

**HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED  
DEVELOPMENT ON THE FARM STENTOR RESERVAAT 656JU,  
MPUMALANGA**

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**PLAN-2-SURVEY AFRICA**

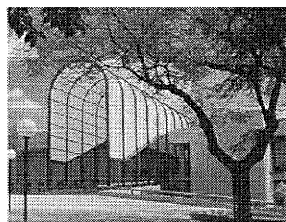
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## EXECUTIVE SUMMARY

### HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT ON THE FARM STENTOR RESERVAAT 656JU, MPUMALANGA

The aim of the survey was to identify and evaluate the potential of heritage resources that might occur in an area in which it is planned to develop a housing estate.

A number of sites were identified. Of these, only two warrant further attention:

- A square structure of upright stones, possibly the remains of an old house. It is recommended that this feature is mapped and documented before development takes place.
- A feature that might be a grave. It is recommended that an archaeologist is present when development takes place in this area.

From a heritage point of view we therefore recommend that the proposed development can continue if the above recommendations are accepted. However, we also request that if archaeological sites or graves are exposed during construction work, it should immediately be reported to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made.

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**TABLE OF CONTENTS**

	Page
TABLE OF CONTENTS .....	3
GLOSSARY OF TERMS .....	4
LIST OF ABBREVIATIONS .....	4
1. INTRODUCTION .....	5
2. BACKGROUND AND BRIEF .....	5
3. STUDY APPROACH .....	6
4. STUDY AREA .....	7
5. SITE SIGNIFICANCE AND ASSESSMENT .....	10
6. IDENTIFICATION OF RISK RESOURCES .....	11
7. CONCLUSION.....	11
8. REFERENCES .....	13
9. PROJECT TEAM.....	13
APPENDIX 1: CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON CULTURAL RESOURCES.....	14
APPENDIX 2. RELEVANT LEGISLATION .....	16
APPENDIX 3. LIST OF IDENTIFIED SITES .....	18

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**GLOSSARY OF TERMS**

**Study area:** Refers to the entire study area as indicated by the client in the accompanying Fig. 1.

**Stone Age:** The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere.

Early Stone Age	2 000 000 - 150 000 Before Present
Middle Stone Age	150 000 - 30 000 BP
Later Stone Age	30 000 - until c. AD 200

**Iron Age:** Period covering the last 1800 years, when new people brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. These people, according to archaeological evidence, spoke early variations of the Bantu Language. Because they produced their own iron tools, archaeologists call this the Iron Age.

Early Iron Age	AD 200 - AD 1000
Late Iron Age	AD 1000 - AD 1830

**Historical Period:** Since the arrival of the white settlers - c. AD 1840 - in this part of the country

**Tuyere:** Clay pipe used in smelting of iron, to connect the bellows to the furnace.

**LIST OF ABBREVIATIONS**

<b>ADRC</b>	Archaeological Data Recording Centre
<b>EIA</b>	Early Iron Age
<b>ESA</b>	Early Stone Age
<b>LIA</b>	Late Iron Age
<b>LSA</b>	Late Stone Age
<b>MSA</b>	Middle Stone Age
<b>NASA</b>	National Archives of South Africa
<b>NHRA</b>	National Heritage Resources Act
<b>PHRA</b>	Provincial Heritage Resources Agency
<b>SAHRA</b>	South African Heritage Resources Agency

## HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT ON THE FARM STENTOR RESERVAAT 656JU, MPUMALANGA

### 1. INTRODUCTION

The National Cultural History Museum<sup>1</sup> was contracted by **Plan-2-Survey** to survey an area in which it is proposed to develop a new housing estate. The aim of the survey was to determine the nature and potential of cultural heritage resources found within the boundaries of the development area.

**Cultural heritage resources** are broadly defined as all non-physical and physical human-made occurrences, as well as natural occurrences that are associated with human activity. These include all sites, structures and artefacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development.

### 2. BACKGROUND AND BRIEF

The scope of work consisted of conducting a Phase 1 archaeological survey of the site in accordance with the requirements of Section 38(3) of the National Heritage Resources Act (Act 25 of 1999).

This include:

- Conducting a desk-top investigation of the area;
- A visit to the proposed development site.

The objectives were to

- Identify possible archaeological, cultural and historic sites within the proposed development areas;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources;
- Indicated which would be the preferred site for the proposed development;
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

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<sup>1</sup> The National Cultural History Museum is affiliated to the Northern Flagship Institution, which act as parent body for a number of museums, all of which resorts under the Department of Arts and Culture.

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### 3. STUDY APPROACH

#### 3.1 Information base (sources)

Very little heritage work has been done in this area, resulting in the near absence of any published/unpublished information. Although a large number of documents exist in the NASA databases, none could be found that shed any light on the use and former activities in the area under study.

#### 3.2 Methodology

##### 3.2.1 Preliminary investigation

###### 3.2.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various reports, anthropological, archaeological and historical sources were consulted - see the list of references below.

###### 3.2.1.2 Data bases

The *Heritage Sites Database* and the *Environmental Potential Atlas* was consulted. The databases of the National Archives of South Africa (NASA) were also consulted.

###### 3.2.1.3 Other sources

Topocadastral and other maps were also studied - see the list of references below. Aerial photographs were also studied.

##### 3.2.2 Field survey

The area was divided into blocks by using natural (e.g. streams) as well as manmade (e.g. roads, fences) boundaries, and each block was surveyed by walking a number of transects across it. Fences and rivers obviously necessitated a deviation from this strategy.

##### 3.2.3 Documentation

Sites, objects and structures that are identified are documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual localities were determined by means of the *Global Positioning System (GPS)*<sup>2</sup> and plotted on a map. This information is added to the description in order to facilitate the identification of each locality.

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<sup>2</sup> According to the manufacturer a certain deviation may be expected for each reading. Care was, however, taken to obtain as accurate a reading as possible, and then to correlate it with reference to the physical environment before plotting it on the map.

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Map datum used: Hartebeeshoek 94 (WGS84).

### 3.4 Limitations

Noted

Some sections of the study area, especially the river valleys, were densely vegetated, making the detection of sites difficult – see Fig. 1 below.



Fig. 1. The dense vegetation growth found in some of the valleys.

## 4. STUDY AREA

### 4.1 Description of the study area

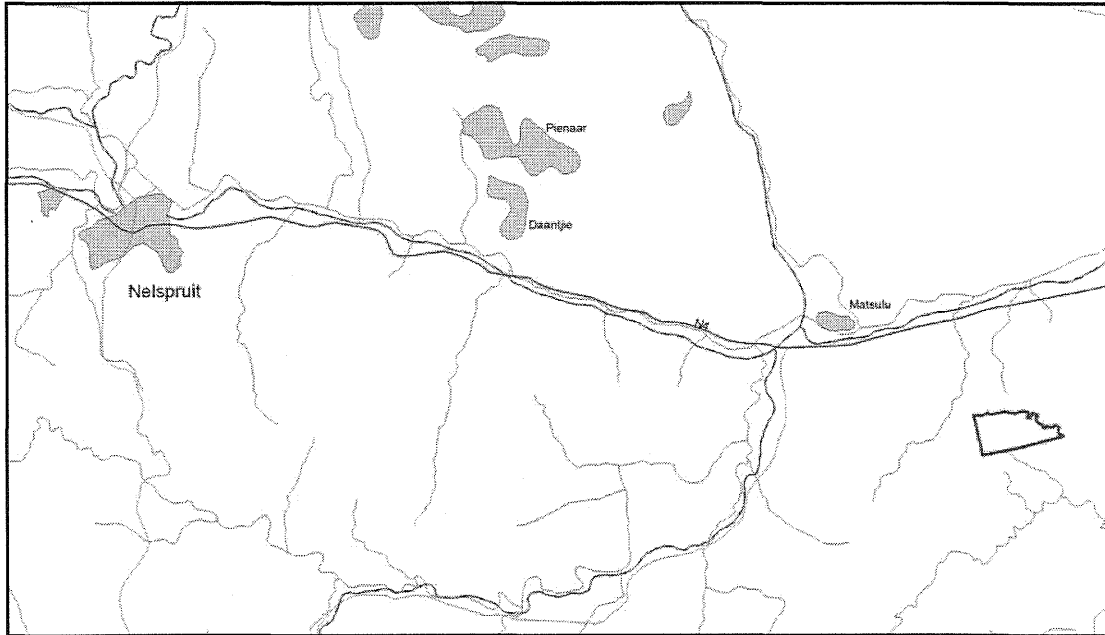


Figure 2. Location of the study area, outlined in red, in regional context (Map 2531CB: Government Printer, Pretoria).

The location and extent of the study area can be determined from the map in Figure 2. It is located on portions of the farms Stentor Reservaat 656JU and Koedoe 218JU in the Barberton magisterial district of Mpumalanga Province (Fig. 1). The centre point of the area is S 25.58056, E 31.46307.

The geology is made up of alternating bands of lutaceous arenite and arenite. The original vegetation is described as Sour Lowveld Bushveld. The terrain can be classified as high mountains. As a result a number of small streams crosses the area. The Salt Creek, which is the only perennial stream, forms the eastern boundary of the study area.

## 4.2 Description of affected environment

### 4.2.1 Stone Age

Human occupation of the region started at least during the Early Stone Age, with reports of Acheulian type tools found in a number of places in the larger region. This occupation continued through to the



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Middle to the Later Stone Age. Because of the high impact of agricultural development, as well as the dense vegetation cover in the undeveloped areas, very few indications of Stone Age occupation were identified during the survey. A number of stone tools, flakes and cores, dating to the Middle Stone Age, were found as surface finds. As these objects are surface finds, they are out of context and are viewed to have a very low significance.

#### 4.2.2 Iron Age

Iron Age people moved into southern Africa by c. AD 200, entering the area either by moving down the coastal plains, or by using a more central route. It seems more likely that the first option was what brought people into the study area. From the coast they followed the various rivers inland. One of the earliest dated sites are located near Tzaneen (Silver Leaves). Some sites dating to this and a slightly later period, were identified at Plaston (Evers 1977) and still closer at Vergenoeg and The Curlews (Van Schalkwyk & Teichert 2007)

Being cultivators, they preferred the rich alluvial soils close to rivers to settle on. Consequently, as the study area is in close proximity to the Crocodile River, one would expect settlement sites dating to the Early Iron Age to occur here.

A few pieces of pottery were noticed in ploughed areas during the field survey. Unfortunately, all of it was non-diagnostic (i.e. it did not have any decorations), with the result that it could not be identified or dated.

#### 4.2.3 Historic period

The historic period started in the 1840s. Due to the presence of malaria, few people settled here and most, being traders, hunter and miners, only passed through the area. Nelspruit as town was proclaimed only in 1905. As time went by, the area was divided into farms and more and more people settled on a permanent basis.

The Pretoria – Lorenço-Marques (Maputo) railway line, also known as the NZASM line, was built through the region during the 1880s. A number of features, e.g. bridges, culverts, stations, houses, good sheds, etc. still exist and forms part of this feature.

Gold mining activities took place in the region, although mostly to the south of the study area.

## 4.2 Description of affected environment

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A number of issues were identified and must be considered during development. These are contextualized below.

#### 4.3.2 Stone Age

No sites, object or features dating to the Stone Age were identified in the study area.

#### 4.3.3 Iron Age

Potsherds and grinding stone were identified. However, as these are surface material it is viewed not to have any significance.

#### 4.3.3 Historic period

Two structures of unknown origin were identified. One is viewed to be some sort of housing structure and the second might be a grave, although this is doubtful..

## 5. SITE SIGNIFICANCE AND ASSESSMENT

Impact analysis of cultural resources under threat of the proposed development, are based on the present understanding of the development.

The **significance** of a heritage site and artefacts is determined by its historical, social, aesthetic, technological and scientific value in relation to the uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

Sites regarded as having low significance are viewed as being recorded in full after identification and would require no further mitigation. Impact from the development would therefore be judged to be low. Sites with a medium to high significance would therefore require mitigation. Mitigation, in most cases the excavation of a site, is in essence destructive and therefore the impact can be viewed as high and as permanent.

All the sites were evaluated by means of the matrix presented in Appendix 1 of this report. Based on that, the following can be said of them:

- **All the identified sites are viewed to have a low significance on a regional level, except for the possible grave, which is viewed to have a high significance on a local level. In terms of**

Section 7 of the Heritage Act (see Appendix 2 below), it is viewed to be of Grade III significance.

## 6. IDENTIFICATION OF RISK RESOURCES

An Environmental Impact Assessment is focused on two phases of a proposed development: **the construction and operation phases**. However, from a cultural heritage perspective, this distinction does not apply. Heritage sites are fixed features in the environment, occurring within specific spatial confines. Any impact upon them is permanent and non-reversible. Those resources that cannot be avoided and that are directly impacted by the development can be excavated/recorded and a management plan can be developed for future action. Those sites that are not impacted, can be written into the management plan, whence they can be avoided or cared for in the future.

### Construction phase:

Possible Risks	Source of the risk
Actually identified risks	
- damage to sites	Construction work
Anticipated risks	
- looting of sites	Curious workers

### Operation phase:

Possible Risks	Source of the risk
Actually identified risks	
- damage to sites	Not keeping to management plans
Anticipated risks	
- damage to sites	Unscheduled construction/developments
- looting of sites	Visitors removing objects as keepsakes

## 7. CONCLUSION

The aim of the survey was to identify and evaluate the potential of heritage resources that might occur in an area in which it is planned to develop a housing estate.

A number of sites were identified. Of these, only two warrant further attention:

- A square structure of upright stones, possibly the remains of an old house. It is recommended that this feature is mapped and documented before development takes place.

- 
- A feature that might be a grave. It is recommended that an archaeologist is present when development takes place in this area.

From a heritage point of view we therefore recommend that the proposed development can continue if the above recommendations are accepted. However, we also request that if archaeological sites or graves are exposed during construction work, it should immediately be reported to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made.

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## 8. REFERENCES

Acocks, J.P.H. 1975. *Veld Types of South Africa*. Memoirs of the Botanical Survey of South Africa, No. 40. Pretoria: Botanical Research Institute.

Holm, S.E. 1966. *Bibliography of South African Pre- and Protohistoric Archaeology*. Pretoria: J.L. van Schaik.

Low, A.B. & Robelo, A.G. (eds.) 1996. *Vegetation of South Africa, Lesotho and Swaziland*. Pretoria: Department of Environmental Affairs and Tourism.

Richardson, D. 2001. *Historic sites of South Africa*. Cape Town: Struik Publishers.

### National Archives

A number of documents were reviewed, mostly in the SAB and TAB databases

### Topo-cadastral map

2531CB

## 9. PROJECT TEAM

J van Schalkwyk: principal investigator

F Teichert, field surveyor

## APPENDIX 1: CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON CULTURAL RESOURCES

### Significance

The *significance* of the sites and artefacts are determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

Matrix used for assessing the significance of each identified site/feature

<b>1. Historic value</b>				
Is it important in the community, or pattern of history				
Does it have strong or special association with the life or work of a person, group or organisation of importance in history				
Does it have significance relating to the history of slavery				
<b>2. Aesthetic value</b>				
It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group				
<b>3. Scientific value</b>				
Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage				
Is it important in demonstrating a high degree of creative or technical achievement at a particular period				
<b>4. Social value</b>				
Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons				
<b>5. Rarity</b>				
Does it possess uncommon, rare or endangered aspects of natural or cultural heritage				
<b>6. Representivity</b>				
Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects				
Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class				
Importance in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality.				
<b>7. Sphere of Significance</b>		High	Medium	Low
International				
National				
Provincial				
Regional				
Local				
Specific community				
<b>8. Significance rating of feature</b>				
1.	Low			
2.	Medium			
3.	High			

### Significance of impact:

- low where the impact will not have an influence on or require to be significantly accommodated in the project design
- medium where the impact could have an influence which will require modification of the project design or alternative mitigation
- high where it would have a "no-go" implication on the project regardless of any mitigation

### Certainty of prediction:

- Definite: More than 90% sure of a particular fact. Substantial supportive data to verify assessment
- Probable: More than 70% sure of a particular fact, or of the likelihood of that impact occurring

- 
- Possible: Only more than 40% sure of a particular fact, or of the likelihood of an impact occurring
  - Unsure: Less than 40% sure of a particular fact, or the likelihood of an impact occurring

**Recommended management action:**

For each impact, the recommended practically attainable mitigation actions which would result in a measurable reduction of the impact, must be identified. This is expressed according to the following:

- 1 = no further investigation/action necessary
- 2 = controlled sampling and/or mapping of the site necessary
- 3 = preserve site if possible, otherwise extensive salvage excavation and/or mapping necessary
- 4 = preserve site at all costs
- 5 = formalise cemetery or, alternatively, relocate graves if need be

**Legal requirements:**

Identify and list the specific legislation and permit requirements which potentially could be infringed upon by the proposed project, if mitigation is necessary.

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**APPENDIX 2. RELEVANT LEGISLATION**

All archaeological and palaeontological sites, and meteorites are protected by the National Heritage Resources Act (Act no 25 of 1999) as stated in Section 35:

(1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

(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 offices or museum, which must immediately notify such heritage resources authority.

(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;

(b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;

(c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or

(d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

In terms of cemeteries and graves the following (Section 36):

(1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

(3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority-

(a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;

(b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or

(c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.

The National Heritage Resources Act (Act no 25 of 1999) stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:



- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;
- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III:** Other heritage resources worthy of conservation, and which prescribes heritage resources assessment criteria, consistent with the criteria set out in section 3(3), which must be used by a heritage resources authority or a local authority to assess the intrinsic, comparative and contextual significance of a heritage resource and the relative benefits and costs of its protection, so that the appropriate level of grading of the resource and the consequent responsibility for its management may be allocated in terms of section 8.

Presenting archaeological sites as part of tourism attraction requires, in terms 44 of the Act, a Conservation Management Plan as well as a permit from SAHRA.

(1) Heritage resources authorities and local authorities must, wherever appropriate, co-ordinate and promote the presentation and use of places of cultural significance and heritage resources which form part of the national estate and for which they are responsible in terms of section 5 for public enjoyment, education, research and tourism, including-

- (a) the erection of explanatory plaques and interpretive facilities, including interpretive centres and visitor facilities;
- (b) the training and provision of guides;
- (c) the mounting of exhibitions;
- (d) the erection of memorials; and
- (e) any other means necessary for the effective presentation of the national estate.

(2) Where a heritage resource which is formally protected in terms of Part I of this Chapter is to be presented, the person wishing to undertake such presentation must, at least 60 days prior to the institution of interpretive measures or manufacture of associated material, consult with the heritage resources authority which is responsible for the protection of such heritage resource regarding the contents of interpretive material or programmes.

(3) A person may only erect a plaque or other permanent display or structure associated with such presentation in the vicinity of a place protected in terms of this Act in consultation with the heritage resources authority responsible for the protection of the place.

### APPENDIX 3. LIST OF IDENTIFIED SITES

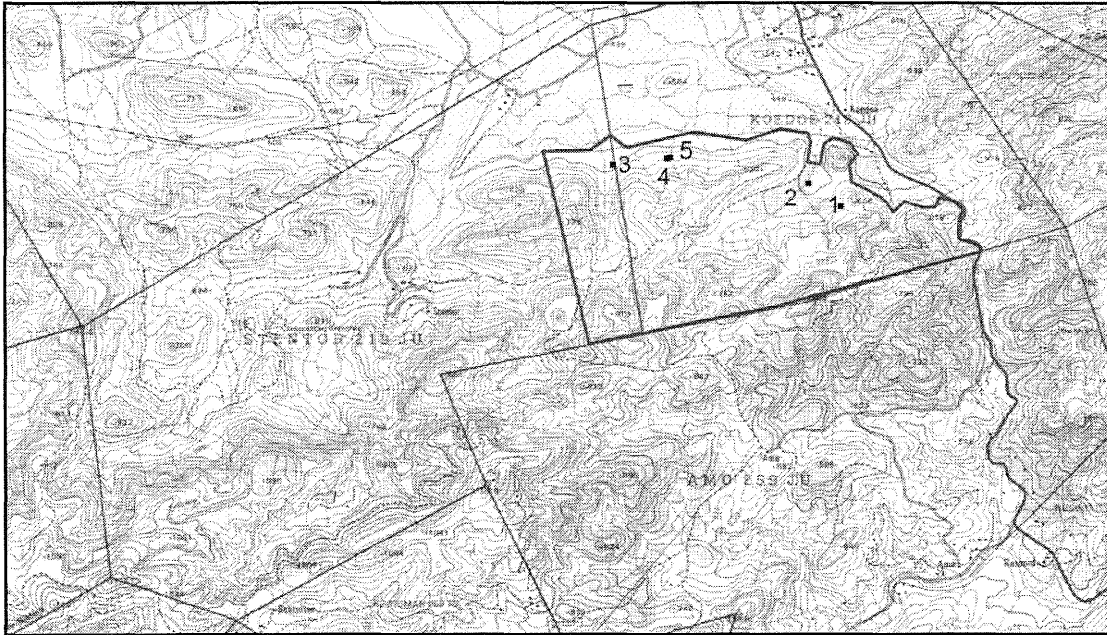


Fig. 3. The farms Stentor and Koedoe, showing the location of the study area and the identified sites (Map 2531CB: Government Printer, Pretoria.) These farms were later consolidated to Stentor Resevaat 656JU, which dated to after the date of the 1:50 000 map.

1. Location: S 25.58200, E 31.46486

Description: A square structure with upright stones and stones in the middle of the square as well as an upper grinding stone (Fig. 4).

Discussion: No other material was found in the vicinity. Its origin and function is therefore uncertain, but it probably dates to early historic times.

Evaluation of significance: Low on a regional level

Significance of impact: ~~High~~

Certainty of prediction: Probable

Recommended management action: 2 = controlled sampling and/or mapping of the site necessary

Legal requirements: SAHRA permit



Fig. 4. The square structure of upright stones.

2. Location: S 25.57936, E 31.46125

Description: Area where pottery is washing out. No diagnostic shards were found. No other features or objects occur in this area.

Discussion: It is impossible to determine the origin of these potsherds as the area is very eroded.

Evaluation of significance: Low on a regional level.

Significance of impact: High

Certainty of prediction: Probably

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None



Fig. 5. The pottery eroding out.

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3. Location: S 25.57731, E 31.43928

Description: A large heap of stone. It probably resulted from the clearing of agricultural fields.

Discussion: This feature is viewed not to have any significance and is mentioned purely as it is not a natural occurrence

Evaluation of significance: Low on a regional level

Significance of impact: High

Certainty of prediction: Probable

Recommended management action: 1 = no further investigation/action necessary

Legal requirements:



Fig. 6. The heap of stones.

4. Location: S 25.57656, E 31.44539

Description: Upper grinding stone (Fig. 7) and a few non-diagnostic potsherds

Discussion: It is impossible to determine to origin of these objects as it is all surface material.

Evaluation of significance: Low on a regional level

Significance of impact: High

Certainty of prediction: Probable

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None



Fig. 7. A stone used for smoothing floors. It is very similar to an upper grinding stone.

5. Location: S 25.57647, E 31.44569

Description: A small cairn of stone. It might be a grave, but no headstone is present

Discussion: At present, this feature is treated as a grave. However, it is uncertain if it really is one.

Evaluation of significance: High on a local level

Significance of impact: High

Certainty of prediction: Probable

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: Permits, SAHRA permits, notification, consultation, relocation



Fig. 8 The possible grave.