



Archaeynos Culture & Cultural
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**A REPORT ON A CULTURAL HERITAGE IMPACT ASSESSMENT FOR THE
DORSTFONTEIN MINE EAST EXPANSION PROJECT NEAR KRIEL,
MPUMALANGA PROVINCE**

For:

GCS

REPORT: **AE910**

by:

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SUMMARY

Dr JCC Pistorius was appointed by GCS to conduct a cultural heritage impact assessment for the Dorstfontein Coal Mine East Expansion Project. It was then arranged with GCS that Archaeos may do the work on behalf of Dr Pistorius. The Dorstfontein mine is located close to the town of Kriel in the Mpumalanga Province.

The fieldwork undertaken revealed two sites of cultural heritage significance. One of these is of high cultural significance. The planned expansion project will have a direct impact on both sites. The report indicates how to deal with this.

Suitable mitigation measures are proposed. Once these have been implemented, the proposed development may continue.

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1. INTRODUCTION

Dr JCC Pistorius was appointed by GCS to conduct a cultural heritage impact assessment for the Dorstfontein Mine East Expansion Project. It was then arranged with GCS that Archaeos may do the work on behalf of Dr Pistorius. The proposed work entails the erection of a conveyor and railway line.

The Dorstfontein mine is located close to the town of Kriel in the Mpumalanga Province. The client indicated the area where the proposed development is to take place, and the survey was confined to this area.

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. Recommend suitable mitigation measures should there be any sites of significance that might be impacted upon by the proposed development.
6. Review applicable legislative requirements.

3. CONDITIONS & ASSUMPTIONS

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

1. Cultural Resources are all non-physical and physical man-made occurrences, as well as natural occurrences associated with human activity. These include all sites, structure and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development. Graves and cemeteries are included in this.
2. The significance of the sites, structures and artifacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. The various aspects are not mutually exclusive, and the evaluation of any site is done with reference to any number of these aspects.

3. Cultural significance is site-specific and relates to the content and context of the site. Sites regarded as having low cultural significance 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 grass cover was very high and certain areas inaccessible. As a result some areas could not be surveyed properly.

4. 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).

4.1 The National Heritage Resources Act

According to the above-mentioned law 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.

Archaeology, palaeontology and meteorites

Section 35(4) of this act states that no person may, without a permit issued by the responsible heritage resources authority:

- 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.

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.

4.2 The National Environmental Management Act

This act 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.

5. METHODOLOGY

5.1 Survey of literature

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

5.2 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.

5.3 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 the Global Positioning System (GPS). The information was added to the description in order to facilitate the identification of each locality.

6. DESCRIPTION OF THE AREA

The Dorstfontein Mine East Expansion Project in this case entails an expansion of mining infrastructure, namely a conveyor and railway line. The Dortsfontein mine is owned by Total Coal South Africa. As the name indicates this is on the western side of the mine property, which is located to the east of the town of Kriel in the Mpumalanga Province. It includes portions of the farms Haasfontein 28 IS, Vaalkranz 29 IS and Vlaklaagte 45 IS (Figure 1).

The area has a typical Highveld environment dominated by grassland and a few trees. In certain areas the grass cover was quite high during the time of the survey (Figure 2) making archaeological visibility extremely difficult. Large portions of the land have been cultivated, maize being the main crop (Figure 3).

Other indications of earlier farming activities could also be seen in the area. This includes fences, buildings and other farm related structures. A few houses were also identified. Some of these are still inhabited.

The area is drained by the Olifants River in the south and around this wetlands are formed. On the southern side of the river an old mining village was situated. This was however demolished and only piles of concrete, bricks and other building material remains.

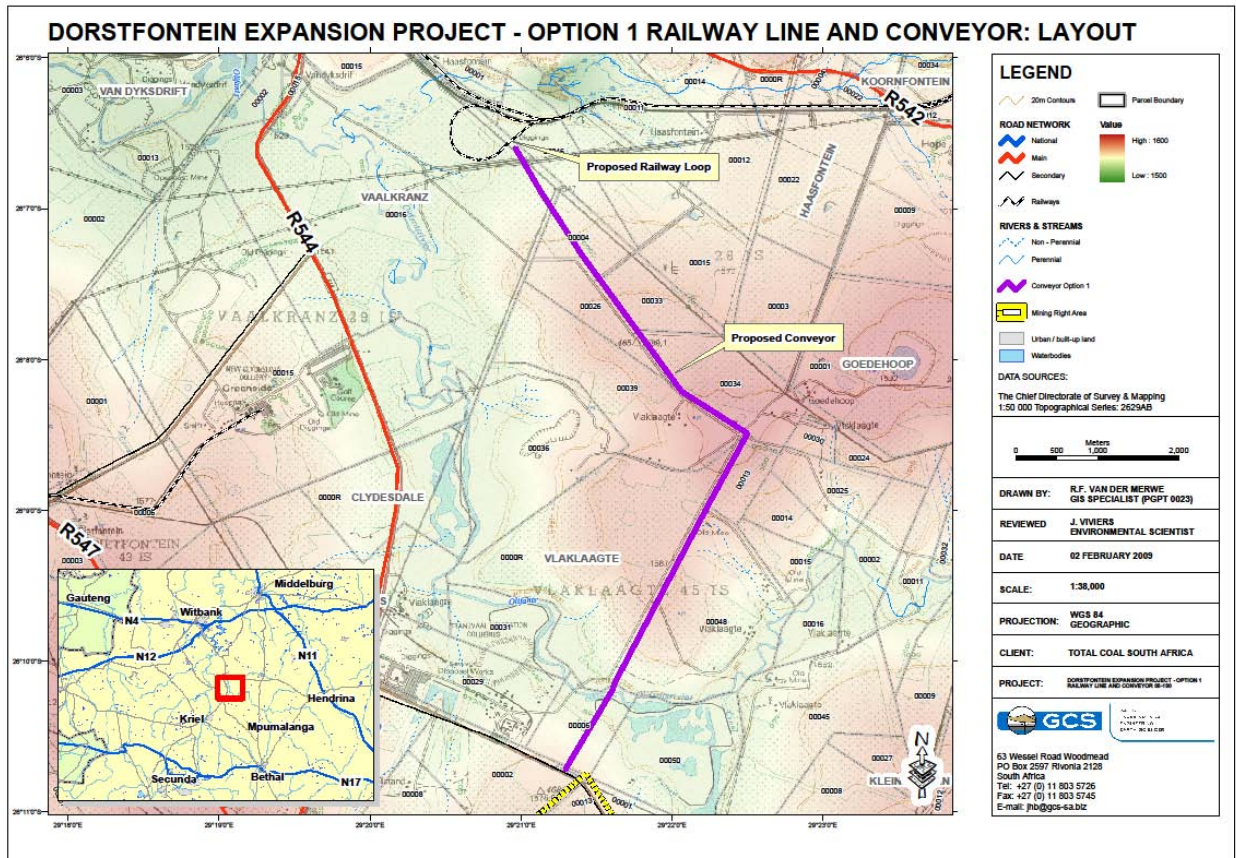


Figure 1 Map of the surveyed area.



Figure 2 General appearance of the environment in the surveyed area.

In the northeast of the area the remains of an old mine can be seen. It consists of large heaps of unearthed soil (Figure 4). The vegetation also clearly indicate that the area has been disturbed in the past.



Figure 3 Grassland with some maize fields in the back.



Figure 4 Old mine heaps in the surveyed area.

7. DISCUSSION

During the survey two sites of cultural heritage significance was located in the area to be developed. This report indicates suitable mitigation measures in this regard. In order to enable the reader to better understand this, it is necessary to give a background regarding the different phases of human history.

7.1 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 geographical area around the town of Kriel is not known as an area containing prehistoric sites. No Stone Age sites are for instance indicated on a map contained in a historical atlas of this area (Bergh 1999: 4). The closest known Stone Age occurrence is that of rock art close to the Olifants River to the south of Witbank (Bergh 1999: 5). This however should rather be seen as a lack of research in the area and not as an indication that such features does not occur.

During the survey no rock shelters or any other indication of Stone Age activities were found.

7.2 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.

Iron Age sites have been identified to the south of the area, around Bethal (Bergh 1999: 6-7). These all are dated to the Late Iron Age. It is also known that the early trade routes did not run through this area (Bergh 1999: 9). However one should bear in mind that many of these areas may not have been surveyed before.

The type of environment around Dorstfontein definitely is suitable for human habitation. There is ample water sources and good grazing. One would therefore expect that Iron Age people may have utilized the area. This is the same reason why white settlers later on moved into this environment.

At the beginning of the 19th century the Phuthing, a South Sotho group, stayed to the east of where Dorstfontein is situated. During the Difaquane they fled to the south (Bergh 1999: 10-11, 109).

During the survey no indication of Iron Age settlement was identified.

7.3 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.

The first white traveler to visit these surroundings was Robert Scoon in 1829. The first Voortrekker groups of Hans van Rensburg and Louis Tregardt also passed close to this area (Bergh 1999: 13-14). The first white farmers only settled here during the late 1850's. By the 1890's this area was inhabited by many white farmers (Bergh 1999: 18-20).

During the Anglo Boer War the highveld areas saw much action consisting of various skirmishes between Boer and Brit. It however is not possible to indicate how close these came to the farm Dorstfontein (Bergh 1999: 54).

All sites found during the survey date to the historical age. These are discussed below.

7.4 Discussion of sites identified during the survey

Site 1

This site consists of the ruin of an old historical building. It probably is an old farm dwelling (Figure 5). As it is close to some graves of white people one may assume it a very old farmstead. However the house is made of clay and the good state of the walls gives the impression that it may have been in use not very long ago. It therefore probably is a farm workers dwelling.

GPS: 26°09'06"S
29°22'09"E

The ruin is regarded as having a **low** cultural significance. It probably is not very old and also not very unique.



Figure 5 Ruin of a farm workers dwelling.

Probability: Definite

Extent: Site

Duration: Permanent

Intensity: Very high

Significance: Low

It is recommended that the site may be demolished. This report is seen as ample mitigation in this regard.

Site 2

This is a graveyard to the north of site number 1. It consist of eight graves. Six of these have marble headstones and these are all younger than 60 years. Two of these are older than 60 years (1931 and 1937) and they have concrete grave dressings and headstones (Figure 6-7). The wording is only partially legible. The surname on these two graves is Human. On the other graves the surnames are Human and Du Toit.

GPS: 26°09'02"S
29°22'12"E

Due to the sensitivity of this issue, graves are always regarded as having a **high** cultural significance. Graves with an unknown date are always handled as if older than 60 years.



Figure 6 One of the two graves older than 60 years in the graveyard.

Probability: Definite

Extent: Site

Duration: Permanent

Intensity: Very high

Significance: Very high

Due to the extent of the development, will not be possible to incorporate the graves within the development plan for the site. The graves will therefore have to be exhumed and the bodies reburied. This process is a lengthy process including social consultation in order to find families of the deceased and to obtain their permission. However, the mine apparently are already in contact with the families.

In the case of graves older than 60 years and those with an unknown date of death archaeologist as well as an undertaker will have to be part of the team involved. For graves with a date of death of younger than 60 years, only an undertaker is involved.



Figure 7 The other grave older than 60 years at site no 2.

8. CONCLUSIONS AND RECOMMENDATIONS

In conclusion it can be stated that the assessment of the area was conducted successfully. In the surveyed area two sites have been found and both of these fall within the proposed development area. One is deemed to be of high cultural significance. The other has a low cultural significance. The final recommendations are as follows:

- Usually the most acceptable solution for a graveyard (site no 2) would be to incorporate the graves within the development plan for the site. However it has already been established that this would not be possible.
- It is therefore recommended that the graves be exhumed and the bodies reburied. The processes as indicated above should be followed. In the case of graves older than 60 years and those with an unknown date of death archaeologist as well as an undertaker will have to be part of the team involved. For graves with a date of death of younger than 60 years, only an undertaker is involved.

- Site number 1 may be demolished and this report is seen as ample mitigation in this regard. However, a destruction permit from the South African Heritage Resources Agency (SAHRA) will be needed.
- It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts are always a distinct possibility. Care should therefore be taken when development work commences that if any of these are accidentally discovered, a qualified archaeologist be called in to investigate.
- Due to constraints indicated above it may be possible that certain sites were not identified. In such a case an archaeologist should also be called in to investigate.

9. REFERENCES

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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

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.