SURVEY OF HERITAGE RESOURCES IN THE LOCATION OF THE PROPOSED MERENSKY MINING PROJECT, AMANDELBULT SECTION, RUSTENBURG PLATINUM MINE, LIMPOPO PROVINCE

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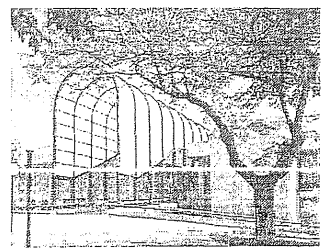

EXECUTIVE SUMMARY

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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 shafts and their infrastructure.

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

- In Shaft 3 area, development can continue as long as it stays outside of the fenced off areas.
- It is recommended that when ground clearing activities start in the Shaft 4 area, an archaeologist should be present to monitor the site and recover any material that might be exposed here.
- The area earmarked for the proposed additional concentrator plant would present no problem for the development.
- Archaeological material, by its very nature, occurs below ground. The developer should therefore keep in mind that archaeological sites might be exposed during the mining activities. If anything is noticed, work in that area should be stopped and the occurrence should immediately be reported to a museum, preferably one at which an archaeologist is available. The archaeologist should then investigate and evaluate the finds.

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GLOSSARY OF TERMS

Study area: Refers to the entire study area as indicated by the client in the accompanying Fig. 1.

Stone Age: The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere.

Early Stone Age	2 000 000 - 150 000 Before Present
Middle Stone Age	150 000 - 30 000 BP
Late Stone Age	30 000 - until c. AD 200

Iron Age: Period covering the last 1800 years, when new people brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. These people, according to archaeological evidence, spoke early variations of the Bantu Language. Because they produced their own iron tools, archaeologists call this the Iron Age.

Early Iron Age	AD 200 - AD 1000
Late Iron Age	AD 1000 - AD 1830

Historical Period: Since the arrival of the white settlers - c. AD 1840 - in this part of the country

LIST OF ABBREVIATIONS

ADRC	Archaeological Data Recording Centre
EIA	Early Iron Age
ESA	Early Stone Age
LIA	Late Iron Age
LSA	Late Stone Age
MSA	Middle Stone Age
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency

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1. INTRODUCTION

The National Cultural History Museum[1] was contracted by **WSP Environmental** to survey two areas in which Amandelbult Section of Rustenburg Platinum Mine propose to develop new mining shafts. The aim of the survey was to 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 developed.

Cultural heritage resources are broadly defined as all non-physical 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.

2. BACKGROUND AND BRIEF

The scope of work consisted of conducting a Phase 1 archaeological survey of the site in accordance with the requirements of Section 38(3) of the National Heritage Resources Act (Act 25 of 1999). This included:

- Conducting a desk-top investigation of the area.
- A visit to the proposed development site.

The objectives were to

- Identify possible archaeological, cultural and historic sites within the proposed development area;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources;
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

[1] The National Cultural History Museum is affiliated to the Northern Flagship Institution, which act as parent body for a number of museums, all of which resorts under the Department of Arts and Culture.

3. STUDY APPROACH

3.1 Information base (sources)

No research projects have been done in the larger region or the study area specifically. However, due to the mining activities and the resultant compliance to the various heritage Acts, currently the National Heritage Resources Act, No. 25 of 1999, preceded by the National Monuments Act, No. 28 of 1969, a number of survey was done to establish the occurrence of sites of cultural significance in the area – see list of references below.

3.2 Methodology

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.

The *Archaeological Data Recording Centre* (ADRC), housed at the National Cultural History Museum, Pretoria, was consulted. This information was used to draw up a preliminary map to indicate the existence of known sites of cultural significance, indicating potential problem areas.

The preliminary desktop study was followed by a short field trip, from which an overview of the area was gained and an idea of the potential problem areas and expected heritage sites could be formulated.

4. STUDY AREA

4.1. Description of the study area

The area under discussion covers sections of the farms Amandelbult 383KQ and Elandsfontein 386KQ, in the Thabazimbi district of Limpopo Province.

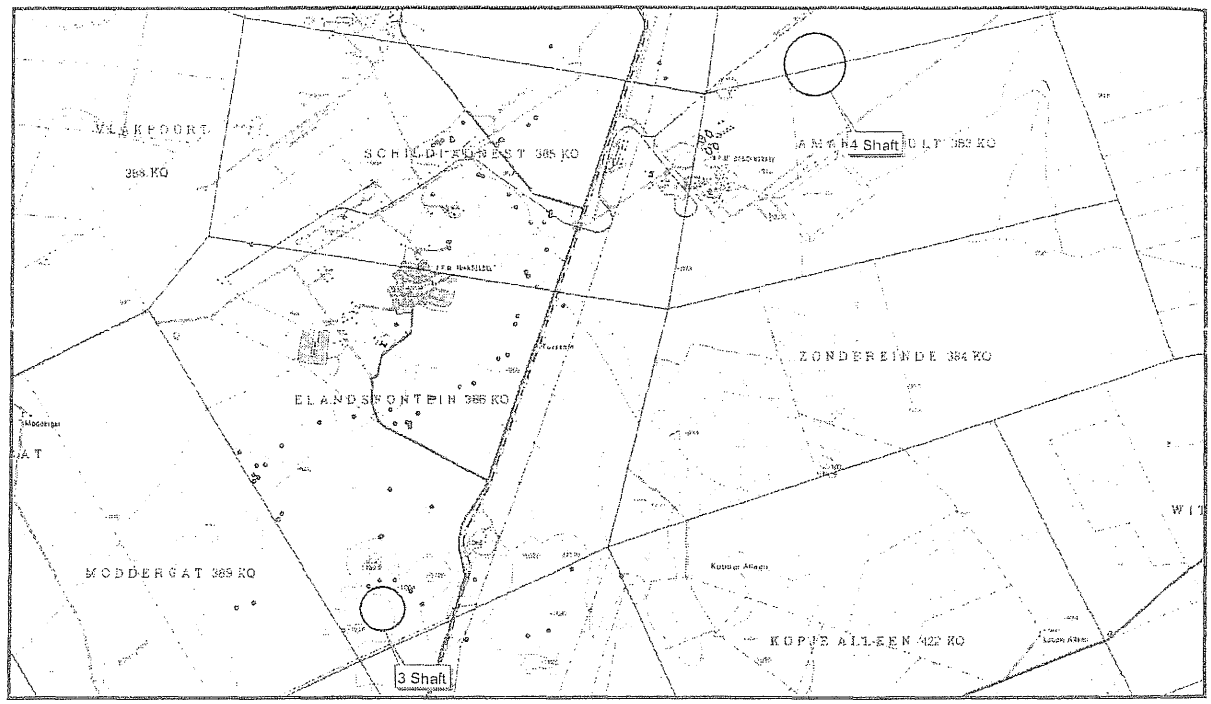

Fig. 1. Location of the two new shaft areas.

The area is cut in two by the main Rustenburg-Thabazimbi road (R510) and railway line. Of these two sections, the westerly part is dominated by two conical hills in the south and the Bierspruit that runs approximately parallel to the tar road. This latter feature gave rise to a somewhat broken topography, consisting mainly of outcrops of large boulders. To the eastern side of the tar road the area is very flat, with no single distinctive topographical feature except on the eastern border of the survey area where it is bisected in part by the Crocodile river.

The geology of the area is mainly made up of grabbo, 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*

4.2. Description of affected environment

Previous research has indicated that a large number of sites of cultural significance occur in the mining area. Relatively few sites or occurrences were identified east of the tar road, due to the fact that people avoided the turf thornveld in prehistoric times. It is only at one or two isolate outcrops that features were found (see discussion below). Settlement occurred almost exclusively close to the *Bierspruit*, which also served as water source for the area.

No tools or flakes dating to the Early Stone Age were recovered during the surveys. This is probably because the area is somewhat inhospitable, especially so towards people with limited technological capabilities.

During Middle Stone Age (MSA) times (c. 150 000 – 30 000 BP), people became more mobile, occupying areas formerly avoided. Open sites were preferred near watercourses. These people were adept at exploiting the huge herds of animals that passed through the area, on their seasonal migration. As a result, tools belonging to this period also mostly occur in the open or in erosion dongas. Similar to the ESA material, artefacts from these surface collections are viewed not to be in a primary context and have little or no significance.

From the survey it became clear that Middle Stone Age artefacts are represented in the area west of the tar road, and in fact most parts of this section, except for the more north-westerly part. Typically, these artefacts were not located in concentrations signifying activity areas, but rather as single occurrences. Only three occurrence that might be described as site, in contrast to find spots (numerous), were identified

Late Stone Age (LSA) people had even more advanced technology than the MSA people and therefore succeeded in occupying even more diverse habitats. Also, for the first time we now get evidence of people's activities derived from material other than stone tools. Ostrich eggshell beads, ground bone arrowheads, small bored stones and wood fragments with incised markings are traditionally linked with the LSA.

LSA people preferred, though not exclusively, to occupy rock shelters and caves and it is this type of sealed context that make it possible for us to learn much more about them than is the case with earlier periods.

A number of artefacts dating to the Late Stone Age were also identified, though fewer in number than with the Middle Stone Age material. These were predominantly found at the bigger outcrops, as individual pieces or in small concentrations signifying activity areas.

Iron Age people started to settle in southern Africa c. AD 300, with one of the oldest known sites at Broederstroom south of Hartebeespoort Dam dating to AD 470. Having only had cereals (sorghum, millet) that need summer rainfall, Early Iron Age (EIA) people did not move outside this rainfall zone, and neither did they occupy the central interior highveld area. Because of their specific technology and economy, Iron Age people preferred to settle on the alluvial soils near rivers for agricultural purposes, but also for firewood and water.

The occupation of the larger geographical area (including the survey area) did not start much before the 1500s. To understand all of this, we have to take a look at the broader picture. Towards the end of the first millennium AD, Early Iron Age communities underwent a drastic change, brought on by increasing trade on the East African coast. This led to the rise of powerful ruling elites, for example at Mapungubwe. The abandonment of Mapungubwe (c. 1270) and other contemporaneous settlements show that widespread drought conditions led to the decline and eventual disintegration of this state.

By the 16th century things changed again, with the climate becoming warmer and wetter, creating condition that allowed Late Iron Age (LIA) farmers to occupy areas previously unsuitable, for example the Witwatersrand and the treeless, wind swept plains of the Free State.

This period of consistently high rainfall started in about AD 1780. At the same time, maize was introduced from Maputo and grown extensively. Given good rains, maize crops yield far more than sorghum and millets. This increase in food production probably led to increased populations in coastal area as well as the central highveld interior by the beginning of the 19th century.

This wet period came to a sudden end sometime between 1800 and 1820 by a major drought lasting 3 to 5 years. The drought must have caused an agricultural collapse on a large, subcontinent scale.

This was also a period of great military tension. Various marauding groups of displaced Sotho-Tswana moved across the plateau in the 1820s. Mzilikazi raided the plateau extensively between 1825 and 1837. The Boers trekked into this area in the 1830s. And throughout this time settled communities of Tswana people also attacked each other.

As a result of this troubled period, Sotho-Tswana people concentrated into large towns for defensive purposes. Because of the lack of trees they built their settlements in stone. These stone-walled villages were almost always located near cultivatable soil and a source of water.

It seems that it is possible to distinguish various phases of Iron Age occupation in the study area. This, however is purely a preliminary division based on the presence of particular types of pottery and would only be confirmed by excavation and radio carbon dating.

Two sites possibly date to the Early Iron Age. At present not very much can be said about them, as the particular occurrences are small in size with very limited pottery.

The majority of Iron Age sites date to the Late Iron Age and can be subdivided into a number of phases. Earlier sites can be distinguished from more recent sites according to the building techniques used - two rows of stones filled in with smaller stones and rubble - as well as by the pottery, which in this case was too limited to be of much help. The rest of the sites seems to belong to a single phase and is distinguished by the same building techniques, settlement lay-out and pottery. The occurrence of artefacts of Western origin on almost all of these sites seems to indicate that they are all recent in origin.

Sites from this Late Iron Age/Early Historical period conform to the information supplied by Breutz (1953).

At about 1820 the Kwena baPhalane were settled on the western bank of the Crocodile river, possibly on the farm Haakdoorndrift 374KQ or Buffelshoek 351KQ, roughly opposite from where the Sand river joins the Crocodile. However, it is Breutz's opinion that they were actually settled on the eastern side of the Crocodile River, i.e. outside of the area under survey. In any event, by about 1840 they had already left this site (Breutz 1953:324, 328).

Chief Pilane of the Kgatla baga Kgafela settled with his people on the farm Schilpadnest 385KQ before 1820. Approximately 1828 they were attacked here by the Ndebele of Mzilikazi and they fled. A few years later they returned here, but left in 1837, again due to pressure of the Ndebele (Breutz 1953:257).

According to Breutz (1953:324) the Kwena baPhalane then settled on Schilpadnest 385KQ in about 1870 and in 1953 the farm was still in their possession. This statement of Breutz is taken to point to a number of sites identified during earlier surveys, all of which belong to the Historic period.

5. SITE SIGNIFICANCE AND ASSESSMENT

Impact analysis of cultural resources under threat of the proposed development, are based on the present understanding of the mining development.

The **significance** of a heritage site and artefacts is determined by it historical, social, aesthetic, technological and scientific value in relation to the 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 are viewed as been recorded in full after identification and would require no further mitigation. Impact from the development would therefore be judged to be low. Sites with a medium to high significance would therefore require mitigation. Mitigation, in most cases the excavation of a site, is in essence destructive and therefore the impact can be viewed as high and as permanent.

Shaft 3 area

Based on the number of sites already identified in the area, it is safe to say, from an archaeological point of view, that this is a highly sensitive area.

- As the Stone Age material is surface material and not in its original context any more, it is viewed to have a low significance. No further mitigation action is required.

- The various Iron Age sites are of medium significance and should be avoided. However, if this is not possible, mitigation measures should be developed for each individual site.

Fortunately, Amandelbult Section, Rustenburg Platinum Mine, is pro-active in their approach to heritage sites and has taken measures to ensure that they are suitably protected. Archaeologists surveyed the area in detail, identifying and mapping sites. Based on this, a suitable buffer zone was established around the sites in order to protect them. The area was then fenced off as a no-go area for development purposes. See Van Schalkwyk, Pelser & Teichert 2004.

Shaft 4 area

This area is located in the turf flats, which were usually avoided for settlement on in the past. However, a small rocky outcrop occurs near the centre of the development. Here a number of potsherds were identified. As the grass cover is currently quite dense and high, it is difficult to determine the exact

nature and extent of the occurrence. However, based in the number of shards, their colouring and shape [2] it is possible to indicate that it was more than one vessel. It is therefore believed that some sort of settlement occurred here in the vicinity of the outcrop. It probably was a small cattle outpost, where people stayed for shorter periods of time while guarding the cattle. This is supported by the occurrence of *Cenchrus ciliaris* grass, which is usually found in similar situations (see Denbow 1979). No other features were identified. As such it is regarded as having low significance.

Additional Concentrator Plant

Similarly, this area is located in the turf flats, which were usually avoided for settlement on in the past. Here, however, there has already been some impact from mining development, which would have had a negative impact on any sites or features that might have occurred here. Although the vegetation is currently very dense in this area, nothing was found. As such, no impact is expected here.

[2] Archaeologists usually use decorative patterns on pottery to determine not only group identity, but also different vessel types. Unfortunately, Tswana pottery is characterised by very limited decorations, which make it difficult in a situation such as this.

6. CONCLUSION

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 shafts and their infrastructure.

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7. REFERENCES

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 Pilansberg*. Department of Native Affairs: Ethnological Publications No. 28. Pretoria: Government Printer.

Denbow, J.R. 1979. *Cenchrus ciliaris*: an ecological indicator of Iron Age middens using aerial photography in eastern Botswana. *South African Journal of Science* 75:405-408.

Hall, S.L. 1981. *Iron Age sequence and settlement in the Rooiberg, Thabazimbi area*. Unpublished MA thesis. Johannesburg: University of the Witwatersrand.

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

Richardson, D. 2001. *Historic sites of South Africa*. Cape Town: Struik Publishers.

Van Schalkwyk, J.A. 1994. *A survey of archaeological and cultural historical resources in the Amandelbult mining lease area*. Unpublished report 94KH03. Pretoria: National Cultural History Museum.

Van Schalkwyk, J.A. 2001. *A survey of cultural resources in two development areas, Amandelbult, Northern Province*. Unpublished report 2001KH13. Pretoria: National Cultural History Museum.

Van Schalkwyk, J.A. 2003. *A survey of archaeological sites for the Amandelbult Platinum Mine Seismic exploration program*. Unpublished report 2003KH16. Pretoria: National Cultural History Museum.

Van Schalkwyk, J.A. 2004. *Heritage impact report for the Amandelbult electricity sub-transmission lines, Amandelbult Platinum Mine, Limpopo Province*. Unpublished report 2004KH32. Pretoria: National Cultural History Museum.

Van Schalkwyk, J.A., Pelser, A.J. & Teichert, F. 2004. *The surveying and mapping of archaeological sites on the farm Elandsfontein 386KQ, Amandelbult Platinum Mine, Thabazimbi district, Limpopo Province*. Unpublished report 2004KH47. Pretoria: National Cultural History Museum.

Van Warmelo, N J. 1935. *Preliminary survey of the Bantu Tribes of South Africa*. Ethnological Publications No. 5. Pretoria: Government Printer.