

## **PHASE 1 HERITAGE IMPACT ASSESSMENT**

**PROPOSED MINING ACTIVITIES ON PORTION 47 (A PORTION OF PORTION 45) OF THE  
FARM NOOTGEDACHT 333JR, CULLINAN MAGISTERIAL DISTRICT, GAUTENG.**

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## EXECUTIVE SUMMARY

*Archaeology Africa* was appointed by *Environmental Assurance* to undertake a Phase 1 Heritage Impact Assessment for the proposed mining of Portion 47 (a Portion of Portion 45) of the farm Nooitgedacht 333-JR. The mining company is *Aust Sandwerke cc*. This study forms part of the upgrade of the existing Environmental Management Programme Report.

Five sites were located which can be classified into three different types, namely two cemeteries, two historic military sites and one Late Iron Age site. Mitigation measures for all these sites have been made under Section 4.3.

It must be noted that the ridge situated along the southern boundary of the study area was not surveyed in any detail. This was due to the fact that at the time of the fieldwork it fell outside the boundaries of the study area. However, a quick walk up and down the ridge during the fieldwork has revealed two historic military sites from the South African War. It can be assumed that more such features are located on the ridge. It is therefore recommended that no mining may take place on the ridge before its entire length falling within the study area has been properly surveyed and assessed.

It is the opinion of the author of this report that on the condition that all the recommendations made in this report are adhered to, the development may continue.

This report will be submitted to the South African Heritage Resources Agency. Any changes and/or additions made by them must be adhered to.

## TABLE OF CONTENTS

1. PROJECT BACKGROUND .....	3
2. DESCRIPTION OF STUDY AREA AND PROPOSED DEVELOPMENT .....	3
2.1 STUDY AREA .....	3
2.2 PROPOSED DEVELOPMENT.....	3
3. METHODOLOGY.....	2
3.1 DESKTOP STUDY .....	2
3.2 FIELD SURVEYS.....	2
3.3 CONSULTING WITH LOCAL INTERESTED AND/OR AFFECTED PARTIES .....	2
3.4 ASPECTS REGARDING VISIBILITY AND CONSTRAINTS .....	3
4. FINDINGS.....	3
4.1 DESKTOP STUDY FINDINGS.....	3
4.1.1 Cartographic findings .....	3
4.1.2 Early Farm Ownership History.....	8
4.1.3 The Manala Ndebele .....	8
4.1.4 The South African War (1899-1902) .....	9
4.1.4.1 The Battle of Diamond Hill.....	9
4.1.4.2 The fortification of the Magaliesberg Mountains .....	10
4.2 SOCIAL CONSULTATION FINDINGS.....	10
4.3 SURVEY FINDINGS .....	11
4.3.1 Site 1 .....	11
4.3.2 Site 2 .....	14
4.3.3 Site 3 .....	16
4.3.4 Site 4 .....	18
4.3.5 Site 5 .....	22
5. CONCLUSIONS AND GENERAL RECOMMENDATIONS .....	24
BIBLIOGRAPHY .....	1
ANNEXURES	
Annexure A	Site Distribution Map
Annexure B	Legislative Framework

## 1. PROJECT BACKGROUND

*Archaeology Africa* was appointed by *Environmental Assurance* to undertake a Phase 1 Heritage Impact Assessment for the proposed mining of Portion 47 (a Portion of Portion 45) of the farm Nooitgedacht 333-JR. The mining company is *Aust Sandwerke*.

This study forms part of the upgrade of the existing Environmental Management Programme Report.

## 2. DESCRIPTION OF STUDY AREA AND PROPOSED DEVELOPMENT

### 2.1 Study Area

The study area is situated amongst the northern foothills of the Magaliesberg Mountains and as a result contains both topographically level as undulating sections. The vegetation can be described as open grassland with clumps of trees in between.

The north-eastern boundary of the study area is defined by the farm boundary between Nooitgedacht and Bynespoort. The southern boundary of the study area is largely defined by a low ridge.

The proposed development is situated within an existing mining area and as a result can only be described as significantly disturbed. The most disturbed areas are located in the flat areas where sand mining has been undertaken. The ridges and slopes are still undisturbed.

### 2.2 Proposed Development

The proposed activity consists of the expansion of sand mining operations on the property as well as the commencement of stone quarrying activities along the ridge toward the south of the study area.



Plate 1 General view of a section of the study area showing both undisturbed and disturbed areas.



Plate 2 A view inside the central part of the study area where sand mining operations are currently undertaken.

### **3. METHODOLOGY**

#### **3.1 Desktop Study**

The primary aim of the desktop study is to compile as much available information as possible on the heritage resources of the area. Such a study also helps in providing historical context for any sites that are located. The desktop investigation focussed on the study of archival maps.

The following institutions were visited for the desktop study:

- National Archives, Pretoria
- UNISA Library, Pretoria

#### **3.2 Field Surveys**

After an initial site visit on Tuesday, the 27<sup>th</sup> of March 2007, the actual field survey took place on Saturday, the 7<sup>th</sup> of April 2007. The survey consisted of a walkthrough of the study area with special emphasis placed on the more undisturbed areas.

Location data was captured with a Garmin Summit handheld GPS receiver set to WGS84 as datum. Data was captured when accuracy greater than 6m was indicated by the instrument. The location data was represented using Mapsource and Oziexplorer software. Photographs were taken with a Canon PowerShot A430 digital camera.

At the time of both the site visit and survey the southern boundary of the study area was defined by the foot of the ridge to the south of the study area. The ridge itself was only acquired by the mining company much later, and as a result was not surveyed in any detail.

#### **3.3 Consulting with Local Interested and/or Affected Parties**

Informal discussions were held with local residents met during the fieldwork. A public participation process was also undertaken by *Environmental Assurance*.

### **3.4 Aspects regarding Visibility and Constraints**

Not subtracting in any way from the comprehensiveness of the fieldwork undertaken, it is necessary to realise that the heritage resources located during the fieldwork do not necessarily represent all the heritage resources located there. This may be due to various reasons, including the subterranean nature of some archaeological sites and dense vegetation cover. As such, should any heritage features and/or objects not included in the present inventory be located or observed, a heritage specialist must immediately be contacted. Such observed or located heritage features and/or objects may not be disturbed or removed in any way until such time that the heritage specialist has been able to make an assessment as to the significance of the site (or material) in question. This is true for graves and cemeteries as well.

## **4. FINDINGS**

### **4.1 Desktop Study Findings**

#### **4.1.1 Cartographic findings**

The study of historic and archival maps represents a valuable tool in the identification of heritage sites within a defined area.

##### **4.1.1.1 2528CB Sheet, First Edition, 1943**

**Figure 1** below depicts an enlarged section of the First Edition of the 2628CB Topographical Sheet. It was based on 1:25,000 maps dated to 1941. The survey itself was undertaken in 1943 by the Trigonometrical Survey Office, while the specific map depicted here was reprinted in 1958 by the Government Printer.

With the exception of a number of stone walls on top of the southern ridge (marked in green), no heritage or historical features are depicted for the study area. During the fieldwork at least one stone sangar dating from the South African War was located on this ridge. It seems likely therefore that all these depicted stonewalls may be associated with the turbulent period. In the valley below evidence for agricultural activities are depicted.

#### 4.1.1.2 2528CB Sheet, Second Edition 1965

**Figure 2** below depicts an enlarged section of the Second Edition of the 2628CB Topographical Sheet. It was based on aerial photographs undertaken in 1958. The survey itself was undertaken in 1965 and the map was printed in 1966 by the Trigonometrical Survey Office. The map was printed and published by the Government Printer in Pretoria.

The following observations can be made from the map:

- A total of seven 'huts' indicating black dwellings are depicted within the study area. These features are marked in blue on the adjacent map. A number of these were located during the fieldwork.
- A single building (marked in pink) is depicted amongst a cluster of 'huts'.
- A concentration of stone walls is depicted on top of the ridge along the southern boundary of the study area. This area is marked in green on the attached map. As described above it seems likely that these stonewalls are associated with the South African War period.
- Evidence for agricultural activities in the valley is depicted on the map.

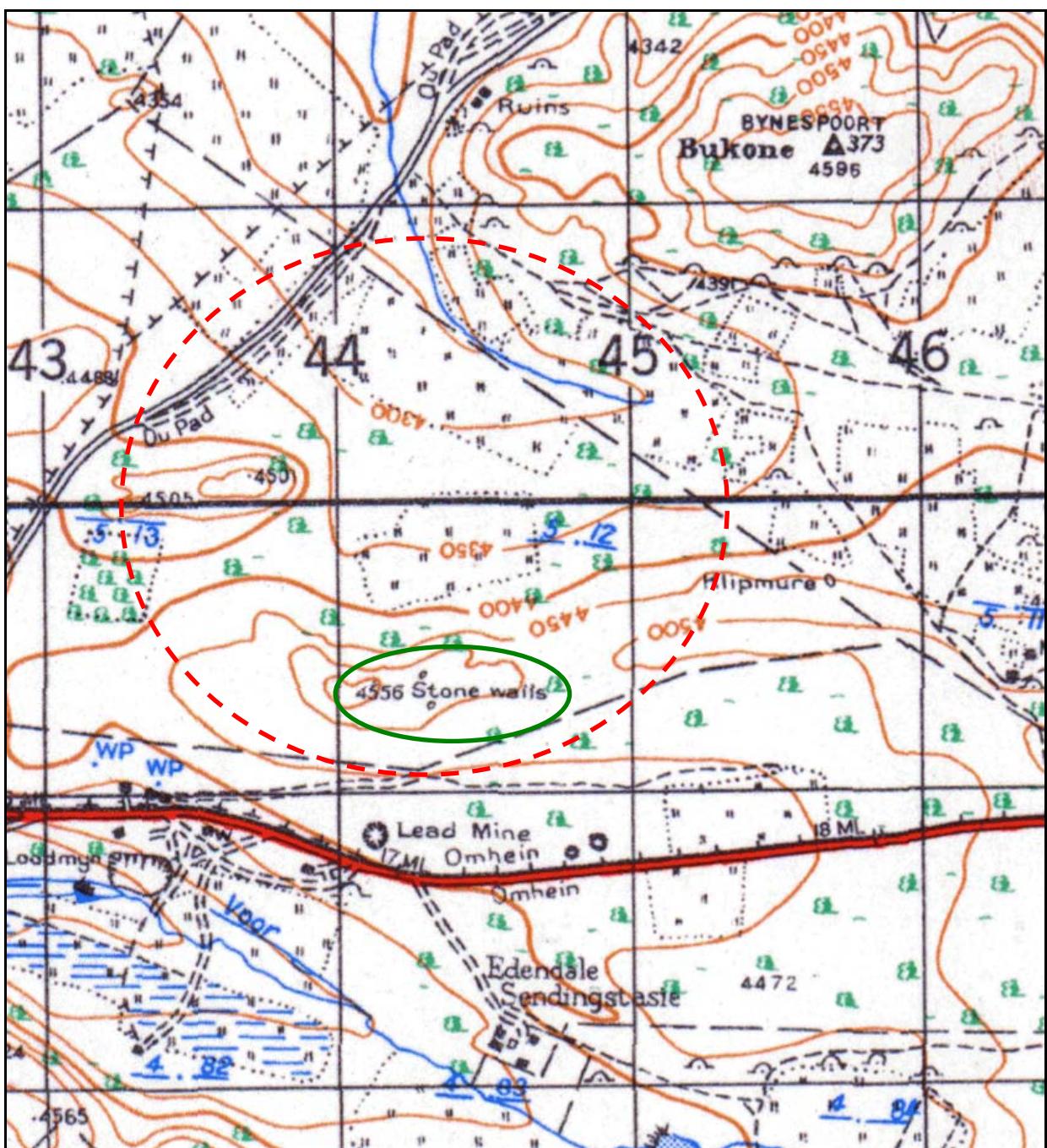


Figure 1 First edition of the 2528CB topographical sheet.

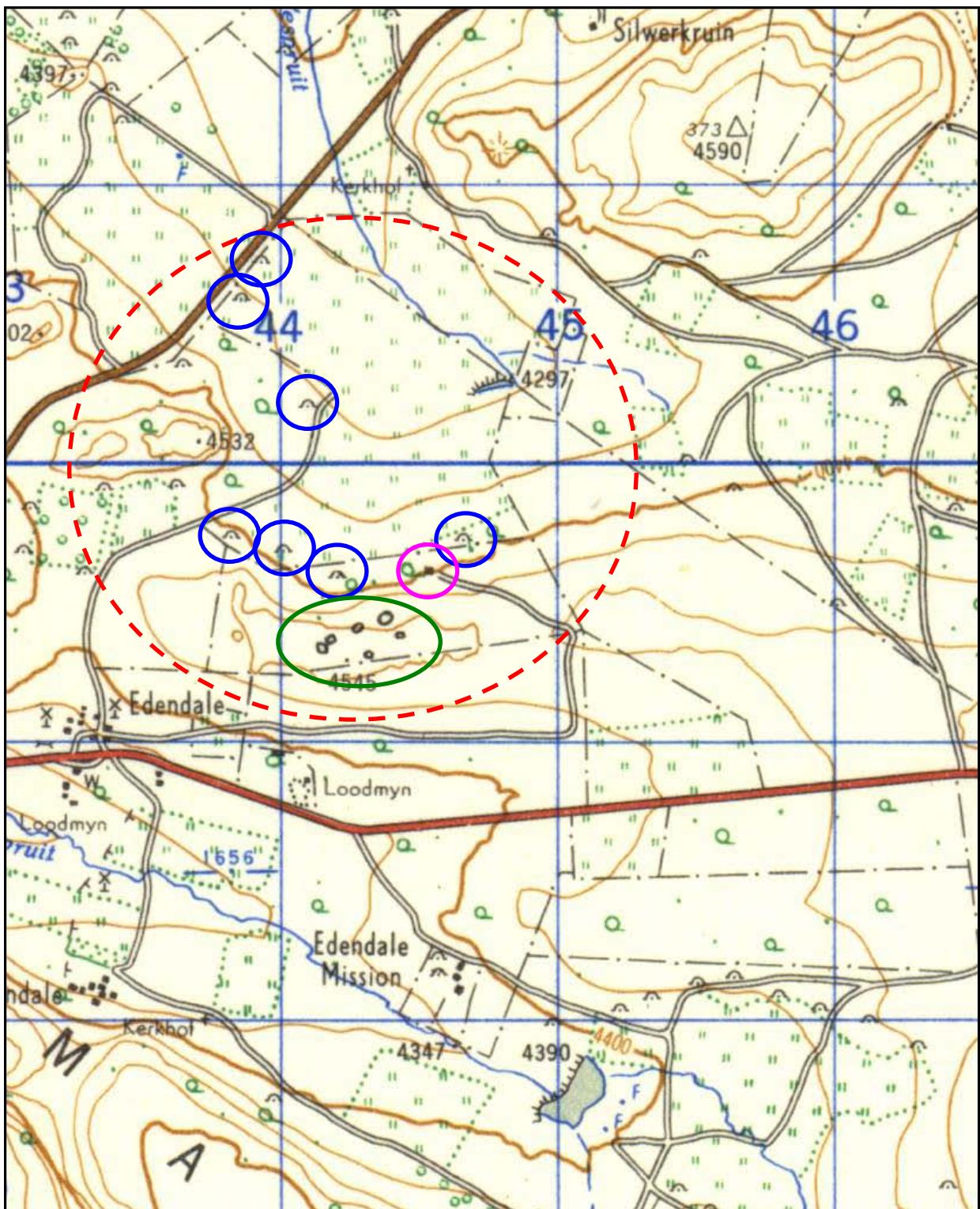


Figure 2 Second edition of the 2528CB topographical sheet.

#### **4.1.2 Early Farm Ownership History**

The farm Nooitgedacht (old number 458) was first inspected on the 7<sup>th</sup> of February 1853 by P.C. Minnaar. On the 30<sup>th</sup> of June 1864 the farm was transferred to Christiaan Johannes Gerhardus Badenhorst. C.J.G. Badenhorst remained the owner of the farm until his death in 1876, when, in accordance with his testament, the farm was divided into two portions. On the 21<sup>st</sup> of March 1876 the first of these two portions was transferred to Casper Hendrik Badenhorst. The second portion was transferred on the 17<sup>th</sup> of November 1876 to Frederich Adolf Grunberger.

On the 16<sup>th</sup> of April 1887 portion A was transferred from Casper Hendrik Badenhorst to Christiaan Johannes Joubert. On the same day the portion was again transferred, namely from C.J. Joubert to Frederich Adolf Grunberger (RAK, 2989). This meant that for a time the entire farm was owned by F.A. Grunberger.

Frederich Carl Adolf Grunberger was a well known missionary of the Evangelical Lutheran Mission and also early resident of Pretoria during the latter half of the nineteenth century. His ownership of the farm appears to have culminated in the establishment of the Edendale Mission. According to the available maps this mission was situated outside of the present study area and to the south of the old Pretoria – Cullinan road.

#### **4.1.3 The Manala Ndebele**

Although no Iron Age sites were identified during the fieldwork, the association of the general area with the Manala section of the Southern Ndebele meant that a brief outline of this history is required. For the aims of this outline the article of Van Schalkwyk, Pelser and Van Vuuren (1996) was used.

Ethno-historical research has revealed that the Southern Ndebele resided in the area to the east of Pretoria between c. 1600 to c. 1850. They were some of the earliest Nguni-speaking peoples to settle in the general vicinity of Pretoria. Oral historical research also showed that an early ruler named Musi had a settlement known as KwaMnyamana in the vicinity of the present Bon Accord Dam. During Musi's reign the group appears to have subdivided into four smaller groups known as the Ndzundza, Kekana, Mhwaduba, Sibasa and Manala sections. The Manala section subsequently settled in the area to the east of present-day Pretoria, from Mamelodi in the west to the Rayton/Cullinan intersection with the Witbank highway (N4) in the east. This whole area was divided into three geo-political regions which, according to the available oral historical research, were

consequently occupied. These three regions were Ezotshaneni (c. 1677 – c. 1717), Embilaneni (c. 1717 – c. 1747) and KoNonduna (c. 1747 – c. 1825).

During 1825 the Manala were attacked by the Ndebele (or Matabele) of Mzilikazi and were almost annihilated. The small groups of Manala survivors established themselves in small clusters or settlements, and many of them were socio-economically forced to find work on the white farms established during the late 1830s and early 1840s.

#### **4.1.4 The South African War (1899-1902)**

##### **4.1.4.1 The Battle of Diamond Hill**

After the occupation of Pretoria by Lord Roberts on the 5<sup>th</sup> of June 1900, the Boer forces under General Louis Botha moved onto the Magaliesberg Mountains to the east of Pretoria. Here a force of between 3,400 and 4,000 men ensconced themselves on top of the ridges on both sides of the railway line where it passes through the valley which gave the farm Pienaarspoort its name. In response to the well-known strategy of Lord Roberts to outflank his enemy, the Boer forces manned the ridges all the way from Swawelpoort and Tierpoort in the south to Doornpoort in the north.

Lord Roberts' force consisting of between 14,000 and 20,000 men left Pretoria on the 7<sup>th</sup> of June 1900. Lieutenant-General R. Pole-Carew advanced on the centre of the Boer position in the vicinity of Pienaarspoort, while Lieutenant-General J.D.P. French moved toward the Boer right flank and Lieutenant-General Ian S.M. Hamilton to the Boer left flank. Lord Roberts stationed himself with Pole-Carew at *Eerste Fabrieke* directly across Pienaarspoort and the centre of the Boer position (Greyling, 2000).

In the period between the 7<sup>th</sup> of June and the 11<sup>th</sup> of June 1900 the two armies tested each other for weaknesses and attempted to outmanoeuvre and outflank one another. Along the Boer right flank where French was opposed by commandos under the command of General J.H. de la Rey, significant skirmishes took place on the 11<sup>th</sup> of June 1900. These skirmishes took place to the north of the present study area in areas such as Leeufontein, Kameelfontein and Krokodilspuit. The closest recorded incident during this time to the study area was when a Boer artillery piece well concealed on one of the hills on the present day farm Edendale (directly to the south of Nooitgedacht) fired onto the 4<sup>th</sup> (Dickson) Cavalry Brigade (*History of the War in South Africa*, 1908). The fact that the present study area formed part of Botha's entrenchment along the entire range of mountains and hills, but outside of any fighting during the battle, is confirmed by the layout plan of the battle published in Bergh (2000:52 & 53). The plan shows the

Waterberg Commando under General F.A. Grobler as the closest military position to the present study area.

During this stage of the battle Lord Roberts realised that his best strategy would be to attack Diamond Hill, which is situated to the south-east of Pienaarspoort. Although some movement toward the hill had been accomplished by Hamilton on the 11<sup>th</sup> of June, a full-out attack on Diamond Hill was launched on the 12<sup>th</sup> June 1900. By early the afternoon Diamond Hill was occupied by the British force, and the remainder of the day saw serious fighting between the British on top of the mountain ridge with the Boer positions to the north. On the evening of the 12<sup>th</sup> of June, General Louis Botha gave the order for the Boer army to retreat along the railway line in an eastern direction (*History of the War in South Africa*, 1908).

#### **4.1.4.2 The fortification of the Magaliesberg Mountains**

After the battle the Magaliesberg Mountains to the east of Pretoria was occupied by the British Army for the remainder of the war. Between June and December 1900 a number of blockhouses and fortifications were constructed (Carruthers, 2000).

According to Panagos & Faber (1988) the fortification of the mountains surrounding Pienaarspoort was in line with Lord Roberts' strategy to leave garrisons at strategic points along railway lines as a way of securing his supply lines. With the use of a microlight these two authors had located and identified numerous fortifications along the mountains directly to the east of the present study area. Large numbers of stone redoubts, sangars and the remains of blockhouses were identified. It was also established that the Royal Fusiliers, Connaught Rangers and a Canadian artillery battery were encamped at Pienaarspoort station between June and December 1900. As a result the hill to the south of the Pienaarspoort valley was at the time named Fusilier Hill, and the one to the north Connaught Hill.

### **4.2 Social Consultation Findings**

The informal consultations with local residents encountered during the fieldwork did not result in any significant information with regards to the study area and surroundings.

Similarly, the public participation process also did not reveal any heritage-related issues or information.

## 4.3 Survey Findings

### 4.3.1 Site 1

#### 4.3.1.1 Site Location

Locality:      25.67705 S  
                  28.43484 E

#### 4.3.1.2 General Description

The site is situated against the northern foot of a low ridge. It consists of Late Iron Age site with circular stonewalled walls and terraces. The overall condition of the site is poor, and many of the walls are collapsed and appears to have been robbed for the construction of more recent structures in the surrounding area.

No ash middens or deposits could be seen. A single undecorated potsherd was observed on the surface of the site.

The desktop study has revealed the presence of a group known as the Manala Ndebele in the general vicinity during the Late Iron Age period (c. 1600 – 1850 AD). Although no supportive evidence presently exists, it appears reasonable to suggest that this site may also be associated with this group.

A historic cemetery is situated on the site's eastern end (see **Site 2** below). At present it is not certain whether any definitive association between the stonewall site and the graves can be made. Although this remains a possibility, the graves may have been buried here due to the accessible supply of stones from the walls for use in constructing the grave dressings.

#### 4.3.1.3 Site Significance

The site is a poorly preserved and not very unique example of Late Iron Age stonewalled sites found in the surrounding area. The evident lack of archaeological material, ash middens and deposits suggest that the site has very little scientific significance. The site is of **Low Significance**.

#### **4.3.1.4 Current Protection Status**

Archaeological sites are protected by Section 35(4) of National Heritage Resources Act (25 of 1999) which is *inter alia* defined as man-made features and artefacts older than 100 years. Refer **Annexure B Legislative Framework**.

#### **4.3.1.5 Impact of Proposed Development on Site**

Although the exact distribution and extent of mining activities are not presently known, it is assumed that the entire study area will be impacted upon. As a result it is assumed that the site will be destroyed.

#### **4.3.1.6 Mitigation**

The following mitigation measures are required:

- The entire site must be recorded through surveyed drawings and photographs. The end result of this would be a layout plan and photographic record of the site.
- Limited archaeological test excavations must be undertaken. Ideally, excavation is aimed at obtaining a representative artefact assemblage from the site as well as material for radiocarbon dating. The opening and recording of hut floors would also be positive.
- The results of the survey and excavation will then be compiled in report form.
- An application must be made to the South African Heritage Resources Agency for a permit to destroy the site. This application must be submitted with the report.



Plate 3            Section of stone walling from the site.



Plate 4            Another section of stone walling. This walling is poorly preserved.

## 4.3.2 Site 2

### 4.3.2.1 Site Location

Locality:      25.67751 S  
                  28.43517 E

### 4.3.2.2 General Description

A historic cemetery containing approximately six graves was found near the eastern end of **Site 1**. These graves contain stone packed dressings all of which are orientated along the east-west axis. The orientation of the graves indicates that they were buried in the Christian-Western tradition which in turn indicates that they date from the last 150 or so years. Neither formal headstones nor any inscriptions could be observed on the graves. However, a number of grave goods such as porcelain cups were observed.

### 4.3.2.3 Current Protection Status

Graves and burial grounds fall under various legislative protections, depending on factors such as where the graves are located as well as their age. Such legislation may include the National Heritage Resources Act 25 of 1999, the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), the Human Tissues Act 65 of 1983, the Ordinance on Excavations (Ordinance no. 12 of 1980) as well as any local and regional provisions, laws and by-laws that may be in place.

### 4.3.2.4 Site Significance

Burial grounds such as the present site have high levels of emotional, religious and historical significance. As a result the site is deemed to be of **High Significance**.

### 4.3.2.5 Impact of Proposed Development on Site

Although no development layout plan presently exists, it is assumed that the site will be destroyed by the proposed development.

#### 4.3.2.6 Mitigation

Two alternative mitigation measures for the cemetery exist, namely *in situ* preservation and alternatively relocation. In terms of preservation, the following mitigation measures would be required:

- Fencing of the site, with a lockable gate on one side.
- A site management plan must be compiled with which the cemetery's conservation during the Construction and Operational Phases can be ensured. The management plan would address aspects such as site monitoring and the cleaning of the cemetery.
- Monitoring of the site's continued preservation must also be undertaken. The frequency of monitoring visits will be outlined in the site management plan.

Should the decision be made for the cemetery to be relocated, a full relocation process inclusive of a detailed social consultation process and in cognisance of all the relevant legislation can be undertaken. Such a relocation process can only be undertaken by a suitably qualified specialist.



Plate 5

General view of the cemetery.

### 4.3.3 Site 3

#### 4.3.3.1 Site Location

Locality:      25.67663 S  
                  28.43859 E

#### 4.3.3.2 General Description

Abandoned historic cemetery containing approximately five graves. The dressings from these graves can predominantly be described as oval-shaped stone lined dressings all of which are orientated along the east-west axis. This orientation indicates that the graves were buried in the last 150 years or so.

No grave goods were observed on the site. This, coupled with its generally overgrown appearance suggests that for many years no families have visited these graves.

#### 4.3.3.3 Current Protection Status

Graves and burial grounds fall under various legislative protections, depending on factors such as where the graves are located as well as their age. Such legislation may include the National Heritage Resources Act 25 of 1999, the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), the Human Tissues Act 65 of 1983, the Ordinance on Excavations (Ordinance no. 12 of 1980) as well as any local and regional provisions, laws and by-laws that may be in place.

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Should the decision be made for the cemetery to be relocated, a full relocation process inclusive of a detailed social consultation process and in cognisance of all the relevant legislation can be undertaken. Such a relocation process can only be undertaken by a suitably qualified specialist.



Plate 6 General view of the cemetery. Note how overgrown it is.

#### 4.3.4 Site 4

##### 4.3.4.1 Site Location

Locality:      25.67879 S  
                   28.43456 E

##### 4.3.4.2 General Description

The site is situated on top of the ridge forming the southern boundary of the study area. It consists of low stonewalling built all along the edge of the ridge's summit and extends for a reasonable distance.

The position of the site on top of the ridge suggests a military connection, which was confirmed by the finding of openings in the stone walls which can be interpreted as shooting holes. The third confirmation of the site as of military origin was established when a casing from a .303 rifle was observed on the surface of the site. The casing's headstamp bear the following symbols "B C II". According to Loock (2002) the 'B' indicates that the cartridge was manufactured by the Birmingham *Metal & Munitions Company* of Birmingham in the United Kingdom. The 'C' stands for cordite while the II indicates that the round was a Mark II. All these symbols therefore indicate that the round was a Mark II cordite cartridge which according to Loock (2003:286) was the "...workhorse of the Anglo Boer War". First produced in July 1893, these cartridges were produced in enormous quantities. While the desktop study has revealed that the Battle of Diamond Hill took place in the surrounding area, and that the Waterberg Commando was positioned in the general vicinity, this sangar contains British ammunition while its orientation is toward the north-east. It therefore seems likely that it formed part of the British fortifications constructed after the Battle of Diamond Hill.

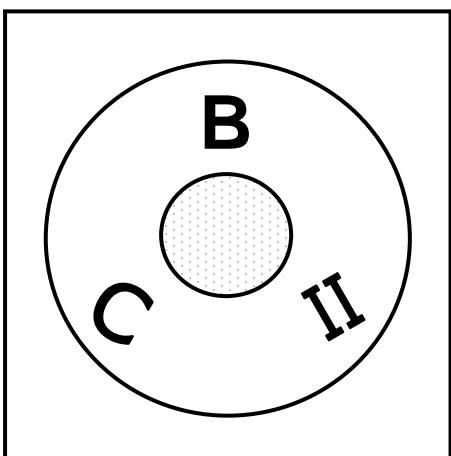


Figure 3

Sketch of the headstamp markings of the cartridge located on the surface of the site. As indicated in the text, the B C II symbols indicate that the round was a Mark II cordite cartridge manufactured by the *Birmingham Metal & Munitions Company*. This company was in operation between 1893 and 1920.

#### **4.3.4.3 Current Protection Status**

All military sites older than 75 years are defined by the National Heritage Resources act (25 of 1999) as archaeological. Archaeological sites are protected by Section 35(4) of National Heritage Resources Act (25 of 1999), and may not be disturbed, altered, modified or destroyed without a suitable permit from the South African Heritage Resources Agency (SAHRA). **Refer Annexure B Legislative Framework.**

#### **4.3.4.4 Site Significance**

Military sites such as the one under discussion possess significant levels of emotional and historical significance. The site is of **High Significance**.

#### **4.3.4.5 Impact of Proposed Development on Site**

Although no development layout plan presently exists, it is assumed that if the development continues unaltered the site will be destroyed by the proposed development.

#### **4.3.4.6 Mitigation**

The site represents a good example of a stone sangar from the South African War (1899-1902). As such it is recommended that the site be preserved *in situ*. The following mitigation measures would be required:

- A fenced buffer zone must be erected around the site to keep the proposed mining operations away from it.
- A site management plan must be compiled with which the site's conservation during the mining operations in the surrounding area can be ensured.
- Monitoring of the site's continued preservation must also be undertaken. The frequency of monitoring visits will be outlined in the site management plan.



Plate 7      Inside view along a section of stone walling from the site. Note the openings for shooting.



Plate 8      Low stonewalls from the site can be seen.



Figure 4      Historic photograph showing a number of British soldiers sheltering behind a stone sangar similar to the site under discussion (Loock, 2002:279)

## 4.3.5 Site 5

### 4.3.5.1 Site Location

Locality:      25.67749 S  
                  28.43372 E

### 4.3.4.2 General Description

The site is situated along the slope of the ridge on the southern boundary of the study area. It consists of a single stonewall approximately eight meters in length. Although no artifacts or further evidence for the origins and function of the site could be observed, it seems likely that it formed part of the military defensive structures observed a small distance to the east (refer **Site 4**).

### 4.3.4.3 Current Protection Status

All military sites older than 75 years are defined by the National Heritage Resources act (25 of 1999) as archaeological. Archaeological sites are protected by Section 35(4) of National Heritage Resources Act (25 of 1999), and may not be disturbed, altered, modified or destroyed without a suitable permit from the South African Heritage Resources Agency (SAHRA). **Refer Annexure B Legislative Framework.**

### 4.3.4.4 Site Significance

The site is not a good example of military defensive structures from the South African War and is in a poor level of preservation. The site is of **Low Significance**.

### 4.3.4.5 Impact of Proposed Development on Site

Although no development layout plan presently exists, it is assumed that the site will be destroyed by the proposed development.

### 4.3.4.6 Mitigation

No mitigation measures are required.



Plate 9      A section of the stonewall from the site can be seen.

## 5. CONCLUSIONS AND GENERAL RECOMMENDATIONS

*Archaeology Africa* was appointed by *Environmental Assurance* to undertake a Phase 1 Heritage Impact Assessment for the proposed mining of Portion 47 (a Portion of Portion 45) of the farm Nooitgedacht 333-JR. The mining company is *Aust Sandwerke cc*. This study forms part of the upgrade of the existing Environmental Management Programme Report.

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It must be noted that the ridge situated along the southern boundary of the study area was not surveyed in any detail. This was due to the fact that at the time of the fieldwork it fell outside the boundaries of the study area. However, a quick walk up and down the ridge during the fieldwork has revealed two historic military sites from the South African War. It can be assumed that more such features are located on the ridge. It is therefore recommended that no mining may take place on the ridge before its entire length falling within the study area has been properly surveyed and assessed.

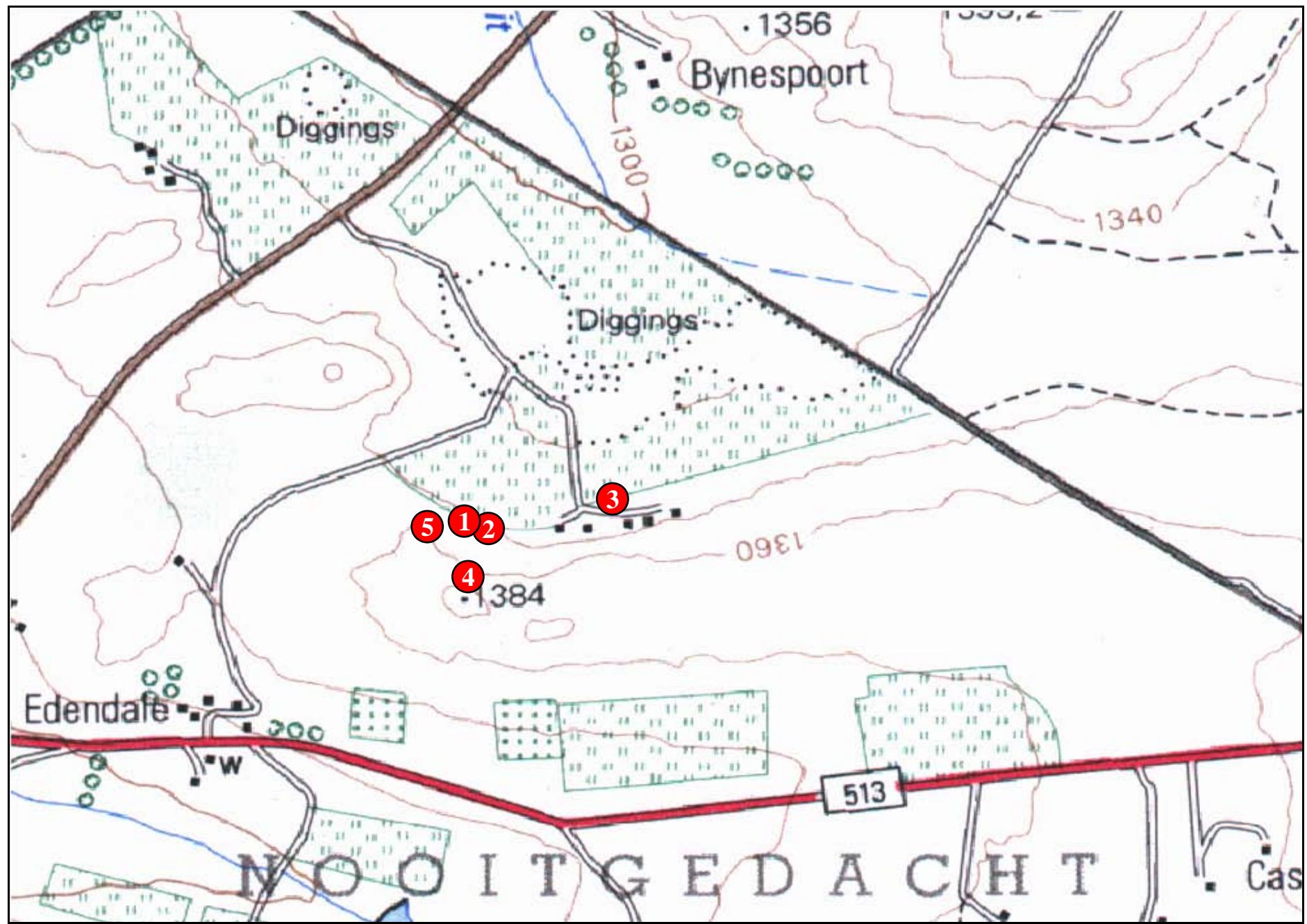
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This report will be submitted to the South African Heritage Resources Agency. Any changes and/or additions made by them must be adhered to.

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**ANNEXURE A – SITE DISTRIBUTION MAP**



**ANNEXURE B – LEGISLATIVE FRAMEWORK**

## **LEGISLATIVE FRAMEWORK**

South Africa has a number of legislative measures in place aimed at protecting its heritage resources. Of these the most important is the National Heritage Resources Act 25 of 1999.

### **1. National Heritage Resources Act 25 of 1999**

The promulgation of the National Heritage Resources Act 25 of 1999 brings the conservation and management of heritage resources in South Africa on par with international trends and standards.

Section 38 (3) of the act provides an outline of ideally what should be included in a heritage report. The act states:

*"(3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2) (a): Provided that the following must be included:*

- (a) The identification and mapping of all heritage resources in the area affected;*
- (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;*
- (c) an assessment of the impact of the development on such heritage resources;*
- (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;*
- (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;*
- (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and*
- (g) plans for mitigation of any adverse effects during and after the completion of the proposed development."*

Replacing the old National Monuments Act 28 of 1969, the Heritage Resources Act offers general protection for a number of heritage related features and objects (see below).

**Structures** are defined by the Heritage Resources Act as "...any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures,

*fittings and equipment associated with it.*" In section 34 of the Act the general protection for structures is stipulated. It is important to note that only structures older than 60 years are protected. Section 34(1) of the National Heritage Resources Act reads as follows: "*No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.*"

The second general protection offered by the Heritage Resources Act which is of relevance for this project, is the protection of **archaeological sites and objects (as well as paleontological sites and meteorites)**. Section 35(4) of the National Heritage Resources Act states that:

*"No person may, without a permit issued by the responsible heritage resources authority-*

- (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 which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites."*

In order to understand exactly what is protected, it is important to look at the definition of the concept "**archaeological**" set out in section 2(ii) of the Heritage Act:

- (a) *material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures;*
- (b) *rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation;*

- (c) wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic, as defined respectively in sections 3, 4 and 6 of the Maritime Zones Act, 1994 (Act No. 15 of 1994), and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation; and
- (d) features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found;..."

The third important general protection offered by the Heritage Resources Act that is of importance here, is the protection of **graves and burial grounds**. Section 36(3) of the National Heritage Resources Act states that:

*"No person may, without a permit issued by SAHRA or a provincial 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, 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 equipment, or any equipment which assists in the detection or recovery of metals."*

Of importance as well is section 36 (5), which relates to the conditions under which permits will be issued by the relevant heritage authority should any action described in section 36 (3), be taken. Section 36(5) reads that:

*"SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority –*

- a) *made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and*

- b) *reached agreements with such communities and individuals regarding the future of such grave or burial ground."*

This section of the Act refers to graves and burial grounds which are older than 60 years and situated outside of a formal cemetery administered by a local authority.

Section 36 (6) of the act refers to instances where previously unknown graves are uncovered during development and other activities.

*"Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority-*

- a) *carry out an investigation for the purpose of obtaining information on whether or not such a grave is protected in terms of the Act or is of significance to any community; and*
- b) *if such a grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangement for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any arrangements as it deems fit."*

## **2. Other Legislation**

In terms of graves, other legislative measures which may be of relevance include the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), the Human Tissues Act 65 of 1983, the Ordinance on Excavations (Ordinance no. 12 of 1980) as well as any local and regional provisions, laws and by-laws that may be in place.