Archaetnos Culture & Cultural
Resource Consultants
BK 98 09854/23

A REPORT ON A CULTURAL HERITAGE IMPACT ASSESSMENT FOR THE BISHOP MINE, CLOSE TO KATHU, NORTHERN CAPE PROVINCE

For:

Wadala Mining and Consulting (Pty) Ltd.
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REPORT NO.: AE01854V

By:

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***Accredited member of ASAPA* (Accreditation number: 166)**
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9 November 2018

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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 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.

EXECUTIVE SUMMARY

Purpose:
Archaetnos cc was requested by Wadala Mining and Consulting (Pty) Ltd. to conduct a cultural heritage impact assessment (HIA) for the Bishop Mine. The mine is located on the farm Bishop 671, close to Dingleton and Kathu, in the Kuruman District, Northern Cape Province.

Project description:

Bishop mine is a manganese mining activity. During work for the revised EMP, it was realized that an HIA had never been done on the farm. As a result an HIA was commissioned for the entire farm. This report is the result of the HIA study.

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 Global Positioning System (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 one site (graves) of cultural heritage significance were identified.

The following is recommended:

- The one site identified consist of approximately 24 graves. Usually there are two options when dealing with graves:
    - The first option is to leave the graves ***in situ***. This would be possible should there be no direct impact on the graves. However, the possibility of secondary impacts due to dust etc. remains.

- The second option is to exhume the graves and have the bodies reburied. This usually is only allowed if there is a direct impact on the site. Graves younger than 60 years are handled by a registered undertaker. Graves older than 60 years and those of an unknown date is regarded as heritage graves. In such a case an archaeologist is also involved in the process.

- It is recommended that Option 1 be implemented as mitigation measure. The site should remain ***in situ***. It should be fenced in and a management plan drafted for the sustainable preservation thereof. A buffer zone of at least 20 m should be implemented.

- After implementation of the mitigation measures proposed above, the development may proceed.

- It should also 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: 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

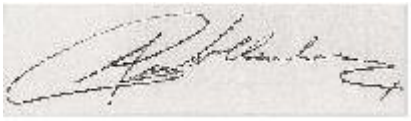
Other

- 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: 9 November 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

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1. INTRODUCTION

Archaetnos cc was requested by Wadala Mining and Consulting (Pty) Ltd. to conduct a cultural heritage impact assessment (HIA) for the Bishop Mine. The mine is located on the farm Bishop 671, close to Dingleton and Kathu, in the Kuruman District, Northern Cape Province (Figure 1-4).

Bishop mine is a manganese mining activity. During work for the revised EMP, it was realized that an HIA had never been done on the farm. As a result an HIA was commissioned for the entire farm. This report is the result of the HIA study.

The client indicated the areas to be surveyed, This was done via foot an off-road vehicle.

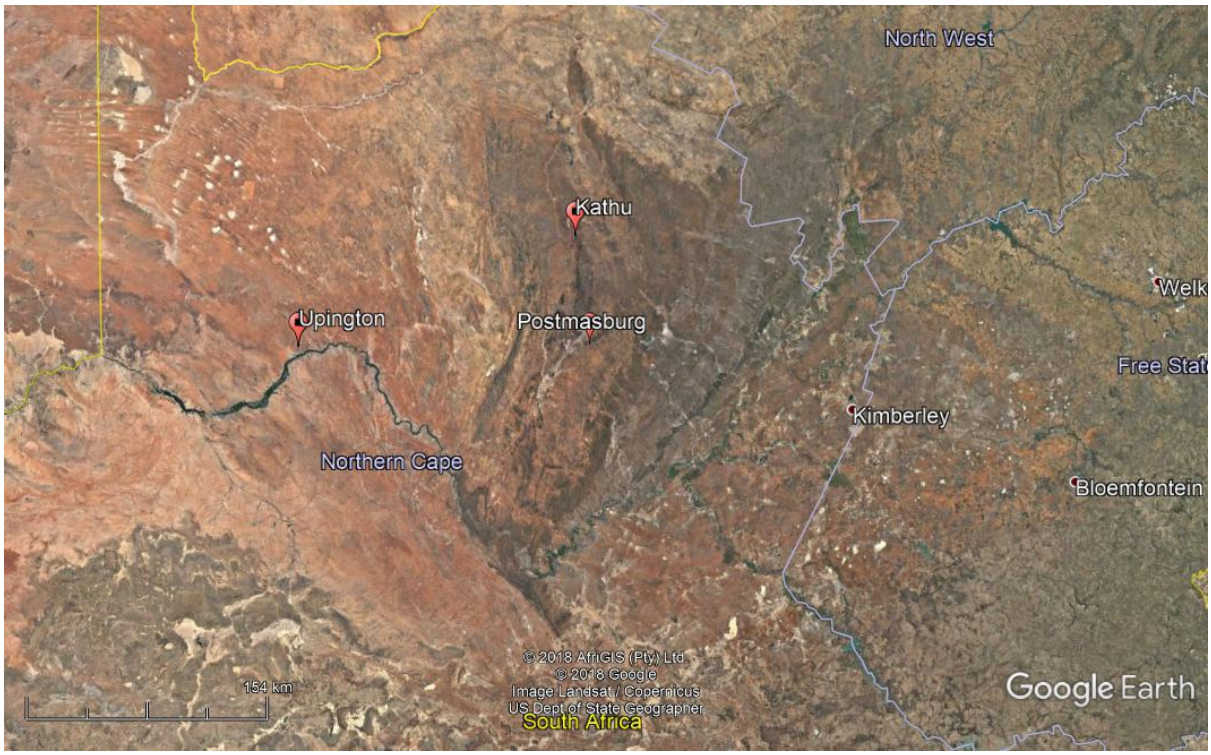

FIGURE 1: LOCATION OF KATHU IN THE NORTHERN CAPE PROVINCE.

FIGURE 2: LOCATION OF THE BISHOP MINE IN RELATION TO KATHU.

FIGURE 3: THE MINE BOUNDARY.

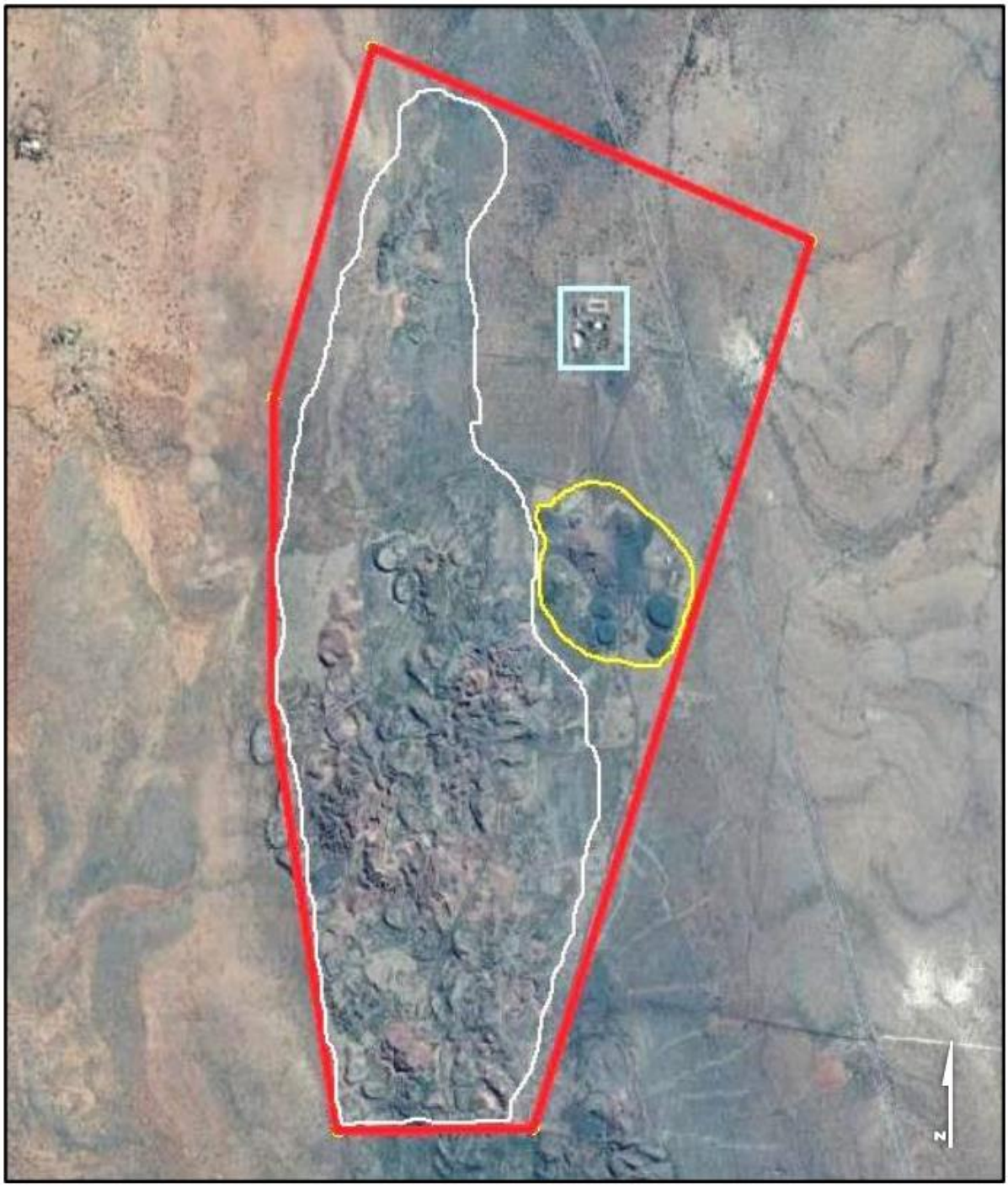

FIGURE 4: THE CORE MINING AREA (WHITE), CENTRAL PROCESSING FACILITY (YELLOW) AND THE SITE OFFICES (BLUE) (COURTESY OF MILNE 2015).

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 or 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 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.

[1] Please consult SAHRA to determine whether a PIA is necessary.

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

One Heritage Impact Assessment has been done on a small section of the farm Bishop before. A number of assessments were done in the Kathu and Postmasburg area (SAHRAS SAHRIS database; Archaetnos' database).

4.3 Public consultation and stakeholder engagement

This aspect will be dealt with by the Environmental Consultant. 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. It

is assumed that this 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 5). The size of the surveyed area is 544 Ha. The survey took 6 hours to complete.

Certain factors, such as accessibility, density of vegetation, etc. may however influence the coverage. In this instance it needs to be indicated that coverage was limited due to health and safety aspects and the team could only go where indicated by the mine. However, the areas not surveyed will either not be impacted or is already severely disturbed by mining activities. In the areas surveyed the under footing was reasonably open, but with a few sections being dense. The vegetation varied between high and low. Accordingly, both the horizontal and the vertical archaeological visibility were positively.

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 Global Positioning System (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.

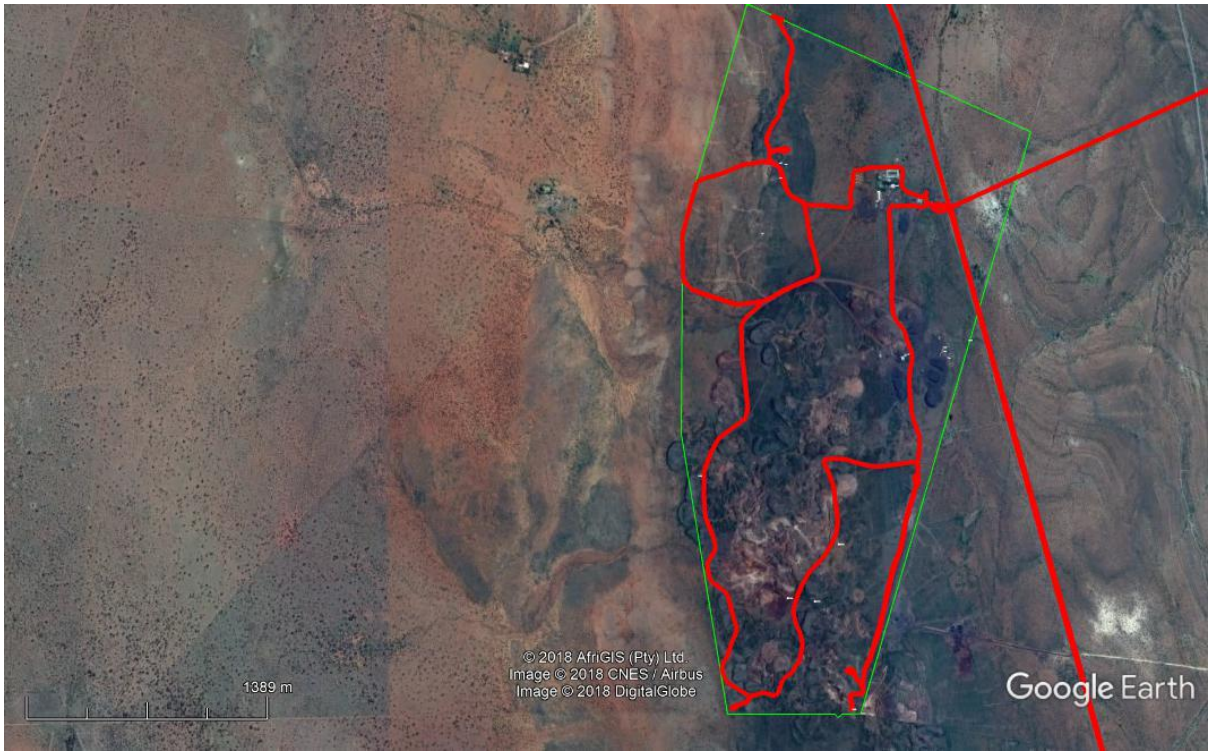

FIGURE 5: GPS TRACK[3] OF THE SURVEYED AREA.

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

[3] Two people, in radio contact, did the survey, but only one GPS unit was available.

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. It needs to be indicated that coverage was limited due to health and safety aspects and the team could only go where indicated by the mine. However, the areas not surveyed will either not be impacted or is already severely disturbed by mining activities. The latter is therefore seen as low risk areas for containing heritage sites.

8. In the areas surveyed the under footing was reasonably open, but with a few sections being dense. The vegetation varied between high and low. Accordingly, both the horizontal and the vertical archaeological visibility were positively.

6. DESCRIPTION OF THE PHYSICAL ENVIRONMENT

The farm Bishop is situated within the Kalahari, a semi-desert area of southern Africa. However, very little natural vegetation remains, due to large scale mining. This mainly consist of low grass and medium sized trees, with cleared areas in between (Figure 6).

The majority of the area consist of past and current mining activities, which have resulted in large scale disturbance. It consists of piles of ore, large open cast areas, a plant, offices, and a few ruins of old mining buildings younger than 60 years of age (Figure 7-11).

A hill runs from north to south through the farm. Accordingly the topography falls towards the west and east thereof. No water courses were noted.

FIGURE 6: GENERAL VIEW OF THE SURVEYED AREA SHOWING DENSE, LOW VEGETATION.

FIGURE 7: VIEW INDICATING LARGE SCALE MINING.

FIGURE 8: THE PLANT AREA.

FIGURE 9: THE OFFICE COMPLEX. THIS IS AN OLD ASBESTOS FARM BUILDING. IT MAY BE OLDER THAN 60 YEARS BUT HAS NO INTRINSIC CULTURAL SIGNIFICANCE.

FIGURE 10: EXAMPLE OF OLD MINING BUILDINGS, HOWER YOUNGER THAN 60 YEARS OF AGE.

FIGURE 11: GENERAL VIEW OF THE FARM INDICATING LARGE SCALE MINING ACTIVITIES.

7. HISTORICAL CONTEXT

One site of cultural heritage significance was identified during the survey. Background information is given in order to place the surveyed area in a historical context and to contextualize possible finds that could be unearthed during mining activities. One previous heritage report has been done on this farm, but a reasonable number in the vicinity (SAHRA's SAHRIS database; Archaetnos' database).

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.

Stone Age sites are known to occur in the larger geographical area, including the well-known Wonderwerk Cave in the Kuruman Hills to the east, Tsantsabane, an ancient specularite working on the eastern side of Postmasburg, Doornfontein, another specularite working north of Beeshoek and a cluster of important Stone Age sites near Kathu. Additional specularite workings with associated Ceramic Later Stone Age material and older Fauresmith sites (early Middle Stone Age) are known from Lylyfeld, Demaneng, Mashwening, King, Rust & Vrede, Paling, Gloucester and Mount Huxley to the north (Morris 2005: 3).

The onset of the Middle Stone Age coincided with a widespread demand for coloured or glittering minerals that arose at the time for still unknown reasons. The intensive collection of such substances soon exhausted surface exposures and led to the quest being extended underground and thus to the birth of mining practice. Specularite was commonly mined in the Postmasburg area. In 1968 AK Boshier, working in collaboration with P Beaumont, found a number of underground specularite mines on Paling (De Jong 2010: 35; Beaumont 1973). Stone and Iron Age communities mined specularite associated with iron ores for cosmetic purposes at Blinkklipkop, Paling, Gloucester and other farms (De Jong 2010: 41; Snyman 2000: 3).

A number of Stone Age sites and scattered finds of Stone Age material were identified on the nearby farm Paling during an earlier survey (Pelser and Van Vollenhoven 2010: 12-17). Rock engraving (rock pecking) sites are known from Beeshoek (Figure 12-14) and Bruce (Morris 2005: 3; Snyman 2000: 3). The latter are associated with the Late Stone Age.

The environment at Bishop is such that it would have provided natural shelter and therefore it is possible that Stone Age people did also settle here. They would also

have been lured to the area due to an abundance of wild life. However, no Stone Age sites were identified during the survey.

FIGURE 12: ENGRAVING OF A GIRAFFE AT BEESHOEK.

FIGURE 13: ROCK PECKING OF AN ORYX AND A SUN.

FIGURE 14: ROCK PECKING OF A BABOON.

7.2 Iron Age

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

Early Iron Age (EIA) 200 – 1000 A.D.
Late Iron Age (LIA) 1000 – 1850 A.D.

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

Early Iron Age (EIA) 250 – 900 A.D.
Middle Iron Age (MIA) 900 – 1300 A.D.
Late Iron Age (LIA) 1300 – 1840 A.D.

This later phase, termed the Late Iron Age (LIA), was accompanied by extensive stonewalled settlements, such as the Thlaping capital Dithakong, 40 km north of Kuruman. Sotho-Tswana and Nguni societies, the descendants of the LIA mixed farming communities, found the region already sparsely inhabited by the Late Stone Age (LSA) Khoisan groups, the so-called 'first people'. Most of them were eventually assimilated by LIA communities and only a few managed to survive, such as the Korana and Griqua. This period of contact is sometimes known as the Ceramic Late

Stone Age and is represented by the Blinkklipkop specularite mine near Postmasburg and finds at the Kathu Pan (De Jong 2010: 36).

No Iron Age sites, features or objects were found during the survey. The type of environment however is suitable for human habitation. One would therefore expect that Iron Age people may have utilized the area. This is the same reason why white settlers later on moved into this environment.

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.

Factors such as population expansion, increasing pressure on natural resources, the emergence of power blocs, attempts to control trade and penetration by Griquas, Korana and white communities from the south-west resulted in a period of instability in Southern Africa that began in the late 18th century and effectively ended with the settlement of white farmers in the interior. This period, known as the *difaqane* or *Mfecane*, also affected the Northern Cape Province, although at a relatively late stage compared to the rest of Southern Africa. Here, the period of instability, beginning in the mid-1820s, was triggered by the incursion of displaced refugees associated with the Tlokwa, Fokeng, Hlakwana and Phuting tribal groups (De Jong 2010: 36).

The *difaqane* coincided with the penetration of the interior of South Africa by white traders, hunters, explorers and missionaries. The first traders in the Northern Cape were PJ Truter's and William Somerville's journey of 1801, which reached Dithakong at Kuruman. They were again followed by Cowan, Donovan, Burchell and Campbell and resulted in the establishment of a London Mission Society station near Kuruman in 1817 by James Read (De Jong 2010: 36). During the 1870's William Sanderson, John Ryan and John Ludwig passed through the area close to Postmasburg (Snyman 2000: 3).

The Great Trek of the Boers from the Cape in 1836 brought large numbers of Voortrekkers up to the borders of large regions known as Bechuanaland and Griqualand West, thereby coming into conflict with many Tswana groups and also the missionaries of the London Mission Society. The conflict between Boer and Tswana communities escalated in the 1860s and 1870s when the Korana and Griqua communities became involved and later also the British government. The conflict mainly centered on land claims by various communities. For decades the western border of the Transvaal Boer republic was not fixed. Only through arbitration (the Keate Arbitration), triggered by the discovery of gold at Tati (1866) and diamonds at Hopetown (1867) was part of the western border finally determined in 1871. Ten years later, the Pretoria Convention fixed the entire western border, thereby finally excluding Bechuanaland and Griqualand West from Boer domination (De Jong 2010: 36).

Geographically, the study area is part of a region known as Griqualand West. At the end of the 18th century and the beginning of the 19th century Griqua tribes coming from the south settled in the region in order to escape encroachment of Afrikaner Trekboere

who was active along the Orange River. They established the town of Klaarwater, renamed Griquatown in 1813. After the discovery of diamonds in 1867 a serious dispute over the ownership of the diamond fields ensued, involving the Transvaal and Orange Free State Boer republics, Griqua, Korana and Thlaping communities and the Cape colonial government. In October 1871 the diamond fields were proclaimed British territory under the name Griqualand West. In 1879 it was annexed to the Cape Colony (De Jong 2010: 36).

The incorporation of Griqualand West into the Cape Colony promoted colonial settlement in the area from the 1880s. Government-owned land was surveyed and divided into farms, which were transferred to farmers. Surveyors were given the task of surveying and naming some of the many farms in this region. These farms were allocated to prospective farmers, but permanent settlement only started in the late 1920s and the first farmsteads were possibly built during this period (De Jong 2010: 36). The Griqua town of Blinkklip (established in 1882), originally a mission station, was renamed Postmasburg in 1892 and became the centre of a magisterial district (Snyman 2000: 6). Another town, Olifantshoek, was established in the 1880s. The region remained sparsely populated until the advent of the 20th century, when cattle farming became popular (De Jong 2010: 36).

Prospecting started in the Postmasburg area during 1882 and manganese was discovered here during 1886 (Snyman 2000: 6, 13). Henry George Brown, who was commissioned in 1888 by the government of British Bechuanaland to erect the first government buildings in Kuruman, became interested in the iron ores that were known from the Klipfontein Hills. While prospecting there in the late 19th century, he became the first person to identify manganese in what is today known as the Eastern Belt of the Postmasburg Manganese Field. Captain Thomas Shone, who arrived in Postmasburg in 1919 to join the diggers following the discovery of diamonds at the town, discovered the manganese ores in the Western Belt during 1922-1924 (De Jong 2010: 38).

In 1925 Shone and partners founded the Union Manganese Mines and Minerals Limited in order to secure mineral rights and exploit the ores. Prior to the discoveries by Brown and Shone, manganese was only mined in South Africa on a very small-scale west of the present town of Magaliesburg and in the Western Cape. In 1926, Guido the farm and formed The Gloucester Manganese Mines (Postmasburg) Limited. The land was held for future development, as reasonable transportation facilities were not available at that time (De Jong 2010: 38; Snyman 2000: 22).

Following the founding of their manganese mining company, Shone and his partners attempted to entice overseas investments but met with little success, because too little was known about the economic viability of the deposits. The government then sent Dr. AL Hall of the Geological Survey to conduct a detailed geological survey of the Postmasburg manganese deposits. He was the first person to map them along the entire length of the Gamagara Hills and to classify them scientifically as ferruginous manganese ores that were suited for the production of low-grade ferromanganese. His report (1926) was optimistic about the viability of the deposits but stated that lack of proper transport facilities would be a concern (De Jong 2010:39).

Shone's company established small prospect workings all along the Gamagara Hills on farms such as Beeshoek, Paling, Doornfontein and Magoloring. In 1926 a Postmasburg attorney, AJ Bester, started taking up options on the farms in the Klipfontein Hills and established a second mining company, South African Manganese Limited, the forerunner of SAMANCOR. Two years later Guido Sacco formed a third company, Gloucester Manganese Mines (Postmasburg) Limited. The land was held for future development, as reasonable transportation facilities were not available at that time (De Jong 2010: 39).

The presence of manganese deposits in the Klipfontein Hills and observations made from prospecting trenches showed that the manganese ore bodies in the Western Belt were perhaps more irregular in shape than predicted by Hall. This resulted in the Geological Survey commissioning Dr. Louis Nel to undertake a second survey in 1927-1929 to map the entire manganese field in detail. His results, published in 1929, laid the foundation for much of the present-day knowledge of the geology of the Postmasburg manganese field (De Jong 2010: 39).

Mining by Union Manganese and South African Manganese started in earnest in 1927 in the Postmasburg field. Lack of proper transport facilities and the application of obsolete mining methods (everything was done by hand on a small scale) hampered progress. Manganese ores were collected from the open pits through a system of coco-pans and loaded on wagons (later trucks) that went to the Koopmansfontein railway station, about 100 km away (De Jong 2010:40).

The situation showed promises of being improves when the British Swiss International Corporation Limited provided capital for the construction of a railway line from Koopmansfontein to Postmasburg and Beeshoek in return for certain manganese mineral rights. A new joint company, The Manganese Corporation Limited, was formed and an agreement reached with the Minister of Railways and Harbours. The extended line to Beeshoek was opened in June 1930 and development of the ore bodies at Beeshoek, Doornfontein and Paling could take place. For this purpose, a narrow-gauge railway line was laid (De Jong 2010: 40).

However, the September 1929 crash on the New York Stock Exchange, followed by the Great Depression, brought all manganese mining operations to a halt, rendering the newly constructed Koopmansfontein / Beeshoek railway line dormant (De Jong 2010: 41).

May 1930 saw the launch of Ore & Metal Company Limited to import and export mineral concentrates, including manganese. The African Mining and Trust Company Limited were formed in December 1931 to acquire mineral rights and explore mineral deposits. In exchange for shares in African Mining and Trust, the founders transferred their entire Ore & Metal shareholding to the new company, while Guido Sacco transferred his Gloucester Manganese Mines shares. Thus, Ore & Metal and Gloucester Manganese Mines became subsidiaries of African Mining and Trust, now a wholly owned subsidiary of Assore Limited (previously The Associated Ore & Metal Corporation Limited), which was formed in 1950 (De Jong 2010: 41).

During 1934 the South African Railways re-opened the railway line and extended it to Gloucester. In 1935 The Associated Manganese Mines of South Africa Limited ("Assmang") was formed. Anglovaal acquired all the mineral leases of the Manganese Corporation and these were ceded to Assmang, as were the shares of the Gloucester Manganese Mines Limited held by African Mining and Trust in exchange for shares in Assmang. The first shipment of manganese ore left Durban harbour in March 1936 and other shipments continued uninterruptedly (De Jong 2010: 41).

The post office at Glosam was started in 1937 and in 1954 a mining village was established here. Originally it consisted of twelve houses (Snyman 2000: 54, 98). The Associated Manganese Mines of South Africa Limited changed its name to Assmang on 30 May 2001, and was reorganised into three divisions: Manganese, Chrome and Iron Ore (De Jong 2010: 41).

The one site identified dates to this period in time.

8. DISCUSSION OF SITES IDENTIFIED DURING THE SURVEY

8.1 Site 1 - Graves

This is a grave yard inside of the area of impact. It consists of approximately 24 graves (Figure 15). These are all stone packed, and none have headstones. The area is extremely overgrown and therefore the calculation may be an undercount.

FIGURE 15: SOME OF THE GRAVES AT SITE NO. 1.

No legible information could be found. Thus one of the categories of graves are present being graves unknown graves. These should be dealt with as heritage graves (older than 60 years).

GPS: 27°59'12.84"S
23°02'04.37"E

Cultural significance Table

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 3
= 16,8

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

Usually there are two options when dealing with graves. The first option is to leave the graves ***in situ***. This would be possible should there be no direct impact on the graves. However, the possibility of secondary impacts due to dust etc. remains.

The second option is to exhume the graves and have the bodies reburied. This usually is only allowed if there is a direct impact on the site. Graves younger than 60 years are handled by a registered undertaker. Graves older than 60 years and those of an unknown date is regarded as heritage graves. In such a case an archaeologist is also involved in the process.

It is recommended that for all sites Option 1 be implemented. The sites should remain ***in situ***. It should be fenced in and a management plan drafted for the sustainable preservation thereof. A buffer zone of at least 20 m should be implemented.

9. CONCLUSION AND RECOMMENDATIONS

The field work for the project has been completed successfully. One site of cultural heritage significance was identified (Figure 16).

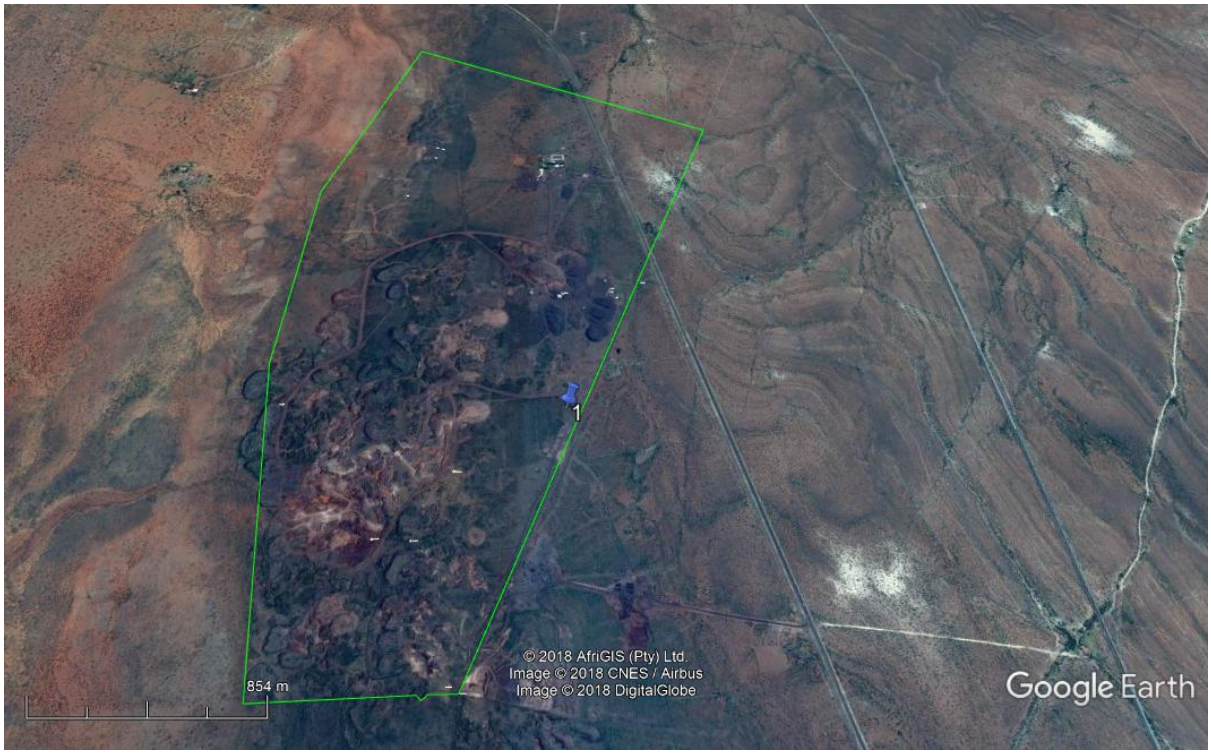

FIGURE 16: LOCATION OF THE SITE IDENTIFIED DURING THE SURVEY.

The following is recommended:

- The one site identified consist of approximately 24 graves. Usually there are two options when dealing with graves:
    - The first option is to leave the graves ***in situ***. This would be possible should there be no direct impact on the graves. However, the possibility of secondary impacts due to dust etc. remains.
    - The second option is to exhume the graves and have the bodies reburied. This usually is only allowed if there is a direct impact on the site. Graves younger than 60 years are handled by a registered undertaker. Graves older than 60 years and those of an unknown date is regarded as heritage graves. In such a case an archaeologist is also involved in the process.
- It is recommended that Option 1 be implemented as mitigation measure. The site should remain ***in situ***. It should be fenced in and a management plan drafted for the sustainable preservation thereof. A buffer zone of at least 20 m should be implemented.
- After implementation of the mitigation measures proposed above, the development may proceed.

- It should also 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.*

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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:

- 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 Grad 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.

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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.