

**ARCHAEOLOGICAL AND CULTURAL IMPACT  
BASELINE ASSESSMENT REPORT FOR RAILWAY UPGRADE BETWEEN  
OMARURU AND KRANZBERG IN ERONGO REGION**

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## EXECUTIVE SUMMARY

An archaeological baseline assessment was carried out focusing on the railway upgrade between Omaruru – Kranzberg, in the Erongo Region of south-western Namibia. No previous archaeological survey has been carried out in the area covered by the existing railway. The assessment therefore considered records from the surrounding area as a basis of inference regarding the archaeological sensitivity of the project area as a whole. The available data indicate that there are likely to be archaeologically sensitive and it is therefore recommended that no mechanical trenching, bulk sampling and drilling is permitted without archaeological assessment of the selected target areas. It is recommended that the project proponent adopt the attached Chance Finds Procedure devised for mining projects.

### 1. INTRODUCTION

WCE Consulting Engineers (Pty) Ltd has been awarded the contract to upgrade the railway between Omaruru and Kranzberg located in the western Erongo Region of Namibia. The contractor intends to do sampling, drilling and trenching activities that require an Environmental Clearance Certificate to be issued in terms of the Environmental Management Act (2007). Urban Green cc Sustainability Consultants has been appointed by the contractor to carry out an environmental assessment (EA). Archaeological remains in Namibia are protected under the National Heritage Act (2004) and National Heritage Regulations (Government Notice 106 of 2005), and projects of this magnitude are also subject to archaeological assessment. Urban Green cc Sustainability Consultants has accordingly appointed the undersigned, ESM Heritage Consultants, to carry out this assessment.

#### 1.2. Terms of Reference

The desktop assessment presented in this report is intended to identify from existing field survey data any sensitive archaeological and heritage resources that could be affected by the proposed railway upgrading activities between Omaruru and Kranzberg. Archaeological assessment reports forms basis of standard management actions meant to avoid or reduce negative impacts of mining activities. Which is the essence for carrying out heritage impact assessment activities as an integral

part of the environmental assessment. Moreover this study is anticipated to satisfy the requirements of the relevant legislation and regulations, particularly the National Heritage Act of 2004, in which the process of review and clearance may require further, or different mitigation measures to be adopted.

### 1.3. Limitations and Assumptions

Archaeological assessment relies on the indicative value of surface finds recorded in the course of field survey. Field survey results are augmented wherever possible by inference from the results of surveys and excavations carried out in the course of previous work in the same general area as the proposed project. Thus, where detailed information is available from existing field survey results, these data are used to inform a desk assessment which would be augmented by further field survey should the authorities deem it necessary. Based on cumulative field records, it is possible to predict the likely occurrence of further archaeological sites with some accuracy, and to present a general statement of the local archaeological site distribution and its sensitivity. However, since the assessment is limited to surface observations and existing survey data, it is necessary to caution the contractor that hidden, or buried archaeological or palaeontological remains might be exposed as the project proceeds. It is for this reason that the contractor is advised to adopt the Chance Finds Procedures.

## 2. Legal Requirements

In most cases where the aspect of mining and development is involved, cultural and archaeological evidence located within areas earmarked for development or mining usually faces the danger of either complete erasure or destruction. This has been the status quo since heritage resources were not accorded the same protective mitigation measures accorded to fauna and flora. This had been so despite the existing legal instruments protecting heritage resources, Namibia is the National Heritage Act (No. 27 of 2004).

Destruction of heritage resources had reached an alarming rate and scale, that the National heritage council had to step in and initiate provisions of the heritage act to ensure mandatory heritage impact assessment prior to all mining activities in the country, particularly in the Erongo. Furthermore the statutory mandate of heritage impact assessment studies is to encourage and facilitate the protection and conservation of archaeological and cultural heritage sites, with provisions from the Environmental Management Act (EMA) No. 7 of 2007 and its 2012 EIA Regulations. The

National Heritage Act (Section 1 of 2004) defines heritage resources as those of geological and rare objects; paleontological; archaeological; ethnographic objects; historical objects/sites; maritime heritage; built monuments; mining sites as well as objects of scientific curiosity.

### 3. Environmental & Archaeological Setting

The proposed railway upgrade is located along the C33 road between the town of Omaruru and Kranzberg. This western part of Namibia is arid and presents a harsh environment for human habitation. However these harsh environmental condition still retains some attractive attributes that led to the habitation of the Erongo Mountains, Brandberg mountains and Twyfelfointein. According to Nankela (2020) these areas accorded humans with minimum basic needs such as water and wild game since by virtue of the mountain topography enables orographic rainfall that forms localized micro-climates to meet the basic needs of the early settlers.

Available archaeological evidence, is characterized by short periods of relatively intense occupation, and long periods in which there appears to have been little or no human presence (Kinahan 2011). This is apparent as observed by the early researchers within the greater Erongo, it has been theorized that such evidence of human occupation and subsequent desertion by the original artists of the many rock paintings and engravings in the Erongo region, is a consequence of environmental and climatic changes. Resulting in movement and migration of wildlife northward, that were subsequently pursued by humans resulting in desertion of the rock paintings and engravings by the original artists.

As acknowledged in the previous paragraph, the Erongo region has been the focus of several archaeological surveys and assessments during the last two decades. These surveys have helped to determine the local archaeological sequence and to establish the relationship between archaeological sites and the types of terrain that characterize the area, including gravel outwash fans, granite outcrops and the many dolerite ridges that criss-cross the landscape. However, archaeological surveys for mining and infrastructure projects are highly focused on specific localized area of particular projects and do not therefore as a rule reflect the wider archaeology of the entire spatial area that share similar topography and geologic composition characteristics. Cumulative results of earlier surveys provide an indication of the archaeological importance of

this general area, although the intensity of survey varies considerably and large parts of the area are archaeologically unknown (Kinahan 2020).

According to Kinahan (2011) the general sequence and archaeological characteristics of the area under consideration, based on current knowledge, are as follows:

- a. Early to mid-Pleistocene (ca. 2my to 0.128my; OIS 6, 7, 19 &c): represented by surface scatters of stone tools and artefact debris, usually transported from original context by fluvial action, and seldom occurring in sealed stratigraphic context.
- b. Mid- to upper Pleistocene (ca. 0.128my to 0.040my; OIS 3, 4 & 5a-e): represented by dense surface scatters and rare occupation, evidence in sealed stratigraphic context, with occasional associated evidence of food remains.
- c. Late Pleistocene to late Holocene (ca. 0.040my to recent; OIS 1 & 2): represented by increasingly dense and highly diverse evidence of settlement, subsistence practices and ritual art, as well as grave sites and other remains.

Early to mid-Pleistocene sites are associated with pans, outwash gravels, drainage lines and river gravels, although on the Namib coast some mid-Pleistocene sites are associated with relict beach levels (Corvinus 1983; Deacon & Lancaster 1988). Mid- to upper Pleistocene sites occur in similar contexts to the earlier material, but hill foot-slopes and outcrops of rock suitable for artefact production for example, chert, fine-grained quartzites are also focal points. While late Pleistocene to late Holocene sites occur in almost every terrain setting, with the exception of very steep slopes and mountain tops (Deacon 1972; Kinahan 2011). These sites often exhibit locally integrated distribution patterns which allow some reconstruction of land-use and subsistence. Major Holocene sites include stratified occupation deposits, containing an array of organic and inorganic residues.

Kinahan had in the past carried out comparative research on rock paintings shelters in Erongo region 'Snake Rock' in Hungorob Gorge – Brandberg Mountain, 'Bushman Paradise' in Pondok Mountain – Spitzkoppe Mountain and at "Rainman Shelter" in Upper Otjohorong Granite Hill in 1998 (Nankela, 2020). About 150 sites were recorded. The region is also endowed with Iron Age and contemporary heritage that need further field based investigation. Erongo region has 37 heritage sites which are listed as national monuments.

Archaeological evidence related to the exploitation of wild grass seed includes well preserved shallow diggings where caches of grass seed (still known today as sâun in Khoekhoegowab) were extracted from the nests of harvester ants (*Messor denticornis*). The seed was cleaned and stored in highly characteristic bag-shaped pottery vessels. Processing of the seed for cooking was carried out using grinding surfaces on granite outcrops, usually outcrops with cavities where supplies of rainwater collect after summer showers in the desert. These different components of the seed exploitation assemblage are usually found together in localized concentrations, each covering an area of several square kilometers. Sometimes the sites are also associated with the remains of small groups of hut dwellings or natural rock shelters, occasionally containing painted rock art and other archaeological evidences.

Information from the NHC shows that the project area falls under the cultural landscape occurring in Erongo Region. Prior to its restructuring and renaming to National Heritage Council, the national monument had 37 national monuments recorded within Erongo Region. Table 1 shows details of the part of the national monuments occurring in the same region as the project and are recorded in the National Monuments Register.

Table 1. National Monuments Recorded in National Database

<b>Site Name</b>	<b>Information on Site Index Card</b>
Ameib	`Phillipp's Cave' with rock art drawings.
Badges 158 Farm	Regimental badges laid out in stone of 2 Durban Light Infantry, dating from 1915
Brandberg.	Area of 450km <sup>2</sup> of archaeological, ecological and geomorphological importance
Bushman Paradise Cave	Was `one of the finest collections of rock art in Namibia'. (Spitzkoppe
Cape Cross	Replica (1895) of original stone pillar left by Diogo Cão in 1484. First European contact with Namibia.
Erongo Farm	Rock paintings at six sites
Karibib	Rösemann building façade, erected in 1900

Karibib	Quartermasters Stores. Built in 1911
Karibib	Kubas Railway Station. Built in 1900
Karibib	Haus Woll. Built in 1900s
Karibib	Hotel Zum Grünen Kranze. Built in 1913
Karibib	Erf 46 and the Hälbich buildings. Built in 1900s
Karibib	Kaiserbrunnen (Imperial well) - well, water reservoir and drinking trough. Built in 1906

#### 4. Assessment

The most likely impact on sites and materials protected under the National Heritage Act (27 of 2004) would be damage through encroachment, disturbance, and possible destruction in the course of mechanical activities such as construction of new railway bridges and new railway embankments particularly where it deviates from the existing railway. A secondary impact would be inadvertent encroachment and disturbance due to inappropriate setting of construction workers camps, equipment and supply laydowns and routes of access. These impacts would seriously compromise the cultural heritage of the area and because damage to archaeological sites is essentially irreparable, the consequences of such impacts must be considered as permanent if such heritage resources are present.

#### 5. Identified sites for further detailed field inspections.

Several potential sites were identified during the preliminary investigation of the railway line between Kranzberg and Omaruru. These sites have key indicators of heritage, such as granite rock outcrops. During the preliminary site visit these were identified within the first 20 kilometers from Omaruru to Kranzberg. In addition several villages/ farm steads were equally recognized within the 20 kilometer zone where railway deviation is more apparent. Contemporary villages and

farmsteads are likely to be impacted by the railway line as such a thorough community engagement is necessary to ascertain potential heritage resources acknowledged by the local community.

Just to reiterate, most of the sites identified during the preliminary site visit of the Omaruru-Kranzberg railway have potential to host rock paintings. Equally farms steads were identified within the first 20 kilometers from Omaruru, this in essence will be the area where intense further detailed study will be required. The archaeological research of the Erongo Mountains in the backdrop of this railways line project to the west has been highlighted through literature in this report and as such, the presence of heritage resources such as rock paintings cannot be understated, further justifying the need for additional detailed survey within the highlighted area.



## Reference

Deacon, J. and Lancaster, N. 1988. Late Quaternary palaeoenvironments of southern Africa. Oxford : Oxford University Press.

Kinahan, J. 2011. From the beginning: the archaeological evidence. In Wallace, M. and Kinahan, J. A history of Namibia: from the beginning to 1990. London: Hurst & Co., pp 15-44.

Kinahan, J. 2020. Namib: the Archaeology of an African Desert. Windhoek: University of Namibia Press (in press).

Nankela, A. 2020. Joint archaeological monitoring impact assessment study report Otjohorongo Granite Hill and Gross Okandjou farm, Erongo Region.

Nankela, A (2019) Klein Spitzkoppe Mountains archaeological research (phase 1), May 2019 Unpublished report, National Heritage Council of Namibia.