13 Cultural Heritage

13.1 Introduction

13.1.1 Scope of the Assessment

This chapter assesses the impact of the Simandou Mine on cultural heritage, including both tangible and intangible features. Tangible features include archaeological sites, historic sites and monuments, traditional sacred sites and other places of importance. Intangible cultural heritage includes traditional beliefs and practices such as religious rites of passage, ritual, crafts and other cultural traditions. These intangible aspects are an integral part of Guinea’s contemporary way of life and are also likely to influence its responses and attitudes towards the Simandou Project. This assessment considers the following types of impacts:

- disturbance or damage to cultural heritage sites causing loss of cultural value or historical and scientific information about Guinea’s past and potential damage to local and national cultural identity;
- disruption of access to currently used cultural heritage sites;
- changes to the setting of cultural heritage sites which could inhibit spiritual or traditional practices and cause potential damage to local and national cultural identity and values;
- threats to cultural knowledge and activities causing potential loss of cultural identity and cohesion; and
- infringement of cultural norms, causing offence to local communities and possible exacerbation of social impacts and negative sentiment towards the Project.

The Project recognises the diversity of stakeholder groups within the Project area, and their right to maintain or redefine their identity. These groups include women’s groups, men’s groups, traditional authority figures, and religious and ethnic groups. Cultural heritage forms the basis upon which the shared history, identity and culture of these different groups is built. By preserving cultural heritage, the Project aims to protect the foundations of ethnicity, religion, and culture within the Project area.

The assessment includes a consideration of physical impacts on cultural heritage and also addresses potential social implications of these impacts. Voluntary social or cultural change chosen by Guineans that may result from the Simandou Project is not considered an impact in this assessment. The cultural heritage assessment cannot recommend mitigation for all cultural change as such change may naturally occur when a traditional society is subject to development. The assessment will only address the involuntary loss of traditional cultural knowledge and practices that is important to local communities. The assessment involves developing a baseline understanding of the community’s cultural heritage values and then seeks to define an acceptable level of change to cultural resources or values taking into account the views of the community and to identify appropriate mitigation measures.

The remainder of the chapter is organised as follows:

- Section 13.2 describes the assessment methodology used;
- Section 13.3 presents the baseline situation;
- Section 13.4 presents the assessment of impacts of the mine project prior to mitigation;
- Section 13.5 describes the planned approach to mitigation and the resulting residual impacts of the mine project after mitigation; and presents a summary of the findings of the assessment; and
- Section 13.6 summarises the findings of the assessment.

The chapter is supported by the following annexes:

- 13A: Description of Simandou Archaeological Potential Model;
- 13B: Maps of Archaeological Potential and Known Cultural Heritage Sites in the Mine Area;
13.2 Approach

13.2.1 Study Area

The study area is located in the Simandou mountain range, in the south eastern Forest Region of Guinea. Forest Guinea is a land-locked mountainous region containing a variety of topographical features, including plains, plateaus, hills and mountain peaks (1). The study area forms a zone which extends approximately 20 km from the centre of the proposed mine site within which significant impacts on cultural heritage could occur.

13.2.2 Legal and Other Requirements

The assessment has been carried out with reference to the following legislation and other requirements.

- The Guinean Mining Code, Domanial Land Use and Environmental Code. There is no specific legislation in Guinea dealing with the protection of cultural heritage.
- International Finance Corporation’s 2012 Performance Standard 8: Cultural Heritage and the accompanying PS 8 Guidance Note, which seek to protect cultural heritage from the adverse impacts of project activities and to support its preservation.
- Rio Tinto’s internal guidance: ‘Why cultural heritage matters: A resource guide for integrating cultural heritage management into Communities work at Rio Tinto’; 2011.
- International Council on Mining and Metals’ Sustainable Development Framework Article 3, which commits to respecting cultures, customs and values of project affected people; 2011.

Project cultural heritage commitments are identified in a 2010 Simandou Cultural Heritage Management Plan, presented in Annex 13E: Simandou Project Cultural Heritage Management Plan. It is based on Why Cultural Heritage Matters, which itself is aligned with the IFC Performance Standard 8.

13.2.3 Types of Cultural Heritage Relevant to the Assessment

13.2.3.1 Tangible Cultural Heritage

The assessment considers two types of tangible cultural heritage: Archaeological Cultural Heritage (ACH) and Living Cultural Heritage (LCH).

ACH refers to sites whose primary value is historical or scientific and includes the three types of site:

- Settlement sites – those with evidence of ancient human occupation (such as a village or cave dwelling);
- Special Purpose sites – those with evidence of ancient human activity that does not include occupation (such as an ancient iron smelting site or a former ritual site); and
- Burial sites – places of internment, separate from ancient settlements, which are no longer visited by living populations (such as an ancient necropolis or tomb).

LCH is any cultural site of importance in use by local living populations and includes:

• Religious sites – places of worship, cemeteries, and tombs;
• Sacred sites – places where spirits live, or where fetishes are displayed or buried; and
• Initiation sites – male and female rite of passage sites.

Some sites may be both ACH and LCH sites, having both scientific value and value to living communities. An example of this type of site would be a community cemetery at a former village site which would be important to residents at the new ‘daughter’ village, but may also have archaeological significance in the case where the old village is of some antiquity.

From a resource management perspective, tangible cultural heritage has several common characteristics. Tangible cultural heritage is generally:

• fixed on the landscape with discrete boundaries;
• unique, non-renewable, and sometimes irreplaceable;
• sensitive to ground disturbing construction impacts;
• difficult to identify and evaluate when underground (ie archaeological sites);
• possible to avoid for impact mitigation, if the location is known; and
• potentially disruptive to construction schedules and project reputation if encountered as unexpected discoveries (chance finds) during construction or later.

The value of tangible cultural heritage sites varies depending on their importance to local or wider regional, national or international communities, and to the scientific community. Value may be indicated by protection of sites under local, national or international legislation or other recognised systems of designation. Physical dimensions of the sites are also relevant, as they will determine how difficult a site may be for the Project to avoid and / or evaluate and remove.

13.2.3.2 Intangible Cultural Heritage

The assessment considers two types of intangible cultural heritage: Cultural Knowledge and Cultural Activity.

Cultural Knowledge is the belief system or knowledge base that is maintained and passed down over generations, including language, cultural concepts, traditional techniques and traditional forms of social organisation:

• cultural concepts – language, religion, cosmology, cultural values, myths and stories of the group’s history, which together form the basis of a people’s understanding of their relationship with the physical and spiritual world;
• traditional techniques – traditional technologies, fishing, hunting or agricultural techniques, and knowledge of traditional craft production techniques; and
• traditional forms of social organisation – community organisation and the systems in which power and resources are shared among individuals or groups. Traditional land management systems are an example of a traditional Guinean social organisation potentially affected by the Project, as in-migration can cause a change in the distribution of land and undermine traditional sources of local authority.

Cultural Activity is defined as an activity which represents expressions of social or cultural identity for a particular group in which multiple members of the community take part. Cultural activities can be divided into the subcategories of ritual, cultural expression and traditional lifestyles:

• rituals – festivals, initiation ceremonies and mortuary practices;
• cultural expression – song, dance, clothing, and the production of folk art; and
• traditional lifestyles – means of subsistence, social and political activities, and other daily activities which form the basis of cultural identity.
Cultural activities are often informed by cultural knowledge, but they are distinct in that cultural activities are event based (ie they take place at a particular time and place) while cultural knowledge exists in the consciousness of a community.

From a resource management perspective, intangible cultural heritage is very different from tangible cultural heritage. Intangible cultural heritage is generally:

- without a fixed location or discrete boundaries;
- embedded in traditional residential and economic patterns;
- widely shared and resilient but also subject to loss under conditions of rapid social change; and
- sensitive to changing socio-economic situations and to outside cultural influence.

Although the assessment distinguishes between tangible and intangible cultural heritage, it should be noted that they often overlap. Communal knowledge and belief systems (eg oral history and rituals) are often embodied within the tangible manifestations of a culture (eg a cemetery, mosque or sacred forest), so direct impacts to physical objects or places may also have impacts on intangible cultural values.

13.2.3.3 Ecosystem Services

Impacts on ecosystem services include non-material benefits obtained from ecosystems, such as recreation, spiritual values, and aesthetic enjoyment. These cultural services can be related to both intangible cultural heritage and living cultural heritage sites. Intangible services include ritual and economic practices not associated with specific sites and potential impacts can include reduction in natural settings appropriate for ritual activities such as forests streams, and limiting access to natural foods and materials used in traditional practices. These impacts are specifically addressed in Chapter 23: Ecosystem Services.

The IFC’s Performance Standard 8 specifically addresses management of Cultural Heritage. Table 13.1 presents the types of cultural heritage resources, defined as replicable, non-replicable and critical cultural heritage, and the mitigation to be applied to each of these categories as defined by PS8. These definitions have been taken into consideration in the assessment of value of resource and significance of impacts and the recommendations for mitigation measures have been taken into consideration in the determination of required mitigation for the mine, as discussed in Section 13.5.

Table 13.1 Classification & Mitigation Recommendations for Cultural Heritage under Performance Standard 8

<table>
<thead>
<tr>
<th>Replicable Heritage</th>
<th>Non-Replicable Heritage</th>
<th>Critical Cultural Heritage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tangible forms of cultural heritage that can themselves be moved to another location or that can be replaced by a similar structure or natural features to which the cultural values can be transferred by appropriate measures. Archaeological or historical sites may be considered replicable where the particular eras and cultural values they represent are well represented by other sites and / or structures.</td>
<td>Relates to the social, economic, cultural, environmental, and climatic conditions of past peoples, their evolving ecologies, adaptive strategies, and early forms of environmental management, where cultural heritage is unique or relatively unique either (i) for the period it represents, or (ii) in linking several periods in the same site.</td>
<td>Consists of one or both of the following types of cultural heritage: (i) the internationally recognised heritage of communities who use, or have used within living memory the cultural heritage for longstanding cultural purposes; or (ii) legally protected cultural heritage areas, including those proposed by host governments for such designation.</td>
</tr>
</tbody>
</table>
### Replicable Heritage

Most cultural heritage is best protected by preservation in its place, since removal is likely to result in irreparable damage or destruction of the cultural heritage.

### Non-Replicable Heritage

Non-replicable cultural heritage is not to be removed unless all of the following conditions are met:

i) there are no technically or financially feasible alternatives to removal;

ii) the overall benefits of the project conclusively outweigh the anticipated cultural heritage loss from removal; and

iii) any removal of cultural heritage is conducted using the best available technique.

### Critical Cultural Heritage

Critical cultural heritage will not be removed, significantly altered, or damaged. In exceptional circumstances when impacts on critical cultural heritage are unavoidable, the client will use a process of Informed Consultation and Participation (ICP) of the Affected Communities (as described in PS 1) which uses a good faith negotiation process that results in a documented outcome. The client will retain external experts to assist in the assessment and protection of critical cultural heritage.

### 13.2.4 Baseline Data Sources

Neither the history nor the archaeology of Guinea is a well-studied topic. While major discoveries in West African archaeology were occurring in the 1970s and 1980s in Sierra Leone, Liberia, Senegal and Mali, Guinea remained poorly understood. The available archaeological and historic site data thus probably represent only a portion of the total resources present in the mine study area and it is likely that further sites will be encountered as chance finds during construction if not identified in advance.

The cultural heritage baseline for the area around the proposed mine has been established through a combination of desktop research, field visits and local consultation. Archaeological cultural heritage (ACH) baseline information for the mine study area was developed based on field survey and investigations of traditional iron working sites. Living cultural heritage (LCH) baseline information was developed through a programme of fieldwork and stakeholder consultation. Detail continues to be added to the LCH baseline by an ongoing program of Project wide fieldwork now being undertaken in the entire Project area.

Archaeological sites related to historic mining and ironworking were also identified by geological fieldwork in the “northern targets” area, a 30 km section of the mine concession area stretching from the northernmost boundary southward to the village of Damaro. These northern sites provide useful examples of archaeological sites in the general Simandou region but are outside the proposed mine footprint and will not be physically impacted by the mine activities.

The main source of information for specific sites has been consultation within the study area to identify sites known to informants. The consultation process focused on a group of 31 priority villages located within a study area centred in the southern portion of the Simandou Range and including the Simandou mine concession area. The priority villages were identified by the study as those most likely to be impacted by the mine project. This local consultation identified LCH sites and also several ACH sites. Sites were known to informants because they either are in use today or because they are a visibly conspicuous part of the landscape. In some cases, there are LCH sites identified by local informants that have archaeological components.

Consultation used to develop the LCH baseline involved community meetings and interviews with villagers in the study area and field studies involved visits, data recording and photographic documentation of sites. The general uniqueness and importance level of each type of LCH site was also established. The types of site identified in the survey include: sacrifice sites, sites where genies (spirits) live, sacred sites, initiation sites, fetish sites, religious sites, and historic sites. The locations of many of these LCH sites are highly guarded knowledge. In order to respect the secrecy surrounding traditional sacred, religious and initiation sites, the Project has adopted a policy of site confidentiality. This means that the general locations of sites in the mine area will be mapped, but their exact locations (ie coordinates) will not be publically disclosed in this SEIA document.
Although field studies did not involve archaeological reconnaissance, archaeological sites were found and noted during LCH field survey as some such sites are known to local populations. The ACH sites considered and known to local people included: ancient caves where people lived, places where cannon powder was fabricated, ancient forges, and the tombs of illustrious ancestors.

All identified cultural heritage sites are listed in the site inventory in Annex 13D: Inventory of Known Cultural Heritage Sites. Precise coordinates and the name of the sites are not reported due to the confidentiality of many of the sites. The additional on-going fieldwork referenced above will gather more details on the known sites, and will also identify additional sites. Where the mine project footprint appears to overlap sites, apparent site boundaries will be recorded.

Regarding ACH, the desktop review for the baseline indicated a lack of past archaeological reconnaissance but a high likelihood that undiscovered archaeological sites are present throughout the country, including the mine project area.

13.2.5 Identifying Areas of Archaeological Potential

A desk study for archaeological cultural heritage began with a broad regional literature review. Baseline investigations confirmed that no comprehensive archaeological survey has been conducted in the study area. To address the lack of comprehensive data, an archaeological modelling exercise was undertaken for all Project components, including the mine, railway and port. The results are presented as maps indicating areas of high archaeological potential, that is, areas in which the greatest density and complexity of archaeological finds are most likely to occur. Areas of moderate and low potential are also identified. In addition to filling a significant knowledge gap for the Project, this approach has the advantage of characterising the archaeological potential of the entire study area using a single terminology and scale of reference.

The model was designed specifically for the Simandou Project and was developed by characterising the environmental settings of known traditional villages and residential archaeological sites in Guinea and West Africa and identifying the key factors that attracted their inhabitants. Examples of these factors include flat and well drained land, rich agricultural land, availability of water, and access to ancient transport networks. The model used values for 46 geographic variables, together with satellite imagery of areas around traditional village sites and a geographical information system (GIS) platform to assess archaeological potential. The unit of analysis was 500 m blocks based on the coordinate system, with the predictive grid extending over the mine area. The result was an ordinal ranking of blocks from highest to lowest based on their probability for containing unknown archaeological sites. Blocks in the 90th percentile (ie the top 10% of all blocks within the mine area) were designated as having potentially high archaeological interest and blocks in the 70th – 90th percentile range (ie the next highest 20% of blocks) were designated as having medium archaeological interest, and the remaining blocks are considered to be of low archaeological interest (1). This information was then used to generate maps indicating areas of dense concentrations of high and medium archaeological potential within the mine study area that exceed 2.5 km² in size. For the purposes of the assessment these are designated as areas of high archaeological potential (AHAPs). More detailed information on the modelling, including both methodology and resulting maps, is provided in Annex 13A: Description of Archaeological Potential Model and Annex 13B: Maps of Archaeological Potential and Known Cultural Heritage Sites.

It is important to note that models of this type do not identify with certainty where sites will be found. Rather, they exploit broad and statistically reliable archaeological patterns to suggest areas that are more likely to contain sites. A typical range of accuracy for this type of approach is for the high and medium interest blocks (30% of the study area) to contain 60-80% of all unknown sites. Despite this uncertainty, the model is a useful tool for assessing the likely impacts on previously unreported archaeological sites in a study area and directing resources for further investigations. The model will be refined based on additional pre-construction field reconnaissance and testing in the mine area, a process that will increase its accuracy and value in

(1) Within the GIS, each 500 m square block is identified by its centre point providing a standard reference for future management activities such as reconnaissance or construction phase monitoring.
identifying and managing potential archaeological impacts. The model identifies current or previously habited sites, but is not able to identify historical mining and ore reduction sites. Focused archaeological reconnaissance has been employed for this purpose (1) and these efforts will continue in order to manage potential impacts on the range of archaeological cultural heritage (ACH) present in the mine study area.

13.2.6 Evaluating Site Importance and Predicting Magnitude of Impact

13.2.6.1 Tangible Cultural Heritage

Archaeological Cultural Heritage (ACH)

The value of an ACH site is determined by:

- national or international protection status (if applicable);
- potential to contain scientific and cultural information as indicated by the amount, types, and quality of artefacts and features it is thought to contain, its length of use, stratigraphy, and state of preservation;
- uniqueness; and
- value as indicated by local stakeholders.

In cases where there is not enough available information to evaluate the importance of the sites, ACH sites are assumed to be non-replicable, and therefore of high importance, pending further investigation by an archaeologist. The fact that relatively few archaeological sites have been investigated in Guinea means that identified sites in the mine study area are more likely to be considered non-replicable even after investigation, as they are somewhat rare and of potentially high scientific and historic value. Large and / or unusual ACH sites could also have future touristic value as well as local or national significance as symbols of identity and shared history.

Since the primary value of ACH sites is the information inherent in their physical remains, in most cases the magnitude of impacts to ACH sites is measured by the proportion of the site that is disturbed by Project activities and the severity of the disturbance or damage.

13.2.6.2 Living Cultural Heritage

LCH impacts are caused by physical damage to the site, disruption of user access to the site, or change in the setting or character of the site. Impacts to LCH sites would affect their function and disrupt the practice of religious, spiritual or other cultural activity. The value of a LCH site is determined by:

- national or international protection status (if applicable);
- importance to local, tribal, ethnic, or national identity;
- role of the site in the spiritual and cultural lives of people; and
- potential to be relocated or replaced.

As the value of LCH sites is dictated by use their and significance to local people, the importance of sites is based principally on information provided by local informants who are users of the sites. In cases where site users evaluation of the importance of the sites is unknown, LCH sites are assumed to be non-replicable, and therefore of high importance, pending stakeholder engagement to verify importance.

The magnitude of impacts on LCH sites is measured by the degree to which the use of the site or its meaning is affected by mine project activities. This is measured either through extent of physical damage, the level of disturbance of the site’s function or the duration and severity of interruption of site use and accessibility to the site.

(1) Elisé Coulibaly, Moustapha Diop and Moriké Sidibé (2011). *Premiers éléments de la prospection archéologique et des enquêtes orales autour de la réduction du fer dans la zone du Simandou.*
13.2.6.3 **Intangible Cultural Heritage**

Impacts to intangible cultural heritage are caused when socio-economic changes and involuntary resettlement cause the loss of traditional knowledge and/or practices that may serve important functions for local communities. Examples of potentially affected heritage include:

- traditional practices such as ritual dance;
- rites of passage; or
- traditional livelihood strategies, such as hunting.

Impacts on ICH occur when Project activities result in the termination or decline of a traditional practice, ritual, or livelihood strategy, against the will of the Guinean people. An example of an ICH impact would be if the mine facilities cut off iron workers from their traditional smelting sites, causing a decline in traditional metallurgy practices in a village or wider area. The magnitude of such impacts is very difficult to judge as this requires assessing the balance between the negative and positive values associated with cultural change. Potentially significant negative impacts are currently being identified by the Communities Department based on direct knowledge gained through contact with the community.

13.2.7 **Evaluating Impact Significance**

The coordinates of sites are used in the assessment process to indicate potential cultural heritage impacts caused by physical encroachment of planned Project activities on cultural heritage sites. Impact determinations are made conservatively when mine project activities appear to be close to sites. Impact significance is a product of the magnitude (duration and severity) of the impact and the importance or value of the site.

Table 13.2 presents the overall assessment criteria as applied to the evaluation of the significance of potential impacts on cultural heritage sites.
### Table 13.2 Evaluation Criteria of Impacts on Cultural Heritage Sites

<table>
<thead>
<tr>
<th>Grade</th>
<th>Magnitude of impact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negligible</td>
</tr>
<tr>
<td></td>
<td>No discernible change in the condition, setting or accessibility of the site.</td>
</tr>
<tr>
<td>Negligible</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Low</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Medium</td>
<td>Not Significant</td>
</tr>
<tr>
<td>High</td>
<td>Not Significant</td>
</tr>
</tbody>
</table>

- **Definition**
  - Site is not recognised by local people or external parties as being of value to community or for scientific or cultural research.
  - Site is not legally protected and considered replicable heritage under IFC PS8 and is recognised by local stakeholders as having some limited value for local tradition and culture, or has minor interest for research (i.e., site has minimal cultural value or potential to augment an understanding of Guinea’s past).
  - Site is not legally protected and considered replicable heritage under IFC PS8 and is recognised over wider area (regionally or nationally), is of high local value, or has significant interest for research (i.e., site has the potential to augment an understanding of Guinea’s past).
  - Site has the type of cultural or scientific qualities that merit highest level of national or international designation. The site is considered non-replicable or critical cultural heritage under IFC PS8. It is recognised by local stakeholders as having outstanding cultural value, or by scholars as having outstanding scientific value (i.e., a proper investigation of the site would fill in substantial knowledge gaps in understanding Guinea’s past).
13.3 Cultural Heritage Baseline

Baseline studies produced the following outputs:

1. a cultural context for Guinea, including a chronology of prehistoric and historic periods;
2. locations and descriptive information for cultural heritage sites recorded in the study area;
3. Areas of High Archaeological Potential, identified through modelling, and
4. a baseline for intangible cultural heritage.

The cultural context and ICH baseline are high level descriptions of the general conditions and cultural heritage patterns in Guinea and in the mine study area. The cultural context includes discussions of Guinea’s prehistory and history and indicates the types of archaeological and historic sites that are most likely to exist in the mine study area. The tangible baseline focuses on the mine study area and presents specific tangible cultural heritage sites and Areas of High Archaeological Potential, where sites described in the cultural chronology are most likely to be found.

13.3.1 Cultural Context

The country of Guinea forms part of West Africa, an area whose prehistoric past witnessed large scale population migrations, interregional trade, warfare, and the rise of urbanism. West Africa has a long history of human occupation dating to the Early Stone Age (200 000 – 100 00 BC). Parts of the study area, passing through the iron-rich southern region of Guinea, would have provided an important resource for early Iron Age populations (500 BC – AD 1000). There is archaeological evidence that indicates that iron smelting technology originated in West Africa and was later adopted in the Mediterranean and beyond in the early first millennium BC. In historic times, Guinea’s location between the three great medieval empires: Ghana, Mali and Songhay, led to sweeping cultural shifts as Islam first took root and spread within the African continent. Guinea’s coastline has also made it an attractive place to settle and trade from prehistoric times to the present.

West Africa has received the least amount of archaeological research of any major region of the world. Since the late 1970s, however, when West Africa was recognised as the home of several prehistoric urban civilisations, archaeological research has slowly increased in intensity. Still, little is known about how wider historic trends played out within the area of modern Guinea.

Although a wealth of historical texts from the Islamic Medieval period and colonial period are available, very little archaeological survey has been conducted within Guinea’s borders, so relatively little is known of Guinea’s prehistory. As such, the present cultural chronology for the area relies on archaeological information from surrounding regions in order to fill in the current gaps in Guinean cultural history. This absence of archaeological research in Guinea means that virtually none of the physical evidence corresponding to the periods described above has been identified and systematically studied or preserved within the country.

A more in-depth presentation of the West African cultural context and chronology is provided in Annex 13C: Cultural Context for West Africa and Guinea, but key points are summarised in Table 13.3.

Table 13.3 Cultural Chronology of West Africa with a focus on Guinea

<table>
<thead>
<tr>
<th>Date</th>
<th>Period</th>
<th>Example Sites Known in Guinea</th>
<th>Example Sites Elsewhere in West Africa</th>
<th>Highlights</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 000-100 000 BC</td>
<td>Early Stone Age (ESA)</td>
<td>-</td>
<td>El Beyyed, Yapei, Jos Plateau</td>
<td>Expansion of Homo erectus into Western Africa and beyond, reliance on basic stone tools.</td>
</tr>
<tr>
<td>100 000-30 000 BC</td>
<td>Middle Stone Age (MSA)</td>
<td>-</td>
<td>Southern Ivory Coast, near Abidjan</td>
<td>First diversification of stone tool sets: Mousterian and Aterian</td>
</tr>
</tbody>
</table>
### 13.3.2 Tangible Cultural Heritage Baseline

#### 13.3.2.1 Cultural Heritage Sites

To date, 129 cultural heritage sites have been identified in the mine study area; 41 are ACH sites and 88 are LCH sites. Although the majority of the known sites are LCH, many more ACH sites are likely to exist within the mine study area. A full list of the known sites is presented in Annex 13D: Inventory of Known Cultural Heritage Sites in the Mine Area. The inventory includes information on the type of site and the importance rating of the site. The local users of some of the recorded LCH sites have requested that the locations of these sites be kept confidential. For this reason, although all known sites are listed in the Annex 13D inventory, the coordinates of sites are not published in this assessment. The approximate locations of recorded cultural heritage sites are shown in Figure 13.1. Non-confidential sites are mapped in Annex 13B: Maps of Archaeological Potential and Known Cultural Heritage Sites. Additional known sites that appear in the inventory in Annex 13D but that are located well outside the mine study area do not appear in Figure 13.1 or in Annex 13B. The maps also do not include mosques (or massidi) because, with few exceptions, every village in the area has at least one mosque. Most are small single roomed structures and only the bigger villages of Beyla, Bonodou and Nionsomoridou have large mosques.

The identified sites include:

- **ACH Sites:**
  - above ground historic sites or structures;
  - archaeological evidence of ancient forging and mining activities from the Iron Age onward; and
  - archaeological evidence of ancient human habitation (prehistoric).
Figure 13.1
Sites de patrimoine culturel connus dans la zone de la mine / Known Cultural Heritage Sites in the Mine Area

Légende:
- Patrimoine culturel archéologique / Archaeological Cultural Heritage
- Patrimoine culturel vivant / Living Cultural Heritage
- Limites de la concession minière / Mine Concession Boundary
- Contour de mine / Mine Outline
- Terril de stériles / Waste Emplacement
- Usine et infrastructure minières / Mine Plant & Infrastructure
- Projet de route de la mine / Proposed Mine Road

Tiare: A4
Date: 20/06/2012
Dessiné par: WB
Vérifié par: EM
Approuvé par: KR
Projet: 0131299
Echelle: Comme barre d'échelle

Projection: WGS 1984 UTM Zone 29N
LCH Sites:

- contemporary religious and sacred sites including shrines, mosques and churches; and
- contemporary initiation sites, including sex-specific rite-of-passage sites.

The value of the majority of the sites in the mine area has been determined through stakeholder engagement. Sites identified in sources other than the Mine Social Baseline Report were not able to be evaluated. Following common heritage management practice, unevaluated sites are presumed to be of high value pending further investigation. Ancient iron smelting sites are also included in the section below on intangible cultural heritage due to their spiritual importance.

Figure 13.2 shows the archaeological remains of one of the 27 known ACH sites related to iron working identified during ground reconnaissance in and around the mine project area. A historical drawing in the figure dating to the 1850s shows how the furnace in the photograph was probably used. Figure 13.3 illustrates examples of LCH sites identified through local consultation.

**Figure 13.2 Archaeological Heritage Site in the Mine Area**

Notes: A: iron forge ruin near the village of Kankora, (CH-25); B: Historic drawing of a traditional iron forge in Fouta Djallon, Guinea, 1850s (1).

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13.3.2.2 Areas of High Archaeological Potential

As noted previously, since undiscovered archaeological sites are also likely to be present in the Project area, archaeological modelling has been used to identify Areas of High Archaeological Potential where additional finds are most likely to occur. These are represented as green areas within the mine study area in Figure 13.4. More detailed maps of archaeological potential for the mine study area are presented in Annex 13B: Maps of Archaeological Potential and Known Sites. For the mine study area, the model identified eighteen different areas of high archaeological potential of varying sizes. These areas are listed in Table 13.4. Because these areas consisted of the densest groupings of high and medium interest blocks, they are all considered to be high value resources for the assessment. Independent evidence suggests it is likely that the Areas of High Potential include ancient settlements, since ancient West African blacksmiths are known to have lived and worked in iron-rich landscapes (1). Several villages in the study area are reported to have significant antiquity including the oldest village, Nionsomoridou, which may be 800 years old, with several other villages claiming foundation dates of more recent antiquity (2). A detailed explanation of the AHAP modelling effort is presented in Annex 13A.

### Table 13.4 Areas of High Archaeological Potential (AHAPs)

<table>
<thead>
<tr>
<th>Reference number</th>
<th>Site Type</th>
<th>Location (UTM) (1)</th>
<th>Value (H,M,L,N) (2)</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA-1</td>
<td>AHAP</td>
<td>521746.014</td>
<td>N</td>
<td>2.71 km²</td>
</tr>
<tr>
<td>MA-2</td>
<td>AHAP</td>
<td>521627.398</td>
<td>H</td>
<td>3.50 km²</td>
</tr>
<tr>
<td>MA-3</td>
<td>AHAP</td>
<td>521284.593</td>
<td>H</td>
<td>4.92 km²</td>
</tr>
<tr>
<td>MA-4</td>
<td>AHAP</td>
<td>520127.437</td>
<td>H</td>
<td>3.50 km²</td>
</tr>
<tr>
<td>MA-5</td>
<td>AHAP</td>
<td>517981.834</td>
<td>H</td>
<td>2.23 km²</td>
</tr>
<tr>
<td>MA-6</td>
<td>AHAP</td>
<td>517257.128</td>
<td>H</td>
<td>6.20 km²</td>
</tr>
<tr>
<td>MA-7</td>
<td>AHAP</td>
<td>517155.133</td>
<td>H</td>
<td>5.28 km²</td>
</tr>
<tr>
<td>MA-8</td>
<td>AHAP</td>
<td>516994.97</td>
<td>H</td>
<td>3.21 km²</td>
</tr>
<tr>
<td>MA-9</td>
<td>AHAP</td>
<td>516822.292</td>
<td>H</td>
<td>3.19 km²</td>
</tr>
<tr>
<td>MA-10</td>
<td>AHAP</td>
<td>515186.222</td>
<td>H</td>
<td>6.31 km²</td>
</tr>
<tr>
<td>MA-11</td>
<td>AHAP</td>
<td>512452.203</td>
<td>H</td>
<td>0.44 km²</td>
</tr>
<tr>
<td>MA-12</td>
<td>AHAP</td>
<td>510976.525</td>
<td>H</td>
<td>2.94 km²</td>
</tr>
<tr>
<td>MA-13</td>
<td>AHAP</td>
<td>510185.827</td>
<td>H</td>
<td>4.59 km²</td>
</tr>
<tr>
<td>MA-14</td>
<td>AHAP</td>
<td>509578.279</td>
<td>H</td>
<td>4.34 km²</td>
</tr>
<tr>
<td>MA-15</td>
<td>AHAP</td>
<td>506620.765</td>
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</tr>
<tr>
<td>MA-16</td>
<td>AHAP</td>
<td>506291.489</td>
<td>H</td>
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</tr>
<tr>
<td>MA-17</td>
<td>AHAP</td>
<td>502884.568</td>
<td>H</td>
<td>3.74 km²</td>
</tr>
<tr>
<td>MA-18</td>
<td>AHAP</td>
<td>502772.742</td>
<td>H</td>
<td>3.24 km²</td>
</tr>
</tbody>
</table>

Notes:
Several AHAPs are smaller than 2.5 sq. km, which is the lower limit for the statistical designation of AHAPs. The recognition of these smaller units for the purposes of the assessment was based on judgement including the relative scarcity of flat habitable land in parts of the Mine area and due to the presence of known archaeological sites.

The AHAP in **bold** is identified as subject to direct impact by mine activities and thus is listed in Tables 13.6 and 13.8.

### 13.3.3 Intangible Cultural Heritage Baseline

#### 13.3.3.1 Cultural Patterns in Guinea

Guinea’s intangible cultural heritage is best understood within the context the county’s traditional tribal composition which has its origins in the complex and dynamic colonial and pre-colonial history of the region. Although the relevance of tribes has changed throughout the post-colonial period, tribal affiliation has an enduring character that includes a definable but dynamic geographic distribution of the present tribally based ethnic groups. Of Guinea’s two dozen traditional tribal groups, three predominate among the present national population of over 10 million.

- Peul constitute approximately 40% of Guinea’s population. Their primary geographic location is Fouta-Djalon region. They are herders and farmers and speak a Niger-Congo language called Pular, having moved into the central part of Guinea approximately 200 years ago. The Peul are nearly all Muslims but maintain many traditional beliefs that are not a part of mainstream Islam.

(1) Coordinates provided in WGS 84 UTM 29 North.
(2) Value is (H) high, (M) medium, (L) low, (N) Not Significant
Figure 13.4

Zones à fort potentiel archéologique dans la zone de la mine / Areas of High Archaeological Potential in the Mine Area

Projection: WGS 1984 UTM Zone 29N

Date: 20/06/2012

Dessiné par: WB

Verifié par: EM

Approuvé par: KR

Projet: 0131299

Echelle: Comme barre d'échelle
Malinké (also Maninka) and related Mandé groups form 30% of the population and are located primarily in Upper Guinea in the towns of Kankan, Siguiri, Kouroussa and Mandiana. In Beyla they are known as the Koniankes and they form the primary group in the area around the mine site. They are Muslim site farmers and herders and trace their origins to the late Medieval Mali Empire, a historically significant state that based its success on control of the gold trade with North Africa and the Mediterranean.

Soussou (also Susu or Sosoxui), another Mandé sub-group, make up some 20% of Guinea’s population and are located primarily in Conakry, Forécariah and Kindia. The Soussou, more than other traditional ethnic groups, tend to peacefully incorporate other ethnic groups by intermarriage and other means, a process which both reflects and ensures their continuing significant role in the coastal region of Guinea. Although several other ethnic groups reside in the coastal area, the Soussou language operates as a *lingua franca* of the coastal region. As with the other major ethnic groups of Guinea, the Soussou are Muslims.

Many other smaller ethnic or tribal groups exist throughout Guinea and in the Project area, accounting for the remaining 10% of the country’s population. These small groups tend to be more isolated and conservative, having resisted assimilation into the large groups, and they remain more faithful to traditional African religious practice. Within the ethnic groups of Guinea, especially within the smaller groups, there is a clan structure based on lineage and tribal agreements. Specific subgroups may be associated with a particular natural entity such as forest, a particular animal, or geography such as mountain or other physical feature. Villages, the predominant settlement type in Guinea, are typically associated with a particular dominant tribal group and a founding clan. Some of the villages in the area are hundreds of years old. Two examples from the mine study area, Nionsomoridou and Beyla Sobakono date to the early thirteen and sixteenth centuries respectively. Both have historic founders known as Islamic saints or marabouts.

Before the establishment of an independent Guinean state from the former French Guinea, tribal groupings were the basis of traditional governance. Although it is frequently said that the French influenced the composition and even the definition of tribal groups during the colonial period [1], there is no doubt that the tribes were the largest traditional units of independent social and political action in the territory of Guinea. They vied for control of land and resources by both peaceful and military means, and they developed a kind of symbiosis with one another involving established geographic ranges and specialisation in agricultural, craft and profession, and with distinguishing languages and cultures. The tribal structure knitted together communities over broad geographic areas and developed distinctive integrating cultural and religious patterns as well. Historically, tribal groups such as the Fulbé, united to form small pre-colonial states. Today with the existence of Guinea’s central government and the broad national acceptance of Islam, the Peul, Soussou and others are considered to be ethnic groups rather than tribes.

Religion and traditional belief are also an essential part of Guinean culture and serve both to unify and distinguish local groups. According to oral traditions, most of Guinea’s population, including the three main ethnic groups described, has been Muslim since before their arrival in Guinea. Local oral history of the town of Kerouané, however, refers to Samory Touré’s forced conversion of the local population to Islam as late as the 1880s. There is also ample evidence of traditional non-Islamic religious practice and belief from the colonial period into the present. Islam therefore is a unifying national religion from a national perspective while tribally distinct forms of animistic and magical belief tend to distinguish local ethnic groups. The Guinean people, including residents of the mine study area, practice a religious dualism where both belief systems operate simultaneously.

In traditional Guinean belief, woodlands are perceived as secret settings related to specific rituals and festivities. One common tradition is of initiation rituals into secret societies, a tradition that spread over large parts of the country and beyond [2]. Often mentioned are the Poro and Sande types of secret societies into which either men (Poro) or women (Sande) are initiated. In former times, the political and economic role of

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(1) This is a point that is commonly made by anthropologists and other students of post-colonial traditional societies. The assertion is that colonial powers, in search of legitimating local partners for colonial administration, often influenced and even created tribal groupings through their patronage. Such groupings, so the argument goes, were then often erroneously interpreted by colonial-period anthropologists as being authentic pre-colonial social structures.

(2) D’Azevedo (1962) describes the area within which secret societies were found as the “Central West Atlantic Region”.

---
these societies knit together culturally diversified and mobile groups. These societies were also crucial for the organisation of local political authority. In addition, the Poro and Sande institutions have engaged in education and traditional medical treatment. An important dimension of the secret societies is related to intergenerational relations, as secret knowledge separated initiated elders from youth. Thus, the forests, in contrast to the settlements, were the areas of greatest secrecy, privacy and mystery. Through initiations, each younger generation was invited into this world. Initiation has traditionally intensified respect for the elders as a result of their perceived knowledge and mystical power. The elders, in turn, maintained the generational barriers of knowledge to protect their social control. Secrecy can be a political strategy, employed within the community and in the interrelations with external groups. As mentioned previously, initiation rituals also have an integrative character. External groups or individuals could join with the host society through the act of initiating the children of mixed marriages (stranger-host marriages) into the host’s initiation society. Poro and Sande also define identity, or affiliation and belonging, within different Guinean ethnic groups. The secret societies control female initiation rituals, part of the female rites of passage and still a widespread practice in contemporary Guinea.

One of the major influences on youth and the entire society was the demystification campaign implemented from around 1959 to 1961. Followers of the demystification campaign were opposed to local practices such as secret societies and beliefs. They asserted that traditional customs such as the consumption of alcohol, masks, ritual elders, and secret societies were keeping Africa behind in its development. In the course of the campaign, local militants forcibly collected hidden masks and fetishes related to the secret societies and revealed them to women and uninitiated youth. This was intended to cause changes in local intergenerational and gender relations. Young men perceived the campaign as providing quicker access to growing social, economic, political and cultural opportunities. For young girls and women demystification also had an impact. They saw for the first time specific ritual figures and music instruments that had been the basis for asymmetrical age and gender relations. The campaign was, in the end, unsuccessful in fully breaking down traditional practice and belief. Short term initiation camps were still allowed during school vacations and the local beliefs and practices were not entirely banned. Finally, the campaign shifted and became much more of an educational effort, relying particularly on state media like radio and national theatre. The latter was designed to replace ritual initiations and was used by the national government for the purpose of creating a ‘national’ folklore composed of a collection of masks and objects from different regions.

Today, many Guineans perceive these relatively new performances as quite typical for their traditional culture. However, dance is not only related to the former national unification efforts. Traditional dances are also related to the diverse ethnic groups and most often inspired by nature. Almost all of these dances are, or at least originally were, connected to initiation and rites-of-passage ceremonies or other similar occasions. Other documented rituals in Guinea are related to agriculture, especially the cultivation of rice.

Traditional religion and animistic beliefs and practices are not simply an aspect of cultural conservatism, they are a part of an ongoing process by which Guineans maintain social cohesion and cope with social and political challenges at a local and national level. These traditions have served in the past, and most probably will serve in the future, as mechanisms of local integration and as validation for claims to specific resources including land and other bases of livelihood. Therefore, the treatment of traditional beliefs and practices by the Project needs to consider such traditional practice not only as traditions to be respected and in some cases preserved, but also as subjects that are open to transparent discussion and decision making in local communities.

13.3.3.2 Cultural Patterns in the Mine Study Area

The mine study area, located in the Forest Region of Guinea in the Simandou Range, is an area rich in food and mineral resources and with a diverse ethnic composition and a complex settlement history. Compared to Guinea as a whole, especially its coastal areas, the mine study area is relatively traditional from a cultural point of view. As in the other forested regions of Guinea, many of its people maintain local animistic beliefs and practices alongside their Islamic faith, and numerous local ethnic groups coexist with their distinct languages, cultural practices, identities, and histories.

The main ethnic groups in the mine study area are the Malinké, Toma and Peul. The Malinké group, known locally as the Konianké, is traditionally composed of traders and pastoralists who came to the area as early
as the thirteenth century from regions of the medieval Malian empire to the North, outside of the present boundaries of Guinea. On arrival they intermarried with local ethnic groups already in the area. They were the first Islamic group in the area and have a prestige and local authority that generally exceeds that of other groups. The majority of the present residents of Beyla are Konianké and this group dominates nearly all the villages immediately to the east of the Simandou Range. Local tribes that the Malinké intermarried with are the Toma, Guerzé and Kissi. Today the Toma remain within the mine study area, mainly to the west of the Simandou Range. Traditionally the Toma are farmers and have maintained many productive cultivated fields in the area. The Peul are traditional cattle raising pastoralists, and account for only one significant village in the vicinity of Beyla. They are, however, present in many more villages living as a minority group and in numerous isolated hamlets along the range. Adding complexity to the ethnic patterns is the factor of language. Ethnic groups in Guinea and in the mine study area have traditionally spoken their own distinctive languages. Today, groups no longer necessarily speak their ancestral language as some have changed their language from assimilation with other ethnic groups, while maintaining their ethnic identity. Most notably the Peul groups speak at least three different languages, depending on their location within Guinea, including Soussou, Malinké and Peul.

As is the case in Guinea as a whole, the majority religion in the mine study area is Islam with substantial continuing animist belief and practice. Christianity is practiced by a small minority of the population. Among 31 villages surveyed around the mine, only two, Kissibou and Kotia, practise primarily Islam, whereas the remaining villages practise Islam with various degrees of animism. An example of these coexisting religious traditions is the schedule of festivals, which combines both the Muslim lunar calendar and holidays, and the solar calendar with its agriculturally based festivals. These agricultural festivals include the Domba festival, marking the beginning of the rainy season and planting in April or May, and the Dougou-so harvest festival in October.

Villages have a highly traditional character with the founding clan drawing its moral authority from founding events that may have occurred hundreds of years earlier. Despite their often long histories, villages in the study area are also dynamic, often moving, growing or shrinking in response to a variety of factors including local inter-ethnic conflict, national political issues, fluctuation of resources, natural disasters and so on. The most common reason for the foundation of new villages is some type of social conflict.

Groups in the mine study area have traditionally drawn resources from their environment to support their material needs, including products such as iron, forest wood and forest food. There is also a cultural dimension to certain patterns of traditional resource use, making impacts on such resources by the Project potentially more than just a practical economic issue. For example, in addition to their utilitarian value, iron products and traditional iron working have long been a symbol of power, spiritual strength and wealth. The rich iron ore deposits in the Simandou Range have probably attracted iron workers for hundreds of years or more. There is also evidence of a continuing spiritual association of particular ore sources and forge locations. Although traditional iron working in many ancient forges has ceased, the spiritual importance of some of the sites remains, as evidenced by an ongoing tradition of ritual sacrifice of cattle which has been identified in at least one of the forge sites in the mine study area.

Desk review of available literature suggests that there may be a large number of ancient iron smelting sites in Guinea and the study area, although the precise numbers and locations are not known. Archaeological records of known smelting sites used over centuries in other parts of West Africa indicate that large scale and long-lived specialist activities almost certainly occurred in the iron-rich Simandou Range. It is believed that the long use of such sites is in part a result of the spiritual importance in which they are held. Anecdotal evidence suggests that more of these sites are likely to exist in the mine area along with corresponding habitation sites. Ancient iron smelting sites are primarily considered to be intangible cultural heritage due to their spiritual importance. They do however also possess scientific and historical value.

A geological survey conducted for the Project in the mine concession area identified eight ancient iron smelting sites. These and other sites in the mine study area have been investigated archaeologically.

(2) Eliséé Coulibaly, Moustapha Diop and Moriké Sidibé (2011), *Premiers éléments de la prospection archéologique et des enquêtes orales autour de la réduction du fer dans la zone du Simandou.*
Some smelting sites identified by the geological team were reportedly still in use as recently as the 1960s (CH-62 at Wataferedou). Similar sites in other parts of West Africa have been investigated archaeologically and are found to have been used over many hundreds of years. The smelting sites indicate that large scale and long lived specialist activities occurred in the iron rich Simandou Range. It is believed that the long use of such sites is in part a result of the spiritual importance in which they are held. More of these sites are likely to exist in the proposed mine area along with corresponding habitation sites.

A particular aspect of cultural connections to resources in the Simandou area is the role villages near the Mine site have as ‘custodians’ of the mountain. An example is Wataferedou II. Historically, the village was founded as an offshoot encampment of another village of the same name developed to exploit the resources of the mountain, which included iron ore for artisanal smelting. That village is known in the past for being the place where blacksmiths made coins used as currency in this region of Guinea. Sacrifices are made to the mountain every year. This custodial role is a matter of substantial pride for the village (1), although they are not the only village who identify themselves as custodians of the mountain and will be investigated further by on-going stakeholder consultation.

Forests products, including wood for construction as well as plant and animal foods, are an important part of the traditional economy of the study area. These products also have important cultural dimensions. Cola nuts, a forest product for which the Simandou area is well known, have long been traded within the modern borders of Guinea and in the larger West African region. Within Guinean culture, they are a stimulant that plays an important role in gift giving and formal hospitality. Forest wood has many uses as a construction material and is highly prized for use in mosque construction, which creates a special relationship between the people who pray in the mosque and the forest source of the structure’s timber. Beyond the ritual use of forest products is the traditional belief in the spiritual character of the forest setting, made apparent by the large majority of sacred and ritual sites that are located in forests. From these examples it is evident that the cutting of forests, the use of iron resources and the impact on traditional ironworking areas may have a special importance due to the cultural sensitivities surrounding their traditional uses.

Figure 13.5 presents photographs of traditional practices in the mine study area including traditional houses and house construction, ritual dance performance and local foraging activity (net fishing).

(1) This relationship was established recently (October 2011) by Simfer public consultation in the vicinity of the Mine site.
Figure 13.5 Photographs of Traditional Practices in the Mine Area

Notes: A: Village of Moribadou; B: Ritual dance performance; C: Construction of a house from locally available materials; D: Net fishing in a local stream. Photos are taken from the Mine Social and Environmental Baseline Study (2010).

13.4 Assessment of Impacts

13.4.1 Types of Cultural Heritage Impacts

13.4.1.1 Overview

The assessment of cultural heritage impacts follows the overall impact assessment methodology of predicting the magnitude of impacts, evaluation of their significance and development of mitigation measures and identifying residual impact. Five types of impacts to cultural heritage are considered as shown in Table 13.5 and briefly outlined below.
Table 13.5  Types of Cultural Heritage Impact Identified

<table>
<thead>
<tr>
<th>Type of Heritage</th>
<th>Tangible Cultural Heritage</th>
<th>Intangible Cultural Heritage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Archaeological Cultural Heritage Sites (ACH)</td>
<td>Living Cultural Heritage Sites (LCH)</td>
</tr>
<tr>
<td>Type of Impacts</td>
<td>• Physical disturbance or damage to site</td>
<td>• Physical disturbance or damage to site</td>
</tr>
<tr>
<td></td>
<td>• Disruption of access to site</td>
<td>• Disruption of access to site</td>
</tr>
<tr>
<td></td>
<td>• Change in setting of site</td>
<td>• Change in setting of site</td>
</tr>
<tr>
<td>Result of Impacts</td>
<td>• Loss of cultural or scientific information</td>
<td>• Loss of religious, spiritual or cultural activity</td>
</tr>
<tr>
<td></td>
<td>• Damage to national or local identity</td>
<td>• Damage to national or local identity</td>
</tr>
<tr>
<td></td>
<td>• Negative sentiment towards and opposition to the Project</td>
<td>• Negative sentiment towards and opposition to the Project</td>
</tr>
<tr>
<td></td>
<td>• Loss of potential future tourism benefits</td>
<td>• Loss of potential future tourism benefits</td>
</tr>
</tbody>
</table>

13.4.1.2  Physical Disturbance or Damage to Cultural Heritage Sites

Cultural heritage sites are fixed and discrete. Project impacts will come from direct physical disturbance or damage to the resources themselves. Disturbance can result directly from earth moving activities, from vibration and dust produced by heavy vehicles and machinery, or damage resulting from a change in water flows. The magnitude of this kind of impact is based on the percentage of the total site physically impacted by Project activities and the severity of the disturbance or damage.

13.4.1.3  Disruption of Access to Cultural Heritage Sites

Project activities may disrupt access to cultural heritage sites, preventing their usage and limiting their value to site users, who may include local residents and visitors. The magnitude of this type of impact is measured by the duration and severity of the disruption of access and the potential for alternative access routes. An example of a low magnitude impact would be construction activities which temporarily restrict direct access, but do not completely block users from accessing a site. An example of a high magnitude impact would arise if activities during the long period of mine operation were to completely cut off access to a site.

13.4.1.4  Change in the Setting of Cultural Heritage Sites

Although cultural heritage sites are tangible resources, they also have intangible value for local residents, visitors. The character and ambience of sites is often important in interpretations of their value and function. For example, the peace and tranquility found in a mosque contributes to its value and function place of prayer and contemplation. Thus, changes to the setting in which sites are found may affect the function or value of the sites. These impacts can be caused by a variety of factors, including construction activities and the movement of vehicles, equipment and personnel which can cause noise, dust or aesthetic issues. Changes in the experience of LCH sites are important because of the intangible values that are often associated with them. For example, noise from heavy machinery might impact a mosque by interfering with its intended use.

Physical changes to the landscape can also alter natural site features or the general aesthetics of a site. An example of landscape change which could impact cultural heritage sites is if the Project caused the dewatering of a waterbody that was considered an important genie residence by local people. Changes to the natural features of a site could significantly impact the site’s perceived power, use and value.
The magnitude of this type of impact is measured by the duration and severity of the affect on the setting of the site. An example of a low magnitude impact would be the movement of vehicles around a sacred site which temporarily affects the site atmosphere, making it less likely to be visited by local people whilst vehicles are present. An example of a high magnitude impact would be permanent alteration of the landscape surrounding a sacred site, which results in the loss of its perceived value to local people and the end of its use as a sacred site.

13.4.1.5 Infringement of Cultural Norms

This type of impact includes Project activities which do not follow proper social or cultural protocol and may cause offence to local communities. These impacts will be inherently difficult to predict. Examples of impacts of this type would include undertaking community relations through improper channels or failing to conduct expected rituals. The Project Community Department has engaged in local consultation with villages to identify traditional channels of communication and decision making. These include traditional community elders, representatives of traditional hunters, members of male and female (Poro and Sande) societies, and others. Social and cultural norms are not as clearly definable as heritage site locations and boundaries. Expectations may be unspoken and highly situational, making impacts more difficult to predict in advance. Due to the nature of this kind of impact, the significance of these impacts cannot yet be evaluated.

13.4.1.6 Threats to Cultural Knowledge and Activities

Traditional practice and knowledge serve to unite a community and to give it cohesion. Traditional dance, music, oral histories and stories, and common language are examples of intangible heritage that provide this type of internal cohesion for the communities in the mine study area. They represent an intangible resource that, once lost, would be hard to recover.

This impact encompasses Project activities that would directly threaten cultural knowledge or restrict traditional activities. This impact does not, however, include cultural shifts voluntarily adopted by Guinean people. Examples of impacts that endanger cultural knowledge would be religious conversion, linguistic change, abandonment of traditional dance and festival. These could be caused by in-migration or changing employment that could reduce available time and opportunity for such activities.

As with the identification of and respect for traditional cultural norms and protocols, the identification of key cultural knowledge and activities is not always a straight forward task. Due to the nature of this kind of impact, the significance of these impacts cannot yet be evaluated.

13.4.2 Impacts on Tangible Cultural Heritage Resources

Of the 129 known cultural heritage sites identified in the mine study area, a total of seven sites are anticipated to be disturbed by ground disturbing construction or operation activities in the mine area. These are identified in Table 13.6, with an assessment of the significance of impact on each prior to mitigation. None of the sites in the mine area are critical cultural heritage, as defined by PS8.

Direct physical impacts on ACH sites in the mine area are expected to occur at the following ACH locations:

- CH-62, the Wataferedou Metallurgy Mine; and
- CH-59 and CH-60, two unnamed sites with traces of mineral extraction.

As these sites have not been evaluated archaeologically, they are assumed to be non-replicable, and thus of high importance. They will be evaluated prior to construction, using intrusive archaeological techniques if required, and their importance rating will be re-assessed based on the resulting data.

Direct physical impacts on LCH sites in the mine area are expected to occur at the following locations:

- CH-53, a sacred site known as Siyatouro of medium importance;
- CH-56, a sacred site known as Wereba of low importance;
- CH-64, a sacred site known as Dalaro of medium importance; and
- CH-67, known as Samakounkaba or Elephant Head Rock, of medium importance.

For the LCH sites, importance levels were determined by interviews with local informants. For example, Samakounkaba or Elephant Head Rock (CH-67) is considered to be of medium importance as local stakeholders have indicated that the rock and its sacred function can be moved (1). None of the LCH sites expected to be impacted by the Project qualify as non-replicable cultural heritage, as stakeholders have indicated the possibility for the relocation of these sites.

In addition to the impacts that can be predicted for known sites, impacts are likely to occur at cultural heritage sites that have yet to be identified in the mine project area. Archaeological resources in particular are likely to be encountered, and will be impacted if they exist in areas where ground disturbance is to be undertaken. Impacts of this nature are most likely to occur in one area of high archaeological potential (MA-11) at the location of the Ouéléba pit.

Disruption of site access would occur if Project activities or structures hindered users from accessing sites but this is not predicted for any known sites in the mine area.

Changes in the ambience and character of cultural heritage sites in the mine area is not expected to occur at any known sites in the mine are.

However, disruption of site access and impact on site ambience are more difficult to predict than physical impacts and these kinds of impacts may arise as the Project moves forward. For this reason, the Community Department will be engaging in community consultation with site users to identify potential impacts and decide on appropriate mitigation measures if impacts do arise.

Prior to mitigation, it is anticipated that direct physical impacts on sites in the mine area will result in the loss of six sites (CH-53, Ch-60, CH-62, CH-64 CH-67 and CH-69), causing three critical impacts and three major impacts to cultural heritage sites. One additional site (CH-56) may be either disturbed or possibly lost as a result of development of the mine, resulting in one moderate impact.

Resources located in one Area of High Archaeological Potential (MA-11) may also be affected by mine development, resulting in the risk of one potentially critical impact.

The precise significance of impacts cannot be confirmed, until both the value of the resource and the magnitude of the impact have been verified.

(1) The site’s proximity to the mine pit has already raised concerns among the local population, leading to consultation with the Project’s Community Department. The interest level in this “Medium” value site serves a kind of practical calibration of the Project’s site value scale.
<table>
<thead>
<tr>
<th>CH Code</th>
<th>Site Type</th>
<th>Description</th>
<th>Potential Site Value$^{(1)}$</th>
<th>Project Impact</th>
<th>Potential Impact Magnitude$^{(2)}$</th>
<th>Potential Impact Significance$^{(3)}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH-53</td>
<td>LCH</td>
<td>Sacred Site</td>
<td>Medium</td>
<td>Lost through development of waste emplacement.</td>
<td>High</td>
<td>Major</td>
</tr>
<tr>
<td>CH-56</td>
<td>LCH</td>
<td>Sacred Site</td>
<td>Low</td>
<td>Disturbed or removed by development of mine pit.</td>
<td>High</td>
<td>Moderate</td>
</tr>
<tr>
<td>CH-59</td>
<td>ACH</td>
<td>Mineral Extraction Site</td>
<td>High</td>
<td>Lost through development of mine pit.</td>
<td>High</td>
<td>Critical</td>
</tr>
<tr>
<td>CH-60</td>
<td>ACH</td>
<td>Mineral Extraction Site</td>
<td>High</td>
<td>Lost through development of mine pit.</td>
<td>High</td>
<td>Critical</td>
</tr>
<tr>
<td>CH-62</td>
<td>ACH</td>
<td>Traces of Mineral Extraction</td>
<td>High</td>
<td>Lost through development of mine pit.</td>
<td>High</td>
<td>Critical</td>
</tr>
<tr>
<td>CH-64</td>
<td>LCH</td>
<td>Sacred Site</td>
<td>Medium</td>
<td>Lost through development of mine pit.</td>
<td>High</td>
<td>Major</td>
</tr>
<tr>
<td>CH-67</td>
<td>LCH</td>
<td>Sacred Site</td>
<td>Medium</td>
<td>Lost through development of mine pit.</td>
<td>High</td>
<td>Major</td>
</tr>
<tr>
<td>MA-11</td>
<td>Potential ACH</td>
<td>AHAP</td>
<td>High</td>
<td>Lost through development of mine pit.</td>
<td>High</td>
<td>Risk of Critical impacts</td>
</tr>
<tr>
<td>-</td>
<td>Potential ACH</td>
<td>-</td>
<td>High</td>
<td>Removal of archaeological sites related to ancient mining and iron working by mine pit.</td>
<td>High</td>
<td>Risk of Critical impacts</td>
</tr>
</tbody>
</table>

Notes:

$^{(1)}$ ACH sites AHAP listed are assumed of High value, pending further investigation.

$^{(2)}$ Criteria for determining impact magnitude are discussed in Section 13.2.6.

$^{(3)}$ Criteria for determining impact significance are discussed in Section 13.2.7.
13.4.3 Potential Impacts on Other Currently Unknown / Undiscovered Sites

In addition to the known sites and areas of high archaeological potential identified in Table 13.6 as directly affected by the mine footprint, further archaeological finds may occur throughout the mine project site. The area’s iron deposits would have made it an attractive place in ancient times, increasing the likelihood for the existence of unidentified archaeological resources throughout the area. The significance of the impacts on undiscovered sites cannot be assessed precisely at this stage as it will depend on the nature of each find and the degree of impact caused by the Project. However, because archaeological sites have been relatively unexplored and under researched in Guinea, well preserved sites uncovered during construction would be considered more important on average, thus the probability of impacts of major or even critical significance is high.

The significance of impacts on unknown / undiscovered sites cannot be assessed at this stage. However, prior to mitigation, there is a possibility of critical impacts on these sites.

13.4.4 Impacts on Intangible Cultural Heritage

13.4.4.1 Endangerment of Cultural Knowledge and Activities and Violation of Cultural Norms

The baseline section has identified a number of elements of traditional life in Guinea such as tribal affiliation, religion, traditional beliefs, dance, rituals, oral history, traditional crafts and substance activities. Development of the Project will introduce a number of pressures on these ways and they are likely to change and be eroded over time. The Project considers some cultural change inevitable, but aims to ensure that any changes which occur are acceptable to local communities. It is not therefore considered appropriate to make a judgement on the direction of impact (i.e. whether it is beneficial or adverse) within this assessment, but it must be acknowledged that a major impact, perceived as positive by some and negative by others, is likely to occur.

A specific aspect of potential concern in the area of the mine project is the long and culturally important former tradition of artisanal iron working. This tradition is widespread in West Africa in general and in Guinea in particular. Project archaeological investigations have revealed evidence of past artisanal mining and iron working activity in the area that in some cases lasted up until the 1960s. Twenty eight forge or mining sites have been identified by Project archaeological survey in the wider mine area. Stakeholder engagement during the field survey indicates that there is significant local interest in and memory of traditional ironworking in the areas. It is also likely that there are additional less evident archaeological sites relating to past iron working in the area that neither local people nor archaeologists are aware of yet. This archaeological record in all probability extends back hundreds of years or more. The Simandou Project proposes to develop the same source of iron ore exploited by local iron workers over the centuries. If the Project produces positive socioeconomic benefits for Guinea and Guineans then it is likely to engender perceptions of a positive relationship between past and present uses of the iron ore. People will feel proud of their past and at the same time thankful that this much appreciated traditional natural resource continues to contribute to Guinean progress. In this context, how the Project manages the archaeological impacts in the mine area, and its recovery of aspects of the local history relating to iron working has the potential to enhance as well as preserve local traditional knowledge. This would yield intangible cultural benefits for the local population and benefits to the Project also.

Major impacts in intangible cultural heritage are anticipated, which may be perceived as either positive or negative.
13.5 Mitigation Measures and Residual Impacts

13.5.1 Overview

Mitigation and residual impacts on cultural heritage are considered in this section under the two main headings of:

- impacts on tangible cultural heritage including:
  - physical disturbance or damage to ACH sites;
  - physical disturbance or damage to LCH sites;
  - disruption of access to cultural heritage sites; and
  - change in setting of cultural heritage sites.

- impacts on intangible cultural heritage.

In each case proposed mitigation measures are described and a summary of residual impacts is provided.

The overall approach to be followed will be set out in an update to the existing Cultural Heritage Management Plan (see Annex 13E: Simandou Project Cultural Heritage Management Plan) and implementation will be led by a specialist Simandou Cultural Heritage Working Group. The Cultural Heritage Management Plan describes the processes, procedures, and resources that will be used by the Simandou Project to ensure successful implementation of mitigation measures. The plan will apply to both tangible and intangible cultural heritage in the mine study area. Protection of in-tangible cultural heritage will also be addressed in the Project’s In-Migration Plan and the Workforce Code of Local Conduct.

The Simandou Cultural Heritage Working Group will direct investigations to be carried out prior to the start of construction works on the Project, and be responsible for consulting with the Government of Guinea on matters relating to sites and finds. This will include consultation on the overall programme and on all investigations and other actions. It will also advise on technical staffing and contracting. The Cultural Heritage Working Group will include representatives of relevant government authorities, the Project and other appropriate representation. It will be supported by experienced archaeological specialists and will guide the conduct of pre-construction surveys, construction monitoring and operation of the chance finds procedure.

13.5.2 Mitigation of Impacts on Tangible Heritage Sites

13.5.2.1 Physical Disturbance or Damage to ACH Sites

Physical impacts on ACH will be mitigated as follows.

1. Prior to clearance of land for construction of mine infrastructure or the staged progression of mining, surveys will be conducted focusing first on defining the boundaries and assessing the importance of known ACH sites, as well as investigating Areas of High Archaeological Potential (AHAP) within the mine footprint. Additional survey outside the AHAPs will be conducted to complete a test of the model that will refine its accuracy. Broader survey will then be conducted within the mine footprint. The work will be conducted according to best practice standards, using a sampling strategy guided by the refined model and considering other types of specialised sites not targeted by the model. These activities will include non-intrusive walkover surveys; non-intrusive ground based geophysical survey techniques; and trial intrusive investigation using hand tools or mechanical equipment (shovel, screen and auger) where appropriate. In applicable situations the reconnaissance will be assisted by analysis of high resolution satellite imagery.

2. Where a feature of high importance is identified through these surveys it will be subject to investigation. In accordance with PS8, the design of the mine layout will be refined to avoid impact and cultural heritage will be preserved “in its place” where feasible.
3. Where sites cannot be avoided (ie all or part of the site will be lost or damaged), non-intrusive and intrusive investigations will be carried out to determine site boundaries, stratigraphy, and artefact content, in order to evaluate the site’s importance and whether it would be considered non-replicable heritage. If a site is deemed non-replicable under the criteria of PS8, special efforts will be made to preserve the site if practicable. The conditions for removal of non-replicable cultural heritage are listed in Table 13.1 in section 13.2.3.1. No critical cultural heritage sites, as defined by PS8, have been identified in the mine study area.

4. An appropriate strategy will then be decided by the Simandou Cultural Heritage Working Group in consultation with the relevant government authorities. Depending on the findings of the investigations and the decision of Guinean authorities, mitigation may include intensive investigation and site rescue. In these cases, the site will be studied in situ, and archaeological materials may be removed for long term museum curation. Detailed technical and photographic records of the work will be kept and technical reports prepared to international standards. More accessible information suitable for public education will be prepared and made available as well. The Republic of Guinea will be the ultimate owner and steward of all recovered archaeological resources.

5. When impacts to replicable ACH sites are unavoidable, special construction techniques such as site burial, use of hand tools as opposed to mechanised equipment, and reduced working areas will be adopted where feasible to minimise the impact.

6. During construction, a Chance Finds Procedure complying with international best practice will be operated to address any finds encountered during ground disturbing activities. The Chance Finds Procedure will include:

- training relevant staff and contractors in recognition, handling, and response to archaeological chance finds;
- conducting look-ahead construction site inspections as the ground is cleared in advance of construction activity;
- deploying archaeologists to monitor all construction fronts to guide the recognition of and response to archaeological finds made during ground disturbance;
- establishing protocols for responding to chance finds, including cessation of work for finds deemed significant by a qualified archaeologist and notification of the Simandou Cultural Heritage Working Group;
- use of expedited procedures for evaluation and treatment of significant chance finds in order to limit impacts while minimising construction delays; and
- keeping an auditable record of monitoring activities including areas with known cultural heritage sites and areas of high archaeological potential.

The Chance Finds Procedure will continue to be implemented during operation of the mine when new ground disturbance is needed for the expansion of mine pits, the development of new infrastructure, or ground disturbing maintenance activities.

Mitigation of potential archaeological impacts of the Simandou Project in accordance with the strategy described above will contribute substantially to the understanding of Guinea’s past. This contribution to Guinean archaeology and history will be all the more valuable because so little archaeological work has been done in the country to date. To support protection of cultural heritage, the Project will also work through the Working Group to build capacity for heritage management as a function of government in Guinea. The Project will, where appropriate, seek opportunities to invest in Guinean heritage such as:
• training government staff and local university students in the practice of managing and preserving cultural heritage; and

• funding scientific studies and publications based on Simandou Project finds to share the findings of the Project’s cultural heritage programme with the public.

These investments will enhance the Project’s contribution to Guinean cultural heritage and the Guinean public’s appreciation of that heritage.

13.5.2.2 Physical Disturbance or Damage to LCH Sites

The occurrence of known LCH sites is greater than for ACH, with 88 recorded sites within the mine study area. A project wide site reconnaissance and local consultation process is now being undertaken and will include identification of additional LCH sites and collection of further information of known sites. Specific additional LCH and ACH topics to be investigated in the mine areas include:

• identification of new LCH sites within the mine study area;

• establishing additional details about traditional uses of LCH sites that will assist in the Community Department’s management of potential impacts, such as the role of the villages as “keepers of the mountain” and the significance of water bodies as potential sacred areas or as the home of water spirits; and

• identification of archaeological sites that may be known to local communities in the mine area.

Many LCH sites certainly exist in the mine area but have not yet have been identified by the Project. Pre-construction mitigation will involve community engagement to identify additional unknown sites within the Project area of influence. Community engagement will focus not only on widely known LCH sites, but will also engage sensitive groups such as religious minorities, women’s groups or secret societies, who many not wish to share the exact location of their sacred sites.

The strategy for LCH will include the measures listed below.

1. Consultation with affected groups (local community, women’s groups, men’s groups, traditional authority figures, different religious and ethnic groups) conducted by the Community Department to determine significance, function, access and use of the site during detailed design planning and continuing during construction. The Community Department, working in conjunction with the Working Group, will engage affected groups to develop appropriate mitigation and negotiate compensation if necessary in accordance with the guidance outlined in PS8. Consultation with affected groups and agreements reached between users and the Project will be formally documented. Confidential LCH sites will be designated for avoidance using procedures that assure that inappropriate information is not revealed.

2. Where LCH resources may be lost or damaged by Project activities, the Project will consult with and gain the consent of affected communities and site users before proceeding with any non-avoidance mitigation. If possible and acceptable to affected people, natural and man-made objects and moveable spiritual sites will be relocated to avoid impacts, using approaches for moving and placing objects that are sensitive to local wishes and traditional practice.

3. Where relocation is not possible, or where displacement of a feature will result in the loss of some of its cultural value or functionality, consideration will also be given to the need for compensation. The Project Resettlement and Compensation Framework (PARC), as described in Chapter 19: Land Use and Land-Based Livelihoods will also include provision for displacement of features of cultural importance.

Mitigation of risks to ACH and LCH outside the immediate mine footprint will be undertaken as follows.

1. Sites near the perimeter of the works will be clearly marked and if necessary fenced to prevent encroachment by Project personnel and activities and to protect them from accidental disturbance. All
Project personnel working in the area will be made aware of their importance and any actions needed to avoid impacts. Sites will be inspected regularly to confirm no inadvertent or unreported damage has occurred and to identify any risk of impact from the Project. For confidential sites, site confidentiality will be maintained by fencing and other restrictions on employee access to avoid impacts without revealing the exact locations of the sites.

2. If a cultural heritage site is damaged, this will be treated as an incident and managed in accordance with the approved incident management procedures established for the Project and in consultation with the users of the sites, if any. The Cultural Heritage Management Plan (CHMP) will address procedures for cultural heritage related incidents. If any grievance should arise in this regard, this will be managed in accordance with the approved Grievance Procedure established for the Project (see Annex 1G: Simandou Project Grievance Procedure). Where features of importance for LCH or well-known ACH are unintentionally lost or damaged, mitigation will be developed under the direction of the Cultural Heritage Working Group, and in consultation with affected people.

13.5.2.3 Disruption of Access to Cultural Heritage Sites

Mitigation of potential disruption of access to LCH or known ACH sites will be undertaken as follows.

1. The Project will consult with site users to understand stakeholder concerns and alternative mitigation options prior to construction.

2. Paths, roads, and other access routes identified through local informants will be marked and preserved wherever practicable.

3. Site access will only be restricted by the Project after consultation and agreement with the affected communities is reached. If access to a cultural heritage site is restricted by Project activities or facilities, the Community Department and Cultural Heritage Working Group will consult with the affected people to discuss mitigation options. Mitigation measures that may be considered and negotiated include: alternate access to the site, relocation the site or the essential site features, and compensation in accordance with the Project Resettlement and Compensation Framework, where appropriate.

Although disruption of access to identified heritage sites is not expected to occur in the mine area, stakeholder identification and consultation will be used to identify any unforeseen site access issues if they do arise and to develop appropriate mitigation.

13.5.2.4 Change in Setting of Cultural Heritage Sites

Mitigation of changes in settings of LCH or known ACH sites will be undertaken as follows.

1. Measures will be undertaken to minimise disturbance from noise, dust and the movement of equipment, vehicles and personnel through adoption of good practice in construction and operating methods (see Chapter 7: Noise and Vibration, and Chapter 8: Air Quality).

2. Consideration will be given to mitigating impacts on views of and from LCH sites, including screening by landscape planting or earthworks (see Chapter 14: Landscape).

3. The Workforce Code of Conduct will prohibit employee interference with LCH and ACH sites.

4. If the setting of a cultural heritage site is affected by Project activities to the extent that it would lose its original function or cease to be used, the Project will consult with the affected community to agree mitigation. The mitigation hierarchy that will be considered under this circumstance is as follows: first avoidance, then relocation, then replacement, and lastly compensation if all other mitigation strategies prove impracticable.
Although change in the setting of heritage sites is not expected to occur at recorded heritage sites in the mine area, stakeholder identification and consultation will be used to understand site function and use and developing appropriate mitigation for any potential impacts.

13.5.2.5 Residual Impacts on Tangible Cultural Heritage

Wherever it is practicable for a cultural heritage site to be physically avoided by design or planning of construction activity, this approach will be adopted. This will apply to sites already known, sites discovered through clearance surveys, and finds encountered through the chance finds procedure. Where avoidance is possible, this will leave cultural heritage resources intact, with setting unchanged and accessible to local people, cultural and scientific researchers, and people who may visit the Project area and its surrounding region in the future, and in these cases impacts will be not significant.

When avoidance is not possible, residual impacts to cultural heritage will occur either as a result of partial or complete destruction of the resource or as a result of its rescue and removal. Rescue and removal will reduce the impact but loss of value will occur as removal cannot achieve the same level of preservation as avoidance. For this reason, even with mitigation, three potentially major residual impacts are anticipated for the Wataferedou Metallurgy Mine (CH-62) and two other unnamed sites with traces of mineral extraction (CH-59 and CH-60).

Unknown tangible cultural heritage sites existing in the mine area may also be affected by inadvertent damage. Despite the chance finds procedure, archaeological chance finds are likely to result in at least partial destruction of resources due to unavoidable incidents or failure to recognise chance finds in a timely manner.

Archaeological chance finds will require a temporary cessation of construction while finds are evaluated by an archaeological expert. Mitigation may include protective fencing and avoidance or rapid removal and study. Although chance finds can occur in any part of the mine footprint, it is likely that the greatest source of impacts to tangible cultural heritage will be archaeological finds in the Area of High Archaeological Potential (MA-11), where a potentially major impact is predicted. It is not possible to predict the level of impact at this time but the aim will be to prevent impacts being more than moderate in significance. This will, however, depend on what is found and when, and the extent to which it can be protected or preserved by rescue.

Mitigation of potential archaeological impacts of the Simandou Project in accordance with the strategy described above will contribute substantially to the understanding of Guinea’s past. This contribution to Guinean archaeology and history will be all the more valuable because so little archaeological work has been done in the country to date. To support protection of cultural heritage, the Project will also work through the Simandou Cultural Heritage Working Group to build capacity for heritage management as a function of government in Guinea.

For LCH sites, preconstruction stakeholder identification and consultation will enable understanding of locations, boundaries, use, access and importance, and should allow development of appropriate mitigation in consultation with the affected communities. With appropriate responses in terms of avoidance, relocation and compensation, residual impacts should be no more than moderate for most LCH sites. LCH sites that expected to be impacted by direct physical encroachment include four sacred sites: Siyatouro (CH-53), Wereba (CH-56), Dalaro (CH-64) and Samakoukaba (CH-67), where one minor and three moderate residual impacts are expected. Among the LCH sites, the one known as Samakoukaba or Elephant Head Rock (CH-67), is a sacred rock located at the centre of the planned mine pit at Pic de Fon. Consultation with local residents of the nearby village of Moribadou indicated that the site has a special importance for local people. Consultation also indicated that the rock could be moved to another area as long as proper ceremonies were performed at the time of the relocation. The possibility of relocation further reduces the residual impact, since this site will not be destroyed or damaged by Project activities.
13.5.3 Mitigation of Impacts on Intangible Cultural Heritage

13.5.3.1 Mitigation Measure

The baseline has identified a number of cultural domains that could be sensitive to Project activities in the construction and operations phases, including language, ethnicity, religion and certain types of cultural knowledge and activity. To address this, the Project aims to identify valued traditional cultural practices and beliefs, and to then assure socioeconomic or other pressures do not cause significant and detrimental change. The Project is continuing to develop an understanding of the communities’ cultural heritage and traditional practice which is then used to design mitigation and monitoring which will further assess the impacts and the effectiveness of the mitigation.

The most effective method will be detailed and localised community consultation, continuing the work currently being carried out by the project Community Department. Community consultation will continue as the Project proceeds and will form part of a broader programme of public consultation and community engagement as identified in Chapter 4: Scoping and Stakeholder Engagement. The Community Department aims to establish a full understanding of cultural patterns and issues such as holidays, inter-ethnic relations, and organisation of community authority in order to effectively manage community relations and scheduling of Project activities. Findings from community consultations will inform cultural training for Project personnel, in order to decrease the likelihood for cultural friction or misunderstandings with local people and the Workforce Code of Conduct will include specific provisions to minimise the risk of inappropriate interactions with the local community.

As the Project develops, the Community Department will develop feasible, locally validated responses and solutions during construction and operations. Issues that emerge, whether socio-economic or cultural, will be pinpointed quickly and addressed through on-going community dialogue and good faith negotiations with affected people to plan appropriate and feasible mitigation measures. As a result of these consultations, the Community Department will design and implement programs and partnerships to promote and enhance the conservation of intangible cultural heritage. Mitigation outlined in these chapters will be assisted by full implementation of the PARC Framework and actions to ensure fair access to employment and other opportunities, skills based training, general education and raising awareness as detailed in Chapter 19: Land Use and Land-Based Livelihoods and Chapter 20: Social Structures and Community Life. It is likely that some living cultural heritage impacts will be identified only through the project Grievance Procedure (see Annex 1G) but the local knowledge developed by the Community Department will ensure that the Project response to those grievances is both locally informed and culturally appropriate.

The key aspects of the approach to mitigation of impacts on intangible cultural heritage, as well as the possible benefits that may result from successful implementation are summarised in Table 13.7.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Mitigation</th>
<th>Potential benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infringement of Cultural Norms (Applies to Cultural Knowledge and Activities)</td>
<td>Maintaining understanding of and respect for cultural norms (language, ethnic affiliation, religion, social organisation, gender roles, rituals, forms of cultural expression, traditional techniques and activities, local leadership patterns) of local communities through consultation and staff training.</td>
<td>Integration and rationalisation of traditional life ways with the new experiences and positive impact that the Project will bring to the area and the country.</td>
</tr>
<tr>
<td>Threats to Cultural Knowledge and Activities (Applies to Cultural Knowledge and Activities)</td>
<td>Identifying and supporting key cultural knowledge and activities of local communities to assure that they are not impacted by project activities or lost due to uncontrollable social changes. Key investment to be made such as already on-going for traditional dance and hunting practice. Additional priority areas of knowledge and activity to be identified and supported.</td>
<td>Positive sense of social and cultural cohesion associated with the Project. Retention of social and cultural cohesion of local communities in the mine study area.</td>
</tr>
</tbody>
</table>
13.5.3.2 Residual Impacts

Residual impact cannot be determined at this stage but the aim will be to maximise positive impacts, avoid significant adverse impacts where possible, and mitigate remaining impacts so that they are no more than minor or moderate.

13.6 Summary of Findings

The findings of the assessment of impacts on cultural heritage are summarised in Table 13.8.

In summary, prior to mitigation there would be significant impacts on 7 known tangible heritage sites:

- critical impacts on three metal working sites CH-59, CH-60 and CH-62;
- major impacts on three sacred sites CH-53, CH-64 and CH-67; and
- moderate impacts on one sacred site CH-56.

Prior to mitigation there is also a risk of:

- potentially critical impacts on one Area of High Archaeological Potential (MA-11); and potentially critical impacts on chance finds that have not yet been identified.

There may be major impacts on intangible cultural heritage, which may be perceived as positive by some and negative by others.

Mitigation measures will include the following:

- rigorous efforts to identify and record unknown cultural heritage sites and record site boundaries and importance of known sites through further survey and investigation during detailed design and prior to the start of construction in order to potentially avoid cultural heritage constraints through redesign;
- operation of an effective Chance Finds Procedure during construction;
- avoidance of impacts on tangible cultural heritage wherever possible by locating project works to avoid sites of importance for archaeology or living cultural heritage;
- where sites cannot be avoided, mitigation of impacts by:
  - investigation and preservation by rescue of archaeological sites; and
  - appropriate measures for relocation, replacement, or compensation for living cultural heritage sites agreed with the community through good faith negotiations.
- mitigation of changes to site setting and restriction of site access by avoidance, if feasible, or adoption of good construction site practices, protection of sites from encroachment, consultation with affected people on new access arrangements and compensation for disruption; and
- mitigation of impacts on intangible cultural heritage by seeking to maximise beneficial responses to the project and minimise adverse effects, including consultation with the affected communities to develop a full understanding of and respect for their cultural norms, knowledge and activities. The workforce will also receive educational training on local norms and traditions in order to mitigate potential conflicts between locals and Project employees. The Workforce Code of Conduct will also include specific regulations with respect to cultural heritage.

Residual impacts cannot be determined at this stage for either tangible or intangible impacts, but the aim will be to avoid significant impacts where possible and mitigate remaining impacts so that they are no more than minor or moderate.
<table>
<thead>
<tr>
<th>Site Name and type</th>
<th>Project Impact</th>
<th>Significance Before Mitigation</th>
<th>Key Mitigation</th>
<th>Residual Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Known Tangible Heritage Sites</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACH, unnamed mineral extraction site (CH-59)</td>
<td>Loss through development of mine pit</td>
<td>Critical</td>
<td>Pre-construction field survey of site in order to accurately record location, define boundaries, and assess the significance of the resources, conducting intrusive testing where required.</td>
<td>Residual impact cannot be determined at this stage but aim will be to avoid significant impacts where possible and mitigate remaining impacts so that they are no more than minor or moderate.</td>
</tr>
<tr>
<td>ACH, unnamed mineral extraction site (CH-60)</td>
<td>Loss through development of mine pit</td>
<td>Critical</td>
<td>Evaluation of archaeological potential.</td>
<td></td>
</tr>
<tr>
<td>LCH, Siyatouro sacred site (CH-53)</td>
<td>Loss through development of waste dump</td>
<td>Major</td>
<td>Avoidance, or if not possible and if acceptable to stakeholders, mitigation strategies developed through good faith negotiations with local stakeholders.</td>
<td></td>
</tr>
<tr>
<td>LCH, Dalaro sacred site (CH-64)</td>
<td>Loss through development of mine pit</td>
<td>Major</td>
<td>Consultation with site users to understand site boundaries, use and access issues.</td>
<td></td>
</tr>
<tr>
<td>LCH, Samakounkaba (CH-67)</td>
<td>Loss through development of mine pit</td>
<td>Major</td>
<td>Implementation of the Cultural Heritage Management Plan (CHMP).</td>
<td></td>
</tr>
<tr>
<td>LCH, Wereba sacred site (CH-56)</td>
<td>Loss or disturbance through road improvement</td>
<td>Moderate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Name and type</td>
<td>Project Impact</td>
<td>Significance Before Mitigation</td>
<td>Key Mitigation</td>
<td>Residual Impact</td>
</tr>
<tr>
<td>-------------------</td>
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</tr>
</tbody>
</table>
| Unknown Tangible Heritage Sites | Area of High Archaeological Potential (MA-11) | Large part of area physically impacted through development of mine pit | Risk of Critical impacts | Archaeological survey of affected area, including intrusive testing where required, prior to construction.  
Avoidance, or if not feasible, archaeological rescue excavation of any finds.  
Implementation of the Cultural Heritage Management Plan (CHMP), including implementation of Chance Finds Procedure.  
Publication of archaeological findings to share the findings of the Project’s cultural heritage programme with the public | Residual impact cannot be determined at this stage but aim will be to avoid significant impacts where possible and mitigate remaining impacts so that they are no more than minor or moderate. |
<p>|                  | Chance Finds that have not yet been identified | Loss of archaeological and historic resources through development of Rail and associated facilities and logistics | Risk of Critical impacts | Implementation of chance finds procedure including expert monitoring and localised cessation of construction when needed; consultation with Guinean government in the event of significant finds; avoidance of find, or if not feasible, mitigation of impacts, potentially including rescue excavation; publication of archaeological findings. |</p>
<table>
<thead>
<tr>
<th>Site Name and type</th>
<th>Project Impact</th>
<th>Significance Before Mitigation</th>
<th>Key Mitigation</th>
<th>Residual Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intangible Cultural Heritage</td>
<td>Impacts on intangible cultural heritage including issues such as language, ethnicity, religion and cultural knowledge and activities.</td>
<td>Major</td>
<td>Maintaining understanding of and respect for cultural norms (language, ethnic affiliation, religion, social organisation, gender roles, rituals, forms of cultural expression, traditional techniques and activities, local leadership patterns). On-going stakeholder engagement with affected communities, including leaders, site users and minority groups. Identifying and supporting key cultural knowledge and activities of local communities to assure that they are not impacted by project activities or lost due to uncontrollable social changes. Additional priority areas of knowledge and activity to be identified and supported. Implementation of the Cultural Heritage Management Plan (CHMP), including, where appropriate, cultural sensitivity training for all Project staff.</td>
<td>Residual impact cannot be determined at this stage but aim will be to maximise positive impacts, avoid significant adverse impacts where possible, and mitigate remaining impacts so that they are no more than minor or moderate.</td>
</tr>
</tbody>
</table>