



Archaetnos Culture & Cultural
Resource Consultants
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**GUIDELINES FOR THE MONITORING OF STONE AGE ARCHAEOLOGICAL
SITES AND FINDS AT THE IKWEZI DOORKOP MINE
DANNHAUSER LOCAL MUNICIPALITY, AMAJUBA DISTRICT MUNICIPALITY
KWAZULU NATAL**

For:

***IKWEZI MINING
PRIVATE BAG X11
BIRNAM PARK
2015***

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SUMMARY

This document constitutes a Guidelines report for the Monitoring of Stone Age archaeological sites and finds located in the area to be impacted on by the Ikwezi Doornkop opencast mine in the Dannhauser Local Municipality, Amajuba District Municipality, Kwa-Zulu Natal

The sites were identified and recorded during a Heritage Impact Assessment in March 2011. Most of the sites found date to the Stone Age, although some Late Iron Age stone walling and material, as well as a number of recent historical grave sites were also recorded. Mitigation measures were recommended and supported by Amafa (the Heritage Authority in KZN) and Archaeos cc was appointed by Ikwezi Mining to implement these measures. During May 2012 detailed mapping and sampling of Stone Age sites to be impacted by the opencast mining operations were undertaken after obtaining a permit from Amafa. The analysis of the sampled material indicated that the material date to between the Early and Middle Stone Age (ESA to LSA) and that the sites located here are important in terms of their research and analysis potential. It was recommended that a destruction permit is given to Ikwezi, but that a Monitoring Program is implemented during the mining operations in order to investigate any Stone Age archaeological finds and sites exposed by the mining.

This document provides basic guidelines for this program. A short background on the project history, as well as the Stone Age and other archaeology of the area will also be provided.

Recommendations made in the document are done in full cognizance of the National Heritage Resources Act (25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

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1. INTRODUCTION

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A survey for cultural heritage resources in an area where development is to take place is called a Phase 1 Investigation or Impact Assessment. During this process possible impacts are identified and mitigation measures lined out (Van Vollenhoven 1998: 54). Ikwezi Mining appointed Archaetnos cc to conduct a Heritage Impact Assessment to identify heritage sites that would require management or protection during mining operations. The resultant HIA was done in March 2011 and 27 sites in total were identified.

A Phase 2 Investigation is a detailed investigation of a specific cultural resource. This usually entails detailed documentation and research (Van Vollenhoven 1998: 49-52). Archaetnos cc was appointed by Ikwezi to conduct archaeological mitigation on six of the Stone Age sites located in erosion dongas in the area that will be negatively affected by opencast mining operations, and this work was conducted during May 2012. A report on the findings of this work has also been drafted and submitted to the client and Amafa, and will form part of the discussions in this document.

2. RESPONSIBILITY

The Stone Age archaeological sites discussed in this document is situated on the property of Ikwezi Mining (Doornkop Mine) in the Dannhauser Local Municipality, Amajuba District Municipality of Kwa-Zulu Natal. The responsibility for the implementation of the Monitoring Program is therefore that of Ikwezi Mining.

3. TERMS OF REFERENCE

The Terms of Reference for the document were to:

1. Draft and implement a Guidelines document for the Monitoring of the Stone Age sites and finds in the Ikwezi Doornkop Mining Area to enable Ikwezi Mining and the Heritage Specialist to conduct the required work properly and implement the program successfully.

All the relevant information obtained during the previous HIA and 2nd Phase Archaeological work was utilized in drafting this document.

4. CONDITIONS & ASSUMPTIONS

The following conditions and assumptions have a direct bearing on the survey and the resulting report:

1. Cultural Resources are all non-physical and physical man-made occurrences, as well as natural occurrences associated with human activity. These include all sites, structure and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development. Graves and cemeteries are included in this.
2. The significance of the sites, structures 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. The various aspects are not mutually exclusive, and the evaluation of any site is done with reference to any number of these aspects.
3. Cultural significance is site-specific and relates to the content and context of the site. Sites regarded as having low cultural significance may be demolished should there be a need for development in those areas. Such sites have been recorded in full. Sites with medium cultural significance may or may not require mitigation in future if future developments have an impact on them. Should such developments be planned it should be discussed with full cognizance of this document. Sites with a high cultural significance are more important than any foreseeable future development and should therefore be preserved at all cost.
4. The latitude and longitude of any archaeological or historical site or feature, is to be treated as sensitive information and should not be disclosed to members of the public without proper plans in place to preserve and conserve these cultural heritage resources.
5. All recommendations are made with full cognizance of the relevant legislation.

5. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999)

5.1 The National Heritage Resources Act

According to the above-mentioned act the following is protected as cultural heritage resources:

- a. **Archaeological artifacts, structures and sites older than 100 years**
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures and sites of scientific or technological value.

The national estate includes the following:

- a. Places, buildings, structures and equipment of cultural significance
- b. Places to which oral traditions are attached or which are associated with living heritage
- c. Historical settlements and townscapes
- d. Landscapes and features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. **Sites of Archaeological and palaeontological importance**
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment (AIA) only looks at archaeological resources. An HIA/ AIA must be done under the following circumstances:

- a. The construction of a linear development (road, wall, power line canal etc.) exceeding 300m in length
- b. The construction of a bridge or similar structure exceeding 50m in length
- c. **Any development or other activity that will change the character of a site and exceed 5 000m² or involve three or more existing erven or subdivisions thereof**
- d. Re-zoning of a site exceeding 10 000 m²

- e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

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

Archaeology, palaeontology and meteorites

Section 35(4) of this act deals with archaeology, palaeontology and meteorites. The act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial):

- a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
- c. trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- d. 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.
- e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

Human remains

Graves and burial grounds are divided into the following:

- a. ancestral graves
- b. royal graves and graves of traditional leaders
- c. graves of victims of conflict
- d. graves designated by the Minister
- e. historical graves and cemeteries
- f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

- a. destroy, damage, alter, exhume or remove from its original position of otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- b. destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- c. bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations. 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 (i.e. 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)**.

Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

5.2 The National Environmental Management Act

This act (Act 107 of 1998) states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made.

Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied.

6. DESCRIPTION OF THE AREA

The project area is located in the Dannhauser Local Municipality, which forms part of the Amajuba District Municipality of Kwazulu Natal, between Newcastle and Dannhauser. The HIA study area included a number of farms, namely Rooipoort 10745 HT, Alleen 2 4280 HT, Annie 8798 HT, Buhle Bomzinyathi 17495 HT, Cloneen 7591 HT, Diepsluiten 4270 HT, Doornsluiten 14366 HT, Drangan 8844 HT, Drooge Plaats 7681 HT, Goede Hoop 3857 HT, Kromdraai 8626 HT, Kaal Vlakte 7496 HT, Klip Rand 8627 HT, Omdraai 3855 HT, Rooi

Poort B 7545 HT and Struisvogel Kop 4275 HT. Although these farms represent an area in excess of 12 000 hectares, the mitigation work only concentrated on the areas that will be directly impacted on by the opencast mining pits, access routes/haul roads, stockpiles and other infrastructure.

The area is characterized by rolling hills, large erosion dongas and drainage lines (formed by the Buffels River and its tributaries). Portions have been used in the past for agricultural purposes (crop growing) and cattle grazing. Large sections have also been used for rural residential settlement. As a result very few large trees are found in the area, while the grass cover in the area is also relatively short. Archaeological visibility is therefore fairly good.

The Stone Age sites are located in the erosion dongas and are characterized by scatters of tools in these locations. Although a number of sites were recorded during the initial survey, these sites are as a matter of fact one occurrence over the entire area.



**Figure 2: Aerial view of location of archaeological sites.
Note the erosion dongas (Google Earth 2012 – Image 12/23/2010).**



Figure 3: General view of area near the archaeological sites

7. DISCUSSION

Five Stone Age sites were investigated during the mitigation exercise. These sites are as a matter of fact only find-spots in the landscape, represented by different scatters of material, and it is clear that the whole area contains scatters of material of differing density. Surface sampling was also done in the area where other sites are located with the aim of increasing

the sample size and more specifically to find types of tools and materials not recorded in the controlled mapping and sampling of Sites DK7-10.

It is clear that the archaeological material is not in situ, but that it had eroded out and then was rolled and washed down the slopes of the erosion dongas over time. Some tools were found located higher up on the slopes in the process of being washed down to the floor of the donga. Many of the tools are heavily rolled and patinated as a result. In some cases tools were found covered by sand and silt being washed over it by water flow inside the donga. It is possible that “in situ” objects might be located in areas not eroded as yet. It is also possible that the erosion dongas are situated in old river or stream beds that were silted over in time and that are being exposed again through erosion caused by overgrazing. The tools might have been left here by hunter-gatherers who made and used these tools here.

The stone tools recorded in the area comprise to a large extent flakes and flake tools, points, scrapers, blades, cores and chunks. Three hand axes from the ESA were also recorded. The assemblage is predominantly Middle Stone Age with various stages represented (see Tables 2-4). No Later Stone Age material was identified and only three pieces were clearly associated with the Acheulean stage of the Earlier Stone Age. Hornfels was mainly used as knapping material, but in some instances the rock is so badly patinated/weathered that identification was not possible. The hornfels is generally of high quality and, based on the frequency of cores and core reduction/preparation pieces, it can be accepted that the area was used to source this material in the past. The presence of formal tools such as scrapers and points might indicate human occupation/activity other than material sourcing and knapping in the region.

Except for three pieces all the material in this assemblage were probably produced during the Middle Stone Age. The three Earlier Stone Age artefacts indicate hominin presence on the landscape between about 300 thousand and 1.5 million years ago during the Acheulean technocomplex. These artefacts have been associated with various members of our genus, including *Homo habilis*, *Homo erectus*, *Homo ergaster* and/or, recently, *Homo gautengensis* (e.g., Kuman & Clarke 2000; Curnoe 2010). No dated or stratified Earlier Stone Age sites have thus far been recorded for KwaZulu-Natal.

The tentative interpretation of the Middle Stone Age material could indicate continued human (archaic/early *Homo sapiens* and *Homo sapiens*) use of the landscape from about 130 thousand to about 20 thousand years ago with all the techno complexes represented. This configuration is rare for assemblages collected from open-air scatters. All the stages/techno complexes have significant, international research value as the Middle Stone Age sequence represents the period during which modern *Homo sapiens* evolved in southern Africa. Potentially identifying the older stages such as the Klasies River and Mossel Bay in KwaZulu-Natal will be an important step towards understanding the cultural sequence in the region. During the last decade the Still Bay techno complex, previously believed only to be present along the Cape coast, was published for two stratified and dated KwaZulu-Natal sites; Sibudu Cave (Wadley 2007) and Umhlatuzana (Lombard et al. 2010). Together with the Howiesons Poort techno complex, the Still Bay dominates current global debate regarding the evolution of human behavioural and cognitive complexity (e.g., Jacobs et al. 2008; Wadley et al. 2009; Henshilwood & Dubreuil 2011).

The Sibudu techno complex will be announced for the first time in June/July 2012 (Lombard et al. 2012; Mohapi 2012), and its potential presence on more sites in KwaZulu-Natal is stimulating. Other sites apart from the name site where the Sibudu techno complex is probably present include Umhlatuzana and Border Cave in KwaZulu-Natal, and Diepkloof, Klasies River Klein Kliphuis, Melikane, Ntloana Tsoana, Rose Cottage Cave and Sehonghong elsewhere in South Africa and Lesotho. The final Middle Stone Age is still poorly understood, but the KwaZulu-Natal sites of Sibudu (Wadley 2005) and Umhlatuzana (Kaplan 1990, Mohapi submitted) are some of the best recorded assemblages representing this stage in human history.

There are few areas in southern Africa with continuous Middle Stone Age occupation, and it is the interpretation from the expert analysis that the area around the eroded open-air sites might be one of these, and should rock shelters with archaeological deposits be recorded in the future these could become prime research excavations. All the artefacts from the mitigation were, however, collected from secondary contexts, a fact that greatly diminishes the potential heritage and/or research significance of the sites. Even though the open cast mine will permanently destroy the sites it is recommended that a destruction permit is granted.

Based on the results of the expert analysis of the Stone Age material it was recommended that an archaeologist monitor the sections of the open cast mine every six months or so for the first two years of operation. Should stratified layers with stone tools be exposed, strategic collection of such artifacts from the sections might provide valuable further information, and depending on substrate such layers may even be datable.

8. MONITORING

Although this document is mainly aimed at providing guidelines for the monitoring of mining operations in the areas where the Stone Age sites and finds are located, these guidelines can also be applied to the other archaeological (Iron Age) and historical sites (mostly grave sites) in the area.

The following guidelines should be adhered to:

1. If any significant archaeological material is exposed by any development activities (opencast mining operations and development of related infrastructure) the finds should be reported to an archaeologist to investigate. The area where these discoveries are made should be demarcated and no work should continue until these finds have been collected and investigated. The archaeological material that could potentially be exposed includes stratified deposits of stone tools, animal remains, pottery and stone features from the Iron Age, human skeletal remains and any other cultural material that are deemed older than 60 years of age. Accidentally discovered material can also be collected and kept at a central location until investigation and collection by an archaeologist
2. No development should be allowed within 15 meters of any graves or grave sites in the area. If negative impacts on the graves and grave sites can not be avoided then the graves will have to be exhumed and relocated, following all required processes related to grave exhumations and relocations

3. If any development activities are going to impact on the stone walled Iron Age sites these sites will have to be mapped and archaeologically investigated as well.

4. In order to ensure that no unnecessary delays are caused during the development by the reporting of unimportant finds the following is recommended:

a. That a Heritage Induction Training session is provided to mine staff and all contractors involved in the mining operations. This induction session will aim at sensitizing all workers and management on the importance of preserving our heritage, the legal framework related to archaeological and historical heritage protection, the types/ranges of archaeological and historical sites, features and material that can be expected in the area and what needs to be done when cultural material is exposed (who to report to/what to do in terms of demarcation until the discovery is properly investigated. It will also provide them with a basic background on the archaeology and history of the area. A Heritage Induction Training Manual can be produced for this purpose as well

b. That, during the first 12 months of mining operations in the opencast area, the area should be visited by an archaeologist once every 3 months for 2 days in order to inspect the sites for any in situ, stratified, archaeological deposits (Stone Age tools and other material) and other finds during the time period. These finds will then be investigated and a decision be made on the significance of the finds and the potential research opportunities, as well as possible mitigation measures that might have to be implemented. After the first year of operations these visits can be continued on a more ad hoc basis only when finds are reported

5. All the finds made should be removed to and curated by a recognized Institution (Museum, University or Amafa) after proper analysis. The current Archaeological Permit obtained from Amafa is valid until April 2015 and can therefore be used for the investigation and removal of any finds should there be any during this period.

6. During the Monitoring site visits all other archaeological and historical sites located in the area will also be monitored for their status quo

9. CONCLUSIONS AND RECOMMENDATIONS

In conclusion it can be said that the archaeological mitigation of the Stone Age sites recorded during the March 2011 HIA for the Ikwezi Doornkop Mine in the Dannhauser area of Kwa-Zulu Natal was conducted successfully. The resultant expert analysis of the recovered material indicated that the sites and material are important from an archaeological research point of view. However, due to the fact that the material come from exposed sites and is not in situ it is not necessary to preserve these sites and it was recommended that Amafa provide Ikwezi Mining with a Destruction Permit. One recommendation was that a Monitoring Program be implemented and this document, providing basic guidelines for this program, is the result of this.

Finally it should be noted that it is virtually impossible to locate all possible sites in an area where development is being planned. Some sites could therefore have been missed during the HIA conducted in the area. It should also be noted that the subterranean

presence of archaeological and/or historical sites, features or artifacts are always a distinct possibility. Care should therefore be taken during any development activities that if any of these are accidentally discovered, a qualified archaeologist be called in to investigate. Low, stone packed or unmarked graves should be included in this.

10. REFERENCES

Site development and Layout Plans/Maps provided by Ikwezi Mining

Aerial view of site distribution: Google Earth

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