

Tangible Heritage

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Sabajo ESIA report**

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EXECUTIVE SUMMARY

The scope of work for the Sabajo Project tangible heritage baseline study is to identify, map, describe and determine the significance of tangible heritage, defined as moveable or immovable objects, property, sites, structures or groups of structures, having archaeological (prehistoric) or historical value in the Sabajo Project footprint. This report provides a summary of the objectives, methods and results of the Sabajo Project tangible heritage baseline study.

The methodology includes a desktop literature review of primary and secondary sources and consultation with study area communities of Maroons from six villages along the Afobaka Road transportation corridor, Kawina persons in Paramaribo and Kawina small scale miners in and around the Sabajo Project. Community consultation involves validation meetings, where visits are made to study area communities to ask residents for feedback about the goal, objectives, methods and anticipated outcomes of the Sabajo Project ESIA study. In addition, verification meetings are conducted upon completion of the ESIA to allow study area communities to provide feedback about the process and to identify errors in data collection and reporting.

Reconnaissance field work was undertaken to identify and record heritage sites in the Sabajo Project Footprint. Study area communities reported no sites in the Sabajo Project area. As a result, the impact assessment relied on sampling based on desktop study results of archaeological and environmental indicators applied via a pedestrian survey and shovel test pit units. Locations for the shovel test pits were determined by the desktop study and community consultation as well as available access and ground conditions.

The desktop literature review and community meetings did not result in the identification of tangible heritage sites in the Sabajo Project footprint, although pre-Columbian objects were reportedly found in the Santa Barbara section of the Sabajo Project.

Given access constraints and uncertainty around the location of some of the proposed Project components, the field component of this heritage assessment was limited to a 182 hectare area, with an expectation that further heritage field work would be conducted in areas with heritage site potential prior to, or concurrent with, proposed ground altering activities by Newmont. No archaeological sites were identified during the reconnaissance.

1 SCOPE OF WORK AND PROJECT AREA

As required by the Government of Suriname National Institute for Environment and Development in Suriname (NIMOS)¹, Newmont Mining Corporation LLC with Golder Associates is conducting an Environmental and Social Impact Assessment (ESIA) of its Sabajo Gold Project (hereafter the Sabajo Project). The Sabajo Project is located in the southern most portion of the Para district between the upper courses of the Little Commewijne and Tempati Creeks, approximately 30 km west of Newmont's Merian Mine and approximately 20 km northeast of the *Prof. W. J. van Blommestein Stuwmeer* [Brokopondo] Reservoir, hereafter referred to as Afobaka Lake.

To date an estimated 30% of the Sabajo Project area is highly disturbed due to small scale mining activity and timber logging, as well as Newmont's roads and current facilities (i.e., worker's camp). Given access constraints and uncertainty around the location of some of the proposed Project components, the field component of this heritage assessment was limited, with an expectation that further heritage field work would be conducted in areas with heritage site potential prior to, or concurrent with, proposed ground altering activities by Newmont.

The goal of the ESIA is to determine the potential environmental, health and socio-cultural impacts Newmont may cause during the life of the proposed mine. The focus of the ESIA is the Sabajo Project footprint, defined by those portions of the Newmont concession that will have major ground disturbance with irreversible effect to the landscape. At the time of field work and report writing (August 2017), the proposed Sabajo Project includes an access road, four waste storage facilities, an ore stockpile, a worker's camp, a surface facility, a landfill, eight mine pits, and a ~32 km haul road to transport ore from the Sabajo Project to a processing facility at Newmont's Merian Mine (Figures 1 and 2).

In addition to the footprint, there are 'study area communities' or groups of persons that have the potential to be directly affected by, participate in, or benefit from the proposed Sabajo Project. The study area communities included in this tangible heritage resources study are Maroon communities, descendant groups of escaped slaves. The Kawina² are a mix of Amerindians and Ndjuka Maroons that are historically located in four villages in the area of Java, more than 30 km northeast of the Sabajo Project. The majority of this community currently reside in the coastal capital of Paramaribo. Along the Afobaka Road running parallel to the Suriname River, approximately 15 km west of the Sabajo Project, there are six occupied villages comprised of Saamaka and Ndjuka Maroons. Finally, there are small scale mining (SSM) camps located in and around the Sabajo Project footprint populated by persons from either of these Maroon groups as well as Brazilians and Hindustani.

The scope of work for the Sabajo Project tangible heritage baseline study is to identify, map, describe and determine the significance of tangible heritage, defined as moveable or immovable objects, property, sites, structures or groups of structures, having archaeological (prehistoric) or historical value in the Sabajo Project footprint. This report provides a summary of the objectives, methods and results of the Sabajo Project tangible heritage baseline study.

¹ NIMOS or *Nationaal Instituut voor Milieu en Ontwikkeling in Suriname* [National Institute for Environment and Development in Suriname].

² See Historical Narrative section of the ESIA by Josee Artist.

Figure 1. Sabajo Mine Site.

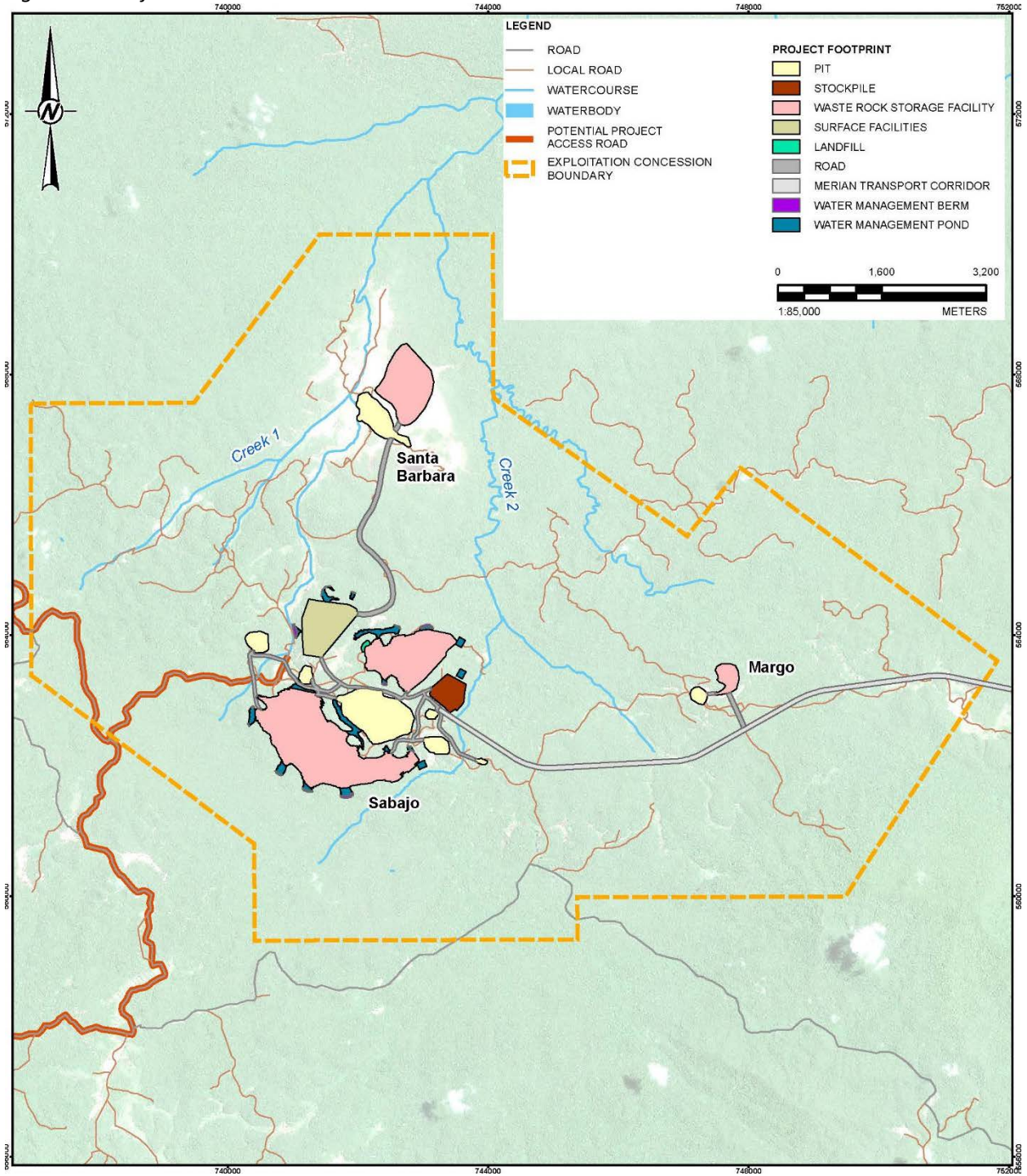
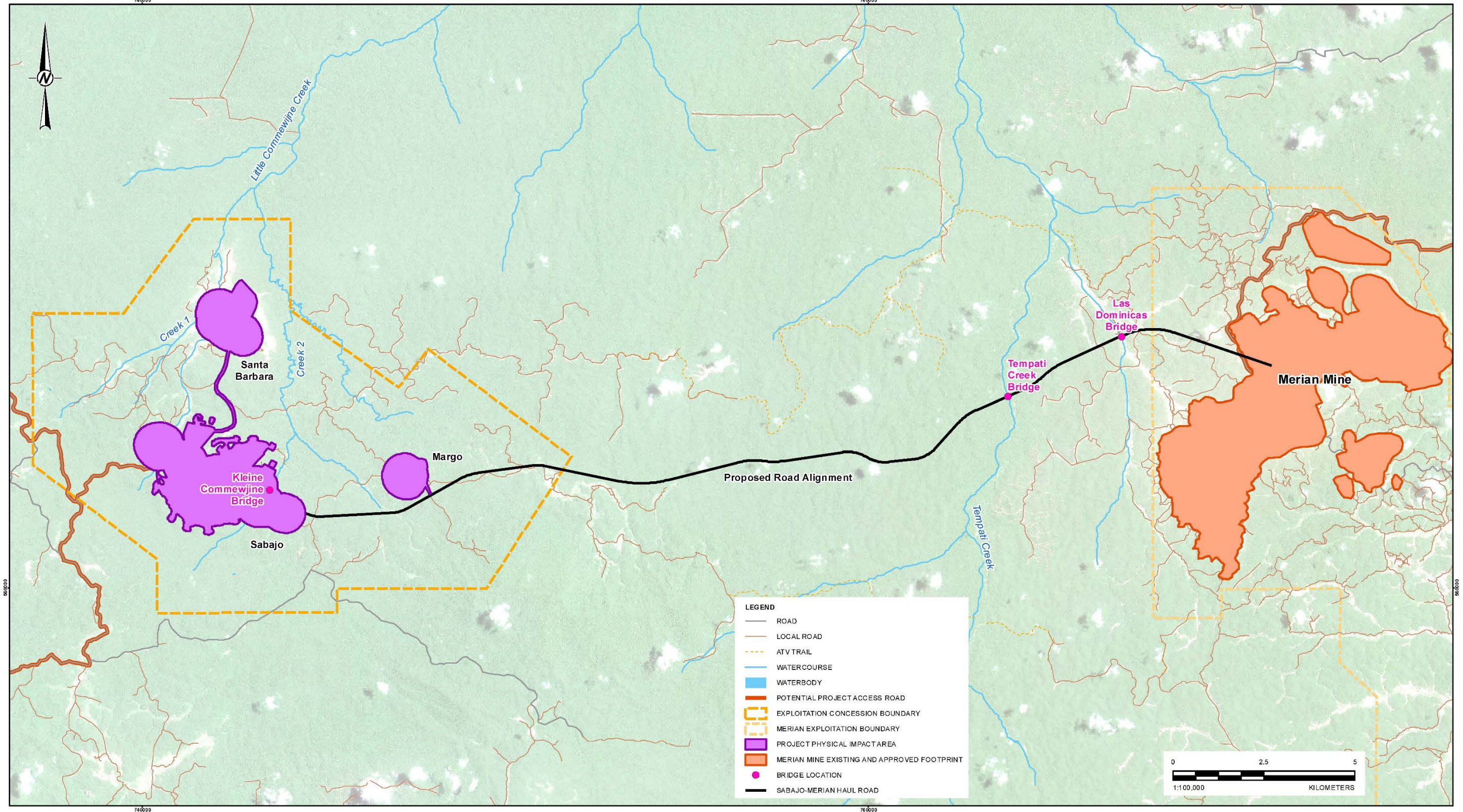


Figure 2. Sabajo Merian Haul Road.



The tangible heritage component of the Sabajo Project ESIA study is consistent with internationally recognized good practice as described in the ICOMOS (1990) *Charter for the Protection and Management of the Archaeological Heritage*.

The tangible heritage component of the ESIA complies with the Ministry of Education, Science and Culture³ Monument Law 2002 no. 72 for immovable archaeological resources found during the course of this study.⁴

Article 20. 1. Stipulates that monuments found in excavations and on which no one can prove the right of ownership are owned by the state. 2. The owner of the land in which the monuments have been dug up is required to transfer the found monuments to the State and is entitled to a reimbursement amounting to half the value of those monuments. 3. Monuments found in an investigation...may be transferred to a place suitable for their custody on the instructions of the Minister [of Education, Science and Culture].

Article 21. States that the finder..., within thirty working days after the discovery must indicate the exact location, time, monument and particulars of the discovery to the District Commissioner (DC) of the district in which the discovery has been made who shall immediately notify the Minister.

The ESIA study will also comply with the Ministry of Spatial Planning and Land Policy⁵ *Stichting voor Bosbeheer en Bostoezicht* (SBB) Code of Practice⁶ (2011 Concept 003) that includes a zoning standard for places of cultural importance and archaeological sites. Article 3.2 of the Code of Practice states that areas of cultural importance, settlements, fields, cultural history, spiritual and archaeological sites should to be excluded (50 meters) from the exploitation area. If archaeological or cultural historical findings are made, relics and locations have to be reported immediately to [MINOWC]. The licensee and their staff, contractors or representatives will refrain from interfering in any way with such sites and / or relics.

2 CULTURAL SETTING

This section provides an overview of the pre-Columbian and colonial landscape relevant to the Sabajo Project. Herein presented are: the pre-Columbian cultures that traversed the tropical forest region of the Sabajo Project Area; the study area communities created in the colonial period; the Kawina Maroons historically located at Mapane, Little Commewijne and Tempati Creeks; and the Saamaka and Ndjuka Maroon communities currently occupying villages along the Afobaka Road. This section concludes with a review of 20th century tangible heritage.

³ *Ministerie van Onderwijs, Wetenschap en Cultuur*

⁴ There is no official English version of the Monument Law 2002. Offered here is an interpretation of portions of the law relevant to Sabajo Project. MINOWC Archaeological Services (AS) archaeology guideline is currently being edited, is unofficial and therefore not available for reference.

⁵ *Ministerie van Ruimtelijke Ordening en Grond Beleid*

⁶ *Praktijkrichtlijnen voor duurzame houthoogst In Suriname*

2.1 PRE-COLUMBIAN TANGIBLE HERITAGE

Suriname's prehistory sits within the broader context of the Guiana Shield, which encompasses Venezuela, Brazil, Suriname, French Guiana and Guyana. The Sabajo Project footprint is located in the Precambrian Guyana Shield area described as inland, interior uplands or the hill and mountain.

Pre-Columbian sites have been extensively researched and inventoried in the coastal region but not in the inland (Versteeg and Bubberman 1992). As colonialism spurred disintegration and migration of Indigenous peoples throughout the country, many gravitated toward villages used as trading posts fabricated by colonists. During the colonial period, the plantation system developed a tolerant relationship with the Indigenous peoples to end their continued ravaging of planter properties. Indigenous groups were allowed to settle near colonists and trade items such as wood and dyes in exchange for European goods (Ngwenyama 2007: 91).

Ethnohistoric records demonstrate that many of the Indigenous groups in the inland maintained short-lived villages, abandoning many of them after only five or six years of occupation. The Carib and Arawak Indians of this region practiced slash-and-burn cultivation, along with hunting, fishing, and the gathering of other natural resources (Koelewijn 1987; Stewart 1963).

2.1.1 Sabajo Project Area Potential Pre-Columbian Archaeological Impact

The pre-Columbian tangible heritage relevant to the Newmont study area communities and Sabajo Project are the so called Tropical Forest Cultures of the Precambrian Guyana Shield inland: Koriabo Culture, Brownsberg Culture and Pondocreek Culture.

The Koriabo Culture (AD 1200-1500) is believed to have originated in the lower Amazon with a tradition of appropriating settlements of other Indigenous groups. It is characterized by stone axes used to fell trees for slash and burn agriculture and a limited variety of artifacts, including ceramics with thin line incisions along the rim and animal appliques. In addition, there are circular to cylindrical shaped stones to crack nuts and polish stones. Sites from the Koriabo Culture are typically located in high sandy banks of rivers and creeks.

The Brownsberg Culture— as defined in the available literature—dates to AD 1200-1500 and is characterized by mined metabasalt from the Brownsberg (a mountain range west of the Afobaka Lake in the district of Brokopondo), fashioned into stone axes in varying degrees of completeness, ceramics with non-intersecting linear incisions at the rim and the appearance of trade goods associated with the Koriabo Culture. Early 19th century archaeological research revealed whetgrooves or grinding grooves (Figure 3); egg-shaped depressions in groups of five to six at regular intervals where stone axes were sharpened. Grinding grooves are also identified along the river basins near Maroon villages. The most commonly identified artifacts at these sites are stone tools made of quartz and rhyolite (Versteeg 1998, 2003; Versteeg and Bubberman 1992).

The Pondocreek Culture (AD 850 -1600) has only been identified at the confluence of the Mapane Creek and Commewijne River and is the only site of this kind attributed to this Indigenous cultural group. The site itself boasts a circular mound that possibly functioned as a Maroon fortified village with a palisade, few moveable objects and no evidence of cultural soils. The identification of this site is the first instance of oral testimonials about Maroon appropriation of an Indigenous settlement.



Figure 3. Example of rock outcrop in a creek with a series of grinding grooves and an axe.

2.1.2 Registered Archaeological Sites Relevant to the Sabajo Project Area

All registered archaeological sites within 50 kilometers of the Sabajo Project area are characterized as pre-Columbian (Table 1; Figure 4). Suriname's archaeological record is focused on pre-Columbian sites, with Maroon archaeological sites reported, identified and excavated, but not placed on the national register of heritage sites. The lack of national register status does not mean that Maroon sites do not exist in or near the Sabajo Project footprint. The baseline study has not identified Maroon sites in or near the Sabajo Project footprint.

Table 1. Registered Archaeological Sites in Proximity to Newmont Study Area Communities and Sabajo Project Area⁷.

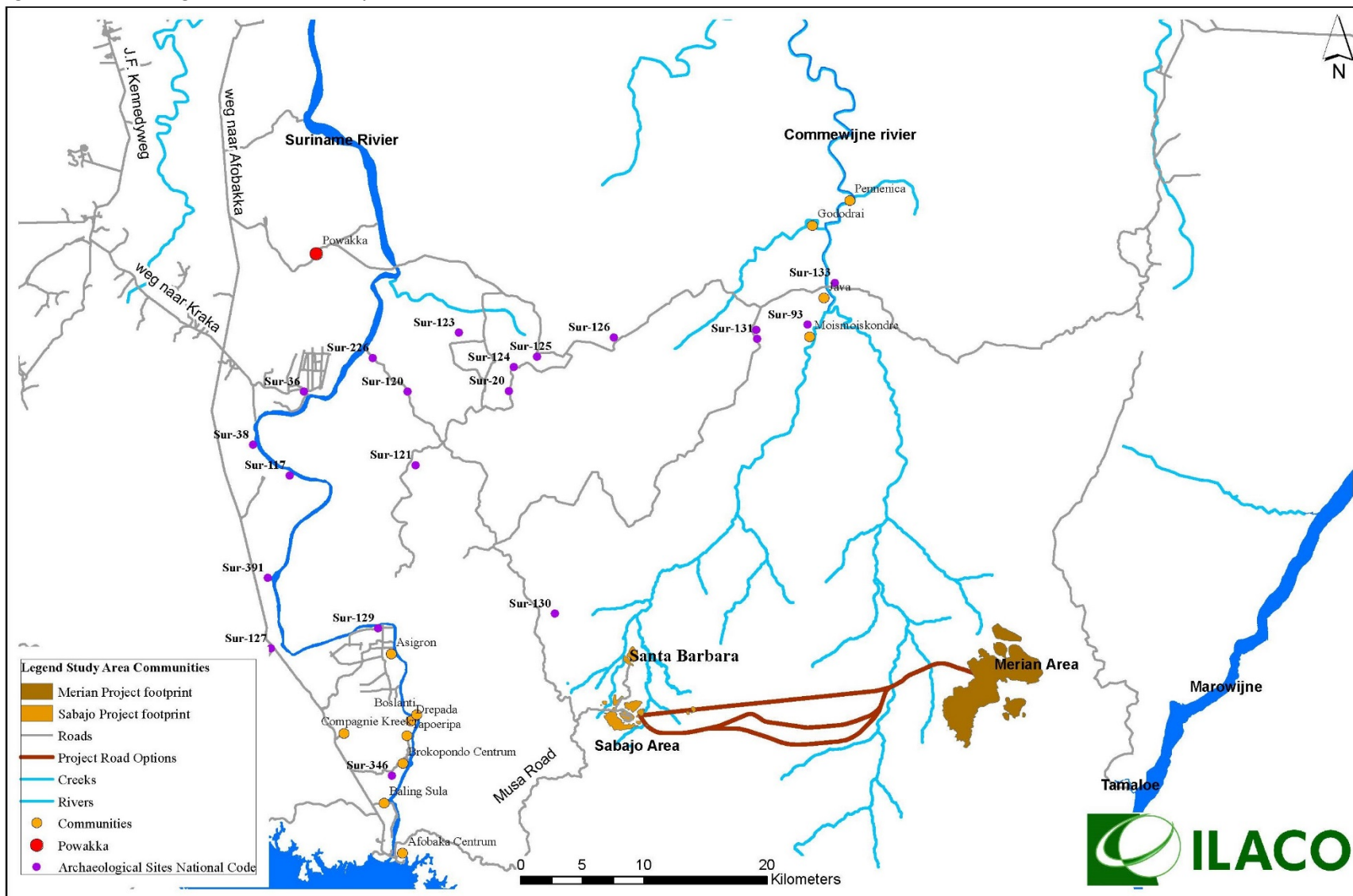
National Register Site Code ⁸	Name	District	Type of Pre-Columbian Culture	Characteristic(s)	Location in Proximity to Sabajo Project	Distance from Sabajo Project in km
Sur-20	Kamp 8-LBB	Suriname (Para)	Koriabo	Settlement	Powakka Corridor	27.44
Sur-36	Phedra	Brokopondo	Koriabo	Settlement	Suriname River	36.13
Sur-38	Rama: Murphyweg	Brokopondo	Koriabo	Settlement	Powakka Corridor	36.36
Sur-93	Jennikreek	Commewijne	n/a	Settlement	Little Commewijne Creek	35.51
Sur-117	Baboenhol	Brokopondo	n/a	Settlement	Suriname River	32.47
Sur-120	Little Simonskreek-3	Brokopondo	n/a	Settlement	East of Suriname River	30.91
Sur-121	Little Simonskreek-2	Brokopondo	n/a	Settlement	East of Suriname River	25.56
Sur-123	Casiporakreek-1	Suriname (Para)	n/a	Settlement	Powakka Corridor	33.31
Sur-124	Casiporakreek-2	Suriname (Para)	n/a	Settlement	Powakka Corridor	29.19
Sur-125	Sarwacreek-1	Commewijne	n/a		? Powakka Corridor	29.59
Sur-126	Sarwacreek-2	Commewijne	n/a	Settlement	? Powakka Corridor	30.58
Sur-127	Berg gen Dal Fernootkreek	Brokopondo	n/a	Settlement	West of Suriname River	28.14
Sur-129	Victoria	Brokopondo	n/a	Settlement	Suriname River/ Afobaka Road	20.04
Sur-130 ⁹	Kaaimankreek	Commewijne	Brownsberg	Settlement with workshop	Northwest of Sabajo Project Footprint	9.07
Sur-131	Pondokreek-1	Commewijne	n/a	Settlement	Little Commewijne Creek	32.75
Sur-132	Pondokreek-2	Commewijne	Pondocreek	Ceremonial Site	Little Commewijne Creek	33.4
Sur-133	Java	Commewijne	n/a	Settlement	Little Commewijne Creek	39.57
Sur-226	Mapane	Commewijne	n/a	Settlement		34.77
Sur-346	Victoria-2	Brokopondo	n/a	Settlement	Suriname River/ Afobaka Road	18.6
Sur-391	Klaaskreek	Brokopondo	n/a	Stone axe with handle	Suriname River	29.94

⁷ Versteeg (2003).

⁸ The national register site code nomenclature is, Sur- (an abbreviation of Suriname) followed by a site number.

⁹ This site is nearest to the Sabajo Project Footprint. The exact location is unknown.

Figure 4. Archaeological Sites and Study Area Communities.



2.2 COLONIAL PERIOD TANGIBLE HERITAGE

The Dutch occupied Suriname in the mid-1600s after failed attempts by the French and English. In a span of 20 years, from the early 1630s to 1640, Suriname had changed hands from the French to the Spanish and Portuguese, who were quickly driven away by Indigenous peoples, and by 1634 to the English who sought to establish settlements in Suriname. However, each of these instances of attempted habitation was short lived and precipitated years of repetitive power struggles leading toward colonization (Ngwenyama 2007:58).

Suriname did not begin to gain colonial consistency until the appearance in 1650 of English Lord Francis Willoughby. The short-lived British settlement soon fell to a garrison sent from the Dutch province of Zeland. Its English inhabitants were consigned to pledge allegiance to the states of Zeland. A military post was shortly thereafter erected in Paramaribo at the mouth of the Suriname River and named Fort Zeelandia.

The exacerbated costs of protecting the colony against attacks from Indigenous peoples proved too much to bear, and the colony was soon partitioned to the City of Amsterdam and to M. Corneille d'Aersens Lord of Sommelsdyk, who continued as Governor. The plantation system soon became the mainstay for future Surinamese wealth.

2.2.1 Plantation System of the Little Commewijne and Tempati Watershed

More than 30 km northeast of the Sabajo Project area are a configuration of 17th – 18th century plantations located at the confluence of the Mapane, Little Commewijne and Tempati Creeks, near the cluster of the four villages Kawina Maroons claim as their territory. In the late 1600s there were a little over a dozen plantations (Figure 5) and by the mid to late 1700s that amount tripled (Figure 6). By the late 1600s the Commewijne River and its southward extending tributaries boasted an established plantation system with sugar as the primary product.

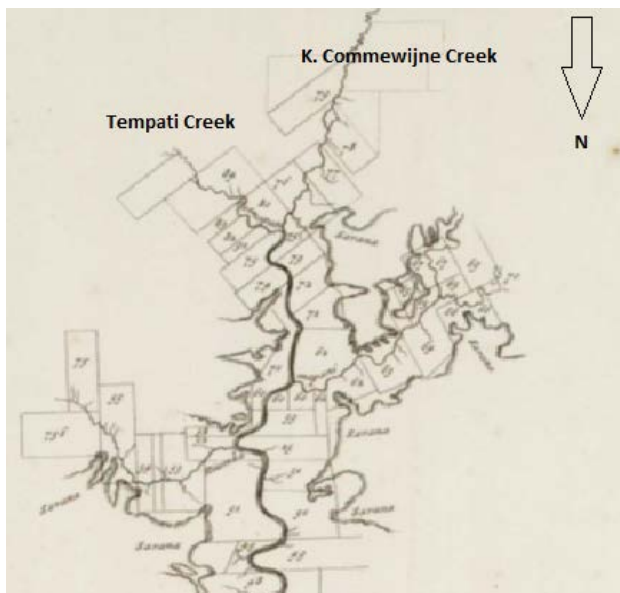


Figure 5. 1688 map from Frederic de Wit with few plantation lots at the confluence of the Mapane, Little Commewijne and Tempati Creeks. Not to scale. (KDV Architects 2004).



Figure 6. 1790 map by Heneman of Tempati and Kliene Commewijne Creek plantations. Not to scale. (KDV Architects 2004).

The plantations were established initially producing sugar. Types of large and fairly immovable tangible heritage found at Commewijne River sugar plantations include foundations, sugar mills and steam machinery. Smaller artifacts of European and Indigenous origin, including ceramic potsherds, green glass bottles, clear white medicine bottles and ceramic storage jars can also be found at plantations (Figure 7).



Figure 7. Examples of plantation tangible heritage. Photo on the left is a sugar boiling pot known as Kappa, center photo is a small cast iron sugar press (Photos by KDV Architects 2003). Photo on right is an 18th century green glass bottle.

Aside from what is known from archival maps, there have been no structured ground assessments to identify plantation era tangible heritage in the area of Tempati and Little Commewijne Creeks. Therefore there is no archive of moveable and immovable tangible heritage that might still be visible on the ground surface.

By the early to mid-1700s the economic driver shifted from its primary product of sugar, to wood exploitation for timber needed to support a developing colony. This took place mainly along the tributaries of the Tempati and Little Commewijne Creeks. These new economic ventures did not stop long held

resentment between colonists and escaped slaves. Throughout the mid to late 1700s on both Little Commewijne and Tempati Creeks there was guerilla warfare between the Maroon and Dutch colonials.

The 1757 uprising of five plantations on the Tempati Creek—La Paix, Bleyenburg, Maagdenburg, l'Hermitage, and Beerenburg marked the beginning of the end of the sugar plantation system along these creeks (KDV Architects 2004). The uprising culminated at the Oranibo plantation at the Pennenica Creek with the Dutch taking a last stance before withdrawing altogether from the Tempati and Little Commewijne Creeks. These series of events precipitated the signing of the 1760 peace treaties between the colonial Dutch and the Maroon groups. In October 1760 the Aucaneer (Ndjuka) Maroons were the first to sign a peace treaty with Dutch colonial government and the Saamaka Maroons followed in 1762. General terms of the peace treaties state: Maroons were to maintain several hours travel distance from the nearest post; permission was given to engage in trade of wood, cotton and livestock and collect in groups of no more than 50 at certain river banks.

In the time following the peace treaties the Little Commewijne and Tempati Creeks were used primarily for wood exploitation. A military post was established at Maagdenburg from which expeditions were launched to monitor and quell attacks by antagonist Maroons. Furthermore, Maagdenburg was reestablished as an infirmary and housed with medical specialists to treat ill Dutch soldiers recruited for the expeditions (Stedman 1791). From the late 1770s onward the Oranibo plantation also functioned as a military post working in tandem with the Maagdenburg post located in the heart of Maroon territory along the Tempati Creek (KDV Architects 2005).

It is unclear whether the uprising of Tempati slaves was instigated by Ndjuka Maroons from the Auca (Ndjuka formal name “Aucaneers”) plantation of the Suriname River and that the Tempati slaves then joined the Ndjuka group. Even though Kawina Maroons refer to themselves as an offshoot of Ndjuka it is also unclear at what point in time they began to refer to themselves as Kawina.

2.2.2 Plantation System of the Suriname River (Afobaka Road Section)

Colonial plantations existed along the Suriname River in the current location of the Afobaka Road transportation corridor and Saamaka and Ndjuka study area community villages. Prominent on the landscape at this time was the Bergendal and Victoria sugar plantations. Both were far removed from the forts of the Cordonpad designed to protect the upper and lower courses of the Commewijne River (Figure 8).

Due to Victoria’s position as the last plantation on the Suriname River at the time, it was the most vulnerable to attacks by Amerindians and Maroons. Moreover, by the mid-18th century the Suriname Mineral Compagnie and Victoria Wood, both with licenses to explore natural resources in the inland, took their position among the planters in this region of the Suriname River.



Figure 8. Map of Post Victoria, in upper left portion of river, along the Suriname River by the Companie Creek. Moseberg 1801. (KDV Architects 2009).

However, poor management and repeated attacks by Maroons soon made the ventures unprofitable. In the late 1770s the military outpost, Post Victoria was erected near the contemporary village of Dreipada (study area community of the Afobaka Road) to keep Maroons from gathering to slaughter company workers. Post Victoria was the most southern of the 94 km long Cordonpad military defense line that extended from the northeast Commewijne River.

2.2.3 Contemporary Period Tangible Heritage

Remnants of early 20th century gold mining activities, in the form of graves, railroads and machinery, may be located near the Sabajo Project Area.

At the turn of the 20th century (1880-1910) Suriname experienced its first gold rush in the southeastern region of the country (Heilbron and Willemsen 1980). At this time there were numerous gold concessions being worked by Caribbean foreigners.¹⁰ The then Dutch government responded by attempting to build a rail station to facilitate the transfer of gold to the coastal capital of Paramaribo. The rail line venture was short sighted and partially destroyed during the construction of the hydropower dam in the 1960s. Remnants of the rail station can be found at the bottom of the Afobaka Lake. Through the years there were attempts by the Government of Suriname to revitalize this effort but with little success.

By 1970, an oil palm company was established on the grounds of Victoria on the Suriname River. The company's intent was to provide employment to the Afobaka Road resettlement villages (Boslanti, Taporiepa and Compagnie Creek) caused by the construction of the Afobaka Lake. The processing facilities of Victoria—named after the former military post—were a crude oil processing plant (1974), a refinery (1977), and a kernel extraction plant (1983). Due to the interior war of the mid-1980s and an ill crop of palms the company all but stopped production; in the 1990s the company resumed activities, but was less productive (KDV Architects 2009).

At the end of the interior war a gold rush began in the eastern parts of the country and¹¹ for the past twenty years small scale miners have changed the interior landscape (see SSM section of ESIA report by Heemskerk and Duijves).

¹⁰ In 1901, 5,551 registered gold miners worked in the gold fields of the Suriname interior, mostly from Caribbean countries.

¹¹ The SSM currently occupying the Sabajo Project Footprint are a product of Suriname's most recent gold rush.

3 METHODS

The Sabajo Project tangible heritage baseline study includes a desk study literature review, community consultation and a field reconnaissance. Specific details are provided in the sections that follow.

3.1.1 Desktop Research

A preparatory desktop analysis of relevant literature and maps was undertaken. All efforts were made to review available primary and secondary literature sources.¹² These sources were collectively analyzed and summarized to understand the cultural context of the Sabajo Project area and to identify locations with the potential to contain tangible heritage resources.

3.1.2 Community Consultation

The purpose of community consultation is to engage Newmont's study area communities about their relationship to what they define as their traditional territory. This process helps to solicit and confirm permission for access and study of said areas and to collect relevant data to help locate and describe tangible heritage sites or areas with archaeological potential in the Sabajo Project Area. Community consultation involves methods validation meetings, where visits are made to study area communities to inform residents about the goal, objectives, methods and anticipated outcomes of the Sabajo Project ESIA study. In addition verification meetings are conducted upon completion of the ESIA to allow study area communities to give feedback about the process and to identify errors in data collection and reporting.

Sample Technique

Key participants from study area communities were solicited to participate in construction of their cultural landscape (Table 2). Individuals were organized into focus groups with participants from these age brackets: traditional authority figures >60; male/hunters between 25 and 45 years; women >35; and youth 15 to 25. Youth and women were not targeted for the SSM survey.¹³

¹² Primary documents of maps and travelers notes were obtained from the Suriname National Archive. Secondary documents, including archaeological field reports were obtained from the Stichting Surinaams Museum Research Library. In addition the consultant relied on a wide variety of open source information. Landsat maps were made available by ILACO.

¹³ See methods section of the Intangible Heritage baseline report by Heemskerk and Duijves for a list of all focus group participants, locations and dates.

Table 2. Newmont's Study Area Communities.

Study Area Communities	Village	Location	Note
Saamaka	Asigrón	Suriname River Afobaka Road	Original
Saamaka	Dreipada	Suriname River Afobaka Road	Original
Ndjuka	Boslanti	Suriname River Afobaka Road	Resettlement
Saamaka	Balingsoela	Suriname River Afobaka Road	Original
Ndjuka	Taporiepa	Suriname River Afobaka Road	Resettlement
Ndjuka	Compagnie Creek	Suriname River Afobaka Road	Resettlement
Kawina	Java ¹⁴	Mapane Creek	Possibly Inactive
Kawina	Pennenica	Pennenica Creek	Possibly Inactive
Kawina	Gododrai	Mapane Creek	Possibly Inactive
Kawina	Moismoiskondre	Little Commewijne Creek	Possibly Inactive
Kawina	Paramaribo	-	-
SSM	Santa Barbara	Sabajo Project Footprint	SSM Camp
SSM	Margo	Sabajo Project potential Footprint	SSM Camp
SSM	Kilometer 34	Outside the Sabajo Project Footprint	SSM Camp

Questionnaire

A questionnaire with structured and semi-structured questions was used to better understand Maroon historical land use and incorporate historical archaeology methods (see Hester et al. 1997) (Appendix 1). Studies in ecosystem services (see Schreckenberget al. 2014) were used to evaluate benchmark events based on 50 to 100 year intervals beginning with the large flight of slaves from plantations in the late 1600s. This timeline serves to understand the occupation of Maroon territory at their colonial start point.

The **timeline of Maroon historical events** are:

- **1680s to early 1700s:** The large flight of escaping slaves from plantations to the rainforest inland when Maroons may have exchanged cultural material with Indigenous groups
- **1740s:** The establishment of known Maroon ancestral settlements along the creeks of the inland
- **1760s:** Succession of peace treaties signed between the Dutch colonial government and different Maroon groups, thereby changing Maroon land use via relocation from hidden settlements to the river side, and exploitation of natural resources to trade at colonial military posts
- **1863:** End of slavery in Suriname
- **1960:** Construction of the Afobaka Dam changes the landscape

Data Collection Tools

The location of tangible heritage sites are not always quickly recounted by the average community member. In light of this situation and to stimulate discussion, visual aids in the format of flash cards were used. Each depicted a variety of tangible and intangible heritage images indicative of a specific timeline of events. In addition, a 1:55, 000 Landsat map was used to plot locations of tangible heritage in relation

¹⁴ All meetings with Kawina persons were conducted in Paramaribo and with Kawina persons in the SSM camps.

to the Sabajo Project footprint. The map also included the location of study area villages and registered archaeological sites.

Focus group participants were each asked to plot tangible heritage sites on the map, give the names (in Maroon), the cultural meaning of the place and a description of site. Further, participants were asked to describe the function and layout of each site and/or the event that took place at each location.

The flash cards were presented together with the questionnaire. For example, pictures of pre-Columbian artifacts indicate the period beginning in the 1680s, when Maroons presumably had greater cultural interaction and exchange with pre-Columbian groups and arguably appropriated abandoned pre-Columbian settlements.

The 1740 timeline event is depicted by images of settled villages and/ or strongholds along tributaries in the forest. This time period also represents episodes of guerilla warfare between Maroons and Dutch colonial planters. In addition, pictures of everyday colonial objects made of metal—chains, scissors, or knives—indicate the period after the 1760 peace treaties when monitored travel of Maroons from the forest to Paramaribo was permitted along with openly acquired colonial items. Images depicting ritual washing and prayer shrines are associated with post 1863 emancipation to the contemporary period and represent intangible heritage practices that are currently practiced, though these behaviors are not exclusively linked to the contemporary period.

3.1.3 Reconnaissance

The goal of reconnaissance is to identify and record heritage sites in Sabajo Project Footprint. Local communities reported no sites in the Sabajo Project Area. As a result, the impact assessment relied on judgmental sampling based on desktop study results of archaeological and environmental indicators applied via a pedestrian survey and shovel test pit units. The locations for the shovel test pits were determined by the desktop study and community consultation as well as available access and ground conditions.

4 RESULTS

The sections that follow provide a summary of the results of the desktop study, community consultation and field reconnaissance.

4.1 DESKTOP RESEARCH

Based on available records, there are at least five pre-Columbian sites (Sur-346, Sur-129, Sur-127, Sur-391, Sur-117) in the vicinity of the Afobaka Road. The nearest recorded archaeological site to the Sabajo Gold Project is a settlement and stone tool workshop (Sur-130; Kaaimankreek) associated with the Brownsberg Culture (Versteeg 2003) (Figure 4).

Geologically, the Sabajo Project area can be categorized as an interior Upland comprised of old, deeply weathered ferralitic clay soil with a high acid level not suitable for sustaining a slash and burn agricultural economy typical of pre-Columbian cultures. Expected heritage sites in the Sabajo Project area are most likely from the Brownsberg or Koriabo Cultures and include rocks with grinding grooves found in rivers and creeks, whole or partial ceramic pots with linear rim incisions, round wrist sized pounding stones, round pottery disks, stone artifact scatters and stone axes. Pre-Columbian agricultural settlements are frequently associated with pockets of savanna in the inland forest. The absence of such areas in the Sabajo Project area (Pers. Comm. Dirk Noordham, Soil Scientist, August 2017) suggests there may be limited potential for sites of this nature to be present.

4.2 COMMUNITY CONSULTATION

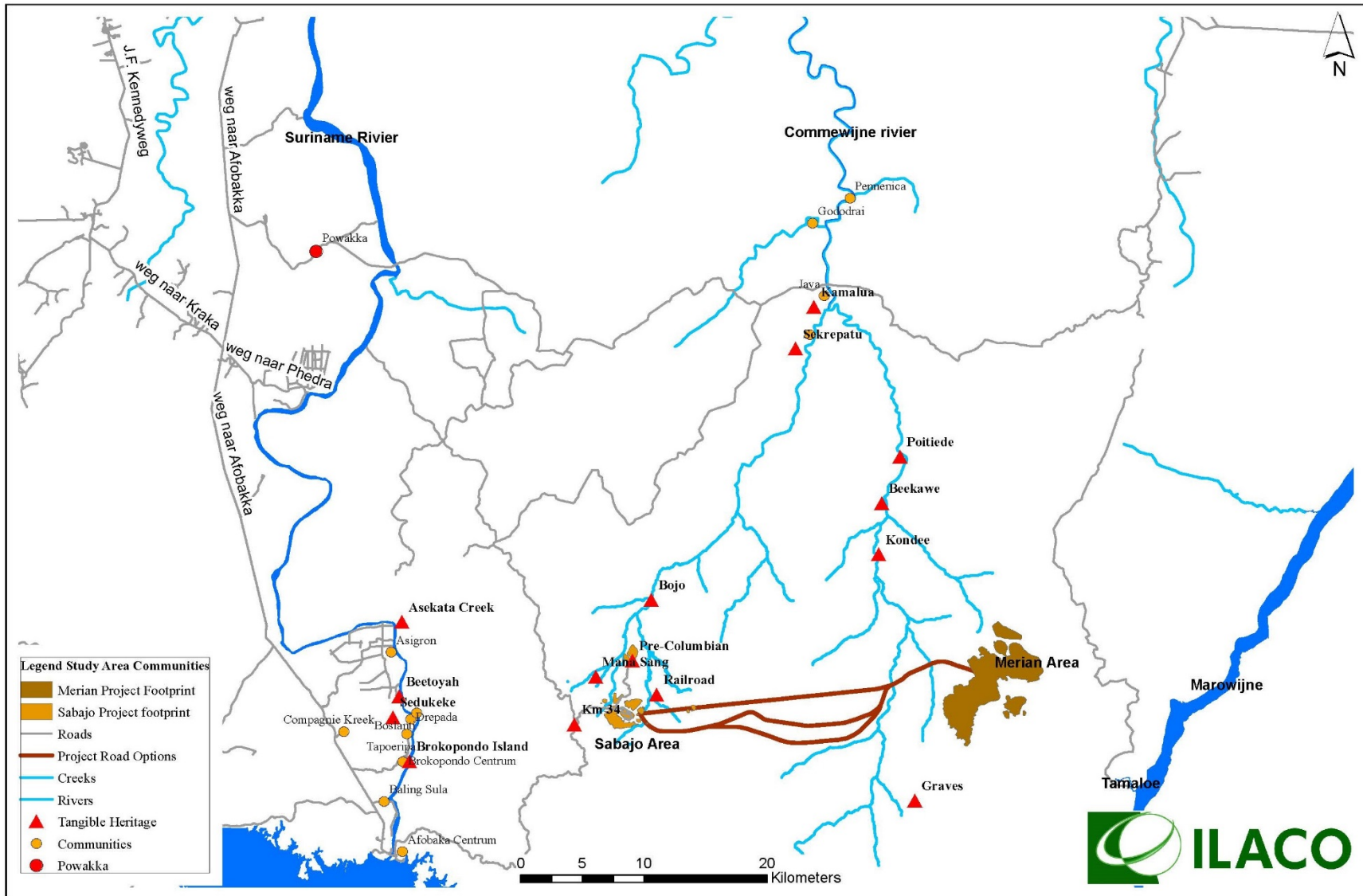
This section presents findings from a series of focus groups and interviews held in July 2017 with the study area communities of Kawina, Ndjuka, SSM in and around the Sabajo Project Area and those residing in Paramaribo, in addition to the six Afobaka Road villages of Saamaka and Ndjuka Maroons (see Intangible Heritage section of ESIA report by Heemskerk and Duijves). Participants reported fifteen tangible heritage sites. One site, described as having pre-Columbian earthenware pottery is in the Sabajo Project Area (Table 3, Figure 9). The location of these 15 sites are an approximation. A methods verification meeting was conducted with study area communities to identify and correct errors in reporting. Additional details are provided in the sections that follow.

Table 3. Reported Tangible Heritage.

Reported Heritage Sites	Reporting Study Area Community	Type of Heritage	Possible Moveable and Immovable Heritage	Approximate Location	Distance from Sabajo Project in km
Asekatakeke	Asigrón	Tangible	?Koriabo earthenware vessel	Suriname River	18.39
Beekawe	Santa Barbara SSM	Tangible	Earthenware pottery	Tempati Creek	27.82
Beetoyah	Asigrón, Dreipada	Tangible	Stone foundations	Suriname River at Compagnie Creek	17.21
Brokopondo Island	Dreipada	Tangible	Boat used and abandoned by migrating slaves	Brokopondo Island across from Brokopondo Centrum	16.94
Bojo	Santa Barbara SSM	Tangible and Intangible	Natural rock formation in shape of a coffin	Little Commewijne Creek	9.47
Graves	Santa Barbara SSM	Tangible	Graves of early 20 th century miners	Tempati Creek	26.03
Kamalua/ Pre-Columbian	Santa Barbara SSM	Tangible	Fruit trees	Near Moisie Creek	4.27
Kondee	Santa Barbara SSM	Tangible	Wood structure fashioned into human form	Tempati Creek	25.26
Mana Sang	Santa Barbara SSM and Land Boss	Tangible	Early 20 th century gold mining machinery	Northwest of Sabajo Project Footprint	2.78
Poitiede	Santa Barbara SSM	Tangible	Colonial and pre-Columbian ceramics	Tempati Creek	31.39
Pre-Columbian	Km 34 ¹⁵ SSM	Tangible	Stone axe	Outside the Sabajo Project Footprint	3.19
	Santa Barbara Land Boss	Tangible	Earthenware pottery and stone implements	Santa Barbara Pit Sabajo Project Area	4.27
Railroad	Santa Barbara SSM	Tangible	Railway	Little Commewijne Creek	3.98
Sedukeke	Asigrón; Boslanti, Dreipada	Tangible	Boat, earthenware pottery, possible slave route	Boslanti	17.72
Sekrepatu	Kawina Paramaribo; Traditional Authority	Tangible	Kappa (large pots used to boil sugar on plantations)	Moisie Creek	33.14

¹⁵ The location of KM 34 is the *only* reported tangible heritage point precisely plotted on the map. KM 34 is a distance measure along the access road leading from the Afobaka transport corridor to the Newmont worker's camp.

Figure 9. Study Area Communities' Reported Tangible Heritage Sites.



Locations are an approximation and have not been verified or recorded.

4.2.1 Kawina Small Scale Miners and Land Boss

Kawina SSM participants reported colonial period tangible heritage sites along the Little Commewijne and Tempati Creeks, an area with no currently occupied villages. According to their oral history, their migration to the Tempati began from the Cordonpad and Jodensavanne plantations along the Powakka corridor.

In the 18th through 19th century, traveling from Pondocreek (Sur-131 and Sur-132) near the Mapane Creek, escaped slaves traversed the Tempati Creek to settle at a series of locations, each within an hour's travel and south of contemporary community forest plots. Beginning with *Poitiede* meaning white man's head, this location is a Maroon and Dutch militia battle site located at a small waterfall in the creek. From Poitiede they travelled to *Beekawe*. The name is two part, Bee (planter's name) and kawe (Ndjuka word meaning a place in the bush to go to). Mango trees, historic green glass bottles and earthenware ceramics can be found there. The next village in this cluster is *Kondee*, where a turnable post carved in a human form stands. The object, described as having two distinct sides, was turned from one side to another to convey messages about the whereabouts of descending white militias.

Reports about tangible heritage of the recent past include burial sites along the Tempati Creek of early 20th century miners from Suriname's first gold rush. A place referred to as Mana Sang was an early gold mining site northwest of the Sabajo Project footprint and may still contain cultural resources. More difficult to determine is the location of the early 20th century railroad built to facilitate the gold rush period. It reportedly runs somewhere near the Little Commewijne Creek (see SSM Survey section of ESIA report by Heemskerk and Duijves).¹⁶

Though these reported sites will not be validated through field reconnaissance there are historic and contemporary maps depicting locations of Maroon settlements along both the Little Commewijne and the Tempati Creeks (Figures 10 and 11).

¹⁶ There is an early 20th century map with the location of the railroad and its extension to the Little Commewijne, but the image is not clear.

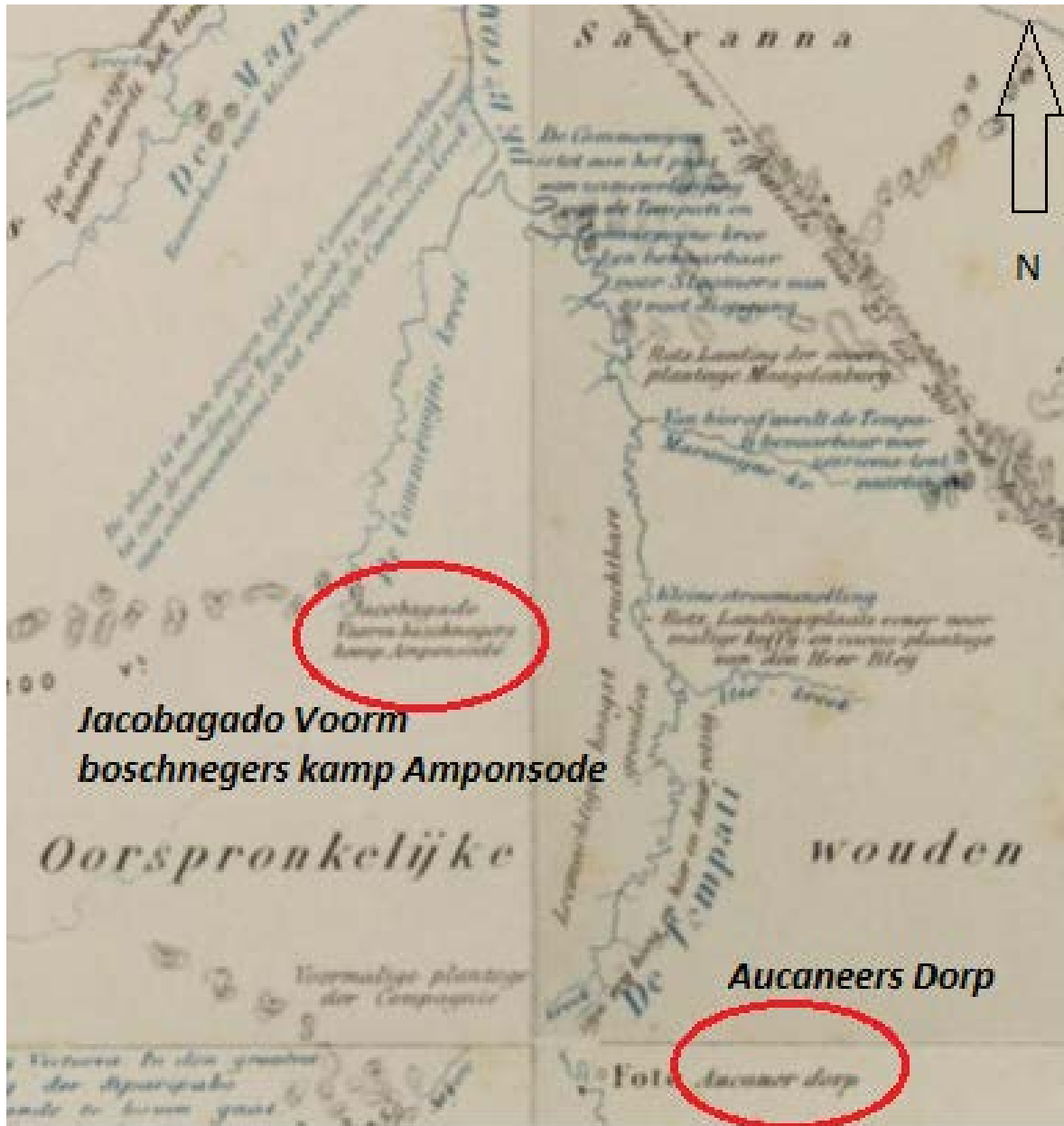


Figure 10. 1869 map of Maroon village on the Little Commewijne referred to as “bushnegro camp Amponsode” and “Aucaneer village” on the Tempati Creek. (KDV Architects 2004).

The area of Jacob is also mentioned by John Gabriel Stedman in his 1791 *Narrative of an Expedition Against the Revolted Negroes of Suriname*. The location is described as a timber cutting settlement used by Maroons. He offers no description of the group of Maroons residing in this location or the relationship of this place to travel distances to procure wood. Whether or not the Aucaneers Dorp referred to as Foto on the map can be attributed to one of the reported Kawina Ndjuka ancestral sites is not clear. What is clear is that there was recognized Ndjuka Maroon presence in this region in the 18th through 20th centuries; if not due to plantation uprisings, then for wood procurement.

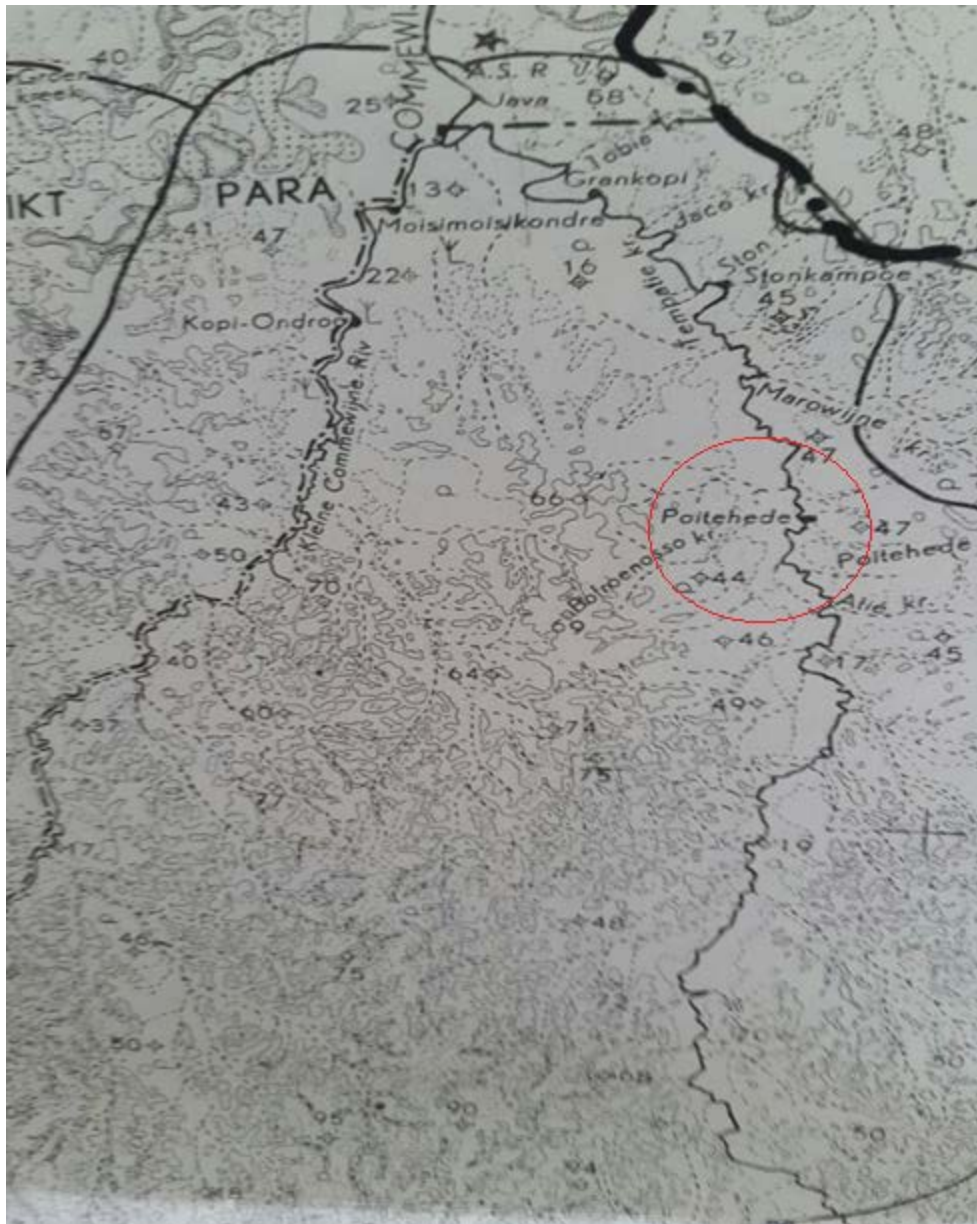


Figure 11. 1985 depicting the location of Poitede on the Tempati Creek. (Suriname National Archives).

A Kawina mining land boss stated that earthenware ceramics and stone implements –he believed to be pre-Columbian in origin— were found at the Santa Barbara pit when he first began working there in 2000¹⁷ (see SSM Survey section of ESIA report by Heemskerck and Duijves). In addition, a Hindustani miner at SSM camp KM 34 recently recovered one stone axe from his mining pit.¹⁸

¹⁷ The current location of the finds was not reported. Pre-Columbian objects, when found, are often kept as souvenirs.

¹⁸ At the time of the focus group interview the consultant requested the contact information and an appointment with the SSM at a later date to see the object. The SSM stated that he brought the object home for show-and-tell with his son. The consultant informed the SSM that the object should be donated to the Stichting Surinaams Museum in Paramaribo. After the focus group field work, calls were made by the consultant to the SSM without

4.2.2 Asigrón, Dreipada and Balingsoela Original Villages

Members of the original Saamaka villages of Asigrón, Dreipada and Balingsoela reported several locations of tangible heritage in or near their villages along the Suriname River. Inhabitants of Asigrón claim historical territory up to and including Dreipada. Together they are the keepers of the local history and trace their migration from the upper courses of the Suriname River. Asigrón is a transfer name from the Upper Suriname River area near the modern village of Langu. Dreipada, however was used as a boat landing and has a high sandy bank that does not easily flood.

Beetoyah was consistently reported by all three villages. It is the Samaaka pronunciation of the word Victoria and is reportedly located where Compagnie Creek meets the Suriname River. According to their oral history Beetoyah was an 18th century meeting place of slaves prior to it becoming a military post in the 19th century. Objects that can be found at Beetoyah include stone foundations remnants of the old military barracks. In addition the area is used as a burial site for Asigrón persons.

A similar slave gathering location was reported for Brokopondo Island, a land feature across from Brokopondo Centrum. This location provided respite for migrating slaves traveling from the upper courses of the Suriname River. The historic timeline when this took place could not be ascertained.

Sedukeke, was reported as a battle site and possible 18th century slave route¹⁹ accessible at Boslanti. It is held in spiritual regard by inhabitants of the original villages. Oral accounts suggest slaves arrived at Boslanti and crossed the river in order to continue their travels. Residents of Boslanti utilize a trail referred to as Herman's Passi (Path) that extends into the forest and crosses Musa Road towards the tributaries of the Little Commewijne and Tempati Creeks. Ceramic objects may be found in the slave route creeks, but Maroon objects (boat paddles and wood carved objects) made of perishable material may not be discovered (Per. Comm. Asigrón October 2017).

The Herman's Passi is the contemporary trail of the slave route that intersects with SSM camp occupied by a Hindustani (KM 34); the same location where a pre-Columbian axe was found. The so called slave route continues into Sedukeke tributaries, Nanasiemauwkeke and Bokettikeke to the Kankantriekeke that continues pass the Sabajo Project Footprint towards the Tempati Creek. Due to the discomfort some community members had with reading maps it was difficult to pinpoint the path of a creek.

During a separate SSM Survey interview consultant M. Heemskerk received a report about a slave route in the location of the Sabajo Project Footprint. However, due to the availability of the SSM the information could not be verified by consultant C. White.

success. A meeting could not be arranged. The consultant informed the MINOWC Archaeological Services about the find and they also recommended the object be donated to the Museum.

¹⁹ The so called slave route is not an open paved path or road. The study area community members know the route by land features such as creeks, hills and vegetation and track it by machete marks on trees; the result is a simple bush trail only experienced trackers can identify.

Asigron participants presented objects found in the Asekata Creek adjacent to the village. These objects can be attributed to the Pre-Columbian Koriabo Culture (Figure 12).



Figure 12. First two are possible Koriabo container and pounding stone. Last Photo on right is unidentified Pre-Columbian ceramic with black soot recovered from Asekatakeke near Asigron. Photos by Consultant C. White, no scale.

The historical sites were consistently reported by members of original villages Asigron, Drepada, and Balingsoela.

4.2.3 Resettlements Compagnie Creek, Boslanti and Tapoeripa

The resettlement villages and their inhabitants are a product of the 1960s construction of Afobaka Lake and cannot be considered original persons to this area. Furthermore, their knowledge of historical places in the area, as they stated, is based on being told where not to go (see Intangible Heritage section of ESIA report by Heemskerk and Duijves).

Resettlement communities at Compagnie Creek, Boslanti, and Tapoeripa stressed that they are transmigration villages and do not have knowledge or rights to traditional places in the greater Afobaka Road area; particularly as they relate to Asigron and Dreipada.

Compagnie Creek focus group participants did offer another term used for Beetoyah – Pan wata. According to participants, Compagnie Creek was constructed from a swampy lowland and filled with sand in preparation for the resettlement. Villagers reported that they did not find old objects in the ground because of the change in landscape. They instead spoke about their village of origin in the Afobaka Lake or Upper Suriname River area. Others persons placed in the new villages were workers for natural resource companies in the area.



Figure 13. Note consultant holding an unidentified Pre-Columbian pottery found by Tapoeripa villager.

The reporting of tangible heritage from these villages was sparse suggesting little historical knowledge of the area. However, pre-Columbian objects have been found by Tapoeripa villagers (Figure 13). Further confirming the presence of pre-Columbian cultures in this section of the Afobaka Road.

In summary, the Sabajo Project's study area communities have no tangible heritage sites in the Sabajo Project Footprint.

4.3 RECONNAISSANCE

Based on the results of the desktop research and community consultation, it was determined that there are no previously recorded archaeological sites in the Sabajo Project Area and one previously unrecorded pre-Columbian archaeological site in the vicinity of the Santa Barbara Pit. Based on available information, areas with archaeological potential in the Sabajo Project Area include creek banks in hilly areas.

From August 23 to 29, 2017 (5.5 working days) an archaeological reconnaissance was undertaken in planned disturbance areas with adjoining natural creeks in the Sabajo Project Area (Figure 1; Table 4). Planned disturbance areas with low archaeological potential were not surveyed or tested. These areas tend to have extensive ground disturbance, standing water or lack the presence of an adjoining creek (Table 5).

The consultant and three Newmont workers used a GPS device with preset UTM coordinates to locate the intersection of roads with natural creeks in the target planned disturbance areas.

More often than not, creeks were not visible from roads in the Sabajo Project Footprint and lines had to be cut into the dense forest to arrive at the preset coordinate (Figure 14). Once at the start point, survey and shovel test pits were completed parallel to the creek channel.

Due to characteristically poor ground visibility in the forest, pre-Columbian objects are not always easily identified on the ground surface. As a recourse 0.50 x 0.50 x 0.50m shovel test pits and sieving of its soil were applied to prospect for buried archaeological materials. STPs were excavated 5 to 25 meters from the creek bed within the flat bank, depending on water saturation of the soil, and distance from any back filled dirt created by past SSM or logging activities. Shovel test pits were dug at intervals of 15 to 40 m depending on the length of the area to be tested.



Figure 14. Newmont worker in yellow and blue cutting line for shovel test pit.

Table 4. Planned disturbance areas surveyed and tested.

Planned Disturbance Areas	Access Point	Surveyed and/ or tested	Area (km²)	UTM Coordinate	Intervals between STP (m)	# of STPs	STP Findings
(West) Waste Rock Storage Facility	Northwest creek entry	Surveyed and tested	1.829	21N 740399 0562831	15	12	-
	Northeast creek entry	Surveyed and tested	-	21N 741049 0563199	25	12	-
	Southeast creek entry*	Surveyed only	-	21N 741730 0562542	-	0 (creek not accessible)	-
(North) Waste Rock Storage Facility	Creek entry*	Partially Surveyed	1.16	21N 743372 0563692	-	0 (creek not accessible)	-
West Pit	-	Surveyed and tested	0.11	21N 740400 0563786	30	5	-
(Northwest) Sediment Control	Creek entry	Surveyed and tested	0.26	21N 740203 0563642	30	5	-
Santa Barbara	Waste Rock Storage Facility creek entry	Surveyed and tested	0.670	21N 742709 0567819	40	12	-
Margo	South eastern creek entry	Surveyed and tested	0.126	21N 747527 0563080	30	15	-
Total			4.155			61	0

* = disturbed or swamp.

The sections that follow describe each of the areas subject to archaeological reconnaissance.

4.3.1 Inaccessible, Disturbed, or Swampy Locations

The West Waste Rock Storage Facility’s southeast creek entry and the North Waste Rock Storage Facility are two target planned disturbance areas that were not surveyed or tested due to access and ground conditions.

West Waste Rock Storage Facility Southeast Entry

The creek within the West Waste Rock Storage Facility was flooded by historic SSM activity linked to the Main Pit (Casidor) (Figure 15)²⁰. The creek is also inundated by rain runoff from the Main Pit (Pers. Comm. Odili Kent, Sabajo Project Camp Manager, August 2017). As an alternative, an attempt was made via vehicle and foot to begin the reconnaissance task at what was believed to be the undisturbed end of the one kilometer long creek. The effort proved fruitless as time was spent in a light



Figure 15. West Waste Storage Facility southeast creek entry point inundated by Main Pit runoff. Natural creek or creek bank no longer exists.

²⁰ Figure 15 does not have a scale creating a misleading perception of the landscape. The vegetative area is actually a steep slope not a flat area as it appears in the photo.

vehicle trying to locate the closest road and creek intersection or traversing a densely vegetated mountain trying to identify the flat, natural creek bank upon which to descend and survey. No flat creek bank exists in the southern portion of the West Waste Storage Facility. Though the creek's bank could not be subject to shovel test pits, the general area was surveyed. No artifacts were identified on the ground surface.



Figure 16. North Waste Rock Storage Facility creek entry.

North Waste Rock Storage Facility

The North Waste Rock Storage Facility creek entry was inaccessible. During road construction the natural flow of the creek was blocked, creating a swamp throughout the entire planned disturbance areas (Figure 16). This area was partially surveyed, but not tested. No artifacts were found.

4.3.2 West Waste Rock Storage Facility

West Waste Rock Storage Facility's northwest entry

The West Waste Rock Storage Facility's northwest creek entry runs along the base of a mountain and in area already disturbed by past SSM activity. This was a meandering creek that petered out at the base of the mountain. The water-logged test pits are characterized by gray loam with rootlets. The general area was surveyed. No artifacts were found.

West Waste Rock Storage Facility's northeast entry

The West Waste Rock Storage Facility's northeast creek entry has also been severely affected by past SSM activity. The creek now sits in a swampy area and ends at a dam followed by a large lake. Fortunately the creek bank was broad enough that the consultant and workers were able to dig several test pits to the end of the creek. The pits are characterized by compact brown/gray loam rootlets with pebbles. The general area was surveyed. No artifacts were found.

4.3.3 West Pit and Northwest Sediment Control

The West Pit and Northwest Sediment Control are located directly behind the current worker's camp and are adjacent to a creek. This area has been disturbed by past logging activity; apparent by numerous abandoned felled trees. Test pits were dug at either side of the creek in the Northwest Sediment Control and in the hill slope of the West Pit. The STPs of the Northwest Sediment Control are characterized by brown/beige loam with pebbles of white quartz, a product of colluvial wash. The STPs of the West Pit are characterized by rootlets with loosely dry brown loam. The general area was surveyed. No artifacts were found.

4.3.4 Santa Barbara and Margo

Santa Barbara and Margo are additional pits that have active SSM.

Santa Barbara Waste Rock Storage Facility

Santa Barbara Waste Rock Storage Facility is in the midst of current SSM activity in a highly disturbed area (see SSM section of ESIA report by Heemskerk and Duijves). The disturbance in and around the planned

disturbance areas provided multiple trails and an ‘open’ ground surface that made surveying relatively easy. The STPs are characterized by brown loam with moderate rootlets and a dry loosely compact gray/white sand (a product of alluvial wash). No artifacts were found.

Margo

Similar to Santa Barbara, the Margo area is highly disturbed by ongoing SSM activity. At the time of the reconnaissance fieldwork, the consultant was not aware of the planned disturbance area within the Margo region to facilitate more focused survey and testing of the area. Instead the consultant was advised to check the northeastern region of Margo in proximity to a road adjoining the location of a SSM camp and activity area. The watercourses in this area were highly disturbed and or diverted creating several ‘pools’ of water and making it difficult to follow a natural creek bank. A relatively low-lying bank of one ‘creek’ (broadened by flooding caused by SSM activity) was tested. The STPs in this area are characterized by compact brown/ beige loam with minimal rootlets and weathered quartz pebbles. The general area was surveyed. No artifacts were found.

*Table 5. Planned disturbance areas **not** targeted for survey and testing.*

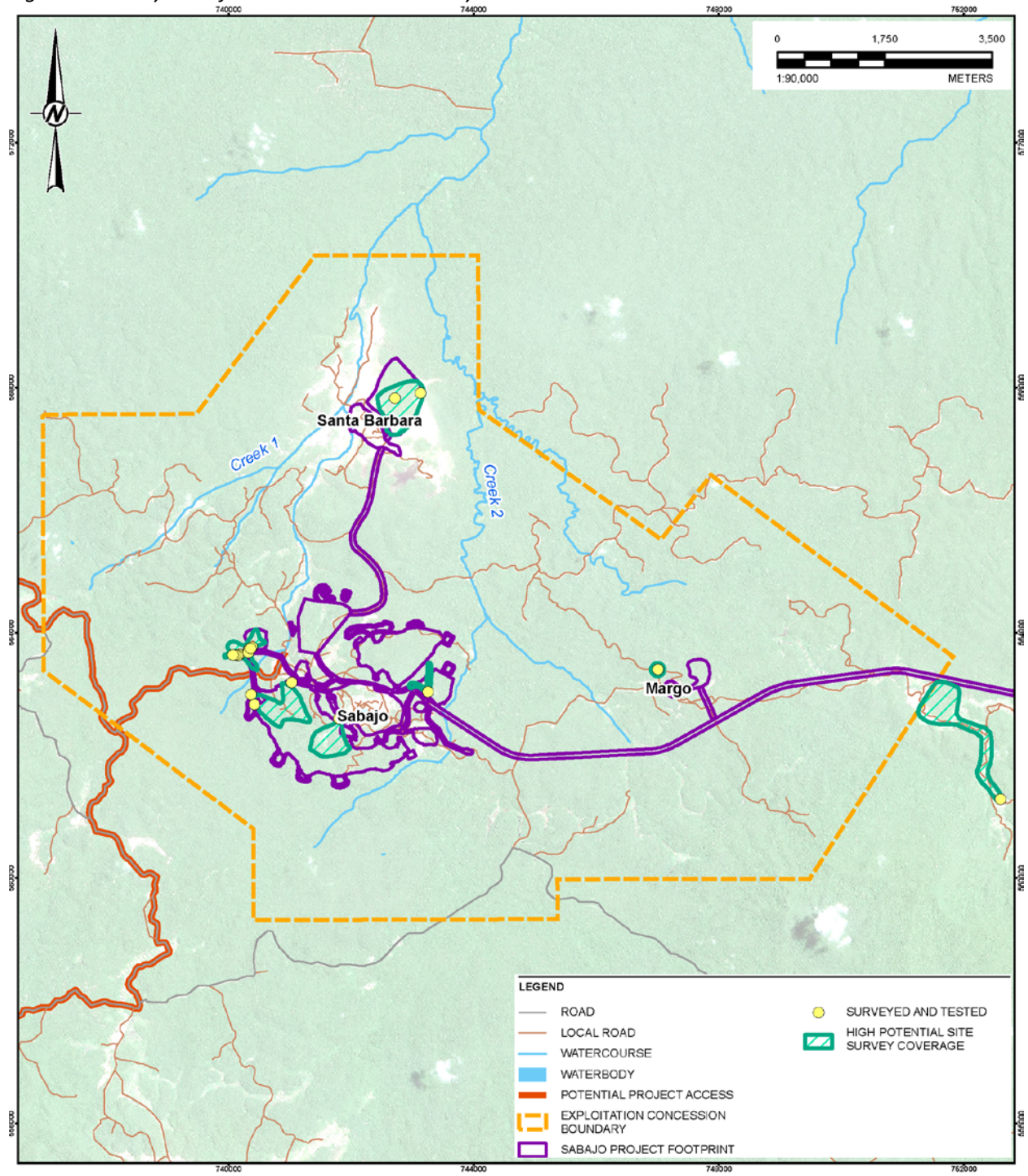
<i>Planned disturbance areas not surveyed or tested</i>	Current State	Area in km²
Camp	*	0.03
East Pit	no adjoining creek	0.23
(East) Sediment Control	no adjoining creek	0.014
Far Southeast Pit	*	0.012
Landfill	*	0.015
Main Pit	* ‘Casidor’ ²¹	0.662
Margo Pit	*	0.052
Northwest Pit	*	0.047
Santa Barbara Pit	*	0.280
Southeast Pit	*	0.088
Southeast Sediment Control	*	0.016
Surface Facilities	*	0.398
Ore Stock Pile	*	0.209
Total		2.053

* = disturbed or swampy area.

No archaeological sites were identified during the reconnaissance survey. In total, approximately 182 hectares of planned disturbance areas with adjoining creeks were subject to survey and shovel test pits (Figure 17).

²¹ Casidor is the local name of the Main Pit.

Figure 17. Study Area for Reconnaissance Survey



5 CONCLUSION

This baseline study was conducted to determine the presence of archaeological resources in the Sabajo Project area. The results presented are based on desktop study, consultation with the study area communities and reconnaissance in Sabajo Project footprint.

The national register of heritage sites shows twenty pre-Columbian archaeological sites located 9 to 36 km from the Sabajo Project footprint along the Afobaka and Powakka Road transportation corridors. Five in total are attributed to pre-Columbian cultural groups known to traverse the inland location of the Sabajo Project Area: Koriabo Culture (Sur-20, Sur-36, and Sur-38), Pondocreek Culture (Sur-132) or Brownsberg Culture (Sur-130). Maroon archaeological sites do not appear on the national register of heritage sites.

Further desktop study findings and community consultation suggest an historical presence of Ndjuka Maroons –possibly before the term Kawina—along both the Little Commewijne and Tempati Creeks. Before the peace treaty they appear as plantation slaves and revolting Maroons, after the treaty as traders of various forest goods with some freedom of movement in the inland. During consultation a total of fifteen tangible heritage sites were reported by Ndjuka, Saamaka and Kawina community members. Frequently reported were sites attributed to pre-Columbian cultures, locations of slave gatherings, a slave route, ancestral Maroon settlements, remnants of the turn of the century gold rush and abandoned contemporary period development schemes. The baseline report provides an approximate location of these sites, 2 to 33 km outside the Sabajo Project Footprint.

Possible pre-Columbian earthenware ceramics and stone implements were found at the Santa Barbara Pit in 2000 by an SSM land boss. In addition, a Hindustani miner at SSM camp KM 34 recently recovered one stone axe from his mining pit.

It was expected that consultation reports with community-led reconnaissance and recording of tangible heritage sites would be conducted. Because no sites were reported, reconnaissance was conducted in accessible locations of high archaeological potential that are proposed for development. Only creek banks with high potential in the planned disturbance areas of the Sabajo Project Footprint were subject to pedestrian surveys to identify surface finds and shovel test pits to expose subsurface finds. No artifacts were found.

As noted in Section 1, given access constraints and uncertainty around the location of some of the proposed Project components, the field component of this heritage assessment was limited. Only a portion of the high potential areas was assessed at this time. These unsurveyed areas, provided they are considered to have archaeological potential, will be assessed prior to, or concurrent with proposed ground disturbance activities by Newmont.

Community members request that artifacts found during the Sabajo Project mine life be immediately reported and presented with an explanation of the object's origin, the context of the find and placement of the object in a Paramaribo museum. Study area community members accept that much of what is found in the inland is associated with pre-Columbian peoples. They also recognize that there is a lack of written history about Maroon heritage and believe further research about their history is a good opportunity to bolster their historical relevance in the region (Per. Comm. Kawina SSM November, 2017).

6 RECOMMENDATIONS

Based on the baseline study results the recommendations herein may provide Newmont with better context for future planning and community consultation.

- Study area communities from the Afobaka Road villages and Kawina SSM reported a slave route extending from the Suriname River to the Tempati Creek. The so called slave route is not an open paved path or road. The study area community members know the route by land features such as creeks, hills and vegetation and track it by machete marks on trees; the result is a simple bush trail only experienced trackers can identify. The route, represented as interconnecting creeks of the upper courses of the Little Commewijne and Tempati Creeks, was difficult for community members to plot on the Landsat map data collection tool. It is uncertain where the creeks are and if they extend into the Sabajo Project Footprint. Herman's Passi, a bush trail currently used for forest travel from the Suriname River to the Tempati Creek might be portions of the slave route.

The only way to verify and distinguish Herman's Passi from the slave route is to walk and record it with a knowledgeable community member.²² A clear understanding of the slave route and its potential artifacts may also facilitate the identification of Maroon moveable heritage or chance finds that cannot be directly attributed to known pre-Columbian groups.

If Newmont can determine that portions of the slave route exists in the Sabajo Project Footprint this may prevent future misunderstanding with study area community members and show respect for Maroon heritage. If identified, Newmont can acknowledge the slave route with a placard in the future Sabajo Project facility and local villages.

- It is unclear exactly where along the Tempati Creek the graves of early 20th century gold miners lay. Based on consultation the graves are sparsely placed in the creek bank with grave markers. Reconnaissance of the haul road should be undertaken in the high potential areas 5 km directly east and west of the Tempati Creek. This task may be conducted in tandem with haul road line cutting.

If artifacts are not identified during reconnaissance a comprehensive chance finds policy should include an archaeologist and physical anthropologist be present in the event skeletal remains are unearthed during ground disturbance activities.

- Due to inconsistencies in the consultation reports and historic maps the precise location of the 20th century railroad remains unclear. Reconnaissance of the haul road 5 km east of the Little Commewijne River should be conducted for potential inventory of railroad remains. This task may be conducted in tandem with haul road line cutting.
- Almost 100% of Suriname's registered archaeological sites are attributed to Pre-Columbian cultures. The Powaka Corridor is an estimated 30km north west of the Sabajo Project Area. Though Newmont anticipates use of the Powaka Corridor, this study area community of Arawak Indigenous people were not included in the tangible heritage baseline study. Community consultation about Arawak presence in the Sabajo Project Footprint may provide useful knowledge about the historical use of the landscape in and around Newmont's concession.

²² Verification and recording of the slave route is a one day task.

7 UNCERTAINTIES AND GAPS

- The available map of the historic railroad features a location (see Annex 5 in SSM Survey section of ESIA report by Heemskerk and Duijves) that contradicts what was reported and plotted by the Kawina SSM. The true location can only be verified via reconnaissance to record and georeference with the historic map of the railroad.
- There is a singular report by a SSM land boss about Pre-Columbian ceramics and stone artifacts found at the Santa Barbara SSM site when the area was first mined by him in 2000. Santa Barbara is highly disturbed due to current SSM activity. No artifacts were found during reconnaissance in this area. In addition a stone axe was recovered by a SSM at KM 34. Both these sites are either in or near the Sabajo Project Footprint. These areas should be considered as high potential for archaeological resources.

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9 ACRONYMS

DC	District Commissioner
ESIA	Environmental and Social Impact Assessment
GoS	Government of Suriname
ICOMOS	International Council on Monuments and Sites
IFC	International Finance Corporation
MINOWC	<i>Ministerie van Onderwijs, Wetenschap en Cultuur</i> [Ministry of Education, Science and Culture]
NIMOS	<i>Nationaal Instituut voor Milieu en Ontwikkeling in Suriname</i> [National Institute for Environment and Development in Suriname]
SBB	<i>Stichting voor Bosbeheer en Bostoezicht</i> [Foundation for Forest Management and Forest Control]
SSM	Small Scale Mining
UNESCO	United Nations Educational, Scientific, Cultural Organization

10 GLOSSARY

Planned Disturbance Areas	Area within the Sabajo Project Footprint designated for a type of construction activity, i.e., waste rock storage facility, ore stockpile, pit etc.
Kawina	The word “Kawina” literally means “Commewijne” (SUR), and refers to both a geographic area the floodplain of the Commewijne River- and the people living in this area.
Kawina people or Kawina Ndjuka	In this report, the terms Kawina people or Kawina Ndyuka refer to the inhabitants of the upper Commewijne area who trace their ancestry to the communities of Java, Pennenica (Nengrekondrepepre), Moismoiskonre (=Moengotapoe) and Gododrai (=Mapane). They are ethnically Ndyuka, with some mix with Indigenous peoples. When referring to other people who may consider themselves “Kawina”, this will be explicitly mentioned.
Lithic	Stone.
Maroons	Tribal people of African descent. In Suriname, six different Maroon groups (NDY/SAR: Nási or Gaan-lo) claim traditional rights to different territories in the country’s interior. These groups are the Ndyuka (also: Aukaners, Okanisi, Djoeka), Saamaka (also: Saramaka), Paamaka (also: Paramaka), Kwinti, Matawai, and Aluku (also: Boni).
Ndjuka	One of the six Suriname Maroon groups, whose traditional living territory includes the Tapanahoni River and part of the Marowijne river. Subgroups of the Ndyuka have established along the Sarakreek (Saakiki), Cottica, and Commewijne Rivers. The Ndyuka also are referred to as Aukaners, Aucaneers, or Okanisi (NDY).
Original Village	Refers to Afobaka Study Area Community villages of Asigron, Dreipada and Balingsoela. According to villagers’ reports these villages were in the region during the colonial period.
Pedestrian Survey	A walking survey in interval transects to identify surface artifacts.
Resettlement	Refers to Afobaka Study Area Community villages of Compagnie Creek, Boslanti and Tapoeripa. In the literature these locations are referred to as Transmigration Villages constructed to house persons relocated from villages flooded during the construction of the Afobaka Lake in the early 1960s.
Sabajo Project Area	The area around the Sabajo Project Footprint.

Sabajo Project Footprint The defined area within Newmont’s concession were large scale earthmoving activity will take place.

Shovel test pit Typically 50 cm unit to quickly locate objects below the ground surface.

11 APPENDIX 1. RESEARCH TOOLS

Questionnaire

Location/Site Name/ Village	Date	Time	#of Participants
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Focus Group Participants	
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Timeline Event			a) Toponymy; b) Oral Testimonial; c) Settlement Analysis	Level of Importance to Social Memory (High, Medium, Low)
1680s- early 1700s Gran-maroonage	When they left, where did they run from and to?			
	What route did they take and is it marked?			
	Is there a name for this part of the landscape			

	Give name and location of place they settle to rest?			
	What is the extent of the place?			
	What natural features, i.e. plants and animals can be found there? And why?			
	Are there active villages in this area?			
	Are any of the names mentioned so far repeated elsewhere? i.e. at contemporary village			
	Who named the place and why? What is the meaning?			
	Is there a specific place where they fought?			

1740s Ancestral Places

Did different clans live there together?			
What changes were made to original landscape?			
What was its purpose (hide, for hunting, agriculture, ritual or social gathering)?			
Who performs what type of ritual, when and why			
Are there specific times/ seasons to visit and who is allowed?			
What plants and animals can be found there? And why?			
What are the similarities with other places, if at all?			

1760s Peace Treaty	What is the name of place where ancestors stayed during the time of the peace treaty?			
	How did the population change?			
	Is there a landmark where rituals take place in honor of Treaty?			
	Did plant and animal use change at this time, if so to what types?			
	Were objects made or used there? If so for what?			
1863 Emancipation	What place marks the event			
	How did the population change			
	What resources are found at this place (minerals, plants, woods, soil, and stones)?			
	What was purpose for this place (i.e., trade, village, government post)			

	<p>What place marks this event?</p> <p>What objects mark places or objects associated with development of interior</p>			
	<p>Do these places have a relationship to each other, if so what?</p>			
<p>1950 Onward Contemporary Period i.e. Railroad, old village structures</p>	<p>If an historical place /object were to be found what should Newmont do about it? Remove and do what with it, leave alone (remain <i>in situ</i>), cover/ bury (capping), call government</p>			

12 APPENDIX 2. X/ Y POINTS FOR PLANNED DISTURBANCE AREAS SURVEYED AND TESTED

Creek Entry # as seen in Figure 14	Name	POINT_X	POINT_Y
1	Creek entry	-54.833351	5.095669
2	No creek	-54.83158	5.096965
3	Northeast creek entry	-54.825737	5.091639
4	Northwest creek entry	-54.831609	5.088332
5	Southeast creek entry	-54.819619	5.085674
6	Waste Rock Storage Facility creek entry	-54.81063	5.133353
7	North Waste Rock Facility creek entry	-54.804784	5.09602
8	Margo Creek entry	-54.767348	5.090356