

23 February 2021

ECC Environmental
Windhoek
Namibia

For attention: Mr Lester Harker, Environmental Assessment Practitioner

ARCHAEOLOGICAL ASSESSMENT OF THE OSINO PROJECT, ERONGO REGION, NAMIBIA

DECLARATION

I hereby declare that I do:

- (a) have knowledge of and experience in conducting assessments, including knowledge of Namibian legislation, specifically the National Heritage Act (27 of 2004), as well as regulations and guidelines that have relevance to the proposed activity;
- (b) perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- (c) comply with the aforementioned Act, relevant regulations, guidelines and other applicable laws.

I also declare that I have no interests or involvement in:

- (i) the financial or other affairs of either the applicant or his consultant
- (ii) the decision-making structures of the National Heritage Council of Namibia.



John Kinahan, Archaeologist

EXECUTIVE SUMMARY

An archaeological field survey and assessment was carried out on the proposed Osino mining project site, located on the farm Okawayo 46 near Karibib, in the Erongo Region, Namibia. The designated mining area partially overlaps EPLs 3739, 5658 and 6167. The area has been extensively disturbed both in the course of on-going dimension stone mining and exploration activities of the Osino project. The archaeological field survey located a number of minor sites and assessed colonial era structures that might merit protection under the National Heritage Act (27 of 2004). It is recommended that the project adopt the attached Chance Finds Procedure devised for mining projects in the event that archaeological remains are encountered during earthmoving operations.

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1. INTRODUCTION

1.1 Background

Environmental Compliance Consultancy (ECC) is carrying out an environmental assessment of the Osino project located on the farm Okawayo 46 in the Karibib District of the Erongo Region, Namibia. The Osino project area partially overlaps EPLs 3739, 5658 and 6167. Mining is listed in the Environmental Management Act (2007) as an activity requiring environmental assessment and the issuance of an Environmental Clearance Certificate.

Archaeological remains in Namibia are protected under the National Heritage Act (27 of 2004) and National Heritage Regulations (Government Notice 106 of 2005), and ECC has accordingly appointed the undersigned, J. Kinahan, archaeologist, to carry out an assessment of the Osino project area. A field visit to the site was carried out on 4th and 5th February 2021.

1.2 Terms of Reference

The primary task of the archaeological assessment reported here was to identify sensitive archaeological sites that could be affected by the proposed exploration and mining activities. The archaeological assessment forms the basis of recommended management actions to avoid or reduce negative impacts, as part of the environmental assessment. The study is intended to satisfy the requirements of the relevant legislation and regulations, in which the process of review and clearance may require further, or different mitigation measures to be adopted.

Specifically, the archaeological assessment addresses the following primary elements:

1. The identification and assessment of potential impacts on archaeological/heritage resources, including historical sites arising from the proposed exploration and mining activities.
2. The identification and demarcation of highly sensitive archaeological/heritage sites requiring special mitigation measures to eliminate, avoid or compensate for possible destructive impacts.
3. Formulation and motivation of specific mitigation measures for the project to be considered by the authorities for the issuance of clearance certificates.
4. Identify permit requirements as related to the removal and/or destruction of heritage resources.

1.3 Assumptions & Limitations

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, as well as other sources such as historical documentation. Based on these data, it is possible to predict the likely occurrence of further archaeological sites with some accuracy, and to present a general statement (see Receiving Environment, below) 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 proponent that hidden, or buried archaeological or palaeontological remains might be exposed as the project proceeds

2. LEGAL REQUIREMENTS

The principal instrument of legal protection for archaeological/heritage resources in Namibia is the National Heritage Act (27 of 2004). Part V Section 46 of the Act prohibits removal, damage, alteration or excavation of heritage sites or remains. Section 48 *ff* sets out the procedure for application and granting of permits such as might be required in the event of damage to a protected site occurring as an inevitable result of development. Section 51 (3) sets out the requirements for impact assessment. Part VI Section 55 Paragraphs 3 and 4 require that any person who discovers an archaeological site should notify the National Heritage Council. Heritage sites or remains are defined in Part 1, Definitions 1, as “any remains of human habitation or occupation that are 50 or more years old found on or beneath the surface”.

It is important to be aware that no specific regulations or operating guidelines have been formulated for the implementation of the National Heritage Act in respect of archaeological assessment. However, archaeological impact assessment of large projects has become accepted practice in Namibia during the last 25 years, especially where project proponents need also to consider international guidelines. In such cases the appropriate international guidelines are those of the World Bank OP/ BP 4.11 in respect of “Physical Cultural Resources” (R2006-0049, revised April 2013). Of these guidelines, those relating to project screening, baseline survey and mitigation are the most relevant.

Archaeological impact assessment in Namibia may also take place under the rubric of the Environmental Management Act (7 of 2007) which specifically includes anthropogenic elements in its definition of environment. The List of activities that may not be undertaken without Environmental Clearance Certificate: Environmental Management Act, 2007 (Govt Notice 29 of 2012), and the Environmental Impact Assessment Regulations: Environmental Management Act, 2007 (Govt Notice 30 of 2012) both apply to the management of impacts on archaeological sites and remains whether these are considered in detail by the environmental assessment or not.

3. RECEIVING ENVIRONMENT

The Osino project is located on the farm Okawayo 46 a large-scale cattle ranch which has also supported a horse breeding operation. The farm was established in the late 19th century and is centred on a well constructed period homestead which is still in reasonably good repair. The homestead and other farm infrastructure are situated along the banks of the Okawayo River, a major tributary of the Khan River. The Okawayo River is lined by dense riparian woodland which is in contrast to the rest of the farm and its mainly scrub dominated vegetation. The Okawayo River flows from north to south, bisecting a prominent dolomitic marble ridge which forms an axis, dividing the farm in a southwesterly-northeasterly direction. The marble ridge narrows the course of the

Okawayo River and by impeding its flow ensured the presence of accessible shallow groundwater during the historical period¹.

The northern slopes of the marble ridge at Okawayo look towards the rugged terrain flanking the Khan River, across an open sandy area characterized by low scrub including *Catophractes alexanderii* and occasional groups of small trees including *Acacia hebeclada*². The sand cover is mainly a thin aeolian layer through which penetrate outcrops of pedogenic calcrete. In contrast, the southern slopes of the marble ridge which have a thin covering of shrub vegetation including *Euclea undulata*, form the edge of an extensive colluvial basin with relatively deep sandy silt soils supporting a patchy woodland of *Acacia karoo* and other species suited to these soil conditions. The sandy basin which is aligned with the slopes of the marble ridge, is about 2km wide and grades eventually into gravel deposits surrounding small granitic outcrops.

There is a history of archaeological interest in the area surrounding the Erongo mountains which lie only 20km to the northwest, although no previous investigations have been carried out at Okawayo itself. In the Erongo, systematic archaeological research has focussed on settlement and subsistence behaviour of Holocene hunter-gatherers, who were also responsible for the great wealth of rock art associated with the mountains³. New research suggests that granitic inselbergen in this region served as refugia for hunter-gatherers during the last severe aridification cycle following about 6000 years BP (approximately 5000BC)⁴. During this time dry steppe environments such as at Okawayo were relatively unproductive and human settlement of the wider scrub savanna biome would have recommenced during the last 2000 years.

Indigenous cattle-owning peoples, primarily Ovaherero, expanded southwards into central Namibia from what is now the Kunene Region during the 16th and 17th centuries AD, driven by recurrent drought associated with the so-called Little Ice Age⁵. Ovaherero occupation of prime settlement and pasture sites in central Namibia was

¹ Detailed records known as “Farm Files” are housed at the National Archives in Windhoek and most of these contain a wealth of information on the early establishment of individual freehold farms and their ownership. These records are unfortunately not accessible due to on-going renovation work at the Archives.

² The vegetation is typical of the Western Highlands biome of the Acacia tree-and-shrub Savanna of Mendelsohn, J., Jarvis, A., Roberts, C. & Robertson, T. eds. 2002. *Atlas of Namibia: a portrait of the Land and its People*. Cape Town: David Philip.

³ Wendt, W.E. 1972. Preliminary report on an archaeological research programme in South West Africa. *Cimbebasia* (B) 2: 1–61; Wadley, L. 1979. Big Elephant Shelter and its role in the Holocene prehistory of central South West Africa. *Cimbebasia* (B) 3: 1–76; Wadley, L. 1984. On the move: A look at prehistoric food scheduling in central Namibia. *Cimbebasia* (B) 4 (4): 41–50.

⁴ Kinahan, J. 2021. *Namib: the archaeology of an African desert*. Windhoek, University of Namibia Press.

⁵ Henrichsen, D. 1997. *Herrschaft und Alltag in Zentralnamibia: das Herero- und Damaraland im 19 Jahrhundert*. Unpublished doctoral dissertation, University of Hamburg, Hamburg; Huffman, T.N. 1996. Archaeological evidence for climatic change during the last 2000 years in southern Africa. *Quaternary International* 33: 55–60; Kinahan, J. 2016a. Human responses to climatic variation in the Namib Desert during the last one thousand years. *African Archaeological Review* 33 (2): 183–203. DOI: 10.2307/43916785

essentially complete by the late 19th century, well in advance of colonial occupation. The stability of settlement in this region was however threatened by the depredations of Oorlam cattle raiding and, in 1897 by the catastrophic *Rinderpest* (Paramyxovirus) epidemic which resulted in the decimation of Ovaherero herds and the loss of many well established settlement areas to land speculators and colonial settlers. It is uncertain whether Okawayo was lost by the Ovaherero at this stage or following their defeat by German forces in 1904.

4. OBSERVATIONS

A detailed foot survey concentrating on the parts of the Osino project area undisturbed by exploration and mining activity (see Figure 1) found of precolonial sites resembling historical Ovaherero settlements on the south side of the marble ridge. The general area surrounding the historical Okawayo farmstead was also examined in detail. The location of these sites is indicated in Figure 1.

4.1 Site gazetteer

Okawayo 476 -21.86910S 15.94941E

Flat silty sand deposit on south side of marble ridge, about 300m wide (see Fig. 2, Appendix 1), with marble manuports anchorstones in arcuate arrangements (see Fig. 3). Appears to be historical pastoral settlement.

Okawayo 477 -21.88736S 15.94692E

Isolated quartzite schist outcrop with dispersed surface scatters of hydrothermal vein quartz flaking debris.

Okawayo 478 -21.87046S 15.94964E

Three suspected grave cairns in a cluster approximately 5m in diameter (see Fig. 4).

Okawayo 479 -21.87807S 15.93579E

Isolated marble quern stone (see Fig. 6).

Okawayo 480 -21.84259S 15.98144E

Ruined colonial farm building of unknown date or purpose (see Figs 7 & 8).

Okawayo 481 -21.84518S 15.98181E

Okawayo farmhouse (see Fig. 9).

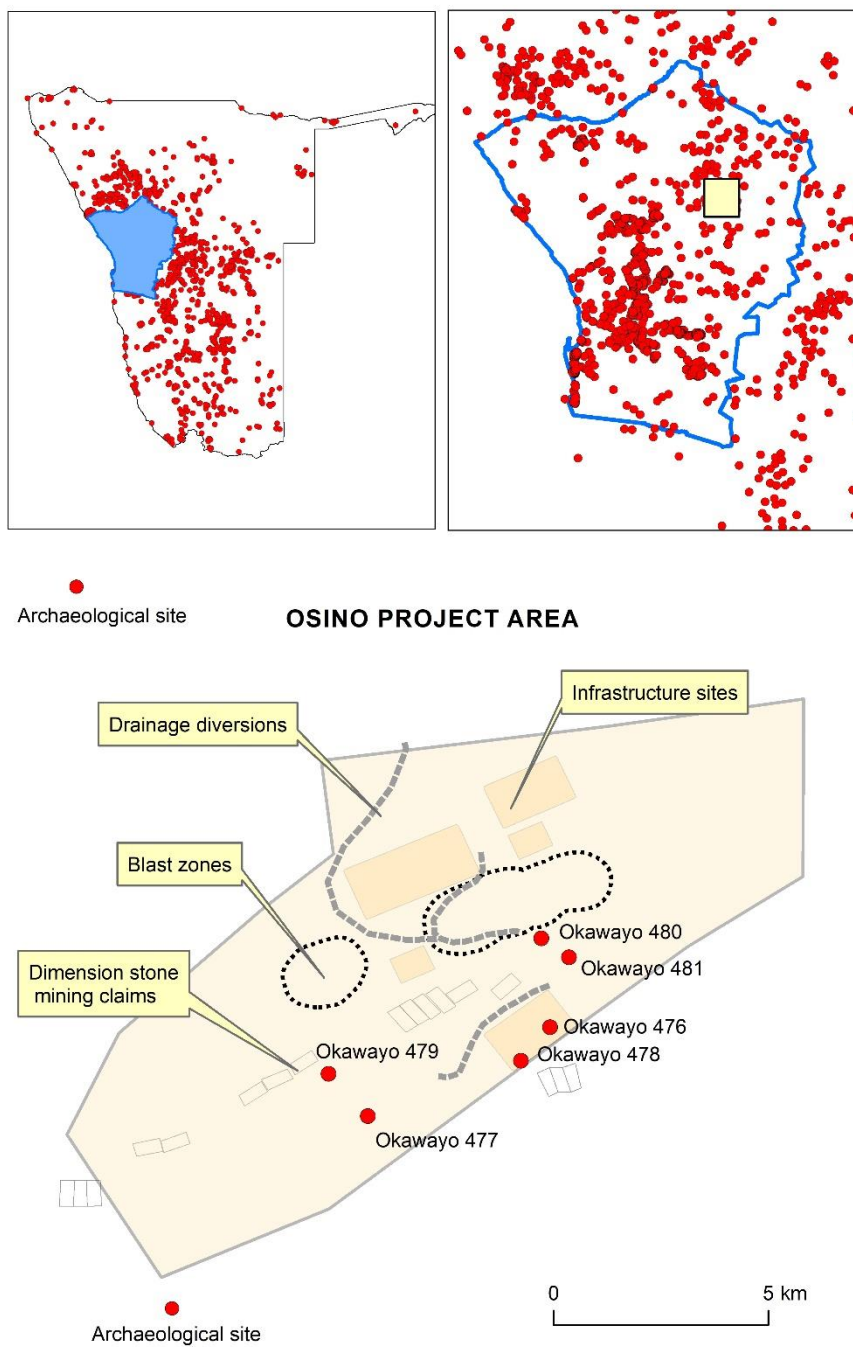


Figure 1: The location of the Osino project, showing the known distribution of archaeological sites (red dots) in the adjacent area and regions. Also indicated are archaeological and historical sites located during the present survey, in relation to existing and proposed mine works.

5. CONCLUSIONS & RECOMMENDATIONS

On the basis of the field survey reported here the Osino project area is considered to be moderately archaeologically sensitive. The sites on the south side of the marble ridge may require mitigation if encroached upon by earthworks associated with the proposed diversion of the Okawayo River. In this case it would be recommended that test excavations are carried out at Site 478 to determine whether the three features noted there are burials.

The ruined colonial farm building Site 480 appears to be vulnerable. The driller's camp located there is too close to the structure and should be moved at least 100m away. The purpose and significance of the building is not known at this stage but it is safe to assume that it falls under the framework protection of the National Heritage Act (27 of 2004; Part 1, Definitions 1). The Okawayo farmstead (Site 481) appears to be in generally good condition although it may prove vulnerable to vibration from blasting when the mine pits are opened.

It is therefore recommended that further investigation of Site 478 is carried out if the project proceeds further, although this action will require a permit from the National Heritage Council; that the driller's camp at Site 480 is moved at least 100m away from the ruin; and that consideration is given to possible damage to Site 481 caused by blasting and vibration. It is further recommended that the proponent should adopt the Chance Finds Procedure in Appendix 1 as part of the project Environmental Management Plan.

Appendix 1: Site photographs

Figure 2: Okawayo 476, general aspect.

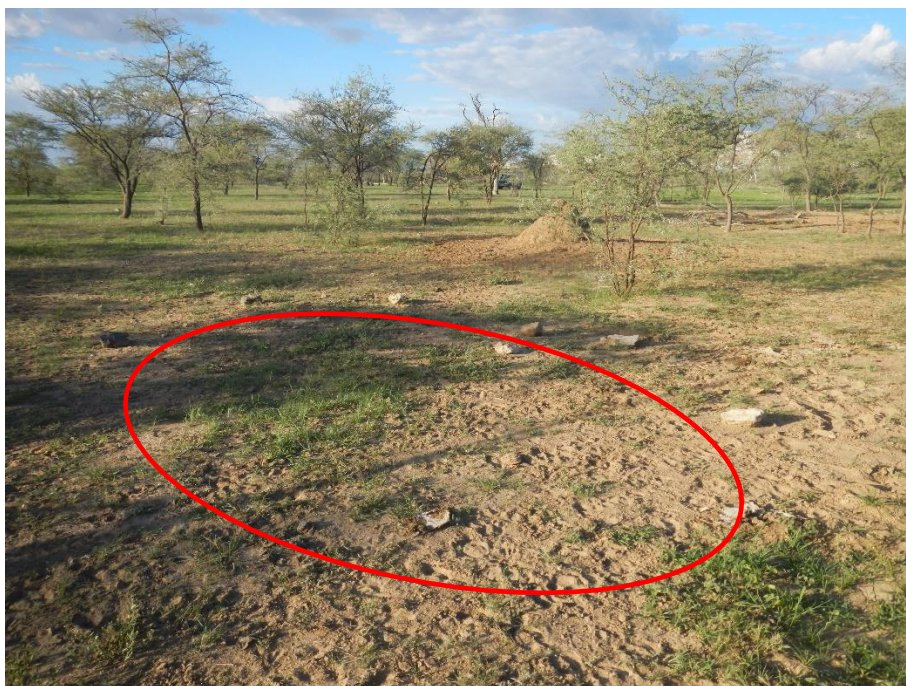


Figure 3: Okawayo 476, semi-circular arrangement of anchor stones marked by red ellipse.



Figure 4: Okawayo 478, suspected grave sites.



Figure 5: Okawayo 479, quern stone, dolomitic marble.



Figure 6: Okawayo 480, ruined farm building viewed from southeast.



Figure 7: Okawayo 480, detail of wrought iron window bars.



Figure 8: Okawayo 480, encroachment of driller's camp on heritage building.



Figure 9: Okawayo 481, back view of historical farmstead to show general state of repair.

Appendix 2: Chance Finds procedure

Areas of proposed development activity are subject to heritage survey and assessment at the planning stage. These surveys are based on surface indications alone, and it is therefore possible that sites or items of heritage significance will be found in the course of development work. The procedure set out here covers the reporting and management of such finds.

Scope: The “chance finds” procedure covers the actions to be taken from the discovery of a heritage site or item, to its investigation and assessment by a trained archaeologist or other appropriately qualified person.

Compliance: The “chance finds” procedure is intended to ensure compliance with relevant provisions of the National Heritage Act (27 of 2004), especially Section 55 (4): *“a person who discovers any archaeological ... objectmust as soon as practicable report the discovery to the Council”*. The procedure of reporting set out below must be observed so that heritage remains reported to the NHC are correctly identified in the field.

Responsibility:

Operator	To exercise due caution if archaeological remains are found
Foreman	To secure site and advise management timeously
Superintendent	To determine safe working boundary and request inspection
Archaeologist	To inspect, identify, advise management, and recover remains

Procedure:

Action by person identifying archaeological or heritage material

- a) If operating machinery or equipment stop work
- b) Identify the site with flag tape
- c) Determine GPS position if possible
- d) Report findings to foreman

Action by foreman

- a) Report findings, site location and actions taken to superintendent
- b) Cease any works in immediate vicinity

Action by superintendent

- a) Visit site and determine whether work can proceed without damage to findings
- b) Determine and mark exclusion boundary
- c) Site location and details to be added to project GIS for field confirmation by archaeologist

Action by archaeologist

- a) Inspect site and confirm addition to project GIS
- b) Advise NHC and request written permission to remove findings from work area
- c) Recovery, packaging and labelling of findings for transfer to National Museum

In the event of discovering human remains

- a) Actions as above
- b) Field inspection by archaeologist to confirm that remains are human
- c) Advise and liaise with NHC and Police
- d) Recovery of remains and removal to National Museum or National Forensic Laboratory, as directed.

