



Archaetnos Culture & Cultural
Resource Consultants
BK 98 09854/23

**A REPORT ON A CULTURAL HERITAGE IMPACT ASSESSMENT FOR THE
PROPOSED KANGWANE ANTHRACITE MINE, CLOSE TO KOMATIPOORT,
MPUMALANGA PROVINCE**

For:

***Prime Resources (Pty) Ltd
PO Box 2316
Parklands
2121***

REPORT: AE01257V

By:

***Anton C. van Vollenhoven (L.AKAD.SA.)
Accredited member of ASAPA
Professional member of S ASCH***

October 2012

Archaetnos
P.O. Box 55
GROENKLOOF
0027
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], D Phil (History) [US]

©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 Prime Resources (Pty) Ltd to conduct a cultural heritage impact assessment for the proposed Kangwane Anthracite Mine. This is a follow-up of a baseline study that was done in November 2011. The surveyed area is close to the town of Komatipoort in the Barberton district in the Mpumalanga Province.

A survey of the available literature was undertaken in order to obtain background information regarding the area. This was followed by the field survey which was conducted according to generally accepted HIA practices, aimed at locating all possible objects, sites and features of cultural significance in the footprint area of the proposed development.

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 photographs and the description in order to facilitate the identification of each locality.

During the baseline survey three sites of cultural heritage significance were located in the area to be developed. The one is remains of government farm buildings and infrastructure and the other two areas containing prehistoric artifacts. None other cultural heritage sites were identified during the follow-up survey.

All three of the sites are inside of the area to be influenced by the development and will therefore be impacted on. Both sites 1 (buildings) and 3 (prehistoric remains) are of low cultural heritage significance and therefore do not need to be mitigated. Site 2 (prehistoric remains) is of high cultural significance and therefore needs to be mitigated.

It should be noted that various problems were experienced during the field work phase for the impact assessment. The density of vegetation in certain areas is a determining factor making it sometimes impossible to locate all archaeological and historical sites, including graves. Apart from this, a very large amount of rain has fallen a few days before the fieldwork, making certain roads inaccessible. Social unrest as a result of service delivery strikes, made it impossible to travel on certain road, albeit outside of the area, but creating difficulty in reaching the intended area. Also the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. Care should therefore be taken when mining commences that if any of these are discovered, a qualified archaeologist be called in to investigate.

CONTENTS

	Page
SUMMARY	3
CONTENTS.....	4
1. INTRODUCTION	5
2. TERMS OF REFERENCE	7
3. DETAILS AND EXPERTISE OF THE PERSON WHO PREPARED THE REPORT	7
4. DECLARATION OF INDEPENDENCE	8
5. METHODOLOGY	8
6. CONDITIONS & ASSUMPTIONS	10
7. LEGISLATIVE REQUIREMENTS.....	11
8. THE INTERNATIONAL FINANCE CORPORATIONS’ PERFORMANCE STANDARDS FOR CULTURAL HERITAGE.....	14
9. DESCRIPTION OF THE AREA.....	14
10. HISTORICAL CONTEXT.....	17
11. DISCUSSION OF SITES IDENTIFIED DURING THE SURVEY	20
12. IMPACT RATING	26
13. CONCLUSION & RECOMMENDATIONS.....	27
14. REFERENCES	29
APPENDIX A.....	31
APPENDIX B	32
APPENDIX C	33
APPENDIX D.....	34
APPENDIX E	35

1. INTRODUCTION

Archaetnos cc was requested by Prime Resources (Pty) Ltd to conduct a cultural heritage impact assessment (HIA) for the proposed KaNgwane Anthracite Mine. This is close to the town of Komatipoort in the Barberton district in the Mpumalanga Province (Figure 1).

The project is the follow-up of a baseline study that was done in November 2011 (Van Vollenhoven 2011). The type of mining planned will be an opencast pit as well as underground mining through a portal.

The development is planned on four farms being Walda 476 JU, Joyce 477 JU, Monson478 JU and Wanhoop 485 JU (Figure 2). The client indicated the areas where the proposed development is to take place and the survey was confined hereto.

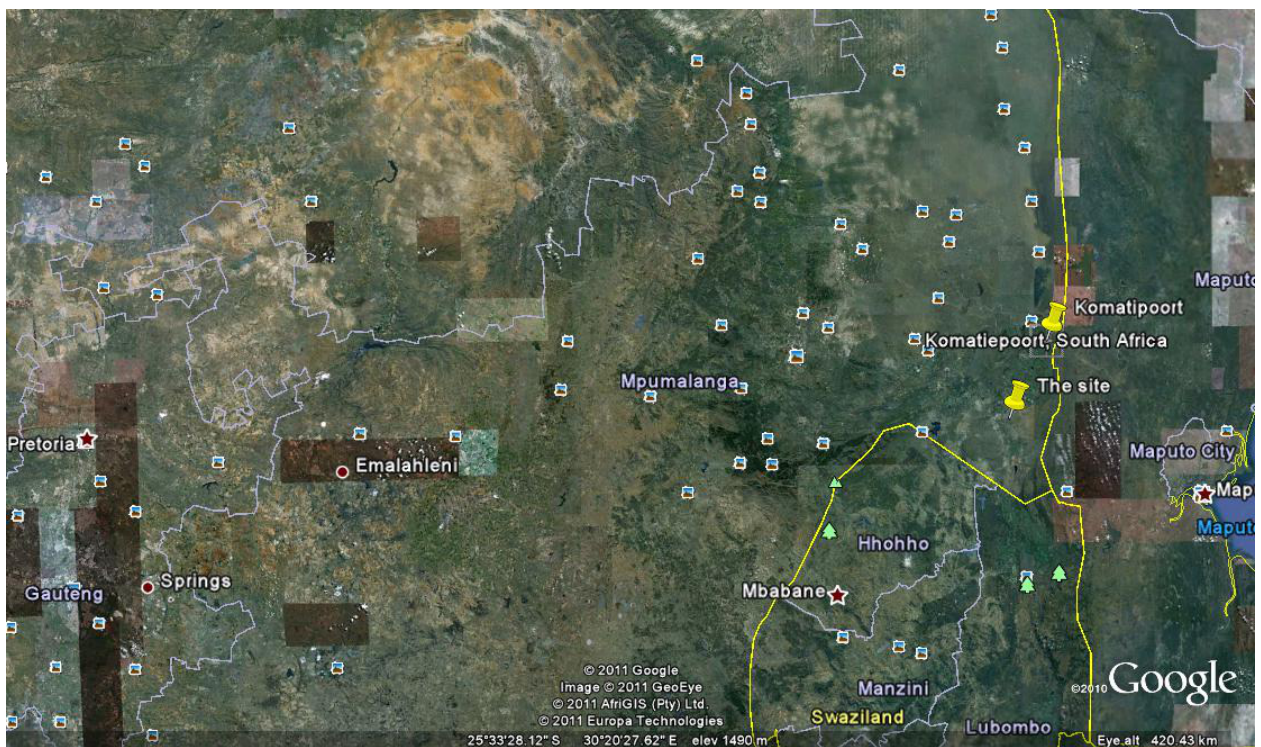


Figure 1 Location of the site to the south-west of Komatipoort.

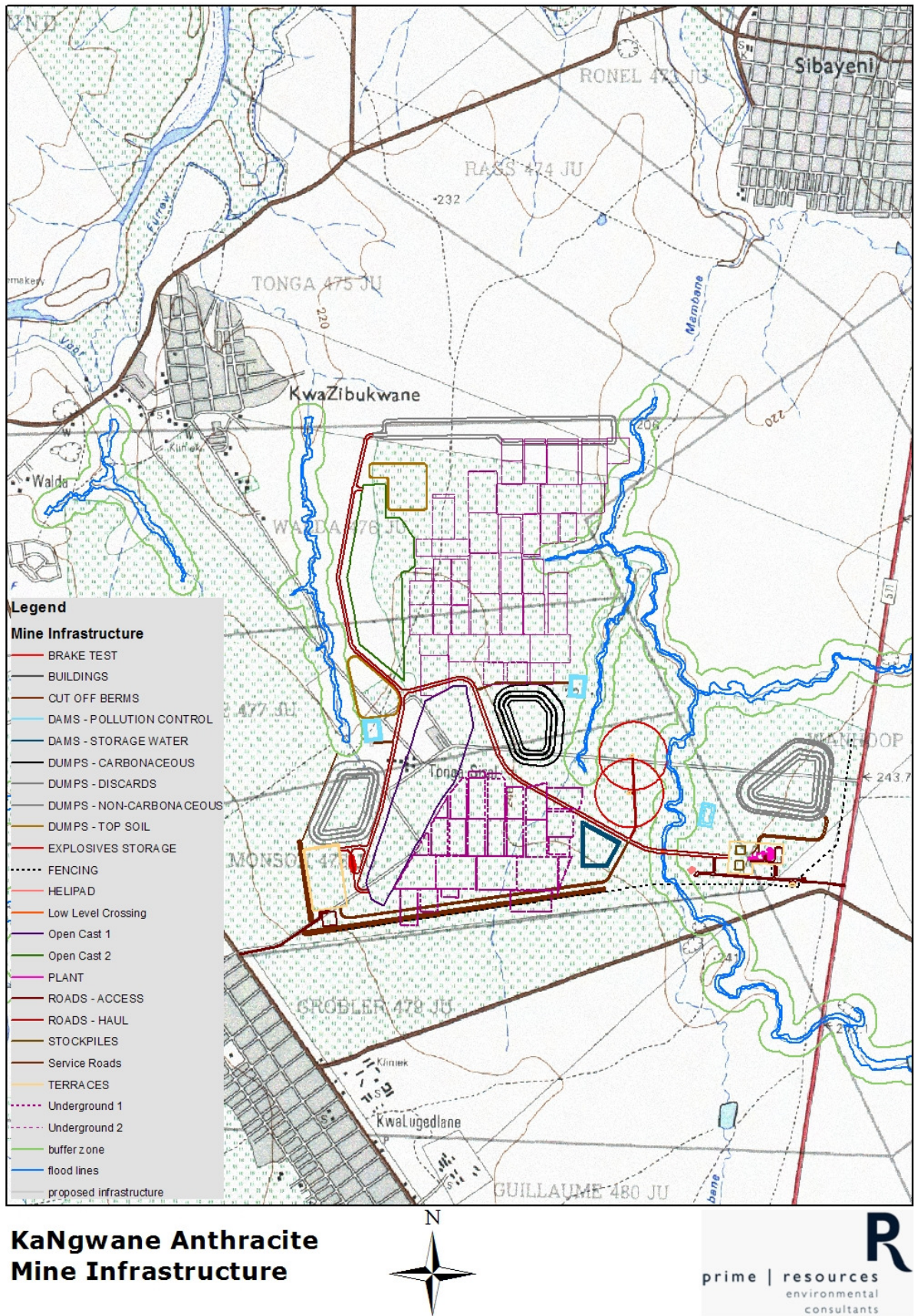


Figure 2 Map indicating the proposed mine layout.

2. TERMS OF REFERENCE

The Terms of Reference for the survey were to:

1. Undertake a desktop study including a literature survey and study of different databases.
2. Undertake a site visit to identify potential heritage sites/ resources (see Appendix A) and interviewing local inhabitants.
3. Documenting such sites in a report including photographs and indicating them on a map with GPS references.
4. Take note of and commenting on the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value (see Appendix B).
5. Prepare a report including an evaluation of the cultural significance of heritage resources.
6. Make recommendations to inform the mine-design process.
7. Review applicable legislative requirements.

3. DETAILS AND EXPERTISE OF THE PERSON WHO PREPARED THE REPORT

Dr. Anton Carl van Vollenhoven:

Tertiary education

- BA 1986, University of Pretoria
- BA (HONS) Archaeology 1988 (cum laude), University of Pretoria
- MA Archaeology 1992, University of Pretoria
- Post-Graduate Diploma in Museology 1993 (cum laude), University of Pretoria
- Diploma Tertiary Education 1993, University of Pretoria
- DPhil Archaeology 2001, University of Pretoria.
- MA Cultural History 1998 (cum laude), University of Stellenbosch
- Management Diploma 2007 (cum laude), Tshwane University of Technology
- DPhil History 2010, University of Stellenbosch

Relevant positions held

- *1988-1991*: Fort Klapperkop Military Museum - Researcher
- *1991-1999*: National Cultural History Museum. Work as Archaeologist, as well as

Curator/Manager of Pioneer Museum (1994-1997)

- 1999-2002: City Council of Pretoria. Work as Curator: Fort Klapperkop Heritage Site and Acting Deputy Manager Museums and Heritage.
- 2002-2007: City of Tswane Metropolitan Municipality. Work as Deputy Manager Museums and Heritage.
- August 2007 – present – Managing Director for Archaetnos Archaeologists.
- 1988-2003: Part-time lecturer in Archaeology at the University of Pretoria and a part-time lecturer on Cultural Resources Management in the Department of History at the University of Pretoria.

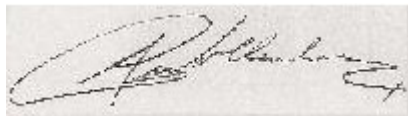
Experience and professional affiliations

- Has published 70 articles in scientific and popular journals on archaeology and history.
- Has been the author and co-author of over 300 unpublished reports on cultural resources surveys and archaeological work.
- Has published a book on the Military Fortifications of Pretoria.
- Has delivered more than 40 papers and lectures at national and international conferences.
- Member of SAHRA Council for 2003 – 2006.
- Member of the South African Academy for Science and Art.
- Member of Association for South African Professional Archaeologists.
- Member of the South African Society for Cultural History (Chairperson 2006-2008; 2012-2014).
- Has been editor for the SA Journal of Cultural History 2002-2004.
- Member of the HIA adjudication committee for Gauteng PHRA 2009-2012.

4. 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: 26 October 2012

5. METHODOLOGY

5.1 Survey of literature

A survey of the available literature was undertaken during the baseline study. This was done in order to obtain background information regarding the area. The sources consulted in this regard are indicated in the bibliography and the information is repeated in this report so that this report can stand on its own.

5.2 Field survey

The survey was conducted according to generally accepted HIA practices. It was undertaken on foot and via an off-road vehicle. Including the baseline study, 24 hours have been spent in the field.

The survey 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)¹, while photographs were also taken where needed. A GPS track was also recorded (Figure 3)².



Figure 3 GPS track route of the survey. North reference is to the top.

5.3 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.

¹ A Garmin Oregon 550 with a fault factor of a few metres.

² The area has already been thoroughly surveyed in 2011 during the baseline study. Areas that may therefore have been missed now, due to the circumstances described under section 6, was surveyed then.

5.4 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.

6. CONDITIONS AND ASSUMPTIONS

The following 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 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. Very little existing data exists about the project area. Background information therefore only gives a broad outline.
7. 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. In this particular case the vegetation was quite dense in certain areas making archaeological visibility difficult.
8. In this particular case there were three circumstances influencing the survey. Firstly, the vegetation cover is quite dense in certain areas. However this mainly included sugar cane fields where any possible cultural resources would have been demolished.

Secondly, many roads were inaccessible due to heavy rains. However, these roads were accessed during the previous survey in 2011. Thirdly social unrest, due to service delivery strikes, also influenced the accessibility of certain areas.

7. 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).

7.1 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 paleontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, paleontological, 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. The different phases during the HIA process are described in Appendix E. 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 paleontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological 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 paleontological material or object, or any meteorite; or
- d. bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and paleontological 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.

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

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)**.

7.2 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.

8. THE INTERNATIONAL FINANCE CORPORATIONS' PERFORMANCE STANDARD FOR CULTURAL HERITAGE

This standard recognizes the importance of cultural heritage for current and future generations. It aims to ensure that clients protect cultural heritage in the course of their project activities.

This is done by clients abiding to the law and having heritage surveys done in order to identify and protect cultural heritage resources via field studies and the documentation of such resources. These need to be done by competent professionals (e.g. archaeologists and cultural historians). Possible chance finds, encountered during the project development, also needs to be managed by not disturbing it and by having it assessed by professionals.

Impacts on the cultural heritage should be minimized. This include the possible maintenance of such sites in situ, or when impossible, the restoration of the functionality of the cultural heritage in a different location. When cultural historical and archaeological artifacts and structures need to be removed is should be done by professionals and by abiding to the applicable legislation. The removal of cultural heritage resources may however only be considered if there are no technically or financially feasible alternatives. In considering the removal of cultural resources, it should be outweighed by the benefits of the overall project to the effected communities. Again professionals should carry out the work and adhere to the best available techniques.

Consultation with affected communities should be engaged in. This entails that access to such communities should be granted to their cultural heritage if this is applicable. Compensation for the loss of cultural heritage should only be given in extra-ordinary circumstances.

Critical cultural heritage may not be impacted on. Professionals should be used to advise on the assessment and protection thereof. Utilization of cultural heritage resources should always be done in consultation with the effected communities in order to be consistent with their customs and traditions and to come to agreements with relation to possible equitable sharing of benefits from commercialization.

9. DESCRIPTION OF THE AREA

The planned KaNgwane South Anthracite Mine is located approximately 15 km to the south-west of the town of Komatipoort and to the west of the Mozambique border. This is in the Barberton district of the Mpumalanga Province. The surveyed area is surrounded by various villages (Figure 4) namely, Tonga, KaMaqhekeza, Naas, Steenbok and eMangweni.

The surveyed area is mostly flat with a slight decline in topography close to rivers. The western side of the area next to the Komati River does however exist of rolling hills. The Komati River forms the western border of the planned development and drains into a north-easterly direction. The Mambate River is found in the eastern side of the area, draining into a northern direction. Tributaries of these rivers are also found. Next to these some signs of erosion are present.

The surveyed area has been extensively disturbed by recent human activities. To the north of the surveyed area some of the mentioned villages are located. These are however, much larger than indicated on the outdated 1: 50 000 topographic map of the area. Most of the surveyed area has been disturbed by cultivation (Figure 5-6). This consists of large sugar cane fields in the west and south and smaller fields used for subsistence farming in the south and east. Some of these, not currently used for agriculture, show pioneer plant species due to earlier disturbance (Figure 7-8). Very few areas with natural vegetation remains. These are also quite dense and impenetrable. Many signs of illegal dumping are also found throughout the surveyed area.



Figure 4 One of the villages close to the surveyed area.



Figure 5 Sugar cane field in the surveyed area.



Figure 6 Subsistence farming activities in the project area.



Figure 7 Disturbed area now showing pioneer vegetation species.



Figure 8 General view of the surveyed area.

10. HISTORICAL CONTEXT

As indicated three sites of cultural heritage significance were located in the surveyed area. However, in order to enable the reader to better understand this, it is necessary to give a background regarding the different phases of human history. It also needs to be indicated that in this area no declared heritage sites are indicated on the SAHRA database.

10.1 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 stone tools that were identified approximately 15 km to the south of the project area, also close to the Komati River. These consisted of Middle and Late Stone Age tools (Van Vollenhoven & Radford 2011: 17, 21). Further away some an Early and Middle Stone Age site called Border Cave in Swaziland is known (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 site 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.

10.2 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 closest Iron Age site to the surveyed area is one that was identified recently approximately 15 km further to the south. The site was not researched yet and seems to contain both Early and Late Iron Age components (Van Vollenhoven & Radford 2011: 20-27). The historical atlas indicates that the closest well known 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.

10.3 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.

Some graves dating to the Historical Age were identified approximately 15 km to the south of the project area (Archaetnos database). Graves are also found in formal cemeteries at the villages mentioned earlier.

11. DISCUSSION OF SITES IDENTIFIED DURING THE SURVEY

Three sites were identified in the surveyed area during the survey in 2011. No other archaeological, historical or cultural sites, structures or objects of any significance were identified during the 2012 survey. These sites are all to be impacted on by the development and are therefore discussed here again.

As indicated there always is a possibility that some sites may have been missed. In such a case it should be handled in accordance with the recommendations in this report.

11.1 Site 1 – old government farm buildings

This is the remains of different buildings (Figure 9-10) and a farm dam. An inhabitant of the district indicated that it was government buildings that had something to do with the farming activities when this was a government farm (Personal communication: Sebelo Magagula). These structures most likely are slightly younger than 60 years but it not very unique.

GPS: 25°42.656'S
31°49.031'E

The site is regarded as having a **low** cultural significance. It received a field rating of General Protection C (IVC). This report is seen as ample mitigation and the buildings may therefore be demolished.



Figure 9 Ruins at site no. 1.



Figure 10 More ruins and an old farm dam at site no. 1.

11.2 Site 2 – MSA/LSA and Iron Age remains

This is an area where both Middle and Late Stone Age tools as well as Iron Age pottery was identified (Figure 11-14). These seem to have been washed down from somewhere nearby,

but the area around it has been cultivated. The two track road also runs through the occurrence. The Stone Age material date from the Middle and Late Stone Age.

The Iron Age material may come from a nearby area which may be an Iron Age midden. Here some fauna material was also seen. A few hammer and whetstones where also identified. No other associations, such as stone walling, are present.

Preliminary analysis of the pottery seems to indicate that it belong to the Mzonjani facies of the of the Kwale branch of the Kalundu pottery tradition. This would place it in the Early Iron Age with dates ranging from 450 – 750 AD (Huffman 2007: 127- 129; Personal communication: J van der Walt). However one cannot make such deductions on only a few pieces of pottery. On the other hand, these finds are similar to potsherds that were identified about 15 km to the south of the surveyed area.

Since not many Early Iron Age are known this site would therefore receive a rating of **high** cultural significance. The location of the site, less than 500 m from a river and against a mild slope, also is a typical placement for Early Iron Age sites. It receives a field rating of General protection A (IVA).

GPS: 25°42.928'S
31°50.322'E

It seems as if the pollution control dams of the mine will be placed in this area. The site will have to be mitigated by doing test excavations after which it may be demolished.



Figure 11 Middle and Late Stone Age tools at site no. 2.



Figure 12 Iron Age artifacts from site no. 2.



Figure 13 Decorated Iron Age pottery from site no. 2.



Figure 14 Possible midden area a few at site no. 2.

11.3 Site 3 – MSA and Iron Age remains

This is an area where Middle Stone Age tools and Iron Age pottery was identified (Figure 15-16). No other indications of it being a site was identified and therefore it is assumed that the material was washed down during rainstorms.

GPS: 25°42.754'S
31°49.987'E

The artifacts therefore do not really constitute a site, but rather a feature. It is regarded as having a **low** cultural significance. It is given a field rating of General Protection C (IVC).

This report is seen as ample mitigation and the site may therefore be demolished during development. The find should not have a negative influence on the planned development. The potsherd again seems to be Mzonjani pottery (Huffman 2007: 127-129; Personal communication: J van der Walt), further emphasizing the occurrence of this tradition in the broader geographical area.



Figure 15 Middle Stone Age material from site no. 3.



Figure 16 Decorated potsherd from site no. 3.

12. IMPACT RATING

Construction and Operation phase:

$$\begin{aligned}\text{Site 1 - Significance} &= (\text{Magnitude} + \text{Duration} + \text{Scale}) \times \text{Probability} \\ &= (\text{Minor} + \text{Medium-term} + \text{Site}) \times \text{High probability} \\ &= (2 + 3 + 1) \times 4 \\ &= 6 \times 4 \\ &= 24 - \text{Low Environmental significance}\end{aligned}$$

$$\begin{aligned}\text{Site 2 - Significance} &= (\text{Magnitude} + \text{Duration} + \text{Scale}) \times \text{Probability} \\ &= (\text{Very High} + \text{Long-term} + \text{Regional}) \times \text{Definite} \\ &= (10 + 4 + 4) \times 5 \\ &= 18 \times 5 \\ &= 90 - \text{High Environmental significance}\end{aligned}$$

$$\begin{aligned}\text{Site 3 - Significance} &= (\text{Magnitude} + \text{Duration} + \text{Scale}) \times \text{Probability} \\ &= (\text{Minor} + \text{Medium-term} + \text{Site}) \times \text{High probability} \\ &= (2 + 3 + 1) \times 4 \\ &= 6 \times 4 \\ &= 24 - \text{Low Environmental significance}\end{aligned}$$

Decommissioning phase:

$$\begin{aligned}\text{Site 1 - Significance} &= (\text{Magnitude} + \text{Duration} + \text{Scale}) \times \text{Probability} \\ &= (\text{Minor} + \text{Immediate} + \text{Local}) \times \text{None} \\ &= (2 + 1 + 2) \times 0 \\ &= 5 \times 0 \\ &= 0 - \text{Low Environmental significance}\end{aligned}$$

$$\begin{aligned}\text{Site 2 - Significance} &= (\text{Magnitude} + \text{Duration} + \text{Scale}) \times \text{Probability} \\ &= (\text{Minor} + \text{Immediate} + \text{Local}) \times \text{Definite} \\ &= (2 + 1 + 2) \times 5 \\ &= 5 \times 5 \\ &= 25 - \text{Low Environmental significance}\end{aligned}$$

$$\begin{aligned}\text{Site 3 - Significance} &= (\text{Magnitude} + \text{Duration} + \text{Scale}) \times \text{Probability} \\ &= (\text{Minor} + \text{Immediate} + \text{Local}) \times \text{None} \\ &= (2 + 1 + 2) \times 0 \\ &= 5 \times 0 \\ &= 0 - \text{Low Environmental significance}\end{aligned}$$

Post-closure phase:

$$\begin{aligned}\text{Site 1 - Significance} &= (\text{Magnitude} + \text{Duration} + \text{Scale}) \times \text{Probability} \\ &= (\text{Minor} + \text{Immediate} + \text{Local}) \times \text{None} \\ &= (2 + 1 + 2) \times 0 \\ &= 5 \times 0 \\ &= 0 - \text{Low Environmental significance}\end{aligned}$$

$$\begin{aligned}
\text{Site 2 - Significance} &= (\text{Magnitude} + \text{Duration} + \text{Scale}) \times \text{Probability} \\
&= (\text{Minor} + \text{Immediate} + \text{Local}) \times \text{Definite} \\
&= (2 + 1 + 2) \times 5 \\
&= 5 \times 5 \\
&= 25 - \text{Low Environmental significance}
\end{aligned}$$

$$\begin{aligned}
\text{Site 3 - Significance} &= (\text{Magnitude} + \text{Duration} + \text{Scale}) \times \text{Probability} \\
&= (\text{Minor} + \text{Immediate} + \text{Local}) \times \text{None} \\
&= (2 + 1 + 2) \times 0 \\
&= 5 \times 0 \\
&= 0 - \text{Low Environmental significance}
\end{aligned}$$

13. CONCLUSION & RECOMMENDATIONS

The HIA survey of the indicated area was completed successfully. This includes the survey done for the baseline study. Apart from the three sites indicated above, none other was found. Formal and semi-formal cemeteries were however identified by the community, although these are outside of the area of impact. The sites found during the survey are indicated in Figure 17.

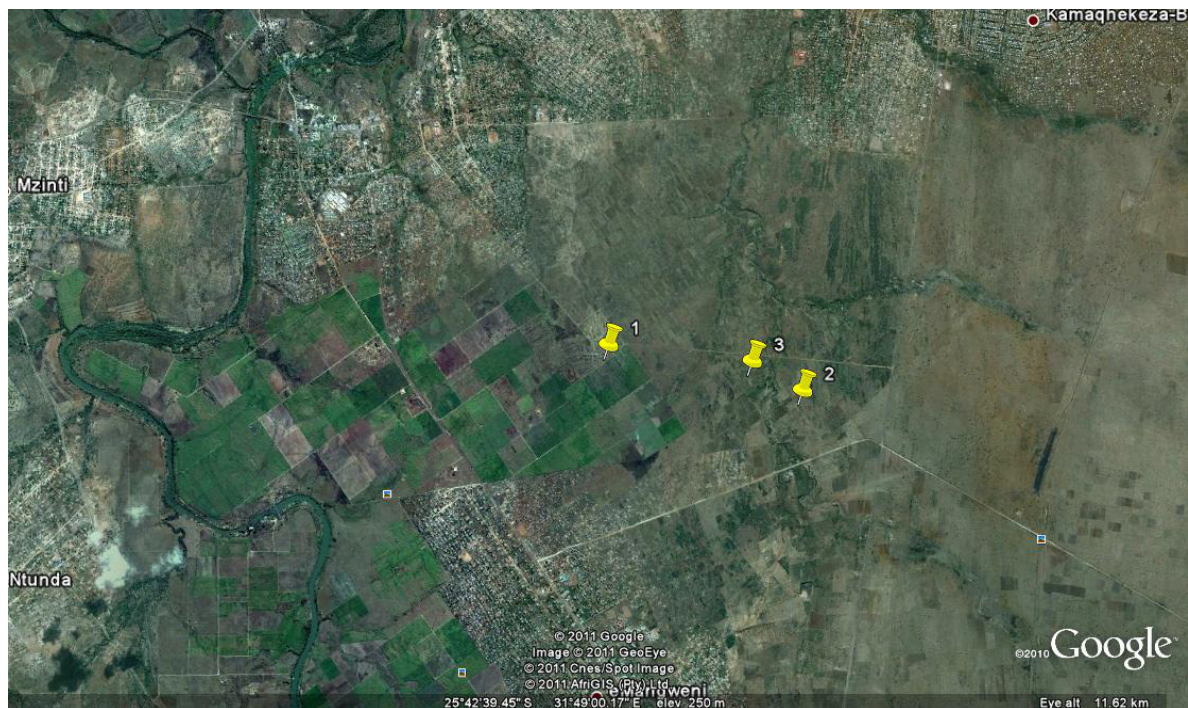


Figure 17 Location of the sites indicated in the report. North reference is to the top.

It needs to be considered at all times that the environmental factors discussed may have had an influence on the identification of sites. No graves, apart from those in formal and semi-formal cemeteries mentioned earlier, were identified (Figure 18). During the initial baseline survey, six members of the local community were asked about the occurrence of graves in the

area and they all indicated that there were only graves in formal cemeteries in the villages and none in the field. One of them, Mr. Alfons Gpec, indicated that he has been living here for 46 years. This was confirmed during the HIA survey by members of the local ward committee (Personal communication: Sebelo Magagula and Jabulani Sithole).

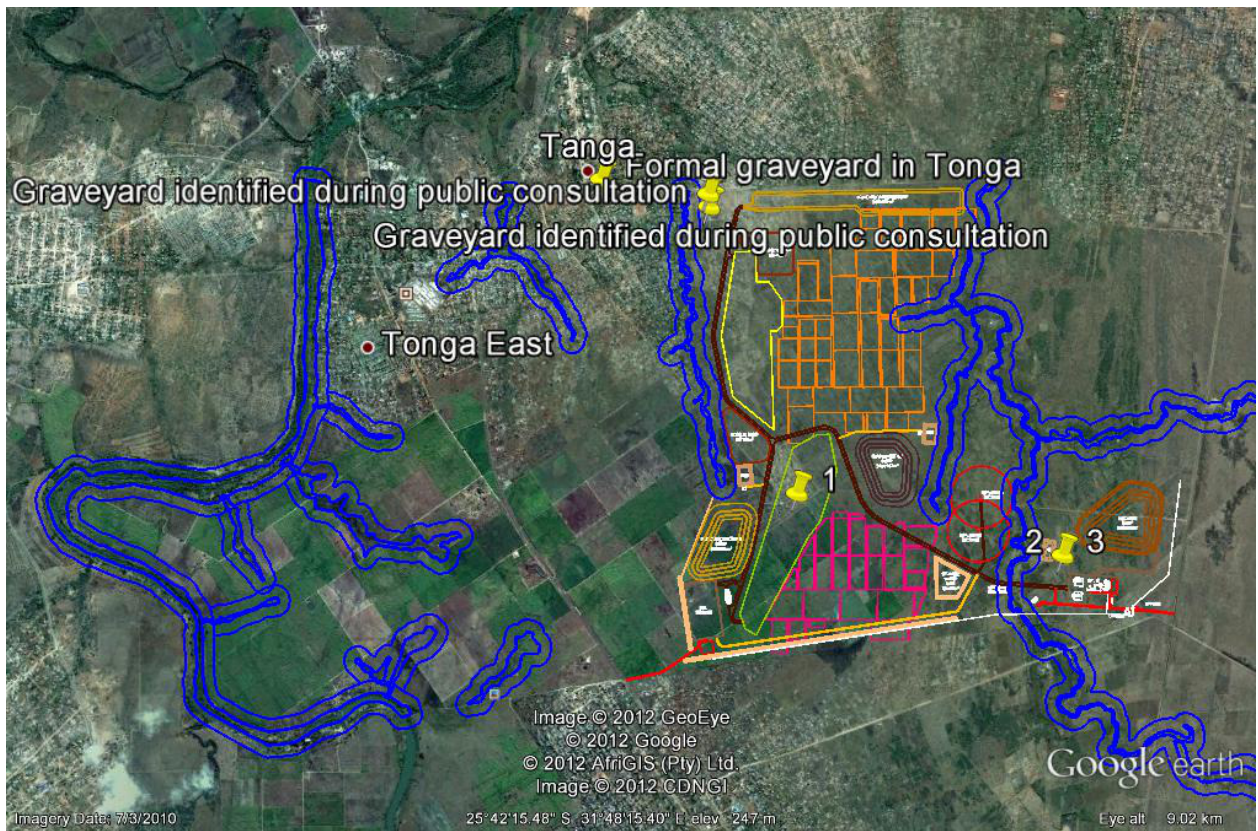


Figure 18 Google image indicating the development, sites identified during the survey and grave yards pointed out by the community. North reference is to the top.

The following is recommended:

- Site 1 (buildings) and 3 (Stone and Iron Age remains) are considered as having a low cultural significance. This report is seen as ample mitigation in this regard.
- Both may be demolished without any mitigation or permission.
- Site 2 (Stone and Iron Age remains) is regarded as having a high cultural significance.
- The site will have to be mitigated. The first option would be to fence it in and regard it as a no-go area. In such a case a heritage management plan will have to be written for the continuous preservation of the site.
- The second option would be to do test excavations so that the information the site holds can be researched. After such a process it may be demolished. Test

excavations may only be done by an archaeologist after receiving the necessary permit from SAHRA.

- The proposed development may continue only after implementation of the indicated mitigation measures.
- Grave yards and graves always have a high cultural significance and needs to be handled with the utmost sensitivity. Although no graves were found inside of the area of direct impact, there always is a possibility and therefore basic information on the handling of these is given. Once discovered an archaeologist should always be contacted to come and do an assessment.
- Since the semi-formal sites are very close to the development, it should be fenced in and preserved.
- It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. 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.

14. REFERENCES

Archaetnos database.

Bergh, J.S. (red.). 1999. **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies.** Pretoria: J.L. van Schaik.

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.

Gpec, A. 2011.11.24. Farm worker and community member. Personal communication.

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.

Magagula, S. 2012.10.18. Member of the ward committee. Personal communication.

- Mitchell, P. 2002. **The archaeology of Southern Africa**. Cambridge: Cambridge University Press.
- 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.
- SAHRA database.
- Smith, B.W. & Zubieta, L.F. 2007. The rock art of Mpumalanga. Delius, P. (ed.). **Mpumalanga history and heritage**. Pietermaritzburg: University of Natal Press.
- Sithole, J. 2012.10.18. Member of the ward committee. Personal communication.
- 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.
- Van der Walt, J. 2011.11.29. Archaeologist. Personal communication.
- Van Vollenhoven, A.C. 2011. **A report on a cultural heritage baseline study for the proposed KaNgwane South Anthracite Mine, close to Komatipoort, Mpumalanga Province**. (Unpublished report, Archaetnos, Groenkloof).
- Van Vollenhoven, A.C. & Radford, A. 2011. **A report on a heritage impact assessment for the Nkomati Anthracite Mine in the magisterial district of Barberton, Mpumalanga Province**. (Unpublished report, Archaetnos, Groenkloof).

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/ STATEMENT OF HERITAGE 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

SIGNIFICANCE AND FIELD RATING:

Cultural significance:

- Low 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 and frequency. Also any important object found out of context.
- High Any site, structure or feature regarded as important because of its age 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

Field ratings:

- i. National Grade I significance should be managed as part of the national estate
- ii. Provincial Grade II significance should be managed as part of the provincial estate
- iii. Local Grade IIIA should be included in the heritage register and not be mitigated (high significance)
- iv. Local Grade IIIB should be included in the heritage register and may be mitigated (high/ medium significance)
- v. General protection A (IV A) site should be mitigated before destruction (high/ medium significance)
- vi. General protection B (IV B) site should be recorded before destruction (medium significance)
- vii. General protection C (IV C) phase 1 is seen as sufficient recording and it may be demolished (low significance)

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

APPENDIX E

HERITAGE IMPACT ASSESSMENT PHASES

1. Pre-assessment or scoping phase – establishment of the scope of the project and terms of reference.
2. Baseline assessment – establishment of a broad framework of the potential heritage of an area.
3. Phase I impact assessment – identifying sites, assess their significance, make comments on the impact of the development and makes recommendations for mitigation or conservation.
4. Letter of recommendation for exemption – if there is no likelihood that any sites will be impacted.
5. Phase II mitigation or rescue – planning for the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.
6. Phase III management plan – for rare cases where sites are so important that development cannot be allowed.