



Archaetnos Culture & Cultural
Resource Consultants
BK 98 09854/23

**A REPORT ON A CULTURAL HERITAGE IMPACT ASSESSMENT FOR THE
CHELMSFORD COLLIERY EMP AMENDMENT, KWAZULU-NATAL PROVINCE**

For:

CABANGA ENVIRONMENTAL
Unit 5 & 6 Beyers Office Park
Bosbok Road
Randpark Ridge

REPORT NO.: AE01837V

By:

Prof. A.C. van Vollenhoven (L.AKAD.SA.)
Accredited member of ASAPA (Accreditation number: 166)
Accredited member of SASCH (Accreditation number: CH001)
&
Johan Smit, BA (Hons)

25 July 2018

Archaetnos
P.O. Box 55
GROENKLOOF
0027
Tel: 083 291 6104
Fax: 086 520 4173
E-mail: antonv@archaetnos.co.za

Member: 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]

SUBMISSION OF REPORT

Please note that the South African Heritage Resources Agency (SAHRA) or one of its subsidiary bodies needs to comment on this report.

It is the client's responsibility to do the submission via the SAHRIS System on the SAHRA website.

Clients are advised not to proceed with any action before receiving the necessary comments from SAHRA.

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 is 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.

Should it be necessary to visit a site again as a result of the above mentioned, an additional appointment is required.

Reasonable editing of the report will be done upon request by the client if received within 60 days of the report date. However, editing will only be done once, and clients are therefore requested to send all possible changes in one request. Any format changes or changes requested due to insufficient or faulty information provided to Archaetnos on appointment, will only be done by additional appointment.

Any changes to the scope of a project will require an additional appointment.

**©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.

EXECUTIVE SUMMARY

Purpose:

Archaetnos cc was requested by Cabanga Environmental to conduct a cultural heritage impact assessment (HIA) for the Chelmsford Colliery EMP Amendment. This is south of the town of Newcastle in the KwaZulu-Natal Province. This falls within the Newcastle Local Municipality of the Amajuba District Municipality. The proposed project is on the remainder of the farm Macclesfield 8418 HS and the remainder and portion 1 of the farm Herons Court 8521 HS.

Project description:

Chelmsford Colliery is an existing, operational mine with an approved Mining Right and associated Environmental Management Plan (EMP) in terms of the Mineral and Petroleum Resources Development Act (Act No. 28 of 2002) (MPRDA). The approved EMP had sections of the Farms Macclesfield and Herons Court (the Macclesfield Section) earmarked for underground mining. Upon further assessment of the resource, Future Coal now wish to exploit this resource via opencast methods. To mine Macclesfield section via opencast methods, Future Coal requires their EMP to be amended and Environmental Authorisation in terms of NEMA.

Methodology:

The methodology for the study includes a survey of literature followed by a field assessment. The latter 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 by doing a physical survey via off-road vehicle and on foot and covered as much as possible of the area to be studied. Certain factors, such as accessibility, density of vegetation, etc. may however influence the coverage.

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 GPS. The information was added to the description in order to facilitate the identification of each locality.

Public consultation:

Public consultation is done by the Environmental Practitioner.

Findings:

During the survey three sites of cultural heritage significance were identified.

Recommendations:

- Site no. 1 consists of graves and farm house ruins. The ruins have low significance and it may be granted destruction at the discretion of the relevant

heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation.

- Graves are always regarded as having a high cultural significance. It should be included in the heritage register and mitigation measures must be implemented if any development activities take place in its vicinity.
- Two possibilities exist. The first option would be to fence the graves in or demarcate the site and have a management plan drafted for the sustainable preservation thereof. This should be compiled by a heritage expert. This option is relevant when the graves are in no danger of being damaged or destroyed by the development (direct impacts). Secondary impact due to the development activities may still exist and must be managed.
- The second option is to exhume the mortal remains and to have it relocated. This usually is relevant when the graves will be directly affected (damaged or destroyed) by the development. In this case specific procedures should be followed which includes social consultation. Graves younger than 60 years may be exhumed only by an undertaker. For those older than 60 years, and unknown graves, an undertaker and archaeologist should be appointed. Permits must be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.
- The graves at site no. 1 are on the edge of the development and therefore Option 1 is recommended. Should this however not be possible, a motivation needs to be written so that Option 2 may be implemented.
- Site no.3 is also graves, but these are outside of the planned mining area. Thus, Option 1 is recommended. Specific care should be taken to safeguard the graves from damage caused by blasting activities. This should be included in the cultural management plan after consultation with a blasting expert.
- Site no. 2 is a historical farm yard associated with the graves at site no. 3. It is of medium-high significance and should be included in the heritage register. It may be mitigated if needed. Such mitigation would be subject to a permit application lodged with the relevant heritage authority.
- It is recommended that the site remain in situ. The mine however needs to involve the blasting expert to ensure that no further damage are done to these structures. This would be possible by using different blasting techniques.
- It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. Due to the density of vegetation in certain areas it also is possible that some sites may only become known later. Operating controls and monitoring should therefore be aimed at the possible unearthing of such features. 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.

- In this regard the following 'Chance find Procedure' should be followed:
 - *Upon finding any archaeological or historical material all work at the affected area must cease.*
 - *The area should be demarcated to prevent any further work there until an investigation has been completed.*
 - *An archaeologist should be contacted immediately to provide advice on the matter.*
 - *Should it be a minor issue, the archaeologist will decide on future action. Depending on the nature of the find, it may include a site visit.*
 - *SAHRA's APM Unit may also be notified.*
 - *If needed the necessary permit will be applied for with SAHRA. This will be done in conjunction with the appointed archaeologist.*
 - *The removal of such archaeological material will be done by the archaeologist in lieu of the approval given by SAHRA, including any conditions stipulated by the latter.*
 - *Work on site will only continue after the archaeologist/ SAHRA has agreed to such a matter.*

It is also important to take cognizance that it is the client's responsibility to do the submission of this report via the SAHRIS System on the SAHRA website. No work on site may commence before receiving the necessary comments from SAHRA.

CURRICULUM VITAE OF SPECIALIST

CURRICULUM VITAE OF SPECIALIST: PROF 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

Employment history

- 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 Tshwane 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.
- 2014: Part-time lecturer for the Honours degree in Museum Sciences in the Department of History and Heritage Studies at the University of Pretoria
- 2015: Appointed extraordinary professor in history at the Mafikeng Campus of the Northwest University

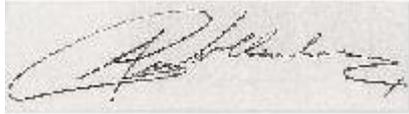
Other

- Published 75 articles in scientific and popular journals on archaeology and history.
- Author and co-author of over 580 unpublished reports on cultural resources surveys and archaeological work. A list of reports can be viewed on www.archaetnos.co.za
- Published a book on the Military Fortifications of Pretoria.
- Contributed to a book on Mapungubwe.
- Delivered more than 50 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.
- Accredited professional member of Association for South African Professional Archaeologists.
- Accredited professional 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 Provincial Heritage Resources Agency, Gauteng's Council.
- Member of Provincial Heritage Resources Agency, Gauteng's HIA adjudication committee (Chairperson 2012-2019).

ASAPA Accreditation number: 166
SASCH Accreditation number: CH001

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: 25 July 2018

LIST OF ACRONYMS

AIA – Archaeological Impact Assessment
AMP – Archaeology, Meteorites and Palaeontology unit of SAHRA
CMP – Cultural Management Plan
EAP – Environmental Assessment Practitioner
EIA – Environmental Impact Assessment
HIA – Heritage Impact Assessment
PIA – Palaeontological Impact Assessment
SAHRA –South African Heritage Resources Agency

CONTENTS

EXECUTIVE SUMMARY	3
CURRICULUM VITAE OF SPECIALIST	6
DECLARATION OF INDEPENDENCE	7
LIST OF ACRONYMS.....	7
1. INTRODUCTION	9
2. TERMS OF REFERENCE	11
3. LEGISLATIVE REQUIREMENTS	11
3.1 The National Heritage Resources Act.....	11
3.2 The National Environmental Management Act	14
3.3 The International Finance Corporations’ performance standard for Cultural Heritage .	14
4. METHODOLOGY.....	15
4.1 Survey of literature.....	15
4.2 Reference to other specialist studies	15
4.3 Public consultation and stakeholder engagement.....	15
4.4 Oral histories	15
4.5 Physical field survey	16
4.6 Documentation	16
4.7 Evaluation of Heritage sites	16
5. ASSUMPTIONS, GAPS, RESTRICTIONS, CONDITIONS AND LIMITATIONS	17
6. DESCRIPTION OF THE PHYSICAL ENVIRONMENT	18
7. HISTORICAL CONTEXT	22
7.1 Stone Age	22
7.2 Iron Age.....	22
7.3 Historical Age	23
8. DISCUSSION OF SITES IDENTIFIED DURING THE SURVEY	24
8.1 Site no. 1 – Graves and historical remains	24
8.2 Site no. 2 – Historical farm yard	29
8.3 Site no. 3 – Graves	33
9. CONCLUSION AND RECOMMENDATIONS.....	36
10. REFERENCES.....	38
APPENDIX A - DEFINITION OF TERMS:	40
APPENDIX B - DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE:.....	41
APPENDIX C - SIGNIFICANCE AND FIELD RATING:	42
APPENDIX D - PROTECTION OF HERITAGE RESOURCES:.....	44
APPENDIX E - HERITAGE IMPACT ASSESSMENT PHASES	45

1. INTRODUCTION

Archaetnos cc was requested by Cabanga Environmental to conduct a cultural heritage impact assessment (HIA) for the Chelmsford Colliery EMP Amendment. The project entails a change in mining method from the approved underground mine to proposed opencast mining at the Chelmsford Colliery. This is south of the town of Newcastle in the KwaZulu-Natal Province. This falls within the Newcastle Local Municipality of the Amajuba District Municipality. The proposed project is on the remainder of the farm Macclesfield 8418 HS remainder and portion 1 of the farm Herons Court 8521 HS (Figure 1-3).

Chelmsford Colliery is an existing, operational mine with an approved Mining Right and associated Environmental Management Plan (EMP) in terms of the Mineral and Petroleum Resources Development Act (Act No. 28 of 2002) (MPRDA). The approved EMP had sections of the Farms Macclesfield and Herons Court (the Macclesfield Section) earmarked for underground mining. Upon further assessment of the resource, Future Coal now wish to exploit this resource via opencast methods. To mine Macclesfield section via opencast methods, Future Coal requires their EMP to be amended and Environmental Authorisation in terms of NEMA.

A central co-ordinate of the development is 27°53'34.69"S; 29°54'12.67"E. The topographic 1:50 000 map sheet number is 2729DD.



FIGURE 1: LOCATION OF NEWCASTLE AND THE CHELMSFORD COLLIERY IN THE KWAZULU-NATAL PROVINCE (CABANGA ENVIRONMENTAL).

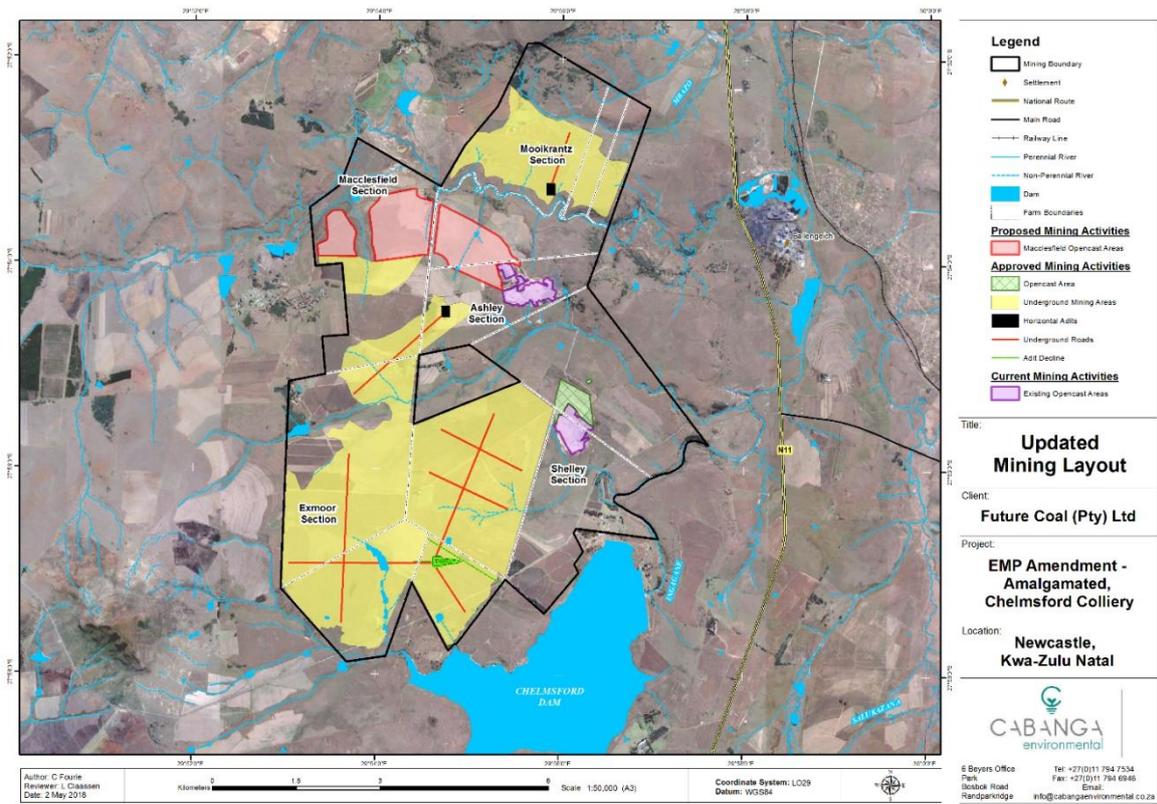


FIGURE 2: MINE LAYOUT OF THE CHELMSFORD COLLIERY. THE MACCLESFIELD SECTION IS INDICATED IN RED (CABANGA ENVIRONMENTAL).



FIGURE 3: GOOGLE EARTH IMAGE INDICATING THE PROPOSED MINING AREA.

2. TERMS OF REFERENCE

The Terms of Reference for the survey were to:

1. Identify objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the property (see Appendix A).
2. Document the found cultural heritage sites according to best practice standards for heritage related studies.
3. Study background information on the area to be developed.
4. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value (see Appendix B).
5. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.
6. Recommend suitable mitigation measures to minimize possible negative impacts on the cultural resources by the proposed development.
7. Review applicable legislative requirements.

3. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. The first of these are the National Heritage Resources Act (Act 25 of 1999) which deals with the cultural heritage of the Republic of South Africa. The second is the National Environmental Management Act (Act 107 of 1998) which inter alia deals with cultural heritage as part of the Environmental Impact Assessment process.

3.1 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 (AIA) only looks at archaeological resources.

A Palaeontological Impact Assessment (PIA) is an assessment of palaeontological heritage. Palaeontology is a different field of study, and although also sometimes required by the South African Heritage Resources Agency (SAHRA)¹, should be done by a professional palaeontologist.

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.

¹ A PIA has been completed

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). 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 or 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 **National Health Act (Act 61 of 2003)** 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 **National Health Act (Act 61 of 2003)**.

3.2 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.

3.3 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). Any 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 includes the possible maintenance of such sites *in situ*, or when not possible, 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, this 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 affected communities. Again, professionals should carry out the work and adhere to the best available techniques.

Consultation with affected communities should be conducted. This entails that such communities should be granted access 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 affected 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.

4. METHODOLOGY

4.1 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.

4.2 Reference to other specialist studies

A Palaeontological Impact Assessment was done for the site as well as detailed geological and soil assessments. A Visual Impact Assessment has also been commissioned.

No Archaeological Impact Assessments has been done on these farms before. The approved EMP (Van Hoven & Needham, 2012) states that no heritage resources are present in the Chelmsford Mining Right Area but it is not known what this statement is based on. A few reports are however known from the Newcastle area (SAHRIS database; Archaetnos's database). However, these have no direct bearing on the site in question.

4.3 Public consultation and stakeholder engagement

This aspect will be dealt with by Cabanga Environmental. It is currently in process and will be undertaken in line with NEMA EIA Regulations.

4.4 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 case, no interviews were undertaken as part of the HIA with surrounding communities. The surface Rights Owner of the Project Area and the Mine Management

were interviewed. It is assumed that community consultation will be covered during the public consultation undertaken by the Environmental Practitioner.

4.5 Physical 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. One regularly looks a bit wider than the demarcated area, as the surrounding context needs to be taken into consideration.

If required, the location/position of any site was determined by means of a Global Positioning System (GPS)², while photographs were also taken where needed. The survey was undertaken by doing a physical survey via off-road vehicle and on foot and covered as much as possible of the area to be studied (Figure 4).

Certain factors, such as accessibility, density of vegetation, etc. may however influence the coverage. In this instance the under footing was reasonably open, and the vegetation varied between medium and low. Accordingly, both the horizontal and the vertical archaeological visibility was influenced positively. The size of the surveyed area is limited to the positions indicated on the above maps (The Macclesfield Section as shown in Figure 2 and 3) and is 281 Ha in size, but the entire mining right area is approximately 5,000 Ha. The survey took 5 hours to complete.

4.6 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 GPS. The information was added to the description in order to facilitate the identification of each locality.

4.7 Evaluation of Heritage sites

The evaluation of heritage sites is done by giving a field rating of each (see Appendix C) 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.

² A Garmin Oregon 550 with an accuracy factor of a few meters.

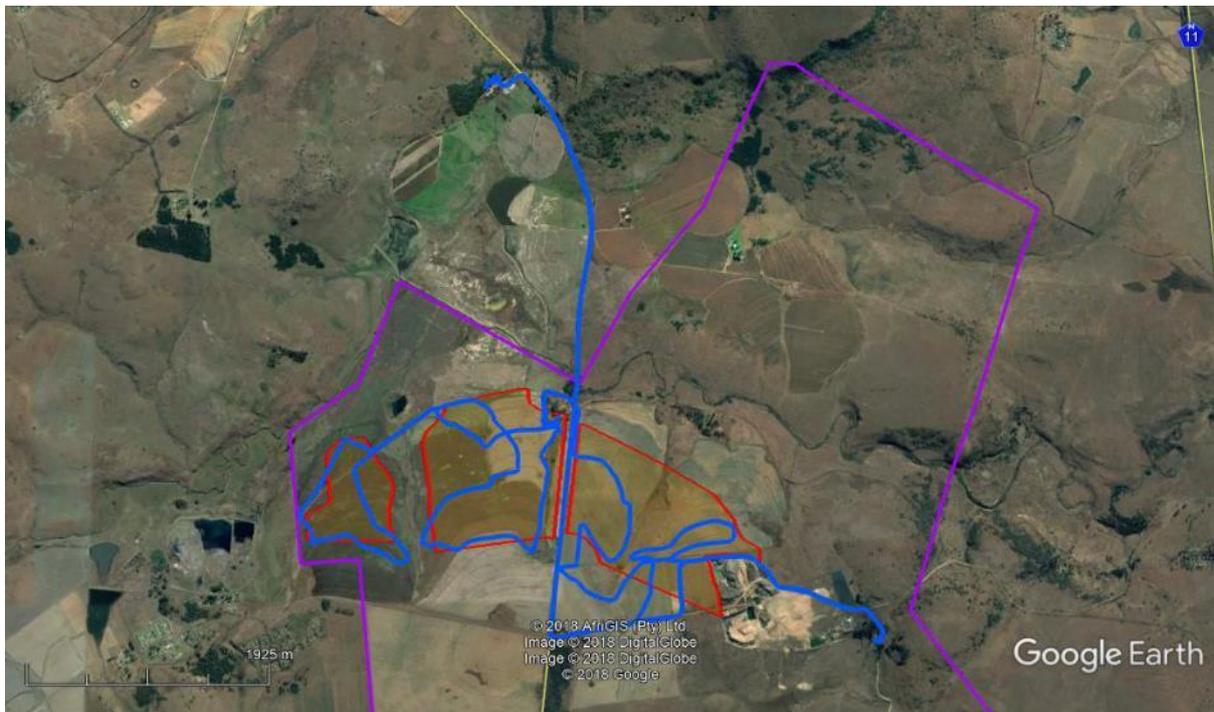


FIGURE 4: GPS TRACK OF THE SURVEYED AREA. NORTH REFERENCE IS TO THE TOP.

5. ASSUMPTIONS, GAPS, RESTRICTIONS, CONDITIONS AND LIMITATIONS

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, structures 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 C).

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. Certain areas which are clearly disturbed are also seen as very low risk areas and were therefore not surveyed in detail and sometimes just driven through.
8. In this particular case the vegetation under footing was reasonably open and the vegetation varied between medium and low. Accordingly, both the horizontal and the vertical archaeological visibility was influenced positively, and it was possible to see over a large distance with a diameter of approximately 500 m.

6. DESCRIPTION OF THE PHYSICAL ENVIRONMENT

The surveyed area is almost completely disturbed by agricultural activities. These consist mainly of maize fields, but during the investigation the fields have been harvested and therefore all that remained were either open soil or areas with the remains of the maize crops (Figure 5-7). One of the sections clearly showed signs of being a former agricultural field (Figure 8). Another indication of disturbance is the existing mine towards the east (Figure 9), as well as a soccer field.

Natural vegetation was only found in very small sections of the surveyed area, consisting of medium high grass (Figure 10) and weeds, the latter also an indication of disturbance. The same goes for alien trees which are found here and there in the surveyed area. Archaeological visibility was therefore reasonably good during the survey.

The topography of the area falls gradually from south to north and east to west. This is towards some rivers and wet areas.



FIGURE 5: GENERAL VIEW OF HARVESTED MAIZE FIELDS IN THE SURVEYED AREA.



FIGURE 6: VIEW OF CLEARED AGRICULTURAL FIELD IN THE SURVEYED AREA.



FIGURE 7: OPEN AGRICULTURAL FIELD ON SITE.



FIGURE 8: VIEW OF AN OLD AGRICULTURAL FIELD IN THE SURVEYED AREA.



FIGURE 9: MINING OPERATIONS ADJAXCENT TO THE SURVEYED AREA.



FIGURE 10: SHORT GRASS AND WEEDS IN THE SURVEYED AREA.

7. HISTORICAL CONTEXT

One site of cultural heritage significance was located in the surveyed area. Two other sites were identified nearby. In order to place this within context and to understand possible finds that could be unearthed during construction activities, it is necessary to give a background regarding the different phases of human history in the area.

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.

This geographical area is not well-known as one containing many prehistoric sites. This, however, definitely indicates a lack of research in the area. A few sites including different Stone Age sites are known. During previous surveys in the broader geographical context, Archaetnos has also found such sites. These are to be found in the vicinity of Newcastle and Dannhauser, mostly dating to the Middle Stone Age (Archaetnos Database).

The environment definitely is suitable for Stone Age people. There is ample water and grazing for the wild life they would have hunted. Although no caves or rock shelters were identified, it is likely that Stone Age people did utilize and settle in the area. No such sites were however identified during the survey.

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 artefacts (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.

Both Early and Late Iron Age sites are known from the Kwazulu-Natal (Zululand) area. These are associated with the predecessors of the current Zulu people in the area.

During the Late Iron Age (LIA), people stayed in extensive stonewalled settlements, but these are more likely to be found at the foot of the mountain and not on the plains where the survey has been conducted. Such sites were identified around Newcastle, but are too far to be impacted on by this development to the surveyed area, during previous studies in the area (Archaetnos Database).

Iron Age people therefore more than likely settled close to the study area. The good grazing in the area would have provided a good environment for Iron Age people although building material seem to be reasonably scarce. One would therefore expect that Iron Age people may have utilized the area. This is the same reason why white settlers moved into this environment later on.

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. This era is sometimes called the Colonial era or the recent past.

Due to factors such as population growth and a decrease in mortality rates, more people inhabited the country during the recent historical past. Therefore, and because less time has passed, much more cultural heritage resources from this era have been left on the landscape. It is important to note that all cultural resources older than 60 years are potentially regarded as part of the heritage and that detailed studies are needed in order to determine whether these indeed have cultural significance. Factors to be considered include aesthetic, scientific, cultural and religious value of such resources.

After 1800, the small tribes in Zululand were unified by Chaka (Bergh & Bergh 1984: 14). During the Difaqane (1820's – 1830's), the Ndebele of Mzilikazi migrated from the north-eastern parts of Kwazulu-Natal to the north and most likely passed close to the study area. On this journey they conquered other groups and caused widespread chaos (Bergh 1999:11).

Travelers and missionaries also came to the area. By 1824, people like FG Farewell, JS King, Henry Fynn, John Cane, Henry Ogle, Alexander Biggar, WH Davis, and Thomas Halstead have settled in Port Natal. It was, however, only during the 1830's when the Voortrekkers moved in that white people started colonizing the area to a large extent (Venter 1985: 25-27).

During the Anglo-Zulu War and the Anglo-Boer War (1899-1902) many battles were also fought in the vicinity of the study area (Bergh 1999: 51; Pretorius 1985: 14). One may therefore expect to find farm buildings and objects in the area. Many graveyards have been identified in surrounding areas during past surveys (Archaetnos database). All of the sites that were found date from the historical period.

8. DISCUSSION OF SITES IDENTIFIED DURING THE SURVEY

As indicated, one site of cultural importance was identified inside of the impacted area during the survey. Two more sites were identified nearby. The latter are included in the discussion as it may be impacted on by the mining activities.

8.1 Site no. 1 – Graves and historical remains

The site is inside of the impacted area and consists of approximately 15 graves (Figure 11-12), most likely associated with ruins of farm buildings (Figure 13). The ruins are in a very bad state.

There are at least 13 stone packed graves with no headstones. One of the graves is stone packed with a marble headstone and another has a granite border and headstone. The latter is also fenced in.

Two surnames were identified namely Kennard and Motioug. The first one has two dates of death as two people are buried here. The dates are 1917 and 1921. The date of death on the latter is 1991.

Graves are divided into three categories, being unknown, heritage (older than 60 years) and younger than 60 years. All of these categories are present here.

GPS: 27°53'25.65"S
29°54'30.88"E



FIGURE 11: THE KENNARD GRAVE.



FIGURE 12: THE MOTIOUNG GRAVE.



FIGURE 13: FARM RUINS.

Cultural significance Table: Graves

A place is considered to be part of the national estate if it has cultural significance because of -	Applicable or not	Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or pattern of South Africa's history	Y	H
Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	Y	H
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	Y	M
Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects	Y	H
Its importance in exhibiting particular aesthetic characteristics valued by a community cultural group	N	-
Its importance in demonstrating a high degree of creative or technical achievement at a particular period	N	-
Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	Y	H
Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa	N	-
Sites of significance relating to the history of slavery in South Africa	N	-
Reasoned assessment of significance using appropriate indicators outlined above:		5,6 – High

Integrity scale:

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information

- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

Field-rating = Cultural significance x Integrity

= 5,6 (High) x 2

= 11,2

Graves are always regarded as having a high cultural significance. The field rating is Local Grade IIIB. It should be included in the heritage register and mitigation measures must be implemented if any development activities take place in its vicinity.

Two possibilities exist. The first option would be to fence the graves in or demarcate the site and have a management plan drafted for the sustainable preservation thereof. This should be compiled by a heritage expert. This option is relevant when the graves are in no danger of being damaged or destroyed by the development (direct impacts). Secondary impact due to the development activities may still exist and must be managed.

The second option is to exhume the mortal remains and to have it relocated. This usually is relevant when the graves will be directly affected (damaged or destroyed) by the development. In this case specific procedures should be followed which includes social consultation. Graves younger than 60 years may be exhumed only by an undertaker. For those older than 60 years, and unknown graves, an undertaker and archaeologist should be appointed. Permits must be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.

Since the graves are on the edge of the development, Option 1 is recommended. Should this however not be possible, a motivation needs to be written so that Option 2 may be implemented.

Cultural significance Table: Ruins

A place is considered to be part of the national estate if it has cultural significance because of -	Applicable or not	Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or pattern of South Africa's history	Y	N
Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	Y	N
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	Y	-
Its importance in demonstrating the principal characteristics of a particular class of South Africa's	Y	N

natural or cultural places or objects		
Its importance in exhibiting particular aesthetic characteristics valued by a community cultural group	N	-
Its importance in demonstrating a high degree of creative or technical achievement at a particular period	N	-
Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	Y	N
Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa	N	-
Sites of significance relating to the history of slavery in South Africa	N	-
Reasoned assessment of significance using appropriate indicators outlined above:		1 – Negligible

Integrity scale:

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

Field-rating = Cultural significance x Integrity

$$= 1 \text{ (Negligible)} \times 1$$

$$= 1$$

The site receives a field rating of Local Grade IIIIC. It means that the description in the phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation.

8.2 Site no. 2 – Historical farm yard

This site lies approximately two kilometres towards the north of the planned mining area. It consists of a farm house and outbuildings dating to more or less 1880-1920 (Figure 14-18). The farm has been occupied by the Phillips family since 1886. Later buildings have been built in-between.

The farmer indicated that blasting at the mine currently is damaging his house (Personal communication: M Phillips). Should that be the case, these buildings will definitely be impacted on.

GPS: 27°51'54.15"S
29°54'15.66"E



FIGURE 14: THE FARM HOUSE.



FIGURE 15: THE WAGON HOUSE.



FIGURER 16: OUTBUILDING WITH RECENT CAR PORT COVERING IT.



FIGURE 17: GRAIN SILO.



FIGURE 18: LOCATION OF HISTORICAL BUILDINGS AT THE HISTORICAL FARM YARD.

1 – HOUSE

2 – WAGON HOUSE (THE OTHER OUTBUILDING IS COVERED WITH THE GREEN CARPORT JUST LEFT OF 2)

3 - SILO

Cultural significance Table: Historical Farm Yard

A place is considered to be part of the national estate if it has cultural significance because of -	Applicable or not	Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or pattern of South Africa's history	Y	M
Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	Y	MH
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	Y	MH
Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects	Y	MH
Its importance in exhibiting particular aesthetic characteristics valued by a community cultural group	N	M
Its importance in demonstrating a high degree of creative or technical achievement at a particular period	N	-
Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	Y	-
Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa	N	-
Sites of significance relating to the history of slavery in South Africa	N	-
Reasoned assessment of significance using appropriate indicators outlined above:		4,6 – Medium-High

Integrity scale:

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information

- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

Field-rating = Cultural significance x Integrity

= 4,6 (Medium-High) x 4

= 18,4

The site therefore receives a field rating of Local Grade IIIB. It should be included in the heritage register and may be mitigated (high/ medium significance if needed. Such mitigation would be subject to a permit application lodged with the relevant heritage authority.

It is recommended that the site remain in situ. The mine however needs to involve the blasting expert to ensure that no damage is done to these structures as a result of the mine's current and planned activities. This would be possible by using different blasting techniques.

8.3 Site no. 3 – Graves

The site is also outside of the area to be impacted on. It is associated with the farm yard (site no. 2) and contains the family graves. It consist of 13 graves of which two are stone packed and the others have granite borders and headstones.

Three surnames were identified namely Forsyth, Wade and Vorster, all related to the Phillips family. The oldest date of death is 1907 and the youngest 2015. The two stone packed graves (Figure 19) are fairly recent (Personal communication: M Phillips). Three of the graves are older than 60 years. Mr Phillips also indicated that current blasting operations have damaged the headstones of these graves.

Graves are divided into three categories, being unknown, heritage (older than 60 years) and younger than 60 years. All of these categories are present here.

GPS: 27°51'55.67"S
29°54'11.91"E



FIGURE 19: ONE OF THE GRAVES AT SITE NO. 3.

Cultural significance Table: Graves

A place is considered to be part of the national estate if it has cultural significance because of -	Applicable or not	Rating: 1 - Negligible/ 2 -Low/ 3 - Low-Medium/ 4 - Medium/ 5 - Medium-High/ 6 - High/ 7 - Very High
Its importance in the community or pattern of South Africa's history	Y	H
Its possession of uncommon, rare, or endangered aspects of South Africa's natural or cultural history	Y	H
Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	Y	M
Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects	Y	H
Its importance in exhibiting particular aesthetic characteristics valued by a community cultural group	N	-
Its importance in demonstrating a high degree of creative or	N	-

technical achievement at a particular period		
Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	Y	H
Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa	N	-
Sites of significance relating to the history of slavery in South Africa	N	-
Reasoned assessment of significance using appropriate indicators outlined above:		5,6 – High

Integrity scale:

- 1 – Bad state of preservation, but no contextual information
- 2 – Bad state of preservation and includes contextual information
- 3 – Reasonable state of preservation, but no contextual information
- 4 – Reasonable state of preservation and includes contextual information
- 5 – Good state of preservation, but no contextual information
- 6 - Good state of preservation and includes contextual information
- 7 – Excellent state of preservation, but no contextual information
- 8 – Excellent state of preservation and includes contextual information

Field-rating = Cultural significance x Integrity

$$= 5,6 \text{ (High)} \times 2$$

$$= 11,2$$

Graves are always regarded as having a high cultural significance. The field rating is Local Grade IIIB. It should be included in the heritage register and mitigation measures must be implemented if any development activities take place in its vicinity.

Two possibilities exist. The first option would be to fence the graves in or demarcate the site and have a management plan drafted for the sustainable preservation thereof. This should be compiled by a heritage expert. This option is relevant when the graves are in no danger of being damaged or destroyed by the development (direct impacts). Secondary impact due to the development activities may still exist and must be managed.

The site is outside of the Mineral Boundary. It is recommended that the mine include the site in their blast and ground vibration monitoring and amend their blasting methodologies if it becomes known that the blasting is impacting on these sites. Further management of the sites must be done by the land owner.

The second option is to exhume the mortal remains and to have it relocated. This usually is relevant when the graves will be directly affected (damaged or destroyed) by the development. In this case specific procedures should be followed which includes social consultation. Graves younger than 60 years may be exhumed only by an undertaker. For those older than 60 years, and unknown graves, an undertaker and archaeologist should be appointed. Permits must be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.

Since the graves are outside of the planned mining area, Option 1 is recommended. Specific care should be taken to safeguard the graves from damage caused by blasting activities. This should be included in the management plan after consultation with a blasting expert.

9. CONCLUSION AND RECOMMENDATIONS

The field work for the project has been completed successfully. As indicated three sites that may be impacted on was identified (Figure -20). One of these are inside of the proposed mining area and two of these outside.

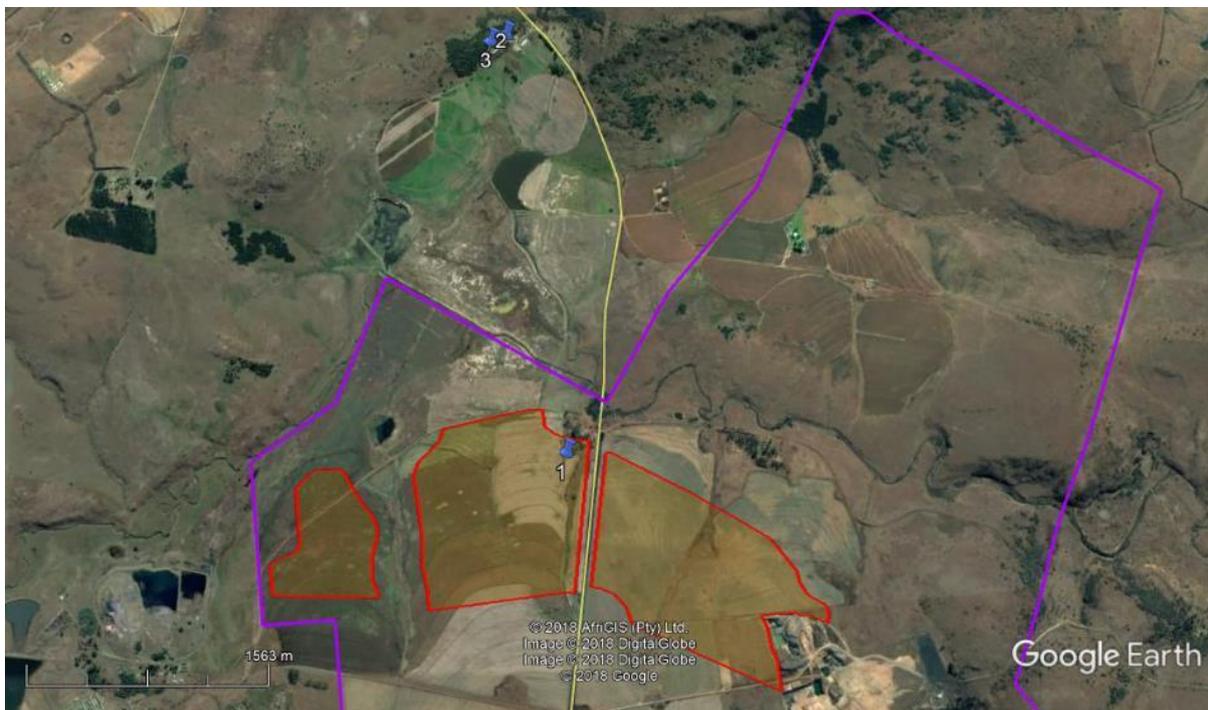


FIGURE 20: LOCATION OF THE HERITAGE SITES IDENTIFIED DURING THE SURVEY.

The following is recommended:

- Site no. 1 consists of graves and farm house ruins. The ruins have low significance and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation.

- Graves are always regarded as having a high cultural significance. It should be included in the heritage register and mitigation measures must be implemented if any development activities take place in its vicinity.
- Two possibilities exist. The first option would be to fence the graves in or demarcate the site and have a management plan drafted for the sustainable preservation thereof. This should be compiled by a heritage expert. This option is relevant when the graves are in no danger of being damaged or destroyed by the development (direct impacts). Secondary impact due to the development activities may still exist and must be managed.
- The second option is to exhume the mortal remains and to have it relocated. This usually is relevant when the graves will be directly affected (damaged or destroyed) by the development. In this case specific procedures should be followed which includes social consultation. Graves younger than 60 years may be exhumed only by an undertaker. For those older than 60 years, and unknown graves, an undertaker and archaeologist should be appointed. Permits must be obtained from the Burial Grounds and Graves unit of SAHRA. This procedure is quite lengthy and involves social consultation.
- The graves at site no. 1 are on the edge of the development and therefore Option 1 is recommended. Should this however not be possible, a motivation needs to be written so that Option 2 may be implemented.
- Site no.3 is also graves, but these are outside of the planned mining area. Thus, Option 1 is recommended. Specific care should be taken by the Mine to safeguard the graves from damage caused by blasting activities. This should be included in the cultural management plan after consultation with a blasting expert.
- Site no. 2 is a historical farm yard associated with the graves at site no. 3. It is of medium-high significance and should be included in the heritage register. It may be mitigated if needed. Such mitigation would be subject to a permit application lodged with the relevant heritage authority.
- It is recommended that the site remain in situ. The mine however needs to involve the blasting expert to ensure that no further damage are done to these structures. This would be possible by using different blasting techniques.
- It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. Due to the density of vegetation in certain areas it also is possible that some sites may only become known later. Operating controls and monitoring should therefore be aimed at the possible unearthing of such features. 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.
- In this regard the following 'Chance find Procedure' should be followed:

- *Upon finding any archaeological or historical material all work at the affected area must cease.*
- *The area should be demarcated to prevent any further work there until an investigation has been completed.*
- *An archaeologist should be contacted immediately to provide advice on the matter.*
- *Should it be a minor issue, the archaeologist will decide on future action. Depending on the nature of the find, it may include a site visit.*
- *SAHRA's APM Unit may also be notified.*
- *If needed the necessary permit will be applied for with SAHRA. This will be done in conjunction with the appointed archaeologist.*
- *The removal of such archaeological material will be done by the archaeologist in lieu of the approval given by SAHRA, including any conditions stipulated by the latter.*
- *Work on site will only continue after the archaeologist/ SAHRA has agreed to such a matter.*

10. REFERENCES

Archaetnos database.

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

Bergh, J.S. & Bergh, A.P. 1984. **Stamme en ryke.** Cape Town: Don Nelson.

Coertze, P.J. & Coertze, R.D. 1996. **Verklarende vakwoordeboek vir Antropologie en Argeologie.** Pretoria: R.D. Coertze.

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.

International Finance Corporation. 2012. **Overview of performance standards on Environmental and Social Sustainability. Performance Standard 8, Cultural Heritage.** World Bank Group.

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.

Pretorius, F. 1985. **1899-1902. Die Angloboere-oorlog.** Cape Town: Don Nelson.

Republic of South Africa. 1980. Ordinance on Excavations (**Ordinance no. 12 of 1980**). The Government Printer: Pretoria.

Republic of South Africa. 2003. **National Health Act (Act 61 of 2003).** 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.

SAHRA's SAHRIS database.

- 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 Hoven, P. W., & Needham, R. (May 2012). Future Coal (Pty) Ltd Chelmsford Colliery
II Environmental Impact Assessment + Environmental Management Plan.
Pretoria: Prodigy Trading (Pty) Ltd.
- Venter, C. 1985. **Die Groot Trek.** Cape Town: Don Nelson.

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:

- Negligible – The site has no heritage significance, although it may be older than 60 years.
- Low - A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings. A site with minimal importance which is decreased by its bad state of decay.
- Low-Medium - A site of lesser importance, which is increased by a good state of preservation and contextual importance (e.g. a specific community).
- 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.
- Medium-High - A site that has high importance due to its age or uniqueness, but which decreases due to its bad state of decay.
- High - Any site, structure or feature regarded as important because of its age or uniqueness. Also, any important object found within a specific context.
- Very High - A site of exceptional importance due to its age, uniqueness and good state of preservation.

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:

National Grade I significance: The site should be managed as part of the national estate, should be nominated as Grade I site, should be maintained in situ with a protected buffer zone and a CMP must be recommended. Score above 50.

Provincial Grade II significance: The site should be managed as part of the provincial estate, should be nominated as Grade II site, should be maintained in situ with a protected buffer zone and a CMP must be recommended. Score between 40 and 50.

.

Local Grade IIIA: The site should be included in the heritage register and not be mitigated (high significance), should be maintained in situ with a protected buffer zone and a CMP must be recommended. Score between 37 and 40.

Local Grade IIIB: The site should be included in the heritage register and may be mitigated (high/ medium significance). Mitigation is subject to a permit application lodged with the relevant heritage authority. Score between 6 and 36.

Local Grade IIIC: The description in the phase 1 heritage report is seen as sufficient recording (low significance) and it may be granted destruction at the discretion of the relevant heritage authority without a formal permit application, subjected to the granting of Environmental Authorisation. Score below 5.

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.