseeable future projects and developments. Key other projects in the Ouéléba North Pit Project area include the WCS Simandou Mine and the Trans-Guinean Railway. For most aspects, other projects are located sufficiently distant from the Ouéléba North Pit Project to not act cumulatively on the same receptors. However, the Ouéléba North Pit Project will contribute to Guinea's greenhouse gas emissions and to global climate change. Additionally, several other projects (WCS's mine, the Nimba mining project, and a proposed wind farm at Mont Béro) located in the Guinée Forestière region will collectively impact on classified forests, other forest lands and submontane grasslands, and on the fauna and flora they support.

## 6 Planning for Mine Closure

The Conceptual Mine Closure Plan includes closure provisions for temporary planned and unplanned closure as well as final closure once the deposit is exhausted.

Temporary closure occurs when a mine ends operations with the intent to resume mining activities in future. Temporary closure can last for a period of weeks or for several years, based on economical, environmental and social factors. The goal or objective of temporary closure measures is to ensure the ongoing protection of people, the environment, the asset, and regulatory compliance until the mining operations can resume. Measures necessary for this will depend on the duration and extent of site activities/presence during the mine closure.

On completion of mining, the pit will be closed, and the ore handling and processing facilities will be decommissioned. This will entail the dismantling, demolition and removal of equipment and buildings; reshaping and re-contouring of land surfaces; and the rehabilitation of occupied areas. As much as possible, the land occupied by the mine and its infrastructure will be returned to its former land use. The mine pit, waste rock storage facility 1 and other works will be made safe for the community including the placement of barriers to discourage people from entering the old pit. A public education programme on safety issues associated with the open pit faces and pit lake which will form at the bottom of the excavated areas will be conducted. A passive water management system will be implemented to ensure

adequate protection for surrounding water resources in the absence of ongoing, active management by Simfer.

The closure phase will also require the management of social issues including retrenchment of the workforce and the loss of local employment and business.

To mitigate the risks associated with mine closure, Simfer developed a conceptual Mine Closure Plan presented in the 2024 ESIA, which has been updated to incorporate the Oueléba North mining operation. The Plan will be refined through an iterative process, in consultation with relevant authorities, the workforce, and local communities, and it will aim to leave a rehabilitated mine site behind that is stable and non-contaminating, with a passive water management system in place. It will also aim to empower local communities to be self-reliant in creating livelihoods and providing and maintaining community services. The Plan has been developed conceptually prior to the start of operations and will be reviewed and updated at least every 5 years during operations. A detailed Mine Closure Plan will be completed and agreed with relevant stakeholders at least 5 years prior to the cessation of operations. The implementation and success of the Plan will be monitored until the site achieves an environmentally and socially acceptable, sustainable state.



## 7 Translating the ESIA into Environmental and Social Management

Through the ESIA, Simfer has identified and committed itself to a number of environmental and social measures designed to mitigate adverse impacts and ensure benefits are maximised. These are compiled in the Environmental and Social Management Plan (ESMP) presented in Volume 2 of the Ouéléba North Pit Project ESIA. Specifically, the ESMP for the approved Simandou Mine and Rail Spur Project has been updated to reflect mitigation measures and ESMP implementation costs for the Ouéléba North Pit Project. The ESMP presents how Simfer and its contractors will implement the key aspects of Rio Tinto's Management System Standard and Communities and Social Performance Standard and identifies the relevant environmental standards. It also describes how environmental and social performance will be delivered through the Simandou Project Environment and Social Management System (ESMS), including the development of detailed environmental and social programmes, plans and procedures on key issues, and monitoring and audit plans.

The ESMP commitments register is presented as an annex of the ESMP. These are the commitments to implement environmental and social mitigation measures and monitoring programmes identified in the ESIA. Each commitment is set out with a clear statement of what will be done to mitigate adverse impacts and provide benefits, the phases of the Project to which it will apply (construction, operation, and closure), and the components to which it will apply (mine, rail spur, or both). Simfer's Stakeholder Capacity-Building Programme, and the estimated cost to implement environmental and social

management, are also presented as annexes to the ESMP.

Accompanying the ESMP in Volume 2 are discipline-specific management plans covering the following subjects:

- Monitoring
- Acid and metalliferous drainage
- Air quality, noise, vibration, and overpressure
- Land disturbance and rehabilitation
- Greenhouse gas emissions and energy management
- Non-mineral waste management
- Environmental emergency response
- Water management
- Mine closure
- Biodiversity management including offsetting
- Stakeholder engagement
- Grievance mechanisms
- Cultural heritage
- Community health and safety
- Traffic
- Human rights
- Compensation and Resettlement

## 8 Next Steps

As the ESIA has been completed, the results of the assessment will be submitted to the regulator (AGEE) for review. Once the ESIA is approved by the Minister responsible for the Ministry of Environment and Sustainable Development, the ESIA will be disclosed to stakeholders. This section outlines the activities planned for the next stage, involving the regulatory submission and post-approval disclosure of this report and consultation on its findings with stakeholders. The processes for responding to feedback from stakeholders and for managing any potential grievances are also described.

### 8.1 ESIA Disclosure and Consultation

A programme of disclosure and stakeholder engagement is planned to run following the approval of the ESIA by the Minister responsible for the Ministry of Environment and Sustainable Development. This will be run as part of normal Project stakeholder engagement. The aim of this programme is to provide directly affected communities and other project stakeholders with an opportunity to understand and comment on the results of the impact assessment and the proposed mitigation measures. The stakeholder engagement methods outlined in Section 4.3 and the Stakeholder Engagement Plan (Volume 2) will be implemented and will also include the following activities:

- The ESIA Report and accompanying leaflets and summary material will be published on the Simandou website at <https://riotintoguinee.com/> (French) and <https://riotintoguinee.com/en/> (English) and will be available to download at no cost.
- Hard copies of the report will be available for inspection at the following locations in Guinea and internationally:

Simfer S.A.  
Immeuble Cocotier  
Coleah route Niger,  
Commune de Matam  
Conakry, République  
de Guinée

Rio Tinto Iron Ore  
Atlantic  
6 St James's Square  
London SW1Y 4LD  
Royaume-Uni

- The Project camp at Canga and with Community Liaison officers in the local communities.
- Non-technical Summaries of the ESIA (summary of impacts and mitigations, including management plans) will be disseminated to affected communities in their local language by Community Liaison Officers.
- Publication of the report will be announced in newspaper advertisements and through press and media announcements in Conakry and across the prefectures affected by the Ouéléba North Pit Project.
- Sharing through the CPSES (Prefectural Environmental and Social Monitoring Committee).
- The ESIA Team will directly contact government departments and non-governmental organisations inviting their comment on the Ouéléba North Pit Project and its impacts.
- As part of the ESIA review by AGE, workshops will be held in affected communities. Simfer will comply with stakeholder requirements as per Article 51 of Order 1595.

In addition to these activities, a programme of mobile exhibition visits led by the Simandou Communities Department and field studies associated with planning for land acquisition, resettlement and compensation will be undertaken, visiting settlements throughout the Ouéléba North Pit Project area. These visits will provide the opportunity for communities affected by the Ouéléba North Pit Project to be consulted on the ESIA findings and allow local people to comment on the Ouéléba North Pit Project and its impacts prior to final decisions on design and construction. Meetings will be held

in all villages directly affected by the Ouéléba North Pit Project. Local leaders, affected households and businesses, and special actors within the community including women and other potentially vulnerable groups will be invited and encouraged to attend.

## 8.2 Managing Stakeholder Feedback

Throughout the period of consultation, a formal comment and feedback system will operate. Comments and questions can be submitted to the Simfer Project Team by various routes:

- By email to [simandou.eies@riotinto.com](mailto:simandou.eies@riotinto.com)
- By writing to:

---

### Simfer

ESIA Department  
Immeuble Cocotier  
Coleah route Niger, Commune de Matam  
Conakry, République de Guinée

---

- Or to:

---

### Ouéléba North Pit Project ESIA

AMERI sarl  
Immeuble Ecobank 1er étage  
Commune de Ramoma, Hamdalaye  
Conakry, République de Guinée

---

### Knight Piésold Ltd.

#200-1164 Devonshire Ave  
North Bay, ON P1B 6X7  
Canada

---

- By raising a point or asking a question at a stakeholder event
- By leaving a written comment at a stakeholder event
- By raising an issue with the land acquisition planning team during village level consultations

Comments may be submitted by any means (in person, in writing, by email) including on pre-printed feedback forms which will be made widely available. A copy of the feedback form is available on the website.

All comments made by stakeholders, whether in person, by mail or email, will be recorded in Simfer's Stakeholder Register, and will be considered by Simfer, finalising the methods for construction and operation, and updating and implementing the Environmental and Social Management Plan. Where questions are raised that require an individual response, this will be provided to the extent possible through the Community Liaison officers of Community and Social Performance team. If any parties raise a grievance or complaint, these will be managed through the Simandou Grievance Procedure (Volume 2).



# SimFer

RioTinto



**Simfer S.A.**

ESIA Department

Immeuble Cocotier

Coleah route Niger, Commune de Matam

Conakry, République de Guinée

[simandou.eies@riotinto.com](mailto:simandou.eies@riotinto.com)