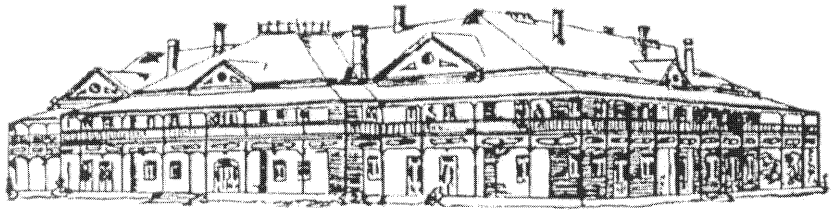
**McGregor Museum**
**Department of Archaeology**



# Report on a Phase 1 Archaeological Assessment of proposed salt mining areas on the Opstaan Pan, north of Upington, Northern Cape.

David Morris
October 2005

# Report on a Phase 1 Archaeological Assessment of proposed salt mining areas on the Opstaan Pan north of Upington, Northern Cape.

David Morris
Kimberley : October 2005

## Introduction

The archaeology of the Northern Cape is rich and varied, covering long spans of human history. Concerning Stone Age sites here, C.G. Sampson has observed: "It is a great and spectacular history when compared to any other place in the world" (Sampson 1985). Some areas are richer than others, and not all sites are equally significant. Heritage impact assessments are a means to facilitate development while ensuring that what should be conserved is saved from destruction, or adequately mitigated and/or managed.

The present report concerns archaeological observations on proposed salt mining areas on Opstaan Pan north of Upington, Northern Cape.

This report also provides background information on the archaeology of the wider region against which field survey observations may be assessed.

## Terms of reference

Terms of reference were to detail observations based on a field survey on the pan in question and to assess significance of impact should salt mining proceed. The report was to provide: site description; methodology; impact assessment; and mitigation measures and recommendations.

## Legislation

The National Heritage Resources Act (No 25 of 1999) (NHRA) provides protection for archaeological resources.

It is an offence to destroy, damage, excavate, alter, or remove from its original position, or collect, any archaeological material or object (defined in the Act), without a permit issued by the South African Heritage Resources Agency (SAHRA).

Section 35 of the Act protects all archaeological and palaeontological sites and requires that anyone wishing to disturb a site must have a permit from the relevant heritage resources authority. Section 36 protects human remains older than 60 years. In order for the authority to assess whether approval may be given for any form of disturbance, a specialist report is required. No mining, prospecting or development may take place without heritage assessment and approval.

## Methods and limitations

A background literature/museum database search provides indications of what might be expected in the region.

During the site investigation, areas of proposed mining were examined in some detail. Salt mining entails construction of evaporation dams and associated infrastructure within the pan floor area, with the only impacts beyond the pan floor being the access road, which already exists. Thus while some sense of the archaeology of the surrounding dunes was desirable to have, the major focus of the investigation was the pan floor itself.

When assessing archaeological resources, surface indications may be regarded as providing a fair estimate of the nature and range of material present in this environment, given the processes of deflation that create pans. By contrast, the dunes represent processes of sedimentation and archaeological traces typically would occur below surface except in instances of localised deflation or erosion. Hence, subsurface archaeological traces and features may occur at the margins of the pan where such dunes occur. In the event that any major feature is encountered, for example a burial or a cache of ostrich eggshell flasks, then work should be halted and a professional archaeologist consulted.

**Background: archaeological resources in the region**

While much of the surrounding region has yet to be examined from an archaeological viewpoint, certain insights exist from a limited number of prior observations.

Broadly speaking, the archaeological record of this region reflects the long span of human history from Earlier Stone Age times (more than one and a half million to about 270 000 years ago), through the Middle Stone Age (about 270 000 – 40 000 years ago), to the Later Stone Age (up to the protocolonial era). The last 2000 years was a period of increasing social complexity to the east, with the appearance there of farming (herding and agriculture) alongside foraging, and of ceramic and metallurgical (Iron Age) technologies alongside an older trajectory of stone tool making (Morris & Beaumont 2004). In these drier western tracts it is probable that foraging persisted as an almost exclusive pursuit into the early colonial era. In the absence of rock outcrops, no rock art sites are known.

Earlier Stone Age sites have been documented to the south in areas strewn with Dwyka tillite, which provided ample raw material. A pan-side setting of note where this occurs is at Eenzaamheid Pan.

Dune crests and slopes, where deflation exposes older surfaces, are known frequently to bear traces of Later Stone Age sites, noted previously both to the south (Norokei Pan, Groot Wit Pan) and to the north (adjacent to the Molopo Lodge site, for example, at 27°10.986' S 20°24.392' E).

**Observations**

A very sparse scatter of Stone Age artefacts, principally on quartzite, chert and chalcedony, together with rare pieces of ostrich eggshell, was observed at certain points near the western edge of the pan in the vicinity of GPS readings 27°10.988' S 20°24.394' E, and 27°10.986' S 20°24.392' E. It was

clear that these artefacts were eroding out of adjacent slightly calicified, consolidated palaeodunes. The scatter extended not more than about 30 m onto the pan floor. Artefact densities reached up to about 1/ $m^2$. They included one backed point. It seemed probable that the artefacts as a whole represent Later Stone Age occupation at a period coeval with the consolidated older dune which is eroding out at the sides of the pan.

No artefacts were found on other parts of the pan surface. No Later Stone Age sites were found on those dunes further up the sides of the pan that were examined.

**Assessment of impacts during construction, operational and decommissioning phases of mining.**

There would be very little impact on archaeological resources during development and expansion of the salt works on the pan floor, with the only artefacts found occurring only on the western-most fringe of the pan. No mitigation is regarded as being necessary.

**Recommendations**

The proposed salt mining at this pan is not expected to have any negative impact on the archaeological resources of the region.

**Procedure in the event of sites being found during construction or mining**

In the event that sites or features (eg high density of artefacts, a burial, or ostrich eggshell cache) are found during any part of construction or mining, an archaeologist should be alerted immediately in order to assess the find and make recommendations for mitigation, if necessary. All archaeological traces are protected by legislation. The McGregor Museum would normally be in a position to send an archaeologist at short notice, or to recommend an accredited archaeologist for such work.

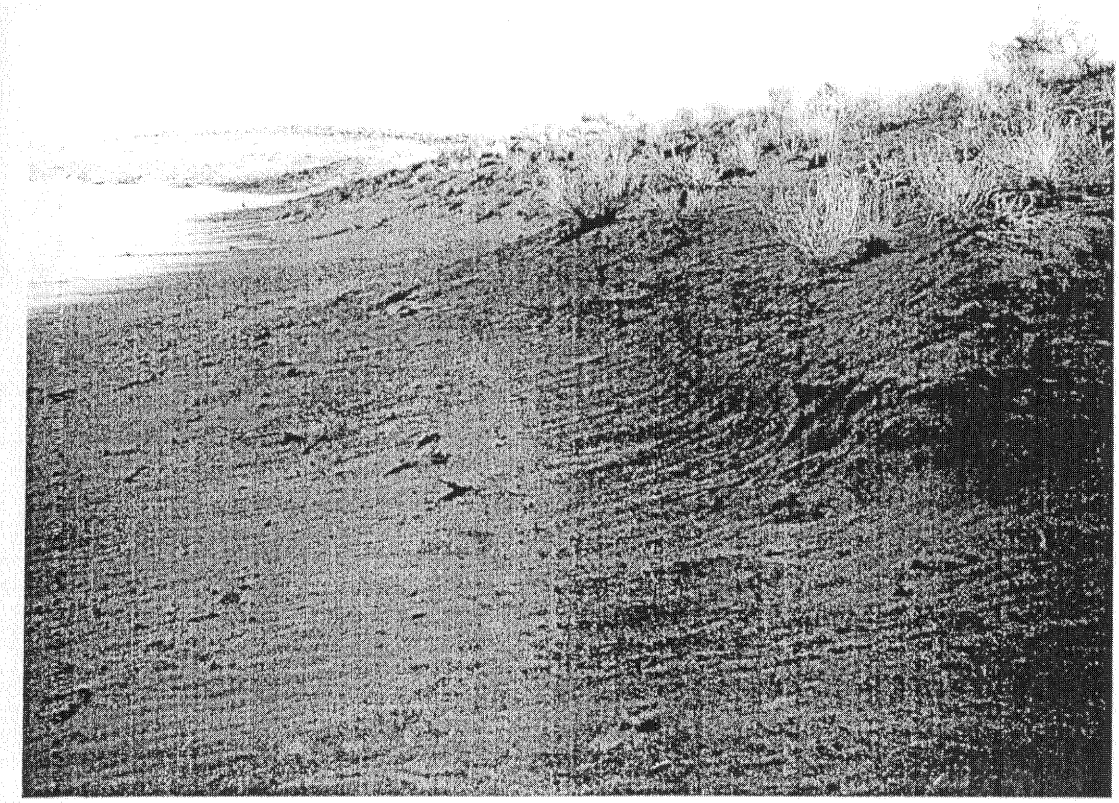
**Acknowledgements**

I thank Ms Lindsay Weiss, Mr Ron Jennings and Mr Tsholofelo Chinkuli, who accompanied me to the area.

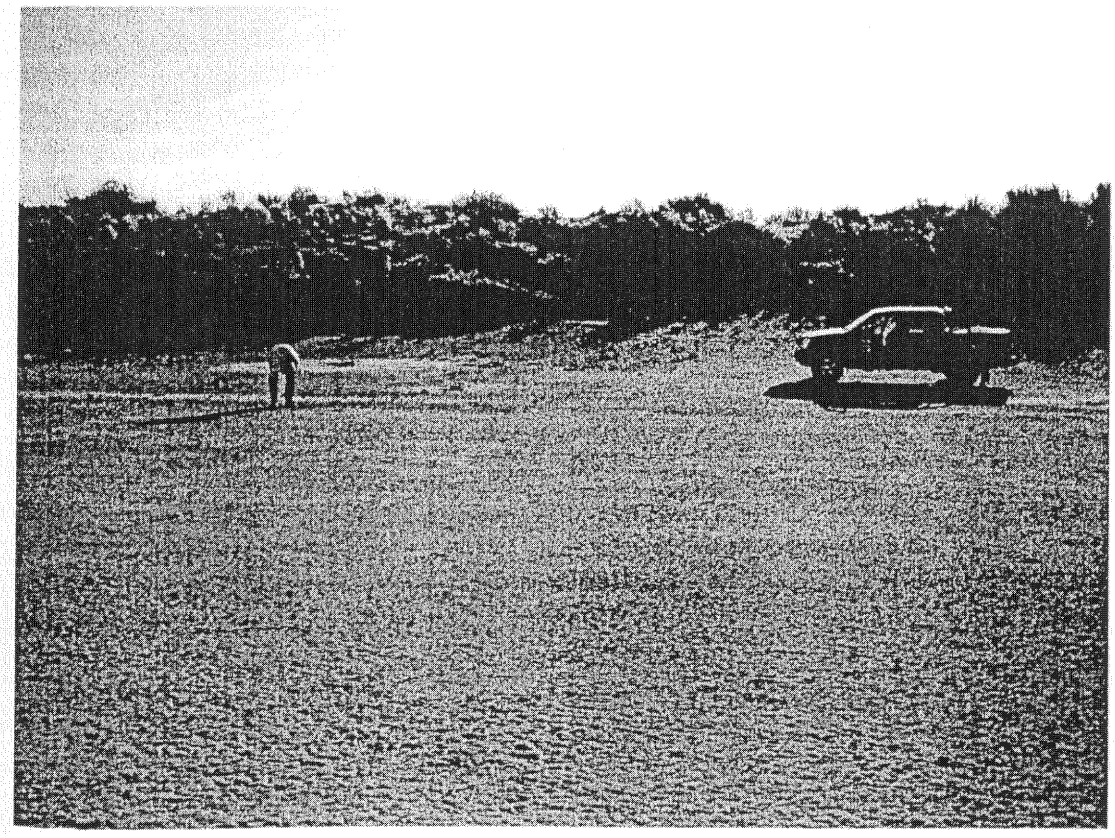
**References**

Morris, D. & Beaumont, P.B. 2004. *Archaeology in the Northern Cape: Some key sites*. Kimberley: McGregor Museum.

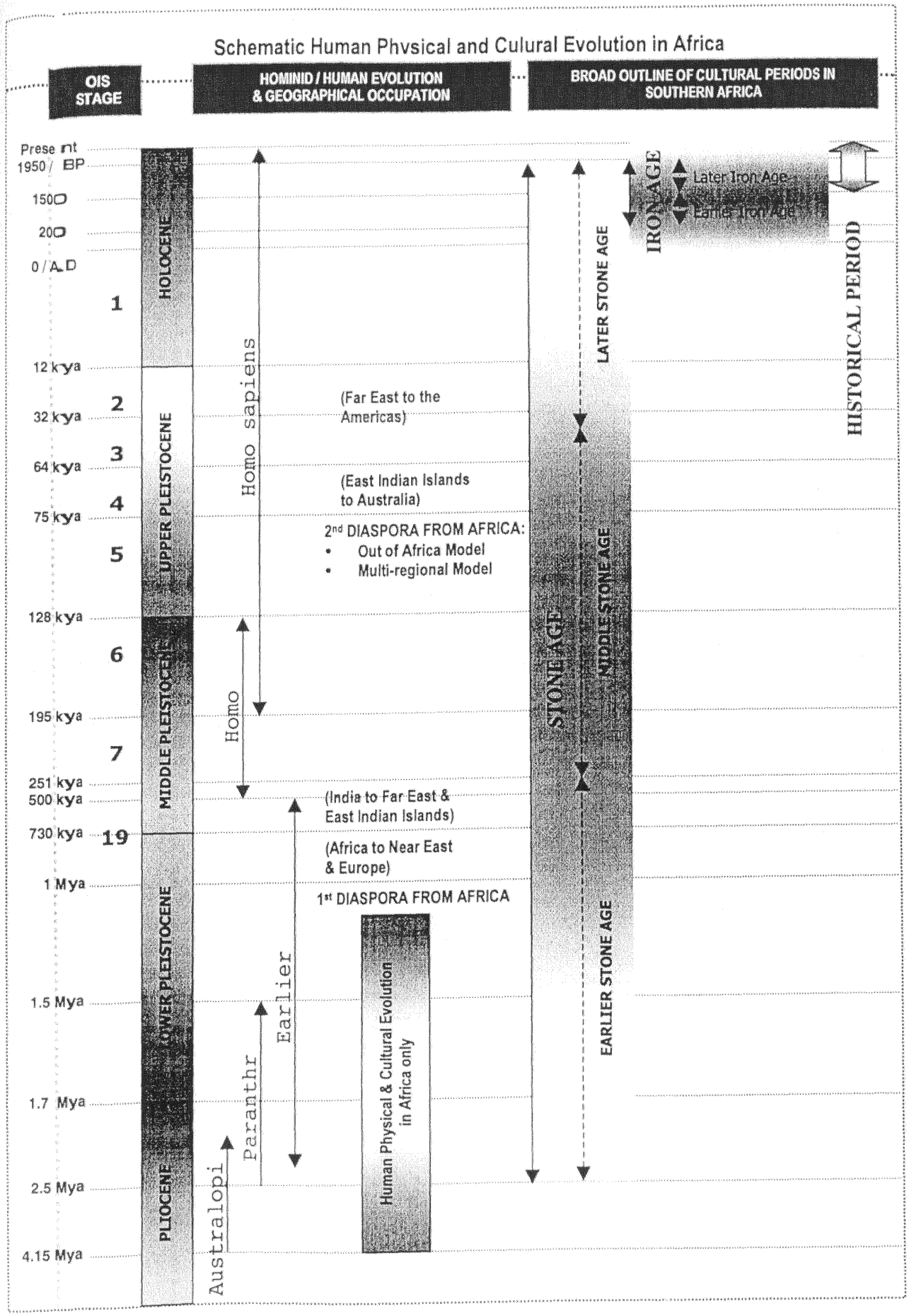
Sampson, C.G. 1985. Atlas of Stone Age settlement in the central and upper Seacow Valley. *Memoirs of the National Museum* 20.



Palaeodune erosion at the western side of Opstaan Pan. LSA artefacts occur in low densities down-slope.



Western margin of Opstaan Pan.


Schematic Human Phvsical and Culural Evolution in Africa
OIS STAGE
HOMINID / HUMAN EVOLUTION & GEOGRAPHICAL OCCUPATION
BROAD OUTLINE OF CULTURAL PERIODS IN SOUTHERN AFRICA
Prese nt
1950 / BP
150O
200
0 / A.D
1
12 kya
2
32 kya
3
64 kya
4
75 kya
5
128 kya
6
195 kya
7
251 kya
500 kya
730 kya
19
1 Mya
1.5 Mya
1.7 Mya
2.5 Mya
4.15 Mya
HOLOCENE
UPPER PLEISTOCENE
MIDDLE PLEISTOCENE
LOWER PLEISTOCENE
PLIOCENE
Homo sapiens
Homo
Earlier
Paranthr
Australopi
(Far East to the Americas)
(East Indian Islands to Australia)
2nd DIASPORA FROM AFRICA:
• Out of Africa Model
• Multi-regional Model
(India to Far East & East Indian Islands)
(Africa to Near East & Europe)
1st DIASPORA FROM AFRICA
Human Physical & Cultural Evolution in Africa only
STONE AGE
LATER STONE AGE
MIDDLE STONE AGE
EARLIER STONE AGE
IRON AGE
Later Iron Age
Earlier Iron Age
HISTORICAL PERIOD