

**A SURVEY OF CULTURAL RESOURCES IN THE ARABIE
DAM, GROBLERSDAL DISTRICT, MPUMALANGA**

For:

NALEDI DEVELOPMENT

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SUMMARY

A survey of cultural resources in the Arabie dam, Groblersdal district, Mpumalanga.

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 area in which the proposed development is to take place.

A number of sites have been documented within or just outside the areas of potential impact. Of these, only four are judged to be of some significance and will be negatively impacted upon by the proposed development. Negative impact on cultural sites can be mitigated by collecting data by means of surveys and excavations.

It is therefore recommended that

- Development can continue only if suitable mitigation measures are applied to the identified sites. These are numbers (see Appendix 2):

6.	2429CD7	Iron Age structure	2 = controlled sampling/mapping
7.	2429CD8	Iron Age furnace	2 = controlled sampling/mapping
13.	2429CD14	Historical grave	relocation of grave
15.	2429CD16	MSA factory site	2 = controlled sampling/mapping
- 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.

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A SURVEY OF CULTURAL RESOURCES IN THE ARABIE DAM, GROBLERSDAL DISTRICT, MPUMALANGA

1. AIMS OF THE SURVEY

The National Cultural History Museum was requested by **Walmsley Environmental Consultants** to survey an area in the Ritavi 2 District in which it is planned to open up a mine. This area is located approximately 20 km south east from Tzaneen in Northern Province. 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 that is 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 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 Determine the possible impacts on the known and potential cultural resources in the area of interest. Impacts will be determined or predicted for construction, operation and post operation phases.
- 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.

- 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 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 before the end of 1999.

4.1 National Monuments Act

Article 12, subsection 2A of this act states that anyone who wishes to disturb, destroys, 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 White Paper on Heritage Resources

The white paper is currently being discussed by parliament and is destined to be promulgated

before the end of 1999. 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 all graves, cemeteries and structures older than 60 years will be protected, moving away from the 50 year clause.

4.4 Graves, cemeteries and skeletal remains

There are several laws and bylaws pertaining to the exhumation and reinterment of human remains. All graves older than 50 years are protected under the **National Monuments Act**. This holds true for unmarked as well as marked graves. In the latter case, it also includes the headstone.

Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations (Ordinance no. 12 of 1980)** (replacing the old Transvaal Ordinance no. 7 of 1925). Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (ie where the graves are located and where they are to be relocated) before exhumation can take place.

Human remains can only be handled by a registered undertaker or an institution declared under the **Human Tissues Act (Act 65 of 1983 as amended)**.

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.

5.1.2 Data bases

The **Archaeological Data Recording Centre (ADRC)**, housed at the National Cultural History Museum, Pretoria, was 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. The area was subdivided into an imaginary grid, using the most obvious topographical features such as valleys, ridges and the river self. Each block of the grid was then surveyed by the members of the survey team walking over it. 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

The area that was investigated is located in the Olifants River north of Marble Hall. This include the area round the current waterline of the existing Arabie dam, up to the 825 m contour.

The main morphological characteristics of the area are lowlands with a few small hills. The dominant lithology of the area is granite, which, in a number of cases forms big outcrops, some even featuring as small hills.

The original vegetation of the area is classified by Acocks (1975:44) as Mixed Bushveld. However, large sections of the area that was surveyed is currently being used for agricultural purposes, largely destroying the original vegetation. The result of this is also that archaeological sites that may have occurred in the area, were damaged or destroyed by the ploughing activities.

7. DISCUSSION

Very few sites of cultural significance were identified in the area. It is postulated that many more sites would have been found before the current dam was built.

7.1 Stone Age

Sites containing Middle and Late Stone Age tools and flakes were identified all round the dam. Most of these are open surface finds. The MSA tools were produced from felsite, while the LSA tools were produced either from quartz or other similar materials. Only one of these sites, an open factory site, seems to be worth further investigation.

7.2 Iron Age

Only one Iron age site was identified. The reason for this seems to be that these sites would have

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.

occurred closer to the river, as the Iron Age people seemed to have preferred alluvial soils for cultivation. If that was the case, these sites would now be under the water of the current dam. The site that was identified was a smelting site, indicating that a settlement site should be located in the vicinity. This is either located outside of the area that is to be impacted upon, or is currently under water.

7.3 Historical period

A number of old farmsteads were identified. Some of these are located within the area that is to be impacted upon. However, all of them are largely destroyed and it is doubtful if much information of significance will be gained from documenting them.

A few graves were also documented. These, with the exception of one, fall outside the area of potential impact. The one grave close to the water will have to be relocated.

8. RECOMMENDATIONS

A number of sites have been documented within or just outside the areas of potential impact. Of these, only four are judged to be of some significance and will be negatively impacted upon by the proposed development. Negative impact on cultural sites can be mitigated by collecting data by means of surveys and excavations.

It is therefore recommended that

- Development can continue only if suitable mitigation measures are applied to the identified sites. These are numbers (see Appendix 2):

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9. REFERENCES

9.1 Unpublished sources

9.1.1 Data base

Archaeological Data Recording Centre, (former) Tvl section, National Cultural History Museum,

Pretoria.

Environmental Potential Atlas, Department of Environmental Affairs and Tourism.

9.2 Published sources

9.2.1 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.

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

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

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 - 2429CD

10. PROJECT TEAM

J van Schalkwyk
S Moifatswane

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.]

1. Site number: 2429DC2

Location: Arabie 685KS: S 24°47'48.6"; E 29°27'31.5" [X 2743397.842; Y - 46384.836]

Description: Three graves located next to the road

Discussion: These features are located far outside the area of potential impact and was recorded for the sake of completeness.

Significance of impact: Low

Certainty of prediction: Definite

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

Legal requirements: None

2. Site number: 2429DC3

Location: Kromdraai 712KS: S 24°48'46.6"; E 29°26'55.5" [X 2745197.043; Y - 45370.621]

Description: Scattering of MSA flakes and tools

Discussion: This site falls inside the area of potential impact. However, this material is basically surface material and is therefore scattered out of primary context.

Significance of impact: Low

Certainty of prediction: Definite

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

Legal requirements: None

3. Site number: 2429DC4

Location: Kromdraai 712KS: S 24°49'22.3"; E 29°26'51.7" [X 2746277.107; Y - 45257.491]

Description: Scattering of LSA flakes and tools. Some MSA material also occur

Discussion: This site falls on the border of the area that will be impacted upon by the proposed development. As the material is largely loose surface material, it is not considered to be of much significance

Significance of impact: Low

Certainty of prediction: Probable

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

Legal requirements: None

4. Site number: 2429DC5

Location: Ongezien 717KS: S 24°52'40.2"; E 29°22'38.6" [X 2752347.717; Y - 38135.875]

Description: Grave with headstone

Discussion: This site actually falls quite far outside the area of potential impact, but was recorded for the sake of completeness.

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

Significance of impact: Low

Certainty of prediction: Definite

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

Legal requirements: None

5. Site number: 2429DC6

Location: Nooitgezien 716KS: S 24°51'23.8"; E 29°23'00.5" [X 2749995.667; Y - 38757.226]

Description: Ruins of an old farmstead

Discussion: This sites falls in the area that is to be impacted upon by the development. However, the site is largely destroyed and will not produce information of much significance.

Significance of impact: Low

Certainty of prediction: Definite

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

Legal requirements: None

6. Site number: 2429DC7

Location: Nooitgezien 716KS: S 24°51'24.1"; E 29°23'14.4" [X 2750009.078; Y - 39147.429]

Description: Small cairn of stones. Possibly a grave or other structure that might be related to the smelting of iron in the vicinity - see no 7 below.

Discussion: This site falls on the edge of the area that is to be impacted upon. It would be worthwhile to investigate it in more detail.

Significance of impact: Medium

Certainty of prediction: Probable

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

Legal requirements: NMC permit

7. Site number: 2429DC8

Location: Nooitgezien 716KS: S 24°51'19.7"; E 29°23'17.0" [X 2749873.905; Y - 39220.805]

Description: Small concentration of iron slag, with a few pieces of undecorated pottery. Small pieces of baked clay might represent the remains of the furnace.

Discussion: This site falls on the edge of the area that is to be impacted upon. It would be worth while to investigate it in more detail

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

8. Site number: 2429DC9

Location: Nooitgezien 716KS: S 24°51'20.4"; E 29°23'18.8" [X 2749892.502; Y - 39268.480]

Description: Surface scattering of MSA tools and flakes

Discussion: Although this site falls in the area that is to be impacted upon, the material is not in a primary context any more

Significance of impact: Low

Certainty of prediction: Definite

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

Legal requirements: None

9. Site number: 2429DC10

Location: Saliesloot 718KS: S 24°50'59.2"; E 29°22'55.1" [X 2749241.422; Y - 38607.736]
Description: Old farmstead. It is, however, largely destroyed and will not produce much information of significance.
Discussion: This site falls on the edge of the area that is to be impacted upon
Significance of impact: Low
Certainty of prediction: Definite
Recommended management action: 1 = no further investigation/action necessary
Legal requirements: None

10. Site number: 2429DC11

Location: Wegdraai 715KS: S 24°50'48.1"; E 29°23'16.3" [X 2748901.576; Y - 39203.919]
Description: Ruins of an old farmstead. A few MSA flakes was found on the surface near the site
Discussion: This site falls outside the area of potential impact
Significance of impact: Low
Certainty of prediction: Definite
Recommended management action: 1 = no further investigation/action necessary
Legal requirements: None

11. Site number: 2429DC12

Location: Wegdraai 715KS: S 24°50'35.2"; E 29°23'38.7" [X 2748506.471; Y - 39833.984]
Description: Old farmstead. It is, however, largely destroyed and will not produce much information of any significance
Discussion:
Significance of impact: Low
Certainty of prediction: Definite
Recommended management action: 1 = no further investigation/action necessary
Legal requirements: None

12. Site number: 2429DC13

Location: Schuinsdraai 711KS: S 24°51'00.7"; E 29°24'29.9" [X 2749295.288; Y - 41269.202]
Description: Area with a number of old farm labourer houses. It might be part of no. 14 below.
Discussion: This site is located outside the area of potential impact
Significance of impact: Low
Certainty of prediction: Definite
Recommended management action: 1 = no further investigation/action necessary
Legal requirements: None

13. Site number: 2429DC14

Location: Schuinsdraai 711KS: S 24°49'26.9"; E 29°26'14.6" [X 2746418.348; Y - 44217.995]
Description: Single grave, with headstone, fenced. Inscription: S.E. Prinsloo 1893-1894
Discussion: This site is located within the borders of the area that is to be impacted upon.
Significance of impact: High
Certainty of prediction: Definite
Recommended management action: Relocation of grave
Legal requirements: Dept of Health, Provincial Dept of Health, Premier of Province, local police, NMC, landowners

14. Site number: 2429DC15

Location: Schuinsdraai 711KS: S 24°50'50.9"; E 29°24'31.2" [X 2748993.870; Y - 41306.604]

Description: Area with large number of old farm labourer houses. It might be part of no. 12 above.

Discussion: This site is located outside the area of potential impact

Significance of impact: Low

Certainty of prediction: Definite

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

Legal requirements: None

15. Site number: 2429DC16

Location: Schuinsdraai 711KS: S 24°50'04.1"; E 29°26'09.8" [X 2747562.492; Y - 44079.546]

Description: MSA factory site with a large number of flakes and tools

Discussion: This site is situated close to the water and will be flooded. Although this is surface material, such sites are rare and it should be investigated.

Significance of impact: High

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

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