

**A SURVEY OF CULTURAL RESOURCES ON THE
FARM KROONDAL 304 JQ, EAST OF RUSTENBURG**

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SUMMARY

A survey of cultural resources on the Farm Kroondal 304 JQ, east of Rustenburg

A survey to establish the nature, extent and significance of cultural resources was made on the Farm Kroondal 304 JQ, east of Rustenburg.

A number of sites of cultural significance were identified. It is judged that some of these sites will be impacted upon by the proposed development. It is recommended that the development can continue, but only if certain mitigatory actions takes places before hand. A number of recommendations are put forward in section 7 of this report.

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1. AIMS OF THE SURVEY

The National Cultural History Museum was requested by **Steffen, Robertson and Kirsten Consulting Engineers and Scientists** to survey an area on the Farm Kroondal 304 JQ east of Rustenburg. It is planned to develop a platinum mine (Kroondal Platinum Mine) on a section of the original farm. The aim of the survey was to locate, identify, evaluate and document the sites, objects and structures of cultural importance found within the boundaries of the proposed mining area.

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.

During a site visit, we were orientated by the client about the extent of the area that will be affected by the proposed mining development. The survey was to be confined to this area. However, a few archaeological sites were identified outside of the boundaries of the survey area.

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 National Monuments Act (Act 28 for 1969).

4. METHODOLOGY

4.1 Preliminary investigation

4.1.1 Survey of the literature

A survey of 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) of the National Cultural History Museum in Pretoria 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 certain points next to the road and then walking into the veld on both sides of the road. Areas with potential for human use were investigated. Special attention was given to outcrops, hills and unploughed natural areas, while stream beds and unnatural topographical occurrences such as trenches, holes and clusters of exotic and indigenous trees were investigated.

A resident and farmer on a portion of Kroondal 304 JQ also took us to some archaeological sites on the farm. These sites all fall outside the determined study area.

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 on the orto-photo and map provided by the client (SRK Consulting Engineers and Scientists). The topography is, basically, flat open veld with stretches of more dense bush and thorn trees. The most dominant geographical features are two hills, basically no more than outcrops, and the Hexriver. Other rocky outcrops also exist, but is not as high as the two hills. The river bed is dry and carry water only during heavy rains. Large sections of the area has been and are being used for agricultural purposes. However, a portion has not been ploughed and developed agriculturally at all.

The geology of the survey area is characterised by quartzite, shale, sandstone, norite, gabbro and of course chromite.

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.

Quartzite is very suitable for the manufacturing of stone tools. The Middle Stone Age inhabitants of the area would therefore have had ample raw material available for making their tools.

The vegetation consists of a combination of Springbok Flats Thornveld and Sourish Mixed Bushveld and Sour Bushveld. The thornveld is generally open, but tends to thicken up when the grass cover is reduced by grazing mismanagement. The bushveld is largely open savanna with 'Acacia caffra' the dominant tree in a fairly tall and dense grassveld (Acocks 1975:35 & 54-56). Although most of the survey area has been agriculturally disturbed (ploughed, etc.), patches of original thornveld and bushveld still prevail. The Iron Age inhabitants of the area would have favoured this vegetation because it would have provided them with excellent grazing for their cattle, as well as with rich soil for their fields.

6. DISCUSSION

Though a fair amount of archaeological research has been done in the Rustenburg District (see list of references below), little has been done in the area of this particular survey. It is known from anthropological sources (Breutz 1953) that the Hermannsburg Mission founded a Mission Station at Kroondal in 1885. Furthermore, from the same source it is known that the baPhalane tribe, a section of the bigger Sotho-Tswana, originally lived in the Kroondal area.

6.1 Stone Age

A limited number of Middle Stone Age tools were identified throughout the area that was surveyed. This is to be expected with quartzite being found in the area. At one site (see map and ortho-photo for location) a concentration of stone tools were found. The artifacts, which were located next to a dirt road, are in all probability disturbed out of context. Small numbers of similar artifacts were also located on the banks of the Hexriver, as well as in some of the ploughed fields. The chances of these objects being disturbed out of context are also quite good. The possibility that Late Stone Age sites might be located in the hills are limited, as there are no suitable overhangs and caves present which could be used for shelter. There might be Later Stone Age tools there, possibly because the LSA people would have collected raw material here for making their tools. None were however identified during the survey.

6.2 Iron Age

A few small potsherds, without decoration, were identified. Some of these were found in ploughed fields, while a concentration of sherds were found at one of the stone wall

sites. These possibly indicate that an archaeological deposit is present at this site. In all probability these potsherds might be related to the Sotho-Tswana.

Nine Iron Age sites, some outside the study area but with in direct geographical context with those inside the area, were identified. These sites are characterised by well preserved stone walls, comprising living units, cattle kraals, etc. Stone packed terraces, used for agriculture, were also identified on one of the hills. It is possible that all these sites once formed part of a single large settlement complex. The areas where the ploughed fields are presently probably also contained stone wall remains in earlier times. The sites possibly date to the Late Iron Age, as the Rustenburg district is well known for its Late Iron Age settlements (Pistorius 1992).

6.3 Historic

Apart from the historic town of Kroondal, which falls outside the study area, no sites of historical context was found. A small piece of decorated ceramic was found on the road near the Middle Stone Age site which dates to the late 19th century (C. Meyer, pers. comm.)

7. CONCLUSIONS AND RECOMMENDATIONS

Four individual sites of cultural significance were found in the area of the proposed development, while whole areas were identified as culturally significant and archaeologically sensitive. These areas are the two hills where the tailings dam are being planned and the largely unploughed section indicated on the map and orto-photo. Within the scope of the proposed development, it is judged that they would be impacted upon by the development. The proposed development will not be prevented from continuing, or require modification of the project design. However, mitigationary steps will have to be taken before any development commences.

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 will be exposed in the archaeologically sensitive areas 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 The sites are of great archaeological and cultural importance. Therefore full mitigation needs to take place. This means thorough archaeological investigation, including total mapping of all archaeological features, oral history,

archaeological excavations, etc.

7.3 It is also recommended after complete investigation that one or two of the sites be preserved in situ by a small **site museum** or that a permanent exhibition regarding the sites and the archaeological work done there be erected on the mining premises.

Summary of impact description and assessment of the Kroondal Platinum Mine (See Appendix 2)

Site no.	Type of site	Significance of impact	Certainty of prediction	Status of impact	Recommended management action	Legal requirement
2527CB/1	Stone Age	Low	Definite	Positive	(2) - controlled sampling	None
2527CB/2	Iron Age	Medium	Definite	Negative	(4) - preserve site if possible	NMC permit
2527CB/3	Iron Age	Medium	Definite	Negative	(4) - preserve site if possible	NMC permit
2527CB/4	Iron Age	Medium	Definite	Negative	(4) - preserve site if possible	NMC permit

8. REFERENCES

8.1 Unpublished sources

8.1.1 Data base

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

8.1.2 Interviews

None.

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.

Breutz, P.L. 1953. The Tribes of Rustenburg and Pilanesberg Districts. **Department of Native Affairs. Ethnological Publications No.28.**

Pistorius, J.C.C. 1992. **Molokwane An Iron Age Bakwena Village. Early Tswana Settlement in the Western Transvaal**. Johannesburg:Perskor Printers.

Van Riet Lowe, C. 1952. The Distribution of Prehistoric Rock Engraving and Paintings in South Africa. **Department of Education and Science. Archaeological Survey. Archaeological Series No. VII.**

8.2.2 Maps

1: 50 000 Topocadastral maps - 2527CB

9. PROJECT TEAM

J van Schalkwyk - project leader

A Pelser

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 of the site necessary
- 3 = test excavation to determine if further work is necessary
- 4 = preserve site if possible, otherwise extensive salvage excavation necessary
- 5 = 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

[See Appendix 1 for explanation of the conventions used in assessing of the cultural remains]

1. Site number: 2527CB/1

Description: A site on which a number of Middle Stone Age stone tools were identified

Location: The site is located at 25° 42' 31.2" S; 27° 21' 26.9" E [-35877.976; 2844369.000]

Discussion: Being a surface find, these tools are probably out of context.

Significance of impact: Low

Certainty of prediction: Definite

Status of impact: Negative

Recommended management action: (2) - controlled sampling of the site.

2. Site number: 2527CB/2

Description: Extensive Late Iron Age stone walling. Also recent fire places.

Location: 25° 42' 43.6" S; 27° 21' 18.8" E [-35651.112; 2844756.114]

Discussion: Possibly part of larger settlement complex, some of it outside the study area. The recent fire places could indicate use of site for initiation ceremonies.

Significance of impact: Medium

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (4) - preserve site if possible; extensive archaeological research necessary.

3. Site number: 2527CB/3

Description: Late Iron Age stone walling and terraces.

Location: 25° 42' 57.8" S; 27° 19' 39.7" E [-32887.283; 2845185.928]

Discussion: Also probably part of larger complex. Found next to and on the foot of one of the hills where the tailings dam is planned.

Significance of impact: Medium

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (4) - preserve site if possible; extensive archaeological research necessary.

4. Site number: 2527CB/4

Description: Late Iron Age stone walling. Also potsherds found on site.

Location: 25° 42' 06.2" S; 27° 20' 05.8" E [-33624.503; 2843593.797]

Discussion: Although the site falls just outside the study area, it might still form part of the larger complex and will possibly be impacted upon by the development.

Significance of impact: Medium

Certainty of prediction: Definite

Status of impact: Positive

Recommended management action: (4) - preserve site if possible; extensive archaeological research necessary.

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

Largely since the arrival of white settlers in the area in the 1830's.