

**A SURVEY OF CULTURAL RESOURCES ON TRIBUTARY
ROADS OF THE METSEMOTLHABA-KOPONG-LENTSWELETAU
ROAD, NORTH OF GABORONE, BOTSWANA**

For:

EKOKONSULT INC.
P.O. Box 9625
HENNOPSMEER
0046

Survey conducted and report prepared by the:

NATIONAL CULTURAL HISTORY MUSEUM
P.O. Box 28088
SUNNYSIDE
0132

Telephone - (012) 341 1320
Telefax - (012) 341 6146

REPORT: 98KH19

Date of survey: September 1998

Date of report: September 1998



SUMMARY

A survey of cultural resources on tributary roads of the Metsemotlhaba-Kopong-Lentsweletau road, north of Gaborone, Botswana

A survey to establish the nature, extent and significance of cultural resources was made on three tributary roads to the Metsemotlhaba-Kopong-Lentsweletau road, Botswana.

A number of sites of cultural significance were identified. Some of these would be impacted upon by the proposed development. However, these sites are judged not to be of much significance, and it is therefore recommended that the development can continue. However, a number of recommendations are put forward in section 7 of this report.

- We recommend that the development can continue. It is, however, suggested that the developers be notified that archaeological sites might still be exposed during the construction activities. If anything is noticed, it should be reported immediately to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of that find can be made.

- A large number of *motlopi* trees (*Boscia albitrunca* - witgatboom) grow quite close to the road. These are viewed by the local population as a very valuable tree in times of drought and should therefore be avoided.

CONTENTS

SUMMARY	i
CONTENTS	ii
1. AIMS OF THE SURVEY	1
2. TERMS OF REFERENCE	1
3. CONDITIONS AND ASSUMPTIONS	1
4. METHODOLOGY	2
5. DESCRIPTION OF THE AREA SURVEYED	3
6. DISCUSSION	4
7. CONCLUSIONS AND RECOMMENDATIONS	4
8. REFERENCES	5
9. PROJECT TEAM	6
APPENDIX 1	7
APPENDIX 2	8
APPENDIX 3	9

**A SURVEY OF CULTURAL RESOURCES ON TRIBUTARY
ROADS OF THE METSEMOTHLABA-KOPONG-LENTSWELETAU
ROAD, NORTH OF GABORONE, BOTSWANA**

1. AIMS OF THE SURVEY

The National Cultural History Museum was requested by **Ekokonsult Inc** to survey three tributary roads of the Metsemothlaba-Kopong-Lentsweletau road, north of Gaborone, Botswana. It is planned to upgrade the existing road, which is currently a dirt and gravel road, by tarring it. The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural importance found within the boundaries of the roads.

2. TERMS OF REFERENCE

The **Terms of Reference** for the study were to:

- 2.1 Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural resources) located in the area of the proposed development.
- 2.2 Assess the significance of the cultural resources in terms of their historical, social, religious, aesthetic and scientific value.
- 2.3 Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.
- 2.4 Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources.

We were informed by the client that the road plus its reserve, will not be more than a total of 12 metres wide. The survey was to be confined to this area, ie. the existing road and its immediate borders/shoulders. However, the route was surveyed within its larger geographical context. We were not informed about the location of possible borrow pits.

3. CONDITIONS AND ASSUMPTIONS

The following aspects have a direct bearing on the survey and the resulting report:

-**Cultural resources** are all nonphysical and physical human-made occurrences, as well

as natural occurrences that are associated with human activity. These include all sites, structures and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development.

- The **significance** of the sites and artifacts is 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.
- Significance is site-specific and relates to the content and context of the site. Sites regarded as having low significance have already been recorded in full and require no further mitigation. Sites with medium to high significance require further mitigation.
- The latitude and longitude of an archaeological site is to be treated as sensitive information by the developer, and should not be disclosed to members of the public.
- All recommendations are made with full cognisance of the relevant legislation, in this case the Monuments and Relics Act (1970).

4. METHODOLOGY

4.1 Preliminary investigation

4.1.1 Survey of the literature

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

4.1.2 Data sources

The **Archaeological Data Recording Centre** (ADRC), housed at the National Museum and Art Gallery, Gaborone, was consulted.

4.1.3 Other sources

The relevant topocadastral and other maps were studied - see list of references below.

4.2 Field survey

The survey was conducted according to generally accepted archaeological practices, and was aimed at locating all possible sites, objects and structures. This was done by the researcher leaving the vehicle at a point next to the road and then walking down one side of the road for a kilometre or two. The researcher then crossed the road and walked back

down the other side towards the vehicle. Areas with potential for human use were investigated. Special attention was given to outcrops, cliffs were inspected for rock shelters, while stream beds and unnatural topographical occurrences such as trenches, holes and clusters of exotic and indigenous trees were investigated.

4.3 Documentation

All sites, objects and structures identified were 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)**¹ and plotted on a map. The information was added to the description in order to facilitate the identification of each locality.

4.4 Presentation of the information

In discussing the results of the survey, a chronological rather than a geographical approach was followed in the presentation of an overview of human occupation and land use in the area. This helps the reader to better understand and facilitate the potential impact of the development. Information on the individual objects, sites, occurrences and structures is presented in Appendix 2 and summarised in Table 1.

5. DESCRIPTION OF THE AREA SURVEYED

The area that was surveyed, is indicated in Figure 1, below. The topography is, basically, gently rolling plains, with the most dominant geographical feature being a series of hills located halfway between Kopong and Lentsweletau. Most river beds are dry and carry water only during heavy rains. No other open water sources were noticed.

The geology along the road is made up in the following manner. The southern part of the road, up to the hills halfway between Kopong and Lentsweletau, consists of granite and felsite, with the latter forming the foothills of a range of hills which separates the granites from the Waterberg sediments in the north. The Waterberg sediments occur as this range of hills. North of these hills the Waterberg sediments are covered with a mantle of Kalahari sand.

The vegetation seems to follow the geological subdivisions to some extent. In many areas, agricultural use and overgrazing has changed the original vegetation and densification of scrub bush has taken place. The main vegetation type of the area concerned seems to be Kalahari Thornveld, which generally occurs in deep, loose sand. However, it is possible to distinguish other types of vegetation in the study area as well:

¹ ¹ 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 correlate it with reference to the physical environment before plotting it on the map.

Arid Sweet Bushveld and Mixed Bushveld.

6. DISCUSSION

Though a lot of archaeological research has been done in the eastern parts of Botswana (see list of references below), little has been done in the area of this particular survey. The closest to this area is that done by Caister (1982), which covers the area around Molepolole, and that done by Denbow (1981) around Gaborone.

6.1 Stone Age

The various phases of the Stone Age are well represented in most parts of Botswana (see Hitchcock 1982).

A limited number of Middle Stone Age tools were identified throughout the southern section of the road that was surveyed. This is to be expected with felsite being found in the area. The artifacts, which were located next to the road, are in all probability disturbed out of context.

6.2 Iron Age

No sites, objects or structures dating to the Iron Age, was identified in the area under investigation.

6.3 Historic

A cemetery was identified on the outskirts of Lentsweletau.

7. CONCLUSIONS AND RECOMMENDATIONS

Three sites of cultural significance were found in the area of the proposed development. Within the scope of the proposed development, it is judged that the one, ie, the cemetery, would not be impacted upon by the development and will therefore not prevent the development from continuing, or require modification of the project design. If, however, the alignment of the road is changed for some reason or other, this site will have to be considered and mitigationary steps taken.

The two areas where Stone Age material was found, is surface sites. The material found here is in all probability disturbed out of context. These sites are therefore judged not to be significant and will not prevent the development from continuing, or require modification of the project design.

The following recommendations are made:

7.1 We recommend that the development can continue. It is, however, suggested that the developers be notified that archaeological sites might still be exposed during the construction activities. If anything is noticed, it should be reported immediately to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of that find can be made.

7.2 A large number of *motlopi* trees (*Boscia albitrunca* - witgatboom) grow quite close to the road. These are viewed by the local population as a very valuable tree in times of drought and should therefore be avoided.

8. REFERENCES

8.1 Unpublished sources

8.1.1 Data base

Archaeological Data Recording Centre, National Museum and Art Gallery, Gaborone, Botswana.

8.2 Published sources

8.2.1 Books and journals

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

Caister, D. 1982. Archaeological perspectives on settlement patterns in the south east Kweneng District.

Denbow, J. R. 1981. Broadhurst: a 14th century AD expression of the Early Iron Age in south-eastern Botswana. **South African Archaeological Bulletin** 36:66-74.

Denbow, J.R.1982. The Toutswe tradition: A study in socio-economic change. In Hitchcock, R.R. & Smith M.R. (eds.) **Settlement in Botswana: the historical development of a human landscape**. Gaborone: The Botswana Society. Pp. 73-86.

Denbow, J.R. 1984. Cows and Kings: a Spatial and Economic analysis of a Hierarchical Early Iron Age Settlement System in Eastern Botswana. In Hall, M. et al **Frontiers: Southern African Archaeology Today**. Pp. 24-39.

Hitchcock, R.K. 1982. Prehistoric hunter-gatherer adaptations. In Hitchcock, R.R. & Smith M.R. (eds.) **Settlement in Botswana: the historical development of a human landscape**. Gaborone: The Botswana Society. Pp. 47-65.

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

Lepionka, L. 1979. Ceramics at Tautswemogala, Botswana. In Van der Merwe, N.J. & Huffman, T.N. (eds.) **Iron Age studies in Southern Africa**. Goodwin Series No. 3. Cape Town: South African Archaeological Society.

Mason, R. 1962. **Prehistory of the Transvaal**. Johannesburg: Witwatersrand University Press.

Van Warmelo, N.J. 1977. **Anthropology of Southern Africa in Periodicals to 1950**. Pretoria: Government Printer.

Van Waarden, C. 1987. Prehistoric coppermining in Botswana. Unpublished paper presented at the Archaeometallurgy Workshop of the South African Archaeological Association, Pretoria.

Van Waarden, C. 1987. Matanga, a late Zimbabwe cattle post. **South African Archaeological Bulletin** 42:107-124.

8.2.2 Maps

1: 50 000 Topocadastral maps - 2425D2; 2425B4

9. PROJECT TEAM

J van Schalkwyk - project leader

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

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: Over 70% sure of a particular fact, or of the likelihood of that impact occurring
- Possible: Only over 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

Status of the impact:

With mitigation and the resultant recovery of material, a negative impact can be turned positive. Describe whether the impact is positive (a benefit), negative (a cost) or neutral

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 necessary
- 2 = controlled sampling/and or mapping of the site necessary
- 3 = preserve site if possible, otherwise extensive salvage excavation necessary
- 4 = preserve site at all costs

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

APPENDIX 2: SURVEY RESULTS

[Previous site numbers relate to other known sites on a particular ¼ degree sheet already documented in the ADRC, and does not necessarily refer to sites occurring on or close to the specific area of development.]

1. Site number: 2425B4/5

Description: A contemporary cemetery, containing approximately 20 graves.

Location: Situated east of the road, on the outskirts of Lentseletau, directly below a small hill - S 24° 15' 21.1"; E 25° 51' 07.4"

Discussion: As this site is still in use, it is known to everybody and the chance of it being impacted upon by the development is very low.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Recommended management action: (1) - none necessary as the site is already fully documented.

2. Site number: 2425B4/6

Description: Some Middle Stone Age artifacts found in a small gully next to the road.

Location: On the road to Mmaseta - S 24° 31' 02.2"; E 25° 50' 45.2"

Discussion: It is doubtful that this material is still in a primary context. Natural erosion and the traffic on the road must have disturbed most of this material out of context.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Recommended management action: (1) - none necessary as the site is already fully documented.

3. Site number: 2425B4/7

Description: A number of Middle Stone Age artifacts found in the middle of the road.

Location: Approximately one third of the way on the road road to Gakutlo - S 24° 30' 56.0"; E 25° 48' 26.3"

Discussion: It is doubtful that this material is still in a primary context. Natural erosion and the traffic on the road must have disturbed most of this material out of context.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Neutral

Recommended management action: (1) - none necessary as the site is already fully documented.

APPENDIX 3: GLOSSARY AND ABBREVIATIONS

This section is included to give the reader some necessary background. It must be kept in mind, however, that these dates are all relative and serve only to give a very broad framework for interpretation.

STONE AGE

Early Stone Age (ESA) 2 000 000 - 150 000 Before Present

Middle Stone Age (MSA) 150 000 - 30 000 BP

Late Stone Age (LSA) 30 000 - until c. AD 200

IRON AGE

Early Iron Age (EIA) AD 200 - AD 1000

Late Iron Age (LIA) AD 1000 - AD 1830

HISTORICAL PERIOD

Since the arrival of the white settlers - c. AD 1830 in this part of the country