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PHASE 1  
HERITAGE IMPACT ASSESSMENT

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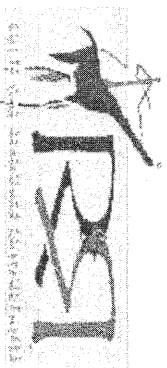
MODITLO ESTATE HOEDSPRUIT  
LIMPOPO PROVINCE

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FOR: Enviroweb Consulting Network

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## EXECUTIVE SUMMARY

The developer plans to undertake a High Cost - low impact Estate development scheme on the terrain. The entire demarcated area is, however, regarded as a sensitive landscape with regard to heritage resources. The heritage survey has detected a number of significant archaeological sites and features dating from the Early Iron Age, as well as Stone Age remains. These resources are most likely to be threatened by the proposed development, not withstanding the low environmental impact it intends to have.

The development will, in our opinion, thus have an adverse effect on the identified heritage resources. Bearing in mind the nature of the development and sensitive approach to environmental issues, we recommend that a heritage resources management plan be drawn up to be integrated with the overall EMP for the Estate. Little is known about the archaeological sequence and culture history of the Early Iron Age in this particular area. Included in the management plan, therefore, would be mitigation measures for certain identified sites which may be under direct threat and would make it possible to extract sufficient scientific data for our understanding of the archaeology of the area. This data could be used for educational purposes and a heritage awareness programme at a later stage.

From a heritage point of view, there is no objection with regard to the development on condition that the recommendation for a heritage resources management plan is implemented. This will result in the fact that no significant impacts will occur on the heritage resources during all the developmental phases.

*Interpretation,*

1) Interpreting of area of each  
plot - red lines with Draft EMP

2) Ongoing mitigation + monitoring  
development for length of  
development - advised

3) EMP to be drawn up as  
mitigation as carried out  
for duration of development

4) E I F O - final plot  
environmental

5) Recommendations of archaeologists

## 1. INTRODUCTION

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The **Project Proposal** constitutes an activity that is listed in terms of the Environmental Conservation Act (Act No. 73 of 1989), for which an Environmental Impact Assessment is required to satisfy the requirements of the List of Activities and Regulation for EIA's – Government Gazette of 5 September 1997 - provided for in terms of sections 21, 22 and 26. In addition, the National Heritage Resources Act (Act No. 25 of 1999), protects all archaeological, palaeontological and historical sites and graves, and requires heritage resources impact assessments in terms of Section 38. To satisfy the requirements of the above legislation, a Phase 1 Heritage Impact Assessment (scoping & evaluation) of the proposed mining area was undertaken. In order to comply with legislation, the developer requires information on the heritage resources, and their significance that occur in the proposed development area. This will enable the taking of pro-active measures to limit the adverse effects that the development could have on such heritage resources.

The author was contracted by *Enviroweb Consulting Network* to undertake a Phase 1 *Heritage Impact Assessment* of the area of the proposed Moditlo Estate development at Hoedspruit, where a high cost – low impact housing establishment has been proposed. The aim was to determine the presence of heritage resources such as archaeological and historical sites and features, graves and places of religious and cultural significance; to assess the impact of the proposed project on such heritage resources; and to submit appropriate recommendations with regard to the cultural resources management measures that may be required at affected sites / features. Due to the nature of the terrain, the focus has primarily been on archaeological remains.

The report thus provides an overview of the heritage resources that were detected on the terrain. The significance of the heritage resources was assessed in terms of criteria defined in the methodology section. It is indicated that these resources will be affected by the proposed development and the report recommends mitigation measures that should be implemented to minimise the adverse effect of the proposed activities on these heritage resources. The mitigation measures also apply to heritage resources not detected during the survey, but which will in all probability be uncovered during excavations and construction of dwelling, infrastructure and roads.

## 2. METHODOLOGY

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### 2.1 Source of information

The source of information was predominantly the field reconnaissance.

A survey of the proposed Estate areas was undertaken on foot and by vehicle. Standard archaeological practices for observation were followed. As most archaeological material occur in single or multiple stratified layers beneath the soil surface, special attention was given to disturbances, both man-made such as roads and clearings, as well as those made by natural agents such as burrowing animals and erosion. Changes in vegetation hat could indicate archaeological deposits were also noted. Locations of archaeological material were recorded by means of a GPS (Garmin 12). Archaeological material and the general conditions on the terrain were photographed with a KODAK DC120 Digital camera.

The terrain is uninhabited with the result that no local informants could be interviewed with regard to their knowledge of heritage resources.

## 2.2 Limitations

This was a scoping exercise and although the foot survey was thorough, it is possible that certain archaeological sites and features may have been missed due to the dense vegetation and grass coverage in places. Archaeological sites such as Early Iron Age sites, which seems to dominate the terrain, are often beneath soil surface and if undisturbed may not be detected. *The discovery of previously undetected heritage remains must be reported and may require further mitigation measures.*

## 2.3 Categories of significance

The significance of archaeological sites is ranked into the following categories.

No significance: sites that do not require mitigation.

Low significance: sites, which *may* require mitigation.

Medium significance: sites, which require mitigation.

High significance: sites, which must not be disturbed at all.

The significance of an archaeological site is based on the amount of deposit, the integrity of the context, the kind of deposit and the potential to help answer present research questions. Historical structures are defined by Section 34 of the National Heritage Resources Act, 1999, while other historical and cultural significant sites, places and features, are generally determined by community preferences.

*A crucial aspect in determining the significance and protection status of a heritage resource is often whether or not the sustainable social and economic benefits of a proposed development outweigh the conservation issues at stake. There are many aspects that must be taken into consideration when determining significance, such as rarity, national significance, scientific importance, cultural and religious significance, and not least, community preferences. When, for whatever reason the protection of a heritage site is not deemed necessary or practical, its research potential must be assessed and mitigated in order to gain data / information which would otherwise be lost. Such sites must be adequately recorded and sampled before being destroyed. These are generally sites graded as of low or medium significance.*

## 2.4 Terminology

Middle Stone Age: Various lithic industries in SA dating from  $\pm$  250 000 yr. - 30 000 yr. before present. In this area the Pietersburg Industry is dominant.

Late Stone Age: The period from  $\pm$  30 000-yr. to contact period with either Iron Age farmers or European colonists.

Early Iron Age: Most of the first millennium AD

Middle Iron Age: 10<sup>th</sup> to 13<sup>th</sup> centuries AD

Late Iron Age: 14<sup>th</sup> century to colonial period. *The entire Iron Age represents the spread of Bantu speaking peoples.*

Phase 1 assessments: Scoping surveys to establish the presence of and to evaluate heritage resources in a given area

Phase 2 assessments: In depth culture resources management studies which could include major archaeological excavations, detailed site surveys and mapping / plans of sites, including historical / architectural structures and features. Alternatively, the sampling of sites by collecting material, small test pit excavations or auger sampling.

Sensitive: Often refers to graves and burial sites although not necessarily a heritage place as well as ideologically significant places such as ritual / religious places. *Sensitive* may also refer to an entire landscape / area known for its significant heritage remains.

### **3. RELEVANT LEGISLATION**

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Two sets of legislation are relevant for this study with regard to the protection of heritage resources and burials.

#### **3.1 The National Heritage Resources Act (25 of 1999) (NHRA)**

This Act established the South African Heritage Resources Agency (SAHRA) and makes provision for the establishment of Provincial Heritage Resources Authorities (PHRA). The Act makes provision for the undertaking of heritage resources impact assessments for various categories of development as determined by Section 38. It also provides for the grading of heritage resources and the implementation of a three tier level of responsibilities and functions for heritage resources to be undertaken by the State, Provincial authorities and Local authorities, depending on the grade of the Heritage resources. The Act defines cultural significance, archaeological and palaeontological sites and material (Section 35), historical sites and structures, and mine dumps (Section 34), graves and burial sites (Section 36) which falls under its jurisdiction. Archaeological sites and material are generally those resources older than a hundred years, while structures and cultural landscapes older than 60 years, including gravestones, are also protected by Section 34. Procedures for managing grave and burial grounds are clearly set out in Section 36 of the NHRA. Graves older than a 100 years are legislated as archaeological sites and must be dealt with accordingly

Section 38 of the NHRA makes provision for *developers to apply for a permit before any heritage resource may be damaged or destroyed.*

#### **3.2 The Human Tissues Act (65 of 1983)**

This Act protects graves younger than 60 years. These fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the

exhumation and re-burial must be obtained from the relevant Provincial MEC as well as the relevant Local Authorities.

Graves 60 years or older fall under the jurisdiction of the National Heritage Resources Act as well as the Human Tissues Act, 1983.

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#### 4. LOCATION AND DESCRIPTION

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Map reference South Africa 1:50 000 2431 AC / CA. The proposed estate development is located on the farms Riverside 246KT, Esem 245 KT, Hoedspruit 82KU and Morija 83 KU. For the environmental description, refer to main EIA report .

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#### 5. ARCHAEOLOGICAL REMAINS

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A number of archaeological sites were detected on the terrain as listed below. These range from Middle Stone Age material in eroded drainage areas, to Early Iron Age sites and Iron Age pottery remains that were detected in almost every territarium.

##### 5.1 MIDDLE STONE AGE (MSA)

Middle Stone Age (MSA) material in the form of flakes are found scattered throughout the demarcated terrain, especially in eroded areas. Three sites were recorded as examples of MSA remains because of the relatively high concentration of flakes here. The MSA layer is well below present soil surface from where it is exposed by erosion or other disturbances.

1. S24°26'10.5" E31°00'42.9"

2. S24°26'08.5" E31°00'37.3"

3. S24°27'58.5" E31°01'09.4"

Site 3 is a large eroded area where the MSA material – flakes and cores – are exposed. The MSA bearing layer is, however, not concentrated as it would be at a tool manufacturing site. It would thus not be viable to recommend a phase 2 assessment in the form of an archaeological excavation to extract material and data here, nor at the other two sites listed above.

<b>Significance: Low, but does not require mitigation.</b>
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Figure 1. Eroded area site 3

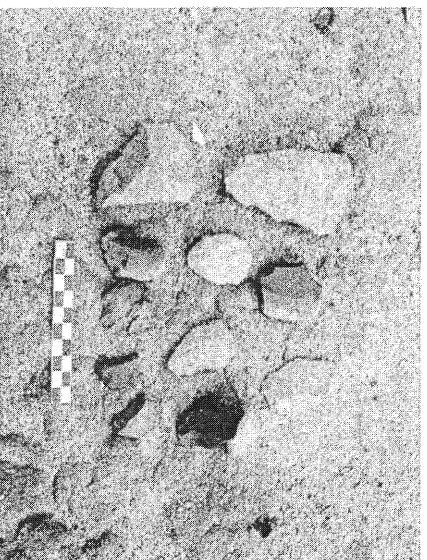


Figure 2. MSA material site 3

## 5.2 IRON AGE SITES

Iron Age material is well represented on the terrain. These are found abundantly in ancient terminaria where they were used to collect termites as a food resource. The pottery in association with terminaria are generally non-diagnostic because they were utensils for everyday use and not decorated ware. In most cases the pottery remains can thus not be dated by association, but from decorated examples found at some terminaria, such as Site 9 (mixed – early and late) and site 11 (late), it ranges from the Early Iron Age to the Late Iron Age. Blue glass beads found at site 11 suggests a date of between AD1800 – 1850 for the Late Iron Age occupational phase.

### 5.2.1 TERMITARIA SITES

These are unique features that through light on the utilisation of natural food resources throughout the ages. The pottery remains found in and around these terminaria interestingly also gives an indication of the relative age of the terminarium, bearing in mind that some of the pottery fragments found are older than a 1000 years. The sites listed below are examples of food gathering methods extending over a period of a 1000 years. Clay pots were placed inside an anthill, presumably with some substance to attract the termites, which then congregates inside the pot. Through time pot have broken here or were forgotten inside the terminarium. These were then again exposed by *antwark* who feed on the termites.

- |                              |                               |
|------------------------------|-------------------------------|
| 4. S24°26'10.5" E31°00'42.9" | 9. S24°26'14.2" E31°00'53.0"  |
| 5. S24°26'04.3" E31°00'28.2" | 10. S24°27'05.9" E31°01'03.8" |
| 6. S24°26'28.4" E31°00'20.7" | 11. S24°27'59.2" E31°01'09.4" |
| 7. S24°26'28.8" E31°00'24.3" | 12. S24°30'18.9" E31°00'26.5" |
| 8. S24°26'42.7" E31°00'31.3" | 13. S24°28'46.2" E31°00'52.6" |

**Significance: Low, but should not be destroyed.**





Figure 3. Ternitarium site 10. Note claypot in *aardvark* burrow.

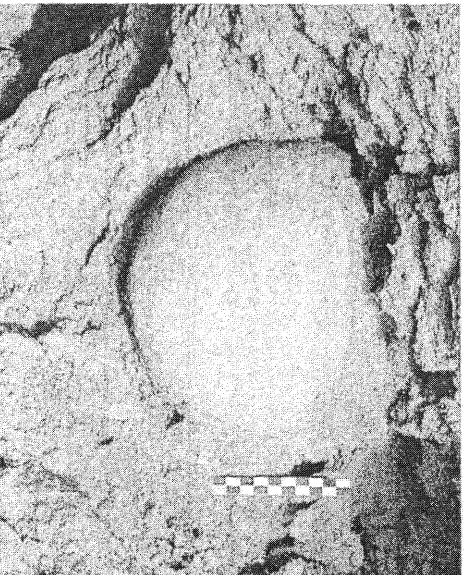


Figure 4. Detail of claypot.

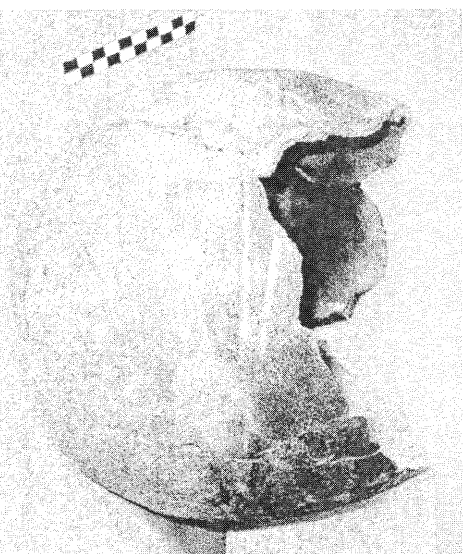


Figure 5. Claypot excavated and cleaned.

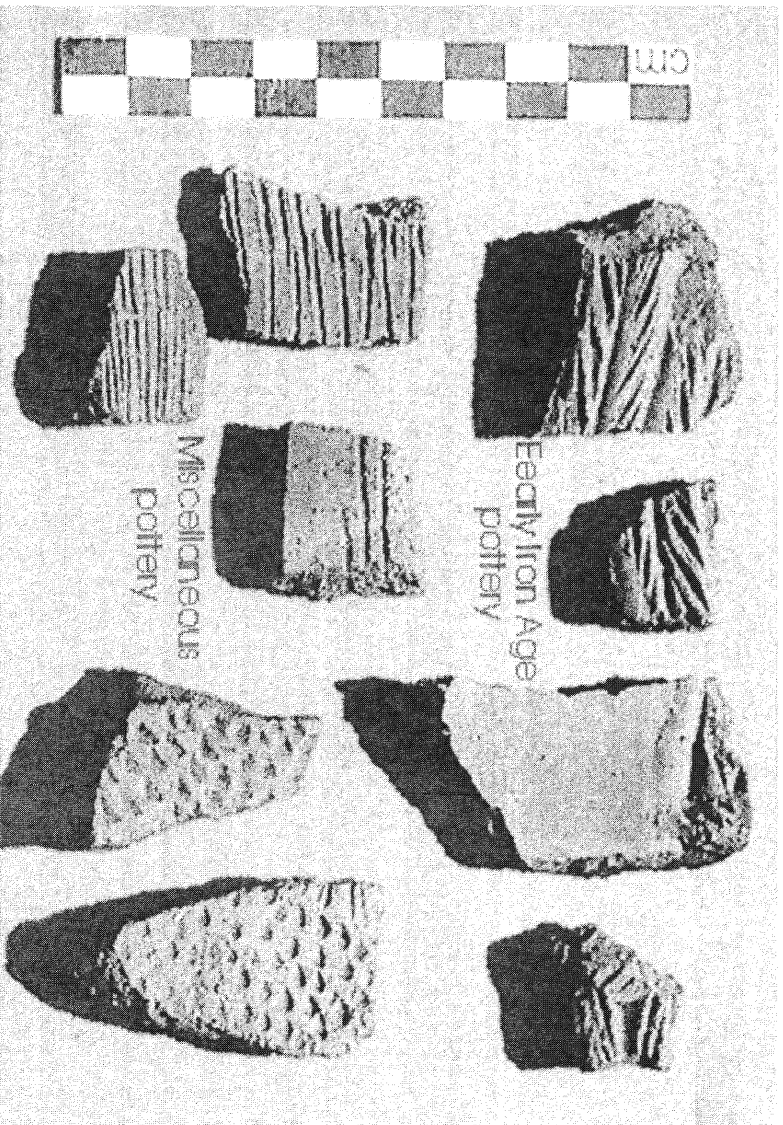


Figure 6. Pottery fragments from site 11.

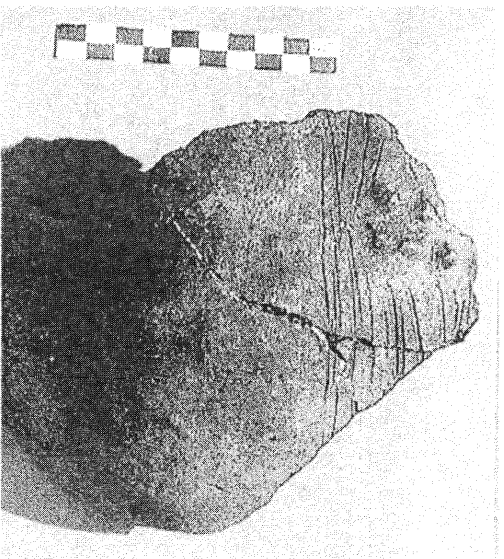


Figure 7. Pottery from site 13. Late Iron Age.

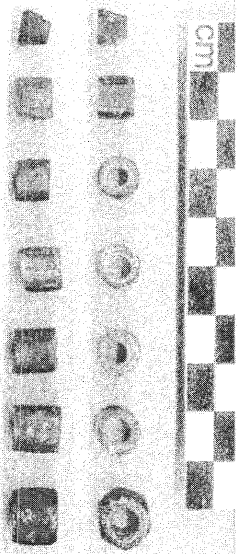


Figure 8. Glass beads dating from AD 1800 – 1850 at site 13.

## 5.2.2 EARLY IRON AGE

### 14. S24°28'24.5" E31°01'00.8"

This site lies within a clearing and contains archaeological deposits of ash, pottery fragments, small upper grinders and burnt hut debris. The nature of the deposits and archaeological material suggests that this is an Early Iron Age site.

**Significance: Medium – requires mitigation.**

**15. S24°28'15.0" E31°00'57.6"**

This site was detected because of *ardvark* holes dug into the middens, exposing the cultural material. Cultural material consists of pottery fragments, upper grinding stones and hut debris. The site has little surface remains, but is identifiable due to a change in vegetation.

**Significance: Medium – requires mitigation.**

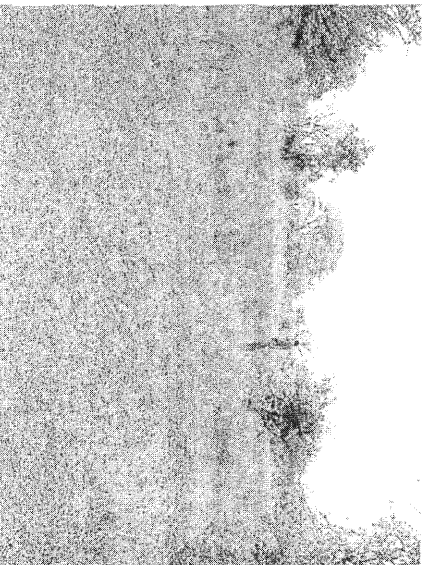


Figure 9. Site 15. Note open area opposed to dense vegetation.



Figure 10. Pottery, iron ore and grinder from site 15.

**15. S24°28'01.0" E31°00'53.3"**

Site 16 was also identified by a change in vegetation. Pottery fragments are clearly of the Early Iron Age style, but the site may be a multi-component site insofar as the fact that a large “hollow” grinding stone found there also suggests a Late Iron Age occupational phase.

**Significance: Medium – requires mitigation.**

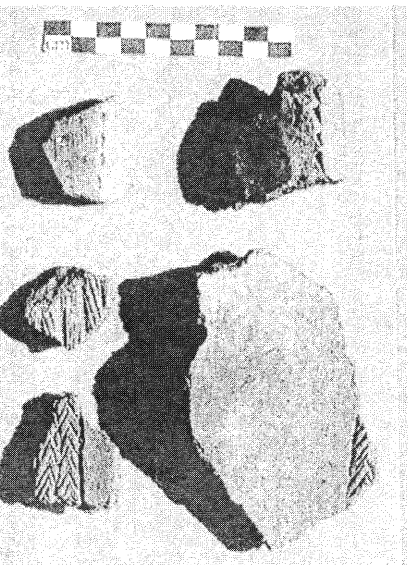


Figure 11. Early Iron Age pottery, site 16

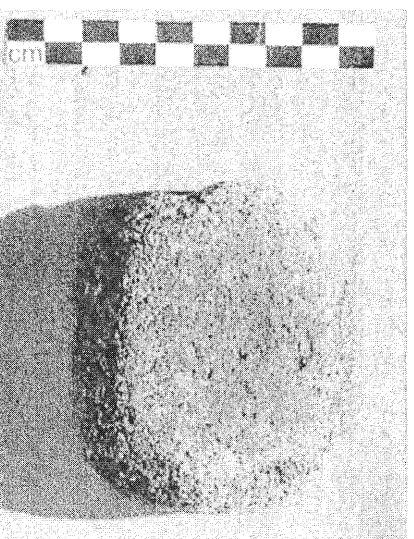


Figure 12. Small upper grinder, site 16

**17. S24°27'43.4" E31°00'37.6"**

Site 17 was exposed by a road cutting through it, exposing the archaeological deposits. The cultural material consists of pottery fragments, metal slag, and notably, an ostrich eggshell bead was found here.

**Significance: Medium – requires mitigation.**

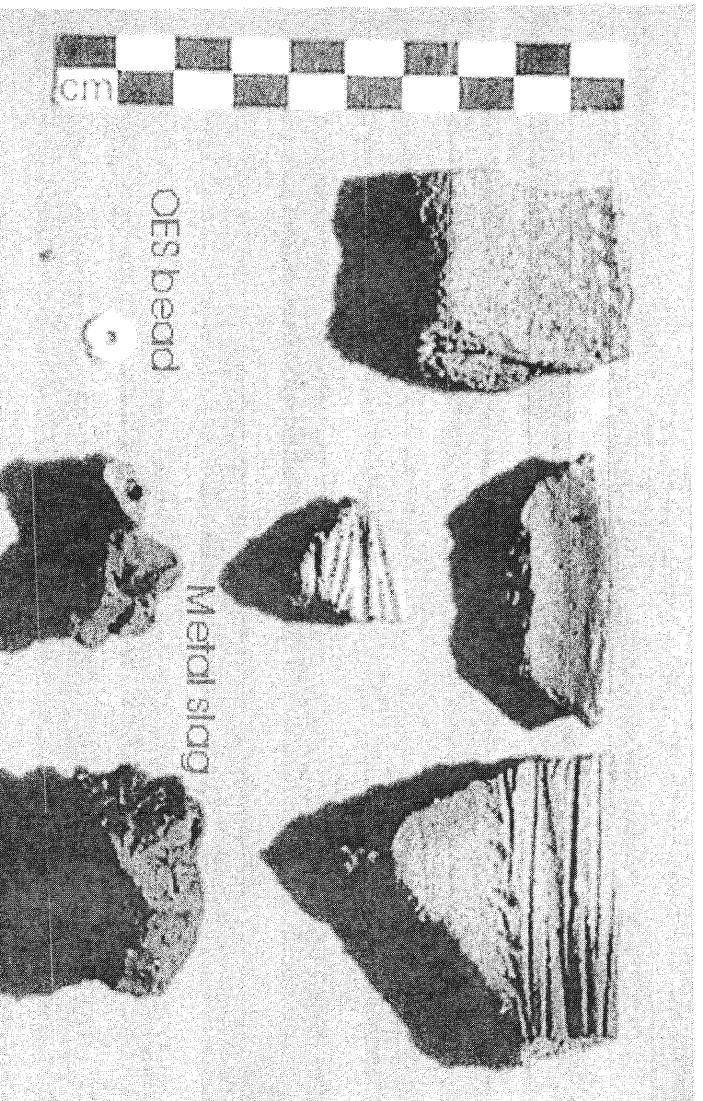


Figure 13. Early Iron Age pottery, ostrich eggshell bead and metal slag, site 17

**18. S24°27'40.4" E31°00'37.8" (16)**

Site 18 was exposed by a road cutting and the main feature here is the vitrified cow dung deposit. Associated with the cattle enclosure is a midden with ash and pottery remains.

**Significance: Medium – requires mitigation.**

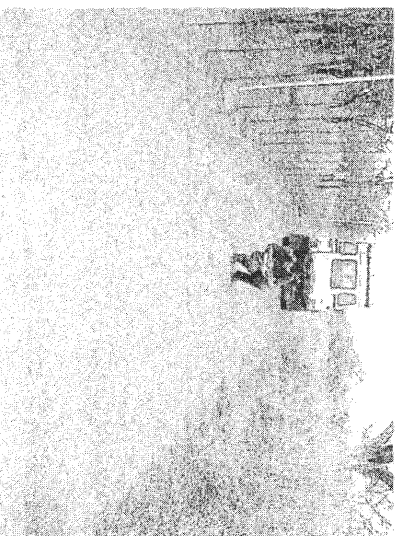


Figure 14. Note light grey colour of the dung deposit

The Early Iron Age remains belong to the *Doornkop* cultural tradition dating to approximately 800AD. These sites generally occur on the high lying areas and can only be distinguished by a change in vegetation. Due to their age, the archaeological deposit is below soil surface and cultural material is only exposed in disturbed places, such as burrowing animal holes and roads.

### 5.2.3 LATE IRON AGE

No specific Late Iron Age settlement site had been found. The occupation of the area by Late Iron Age communities is, however, evident by the material remains located at termiarianum 13 mentioned above. See figures 7 & 8.

## 6. EVALUATION

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The archaeological remains detected in the demarcated area are significant heritage resources. Little is known about the occurrence and distribution of the Early Iron Age *Doornkop* cultural, nor the Late Iron Age tradition in this particular area. It pre-dates the mainly Shangaan speakers who arrived here in the 1880's and whose descendants now occupy the region. As a result of this, the scientific significance of the sites must bear considerable weight. Mitigation for a *heritage resources management plan* is essential in order to: (1) protect some of the archaeological sites and features, and (2) extract sufficient and adequate data from selected sites under treat of development.

The Middle Stone Age remains are not evaluated as significant due to the nature of the MSA bearing layer the fact that it is not viable nor practical to access this MSA layer.

It should also be noted that unmarked burials may occur at the recorded archaeological sites, with the result that human remains may be exposed during earth works (refer to Extract from the National Heritage Resources Act). Human remains must be treated with sensitivity.

## 7. RECOMMENDATIONS

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In view of the above it is recommended that a *heritage resources management plan* be drawn up to compliment and form part of the environmental management plan (EMP) for the development. It must be noted that existing roads have already caused damage to archaeological sites. Issues that need to be addressed are:

- Placing of buildings on plots
- Location and placing of service infrastructure
  - Roads
  - Water provision and reticulation
  - Sewerage
- Utilisation of the natural area
  - Game viewing roads
  - Hiking trails

Lookout points

Boma's and quarantine camps

Watering points

- Other leisure activities

Should the above-mentioned recommendations be implemented, the impacts of the development on the heritage resources during all developmental phases should be negligible.

Extracts from:  
The National Heritage Resources Act (Act No. 25 of 1999).

**Archaeology, palaeontology and meteorites**

Subsection 35. (3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority or museum, which must immediately notify such heritage resources authority.

Subsection 35. (4) No person may, without a permit issued by the responsible heritage resources authority-

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite.

**Burial grounds and graves**

Subsection 36. (6) Subject to the provision of any law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority-

- (a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and
- (b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the content of such grave or, in the absence of such person or community, make any such arrangement as it deems fit.

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**9. 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 Contact Archaeology*. In: Newsletter No 49, Sept 1998. Southern African Association of Archaeologists.

Evers, T.M. 1988. *The recognition of Groups in the Iron Age of Southern Africa*. PhD thesis. Johannesburg: University of the Witwatersrand.

Huffman, T.N. 1980. *Ceramics, classification and Iron Age entities*. African Studies 39:123-174

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

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