

**A SURVEY OF ARCHAEOLOGICAL SITES FOR THE
AMANDLBULT PLATINUM MINE SEISMIC EXPLORATION
PROGRAM**

For:

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SUMMARY

A survey of archaeological sites for the Amandelbult Platinum Mine seismic exploration program

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 it is proposed to develop the mine and its infrastructure.

Based on what was found and its evaluation, it is recommended that the proposed development can continue in the area, on condition of acceptance of the following recommendations:

- It is believed that the proposed seismic exploration would have no adverse effect on the identified sites. However, where transects crosses a site, driving the trucks over the walls might damage them. It is therefore recommended that in these cases (see Appendix 2) the transects must be rerouted around the site.
- The developer should also 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 ARCHAEOLOGICAL SITES FOR THE AMANDELBULT PLATINUM MINE SEISMIC EXPLORATION PROGRAM

1. AIMS OF THE SURVEY

The National Cultural History Museum was contracted by General de Geophysique to survey an area in which it is proposed to do a seismographic survey. The latter is to be done by driving vibrator trucks over specific transects. These would then create small seismic shocks that are picked up by sensors put out in lines crossing the first transects perpendicularly. The aim of the survey was therefore to locate, identify, evaluate and document sites, objects and structures of cultural importance found within the boundaries of the area that is to be impacted by the development.

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 Determine the possible impacts on the known and potential cultural resources in the area of interest.
- 2.3 Develop mitigation or control measures for impact minimization and cultural resources preservation.
- 2.4 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:

- X **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 artefacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development.

- X 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.

- X 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.
- X 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 South Africa Heritage Resources Act (Act 25 of 1999) and the Environmental Conservation Act (Act 73 of 1989).

4.1 South African Heritage Resources Act

Archaeology, palaeontology and meteorites

In terms of Section 35(4) of this act, no person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or material or any meteorite; bring onto, or use at an archaeological or palaeontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

Structures:

Section 34(1) of this act states that no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

“Structure” means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith;

“Alter” means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or other decoration or any other means.

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 are to be formulated.

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. No published sources pertaining to the archaeology of this particular area was found, although a number of survey reports exist. Some source on historical events that took place in the area also exists.

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 largely determined by the needs of the client. As the seismic exploration was to be done according to a grid pattern, the aim was to survey the different transects over which the seismic trucks would travel. The area that had to be investigated was identified by Compagnie Generale de Geophysique on detailed aerial photographs. The area was investigated by walking each transect. Special attention was given to unnatural topographical occurrences such as trenches, holes, outcrops 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 according to the transect coordinates – see Appendix 2.

6. DESCRIPTION OF THE AREA

The area surveyed (Fig. 1) was determined by the proposed development, and include the following farms or portions thereof: Elandsfontein 386KQ, Moddergat 389KQ, Kaalvlakte 416KQ and Goverments Plaats 417KQ in the Thabazimbi district of Limpopo Province.

The surveyed area is cut in two by the main Rustenburg-Thabazimbi road (R510) and railway line. Of these two sections, the north eastern is dominated by a number conical hills, whereas in the western section the Bierspruit runs approximately parallel to the tar road. This latter feature

¹¹ 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.

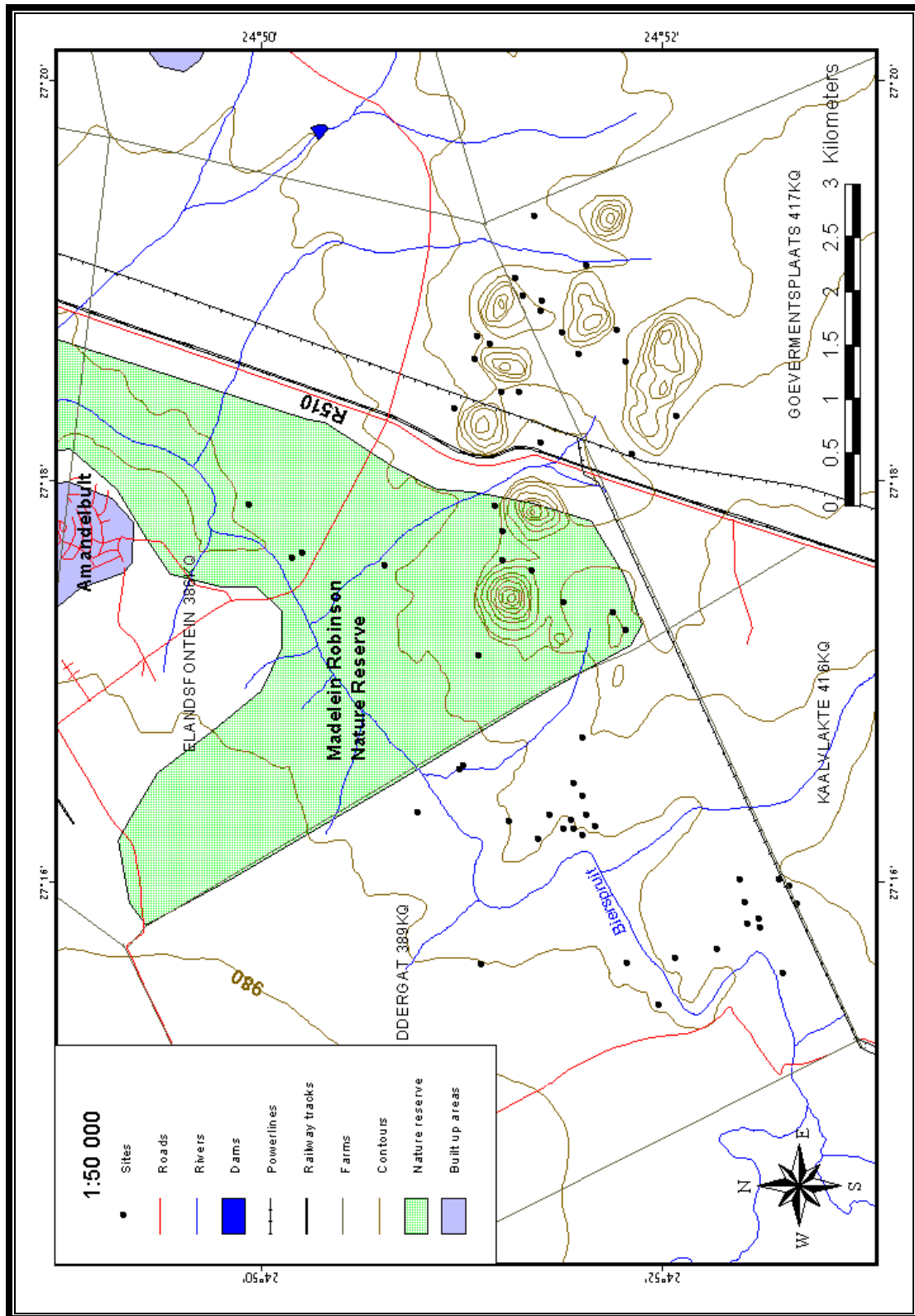


Figure 1. Distribution of Iron Age sites identified during the current survey.

gave rise to a somewhat broken topography, consisting mainly of outcrops of large boulders. The rest of the area is very flat, with no single distinctive topographical feature.

The geology of the area is mainly made up of gabbro, norite and pyroxenite rocks of the Bushveld Igneous Complex. The soil is turf, which cracks open during winter, and becomes very slippery when wet in summer. The vegetation of the area is classified by Acocks (1975:33) as turf thornveld, with *Cenchrus ciliaris* as one the more common grass and the trees being *Acacia karroo*, *Acacia nigrescens* and *Grewia flava*.

7. DISCUSSION

A number of sites were identified.

7.1 Stone Age

Stone tools occur all over the survey area. These dates mostly to the Middle Stone Age, with a few that possibly can be related to the Late Stone Age. All these are individual objects found as open surface finds. These tools are therefore regarded as having no significance as they could have “migrated” quite a long way due to erosion and other factors over thousands of years.

7.2 Iron Age

A large number of sites dating to the Late Iron Age were identified. These are all stone walled sites, with large deposits containing ash, faunal remains, potsherds and other cultural remains.

In this particular area, preference was given to areas close to the hills or on outcrops. Not only did this provide a source of stone for building of the walls, but it was also possible to avoid settling on the turf.

Traditionally, villages grew up around the homestead of the most senior person to settle at a place. Here his house and the houses of his different wives would be found in an arch, with the *lešaka* (cattle kraal) in front and gathering place for men (*kgoro*) next to it. Female space is usually indicated by objects such as grindstones and fireplaces (cooking hearths). Other dependents and strangers would settle in increasing distances from this original core. The whole village would be surrounded by an area used for agricultural fields and grazing. This would represent the ideal pattern of settlement.

The locations of the *malapa* of the various homesteads are determined by social status and rank: the family group of the senior lineage head lives immediately to the left of the entrance to the senior lineage head’s dwelling and the second most senior group to the right of the entrance and the third most senior group to the left again, etc.

While the *lapa* of a polygamist’s senior wife is normally situated in a central position in the *kgoro*, the second wife’s dwelling is located to the right of the senior wife’s. The third wife’s *lapa* is to the right of the senior wife and the *lapa* of the fourth is located to the left again, etc.

It does seem as if there are two phases of settlement in the area. The layout of the settlements found in and around the hills seems to be different from those found in the areas near the Bierspruit on the different rock outcrops. However, this deduction is based on visual inspection of the sites and is to be considered tentative.

The historical association between the Tswana and stone walled settlements has been well established by previous researchers (eg. Mason 1962, Maggs 1976, Pistorius 1992). These sites probably were inhabited from the late 1600s to the late 1800s. In all probability, the more open, widely spread out sites next to the river was first occupied. Later, after being attacked by the Ndebele of Mzilikazi, the people congregated in larger villages in more defensive positions at the base of the different hills.

7.3 Historical period

Only three sites that date to the historical period were identified. Fortunately none of these would be impacted by the proposed development.

8. RECOMMENDATIONS

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9. REFERENCES

9.1 Data bases

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

Environmental Potential Atlas, Department of Environmental Affairs and Tourism.

9.2 Literature

Acocks, J.P.H. 1975. *Veld types of South Africa*. Memoirs of the Botanical Survey of South Africa, no. 40. 2nd Edition. Pretoria: Botanical Research Institute.

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

Pistorius, J.C.C. 1992. *Molokwane, an Iron Age Bakwena village*. Johannesburg: Perskor.

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

Van Schalkwyk, J.A. 1994. *A survey of archaeological and cultural historical resources in the Amandelbult mining lease area*. Unpublished report 1994KH03. Pretoria: National Cultural History Museum.

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

9.3 Maps

1: 50 000 Topocadastral maps – 2427CD

10. PROJECT TEAM

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APPENDIX 1: 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

ADRC - Archaeological Data Recording Centre

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

SAHRA - South African Heritage Resources Agency

APPENDIX 2: SURVEY RESULTS