

**A SURVEY OF CULTURAL RESOURCES AT A NUMBER
OF POTENTIAL BORROW PITS ALONG THE N3 HIGHWAY**

For:

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SUMMARY

A survey of cultural resources at a number of potential borrow pits along the N3 Highway.

Few sites, objects or structures of cultural significance that could be negatively impacted upon by the proposed development, were identified during the survey. It is therefore recommended that

- The proposed development can continue in the different areas, with the following considerations
 - Pit No. G/3/417/144/5 in Harrismith. If this site is older than 50 years, mitigation will have to take place. In that case, it is recommended that it should be documented by mapping as well as by photographic means.
 - All effort should be made to keep clear of the various cemeteries.
 - All effort should be made to stay away from the edges of the various pans.
- The developers should be notified that archaeological sites might be exposed during the construction work. If anything is noticed, 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.

CONTENTS

SUMMARY i

CONTENTS ii

1. AIMS OF THE SURVEY 1

2. TERMS OF REFERENCE 1

3. DEFINITIONS 1

4. LEGISLATIVE REQUIREMENTS 2

5. METHODOLOGY 3

6. DESCRIPTION OF THE AREA 4

7. DISCUSSION 4

8. RECOMMENDATIONS 4

9. REFERENCES 8

10. PROJECT TEAM 8

APPENDIX 1 9

APPENDIX 2 10

APPENDIX 3 12

MAPS OF THE VARIOUS SITES 13

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1. AIMS OF THE SURVEY

The National Cultural History Museum was requested by **Cave Klapwijk & Associates** to survey a number of potential borrow pits for upgrading of the N3 highway. 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 areas to be developed.

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 located in the areas 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 Determine the possible impacts on the known and potential cultural resources in the area of interest.
- 2.4 Develop mitigation or control measures for impact minimization and cultural resources preservation.
- 2.5 Develop procedures to be implemented if previously unidentified cultural resources are uncovered during the construction.

3. DEFINITIONS 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 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.

- 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 archaeological sites are to be treated as sensitive information by the developer and should not be disclosed to members of the public.

4. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are mainly dealt within two acts. These are the National Monuments Act (Act 28 of 1969) and the Environmental Conservation Act (Act 73 of 1989). It is however important to note that new legislation is being prepared and this might come into effect by April 2000.

4.1 National Monuments Act

Article 12, subsection 2A of this act states that anyone who wishes to disturb, destroy, alter, remove or export any fossils, rock art or artifacts left at places inhabited by indigenous people before European colonisation, shipwrecks and their contents older than 50 years, buildings and structures that are older than 50 years, as well as paintings or furniture that have been in South Africa for more than 50 or years respectively, may do so only if they have a permit from the National Monuments Council. According to this Act the following resources are protected:

- a. Meteorites and fossils
- b. Prehistoric rock art
- c. Prehistoric tools, ornaments and structures
- d. The anthropological and archaeological contents of graves, rock shelters, caves, middens etc.
- e. Historical sites and archaeological finds, material or artifacts
- f. Declared national monuments
- g. Cemeteries and graves with headstones older than 50 years

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the National Monuments Council to do so.

4.2 Environmental Conservation Act

This act states that a survey and an evaluation of cultural resources should be undertaken in areas where development, which will change the face of the environment, is to be made. The impact of the development on the cultural resources should also be determined and proposals to mitigate this impact is to be formulated.

4.3 The Heritage Resources Act

It will replace the current National Monuments Act. The types of sites protected by the new act

will be more or less the same than that covered by the current act, but provide more strict measures of protection. One of the changes to the current act is that the 50 year clause is extended to 60 years.

5. METHODOLOGY

5.1 Preliminary investigation

5.1.1 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 anthropological, archaeological and historical sources were consulted - see the list of references below. Nothing pertaining to the particular areas was found.

5.1.2 Data bases

The **Archaeological Data Recording Centre** (ADRC), housed at the National Cultural History Museum, Pretoria, was consulted. The **Environmental Potential Atlas** was also consulted.

5.1.3 Other sources

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

5.2 Field survey

The field survey was done according to generally accepted archaeological practices, and was aimed at locating all possible sites, objects and structures. As the areas that had to be investigated are all quite small, it was quite easy to survey them by walking across them. 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 trees were investigated.

5.3 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. This information was added to the description in order to facilitate the identification of each locality.

6. DESCRIPTION OF THE AREA

A total number of 23 potential borrow pit sites were investigated. These are scattered along both

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.

sides of the existing N3 highway, between Heidelberg and Villiers. A last one is located on the outskirts of Harrismith. Most of the sites are irregular in shape, varying in size from 2,48 ha to 40,26 ha in extent. The location and size of the specific areas that were investigated are all indicated in the various maps, included in the report.

The morphology of the area is slightly undulating plains. The dominant lithology consists of arenite to the north and dolerite to the south. The original vegetation of the larger area changes from north to south from Cymbopogon-Themeda Veld (Sandy) to Themeda Veld (Turf), roughly corresponding with the lithology. Due to agricultural activities, the original vegetation does not exist for most of the sites.

7. DISCUSSION

Only a few objects, structures or sites of cultural significance were identified in the areas that were investigated.

7.1 Stone Age

Stone Age people used to roam quite extensively over the highveld, following water courses, living close to pans. This is especially true for the Middle Stone Age. Although a few tools and flakes dating to the MSA were identified in some of the blocks that were investigated, none of these occurred in a primary context and therefore have little significance. These objects were left in place.

7.2 Iron Age

Although some sections of the southeastern highveld was extensively settled by Iron Age communities, no site dating to the Iron Age was found in any of the areas that were inspected.

7.3 Historical period

A few informal cemeteries, none of which are located in the areas to be developed, were identified. The remains of an old quarry site, with related buildings and other structures, was identified on the site in Harrismith.

8.RECOMMENDATIONS

Few sites, objects or structures of cultural significance that could be negatively impacted upon by the proposed development, were identified during the survey. It is therefore recommended that

- The proposed development can continue in the different areas, with the following considerations
 - Pit No. G/3/417/144/5 in Harrismith. If this site is older than 50 years, mitigation will have to take place. In that case, it is recommended that it should be

- documented by mapping as well as by photographic means.
- All effort should be made to keep clear of the various cemeteries.
- All effort should be made to stay away from the edges of the various pans.
- The developers should be notified that archaeological sites might be exposed during the construction work. If anything is noticed, 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.

Summary of impact on different sites identified and proposed mitigation measures

Plan No.	Site No.	Description	Impact	Mitigation	Legislation
G/3/302/3/2	2628DC1	Cemetery	Low	None; located outside the area; keep clear	None
G/3/302/4/4	-				
G/3/302/8/4	-				
G/3/302/9/3	-				
G/3/302/16/2	-				
G/3/302/21/4	-				
G/3/302/26/2	2628CB8	MSA tools	Low	None	None
G/3/302/27/1	-				
G/3/302/31/1	-				
G/3/324/31/4	-				
G/3/324/36/3	-				
G/3/1/324/81	-				
G/3/324/37/2	-				
G/3/324/62/1	-				
G/3/324/73/1	-	Probable MSA tools	Low	Keep away from the edges of the adjacent pan	None

Plan No.	Site No.	Description	Impact	Mitigation	Legislation
G/3/324/74/1	-				
G/3/302/34/1	-				
G/3/302/35/1	2628CB7	Lane of blue-gum trees	Low	Keep away from trees	None
G/3/324/45/4	2628CB6	Cemetery	Low	None; located outside the area; keep clear	None
G/3/324/51/2	-				
G/3/417/144/5	2829AC1	Old quarry buildings; emblem	Medium	2 = controlled sampling/mapping of the site necessary	NMC permit
G/3/417/171/2	-				
G/3/417/172/2	-				

9. REFERENCES

9.1 Unpublished sources

9.1.1 Data base

Archaeological Data Recording Centre, National Cultural History Museum, Pretoria.

Environmental Potential Atlas, Department of Environmental Affairs and Tourism.

9.2 Published sources

9.2.1 Books and journals

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

Maggs, T.M.O'C. 1976. *Iron Age communities of the Southern Highveld*. Occasional Publications of the Natal Museum No. 2. Pietermaritzburg: Natal Museum.

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

Mason, R.J. 1968. Transvaal and Natal Iron Age settlement revealed by aerial photography and excavation. *African Studies* 27(4):167-194.

Van Riet Lowe, C. n.d. *The distribution of Prehistoric rock engravings and paintings in South Africa*. Archaeological Survey, Archaeological Series No. 7.

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

9.2.2 Maps

1: 50 000 Topocadastral maps - 2628CB, 2628CD, 2829AC

10. PROJECT TEAM

J van Schalkwyk

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: 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

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 RESULTS²

[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. Lo 29 system was used.]

1. Site number: 2628CB6

Location: Malanskraal 407IR: S 26°40'42.4"; E 28°23'46.3" [X 2951904.946; Y 60102.619]

Description: Informal cemetery, containing ± 200 grave, some with headstones as recent as 1992.

Discussion: This site falls outside the area that is to be developed, but nevertheless should be kept in mind and all development should be kept away from this area.

Significance of impact: Low

Certainty of prediction: Definite

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

Legal requirements: None

2. Site number: 2628CB7

Location: Malanskraal 407IR: S 26°41'01.9"; E 28°24'36.3" [X 2952498.621; Y 58717.314]

Description: Lane of blue-gum trees, possibly older than 50 years.

Discussion: This feature can be defined as a cultural resource and should be avoided.

Significance of impact: Low

Certainty of prediction: Definite

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

Legal requirements: None

3. Site number: 2628CB8

Location: Vlakfontein 448IR: S 26°44'28.5"; E 28°26'30.7" [X 2958842.828; Y 55526405]

Description: MSA flakes and tools made from quartzite

Discussion: Mostly surface material and not in a primary context. Therefore, it has little significance.

Significance of impact: Low

Certainty of prediction: Definite

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

Legal requirements: None

4. Site number: 2628DC1

Location: Leeuwspruit 606IR: S 26°51'16.6"; E 28°30'24.6" [X 2971376.132; Y 49013.797]

Description: Cemetery, Botha/duToit, dating between 1919-1990.

Discussion: Falls outside the area, but close enough to be mentioned.

Significance of impact: Low

Certainty of prediction: Definite

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

Legal requirements: None

² See Appendix 1 for an explanation of the conventions used in assessing the cultural remains.

5. Site number: 2829AC1

Location: Harrismith Townlands: S 28°15'23.4"; E 29°07'37.5" [X 3126625.115; Y -12470.796]

Description: Remains of buildings and other structures of an old gravel quarry. Adjacent to this, there is an emblem of whitewashed stones.

Discussion: If the remains of the buildings are older than 50 years, they are protected by the Monuments Act. Due to the dilapidated state of the remains, it is doubtful if a conservation action would make sense. They should then at a minimum be documented by a suitably qualified person. The origin of the emblem and its possible significance should also be determined.

Significance of impact: Medium

Certainty of prediction: Definite

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

Legal requirements: NMC permit

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 1840 in this part of the country

core - a piece of stone from which flakes were removed to be used or made into tools

tuyeres - clay pipes used as part of the bellows during iron smelting