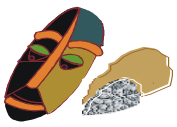

Archaetnos Culture & Cultural
Resource Consultants
BK 98 09854/23

REPORT ON A HERITAGE IMPACT ASSESSMENT RELATED TO THE PROPOSED RAILROAD LINKS FOR THE GROOTHOEK COAL MINING COMPANY'S (GCMC) WATERBERG PROJECT NEAR LEPHALALE IN THE LIMPOPO PROVINCE

For:

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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 are as such that it always is possible that hidden or subterranean sites could be overlooked during the study. Access to certain areas is also sometimes limited. Archaetnos and its personnel will not be held liable for such oversights or for costs incurred as a result thereof. Any additional sites identified can be visited and assessed afterwards and the report amended, but only upon receiving an additional appointment.

SUMMARY

Archaetnos cc was requested by Cabanga Concepts GCS to conduct a cultural heritage impact assessment for the proposed railway links associated with the Grootehoek Coal Mining Company's (GCMC) Waterberg Project. This is situated west of the town of Lephalale in the Limpopo Province.

During the survey of the 2 alternative railway links being considered for the proposed development, no sites of cultural heritage significance were located. A number of sites, identified during a previous survey on the GCMC Mining Right Application Area, were however confirmed during this assessment. These sites need to be dealt with in accordance with Kruger's (2012) Heritage Impact Assessment Report.

As far as the railway link alternatives are concerned, either of the alternatives may continue. This report is therefore seen as ample mitigation.

It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. The state of the environment also makes it possible that not all sites were identified. 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 and adapt this report.

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.

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1. INTRODUCTION

Archaetnos cc was requested by Cabanga Concepts GCS to conduct a cultural heritage impact assessment for the proposed railway links associated with the Grootehoek Coal Mining Company's (GCMC) Waterberg Project. This is situated west of the town of Lephalale in the Limpopo Province (Figure 1-3).

The proposed development entails the linkage of a rail line from the proposed mine to the existing Transnet railway in order to transport coal from the mine. Two rail options are being investigated. A north preferred option and a southern alternative option. The client indicated the area to be surveyed. The field survey was confined to this area.

Furthermore, the heritage sites identified in a prior heritage assessment for the Mining Right Application Area were also ground-truthed during this survey. This area was however not surveyed in detail as it was done by AGES previously.

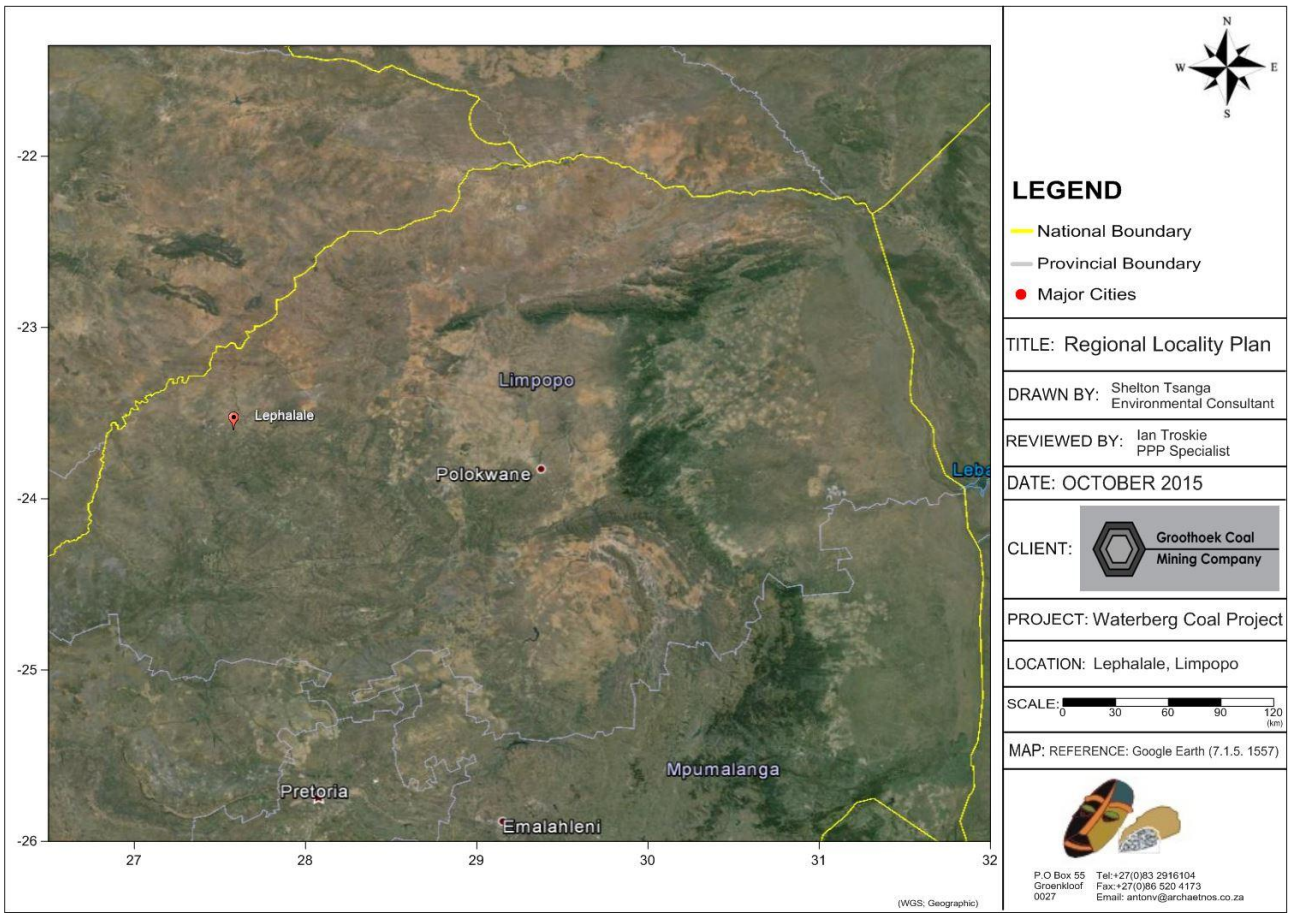

Figure 1: Location of Lephalale, neighbouring town of the proposed mine development, within the Limpopo Province

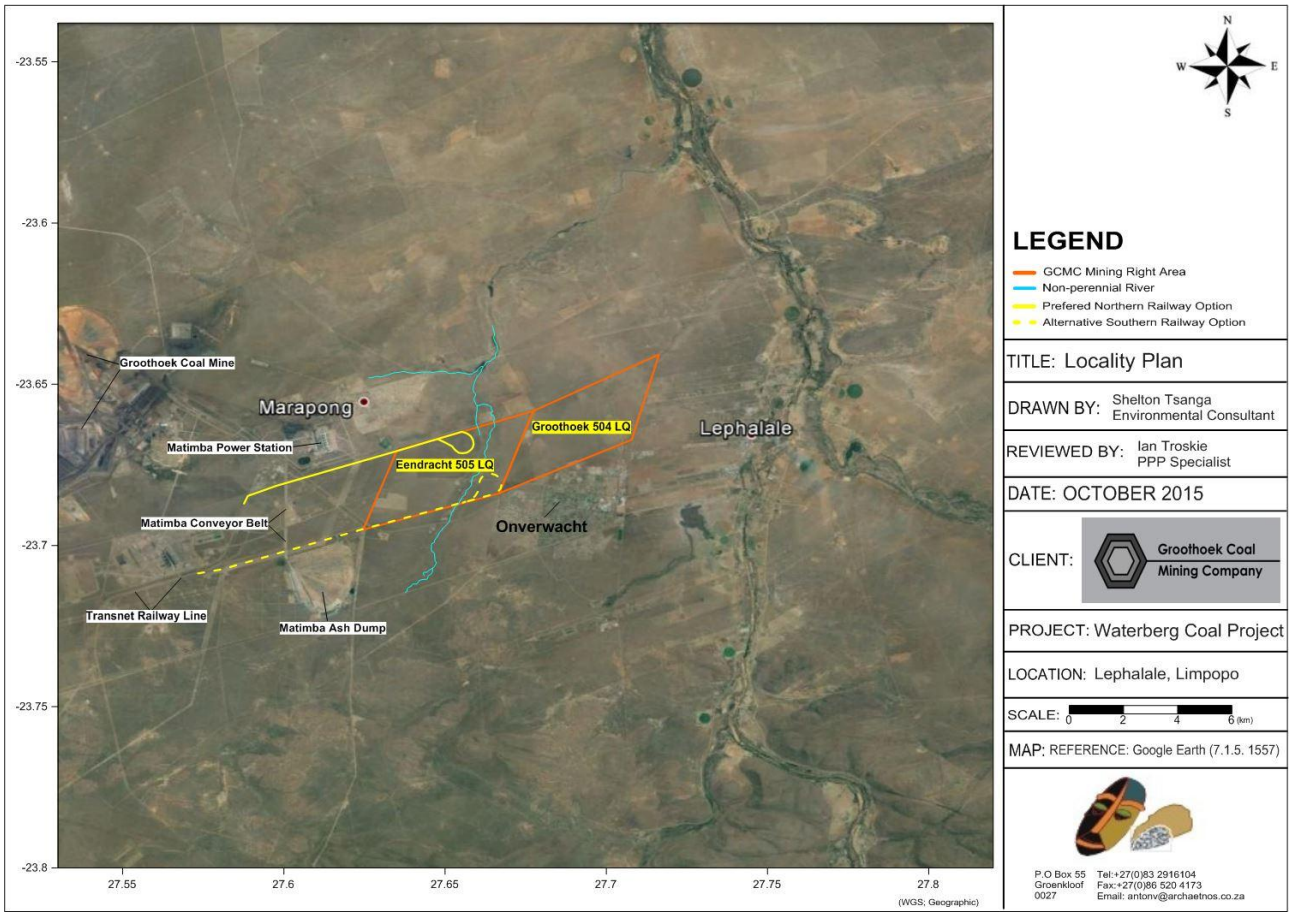

Figure 2: Location of the site in relation to infrastructure around Lephalale

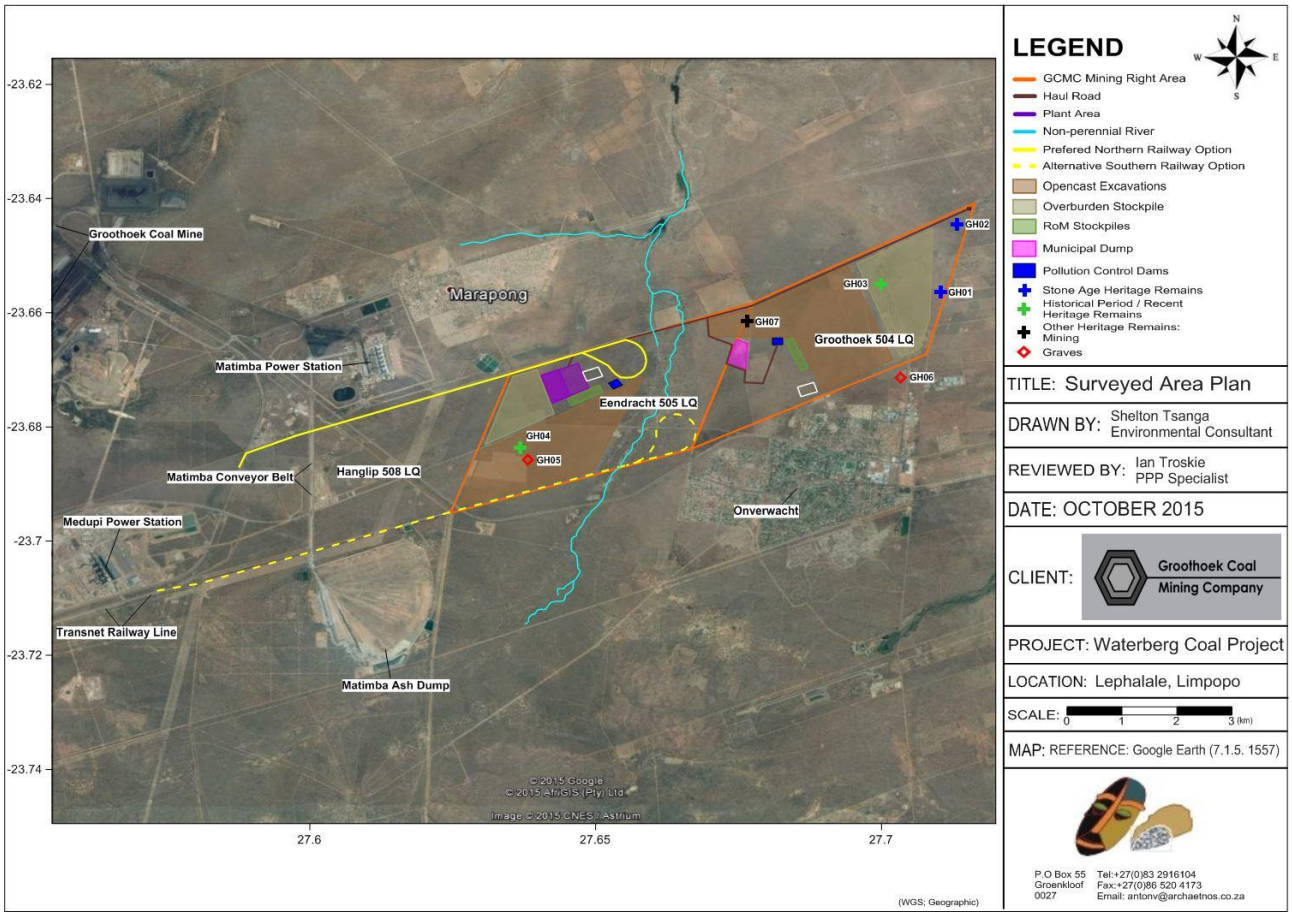

Figure 3: Proposed mine layout in relation to nearby developments and previously identified heritage sites (Kruger, 2012)

2. DETAILS AND EXPERTISE OF THE SPECIALIST WHO PREPARED THE REPORT

CURRICULUM VITAE
Dr. Anton Carl van Vollenhoven

PERSONAL INFORMATION

- Born: 20 January 1966
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TERTIARY EDUCATION

- BA 1986, University of Pretoria
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- 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.
- *Since 2014*: Part-time lecturer for the Honours degree in Museum Sciences in the Department of History and Heritage Studies at the University of Pretoria

OTHER

- Has published 76 articles in scientific and popular journals on archaeology and history.
- Has been the author and co-author of over 580 unpublished reports on cultural resources surveys and archaeological work.
- Has published a book on the Military Fortifications of Pretoria.
- Contributed to a book on Mapungubwe.
- Has 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.
- 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 Provincial Heritage Resources Agency, Gauteng's Council.
- Member of Provincial Heritage Resources Agency, Gauteng's HIA adjudication committee (Chairperson 2012-2015).

3. 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 properties (see Appendix A).

2. Study background information on the area to be developed.

3. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value (see Appendix B).

4. Recommend suitable measures to manage the cultural resources in future.

5. Review applicable legislative requirements.

4. CONDITIONS & ASSUMPTIONS

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

1. Cultural Resources are all non-physical and physical man-made occurrences, as well as natural occurrences associated with human activity (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 impacts 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 and would come at a large cost. The heritage report therefore represents merely a sample of the surveyed area and of heritage resources identified there, based on experience of the location of such sites. Developers should however note that this report should make it clear how to handle any other finds that might occur. Should the archaeologists need to visit the site again, a new appointment would therefore be needed.

7. The density and height of the vegetation cover is the main influence on both the vertical and the horizontal archaeological visibility in surveyed areas. In this case there were certain areas that were inaccessible due to the former mining operations, infrastructure related to the Matimba Power Station, locked gates as well as areas where the vegetation cover was reasonably dense and the height between medium and high, which had a negative effect on archaeological visibility. It needs to be stated however that these areas are well-disturbed and that the risk of locating heritage resources here are minimal.

5. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

5.1 The National Heritage Resources Act

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

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

The national estate (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. Both a HIA and an AIA exclude a Palaeontological Impact Assessment (PIA) since the latter is a totally different science.[1]

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 000m^2 or involve three or more existing erven or subdivisions thereof
d. Re-zoning of a site exceeding 10 000 m^2
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

[1] Enquiries should be made to SAHRA to determine whether a PIA is necessary.

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 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 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**).

5.2 The National Environmental Management Act

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

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

6. 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 these and by having them assessed by professionals.

Impacts on the cultural heritage should be minimized. This includes 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 it 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 the affected communities should be conducted. This entails that access by 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. 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.

7. METHODOLOGY

7.1 Survey of literature

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

7.2 Field survey

The survey was conducted on 16 September 2015 and was done 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 sometimes looks a bit wider than the demarcated area, as the surrounding context needs to be taken into consideration.

Where 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. The length of the proposed rail link is approximately 7km from the rail loop to the point at which the rail line meets the existing Transnet (TFR) rail line. Two options were investigated, being a preferred Northern link and an alternative Southern link. The survey, including the verification of heritage sites (identified within the mineral boundary in 2012 by Kruger) found at the proposed mining rights application area, took 10 hours to complete.

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

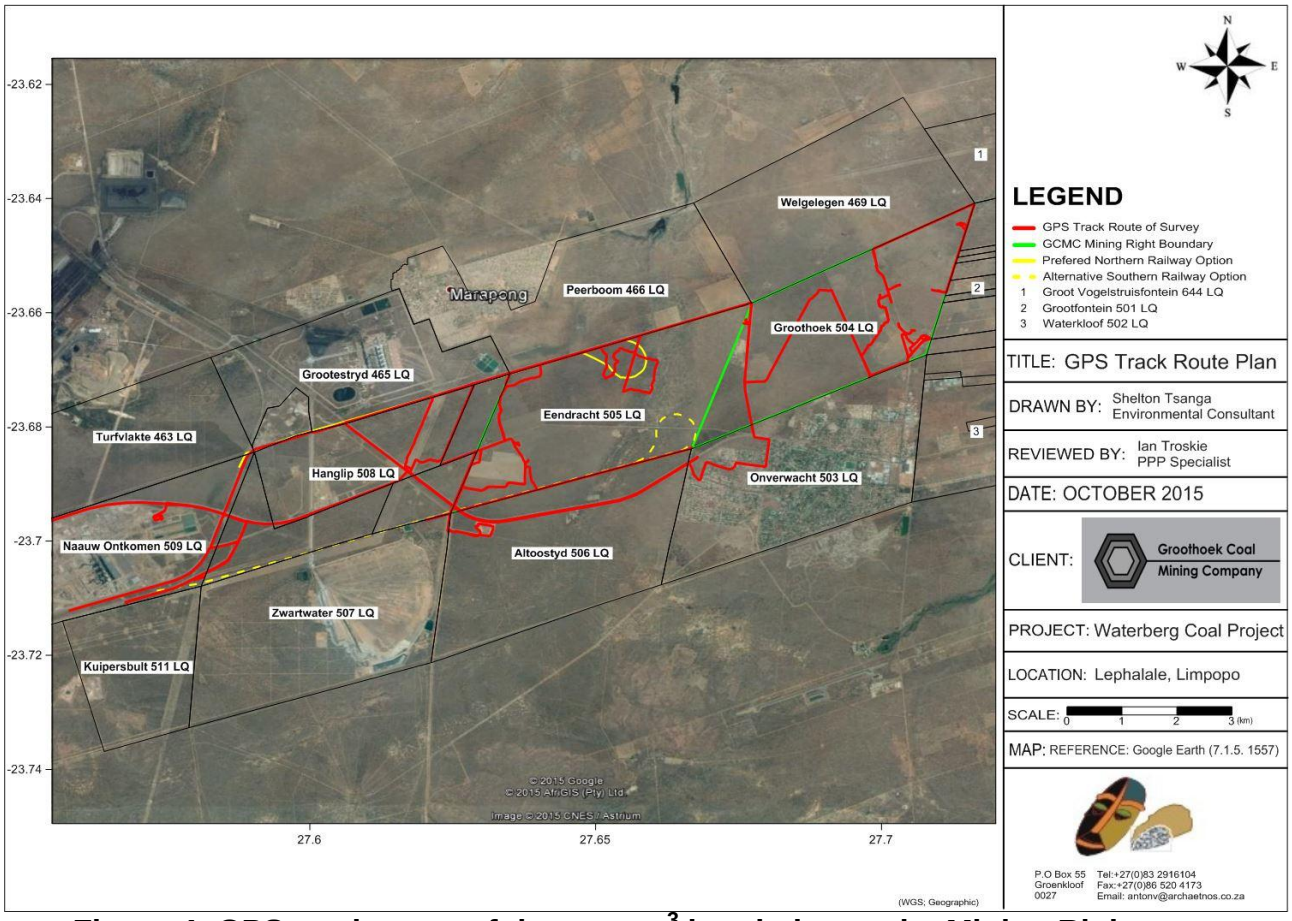

Figure 4: GPS track route of the survey[3] in relation to the Mining Right Application Area and proposed railway link options.

7.3 Oral histories

People from local communities are sometimes interviewed in order to obtain information relating to the surveyed area. It needs to be stated that this is not applicable under all circumstances. When applicable, the information is included in the text and referred to in the bibliography. In this particular case it was not necessary as no sites needed verification or additional information to be sourced.

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

[3] Two people conducted the survey, using one GPS unit. They were in radio contact with each other.

7.5 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 and
- Potential to answer present research questions.

8. DESCRIPTION OF THE ENVIRONMENT

A large part of the environment of the surveyed area is disturbed by recent human activities. This mainly includes old mining and prospecting infrastructure as well as infrastructure related to the Matimba Power Station (Figure 5-6). Both proposed routes have more or less the same environmental features.

In certain areas the grass cover is reasonably high, whereas in others it is much more open (Figure 7-8). The long dense grass would have a negative effect on both the vertical and the horizontal archaeological visibility, whereas in more open areas this visibility was good. The existing railway track as well as an overland conveyor from Matimba Power Station indicate recent disturbances in the landscape (Figure 9-10).

The topography of the area is reasonably flat. A drainage system is found towards the east of the surveyed area, inside of the GCMC Mining Right Application Area.

Figure 5: The Matimba Power Station area adjacent to one of the surveyed routes.

Figure 6: Former mining activities in the surveyed area on the farm Eendracht.

Figure 7: Vegetation cover along one of the proposed routes. Note Matimba Power Station in the background.

Figure 8: General view of vegetation on the farm Groothoek in the surveyed area.

Figure 9: Overland conveyor close to one of the surveyed routes on the farm Hanglip.

Figure 10: Existing railway track inside of the surveyed area on the farm Hanglip.

9. HISTORICAL CONTEXT

Although no sites of cultural heritage significance were located in the surveyed area, some are known from the Mining Right Application Area. These were identified during a previous survey and will briefly be discussed below. In order to enable the reader to understand these, the history of the broader geographical area as well as possible finds that could be unearthed during construction activities, it is necessary to give a background regarding the different phases of human history.

9.1 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.

Stone Age sites have been identified previously in the geographical area where the survey was done. Sites dated to the Middle Stone Age are known close to the Lephalala River to the south of the surveyed area (Bergh 1999: 4). Rock art are found in abundance in the geographical area to the east and south of the town of Lephalale (Bergh 1999: 5).

However, 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. It is indicated that two Middle Stone Age sites were identified by Kruger (2012:14-15) on the farm Groothoek.

However one of these could not be identified again (GH01).[4] This is most likely since the site consists of isolated stone tools which can easily be missed or may have been washed away between 2012 and 2015. It is my opinion that site GH02 does not constitute an archaeological find, but even if it does, just as site GH01, it is of minor significance.

9.2 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 into two separate phases according to Van der Ryst & Meyer (1999: 96-98), namely:

[4] The numbers correspond with the site number given by Kruger 2012.

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.

In an area around the Lephalala River some 200 Late Iron Age sites have been identified (Bergh 1999: 7). The lack of known sites closer to the surveyed area may only indicate that little research has been done in this area.

The type of environment on the surveyed area definitely is suitable for human habitation. The good grazing and access to water 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 for grazing purposes. This is the same reason why white settlers later on moved into this environment.

9.3 Historical Age

The Historical Age started with the first recorded oral histories in the area. It includes the in-migration of people that were able to read and write. Early white travelers moved through this area during the 19th Century. The first of these was the expedition of Dr. Andrew Cowan and Lt. Donovan in 1808. This was followed by Coenraad de Buys in 1821 and 1825. David Hume visited the area in 1825 (Bergh 1999: 12, 117-118).

Hume again passed through the area in 1830. He was followed by William Cornwallis Harris in 1836 (Bergh 1999: 13). White settlers only moved to this area after 1850 (Bergh 1999: 15).

One may therefore expect to find farm buildings and objects related to the early farming activities at the site. Graves from this period may also be found. In fact such graves were identified on nearby farms during earlier surveys in the wider geographical area (Archaetnos database).

Kruger (2012) identified five historical sites of which two are grave yards. All of these sites were verified and consist of the following:

- GH03 – it seems as if this could be the remains of an old school (Figure 11). It includes remains of ablution facilities and various cement slabs representing buildings.
- GH04 – an old farm stead and other cultural remains (Figure 12)
- GH05 – grave yard. Kruger indicated that there are 2 graves, but it seems there are at least 3 (Figure 13). One grave is fenced in and two indicated by three metal droppers, clearly seen on the photograph in Kruger's report.

- GH06 – large municipal grave yard just beyond the border (east) of the mine (Figure 14)
- GH07 – old mining infrastructure. Although the site could be identified, it is clear from the photographs in Kruger's report that the site had been damaged since he identified it (Figure 15). The site has been stripped of metal.

Figure 11: Site GH03.

Figure 12: Site GH04.

Figure 13: Graves at site GH05. Note one of the metal rods to the right of the fence.

Figure 14: Some of the graves at site GH06.

Figure 15: remains of mining infrastructure at site GH07.

10. CONCLUSION AND RECOMMENDATIONS

As indicated, no sites of cultural heritage importance were identified during the survey of the proposed railway links. Sites from a previous heritage assessment were however verified. The survey of the indicated area was completed successfully.

The following is recommended:

- The two Stone Age sites (GH01 and GH02) could not be verified, but are not seen to be of any value. It may therefore be demolished. Should this report be approved by SAHRA, no permit would be required.

- The other sites identified by Kruger should be dealt with in accordance to his report.

- No sites of significance were identified on any of the two proposed railway links. The proposed development may therefore continue and this report is seen as ample mitigation.

- It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. The state of the environment also makes it possible that not all sites were identified. 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 and adapt this report.

11. 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

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.