

**Archaeological Potential Evaluation Report for  
the future Kribi (Mpolongwe) gas fired power plant site**



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## **1- The project and its impact on archaeological heritage**

The AES-SONEL project aims at building a gas-fired plant at Mpolongwe near Kribi, which will lead to the construction of facilities on a total surface area of 16 hectares.

All the land situated in this area will be subjected to earthworks and part will house final structures. These facilities will probably bury archaeological sites and there is the likelihood that earthworks will damage or destroy some of these sites. The foregoing thus makes the archaeological evaluation of power plants unique:

- Generally each of the numerous archaeological sites has its own special feature, which by definition makes each of them unique and the damage thus irreparable.
- It will not be possible to skirt or avoid the sites that will be within the fixed facilities.

## **2 – Objective of archaeological evaluation**

It concerned looking for signs in the field that can confirm the existence of an archaeological potential on the Mpolongwe site.

## **3 – Methodology and results**

We are going to present in a succinct manner the methodology that enabled us to make the various discoveries.

### **3-1 Research methodology**

The methodology is an adaptation of that worked out by Oslisly and White (1998) in Gabon that is based on three fundamental points i.e. a proper cartographical study, profound botanic studies and the systematic exploitation of openings (tracks, erosion areas, fallow lands, corridors) and surface recognition.

The preparation of a mission to the field begins by way of acquisition of topographical maps. Then, we look for geological and pedological data.

It is necessary for any archaeologist working in a tropical forest area to have a minimum knowledge of botany and ethno-botany. During numerous prospecting programmes in Central Africa, Oslisly and White observed that man promotes directly or indirectly the growth of very specific plant species: palm trees (*Elaeis guineensis*), mango trees (*Mangifera indica*); most of these species are signs of former villages of the last millennium of our era.

#### *Systematic exploitation of land openings*

It constitutes the last element that one associates with during prospecting programmes. Oslisly and White recommend making the most of openings used in vegetation cover be they natural (windfall, river banks, tracks, roads, cliffs...) or artificial (major works, roads, tracks, railway, pipeline...).

Experience on the field enabled us to confirm once more that man has always had a high preference for altitude and hill top in selecting a site for settlement.

All in all, it concerned carrying out surface recognition that consists in exploring the site in order to identify the areas where topography and other factors can influence the settlement of former

occupants. The examination of open and erosion zones that can enable a direct observation of the soil without resort to soundings was made.

### 3. 2. Data recording methodology

During the evaluation, work tools were limited to a GPS (Garmin 12), which made it possible to obtain geographical coordinates of the site discovered, a compass and a topographic map, a notebook, small excavation equipment, a digital camera and site inventory forms.

When a site was found, the following procedure was adopted:

- the approximate limits of the site are determined with regard to surface area of the power plant
- the site is read in GPS in standard geographical coordinates and in UTM
- the site is photographed
- an inventory form that comprises pertinent information on the site (see inventory forms enclosed) is established.

The sites are registered according to a code and a serial number: e.g.: the place or site (four letters), le number of site (figure). Thus a form bearing the inscription MPOL 1 corresponds to the Mpolongwe site and the figure 1 corresponds to serial number 1 (see enclosed inventory form). Entries are also made through site plans of zones of concentration of relics on the surface.

### 4. Mission results

The evaluation carried out on the surface areas of the future Mpolongwe gas fired power plants confirmed once more the existence of archaeological sites including a diverse human settlement (Stone Age, Neolithic, Iron Age, pre-colonial period).

#### 4.1. Covered areas

As regards the Mpolongwe site, we based our evaluation on zones presently inhabited, the transects and tracks that crisscross the site and the slope, which led to the discovery of four settlement zones.

Generally, these settlements materialize as follows:

Site	Zones	Structures
Mpolongwe	1	Pits, ceramic layer (interior of huts)
	2	Pit on track towards the Gongoyima stream
	3	Small slope on the bank of the Gongoyima stream
	4	Pit and cup-shaped stone in a concession

## 4.2. Presentation, description and interpretation of sites around the Mpolongwe gas-fired power plant

Considering the thick vegetation cover, the evaluation was limited more or less to open areas, allowing for the direct ground view of sites such as houses and their surroundings, tracks and slopes.

The Mpolongwe site is located close to the Edéa-Kribi highway, on the peak of the hill surrounded to the north by the Mpolongwe River, to the south by the Mayingui stream, to the east by the Gongoyima stream and to the west by the Edéa-Kribi road. This site is presently inhabited by the Mabi community. From the archaeological point of view, the evaluation allowed for the identification of four potential zones of past human settlement.

### Zone 1 (MPOL 1a)

It is made up of six pits that are recognizable by way of circular black spots, stone heaps mixed with pottery and charcoal near huts and graves. The site is surrounded by a highly anthropogenic vegetation.



*Circular trace showing a probable pit*



*Stones associated with a pottery*

### Zone 2 (MPOL 1b)

This is a group of three pits that are three metres apart on the path leading to the Gongoyima stream, recognizable by the fragments of pottery linked to the lithic layer that has been exposed by erosion. The surrounding vegetation is made up of secondary forest that has highly anthropized *ceiba pentadra*, *anthocleista schweinfurtheii*, *alchornea cordifolia*



*Head of pit in zone 2 showing some breaks of stones and wood coal*

### **Zone 3 (MPOL 1c)**

This zone is represented by a stone tool carved out of a greasy quartz found encrusted on a slope of about one metre high, close to the Gongoyima stream. This kind of carved tool is rare and it is quite exceptional to find it in tact. The forest environment of the site is similar to the preceding one.



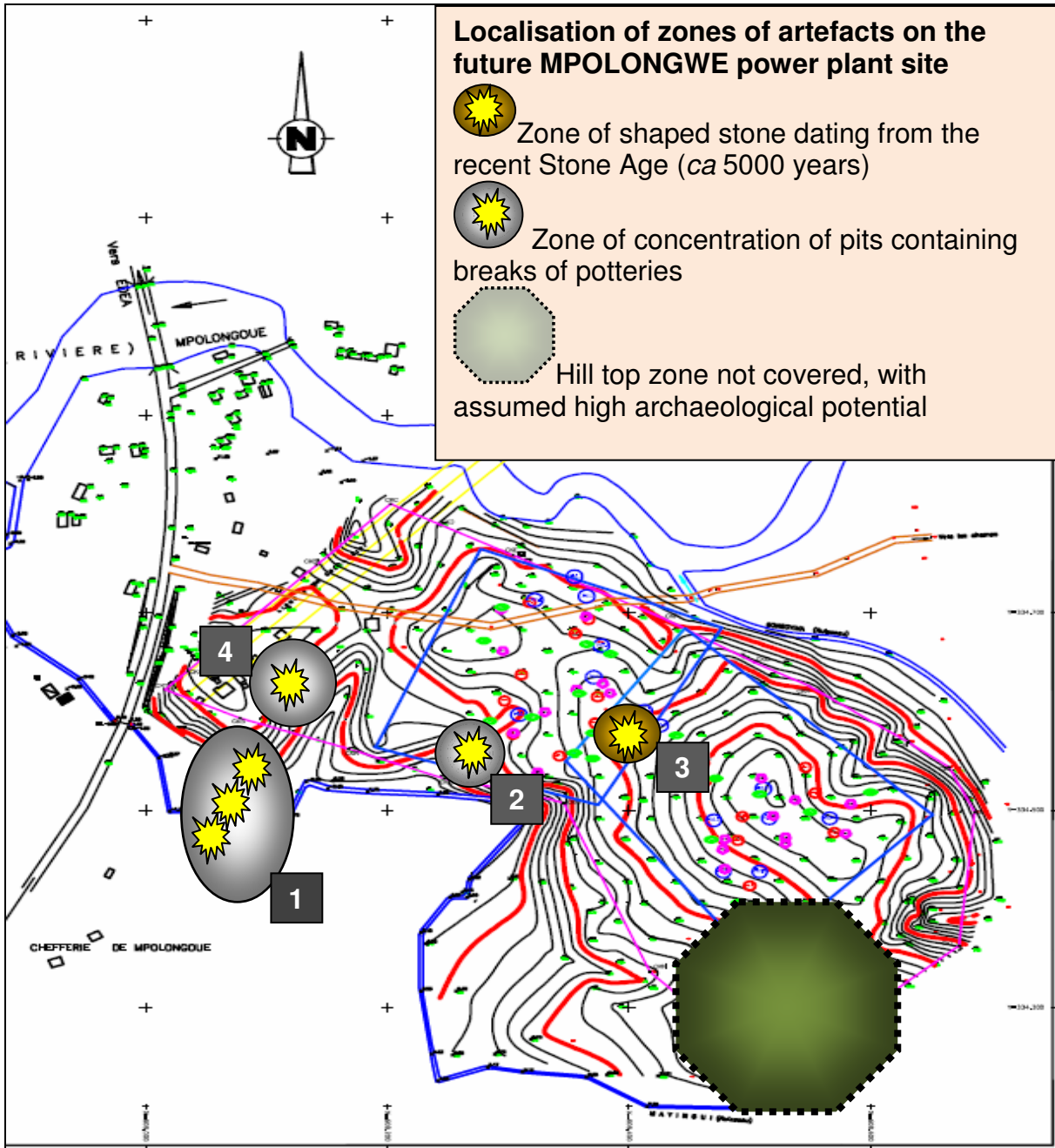
*Place where the stone axe was found*



*Axe from lattice quartz*

### Zone 4 (MPOL 1d)

This is a group of two pits and a cup-shaped stone (a curved-shaped stone used for cracking palm nuts) in a settlement, recognizable through black spots on the ground with pottery fragments, charcoal and a few *Elaeis guineensis* nuts.



Localisation of zones where artefacts were discovered on the Mpolongwe site, showing a hilltop zone not covered in this preliminary study, but with assumed high archaeological potential.

## **Interpretations**

Considering the evaluation results and looking at the archaeological relics, we may classify settlement on the site in two phases:

- (1) A recent Stone Age characterized by bifacial pieces with two parallel edges that are more or less elongated on the heel, commonly called Hachette. One can estimate their age within a time range of 5000 - 6000 years
- (2) A Neolithic or Iron Age shown by the presence of pits.

## **5- Summary presentation of the evaluation results and the prioritizing of sites**

This presentation shall focus on two summary tables of discoveries but an explanation on some of the heading would be necessary:

- (1) Considering the estimation of the archaeological potential according to the surface area of the site, we carefully screened the archaeological site in order to locate all the visible artefacts.
- (2) The age was estimated based on the visible relics and in correlation with other zones in the littoral region of Cameroon.
- (3) We also introduced a heading on the stratigraphy and the geographical context of the sites. In this case, the geographical position of the site was described as well as the location of the relics either within the context of the stratigraphical level or the content of the dumping pits.
- (4) The classification of a site in order of priority is not the ultimate measure of its scientific richness but rather a temporary phase which will allow for its scientific potential to be considered and the measures to be taken in its construction. In this way, a site that was initially classified as « rich » on its discovery may be re-evaluated after a subsequent study as poor. Similarly, sites whose richness is uncertain may be classified as rich or not subsequently, excavated or abandoned.

## **6 - Recommendations for future actions**

The visit to the site of the future Mpolongwe gas fired power plant was aimed at evaluating the archaeological potential of the impact zone of the construction project. We would like to note that the results of this brief visit can neither be considered as those of a large-scale impact study nor can it be adequate enough in the execution of an action plan.

### **6-1- Additional Prospecting**

Generally, close to 90 % of the Project impact area is still to be prospected. This prospecting, which is the only means of gathering real knowledge on the archaeological riches before the construction, must be realized as part of future actions:

- Archaeological studies in open areas have confirmed the richness of the Mpolongwe site. The fallow forest areas ought to be completely prospected;
- These forest areas surely harbour a rich archaeological heritage. They ought to be evaluated. A transect should be done every 10 metres from the western access road to the east of the site. To this end, the archaeologists ought to have, as soon as possible, the exact construction plan showing the earthwork area.
- This additional studies shall include both surface prospecting and soil sampling boring;

## **6-2- Works Supervision**

This phase is very crucial in future actions on preventive archaeology. This is applicable mainly to construction works involving the excavation of significant amounts of earth. It must obligatorily be incorporated into the company's action plan on the management of cultural heritage:

- We now know that between 45 and 55% of the current sites in the construction area are discovered during supervision works (pipeline data, roads).
- Earthworks ought to be monitored in order to allow for the identification of sites that may not have been discovered during the preliminary prospecting.
- The presence of archaeologists is necessary through out the earthworks.