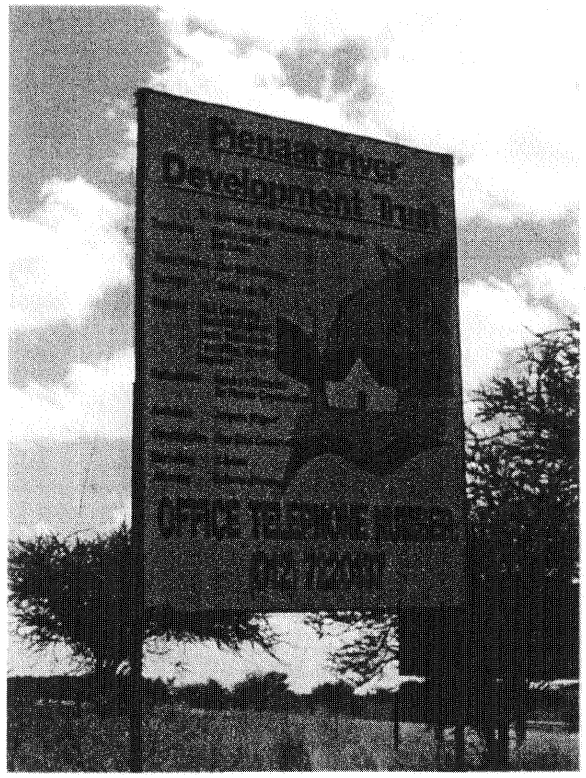
PHASE 1
ARCHAEOLOGICAL IMPACT ASSESSMENT

Ruimte 74 JR
Pienaarsrivier
NORTHERN PROVINCE



Hester Roodt
March 1999

Tel: (015) 293 7075
E-Mail: hr19@pixie.co.za

CULTURAL RESOURCE CONSULTANTS

PO Box 1600
PIETERSBURG
0 7 0 0

CONTENTS

1 Aim

1 Method

1 Description

4 Evaluation

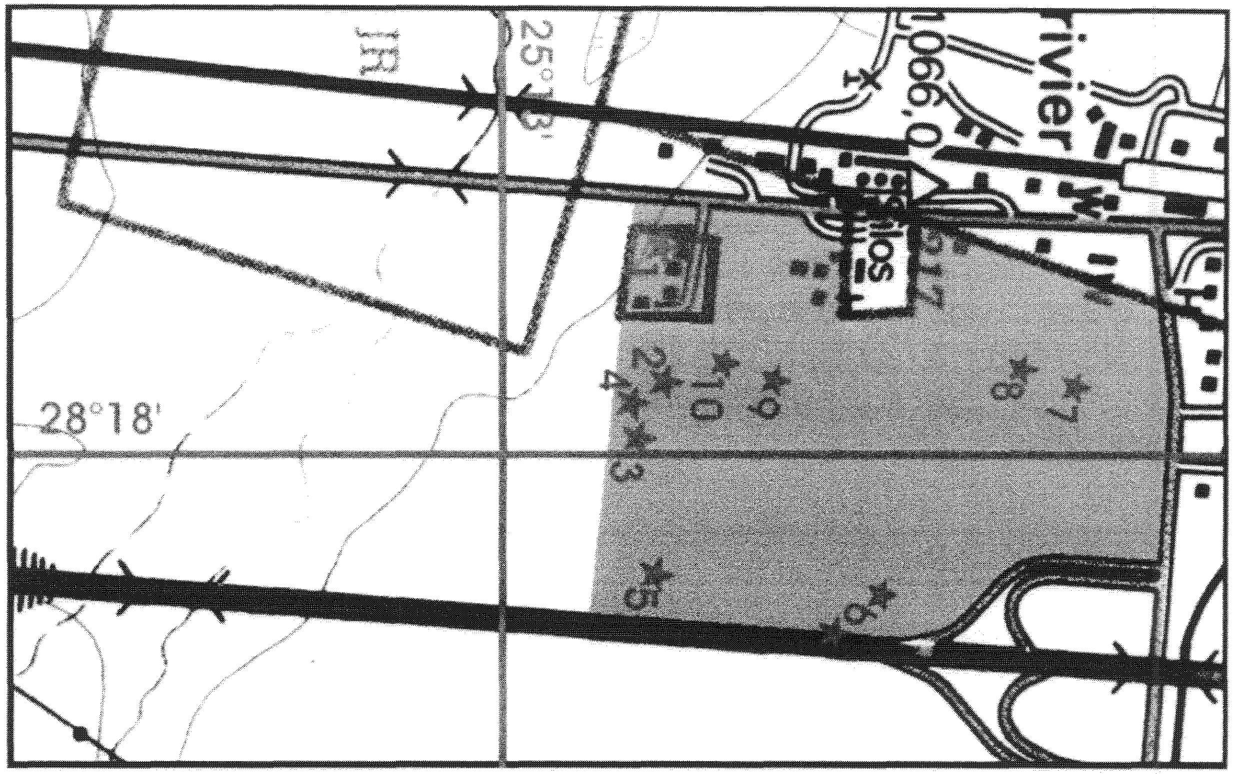
7 Recommendations

7 Bibliography

9 ADDENDUM 1
The Law
Archaeological Impact Assessment

10 ADDENDUM 2
Extracts from the *National Monuments Act (No 28 of 1969, as amended in 1986)* that are relevant to Archaeological Sites.

11 ADDENDUM 3
Report on Workshop on *Standards for the Assessment of Significance and Research Priorities for Contract Archaeology*, SA3 (Southern African Association of Archaeologists) Biennial Conference, University of Venda, 10 July 1998


28°18'
rivier
Silos
JR
1
2
3
4
5
6
7
8
9
10

AIM

The aim was to undertake a **Phase 1** *Archaeological Impact Assessment* on approximately 54ha at Ruimte 74 JR, Pienaarsrivier where a housing project has been proposed, to assess the impact of the proposed scheme in terms of archaeological/historical sites and features and to make recommendations. The task was performed on March 10, 1999.

METHOD

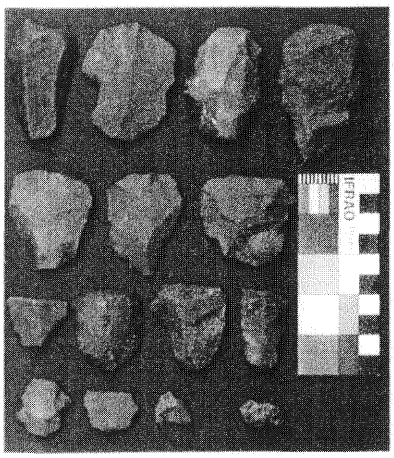
A survey of the entire area demarcated for development was done on foot by an archaeologist and one assistant. Locations were recorded by means of a GPS (Garmin, 45XL), and archaeological/historical features were photographed with a Kodak Digital DC120 camera. Random sampling of surface finds were taken. A finds list was kept, while an audio tape was used to document further information. The finds were cleaned, photographed and packaged. No attempt at analysis has been made, as sampling was at random.

DESCRIPTION

The reconnoitred area is located between the N1 and the R101. Its northern border is formed by the turn off road to Pienaarsrivier. As Mr Andries Malepe of the Springbokvlakte Rural Council, who was supposed to indicate the exact borders, wasn't available and never responded to several calls, the extent of the southern part was unclear, and I have decided to use the Post Office - and the area in line with it - as the southern border.

The terrain is located in a fairly even area. It is primarily covered with grassveld, but clusters of trees and thick shrubbery characterizes some areas. Parts of the area had not been reconnoitred as a result of this thick vegetation. The reconnoitred parts were more accessible.

Ten GPS readings had been taken, indicating at least 10 sites. It is however clear that the entire area would render artefacts, some of the sites which need to be investigated more intensively. They were numbered in chronological order as the assessment proceeded from the eastern most part of the area.

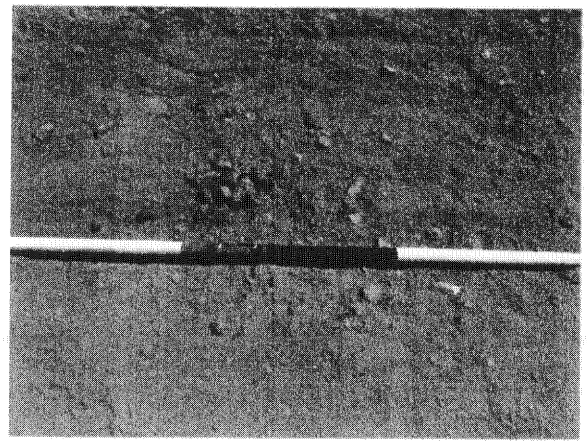


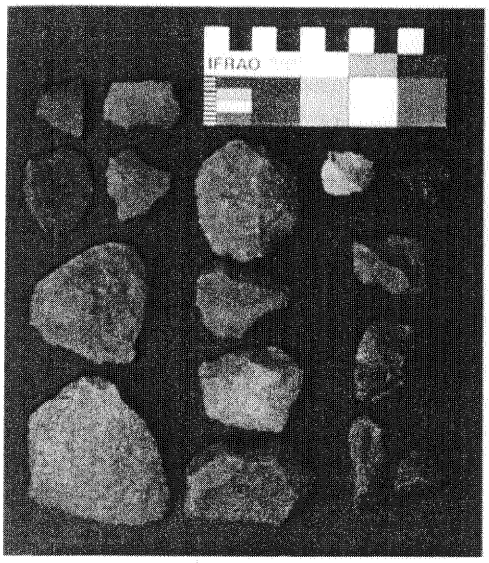
Site 1

S25°12'51.3" E28°17'44"

This site is located in front of the Post Office and stone artefacts were recovered from this area. Some seem to be damaged as a result of vehicle traffic in the road. A random sample was made.

Also at this site is a feature which apparently is a midden. Material from this site included heavily fragmented bone, charcoal, pieces of glass, pieces of cast iron and bricks. This however seems of recent origin. None of the finds were collected.



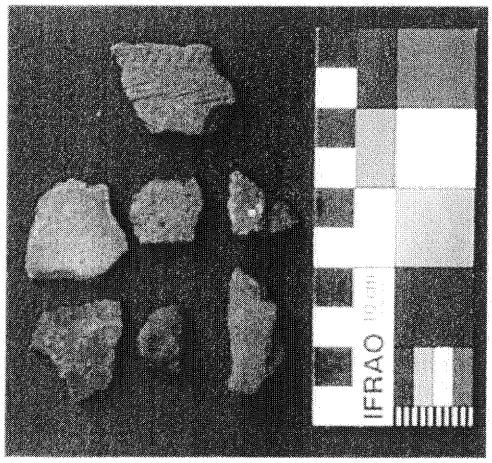


Sites 2 and 2B

S25°12'50.7" E28°17'54.3"

Site 2: Stone artefacts were sampled from this site, also at random.

Site 2B rendered an undecorated pot sherd. Although undecorated, it was sampled as proof that some Iron Age artefacts are present on site. At this stage of the reconnaissance, it was still uncertain to what extent the Iron Age would be represented in the area. Usually only diagnostic artefacts, such as decorated and lipped pottery sherds are collected, or if enough sherds are present (to enable the reconstruction of a pot) it will also be sampled.



Site 3

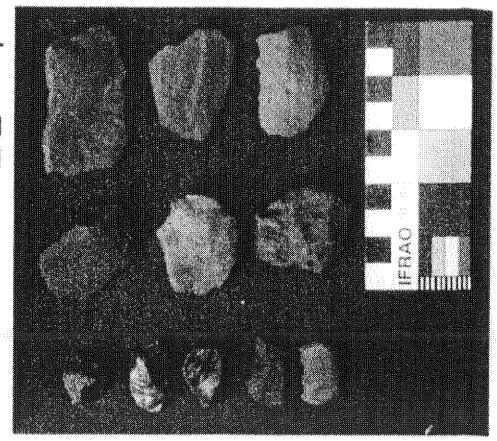
S25°12'52" E28°17'58.1"

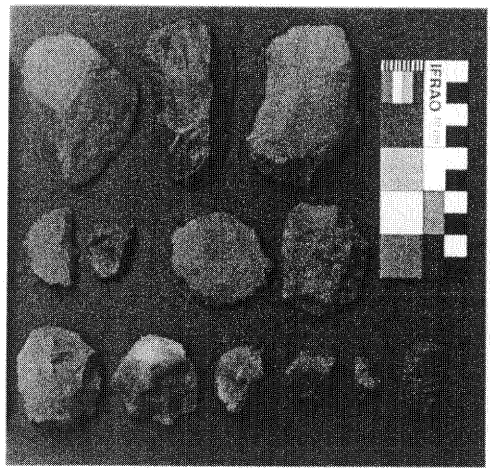
One decorated pottery sherd (probably Eiland) marks this site, but more undecorated sherds were recovered less than 50m from the find spot. The latter were not recovered, as is was all undecorated and unrelated.

Site 4

S25°12'51.5" E28°17'56.1"

More stone artefacts as well as a cluster of undecorated pottery sherds in a radius of at least 50m from the original finding place.

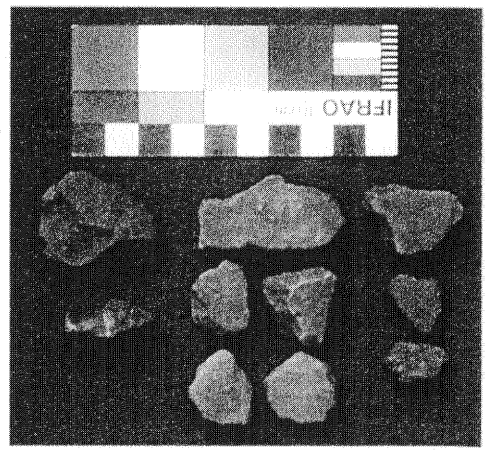




Site 5

S25°12'50.6" E28°18'8.9"

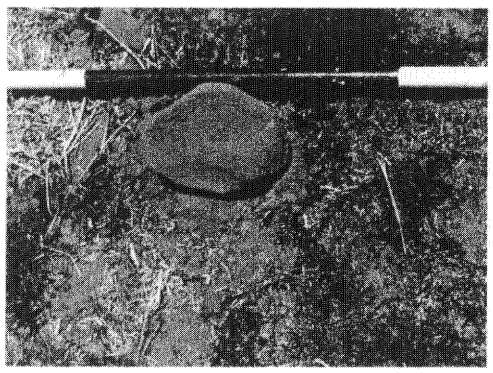
This site lies near the N1, on the edge of a cutting. The cutting caused surface erosion, which exposed the gravel layer beneath. An area of approximately 50m on each side of the find spot was investigated, and stone artefacts were found all over the place. Apparently this whole ridge is cluttered with stone artefacts.



Site 6

S25°12'33.5" E28°18'11"

A stone artefact as well as a pottery sherd was recovered within 10m from each other at this site. Both finds were made in loose soil on the side of a road, probably scraped in advance of the proposed housing project.



Site 7

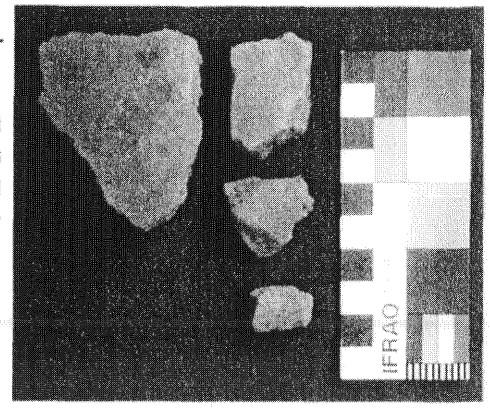
S25°12'23.1" E28°17'54.7"

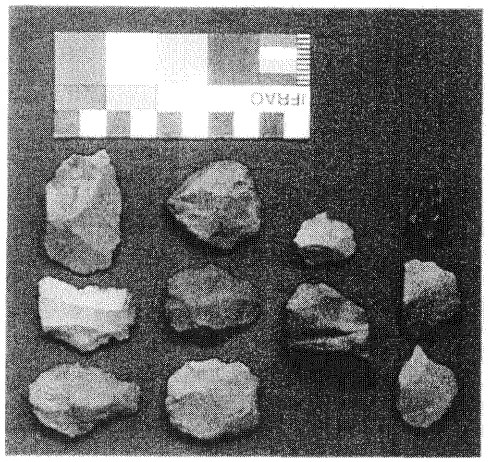
A grinding stone was found in a ploughed field. It was not collected.

Site 8

S25°12'26.7" E28°17'53.1"

The undecorated pottery sherds comes from the surface in a scraped road. Again it seems to be one of the access roads which were made in advance of the proposed building project. These artefacts were however still embedded in the present surface layer.

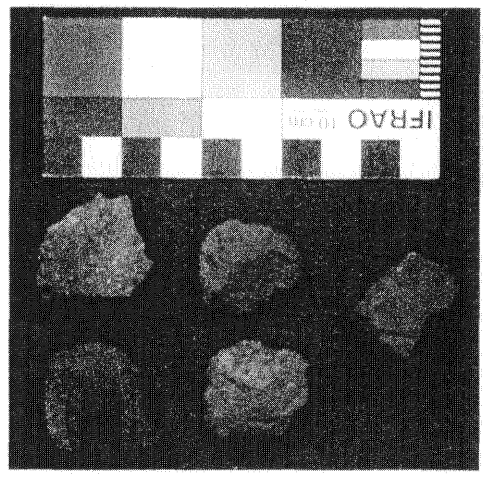




Site 9

S25°12'43.6" E28°17'51.9"

Stone artefacts and a good example of a stone tool were recovered from this site. This find spot resembles the characteristics of the surface of Site 5. Excavations, probably made during the construction of the N1, could have caused the erosion at this site and exposed the gravel layer.



Site 10

S25°12'46.12" E28°17'46.8 "

More stone artefacts were recovered from this site.

EVALUATION

General

An extensive occurance of stone artefacts, together with pottery sherds characterises the entire area.

Some Iron Age activities occurred in this region, although not to the same frequency as the Stone Age. As a result of the dense vegetation no features such as cattle enclosures, house floors/foundations, middens or graves were visible on the surface. These remain either undetected, or this particular landscape was utilised for cattle grazing.

Middle Stone Age artefact finds characterised the entire area. It is therefore probable that the main production sites are either completely covered in vegetation or that it is buried beneath the surface as a result of depositioning, and more and better finds will be made if excavated.

For the purpose of this report, only a short description of the Middle Stone Age (MSA) as well as the Early Iron Age, specifically of the Eiland assemblage, will be given.

BACKGROUND TO THE STONE AGE

The Stone Age can be divided into three stages based on technological and typological characteristics. The three main stages are the following:

- The Early Stone Age (ESA), 1,8 Ma - 10 000 years ago.
- The Middle Stone Age (MSA), ca 150 000 years ago.
- The Late Stone Age (LSA), ca 40 000 years ago

The Middle Stone Age

South from the Limpopo the Middle Stone Age (MSA) replaces the ESA at the beginning of the Upper Pleistocene, and possibly even earlier. The earliest MSA site has been dated to 150 000 years ago. To date no transitional industries have been identified, but a transition would probably result in very small hand axes and very long flake blades.

Collections are characterised by a variety of prepared cores and retouched flake tools, of which most have no equivalent in the ESA. Hand axes and choppers are absent, while flake and blade tools such as points, scrapers and finely toothed tools characterise the assemblages. Both retouched and unrefined pieces could have been attached to wooden handles, as many examples presents a blunt back and sharp blade.

Three groups of MSA artefacts are distinguished, namely tools (with signs of secondary retouching or use), cores and waste (the pieces without signs of edge retouching. Characteristic of the MSA are the many triangular flakes with converging dorsal flaking and faceted butt-ends. Two broadly defined cores are distinguished, namely cores which were used to produce flakes with crossed dorsal flaking (mainly radiated, disc shaped or cores which had been worked from any direction), and cores with parallel, half-parallel or sometimes converging dorsal flaking (mainly with single or double platforms). The narrow, thin butt-ends and digressive percussion bulbs of some of the artefacts indicate the use of an intermediate punch (the so-called indirect percussion technique). This type of flake cores are present in large quantities in the South African interior and further north.

MSA sites occur in a variety of locations, such as river banks, flood plains, on the shores of lakes and pans as well as in fountain deposits. The materials of long occupation layers are well preserved in caves.

Hearths are characteristic of Upper Pleistocene, i.e MSA occupation, such as at the Cave of Hearths and Border Cave, Kwa-Zulu Natal. It is thus clear that humankind was able to control fire in South Africa at least 130 000 years ago, and probably earlier.

Problem areas

- Very little information still exists relating to the ESA transition to the MSA. This type of artefact is rare in archaeological collections.
- It is still inconclusive whether the ESA and MSA traditions existed simultaneously in restricted regions.
- **It will be necessary to acquire a more representative collection and excavate some test pits in order to establish deposit depth of the artefacts.**
- **Before the site can be ascribed to a specific phase in the MSA tradition, a statistical analysis of the relation of various tools to each other as well as to the flakes will be required.**

BACKGROUND TO THE IRON AGE

The southern African Iron Age began around AD 200 when people with knowledge of iron smelting moved into Botswana, the Northern Province, Mozambique and the eastern coastal regions of South Africa. The archaeological name, Iron Age, derives from the fact that these new people with their knowledge of metallurgy made metal tools and weapons.

Iron Age people were farmers in contrast to the hunter-gatherers and herders of the Stone Age. Iron tools such as axes and hoes were used to clear forests and brush from the land and plant fields of grain (sorghum and millet) and other crops. As farming required a more settled life, they tended to live in villages and not move around as much as Stone Age people did. Stock raising was also an important part of Iron Age life.

The Iron Age can be divided into three phases, namely:
Early Iron Age (EIA) AD 200 - 1000
Middle Iron Age (MIA) AD 1000 - 1500
Late Iron Age (LIA) AD 1500 - colonial times

The Early Iron Age
The early period of farming, from AD 200 up to AD 1000 is known as the Early Iron Age. The fact that excavations at Early Iron Age sites have revealed domesticated plants, cattle bones, iron and slag from metal working, and evidence of settled village life, suggests that the people brought these skills and knowledge with them. Sheep, goats and cattle must have been introduced from the north. Comparisons of pottery decorations support the theory that the southern African Iron Age originated to the north, spreading southwards in a series of movements of people and technology.

Early in the first millennium AD a certain type of pottery, which belonged to a single stylistical tradition, was found in association with iron and copper production in the largest parts of East and southern Africa. As it was the first signs of metal production in the entire area, it was called the Early Iron Age.

This cultural entity can be subdivided in an eastern and western stream on the grounds of:
- pottery typology
- chronological differentiation, and
- divergent cultural features.

Pottery typology
Settlements with distinctive Early Iron Age pottery have been found at sites all over the Bushveld areas into which the early farmers first moved. Pottery is the most important artefact for identifying Iron Age groups. Iron Age pottery from different regions and different periods id decorated in different ways. This shows that the movement of Iron Age farmers into southern Africa did not occur at only one time, or involve only one group. By studying pottery, archaeologists are also able to demonstrate that some people remained in an area over a period of time during which their style of pottery changed and therefore divide individual groups chronologically into successive phases.

Eiland assemblage
The Eiland assemblage of ceramics have been dated between the ninth and twelfth centuries and forms the third phase of the Western Stream in the Northern Province. Some deposits occur at e.g Eiland in the eastern Northern Province Lowveld, Tavhatshena and Begwa in the Soutpansberg, Silver Leaves in the eastern Northern Province Lowveld, Rooiberg in the western Northern Province and at Ficus in the central Northern Province.

RECOMMENDATIONS

In view of the above, it is recommended that a Phase 2 Archaeological Impact Assessment be undertaken. The details could be finalised through mitigation on site.

As Iron Age artefacts were recovered, it would be imperative that the archaeologist be notified:
- should any **graves** and/or **middens** be encountered during initial clearing of the surface or during subsoil removal. Please refer to *Addendum 2, paragraph 12(2A),* in particular *(d), (e)* and *(f).*
- Please see *Addendum 3* in connection with the finds of March 10, 1999, especially the emboldened text.

The presently identified sites should be treated as follow:
- The area, especially those containing high densities of both MSA and Iron Age artefacts, should be reconnoitred in order to obtain a better representative sample.
- During the Phase 2 assessment the sites would be sampled according to a grid system in order to establish the site layout and to see whether a pattern of artefactual material clusters occur within the area.
- Should it deem necessary, this survey would be enlarged in order to establish the extent of the site/s.
- Some test pits will be sunk to determine further deposits and depth.

- **All material already recovered, as well as those from Phase 2 will be lodged with the *Pietersburg Museum* together with all documentation such as finds lists, daily reports, site description and a full report.**
- **A copy of the report will be sent to the *National Monuments Council* (NMC).**
- **A complete documentation form regarding this survey as well as the Phase 2 survey will be lodged with the *National Cultural History Museum* in Pretoria, which will be included in their data base regarding all archaeological finds in the Northern Province.**

Conclusion
Southern Africa has some of the best known archaeological sites in the world. It is expected that knowledge concerning the cultural development of the later Pleistocene in the future will increase as a result of continuous large scale excavations of rock shelters and open air sites, improved palaeo environment reconstructions an the application of accelerated dating techniques. Progress concerning earlier time sequences will depend on the discovery of sites from which much information can be gained, as well as the development and application of new analytical techniques.

BIBLIOGRAPHY

Deacon, J. 1996. *Archaeology for Planners, Developers and Local Authorities.* National Monuments Council. Publication No. P021E.

Deacon, J. 1997. Report: Workshop on Standards for the Assessment of Significance and Research Priorities for Contract Archaeology. **In:** *Newsletter No 49, Sept 1998.* Southern African Association of Archaeologists.

Hall, M. 1987. *The Changing Past: Farmers, Kings and Traders in Southern Africa, 200 - 1860.* David Philip: Cape Town.

Loubser, JHN. 1981. *Ndebele Archaeology of the Pietersburg Area.* Unpublished MA thesis, University of the Witwatersrand.

Loubser, JHN. 1991. *The Ethno archaeology of Venda-speakers in Southern Africa.* Navorsinge van die Nasionale Museum, Bloemfontein. Vol 7, Part 8.

Maggs, T. 1984. The Iron Age south of the Zambezi. In: Klein, RG (ed.) *Southern African Prehistory and Paleoenvironments*. AA Balkema: Rotterdam.

Meyer, A. 1994. *Navorsingsmetodiek: Inligtingsformate vir Argeologiese Veldwerk*. Dept Antropologie en Argeologie, UP.

Moore, MPJ. 1981. *The Iron Age of the Makapan Valley Area, Central Transvaal*. Unpublished MA thesis, University of the Witwatersrand.

Rightmire, GP. 1984. The Fossil Evidence for Hominid Evolution in Southern Africa. In: Klein, RG (ed.) *Southern African Prehistory and Paleoenvironments*. AA Balkema: Rotterdam.

Sampson, CG. 1972. *The Stone Age Industries of the Orange River Scheme and South Africa*. National Museum: Bloemfontein. Memoir No 6.

Volman, TP. 1984. Early prehistory of southern Africa. In: Klein, RG (ed.) *Southern African Prehistory and Paleoenvironments*. AA Balkema: Rotterdam.

Hester Roodt

March 31, 1999

ADDENDUM 1

THE LAW

The **National Monuments Act** *(No. 28 of 1969)* protects all palaeontological, archaeological and historical sites and material older than 50 years. It is an offence to destroy, damage, alter, remove from its original site, or excavate any such site or material without a permit from the National Monuments Council. A person convicted of an offence in terms of the Act, could be liable for a fine of up to R10000 or two years imprisonment, or both. *See Addendum 1 for extracts from this act.*

In terms of the **Environmental Conservation Act** *(No. 73 of 1989)* the **Integrated Environmental Management Procedure, Guideline Document 1** identifies certain man-made areas and features that are listed as environments which must be included in an environmental impact assessment report. These include archaeological and palaeontological sites, graves and burial sites, buildings and sites of religious, social and cultural significance.

ARCHAEOLOGICAL IMPACT ASSESSMENT

To minimise the impact of development on archaeological sites, and the impact of archaeological sites on development projects, and to avoid costly delays if a site is discovered during the course of construction work, it is important to hire an archaeologist well in advance to survey the area. It is important that developers realise that only qualified professional archaeologists should be employed to undertake survey work.

The developer is responsible for the costs involved in hiring an archaeologist to investigate the site.

Phase 1

The archaeologist hired to do the work will submit a phase 1 report. On the basis of the recommendations and assessment of significance made in the report, a decision can be taken on how the development may proceed. In most cases development will be able to go ahead as planned after the sites have been recorded.

Phase 2

In some cases, mitigation in a Phase 2 programme will be necessary and may involve excavation or collection of archaeological material. The purpose behind mitigation is to sample the site so that the evidence can be stored permanently in a museum where it can be consulted at a later date for record and research purposes.

Phase 3

More rarely, the site may be so important that it will warrant modification of the development in a Phase 3 programme. If this happens, the archaeologist, the National Monuments Council and the developer can confer on the action to be taken. It may be possible to incorporate an Iron Age village into a green belt in a housing scheme, or to modify a high rise building plan by covering rare 18th century foundations and associated rubbish dumps beneath a parking lot to avoid destroying them completely. Such solutions are possible if the archaeologist is consulted early enough in the planning process.

Permission for the development to proceed can be given only once the National Monuments Council is satisfied that steps have been taken to ensure that the archaeological sites will not be damaged, or that they have been adequately recorded and sampled.

If this chain of action is followed, we stand a chance of saving something of our archaeological heritage for future generations and of avoiding conflict between developers and cultural conservationists. The National Monuments Council must ensure that the historical and cultural heritage of all South Africans is protected. Careful planning can minimise the impact of archaeological surveys on development projects by selecting options that cause the least amount of inconvenience and delay.

EXTRACTS FROM THE NATIONAL MONUMENTS ACT (NO 28 OF 1969, AS AMENDED IN 1986) THAT ARE RELEVANT TO ARCHAEOLOGICAL SITES

12(2A) No person shall **destroy, damage, excavate, alter, remove** from its original site or export from the Republic -

(a) any meteorite or fossil; or

(b) any drawing or painting on stone or a petroglyph known or commonly believed to have been executed by Bushmen; or

(c) any drawing or painting on stone or a petroglyph known or commonly believed to have been executed by any other people who inhabited or visited the Republic before the settlement of the Europeans at the Cape; or

(d) any implement, ornament or structure known or commonly believed to have been made, used or erected by people referred to in paragraphs (b) and (c); or

(e) the anthropological or archaeological contents of **graves**, caves, rock shelters, **middens**, shell mounds or other sites used by such people; or

(f) any other historical site*, archaeological or palaeontological finds, material or object,

except under the authority of and in accordance with a permit issued under this section.

[* An "historical site" is defined as "any identifiable building or part thereof, marker, milestone, gravestone, landmark or tell older than 50 years."]

Report on Workshop on Standards for the Assessment of Significance and Research Priorities for Contract Archaeology

SA3 (Southern African Association of Archaeologists) Biennial Conference
University of Venda, 10 July 1998

Janette Deacon
National Monuments Council

Opportunities for archaeological contract work will expand in southern Africa in the next few years. To make the best of the opportunities, medium-term (3-5 year) research and heritage conservation priorities need to be established as a matter of urgency in consultation with CRM practitioners, provincial and national heritage agencies and research archaeologists. The following factors are relevant.

1. In South Africa, the Department of Environmental Affairs and Tourism published on 5 September 1997 its long-awaited List of Activities which may have a substantial detrimental effect on the environment and the regulations regarding activities identified under Section 21(1) of the Environment Conservation Act (No. 73 of 1989). These effectively make environmental impact assessments compulsory for the listed activities.

2. The National Heritage Bill, designed to replace the National Monuments Act in South Africa, came before the Cabinet and Parliament in 1998. It could become law from 1 April 1999. Amongst other innovations, it makes impact assessments compulsory where historical, archaeological and palaeontological sites are affected by development but are not protected by other legislation.

3. In neighbouring African countries, the tempo of contract work is also rising as new legislation and requirements of the World Bank are implemented.

It seems widely accepted that CRM practitioners do mitigation to rescue the research potential of a site which would otherwise be lost. The following kinds of sites were identified as being worthy of mitigation:

Stone Age / Hunter Gatherer

- any open air site with bone or other organic material;
- any cave or rock shelter with deposit;
- rock paintings and rock engravings (record context as well as images);
- quarry sites with possibilities for core re-fitting;
- long sequence sites;
- coastal and inland shell middens;
- any sites with Howiesons Poort, Stillbay or Robberg artefacts;
- human remains or burials;
- fish traps;
- placement of Earlier Stone Age sites in the landscape - are they associated with river valleys, water sources or quarries?
- evidence for modernity in Middle Stone Age sites;
- sites with evidence for interaction between Stone Age and Iron Age or colonial people;
- Later Stone Age sites with Bambata pottery;
- pastoral sites, especially in the Eastern Cape;
- caches of ostrich eggshells or other items;
- hunting blinds;
- evidence for exploitation of raw material sources such as haematite or specularite.

Iron Age / Agriculturist

- Sites that will help to clarify the ceramic sequence of the Early Iron Age in the northern and eastern regions of southern Africa;
- any Bambata settlement;
- Early Iron Age sites with evidence for structures or long term occupation;
- sites with evidence for political or social hierarchies;
- evidence of the organization of metal production;
- burials with evidence for social differentiation, health and nutrition;
- evidence for trade within and outside of the Zimbabwe culture area;
- sites in areas that are under-researched to build up the culture-historical sequence;
- special-purpose sites such as rainmaking, circumcision, mining, furnaces, cattle posts vs living sites, salt making;
- Blackburn and Moor Park sites in KwaZulu-Natal;
- well preserved early Moloko sites with middens for evidence of diet and subsistence or stone walling;
- any Zimbabwe-style stone walling should be mapped in sufficient detail to estimate factors such as population size and grain-bin variability;
- evidence for contemporary cultural interaction, for example between Khami and Moloko;
- sites with architectural styles and information on materials used for housing, even in the recent past;
- evidence for the introduction of maize, either direct or in the style of grindstones used;
- sites with botanical remains of cultigens;
- information on the distribution, size and characteristics of dolly-holes for gold mining;
- evidence for textiles or weaving in addition to spindle whorls;
- evidence for games and contextual information relating to them;
- figurine caches and spatial relationships to settlements;
- check stone outcrops near stonewalled sites for engravings.

Historical / Colonial

- sites connected with whaling and sealing;
- ships or ship/boat structures on land;
- shipwreck survivor camps;
- sites in the interior with nineteenth century ceramics (RESUNACT is preparing guidelines for identification);
- single occupation sites in urban environments with deposits such as wells, cisterns and depressions;
- 17th century or early 18th century sites in Cape Town;
- sites that are connected with national and international slave trade routes;
- LSA sites with metal items such as brass buttons;
- documentary and archival searches should be done before going into the field;
- sites that could inform on the effects of military forces on indigenous local populations;
- the symbolic significance of textiles, beads and other items imported by traders;
- sites with oral traditions of sacred significance - oral histories increase significance and are therefore relevant to archaeology;
- historical graves need sensitive removal during mitigation and this is often best done in collaboration between archaeologists and funeral specialists.