



Archaetnos Culture & Cultural
Resource Consultants
BK 98 09854/23

**A REPORT ON A HERITAGE IMPACT ASSESSMENT FOR THE NKOMATI
ANTHRACITE MINE IN THE MAGISTERIAL DISTRICT OF BARBERTON,
MPUMALANGA PROVINCE**

For:

***Sentula Mining
PO Box 76
The Woodlands Office Park
Woodmead***

REPORT: AE1171

By:

***Dr. A.C. van Vollenhoven (L.AKAD.SA.)
Accredited member of ASAPA
&
Annie Radford
Associated member of ASAPA***

July 2011

Archaetnos
P.O. Box 55
GROENKLOOF
0033
Tel: **083 291 6104**
Fax: 086 520 4173
E-mail: antonv@archaetnos.co.za

Members: AC van Vollenhoven BA, BA (Hons), DTO, NDM, MA (Archaeology) [UP], MA (Culture History) [US], DPhil (Archaeology) [UP], Man Dip [TUT], DPhil (History) [US]
AJ Pelsers BA (UNISA), BA (Hons) (Archaeology), MA (Archaeology) [WITS]

**©Copyright
Archaetnos**

The information contained in this report is the sole intellectual property of Archaetnos CC. It may only be used for the purposes it was commissioned for by the client.

DISCLAIMER:

Although all possible care is taken to identify all sites of cultural importance during the survey of study areas, the nature of archaeological and historical sites are as such that it always is possible that hidden or subterranean sites could be overlooked during the study. Archaetnos and its personnel will not be held liable for such oversights or for costs incurred as a result thereof.

The South African Heritage Resources Agency (SAHRA) or one of its subsidiary bodies needs to comment on this report and clients are advised not to proceed with any action before receiving these. It is the responsibility of the client to submit the report to the relevant heritage authority.

SUMMARY

Archaetnos cc was requested by Sentula Mining to conduct a heritage impact assessment (HIA) for the Nkomati Anthracite mine. This only entails the proposed opencast area on State land at Madadeni. This is between Komatipoort and Barberton in the Mpumalanga Province, but falls in the Barberton Magisterial District.

The client indicated the area where the proposed development is to take place and the survey was confined to this area. A survey of the available literature was also undertaken in order to obtain background information regarding the area.

The area where the development is planned is partially disturbed by former mining activities. Certain areas with natural vegetation still exist. This is quite dense along the river, but mostly overgrazed in other areas.

Seven sites of cultural heritage significance were located. These are discussed and mitigation measures are proposed. These resources are all of high cultural heritage significance. Only after the mitigation measures have been implemented the project may continue.

CONTENTS

	Page
SUMMARY	3
CONTENTS	4
1. INTRODUCTION.....	5
2. TERMS OF REFERENCE	7
3. METHODOLOGY	8
4. CONDITIONS, ASSUMPTIONS.....	9
5. DECLARATION OF INDEPENDENCE	10
6. LEGISLATIVE REQUIREMENTS	10
7. LOCATION AND DESCRIPTION OF THE AREA	13
8. DISCUSSION	16
9. CONCLUSIONS AND RECOMMENDATIONS	36
10. REFERENCES.....	39
APPENDIX A.....	41
APPENDIX B.....	42
APPENDIX C.....	43
APPENDIX D.....	44

1. INTRODUCTION

Archaetnos cc was requested by Sentula Mining to conduct a heritage impact assessment (HIA) for the Nkomati Anthracite mine. This only entails the proposed opencast area on State land at Madadeni. This is between Komatipoort and Barberton in the Mpumalanga Province, but falls in the Barberton Magisterial District (Figure 1-2).

The total mine area includes many farms, namely Grobler 479 JU, Guillaume 480 JU, Wildebeest 494 JU, Rusplek 495 JU, Sweet Home 496 JU, Bonnie Vale 497 JU, Excelsior 498 JU, Murray 502 JU, Fig Tree 503 JU, Beginsel 504 JU and State land (Figure 3). The survey was however limited to the State land at Madadeni where the open cast mining is planned (Figure 4).

The client indicated the area where the proposed development is to take place, and the survey was confined to this area. The area is a stretch of land to the south of Madadeni and the west of the Komati River.

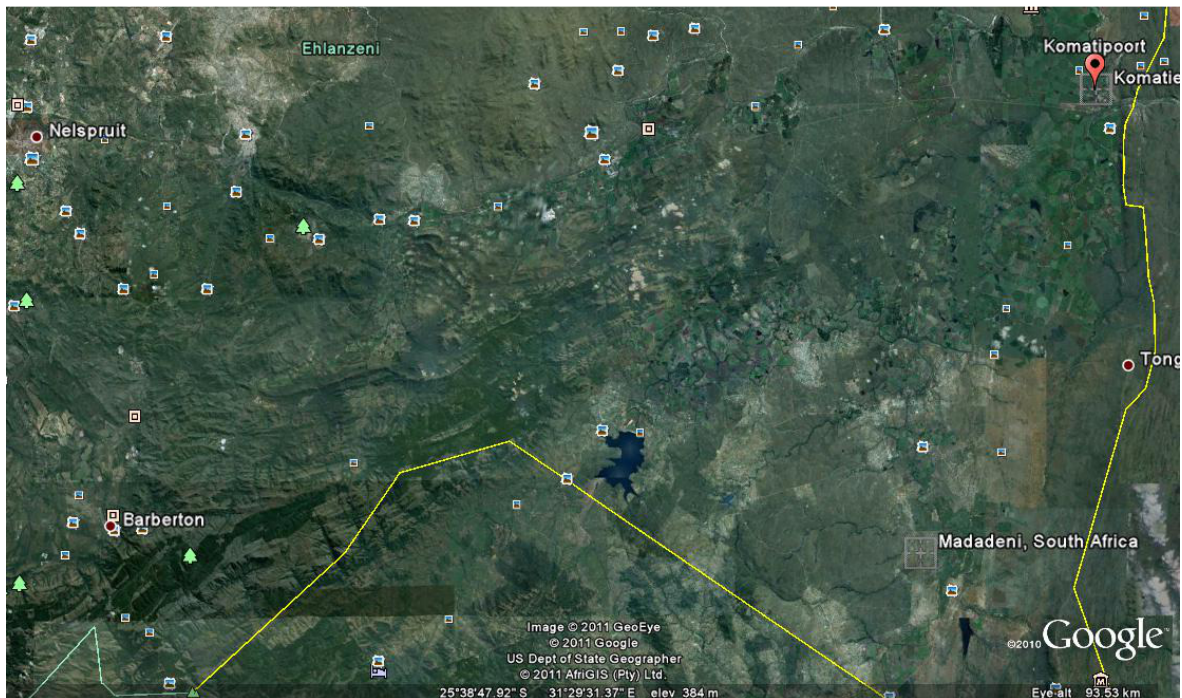


Figure 1 Location of Madadeni, Mpumalanga.

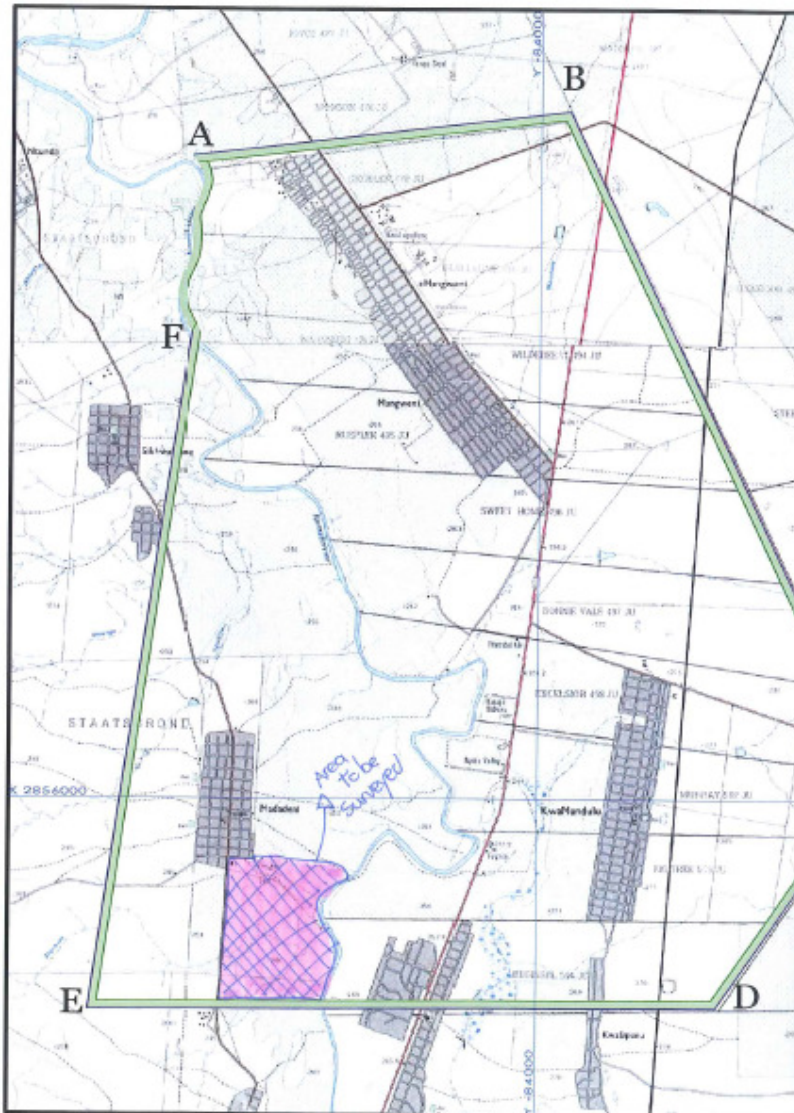


Figure 4 Map indicating the surveyed area in pink.

2. TERMS OF REFERENCE

The Terms of Reference for the survey were to:

1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the property (see Appendix A).
2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value (see Appendix B).
3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.

4. Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources.
5. Review applicable legislative requirements.

Social consultation relating to the heritage report is to be handled by the client. This includes public participation.

3. METHODOLOGY

3.1 Survey of literature

A survey of the available literature was undertaken in order to obtain background information regarding the area. Sources consulted in this regard are indicated in the bibliography.

3.2 Field survey

The survey was conducted according to generally accepted HIA practices and was aimed at locating all possible objects, sites and features of cultural significance in the area of proposed development. If required, the location/position of any site was determined by means of a Global Positioning System (GPS), while photographs were also taken where needed.

The survey was undertaken on foot and via an off-road vehicle.

3.3 Oral histories

People from local communities are interviewed in order to obtain information relating to the surveyed area. It needs to be stated that this is not applicable under all circumstances. When applicable, the information is included in the text and referred to in the bibliography. In this particular case the community could not meet the archaeologist on site, but arrangements were made to meet the social consultant the next day. No specific information related to the heritage of the area was obtained from them.

3.4 Documentation

All sites, objects, features and structures identified were documented according to the general minimum standards accepted by the archaeological profession. Co-ordinates of individual localities were determined by means of a Global Positioning System (GPS). The information was added to the description in order to facilitate the identification of each locality.

3.5 Evaluation of Heritage sites

The evaluation of heritage sites is done by using the following criteria:

- The unique nature of a site
- The integrity of the archaeological deposit
- The wider historic, archaeological and geographic context of the site

- The location of the site in relation to other similar sites or features
- The depth of the archaeological deposit (when it can be determined or is known)
- The preservation condition of the site
- Uniqueness of the site and
- Potential to answer present research questions.

4. CONDITIONS AND 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 (Appendix A). 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 have already been recorded in full and require no further mitigation. Sites with medium cultural significance may or may not require mitigation depending on other factors such as the significance of impact on the site. Sites with a high cultural significance require further mitigation (see Appendix B).
4. The latitude and longitude of any archaeological or historical site or feature, is to be treated as sensitive information by the developer and should not be disclosed to members of the public.
5. All recommendations are made with full cognizance of the relevant legislation.
6. It has to be mentioned that it is almost impossible to locate all the cultural resources in a given area, as it will be very time consuming. Developers should however note that the report should make it clear how to handle any other finds that might occur.
7. It should be noted that in this particular case the area where the development is planned is partially disturbed by former mining activities which means that no heritage sites would have survived. Certain areas with natural vegetation still exist. This is either disturbed by agriculture or very dense along the river, impenetrable and therefore influenced archaeological visibility.
8. Although care was taken to give a comprehensive background on the history of the area, it has to be stated that it is impossible to give a complete indication on human

activities of the past as sources are not always readily available. The information given in the report should however give a fair reflection of the past.

5. DECLARATION OF INDEPENDENCE

I, Anton Carl van Vollenhoven from Archaetnos, hereby declare that I am an independent specialist within the field of heritage management.



Signed:

Date: 28 July 2011

6. 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) and the National Environmental Management Act (Act 107 of 1998).

6.1 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 (see Appendix D) 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. 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 only looks at archaeological resources. An HIA 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.

6.2 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.

7. LOCATION AND DESCRIPTION OF THE AREA

As indicated above, the mine includes many farms, namely Grobler 479 JU, Guillaume 480 JU, Wildebeest 494 JU, Rusplek 495 JU, Sweet Home 496 JU, Bonnie Vale 497 JU, Excelsior 498 JU, Murray 502 JU, Fig Tree 503 JU, Beginsel 504 JU and State land. The survey was however limited to the State land at Madadeni where the open cast mining is planned. This is to the south of the town of Komatipoort, the east of the town of Barberton, the west of Mozambique and the north of Swaziland in the Mpumalanga Province.

The area where the development is planned is fenced in and therefore it was easy to stay within the boundaries. The landscape is partially disturbed by former mining activities (Figure 5-6). Certain areas with natural vegetation still exist. This is quite dense and impenetrable along the Komati River (Figure 7), but mostly overgrazed in other areas to the west of the river (Figure 8). Certain areas along the river also have been disturbed by agriculture, mostly sugar cane.

A disturbing factor is that the Madadeni village is encroaching closer to the area where the opencast is planned (Figure 9). Although the latter has been fenced in it contains valuable heritage resources which may be negatively affected. This is especially true since the villagers seem to have uncontrolled access here.

The area is drained by the Komati River which runs from south to north through the area meandering as it goes. The topography of the surveyed area is reasonably flat with a slight fall to the south and east towards the river. This leaves a gentle slope which increases the closer one gets to the river.

The river would certainly have provided water to people during prehistoric and historic times. The floodplains most probably would have provided good grazing for domesticated species whereas wildlife would have been here in an abundance to be hunted. Not much natural shelter exists, but wood may have been used for this purpose as well as for fuel. Medium sizes rocks in the area may also have been used for building material.



Figure 5 Old opencast mining area.



Figure 6 Mine dump in the surveyed area. Note the cow – cattle are roaming freely inside of the fence.



Figure 7 Thick vegetation along the Komati River in the surveyed area.



Figure 8 General view of the surveyed area.



Figure 9 Note the house from the village encroaching on the fenced in area.

8. DISCUSSION

During the survey seven sites/ features of cultural heritage significance were located. It needs however to be considered that even more sites may become known later during construction work and that those need to be dealt with in accordance with the legislation discussed above.

In order to enable the reader to better understand the sites found as well as possible archaeological and cultural features that may be unearthed during construction activities, it is necessary to give a background regarding the different phases of human history.

8.1 Stone Age

The Stone Age is the period in human history when lithic material was mainly used to produce tools (Coertze & Coertze 1996: 293). In South Africa the Stone Age can be divided in three periods. It is however important to note that dates are relative and only provide a broad framework for interpretation. The division for the Stone Age according to Korsman & Meyer (1999: 93-94) is as follows:

- Early Stone Age (ESA) 2 million – 150 000 years ago
- Middle Stone Age (MSA) 150 000 – 30 000 years ago
- Late Stone Age (LSA) 40 000 years ago – 1850 - A.D.

The closest Stone Age occurrence found to the surveyed area is an Early and Middle Stone Age site called Border Cave in Swaziland (Mitchell 2002: 61, 73). Another Middle Stone Age site is that of Lion Cavern to the west of the surveyed area (Mitchell 2002: 73). Late Stone Age sites were found at Skukuza, called SK4 and three sites at Barberton called Bormansdrif, Sweet Home and Kearnsney Estates (Bergh 1999: 4) and at Siphiso and Caimane in Swaziland (Mitchell 2002: 127, 162).

This probably only indicates a lack of research in the area as well as the fact that there is no comprehensive data base on the prehistory of southern Africa. From the above mentioned it is clear that the surveyed area definitely is suitable for human occupation.

Many rock art sites are known from around Barberton and Swaziland (Bergh 1999: 5; Mitchell 2002: 193), but these of course are in the mountains whereas the surveyed area is on the floodplains of the Komati River. Accordingly Smith & Zubieta (2007: 36) indicates no rock art sites in the Komati River Valley. Sites are however found in the Kruger National Park (Eloff 2007: 12). No natural shelters were seen during the survey and therefore it is possible that these people did not stay here for long times.

The close vicinity of water sources and ample grazing would have made it a prime spot for hunting and obtaining water during the past. Therefore one may assume that Stone Age people probably would have moved through the area. Some Middle and Late Stone Age tools have been identified during the survey, but these are out of context and probably were washed down from higher up slope.

8.2 Iron Age

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts (Coertze & Coertze 1996: 346). In South Africa it can be divided in two separate phases according to Van der Ryst & Meyer (1999: 96-98), namely:

Early Iron Age (EIA) 200 – 1000 A.D.

Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which now seem to be widely accepted in archaeological circles, are:

Early Iron Age (EIA) 250 – 900 A.D.

Middle Iron Age (MIA) 900 – 1300 A.D.

Late Iron Age (LIA) 1300 – 1840 A.D.

The historical atlas indicates that the closest Early Iron Age site to the surveyed area is one at Plaston (Bergh 1999: 6). Another site has been excavated close to Nelspruit (Esterhuysen & Smith 2007: 12). One however needs to take note that not many Early Iron Age sites have been identified thus far in South Africa.

Bergh (1999: 7) does also not indicate any Late Iron Age sites here, although a large number is indicated around Badplaas to the west of Barberton. It is however indicated that during the Iron Age iron was worked quite close and to the north-west of the surveyed area (Bergh

1999: 8). Iron Age sites were also identified in the south of the Kruger National Park (Eloff et.al. 2007: 35-39).

Three of the early trade routes passed reasonably close to the area that was surveyed. One went through Sabie Poort and one through the Komati Poort, both to the north-east of where the survey was done. The third runs to the south thereof and went from Maputo to Barberton, through Swaziland (Bergh 1999: 9).

Iron Age material was identified during the survey. The good grazing and access water in the area would have provided a good environment for Iron Age people although building material seem to be reasonably scarce.

8.3 Historical Age

The historical age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write.

At the beginning of the 19th century the area to the north of current day Swaziland was also inhabited by the Swazi (Eloff et.al. 2007: 63; Bergh 1999: 10; Bornman 1994: 2-6). During the Difaquane (1823-1837) the Swazi moved further inland as a result of land becoming available (Bergh 1999: 11). This indicates that historical Iron Age people probably utilized this environment in the past.

The first early traveler who visited this area was Lieutenant Jan Steffer in 1723 who were exploring the country inland from Delagoa Bay. He was followed by Francois de Cuiper who moved through the Komati Poort in 1725 (Punt 1975:44-78; Bergh 1999: 12, 116). More than a century later, in 1844, the Voortrekker leader Andries Hendrik Potgieter also used the route through Komatipoort (Tempelhoff 1982: 5).

White farmers only settled here after 1845, but this was to the north of the Crocodile River (Bergh 1999: 16, 130). This area was traded from the Swazi in 1846 (Bergh 1999:16-17). The Komati River then was the border between the Swazi's and the South African Republic (ZAR). The land however stayed government land. The permanent settlement of white farmers only occurred after the establishment of a railway system through Komati Poort in 1887 (Tempelhoff 1982: 6-7).

It is not known whether the surveyed area saw any action during the Anglo-Boer War (1899-1902). The town of Komatipoort did play a major role during this War (Tempelhoff 1982: 9-11). Both Boer and British forces probably moved through the area where the survey was done doing their day-to-day patrols.

Graves identified during the survey date to the Historical Age. These are discussed below.

8.4 Sites identified during the survey

Site 1

This is a single grave which originally had a stone dressing and no headstone. It was later bordered by concrete blocks (Figure 10). A metal plaque indicates that it is the grave of

Masilela Sihlangu. This plaque also is a recent addition to the grave. No date is indicated on either the grave or the plaque.

Graves are always given a rating of **high** cultural significance due to it being a sensitive matter. Graves with an unknown date are always handled as if older than 60 years. Graves older than 60 years are regarded as heritage graves.

GPS: 25°49.600'S
31°48.101'E



Figure 10 The grave numbered as site no. 1.

Usually there are two options when dealing with graves. The first option is to leave graves *in situ*. This would be possible should there be no direct impact on the graves. However, there always is a secondary impact as descendants may find it difficult to visit the site once mining has commenced. Therefore the site should be fenced in and a management plan should be written for the preservation and maintenance thereof. Such a fence should be erected at least 50 m from the perimeter of the site as blasting closer than that will definitely have a negative impact on the graves.

The Management Plan would detail aspects such as the fence and site management and maintenance. In addition, the plan would provide details on how it will be possible for descendants that might wish to visit the graves, when access will be granted as the mine is compelled to grant access. The fence and site will need to be managed and maintained. The management plan includes inter alia arrangements for security and safety measures. Other measures would include the preservation and maintenance of the site where aspects such as

cleaning and upkeep will be dealt with. Such a plan should be written and then monitored annually by an independent heritage specialist.

The plan will have to be approved by the Burial Grounds and Graves Unit (BGG) of the South African Heritage Resources Agency (SAHRA). SAHRA has specific guidelines for management plans and these will have to be followed.

The second option is to exhume the graves and have the bodies reburied. This usually is only allowed if there is a direct impact on the site. Such a process has to be motivated to SAHRA and permits needs to be applied for. It is a lengthy process and includes social consultation in accordance with legislation in order to obtain permission from descendants or at least proof that a concerted effort has been made to do such consultation.

Graves younger than 60 years are handled by a registered undertaker. Graves older than 60 years and those of an unknown date is regarded as heritage graves. In such a case an archaeologist is also involved in the process.

In this case the grave falls outside of the area of direct impact. Option 1 is therefore recommended. The fence already around the area would not suffice as once mining activities commence the site may be jeopardized.

Since the grave is on an Early Iron Age site, the grave can be fenced in separately from the opencast mining area together with the mentioned Iron Age site. This should be done under supervision of an archaeologist so as to minimize possible damage to the latter.

Site 2

This is an Iron Age site consisting of middens, pieces of pottery, fauna material etc. and perhaps even some very low stone walling and hearths (Figure 11-23).

Only a few decorated potsherds have been identified. These are very small and therefore one cannot take it as being a representative sample. Preliminary analysis thereof seems to indicate that it may be from the Mzonjani facies of the Urewe tradition (Personal communication: A. Pelsler). The dates for this facies are AD 450 to 750 (Huffman 2007: 127-129).

This would place it in the Early Iron Age and since not many of these have been identified yet it would give the site a rating of **high** cultural significance. The location of the site, less than 500 m from water (the Komati River) and against a mild slope, also is a typical placement for Early Iron Age sites.

There also may be a later component to the site. Some of the shards may be Tsonga pottery (Personal communication: W. Biemond).



Figure 11 Possible midden area with potshards and stone tools at site no. 2.



Figure 12 Late Stone Age microlithic tools found at site no. 2.

GPS: 25°49.604'S
31°48.091'E

25°49.603'S
31°48.067'E

25°49.616'S
31°48.066'E

25°49.616'S
31°48.078'E – area with Achatina shells, pottery, hammer and whetstones

25°49.645'S
31°48.053'E – possible activity area/ hut/ midden

25°49.663'S
31°48.051'E – possible activity area/ hut/ midden

25°49.577'S
31°48.054'E – possible midden including faunal and cultural material

25°49.586'S
31°48.071'E - possible midden including faunal and cultural material

25°49.577'S
31°48.081'E - possible midden including faunal and cultural material and apparently
some human remains were washed open here during 1994 (Personal
communication: M Matonse)

25°49.566'S
31°48.090'E - possible midden including faunal and cultural material

25°49.567'S
31°48.094'E - possible midden including faunal and cultural material

25°49.559'S
31°48.085'E - possible midden including faunal and cultural material



Figure 13 Pottery found at site no. 2.



Figure 14 Hammer- and wheatstone found at site no. 2.



Figure 15 Decorated pottery from site no. 2.



Figure 16 Other decorated pottery from site no. 2.



Figure 17 Possible low stone walling at site no. 2.



Figure 18 Possible midden area with ashy deposit at site no. 2.



Figure 19 Another midden area at site no. 2.



Figure 20 Midden area with potshards and faunal material at site no. 2.



Figure 21 Ceramic pots visible at site no. 2.

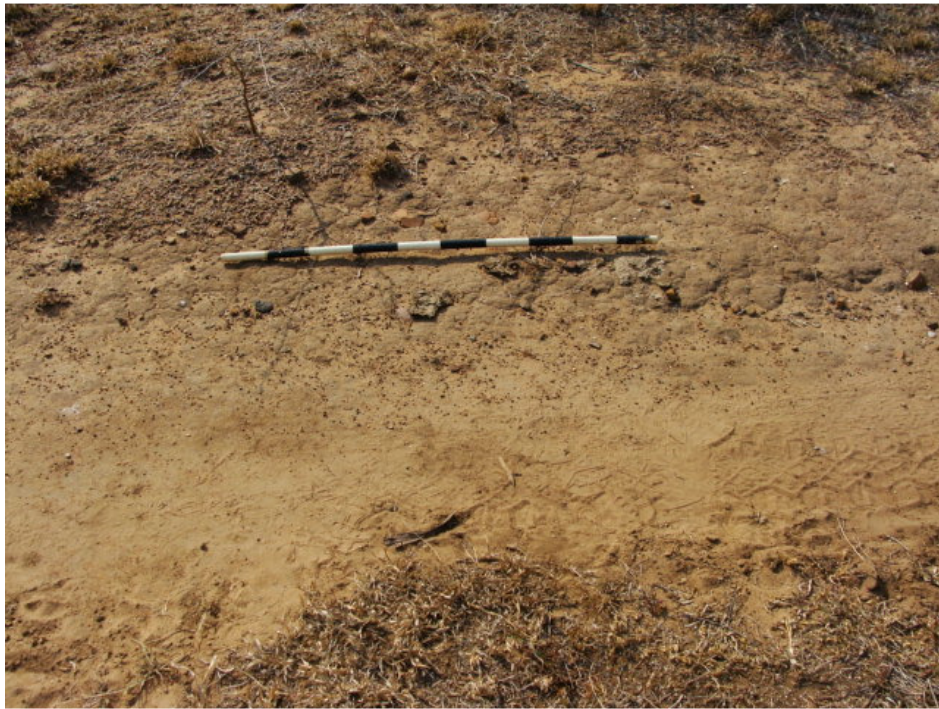


Figure 22 The road here goes right through the site.



Figure 23 Lower grinder, indicating a Late Iron Age component, found outside of the fence which may be associated with site no. 2 or may be from another nearby site.

Again it seems as if there will be no direct impact on this site by the planned opencast mining. However, the site has already been impacted by different things. Firstly the gravel road runs through it causing damage. It has already been indicated that human skeletal remains was found here in the past. Secondly the current fence may have also cut through the site although perhaps on the edge thereof. Thirdly the encroaching community will have a negative effect on the preservation of the site and its contents as it would bring more feet to the site. Lastly the site is exposed by people and animals moving around through the area as well as environmental factors.

It is therefore recommended that the current fence is not moved. This may however be done at a later stage. As indicated above the site can be fenced in with the grave in order to separate it from the opencast mining area. This should be done under supervision of an archaeologist so as to minimize possible damage to the latter.

However due to the damage already done on the site and to minimize possible future damage, the site should be excavated and mapped in order to obtain as much information as possible. Early Iron Age sites are extremely important and the information needs to be made known to scientists. During such a phase 2 heritage excavation project the site may be re-evaluated. However it is most likely that after completion of the heritage work, the site may be left to deteriorate through natural causes and it may even be demolished during further work in the area.

The mine will nevertheless always have to be on the lookout for human skeletal remains being exposed by any activities. In such a case an archaeologist should be contacted immediately in order to ensure that these are handled proper according to legislation and with the necessary care and respect for human remains.

Site 3

This is three graves found relatively close together. All of them have no grave dressing, but some indigenous aloes indicate their position (Figure 24). Informants indicated that in this geographical area such an aloe is planted on graves and after a few years more of these have grown there (Personal comment: M. Matonse & M. Minnaar).

No headstones or any other grave dressing are evident. Therefore the dates of death and the names of the people buried here is also unknown.

Graves are always given a rating of **high** cultural significance due to it being a sensitive matter. Graves with an unknown date are always handled as if older than 60 years. Graves older than 60 years are regarded as heritage graves.

GPS: 25°49.632'S
31°48.076'E

Usually there are two options when dealing with graves. The first option is to leave graves *in situ*. This would be possible should there be no direct impact on the graves. However, there always is a secondary impact as descendants may find it difficult to visit the site once mining has commenced. Therefore the site should be fenced in and a management plan should be written for the preservation and maintenance thereof. Such a fence should be erected at least 50 m from the perimeter of the site as blasting closer than that will definitely have a negative impact on the graves.

The Management Plan would detail aspects such as the fence and site management and maintenance. In addition, the plan would provide details on how it will be possible for descendants that might wish to visit the graves, when access will be granted as the mine is compelled to grant access. The fence and site will need to be managed and maintained. The management plan includes inter alia arrangements for security and safety measures. Other measures would include the preservation and maintenance of the site where aspects such as cleaning and upkeep will be dealt with. Such a plan should be written and then monitored annually by an independent heritage specialist.

The plan will have to be approved by the Burial Grounds and Graves Unit (BGG) of the South African Heritage Resources Agency (SAHRA). SAHRA has specific guidelines for management plans and these will have to be followed.

The second option is to exhume the graves and have the bodies reburied. This usually is only allowed if there is a direct impact on the site. Such a process has to be motivated to SAHRA and permits needs to be applied for. It is a lengthy process and includes social consultation in accordance with legislation in order to obtain permission from descendants or at least proof that a concerted effort has been made to do such consultation.

Graves younger than 60 years are handled by a registered undertaker. Graves older than 60 years and those of an unknown date is regarded as heritage graves. In such a case an archaeologist is also involved in the process.

In this case the graves falls outside of the area of direct impact. Option 1 is therefore recommended. The fence already around the area would not suffice as once mining activities commence the site may be jeopardized. Since the graves are on the Early Iron Age site (site no. 2), the graves can be fenced in separately from the opencast mining area together with the mentioned Iron Age site and other graves mentioned. This should be done under supervision of an archaeologist so as to minimize possible damage to the latter.



Figure 24 One of the graves at site no. 3.

Site 4

This is a grave with a traditional circular stone dressing and stone headstone (Figure 25). There is no information on the headstone and therefore the name of the buried individual and the date of death are unknown.

Graves are always given a rating of **high** cultural significance due to it being a sensitive matter. Graves with an unknown date are always handled as if older than 60 years. Graves older than 60 years are regarded as heritage graves.

GPS: 25°49.634'S
31°48.061'E



Figure 25 The grave numbered site no. 4.

Usually there are two options when dealing with graves. The first option is to leave graves *in situ*. This would be possible should there be no direct impact on the graves. However, there always is a secondary impact as descendants may find it difficult to visit the site once mining has commenced. Therefore the site should be fenced in and a management plan should be written for the preservation and maintenance thereof. Such a fence should be erected at least 50 m from the perimeter of the site as blasting closer than that will definitely have a negative impact on the graves.

The Management Plan would detail aspects such as the fence and site management and maintenance. In addition, the plan would provide details on how it will be possible for descendants that might wish to visit the graves, when access will be granted as the mine is compelled to grant access. The fence and site will need to be managed and maintained. The management plan includes inter alia arrangements for security and safety measures. Other measures would include the preservation and maintenance of the site where aspects such as cleaning and upkeep will be dealt with. Such a plan should be written and then monitored annually by an independent heritage specialist.

The plan will have to be approved by the Burial Grounds and Graves Unit (BGG) of the South African Heritage Resources Agency (SAHRA). SAHRA has specific guidelines for management plans and these will have to be followed.

The second option is to exhume the graves and have the bodies reburied. This usually is only allowed if there is a direct impact on the site. Such a process has to be motivated to SAHRA and permits needs to be applied for. It is a lengthy process and includes social consultation in accordance with legislation in order to obtain permission from descendants or at least proof that a concerted effort has been made to do such consultation.

Graves younger than 60 years are handled by a registered undertaker. Graves older than 60 years and those of an unknown date is regarded as heritage graves. In such a case an archaeologist is also involved in the process.

As with the previous graves, this one also falls outside of the area of direct impact. Option 1 is therefore recommended. The fence already around the area would not suffice as once mining activities commence the site may be jeopardized. Since the grave is on the Early Iron Age site (site no. 2), it can be fenced in separately from the opencast mining area together with the mentioned Iron Age site and other graves mentioned. This should be done under supervision of an archaeologist so as to minimize possible damage to the latter.

Site 5

This is yet another grave with a traditional stone dressing. One of the aloes mentioned earlier is also planted on the grave (Figure 26). The grave has no headstone and therefore the name of the buried individual as well as the date of death is unknown.

Graves are always given a rating of **high** cultural significance due to it being a sensitive matter. Graves with an unknown date are always handled as if older than 60 years. Graves older than 60 years are regarded as heritage graves.

GPS: 25°49.650S
31°48.063'E

Usually there are two options when dealing with graves. The first option is to leave graves *in situ*. This would be possible should there be no direct impact on the graves. However, there always is a secondary impact as descendants may find it difficult to visit the site once mining has commenced. Therefore the site should be fenced in and a management plan should be written for the preservation and maintenance thereof. Such a fence should be erected at least 50 m from the perimeter of the site as blasting closer than that will definitely have a negative impact on the graves.

The Management Plan would detail aspects such as the fence and site management and maintenance. In addition, the plan would provide details on how it will be possible for descendants that might wish to visit the graves, when access will be granted as the mine is compelled to grant access. The fence and site will need to be managed and maintained. The management plan includes inter alia arrangements for security and safety measures. Other measures would include the preservation and maintenance of the site where aspects such as cleaning and upkeep will be dealt with. Such a plan should be written and then monitored annually by an independent heritage specialist.

The plan will have to be approved by the Burial Grounds and Graves Unit (BGG) of the South African Heritage Resources Agency (SAHRA). SAHRA has specific guidelines for management plans and these will have to be followed.

The second option is to exhume the graves and have the bodies reburied. This usually is only allowed if there is a direct impact on the site. Such a process has to be motivated to SAHRA

and permits needs to be applied for. It is a lengthy process and includes social consultation in accordance with legislation in order to obtain permission from descendants or at least proof that a concerted effort has been made to do such consultation.

Graves younger than 60 years are handled by a registered undertaker. Graves older than 60 years and those of an unknown date is regarded as heritage graves. In such a case an archaeologist is also involved in the process.

In this case the grave falls outside of the area of direct impact. Option 1 is therefore recommended. The fence already around the area would not suffice as once mining activities commence the site may be jeopardized. However, since the grave is on the Early Iron Age site (site no. 2), it can be fenced in separately from the opencast mining area together with the mentioned Iron Age site and other graves mentioned. This should be done under supervision of an archaeologist so as to minimize possible damage to the latter.



Figure 26 The grave numbered site no. 5.

Site 6

This is a dam in what seems to be a tributary of the Komati River and which is called the Nkosi Dam (Figure 27). Apparently it is of importance to the local people (Personal communication: M. Matonse), but what exactly the importance is could not be determined.

GPS: 25°50.081'S
31°48.109'E



Figure 26 The Nkosi Dam.

Sites like these usually have some or other spiritual meaning and therefore it given a rating of **high** cultural significance. It seems as if bulldozing on site has already had an impact on the dam.

One however needs to verify that the dam indeed has such an important value to the community. Therefore it is recommended that background research on the local people is done and specifically into their oral traditions relating to such matters. Should the dam prove not to be important, the rating can be lowered and development may commence. However should it indeed be as important as indicated mining should not commence here and the community should be allowed access in accordance with the mine's regulations.

Site 7

This is another grave site consisting of two graves, but nothing can be seen (Figure 27). Both Mr. Minnaar and Mr. Matonse know about these graves of which the position was pointed out. A high wall, from previous mining activities, is now covering the site.

As indicated graves are always given a rating of **high** cultural significance due to it being a sensitive matter. Graves with an unknown date are always handled as if older than 60 years. Graves older than 60 years are regarded as heritage graves.

GPS: 25°49.826S
31°47.507'E



Figure 27 Area where two graves are covered by a high wall.

Usually there are two options when dealing with graves. The first option is to leave graves *in situ*. This would be possible should there be no direct impact on the graves. However, there always is a secondary impact as descendants may find it difficult to visit the site once mining has commenced. Therefore the site should be fenced in and a management plan should be written for the preservation and maintenance thereof. Such a fence should be erected at least 50 m from the perimeter of the site as blasting closer than that will definitely have a negative impact on the graves.

The Management Plan would detail aspects such as the fence and site management and maintenance. In addition, the plan would provide details on how it will be possible for descendants that might wish to visit the graves, when access will be granted as the mine is compelled to grant access. The fence and site will need to be managed and maintained. The management plan includes inter alia arrangements for security and safety measures. Other measures would include the preservation and maintenance of the site where aspects such as cleaning and upkeep will be dealt with. Such a plan should be written and then monitored annually by an independent heritage specialist.

The plan will have to be approved by the Burial Grounds and Graves Unit (BGG) of the South African Heritage Resources Agency (SAHRA). SAHRA has specific guidelines for management plans and these will have to be followed.

The second option is to exhume the graves and have the bodies reburied. This usually is only allowed if there is a direct impact on the site. Such a process has to be motivated to SAHRA and permits needs to be applied for. It is a lengthy process and includes social consultation in accordance with legislation in order to obtain permission from descendants or at least proof that a concerted effort has been made to do such consultation.

Graves younger than 60 years are handled by a registered undertaker. Graves older than 60 years and those of an unknown date is regarded as heritage graves. In such a case an archaeologist is also involved in the process.

Although it is problematic that these graves were covered by mining activities, one has to realize that this happened during a previous era. The archaeologist would not have known about these, as they are completely covered. The current staff at the mine pointed the area out and indicated that they would like to handle it the correct way.

It is therefore recommended that for the time being the site is left as it is as no further damage can be made. Once the mine starts to move the high wall or on mine closure (whichever comes first) an archaeologist should be on site to supervise work in this area and handle the situation. The archaeologist should act according to legislation, taking into account the development and plans for the area at that stage as well as the information that can be obtained once the graves can be seen.

9. CONCLUSION AND RECOMMENDATIONS

The area where the opencast mining is planned was surveyed successfully. A number of 7 sites of cultural heritage significance were identified (Figure 28-30). It however needs to be indicated that there may be more, but due to the circumstances described earlier, these may not have been found.

The following is recommended:

- As indicated earlier there usually are two options when dealing with graves. The first option is to leave graves *in situ* and the second that of exhumation (see details above). This needs to be kept in mind while looking at the other recommendations.
- The grave sites no 1, 3, 4 and 5 all seem to fall outside of the area of direct impact. Option 1 is therefore recommended. The fence already around the area should not be removed as it serves as additional buffer with the community in order to protect these graves. However, these graves together with the Early Iron Age site (site no. 2) can be fenced in separately from the opencast mining area in order to assist in the preservation thereof. This should be done under supervision of an archaeologist so as to minimize possible damage to the latter.
- Controlled access to the graves for family members (if they can be determined) should be granted, but this should be managed so as not to inflict further damage to the Iron Age site. (Of course after the phase 2 investigation on the Iron Age site has been completed this would not be applicable anymore and the situation will be much easier to manage.)
- Relating to site number 7 (graves covered by high wall) things are more complex. Firstly it is inside of the area to be directly impacted on by the underground mining. However, should the high wall remain the graves will be in no immediate danger. If this is the case the site can be left as it is. However once the mine starts to move the

high wall or on mine closure (whichever comes first) an archaeologist should be on site to supervise work in this area and handle the situation. The archaeologist should act according to legislation, taking into account the development and plans for the area at that stage as well as the information that can be obtained once the graves can be seen.

- Regarding site no. 6, the Nkosi Dam, one needs to be cautious that there indeed is substance to the allegations made that it is of importance to the community. It seems strange that a person who stayed here all his life and knows about the apparent importance does not know why it has this so-called importance. Therefore it needs to be verified that the dam indeed has such an important value to the community.
- The recommendation therefore is that background research on the local people is done and specifically into their oral traditions relating to such matters.
- Should the dam prove not to be important, the rating can be lowered and development may commence. However should it indeed be as important as indicated mining should not commence here and the community should be allowed access in accordance with the mine's regulations.
- The most important find of the survey is the Early Iron Age site (no. 2), which may be a multi component site. Although it seems as if there will be no direct impact on this site by the planned opencast mining, it has already been impacted by different things (the gravel road, current fence, encroaching community and moving of people and animals on site). It is therefore recommended that the current fence is not moved, although this may be done at a later stage. The site should then at first be fenced in with the graves mentioned above.
- It should however be excavated and mapped as soon as possible in order to counter damage already done as well as possible future interference on the site. By doing this as much information as possible should be obtained in a short period of time (at least two weeks). Early Iron Age sites are extremely important and the information needs to be made known to scientists. The possible relationship with a Late Iron Age settlement should also be investigated.
- After excavation the site may be left to deteriorate through natural processes. However, the mine will always have to be on the lookout for human skeletal remains being exposed by any activities. In such a case an archaeologist should be contacted immediately in order to ensure that these are handled properly according to legislation and with the necessary care and respect for human remains.
- Due to constraints indicated in this report it is possible that all heritage sites may not have been identified. Such sites found later on should be handled in accordance with this report which inter alia includes summoning an archaeologist to site to assess these.
- It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. This includes graves. Care

should therefore be taken when development commences that if any of these are discovered, a qualified archaeologist be called in to investigate the occurrence.

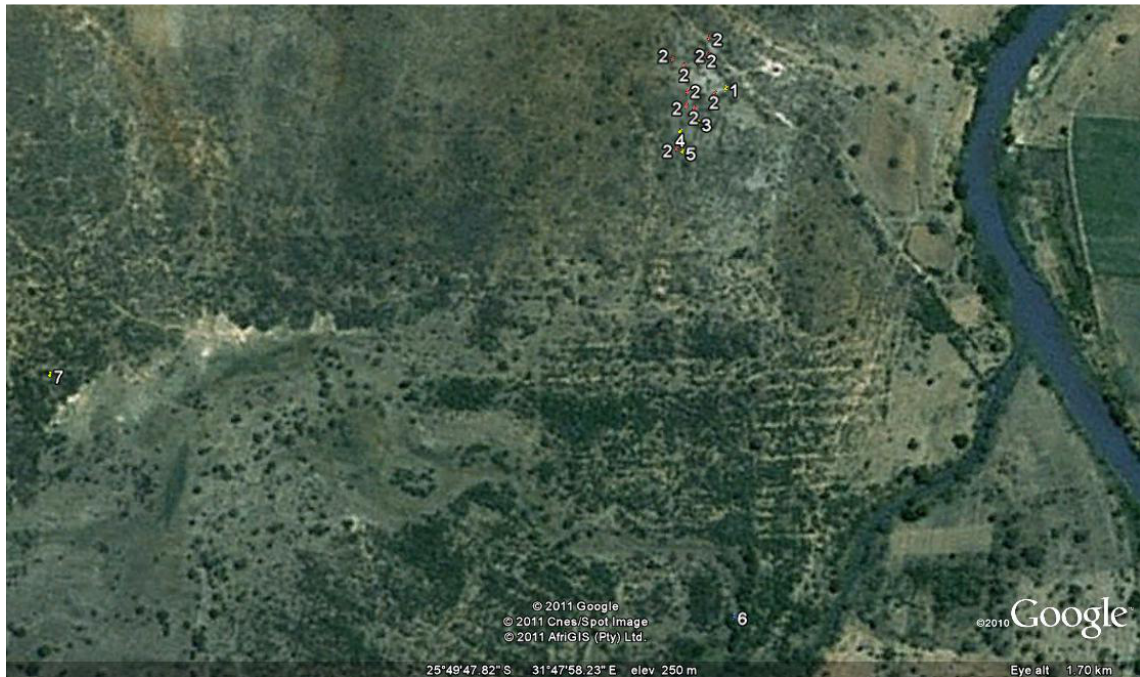


Figure 28 Google image indicating the sites found.
Red (no. 2) – Early Iron Age site
Yellow (no's. 1, 3, 5 and 7) – Graves
Blue (no. 6) – Nkosi Dam

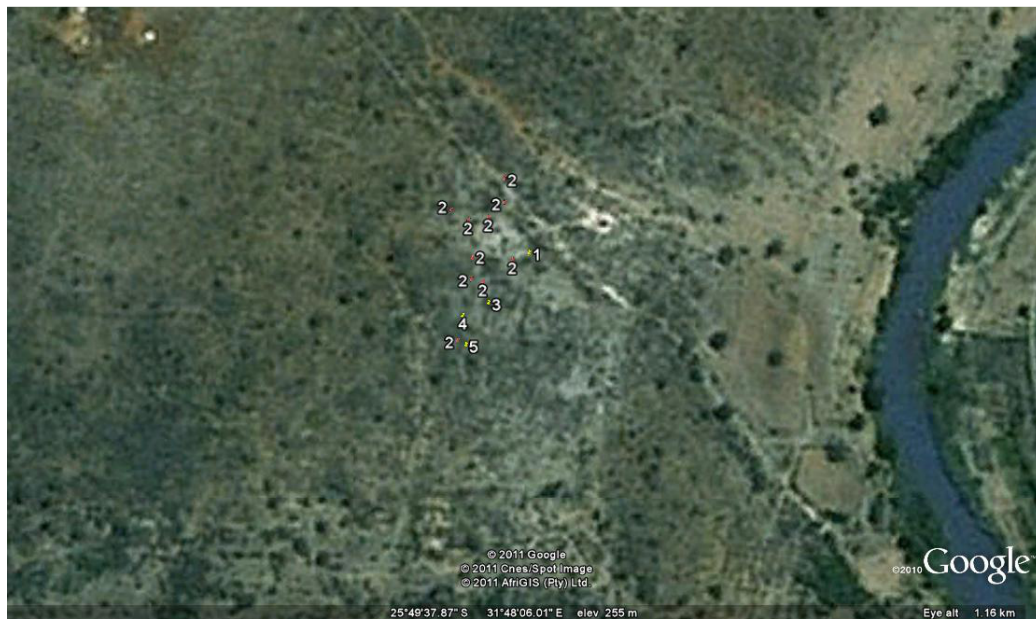


Figure 29 Google image of the Early Iron Age site (no. 2, red) in relation to some of the graves (no. 1, 3, 4 and 5, yellow) found on the site.

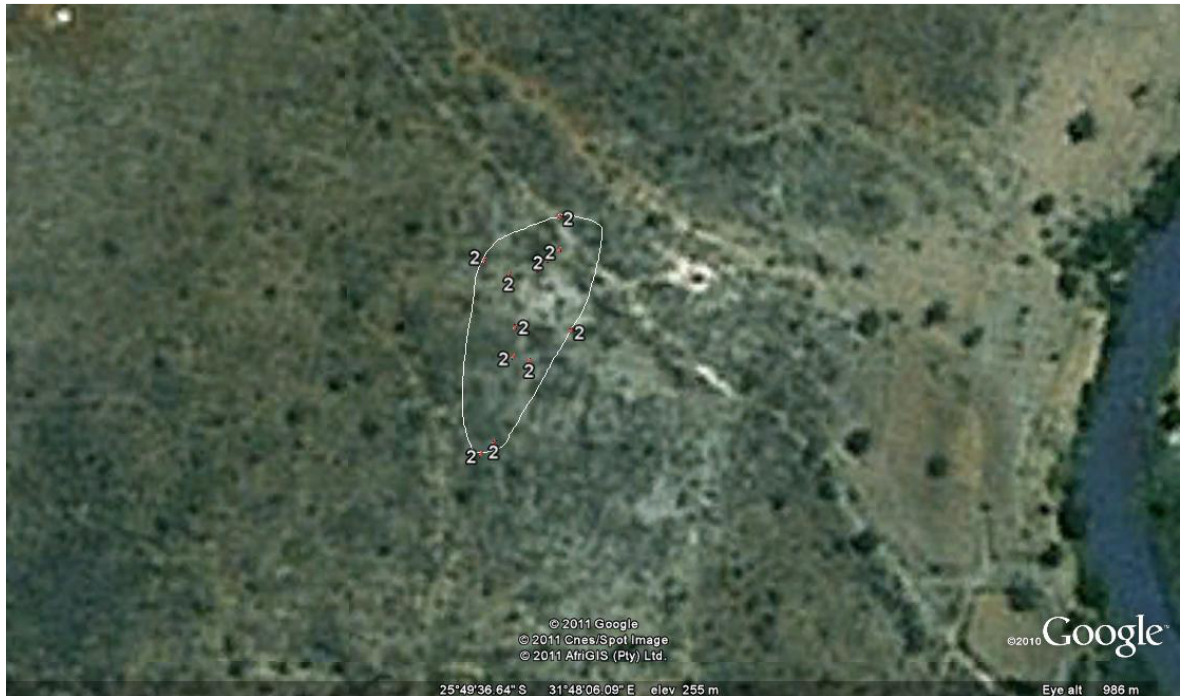


Figure 30 Google image more or less indicating the extent of the Early Iron Age site. One however needs to realize that it may be somewhat larger.

10. REFERENCES

- Bergh, J.S. (red.). 1999. **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies.** Pretoria: J.L. van Schaik.
- Biamond, W. 2011.07.28. Archaeologist. Personal communication.
- Bornman, H. 1994. **Baanbrekers van die Laeveld.** Nelspruit: SA Country Life.
- Coertze, P.J. & Coertze, R.D. 1996. **Verklarende vakwoordeboek vir Antropologie en Argeologie.** Pretoria: R.D. Coertze.
- Delius, P. (ed.). **Mpumalanga history and heritage.** Pietermaritzburg: University of Natal Press.
- Eloff, J.F. 2007. Toe die Laeveld woes en leeg was. Pienaar, U. De V. 2007 (2nd ed.). **Neem uit die verlede.** Pretoria: Protea Boekhuis.
- Eloff, J.F., Miller, S. & De Vaal, J.B. 2007. 'n Nuwe orde. Swart indringing en kolonisasie van die Laeveld. Pienaar, U. De V. 2007 (2nd ed.). **Neem uit die verlede.** Pretoria: Protea Boekhuis.
- Esterhuysen, A. & Smith, J. 2007. The archaeology of Mpumalanga. Delius, P. (ed.). **Mpumalanga history and heritage.** Pietermaritzburg: University of Natal Press.
- Huffman, T.N. 2007. **Handbook to the Iron Age: The Archaeology of Pre-Colonial Farming Societies in Southern Africa.** Scottsville: University of KwaZulu-Natal Press.
- Knudson, S.J. 1978. **Culture in retrospect.** Chicago: Rand McNally College Publishing Company.

- Korsman, S.A. & Meyer, A. 1999. Die Steentydperk en rotskuns. Bergh, J.S. (red.).
Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies. Pretoria: J.L. van Schaik.
- Matonse, M. 2011.07.25. Security officer at Nkomati Anthracite and community member. Personal communication.
- Minnaar, M. 2011.07.25. Mine Manager Nkomati Anthracite. Personal communication.
- Mitchell, P. 2002. **The archaeology of Southern Africa.** Cambridge: Cambridge University Press.
- Pelser, A. 2011.07.26. Archaeologist. Personal communication.
- Pienaar, U. De V. 2007 (2nd ed.). **Neem uit die verlede.** Pretoria: Protea Boekhuis.
- Punt, W.H.J. 1975. **Die eerste Europeane in die Nasionale Krugerwildtuin.** Pretoria: Wallachs Drukkery Edms. Bpk.
- Republic of South Africa. 1983. **Human Tissue Act** (Act 65 of 1983). The Government Printer: Pretoria.
- Republic of South Africa. 1999. **National Heritage Resources Act** (No 25 of 1999). Pretoria: the Government Printer.
- Republic of South Africa. 1998. **National Environmental Management Act** (no 107 of 1998). Pretoria: The Government Printer.
- Republic of South Africa. 1980. **Ordinance on Excavations** (Ordinance no. 12 of 1980). The Government Printer: Pretoria.
- Smith, B.W. & Zubieta, L.F. 2007. The rock art of Mpumalanga. Delius, P. (ed.). **Mpumalanga history and heritage.** Pietermaritzburg: University of Natal Press.
- Tempelhoff, JWN. 1982. Komatipoort: Oostelike poort van Transvaal. **Contree.** 11, January.
- Van der Ryst, M.M. & Meyer, A. 1999. Die Ystertydperk. Bergh, J.S. (red.).
Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies. Pretoria: J.L. van Schaik.

APPENDIX A

Definition of terms:

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artifacts, found on a single location.

Structure: A permanent building found in isolation or which forms a site in conjunction with other structures.

Feature: A coincidental find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B

Definition of significance:

- Historic value: Important in the community or pattern of history or has an association with the life or work of a person, group or organization of importance in history.
- Aesthetic value: Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.
- Scientific value: Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period
- Social value: Have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
- Rarity: Does it possess uncommon, rare or endangered aspects of natural or cultural heritage.
- Representivity: Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province region or locality.

APPENDIX C

Cultural significance:

- Low Any site, structure or feature being regarded of not important due to a number of factors, such as date, condition and frequency. Also a cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.
- Medium Any site, structure or feature being regarded less important due to a number of factors, such as date, condition and frequency. Also any important object found out of context.
- High Any site, structure or feature regarded as important because of any of various factors such as age, condition or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

Heritage significance:

- Grade I Heritage resources with exceptional qualities to the extent that they are of national significance
- Grade II Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate
- Grade III Other heritage resources of local importance and therefore worthy of conservation

APPENDIX D

Protection of heritage resources:

- Formal protection

National heritage sites and Provincial heritage sites – grade I and II

Protected areas - an area surrounding a heritage site

Provisional protection – for a maximum period of two years

Heritage registers – listing grades II and III

Heritage areas – areas with more than one heritage site included

Heritage objects – e.g. archaeological, palaeontological, meteorites, geological specimens, visual art, military, numismatic, books, etc.

- General protection

Objects protected by the laws of foreign states

Structures – older than 60 years

Archaeology, palaeontology and meteorites

Burial grounds and graves

Public monuments and memorials