

Archaetnos Culture & Cultural Resource Consultants BK 98 09854/23

A REPORT ON A CULTURAL HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED RETURN WATER DAM AT THE NEW KLEINFONTEIN GOLDMINE CLOSE TO SPRINGS, GAUTENG PROVINCE

For:

Prime Resources (Pty) Ltd PO Box 2316 Parklands 2121

REPORT: AE01246V

By:

Dr. A.C. van Vollenhoven (L.AKAD.SA.)
Accredited member of ASAPA
Professional member of SASCH

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Archaetnos P.O. Box 55 GROENKLOOF 0027

Tel: **083 291 6104** Fax: 086 520 4173 E-mail: antony@archaetnos.co.za

Members: AC van Vollenhoven BA, BA (Hons), DTO, NDM, MA (Archaeology) [UP], MA (Culture History) [US], DPhil (Archaeology) [UP], Man Dip [TUT], D Phil (History) [US]

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SUMMARY

Archaetnos cc was requested by Prime Resources (Pty) Ltd to conduct a cultural heritage impact assessment for the site of the proposed return water dam at the New Kleinfontein Goldmine. This is to the east of the town of Boksburg and to the north of the town of Springs in the Gauteng Province.

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

All sites, objects features and structures identified are documented according to the general minimum standards accepted by the archaeological profession. Co-ordinates of individual localities are determined by means of a Global Positioning System (GPS). The information usually is added to photographs and the description in order to facilitate the identification of each locality.

During the survey no sites of cultural heritage significance were located close to the area to be developed. Since the area is extremely disturbed by recent human activities, this is no surprise. The proposed development may therefore continue.

It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. Care should therefore be taken when mining commences that if any of these are discovered, a qualified archaeologist be called in to investigate.

CONTENTS

Page			
SUMMARY3			
CONTENTS4			
1. INTRODUCTION5			
2. TERMS OF REFERENCE5			
3. DETAILS AND EXPERTISE OF THE PERSON WHO PREPARED THE REPORT			
4. DECLARATION OF INDEPENDENCE			
5. METHODOLOGY7			
6. OPPORTUNITIES, CONSTRAINTS, CONDITIONS, ASSUMPTIONS AND GAPS IN AVAILABLE INFORMATION 7			
7. LEGISLATIVE REQUIREMENTS 8			
8. DESCRIPTION OF THE AREA			
9. HISTORICAL CONTEXT			
10.BASELINE DATA			
11.CONCLUSION & RECOMMENDATIONS			
12. REFERENCES			
APPENDIX A – DEFENITION OF TERMS			
APPENDIX B – DEFINITION/ STATEMENT OF SIGNIFICANCE 18			
APPENDIX C – SIGNIFICANCE AND FIELD RATING			
APPENDIX D – PROTECTION OF HERITAGE RESOURCES			
APPENDIX E – HERITAGE MANAGEMENT IMPACT ASSESSMENT PHASES			

1. INTRODUCTION

Archaetnos cc was requested by Prime Resources (Pty) Ltd to conduct a cultural heritage impact assessment for the site of the proposed return water dam at the New Kleinfontein Goldmine. This is to the east of the town of Boksburg and to the north of the town of Springs in the Gauteng Province.

The existing Modder East Operations are located on the farm Cloverfield 75 IR. The proposed return water dam is planned to the south-east of the property. Accordingly this area was surveyed. The client indicated the area where the proposed development is to take place and the survey was confined hereto.

2. TERMS OF REFERENCE

The Terms of Reference for the survey were to:

- 1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located in the footprint area of the planned development (see Appendix A).
- 2. Documenting such sites in a report including photographs and indicating them on a map with GPS references.
- 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. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.
- 5. Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources.
- 6. Review applicable legislative requirements.

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

Dr. Anton Carl van Vollenhoven:

Tertiary education

- BA 1986, University of Pretoria
- BA (HONS) Archaeology 1988 (cum laude), University of Pretoria
- MA Archaeology 1992, University of Pretoria
- Post-Graduate Diploma in Museology 1993 (cum laude), University of Pretoria

- Diploma Tertiary Education 1993, University of Pretoria
- DPhil Archaeology 2001, University of Pretoria.
- MA Cultural History 1998 (cum laude), University of Stellenbosch
- Management Diploma 2007 (cum laude), Tshwane University of Technology
- DPhil History 2010, University of Stellenbosch

Relevant positions held

- 1988-1991: Fort Klapperkop Military Museum Researcher
- 1991-1999: National Cultural History Museum. Work as Archaeologist, as well as Curator/Manager of Pioneer Museum (1994-1997)
- 1999-2002: City Council of Pretoria. Work as Curator: Fort Klapperkop Heritage Site and Acting Deputy Manager Museums and Heritage.
- 2002-2007: City of Tswhane Metropolitan Municipality. Work as Deputy Manager Museums and Heritage.
- August 2007 present Managing Director for Archaetnos Archaeologists.
- 1988-2003: Part-time lecturer in Archaeology at the University of Pretoria and a part-time lecturer on Cultural Resources Management in the Department of History at the University of Pretoria.

Experience and professional affiliations

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

4. DECLARATION OF INDEPENDENCE

Afthe lang

I, Anton Carl van Vollenhoven from Archaetnos, hereby declare that I am an independent specialist within the field of heritage management.

Signed:

Date: 27 August 2012

5. METHODOLOGY

5.1 Survey of literature

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

5.2 Field survey

The survey was conducted according to generally accepted HIA practices. It was undertaken on foot and via an off-road vehicle.

The survey was aimed at locating all possible objects, sites and features of cultural significance in the area of proposed development. If required, the location/position of any site was determined by means of a Global Positioning System (GPS), while photographs were also taken where needed.

5.3 Oral histories

People from local communities are interviewed in order to obtain information relating to the surveyed area. It needs to be stated that this is not applicable under all circumstances. When applicable, the information is included in the text and referred to in the bibliography.

5.4 Documentation

All sites, objects, features and structures identified were documented according to the general minimum standards accepted by the archaeological profession. Co-ordinates of individual localities were determined by means of a Global Positioning System (GPS). The information was added to the description in order to facilitate the identification of each locality.

6. OPPORTUNITIES, CONSTRAINTS, CONDITIONS, ASSUMPTIONS AND GAPS IN AVAILABLE INFORMATION

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

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

- 3. Cultural significance is site-specific and relates to the content and context of the site. Sites regarded as having low cultural significance have already been recorded in full and require no further mitigation. Sites with medium cultural significance may or may not require mitigation depending on other factors such as the significance of impact on the site. Sites with a high cultural significance require further mitigation (see Appendix 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. Very little existing data exists about the project area. Background information therefore only gives a broad outline.
- 7. It has to be mentioned that it is almost impossible to locate all the cultural resources in a given area, as it will be very time consuming. Developers should however note that the report should make it clear how to handle any other finds that might occur.

7. LEGISLATIVE REQUIREMENTS

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

7.1 The National Heritage Resources Act

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

- a. Archaeological artifacts, structures and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures and sites 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 palaeontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment only looks at archaeological resources. The different phases during the HIA process are described in Appendix E. An HIA must be done under the following circumstances:

- a. The construction of a linear development (road, wall, power line canal etc.) exceeding 300m in length
- b. The construction of a bridge or similar structure exceeding 50m in length
- c. Any development or other activity that will change the character of a site and exceed 5 000m² or involve three or more existing erven or subdivisions thereof
- d. Re-zoning of a site exceeding 10 000 m²
- e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

Section 34 (1) of the mentioned act states that no person may demolish any structure or part thereof which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

A structure means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.

Alter means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or the decoration or any other means.

Archaeology, palaeontology and meteorites

Section 35(4) of this act deals with archaeology, palaeontology and meteorites. The act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial):

- a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
- c. trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or

- d. bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

Human remains

Graves and burial grounds are divided into the following:

- a. ancestral graves
- b. royal graves and graves of traditional leaders
- c. graves of victims of conflict
- d. graves designated by the Minister
- e. historical graves and cemeteries
- f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

- a. destroy, damage, alter, exhume or remove from its original position of otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- b. destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- c. bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

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

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations** (**Ordinance no. 12 of 1980**) (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated) before exhumation can take place. Human remains can only be handled by a registered undertaker or an institution declared under the **Human Tissues Act** (**Act 65 of 1983 as amended**).

7.2 The National Environmental Management Act

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

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

8. DESCRIPTION OF THE AREA

The existing mining development called the New Kleinfontein Gold Mine (Modder East Operations) is located to the north of the town of Springs and to the east of the town of Boksburg. It therefore is on the far East Rand in the Gauteng Province (Figures 1-2).

The area where the return water dam is proposed is in the south-east of the property. The topography is reasonably even with no particular dominating slope. The surveyed area has been extensively disturbed by recent human activities. This mainly consists of agricultural activities and grazing (Figures 3-5).



Figure 1 Location of the site to the north of Springs in Gauteng.

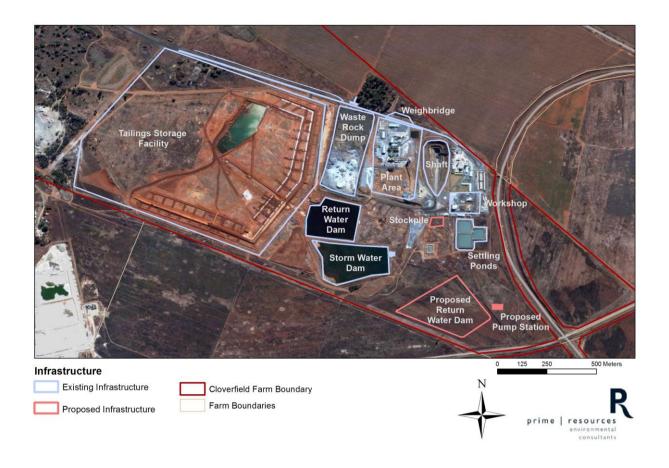


Figure 2 Location of the proposed return water dam.



Figure 3 General view of the surveyed area showing pioneer plant species – an indication of disturbance.



Figure 4 Another view of the area indicating disturbance in natural vegetation.



Figure 5 Clear signs of disturbance in the area.

9. HISTORICAL CONTEXT

As indicated, no sites of cultural heritage significance were located in the surveyed area. However, in order to enable the reader to better understand this, it is necessary to give a background regarding the different phases of human history.

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.
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Information as to the Stone Age in this area is very limited, probably due to a lack of research. Late Stone Age tools sites have been identified to the west of the surveyed area, namely at Zwartkops, Glenferness, Pietkloof and Zevenfontein (Bergh 1999: 4).

The environment definitely would be supportive to Stone Age activities although the dolomites dominating the landscape are not good material for the making stone tools. The nearby water sources would lure animals to the area and these people would therefore at least have hunted here. They probably would not have settled here as no natural shelter exists. One should therefore be on the lookout for stone tools.

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 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.
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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:

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Early Iron Age (EIA) 250 – 900 A.D.
Middle Iron Age (MIA) 900 – 1300 A.D.
Late Iron Age (LIA) 1300 – 1840 A.D.
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No Early Iron Age sites are known from the area. Many Late Iron Ages sites were identified in an area stretching from Johannesburg to Heidelberg (Bergh 1999: 6-7).

No such sites were however identified during the survey. These sites are usually located close to high lying hills and such a feature does not exist where the survey was done. The

environment is nevertheless suitable for Iron Age people and one may find cultural artifacts, such as potsherds during construction activities.

9.3 Historical Age

The Historical Age started with the first recorded oral histories in the area. It includes the inmigration of people that were able to read and write.

At the beginning of the 19th century the Khudu, a Tswana group, stayed in the area. During the Difaquane, around 1823-1827, they fled from Mzilikazi and settled further to the west (Bergh 1999: 10-11).

The first white settlers settled here by 1839/1840 (Bergh 1999: 15). Gold was discovered on the East Rand during the 1890's (Bergh 1999: 74).

During previous surveys in the area cemeteries were identified (Huffman 2006: 2-3; Archaetnos Database). These sites are located to the north-west and falls outside of the current surveyed area.

10. BASELINE DATA

As indicated no indication of sites, features or structures of a historical or archaeological nature were identified. Accordingly no impact assessment is possible.

11. CONCLUSION & RECOMMENDATIONS

The survey of the indicated area was completed successfully. The following is recommended:

- No mitigation is needed. The proposed development may therefore continue.
- It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. Care should therefore be taken when development commences that if any of these are discovered, a qualified archaeologist be called in to investigate the occurrence.

12. 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

	\mathcal{C}	\mathcal{C} 1
ii.	Provincial Grade II significance	should be managed as part of the provincial estate
iii.	Local Grade IIIA should be incl	luded in the heritage register and not be mitigated (high
		significance)
iv.	Local Grade IIIB should be inclu	ided 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)

should be managed as part of the national estate

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.