

9/2/242/3

stone

To:

*Impala Imperial Quarry*

**A PHASE I ARCHAEOLOGICAL SURVEY AND ASSESSMENT  
FOR IMPALA IMPERIAL QUARRY ON PORTIONS 500JS  
AND 778JS OF THE FARM MAPOCHSGRONDE IN THE  
MPUMALANGA PROVINCE OF SOUTH AFRICA**

***DR JULIUS CC PISTORIUS***

Archaeologist and  
Cultural Heritage Management Consultant  
352 Rosemary Street  
LYNNWOOD 0081  
Pretoria  
Tel (012) 348 5668  
September/October 1999

*Senior Lecturer*  
Department of Anthropology and Archaeology  
UNIVERSITY OF PRETORIA  
Pretoria

# **CONTENTS**

---

<b>INTRODUCTION</b>	1
<b>ARCHAEOLOGICAL REMAINS AND LEGISLATION</b>	4
The National Monuments Act (Act No 28 of 1969)	4
The Environment Conservation Act (Act No 73 of 1989)	4
The National Heritage Resources Act (Act No 25 of 1999)	5
The Minerals Act (Act No 50 of 1991)	5
<b>THE ARCHAEOLOGICAL POTENTIAL OF IMPALA IMPERIAL QUARRY'S CRITICAL AREA TO BE MINED</b>	6
The study area	6
Method	6
Continuation and dynamics	7
Ecological indicators	7
Some remarks on terminology	8
Archaeological potential	8
<b>THE CRITICAL AREA</b>	11
<b>THE PERIPHERAL OR NON-CRITICAL AREA</b>	14
The eastern part of the peripheral area	14
The northern part of the peripheral area	15
<b>THE NON-DISTURBED (UNAFFECTED) PART OF THE STUDY AREA OUTSIDE THE MINING AREA</b>	17

<b>CONCLUSION</b>	18
Historical background	18
The archaeological potential of sites on Mapochsgronde	20
Rating the sites on that part of Impala Imperial's premises which is to be destroyed	21
A cultural heritage management programme	22
Aims of the cultural heritage management programme	23
Collaboration with other interested parties	24

<b>SOURCES CITED IN THE "CONCLUSION"</b>	25
--	----

<b>SOURCE ACKNOWLEDGED</b>	26
----------------------------	----

<b>RECOMMENDATIONS</b>	27
------------------------	----

<b>BIBLIOGRAPHY OF ARCHAEOLOGICAL IMPACT STUDIES DONE IN THE BANKEVELD</b>	30
--	----

<b>BIBLIOGRAPHY OF ARCHAEOLOGICAL IMPACT STUDIES DONE IN THE MPUMALANGA PROVINCE AND IN THE NORTHERN PROVINCE</b>	34
---	----

<b>BIBLIOGRAPHY OF CULTURAL HERITAGE MANAGEMENT</b>	36
---	----

<b>BIBLIOGRAPHY OF SCIENTIFIC ARTICLES</b>	37
--	----

## **INTRODUCTION**

Focused archaeological research has been conducted in the Mpumalanga Province for at least three decades. This research consists of surveys and of excavations of Stone Age and Iron Age sites as well as of the recording of rock art sites in this area. Ecologically speaking, the region includes parts of the Eastern Bankeveld, the higher western Drakensberg escarpment and parts of the lower lying eastern Lowveld. The area has a rich archaeological heritage, consisting of remains dating from both the prehistoric and the colonial periods of South Africa. These archaeological and historical remains include:

- limestone caves and underground dwelling sites of the earliest homonids (ape-man creatures) who lived in Southern Africa 2 to 3 million years ago;
- Stone Age sites which may be associated with the San people and which date back hundreds of thousands of years;
- rock engraving sites located along rocky outcrops and dating from the last 20 000 years;
- rock painting sites in the Drakensberg which date from the last 10 000 years;
- Early Iron Age sites occupied by Bantu-Negroid agriculturists and possibly cattle herders which date back 1 500 years;
- Late Iron Age sites dating from the last 500 years;
- remains dating from the previous century when the first Immigrant Boers settled in various places to the west of the Drakensberg from the 1840's onwards;
- block houses built by British troops during the Anglo-Boer War (1899-1900) on mountain ranges; and
- numerous other formal historical features (the Pelgrimrust Museum, the historically reconstructed Nederlandsch Zuid-Afrikaansche Spoorweg Maatschappij (NZASM) tunnel near Waterval-Boven, the Middelburg



Museum with a Ndebele *umuzi* as one of its satellite museums, the Mapoch's caves near Roosenekal, etc).

Archaeological remains in this part of the Mpumalanga Province therefore constitute a rich heritage which represents a cultural-historical record of most groups living in South Africa today.

My involvement with archaeological work in the Northern Province and in the Mpumalanga Province began when I undertook an archaeological reconnaissance and excavation programme in Phalaborwa from 1983 to 1986. The research results were incorporated in the thesis for my doctorate (D.Phil) in Archaeology. The thesis was completed in 1989 at the University of Pretoria and is entitled *Die metaalbewerkers van Phalaborwa*.

My current involvement with the Northern Province and Mpumalanga includes various archaeological impact and assessment studies done for Amplats, Liebenberg & Jenkins, Iscor, the Kangwane National Development Corporation, Verde Bitterfontein Granite Mine, Eagle Quarries, Marlin Granite and Globecon Environmental during the past few years (see Bibliography).

In order to comply with legislation, Impala Imperial Quarry requires knowledge of the presence and of the significance of any archaeological or historical remains which may occur in a critical area where Impala Imperial Quarry intends to mine granite on Portions 432, 433, 434 and 436 of Mapochsgronde 500JS and on Mapochsgronde 778JS, because such remains could be affected by mining activities. Impala Imperial Quarry needs this knowledge in order to take pro-active measures with regard to any significant archaeological or historical remains in this area which may be affected, damaged or destroyed by the proposed mining activities.

Consequently, I was commissioned by Impala Imperial Quarry to undertake a Phase I archaeological survey. The aim of the survey was to:

- establish whether any archaeological or historical remains do occur in a critical area where Impala Imperial Quarry intends to mine granite and to establish infrastructure such as quarries and waste rock dumps; and if so, determine what the nature, the extent and the significance of these remains are;
- determine whether such remains will be affected by these mining and

development activities; and

- evaluate what appropriate actions could be taken to reduce the impact of development activities on such remains.

## **ARCHAEOLOGICAL REMAINS AND LEGISLATION**

Impala Imperial Quarry's study area is situated in the archaeologically sensitive Mpumalanga Province. All settlements older than fifty years located in this region are protected by legislation. A synopsis of the relevant legislation is provided below. It must serve as a guideline which must be considered before any development project is undertaken.

### **The National Monuments Act (Act No 28 of 1969)**

In South Africa, all palaeontological, archaeological and historical sites older than 50 years are protected by the **National Monuments Act (Act No 28 of 1969, as amended)**. According to this Act, it is an offence to destroy, damage, excavate, alter, or to remove from its original site, or to export from the Republic any part of such a site or such material without a permit.

If convicted of an offence in terms of the Act, a person could be liable for a fine of up to R10 000 or two years imprisonment, or both. Permits for excavations, the removal of, damage to or the export of archaeological/historical relics are issued by the National Monuments Council. Permits for the destruction of such remains can only be obtained in consultation with professional archaeologists.

### **The Environment Conservation Act (Act No 73 of 1989)**

In addition, the **Environment Conservation Act (Act No 73 of 1989)** makes provision for the drawing up of reports concerning the impact on the environment of activities identified and prohibited in terms of Sections 21 and 22 respectively. These reports must evaluate the impact that development may have on the natural and man-made environment, and this includes archaeological sites.

Local and regional authorities (Town Councils, Regional Governments and Regional Services Councils) also have regulations requiring evaluation of the possible effects that rezoning and development schemes may have on the environment, including the cultural environment. These regulations must be studied to ensure that they are implemented correctly.

### **The National Heritage Resources Act (Act No 25 of 1999)**

The National Monuments Act has been reviewed and will be replaced on 1 April 2000 by the National Heritage Resources Act (Act No 25 of 1999). The new law will require all developers (including engineers, farmers [agriculturists] and mines who were previously excluded from the bill) to undertake archaeological impact studies whenever any type of development activities are undertaken. Phase I archaeological impact studies will become a common procedure for all development activities, even if such development may be exempted in terms of the Environment Conservation Act.

The new law will ensure community participation in the protection of national heritage resources and will involve all three levels of government in the management of the country's national heritage. The South African Heritage Resources Agency (SAHRA) will establish and maintain a national policy, strategy plans and standards for heritage resources management and will monitor the system as a whole. Heritage authorities will assist and co-operate with individuals and organisations concerned with the study, the conservation and the promotion and utilisation of national heritage resources. A newly established National Heritage Resources Fund will provide financial assistance for heritage projects.

According to this act, a permit from the South African Heritage Resources Agency (SAHRA) will be required before a heritage site is destroyed or damaged during the course of mining activities.

### **The Minerals Act (Act No 50 of 1991)**

The **Minerals Act (Act No 50 of 1991)** and the **Minerals Amendment Act (Act No 103 of 1993)** require plans for the conservation of the environment at or in the vicinity of any mine or works to be detailed in an environmental management programme (EMP). The EMP must indicate how the natural and the 'man-made' environment will be protected and rehabilitated during and after the mining.

# **THE ARCHAEOLOGICAL POTENTIAL OF IMPALA IMPERIAL QUARRY'S CRITICAL AREA TO BE MINED**

---

## **The study area**

Eagle Impala Quarry intends to mine Portions 432, 433, 434 and 436 of the farm Mapochsgronde 500JS and Mapochsgronde 778JS. This mining area is situated south of the road between Roossenekal and Lydenburg, approximately five kilometres south-east of Roossenekal. Together with the three granite mines and the Mapoch's Mine respectively located to the west and to the east of Roossenekal, Impala Imperial Quarry will represent the hub of mining activities in Roossenekal.

## **Method**

The survey was conducted on foot and consisted of:

- a general survey of the larger part of Impala Imperial Quarry's premises which is referred to as the **peripheral (or non-critical) area** in this report; and
- a more detailed survey of a circular area (demarcated on the map in the report) where Impala Imperial Quarry's three quarries, waste dumps and block yards will be located and which is referred to as the **critical area** in this report.

The peripheral area of Impala Imperial Quarry's premises, which represents the largest part of the mining area where no development is planned in the near future, was not subjected to a detailed archaeological survey. According to Premier Mapping's topographical map, several 'ruins' and a grave site occur in this area. **Most, but not all of these features were inspected.** Some of these 'ruins' consist merely of individual, isolated foundations or single enclosures not necessarily associated with habitational sites. Consequently, most of these ruins do not have any (deep) archaeological deposits with (substantial) middens or other surface material. At least two of these sites have well-preserved stone walls which reflect considerable architectural skill (namely Site MAPO26 and Site MAPO28).

The spatial (or geographical) locations of the sites and features discovered in the

mining area are only roughly indicated in Figure 1. (It is debatable whether the exact co-ordinates of archaeological sites and features, when determined with a Global Positioning System, should be published in a report which is accessible to the general public).

### **Continuation and dynamics**

Archaeological surveys may not detect all the cultural resources in any given study area. Some archaeological remains may simply be missed during surveys (observations), others may occur below the surface of the earth and may only be exposed after development (such as mining) commences.

This Phase I survey therefore has to be seen in the light of the dynamic nature of Environment Management Programme Reports, which have to be updated on a regular basis. An archaeological cultural heritage management programme, as proposed for Impala Imperial Quarry's Mine, is by its very nature a process which is gradually implemented and maintained over years.

The numerical system used for identifying the sites on Impala Imperial's property is a continuation of the numerical system used during the Phase I surveys done for the granite mines in Roossenekal. This system will probably be changed when the first draft of the cultural heritage management programme for the granite mines in Roossenekal is prepared during the year 2000.

### **Ecological indicators**

Some of the Late Iron Age sites in Roossenekal are located near granite outcrops covered with bush, initially making these sites difficult to detect. However, roughly circular patches of bush, varying in density, are often ecological indicators for some of the Late Iron Age stone walled villages on the Mapoch Mountains. It also seems that the density of the vegetation may, in some instances, serve as an indicator of the relative age of some of these sites.

A thorough survey of the details inside some of the sites was not possible due to the density of grass cover and vegetation in the central parts of some of these settlements. The criteria formulated to determine sites' significance in general, however, could in most instances be used to rate the significance of these sites discovered in Impala Imperial Quarry's critical area.

Where the veld was burnt, the low grass cover was conducive to a search for

archaeological remains such as Stone Age sites. None were observed, however.

Some of the remains from the historical (colonial) period and from the relatively recent past are associated with some types of aloes and with Bluegum trees.

#### **Some remarks on terminology**

The terms 'historical period' and 'historical remains' refer, for the Roossenekal area, to the first appearance or use of 'modern' Western writing brought to Roossenekal by the first Colonists who settled in this area around 1845. The historical period for Roossenekal therefore dates from around 1845.

The Phase I archaeological survey referred to in the title of this report also included a survey of historical sites and features. The term 'archaeology' therefore includes historical remains.

It must, however, be pointed out that archaeological and historical sites and features cannot, in all instances, be distinguished through observation alone. Criteria such as square floor plans (a historical feature) may serve as a guideline. However, circular and square plan forms may occur together on the same site and therefore may serve as diachronic indicators. (Diachronic means over a long period of time).

The term 'relatively recent past' refers to the 20th century. Remains from this period are not necessarily older than fifty or sixty years and therefore do not to qualify, in all instances, as archaeological or historical remains. It is not always possible, based on Phase I observations alone, to distinguish clearly between historical remains and remains from the relatively recent past.

The term 'Late Iron Age' refers to the period between the 17th century and the 19th century and can therefore include the historical period.

The term 'critical area' refers to the area where Impala Imperial Quarry wants to focus its mining activities.

The 'non-critical (or peripheral) area' refers to the area where Impala Imperial Quarry does not intend to focus its mining activities in the near future.

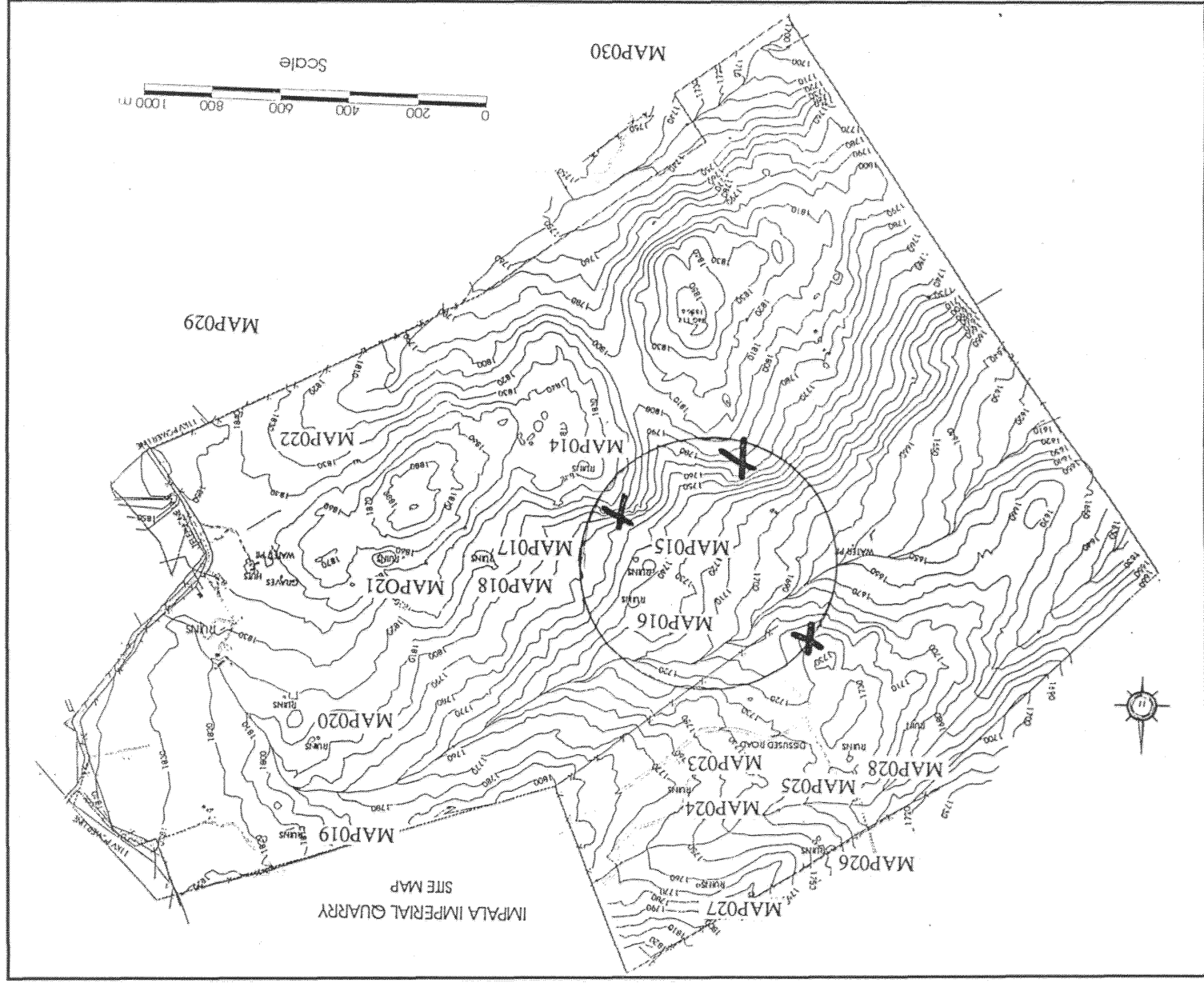
## Archaeological potential

For the purposes of the Phase I survey of Impala Imperial Quarry's premises, the mining property can be divided into three areas of interest, namely:

- The **critical (or core) area** where the three quarries, waste dumps, block yards and most of the other infrastructure will be developed and located;
- the **peripheral or non-critical area** where no mining activities will take place in the immediate future; and
- the **non-disturbed or unaffected area** outside the mining area.



Figure 1: Impala Imperial Quarry's mine is located to the south-east of Roosenekal on Portions 500JS and 778JS of the farms Mapochsgronde in the Mpumalanga Province of South Africa. Archaeological and historical sites discovered on the mine's premises are indicated on the map. The critical area where the quarries, waste dumps and block yards will be located is indicated by a circle.



## **THE CRITICAL AREA**

The critical area covered by Impala Imperial Quarry's activities is limited to the second valley area in the northern part of the mine's premises. Two settlements in the critical area (Sites MAP015 and Site MAP016) and one settlement on the border of the critical/peripheral area will be affected (destroyed) by the mining activities (Site MAP014). These sites are spatially associated with Site MAP017 and Site MAP018, both located in the peripheral area.

Site MAP014 is located to the south of the proposed quarries, high on the mountain range in the central part of the mining area. This site is located on the border between the critical area and the peripheral area. Site MAP015 and Site MAP016 are located on more or less similar levels relatively close to each other. Site MAP017 and Site MAP018 are located on successive higher levels close to the foot of the mountain range in the peripheral area (Figure 1).

Preliminary observations indicate that the main spatial features of all five sites (MAP014 to MAP018) consist of an outer circular wall which encircles one or more centrally located circular enclosures. Some of these sites (e.g. MAP014 and MAP015) have extensions consisting of half-circular walls attached to the outer circular walls of these sites. Settlements with an outer circular wall which encloses inner structures such as dwellings and enclosures for cattle may have affinities with Nguni-related people such as the Amangwane, Swazi, Ndzundza-Ndebele or the Matabele of Mzilikazi. (Site MAP018 does not have inner enclosures and consists only of an outer circular wall). The cluster MAP014 to MAP018 probably represents the residential villages of family groups living close to one another. The sites can be compared to historically known *imizi* and *imizi amathanga*, or residential villages of varying sizes and social compositions, occupied by different family groups, as found amongst people with Nguni affinities.

Several level areas with low, rudimentary walls occur between Site MAP015 and Site MAP016 and the second river valley in the study area. These terraces are located on slightly different levels as they descend northwards towards the river valley. These terraces were developed on the relatively flat southern bank of the river and were prepared by removing all the loose stone and vegetation from these areas. It is clear that these terraces served as agricultural fields (or plots) where crops were planted. Types of bush and grass which do not grow on other

parts of the mining premises today cover these ancient agricultural fields. The stone `walls' which demarcate the different terraces were very rudimentary, sometimes merely consisting of a single row of stones.

The sites which are to be affected (destroyed) by the mining activities were rated according to selected criteria in order to determine their significance. These rating criteria are set out in Table 1.

Table 1. Rating criteria for settlements discovered on Mapochsgronde.

RATING CRITERIA	SETTLEMENTS			
	MAP14	MAP015	MAP016	MAP029
<b>1 AGE/CHRONOLOGY</b>				
absolute*	X	X		X
relative				
guess(timate)				
<b>2 (PHYSICAL) SIZE</b>				
large* (> 80m diam)		X		X
medium (50m diam + addendum)			X	
small (<50m diam)	X			
<b>3 COMPOSITION</b>				
3.1 single site (large)*		X		
single site (medium)			X	
single site (small)	X			
3.2 double (twin) sites (large)*				X
double sites (medium)				
double sites (small)				
3.3 cluster and large*				
cluster and medium				
cluster and small				
cluster (mixed sizes)	X	X	X	
<b>4 DEPOSITS</b>				
present (abundant)*		?		X
present (scarce)	X			
absent			X	
<b>5 SURFACE MATERIAL</b>				
present (abundant)*		?		
present (scarce)				X
absent	X		X	
<b>6 CRAFTSMANSHIP</b>				
(e.g. stone walls and features)				
excellent*				X
mediocre	X	X	X	
poor				
<b>7 GROUND FLOOR PLAN</b>				
unique (to the complex/				
not repeated)*				X?
familiar (in the complex/				
duplication)	X	X	X	
<b>8 IDENTITY</b>				
association with specific ruler/lineage*				X?
general cultural affiliation	X	X	X	
unknown				

## **THE PERIPHERAL OR NON-CRITICAL AREA**

No mining activities will take place in this area in the immediate future.

Several settlements and features are associated with this part of the study area. These sites and features have not been studied in detail. Some are overgrown with grass, making an inspection of their inner surfaces impossible. These sites and features occur in the eastern and northern parts of the peripheral area (Figure 1):

### **The eastern part of the peripheral area**

#### *Site/feature MAP019*

This structure is located in the far eastern part of the granite mining area. It comprises a single square structure that probably served as an enclosure for cattle. The dirt road passing this structure is lined with Bluegum trees.

#### *Site/feature MAP020*

Site MAP020 is located in the eastern part of the study area. It seems that site may be composed of two components, namely a residential unit (MAP020.1) and a complex of enclosures used for domestic stock (MAP020.2). These two units are located some distance from each other but may perhaps form part of one settlement.

Site MAP020.1 is composed of what seems like a residential unit. This site's most conspicuous feature is a circular outer boundary wall built with large stones. Its inner surface was covered with the remains of wattle trees that have recently burnt. The presence of 'modern' rubbish suggests that this site may date from the more recent past.

Site MAP020.2 consists of at least two enclosures that were probably used for domestic stock. These enclosures are small to medium in size, compared to enclosures observed in other settlements.

#### *Site MAPO21*

Site MAPO21 is located on a slightly higher altitude than Site MAPO20. Its surface is covered with dense grass and bush. The dense **trees** and bush that cover some of the Late Iron Age sites on Mapochsgronde do not occur inside this site. A long wall is attached to the main body of the site and may have served as some form of entrance leading into the site.

An archaeological deposit was noticed against a part of this site's outer wall.

#### *Site MAPO22*

Site MAPO22 is composed of at least two spatial units, namely a complex of enclosures probably used for domestic stock (MAPO22.1) and stone walls (MAPO22.2) which may represent the remains of a residential unit. The latter component is covered with wattle trees.

According to Premier Mapping's map of the study area, `ruins' also occur in the eastern part of the mining area (close to the house and dirt road). This site was not inspected. The house is older than sixty years.

#### **The northern part of the peripheral area**

##### *Site/features MAPO23*

This site and features consist of an old disused road, at least two ruins and levelled areas, perhaps used for agricultural purposes.

##### *Site/feature MAPO24*

This feature consists of a square foundation built with stones. The foundation measured roughly 7.0m x 5.0m. A single stone wall occurs near this foundation.

The northern bank of the river has been lined with round boulders.

##### *Site/feature MAPO25*

This site consists of a single stone wall enclosure with a diameter of approximately 5.0m located on the southern bank of the river valley.

*Site MAPO26*

This site is located on a flat surface on top of the mountain range on the northern boundary of the mining area. The site consists of at least three stone structures with square ground plans, probably stock enclosures. Rough terraces that were dug into the adjoining mountain slope probably served as living platforms located close to these stock enclosures.

*Site/feature MAPO27*

This site/feature was not visited and is located near the northern border of the mining area.

*Site/feature MAPO28*

This site/features consist of at least one large square (cattle) enclosure with adjoining structures. These features are marked by stone walls built by skilled craftsmen.

## **THE NON-DISTURBED (UNAFFECTED) AREA OUTSIDE THE MINING AREA**

---

This refers to the area surrounding the mining area where no mining activities will take place in the foreseeable future. Two settlements were observed in this area (Figure 1):

- Site MAP029, which is situated to the south of the mining area; and
- Site MAP030, which is located directly adjacent and to the south of Mr Gerrit Bezuidenhout school's facilities.



## **CONCLUSION**

### Historical background

It was pointed out in earlier Phase I reports for the granite mines currently operating in Roossenekal that the farm Mapochsgronde 500JS holds a very important part of South Africa's cultural heritage. **Approximately 60 hectares of this farm were declared a National Monument by the South African Government on 22 March 1968 (KMC 1983:39).**

The Ndzundza-Ndebele chief Mabhogo (Mapoch) and his followers settled, according to oral tradition, in a part of the Roossenekal area (also known as KoNomtjharhelo) in the early 19th century.

‘Around and in the ravines, hills and krantzes of KoNomtjharhelo, Mabholo (*sic*) built a range of interlocking defensive strongholds which in time became almost impenetrable (*sic*)’ (KMC 1983:34).

The Ndzundza-Ndebele occupied the Roossenekal area, according to various sources, for forty-four years (1839 to 1883) under the consecutive reigns of four chiefs. This short occupation period, however, is in dispute. While the subjugation (1883) of the Ndzundza-Ndebele may have been historically recorded, the ‘date of their arrival’ (1839) in Roossenekal is ethnographically calculated. This short occupation period, was already lengthened from 36 years (1847-1883) to 44 years (see Van Vuuren 1983:16), but it may be considerably longer, if archaeological and non-recorded historical evidence is taken into account.

There were several battles between the Ndzundza-Ndebele and the Swazi and between the Ndzundza-Ndebele and commandoes of the Zuid-Afrikaansche Republiek (Z.A.R.) on the Mapochsgronde. The best recorded war is the one between Nyabele, Mapoch's successor, and the Z.A.R.. This war started in November 1882 and ended during July 1883. The caves on Mapochsgronde (today a National Monument) were used as strongholds during these wars by the Ndzundza-Ndebele, who also used the caves as hideaways during wars and skirmishes with neighbouring tribes.

Some (but perhaps not all) of the Ndzundza-Ndebele sites, particularly those that served as impenetrable fortresses around Erholweni (a nucleus), were historically

recorded. Some (and perhaps all) of these sites are associated with stone walls. Several (and perhaps all) of these sites are indicated on a map in the KMC's report (1983:back page) and in a similar map in Van Jaarsveld (1985:255). These sites were 'interlocked' as, together, they served as a bullwark against the Z.A.R. forces. These sites were part of an integrated defensive system which gradually collapsed as individual sites succumbed to the onslaught of the Z.A.R.. The following descriptions explain this event clearly:

'Die Mapochoorlog het op 7 November 1882 begin, .... Die Ndzundza het daarop na hulle vestings in die omgewing van die koppe rondom KoNomtjharhelo teruggetrek. Hierdie vestings rondom die hoofsetel het goeie skuiling gebied vanweë die grotte in die omgewing en die versterkte klipmure met skietgate en ander fortifikasies wat gebou is' (Van Vuuren 1992:130).

'... maar die net om Nyabela het nouer begin span. Na dié oorgawe (van 'n aantal van Nyabela se hoofmanne) was die meerderheid van die Ndzundza se kleiner krale in Boerehande, sodat die Boeremagte hulle nou kon toespits op die sterker vestings Erholweni, Spitskop, Vlugkraal en Makwanistat, ....' (Van Jaarsveld 1985:220)

[ 'The Mapoch war began on 7 November 1882, .... The Ndzundza then retreated to their strongholds near the kopjes around KoNomtjharhelo. These strongholds around the chiefseat provided good refuge due to the caves in the area and the reinforced stone walls with firing holes and other fortifications that had been built.

But the net around Nyabele began to tighten. After their surrender (by a number of Nyabela's headmen) the majority of the Ndzundza's smaller kraals were in the Boer's hands, so that the Boer forces could now focus on the stronger fortresses Erholweni, Spitskop, Vlugkraal and Makwanistat....']

Historical and ethnographic evidence therefore indicate that some of the stone walled sites on the farm Mapochsgronde can be associated with the Ndzundza-Ndebele. Nyabela's land claims during 1882 to 1883 included as much as 84 to 104 square kilometers of land around Erholweni (see map in Van Jaarsveld 1985:254). Some of the stone walled settlements observed on Mapochsgronde resemble a Nguni (Matabele) settlement style studied in the Bankevel (Pistorius 1997a, 1997b) and 19th century Nguni (Zulu) villages (*imizis*, *ikhanda*) in Kwa

Zulu/Natal. The settlement pattern of Erholweni, however, reveals Sotho (Tswana) settlement features. Is it therefore possible that some of the sites on Mapochsgronde may be the remains of (adapted) Swazi (Nguni) settlements. Oral tradition indicates that the Swazi (Nguni) had an 'influence' (a presence?) in the Roossenekal area before the 'arrival' of the Ndzundza-Ndebele (Nguni). Therefore, the possibility should be considered that some of the sites located on Mapochsgronde may be associated with people other than the Ndzundza-Ndebele. If so, were these people of Swazi or Amangwane descent, or were they even perhaps Ndzundza(?)-Ndebele vanguards who preceded the royal Ndzundza-Ndebele lineage in the Roossenekal area? If one of these assumptions holds true, such sites will date at least from the 18th century.

A large number of stone walled fortresses (used by the Ndzundza-Ndebele and the Boers?) and other historically recorded settlements occur around Erholweni (as a nucleus). These sites however, are located outside the mining areas. (To the best of my knowledge only one of these features occurs in a granite mining area where, however, it is not affected by current mining activities). Several Boer (Voortrekker) homesteads and remains of farms, roads and agricultural fields also exist on the Mapochsgronde.

Academic issues, however, are not the subject matter of this report. All archaeological and historical sites on the mining premises which are older than fifty/sixty years qualify as cultural resources. Such remains must be treated according to requirements laid down by cultural heritage legislation endorsed by the National Monuments Council.

### **The archaeological potential of sites on Mapochsgronde**

At least one Late Iron Age stone walled site, namely Site MAP011 on Eagle Quarries' premises, was subjected to a Phase II investigation during 1999. This enabled the author to gain a better understanding of the archaeological potential of sites similar in floor plan and spatial composition to Site MAP011. The sites belonging to the cluster which will be affected by mining activities generally resemble Site MAP011, although Site MAP015 and MAP016 are slightly more elaborate in spatial composition, as both have extensions attached to these sites' main bodies.

The excavation of Site MAP011 revealed only two artefacts of European origin (a ploughshare from a plough drawn by oxen and a pocket knife blade). Only two

concentrations of ash (deposits) were excavated in the small enclosures on the site. Only two potsherds were picked up on the surface and on the outskirts of the site. The excavation in general indicated that Site MAPO11 was exceptionally poor in archaeological remains.

This poor archaeological content also seems to apply for settlements forming part of the cluster to be affected by the mining activities. Settlements such as Site MAPO13 (on Eagle Quarries' premises) and Site MAPO29 (outside Impala Imperial Quarry) which are exceptionally large sites, however, have deposits and indications (although limited) of surface material. These sites may have been occupied for longer periods or were associated with more intense activities due to the presence of larger groups of inhabitants.

The general absence of archaeological material on certain (the majority of?) sites on the Mapochsgronde indicate that these sites were occupied for a short period of time, perhaps for a few decades and in some instances even shorter periods of time.

(Archaeological potential here refers to the variety and richness of these sites in terms of archaeological remains. These remains have been used as criteria to rate the significance of Late Iron Age stone walled sites on Mapochsgronde [Table 1]).

**Rating the sites on that part of Impala Imperial's premises which is to be destroyed**

A scheme according to which the relative significance of settlements to be destroyed by the proposed mining activities on Impala Imperial's premises could be rated was formulated. This scheme consisted of eight categories that were divided into thirty sub-criteria. Eight criteria (highlighted with asterisks) were identified according to which the significance of settlements could be established. (The three sub-criteria under "Composition" (of sites) were only counted as one criterion). Each criterion counted 12,5%. Settlements scoring a 100% level of significance warrant protection or conservation (see Table 1).

(The criteria were formulated based on the most important features, attributes and characteristics of hundreds of stone walled settlements observed in Gauteng, the North-West Province and the Northern Province during twenty years of field work. Twenty-five stone walled sites were excavated in these provinces. The criteria were also formulated taking into account the features of the approximately twenty-five Late Iron Age stone walled settlements observed during 1999 on the

Mapochsgronde).

According to the rating scheme, settlements to be affected by the mining activities scored the following levels of significance: Site MAP014 (12,5%), Site MAP015 (37,5% to a possible 62,5%) and Site MAP016 (12,5%). Site MAP029, located outside the mining area, registered a 62,5% to a possible 87% level of significance (Table 1).

(Giving the benefit of the doubt to two criteria [abundant deposits and abundant surface material] which may be significant).

#### **A cultural heritage management programme**

Due to the fact that the destruction of archaeological sites on Portions 500JS and 778JS of Mapochsgronde is inevitable, it is recommended that Impala Imperial Quarry's operations in Roosenekal are brought into line with the company's cultural heritage management programme as implemented on Portion 250JS of Mapochsgronde. A cultural heritage management programme for Impala Imperial Quarry's mine is necessary due to the objectives raised by local pressure groups to granite mining on Mapochsgronde and the fact that **national cultural heritage status** has been bestowed on a part of the archaeological complex in the region. It is also necessary that a symbiosis should be established between development and the management of cultural resources in mining areas to comply with cultural heritage legislation.

A cultural heritage management programme would require Impala Imperial Quarry to contribute towards the cost of a small-scale archaeological project for at least three years aimed at implementing a cultural heritage management programme for the granite mine on Portions 500JS and 778JS of Mapochsgronde. Together with the other granite mines' contributions, this programme can then include an archaeological survey of a larger part of the Mapochsgronde. A 'long-term' project, structured according to cultural heritage legislation, will culminate in a tangible outcome. The project would also reflect the mine's commitment to the conservation and promotion of the area's cultural heritage in collaboration with the National Monuments Council and local interest groups. This project will be conducted in collaboration with the National Monuments Council, which has to issue permits for Phase II work. The programme will also ensure that Impala Imperial Quarry follows standard procedures which can be performed as part of cultural heritage management programmes already implemented by mines such as Foskor, Palabora Mining Company, Kelgran Granite and Marlin Granite.

### **Aims of the cultural heritage management programme**

The cultural heritage management programme developed for and implemented by the granite fraternity in Roosenekal provides for the following work to be done:

#### ***Phase I investigations***

- conducting an extensive and in-depth archaeological survey of all the mining areas managed by Verde Granite, Eagle Quarries, Marlin Granite and Impala Imperial Quarry in order to establish the presence, nature and extent of archaeological sites in the mining areas; and
- documenting and mapping all the archaeological and historical remains which may be found during this survey in the mining areas.

#### ***Reactive and pro-active Phase II investigations:***

- investigating all archaeological and historical sites and remains which have been affected by development activities in the past; and
- conducting archaeological investigations (surveying, documenting and excavating) of all settlements which may be affected or destroyed by future development activities.

#### ***Phase III investigations:***

- collecting archaeological material from settlements investigated in the mining areas;
- conserving and utilizing this museum collection (e.g. in displays);
- publishing the results of research efforts in scientific journals and in popular magazines;
- declaring settlements of outstanding historical significance national monuments, in collaboration with the National Monuments Council; and
- collaborating with living relatives of historical and archaeological

settlements in order to investigate the sustainable use of cultural resources in fields such as eco-tourism and heritage education.

#### **Collaboration with other interested parties**

The cultural heritage management programme implemented in the Roossenekal granite mining areas provides for collaboration between the mines, the National Monuments Council and interested and affected parties concerned about the conservation and the utilization of cultural resources in the Roossenekal area. Negotiations with the Ndzundza-Ndebele with regard to the maintenance and upgrading of Erholweni is currently underway. It is foreseen that Erholweni can be utilized in heritage education programmes and as an archaeo-tourist destination (see photocopy of article published in the Beeld newspaper). The National Monuments Council has provided labourers to clean up the archaeological site at Erholweni. The intention is also to rid the site of unwanted vegetation, which has a destructive effect on the stone walls. The granite mines and the Ndzundza-Ndebele have opened negotiations to define the mine's role in providing logistic support for the maintenance and upgrading of Erholweni.

## **SOURCES CITED IN THE "CONCLUSION"**

*The Ndzundza-Ndebele and the Mapoch caves.* Report issued by the KwaNdebele Monuments Commission (KMC), 1983. Cyro Print: Pretoria.

Van Jaarsveld, F.A. 1985. *Die Ndzundza-Ndebele en die Blankes in Transvaal 1845-1883.* Ongepubliseerde M.A. verhandeling. Rhodes Universiteit: Grahamstad.

Van Vuuren, C.J. 1983. *Die vestigingspatroon van die Suid-Ndebele.* Ongepubliseerde M.A. verhandeling. Universiteit van Pretoria: Pretoria.

Van Vuuren, C.J. 1992. *Die aard en betekenis van 'n eie etnisiteit onder die Suid-Ndebele.* Ongepubliseerde D.Phil proefskrif. Universiteit van Pretoria: Pretoria.



## **SOURCE ACKNOWLEDGED**

Schoeman, M.H. 1997. *The Ndzundza archaeology of the Steelpoort river valley*.  
Unpublished MA dissertation. University of the Witwatersrand.

## **RECOMMENDATIONS**

Mapochsgronde is one of several pieces of land in South Africa with cultural historical significance. The history of Late Iron Age groups as well as those of nineteenth century Colonists (Voortrekkers), and most probably earlier predecessors such as the San of the Stone Age, are tied up with this piece of land. Erholweni, a Late Iron Age settlement associated with the Ndzundza-Ndebele, and most probably also with a Swazi (Nguni) group (the Nkwane/Mokwana) has been declared a national monument.

Cultural remains on the premises of Impala Imperial Quarry include Late Iron Age remains and remains dating from the historical period and from the relatively recent past. It seems that most of the sites and features located in the northern and in the eastern part of the peripheral area may date from the historical period and perhaps even from the relatively recent past. These sites and features will not be affected by mining activities in the near future. Late Iron Age remains occur predominantly in the core area of the mine. These remains, which consist of a cluster of sites (MAP014 to MAP018), will be negatively affected by the proposed mining activities. Site MAP014 to Site MAP016 will most probably be destroyed by the mining activities.

Several scenarios are sketched to illustrate the possible impact of mining on these sites. In all instances, even in the extraordinary event of the continued existence of all or some of these sites, but then in a dramatically altered context, a Phase II investigation of Cluster MAP014 to MAP018 is proposed before these sites are destroyed. The implementation of a long-term cultural heritage management programme by Impala Imperial Quarry is also proposed (Table 2). The diagram indicates the degree of impact on the sites and how this impact will be balanced by the maximization of positive aspects emanating from the Phase II investigation and from the maintenance of a cultural heritage management programme.

(An outside change exists that Sites MAP014, MAP015 and MAP016 may not be destroyed by the mining activities. One or more of these sites may be kept intact between mining activities or between mining features such as quarries, waste dumps and block yards. However, such an event would be considered unlikely. Even if sites can be preserved, accidental damage may occur through the intensity of mining activities over a long period of time. The preservation of any of the sites between mining features therefor may not be worth the effort, as the

sites' archaeological context [agricultural fields and individual settlements of the cluster] will in any case be destroyed by the mining activities).

Excavation of Site MAP011 on the premises of Eagle Quarry indicated that settlements with a similar settlement style located on Mapochsgronde are generally poor in archaeological remains such as (deep) deposits and (an abundance) of surface material (pottery, grinding stones, artefacts, etc). This may be true for the majority of settlements located on Mapochsgronde and which have spatial compositions similar to Site MAP011 and Cluster MAP014 to MAP018. Larger sites such as MAPO02, MAPO13, MAPO29 and historically important sites such as Erholweni may represent exceptions to this rule.

The criteria established to rate the significance of settlements to be affected by the mining activities indicate that Site MAP014, Site MAP015 and Site MAP016 do not qualify as settlements of outstanding significance. These settlements must also be viewed as part of a (cultural) complex which may amount to as many as forty to sixty settlements which all occur on Mapochsgronde. Settlements such as Site MAPO02, Site MAP013 and Site MAPO29, which will not be affected by mining activities, are rated higher than any of the sites to be destroyed in the mining area.

Impala Imperial Quarry, however, has to comply with the requirements of cultural heritage legislation before Site MAP014 to Site MAP016 may be affected by mining activities. Consequently it is recommended that:

- Impala Imperial Quarry applies for a permit to conduct a Phase II investigation of Cluster MAP014 to MAP018;
- Impala Imperial Quarry implements a cultural heritage management programme for Portion 500JS and Portion 778JS similar to that already established for Portion 250JS of Mapochsgronde.



**DR JULIUS CC PISTORIUS**  
Department of Anthropology and Archaeology  
University of Pretoria  
September/October 1999

# Mapoch se grotte ontwikkel

## RNG help om terrein skoon te maak

Carien Fourie

Langtermynplanne word deur die Ndzundza-Ndebeles en bewaringsbewustes beraam om die toerisme- en opvoedkundige potensiaal van die Mapoch-grotte naby Roossenekal in Mpumalanga te ontgin.

Die Raad vir Nasionale Gedenkwaardighede (RNG), aan wie die terrein van sowat 60 ha behoort, het kruise, sae en harke aan die gemeenskap oorhandig vir die begin van 'n skoonmaakprojek in die terrein.

Volgens mnr. Francois Erasmus, assistentbestuurder van die RNG se noordelike streek, gaan die raad vyf mense se lone betaal om die terrein skoon te maak.

Eers gaan net rommel en dooie hout verwyder word, maar in samewerking met die Mpumalanga-Parkeraad gaan van die plante verwyder word om die oorblyfsels van nedersettings te beskerm en dit meer sigbaar te maak.

Sekere bome sal behou word omdat dit deel is van die geskiedenis van die terrein.

Die Ndzundza-Ndebeles het in die vorige eeu van omstreeks die jare veertig tot die vroeë jare tagtig in die terrein gewoon wat hulle Erholweni noem. Die grotte het later as die Mapoch-grotte bekend geword omdat koning Mapoch onder in 'n stadium daar gewoon het.

Koning Ngwenyama Mahlangu het die tuingereedskap van die RNG ontvang en aan sy gemeenskap oorhandig met verduidelikings oor hoe die terrein opgeruim gaan word.

Volgens Mahlangu hou die Ndzundza-Ndebeles elke jaar op 19 Desember 'n fees in die terrein. Die terrein het vir hulle kultuurwaarde omdat die koninklike familie altyd hier gewoon het en omdat konings hier begrawe is.

Die nuwe granietmyne is die afgelope paar maande in die omgewing begin. Volgens dr. Julius Pistorius in die Universiteit van Pretoria se departement argeologie het die myne se bestuur hulle reeds bereidwillig verklaar om logistiek of finansiële te help met die onderhoud van Erholweni.

Pistorius het argeologiese-



**Mnr. Jeremiah Skosana (70), opsigter van die Mapoch-grotte, sit op een van die kruise wat die Raad vir Nasionale Gedenkwaardighede voorsien het.**

Foto: CARIEN FOURIE

invloedstudies oor die mynbedrywighede opgestel en mynbestuursprogram in werking te stel.

Sekere argeologiese terreine sal wel in die slag bly.

Van die veertig tot sestig terreine in die omgewing is tien op myn-

terrein. Met die instemming van die myne word breër na die argeologie gekyk.

Die myne is bereid om met Erholweni se onderhoud te help.

Pistorius het gesê daar word beoog om die oorblyfsels van die ou klipmure by Erholweni te karteer

en die hele argeologiese terrein op te meet.

Die ouer geslag Ndzundza-Ndebeles gaan gevra word om mondeling geskiedenis oor te dra waarmee die terrein geïnterpreteer en beskryf kan word.

[cfourie@beeld.com](mailto:cfourie@beeld.com)

**Table 2. Scheme indicating the impact of mining on Cluster MAP014 to MAP018 and mitigation measures (Phase II work). The implementation of a cultural heritage management programme and Phase II work will maximize positive aspects emanating from the negative impact of mining on archaeological remains.**

Scenarios of negative impacts	Minimizing negative impacts (mitigation measures) and maximizing positive impacts	
	Pro-active (short term)	Pro-active and reactive (long-term)
	<b>Phase II investigation</b>	<b>Cultural Heritage Management Programme</b>
Destruction of 3 sites	Phase II investigation of Cluster MAP014 to MAP018	Opportunity to study L.I.A. remains in Roossenekal, Archaeological potential not yet finally determined
Destruction of 2 sites	Phase II investigation of cluster MAP014 to MAP018	Introducing Roossenekal's archaeological worth to scholars and the public Monitoring archaeological remains in mining areas
Destruction of 1 site	Phase II investigation of cluster MAP014 to MAP018	Phase II work must be documented: report(s) to the NMC and scientific publication(s) Collecting contextual material (for displays, e.g. at Erholweni)
No destruction of archaeological sites (but of archaeological context)	Phase II investigation of Cluster MAP014 to MAP018	Collecting information for dissemination (e.g. pamphlets at Erholweni) Establishing standards/criteria for conservation (e.g. Table 1). Sustainable maintenance/development at Erholweni



## **BIBLIOGRAPHY OF ARCHAEOLOGICAL IMPACT STUDIES DONE IN THE BANKEVELD**

---

- Pistorius, J.C.C. 1993. *'n Argeologiese impakstudie van die beoogde trajek van roete K16 in die Britsdistrik van Transvaal*. (Mede-outeur, F.P. Coetzee). Verslag voorberei vir Liebenberg & Jenkins, Siviele Ingenieurs: Pretoria. (56pp).
- Pistorius, J.C.C. 1993. *'n Argeologiese ondersoek van 'n gedeelte van die plaas Elandsrand (570JQ) in die Britsdistrik van Transvaal*. (Mede-outeur F.P. Coetzee). Verslag voorberei vir Wates, Meiring en Barnard, Siviele Ingenieurs: Johannesburg. (26pp).
- Pistorius, J.C.C. 1994. *'n Verslag van argeologiese opgrawings op die plaas Zwartkopjes of Roodekopjes (427JG) in die Britsdistrik van Transvaal*. (Medewerkers: P. Nortje, K. Lubbe, W. van der Merwe). Verslag voorberei vir Liebenberg & Jenkins, Siviele Ingenieurs: Pretoria. (74pp).
- Pistorius, J.C.C. 1995. *'n Argeologiese verkenningsoopname van 'n gedeelte van die beoogde Adis-Ikaros-Phoebus 400kV transmissielynkorridor tussen Garankuwa en Brits*. Verslag voorberei vir die Transmissiegroep van Eskom: Megawattpark. (37pp).
- Pistorius, J.C.C. 1996. *'n Fase 1 argeologiese ondersoek en evaluering van die voorkoms van argeologiese terreine binne die beoogde Noordsigwoonbuurt van Rustenburg*. (Medewerkers M. Hutten en S. Gaigher). Verslag voorberei vir EVN Projekitebestuur (Pretoria), die Oorgangraad van Rustenburg en Fox Lake & Machouse Ontwikkelaars. (36pp).
- Pistorius, J.C.C. 1996. *Assessment of archaeological potential of land under the control of Rhombus Vanadium (Pty) Ltd*. Report prepared for Stass Environmental. (7pp).
- Pistorius, J.C.C. 1996. *A Phase 1 archaeological investigation of land to be mined by Samco Tiles at Hornsnek, Pretoria, south of the Magaliesberg*. Report prepared for Fritz Klöpfer Environmental. (12pp).
- Pistorius, J.C.C. 1997. *'n Fase 2 argeologiese ondersoek van 'n negentiende eeuse Matabeledorp binne die beoogde Noordsigwoonbuurt van Rustenburg*.

(Medewerkers: M. Hutten, S. Gaigher, P. Birkholtz en W. Fourie). Verslag voorberei vir EVN Projektebestuur, die Oorgangsaan van Rustenburg en Fox Lake & Machouse Ontwikkelaars. (27pp).

Pistorius, J.C.C. 1997. *Survey of Mmatshetshela on Tweedepoort (283JQ) in the Rustenburg district of the North West Province: Archaeological assessment for the Vaalkop Southern Regional Water Supply Scheme*. Report prepared for Walmsley Environmental Consultants, EVN Consulting Engineers, Magalies Water & National Monuments Council. (41pp).

Pistorius, J.C.C. 1997. *Mmatshetshela, a settlement from the difaqane or pre-difaqane period on the farm Tweedepoort (283JQ) in the Rustenburg district of the North-West Province: Results of a Phase II archaeological investigation for the Vaalkop Southern Regional Water Supply Scheme*. Report prepared for EVN Consulting Engineers, Magalies Water & the National Monuments Council. (52pp).

Pistorius, J.C.C. 1997. *Proposal for archaeological survey and assessment in the Bankeveld: new Buffelschroem/Modderspruit substations and 88/22/11Kv interconnections*. Report prepared for the Network Services Manager, Eskom: Rustenburg. (24pp).

Pistorius, J.C.C. 1997. *A Phase I archaeological survey and assessment for Eskom's new Buffelschroem/Modderspruit substations and 88/22/11Kv interconnections*. Report prepared for the Network Services Manager, Eskom: Rustenburg. (23pp).

Pistorius, J.C.C. 1997. *The archaeological potential of Boschkoppie (104JQ) in the Rustenburg district of North-West: An impact and assessment report for Amplats' platinum mine*. Report prepared for North-West Environmental Consultants and Amplats. (17pp).

Pistorius, J.C.C. 1997. *A Phase I archaeological survey on the farm Hartebeespoort B 410 JQ in the Brits district: establishing a cultural heritage management programme for Nyala Granite in collaboration with an archaeological enterprise*. Unpublished report for North West Environmental Consultants and Nyala Granite. (36pp).

Pistorius, J.C.C. 1997. *Results of a Phase I archaeological survey of the 88 kV transmission line corridor and stand for the Marikana substation in the Rustenburg*

*district of the North-West Province*. Unpublished report for the Network Services Manager, Eskom: Rustenburg. (21pp).

Pistorius, J.C.C. 1998. *Archaeological survey and assessment of the Taylor mining area on the farm Tweedepoort (283JQ) in the Rustenburg district*. Addendum to the Environmental Management Programme Report done for Kudu Granite. Report prepared for Kudu Granite. (49pp).

Pistorius, J.C.C. 1998. *Archaeological survey and assessment of the Schaapkraal mining area in the Rustenburg district*. Addendum to the Environmental Management Programme Report done for Kudu Granite. Report prepared for Kudu Granite. (49pp).

Pistorius, J.C.C. 1998. *A Phase I archaeological investigation of the PWV9 highway between Van Der Hoff Road and Church Street, Pretoria*. Report prepared for Van Riet and Louw. 18pp.

Pistorius, J.C.C. 1998. *A Phase I archaeological survey of the Eugene Marais Park in Groenkloof, Pretoria*. Report prepared for Cave and Clapwijk. (18pp).

Pistorius, J.C.C. 1998. *A Phase I archaeological survey for Eskom's 88kV transmission line upgrade from Ontgin substation (Rooikoppiesdam) to Vaalkop pump substation, North-West Province*. Unpublished report prepared for Eskom's Network Services Manager, Rustenburg (18pp).

Pistorius, J.C.C. 1998. *A Phase I archaeological survey for Eskom's Adis powerstation, 132kV transmissionline corridor and transmission line corridor between Bighorn (Marikana) and Adis powerstation (Brits)*. Unpublished report prepared for Eskom's Transmission Group, Megawattpark (37pp).

Pistorius, J.C.C. 1998. *A Phase I archaeological survey for Magalies Water's Vaalkop Southern Regional Water Supply Scheme: The water pipeline corridors between Boschpoort and Tlhabane (Contract 4), between Meriting and Ga-Luka (Contract 5) and for the stand of the water pump station (Contract 6)*. Unpublished report prepared for Walmsley Environmental and Magalies Water (26pp).

Pistorius, J.C.C. 1999. *Archaeological survey and assessment of Granite mines on the farms Tweedepoort (283JQ) and Boschpoort (284JQ) in the Rustenburg district. Incorporating the Taylor mining area, the Bekker mining area, the*



*Transvaal mining area and the Springbok mining area.* Addendum to the Environmental Management Programme Reports done for Marlin and Kelgran Granite. Report prepared for Marlin and Kelgran Granite Mines. (89pp).

Pistorius, J.C.C. 1999. *A Phase I archaeological survey for Eskom's 88kV transmission line relocation on the Kroondal Platinum Mine premises, Rustenburg district.* Unpublished report prepared for the Eskom's network services manager, Rustenburg (pp24).

Pistorius, J.C.C. 1999. *A Phase I archaeological survey of the 88kV Rustenburg furnace interconnector transmission line corridor.* Unpublished report prepared for the Eskom's network services manager, Rustenburg (pp17).

Pistorius, J.C.C. 1999. *A Phase I archaeological survey of the proposed trajectory of Road K105 in Centurion.* Unpublished report prepared for Plan Associates, Pretoria (pp22).

## **BIBLIOGRAPHY OF ARCHAEOLOGICAL IMPACT STUDIES DONE IN THE MPUMALANGA PROVINCE AND IN THE NORTHERN PROVINCE**

---

- Pistorius, J.C.C. 1995. *'n Argeologiese verkenningsopname van 'n gedeelte van die Nkomatirivierbedding ten suide van die beoogde Sibangi Stuwal binne die Nkomazi Landboubesproeiingskema.* (Medewerker: Morne van der Linde). Verslag voorberei vir Du Plessis & Burger Raadgewende Siviele, Strukturele en Landbou Ingenieurs: Nelspruit. (12pp).
- Pistorius, J.C.C. 1996. *'n Verslag van 'n argeologiese verkenningsopname vir Iscor se beoogde Rooiwaterprojek in Gravelotte in die Noordelike Provinsie.* Ongepubliseerde verslag vir Walmsley Environmental Consultants en Iscor. (45pp).
- Pistorius, J.C.C. 1997. *Relocation of Langa Ndebele from Ga-Mapela: An assessment of the archaeological potential of the farm Sterkwater (229KR) and proposal for a cultural heritage management programme in the former sphere of influence of the Langa-Ndebele chiefdom.* Unpublished report for Steffen, Robertson and Kirsten and for Amplats. (28pp).
- Pistorius, J.C.C. 1998. *Archaeological survey and assessment of Foskor's mining areas in Phalaborwa, Northern Province of South Africa. An addendum to Foskor's Environmental Management Programme.* Unpublished Report for Foskor. (245pp).
- Pistorius, J.C.C. 1998. *A Phase I archaeological survey for Vodacom on the farm Mooiplaats (147JT) in the highveld district of the Mpumalanga Province of South Africa.* Unpublished report for Globecon Environmental and Vodacom. (21pp)
- Pistorius, J.C.C. 1998. *A Phase I archaeological survey for Vodacom on the farm Goedverwacht in the Mpumalanga Province of South Africa.* Unpublished report for Globecon Environmental and Vodacom. (21pp)
- Pistorius, J.C.C. 1998. *Archaeological survey and assessment of Palabora Mining Company's mining areas in Phalaborwa, Northern Province of South Africa. An addendum to Palabora Mining Company's Environmental Management Programme Report.* Unpublished report prepared for Palabora Mining Company. (246pp)

- Pistorius, J.C.C. 1998. *Archaeological survey and assessment of Fedmis's mining areas in Phalaborwa, Northern Province of South Africa*. An addendum to Fedmis's Environmental Management Programme Report. Unpublished report prepared for Steffen, Robertson and Kirsten and Fedmis. (90pp).
- Pistorius, J.C.C. 1998. *Report on a preliminary survey and excavation at Modimolle, Phalaborwa*. Unpublished report prepared for Foskor. (10pp).
- Pistorius, J.C.C. 1999. *A Phase I archaeological survey and assessment for the proposed development of the Messina Platinum Mine near Potgietersrus in the Northern Province of South Africa*. Unpublished report prepared for Steffen, Robertson and Kirsten and Messina Platinum Mine. (29pp).
- Pistorius, J.C.C. 1999. *A Phase I archaeological survey and assessment for Eagle Granite's Mine on the farm Mapochsgronde (500JS) in the Mpumalanga Province of South Africa*. Unpublished report prepared for Eagle Granite Quarries (pp23).
- Pistorius, J.C.C. 1999. *A Phase I archaeological survey and assessment for Marlin Granite's Mine on the farm Mapochsgronde (500JS) in the Mpumalanga Province of South Africa*. Unpublished report prepared for Eagle Granite Quarries (pp26).
- Pistorius, J.C.C. 1999. *A Phase I archaeological survey and assessment for Verde Granite Mine on the farm Mapochsgronde (500JS) in the Mpumalanga Province of South Africa*. Unpublished report prepared for Eagle Granite Quarries (pp28).
- Pistorius, J.C.C. 1999. *A Phase I archaeological survey and assessment for Impala Imperial Quarry on Portions 500JS and 788JS of the farm Mapochsgronde in the Mpumalanga Province of South Africa*. Unpublished report prepared for Eagle Granite Quarries (pp33).

## **BIBLIOGRAPHY ON CULTURAL HERITAGE MANAGEMENT**

- Pistorius, J.C.C. 1996. Stakeholders invest in archaeological heritage. *Die Tukkies*. 4(1), p21.
- Pistorius, J.C.C. 1996. Granite moves into cultural heritage management. *South African Granite Association*. 3(2). pp15-21.
- Pistorius, J.C.C. 1997. Cultural heritage: Research in the Bankeveld. *Conserva*. 12(1). pp18-19.
- Pistorius, J.C.C. 1997. Maatskappy help met bewaring. *Beeld*. 24 Februarie.
- Pistorius, J.C.C. 1997. Archaeological endeavours in the Bankeveld. *Die Tukkies*. 5(2). p26.
- Pistorius, J.C.C. 1997. Konsepvoorstel vir die stigting van 'n Kelgran Kultuurefeniëstrust. *Voorlegging aan die bestuur van Kelgran Graniet*. Brynston: Johannesburg. (11pp).

## **BIBLIOGRAPHY OF SCIENTIFIC ARTICLES**

- Pistorius, J.C.C. 1994. Molokwane, a seventeenth century Batswana village. *South African Journal of Ethnology*. 17(2). pp38-53.
- Pistorius, J.C.C. 1995. Rathateng and Mabyanamatshwaana: cradles of the Kwena and Kgatla. *South African Journal of Ethnology*. 18(2). pp49-62.
- Pistorius, J.C.C. & Steyn, M. 1995. Iron Working and Burial Practices amongst the Kgatla-Kwena of the Mabyanamatshwaana Complex. *Southern African Field Archaeology*. 4(2). pp68-77.
- Pistorius, J.C.C. 1995. Radiocarbon Dates from the Mabyanamatshwaana Complex. *South African Journal of Ethnology*. 18(3). pp123-127.
- Nienaber, W.C. & Pistorius, J.C.C. 1996. Argeologiese Opleidingsopgrawings in die Hans Merensky Natuurreserveaat in die Laeveld (Noordelike Provinsie). *Suid-Afrikaanse Tydskrif vir Etnologie*. 19(1). pp28-36.
- Pistorius, J.C.C. 1996. Spatial Expressions in the *kgosing* of Molokwane. *South African Journal of Ethnology*. 19(4). pp143-164.
- Pistorius, J.C.C. 1997a. The Matabele village which eluded history, Part I. *South African Journal of Ethnology*. 20(1). pp26-38.
- Pistorius, J.C.C. 1997b. The Matabele village which eluded history, Part II. *South African Journal of Ethnology*. 20(2). pp43-55.
- Nienaber, W.C., Prinsloo, H.P., & Pistorius, J.C.C. 1997. Derdepoort: 'n Vroeë Ystertydperkterrein noord van die Magaliesberg. *Suid-Afrikaanse Tydskrif vir Etnologie*. 20(1). pp15-22.
- Pistorius, J.C.C. 1997. Diachronic evidence from the *kgosing* of Molokwane. *South African Journal of Ethnology*. 20(3). pp118-132.
- Pistorius, J.C.C. 1997. Mmatshetshela, the settlement of a displaced group in the Bankeveld. *South African Journal of Ethnology*. 20(4). pp191-206.

Pistorius, J.C.C. 1998. EmHlalandlela, a Matabele settlement in the Bankeveld. *South African Journal of Ethnology*. 21(2). pp55-65.

Pistorius, J.C.C., Steyn, M. & Nienaber, W.C. 1998. Two burials from Makgope, a Late Iron Age Batswana settlement in the Bankeveld. *South African Journal of Ethnology*. 21(3). pp115-124.

Pistorius, J.C.C. 1998. African metal working, metaphors and medicines. *South African Journal of Ethnology*. 21(4). pp198-202.

Pistorius, J.C.C. 1999. Spatial identity and expressions in a stone walled complex in Kroondal. *South African Journal of Ethnology*. 22(3). pp116-128.

Plug, I. & Pistorius, J.C.C. 1999. The faunal remains from specialised industrial communities, Phalaborwa, South Africa. *African Archaeological Review*. 16(3) (in the press).