

**Prepared for:  
SRK CONSULTING  
LONMIN LIMPOPO PROVINCE**

**A PHASE I HERITAGE IMPACT ASSESSMENT STUDY  
FOR LONMIN'S PROPOSED NEW DWAALKOP MINING  
OPERATION NEAR LEBOWAKGOMO IN CHUNIESPOORT  
IN THE LIMPOPO PROVINCE OF SOUTH AFRICA**

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## **Executive summary**

A Phase I Heritage Impact Assessment (HIA) study as required in terms of Section 38 of the National Heritage Resources Act (Act 25 of 1999) was done for the proposed new Dwaalkop Mining Operation on the farm Dwaalkop 445KS in Chuniespoort in the Limpopo Province of South Africa. Consequently, a Phase I HIA study was conducted for the proposed new Dwaalkop Mining Operation with the following objectives:

- To establish whether any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (Box 1) do occur in the Project Area and, if so, to determine the nature, the extent and the significance of these remains.
- To determine whether these remains will be affected by the proposed Dwaalkop Mining Operation and, if so, to evaluate what appropriate mitigation and management measures could be taken to reduce the impact of the proposed mining development project on these heritage resources.

At least three earlier heritage impact assessments studies were done in the Project Area as well as in close proximity of the Project Area, namely:

- Pistorius, J. C.C. 2002. *A Cultural Heritage Impact Assessment for the farm Doornvlei 456KS and Turfpan 122KS for the scoping phase of the EMPR for the proposed Doornvlei Platinum Project*. Unpublished report prepared for SRK.
- Roodt, F. 2003. *Phase I Heritage Impact Assessment: Messina Platinum Mine: EMPR for the proposed Dwaalkop-Doornvlei Project Limpopo Province*. Unpublished report prepared for SRK Consulting.
- Roodt, F. 2006. *Report of the grave identification process. Maneeng Community on the farm Dwaalboom Lebowakgomo: Limpopo Province*. Unpublished report prepared for Lonmin Limpopo Mvelaphanda Joint Venture.

### **Types and ranges of heritage resources in the Project Area**

The remains of significance which were identified in the Project Area include the following:

- Stone tools mostly dating from the MSA occur along a calcrete deposit which protrudes in the northern part of the Project Area as well as outside the Project Area.
- Formal (marked) and informal (unmarked) graves which were recorded during 2006 in the previous but now abandoned Maneeng village in the northern part of the Project Area (Roodt 2006).

- Older, abandoned mining activities with limited infrastructure in the northern part of the Project Area

The graveyards, graves and mining remains were geo-referenced and mapped (Figure 3; Table 1-2).

The heritage resources which have been recorded outside the Project Area have no bearing on this report and is not further discussed.

### **The significance of the heritage resources**

The significance of the heritage resources that may be affected by the proposed new mining development project has been determined according to stipulations from the National Heritage Resources Act (No 25 of 1999) and various other criteria:

### **The stone tools**

The stone tools that occur along calcrete deposits qualify as archaeological remains and are protected by Section 35 of the National Heritage Resources Act (No 25 of 1999). These stone tools can be considered to be of medium significance when considering the following criteria:

- The number of stone tools that occur along the calcrete deposit is not large. These stone tools probably represent a limited number of types but may include specialised types that were manufactured from banded iron stone, quartz and dolerite which were used for specific purposes.
- The stone tools do not occur in any archaeological context which diminishes their significance for research purposes. (Any archaeological material in a sealed stratigraphic context has much higher significance).
- The stone tools may not be uncommon in the region as they were also along other calcrete deposits in the wider area.

### **Graves and graveyards**

All graveyards can be considered to be of high significance as all graves are protected by various laws. Legislation with regard to graves includes the National Heritage Resources Act (No 25 of 1999) whenever graves are older than sixty years. The act also distinguishes various categories of graves and burial grounds.

Other legislation with regard to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on Exhumations (No 12 of 1980) and the Human Tissues Act (No 65 of 1983 as amended).

### **The mining remains**

The mining remains date from the more recent past and have no mining heritage significance.

### **Mitigating the heritage resources**

Mitigation measures for the heritage resources that will be affected by the mining development project are the following:

### **The stone tools**

The stone tools along the northern calcrete deposit where the village of Maneeng was located was affected when this village was constructed, demolished and abandoned. Stone tools on unaffected calcrete deposits such as the one in the south-west, which may fall outside the Project Area, have to be collected before these calcrete deposits are affected or destroyed by the mining development project.

The sampling of the stone tools can only be done by an archaeologist accredited with the Southern African Association for Professional Archaeologists (ASAPA) who must apply for a permit from the Limpopo Provincial Heritage Resources Authority (LIHRA) before the collection of the stone tools may commence.

The stone tools must be preserved in a provincial or university museum.

### **The graves and graveyards**

If any of the graves or graveyards along the northern perimeter of the Project Area may be affected by the proposed mining development project they have to be mitigated. One of the following strategies may be followed:

- The graveyard can be preserved *in situ*. The graveyards can be demarcated with brick walls or with fences. Conserving graves and graveyard *in situ* creates the risk and responsibility that they may be damaged (accidentally), that the mine remains responsible for their future unaffected existence, maintenance and that controlled access must exist for any relatives or friends who wish to visit the deceased.

- The graveyards can be exhumed and relocated. The exhumation of human remains and the relocation of graveyards are regulated by various laws, regulations and administrative procedures. This task is undertaken by forensic archaeologists or by reputed undertakers who are acquainted with all the administrative procedures and relevant legislation that have to be adhered to whenever human remains are exhumed and relocated. This process also includes social consultation with a 60 days statutory notice period for graves older than sixty years. Permission for the exhumation and relocation of human remains have to be obtained from the descendants of the deceased (if known), the National Department of Health, the Provincial Department of Health, the Premier of the Province and the local police.

A court interdict issued to Lonmin by the Maneeng community on 26 January 2005 with regard to the identified graves in the Project Area also has to be adhered to (Roodt 2006).

### **Mining remains**

The mining remains from the recent past need no mitigation measures and can be destroyed by the mining development project.

### **General**

It is highly likely that this survey may have missed heritage resources in the Project Area as heritage sites may occur in thick clumps of vegetation while others may lie below the surface of the earth and may only be exposed once development commences.

If any heritage resources of significance are exposed during mining operations the South African Heritage Resources Authority (ASAPA) should be notified immediately and all development activities must be stopped. An archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) should be notified in order to determine appropriate mitigation measures for the discovered finds. This may include obtaining the necessary authorisation and permits from SAHRA to conduct mitigation measures on any uncovered heritage resources or human remains.

## CONTENTS

	<b>Executive summary</b>	<b>2</b>
<b>1</b>	<b>INTRODUCTION</b>	<b>8</b>
<b>2</b>	<b>AIMS WITH THIS REPORT</b>	<b>10</b>
<b>3</b>	<b>METHODOLOGY</b>	<b>11</b>
3.1	Fieldwork	11
3.2	Databases, literature survey and maps	11
3.3	Mapping heritage resources	12
3.4	Assumptions and limitations	12
3.5	Some remarks on terminology	13
<b>4</b>	<b>THE DWAALKOP PROJECT AREA</b>	<b>14</b>
4.1	Location	14
4.2	The nature of the Project Area	15
4.3	Agricultural traditions in Chuniespoort	17
<b>5</b>	<b>CONTEXTUALISING THE PROJECT AREA</b>	<b>19</b>
5.1	Pre-historical context	19
5.2	Historical context	19
5.3	The Kgaga of Mphahlele	21
<b>6</b>	<b>THE PHASE I HERITAGE IMPACT ASSESSMENT</b>	<b>22</b>
6.1	Earlier heritage impact assessment studies	22
6.2	Types and ranges of heritage resources in the Project Area	23
6.2.1	Scattered stone tools	26
6.2.2	Graves and graveyards	26
6.2.3	Mining remains	28
6.3	The significance of the heritage resources	29

6.3.1	The stone tools	29
6.3.2	Graves and graveyards	30
6.3.3	The mining remains	30
6.4	Mitigating the heritage resources	30
6.4.1	The stone tools	32
6.4.2	The graves and graveyards	32
6.4.3	Mining remains	33
<b>7</b>	<b>CONCLUSION AND RECOMMENDATIONS</b>	<b>34</b>
<b>8</b>	<b>SELECT BIBLIOGRAPHY</b>	<b>39</b>

## **1 INTRODUCTION**

This document contains the report on a Phase I Heritage Impact Assessment (HIA) study done for Lonmin's proposed Dwaalkop Mining Operation near Lebowakgomo in Chuniespoort in the Limpopo Province of South Africa.

The Dwaalkop Mining Operation is a Joint Venture between Western Platinum Limited (WPL) and Mvelaphanda Resources Limited. The joint venture company is known as Lonmin Limpopo Mvelaphanda Resources Joint Venture (MPJV). The project will be managed by WPL on behalf of the two joint venture partners.

Parts of the Limpopo Province such as Polokwane (Pietersburg), Phalaborwa, the Blouberg Mountains, Mokopane (Potgietersrust), Louis Trichardt (Makhado), the Steelpoort Valley (Sekhukuneland) and areas to the north and south of the Soutpansberg have been explored for archaeological remains in the past. These explorations have shown that the Limpopo Province has a rich archaeological heritage comprised of remains dating from the prehistoric and the historical past. Prehistoric and historical remains in the Limpopo Province reflect South Africa's 'national estate' as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (see Box 1).



**Box 1: Types and ranges of heritage resources (the national estate) as outlined in Section 3 of the National Heritage Resources Act, 1999 (No 25 of 1999).**

The National Heritage Resources Act (Act No 25 of 1999, Art 3) outlines the following types and ranges of heritage resources that qualify as part of the National Estate, namely:

- (a) places, buildings structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and palaeontological sites;
- (g) graves and burial grounds including-
  - (i) ancestral graves;
  - (ii) royal graves and graves of traditional leaders;
  - (iii) graves of victims of conflict;(iv) graves of individuals designated by the Minister by notice in the Gazette;
  - (v) historical graves and cemeteries; and
  - (vi) other human remains which are not covered by in terms of the Human Tissues Act, 1983 (Act No 65 of 1983);
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) movable objects, including -
  - (i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
  - (ii) objects to which oral traditions are attached or which are associated with living heritage;
  - (iii) ethnographic art and objects;
  - (iv) military objects;
  - (v) objects of decorative or fine art;
  - (vi) objects of scientific or technological interest; and
  - (vii) books, records, documents, photographs, positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No 43 of 1996).

The National Heritage Resources Act (Act No 25 of 1999, Art 3) also distinguishes nine criteria for places and objects to qualify as 'part of the national estate if they have cultural significance or other special value ...'. These criteria are the following:

- (a) its importance in the community, or pattern of South Africa's history;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons; (h)
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa;
- (i) sites of significance relating to the history of slavery in South Africa

## **2 AIMS WITH THIS REPORT**

Lonmin intends to establish the Dwaalkop Mining Operation on the farm Dwaalkop 455KS near Lebowakgomo in Chuniespoort in the Limpopo Province of South Africa. This platinum mining development project may impact on some of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (see Box 1).

Consequently, a Phase I HIA study was conducted for the proposed new Dwaalkop Mining Operation with the following objectives:

- To establish whether any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (Box 1) do occur in the Project Area and, if so, to determine the nature, the extent and the significance of these remains.
- To determine whether these remains will be affected by the proposed Dwaalkop Mining Operation and, if so, to evaluate what appropriate mitigation and management measures could be taken to reduce the impact of the proposed mining development project on these heritage resources.

### **3 METHODOLOGY**

This Phase I HIA study was conducted by means of the following:

- Surveying the proposed Project Area (areas identified for new mining surface infrastructure) as well as the wider area with a vehicle and on foot.
- Briefly surveying literature relating to the pre-historical and historical context of the broader area.
- Consulting maps of the proposed Project Area.
- Consulting archaeological (heritage) data bases such as the one kept at the Provincial Heritage Resources Agency.
- Synthesising all information obtained from the literature survey and maps with the evidence derived from the fieldwork.

#### **3.1 Fieldwork**

The Project Area covers a long stretch of land between a dirt road in the north and the Maralaleng Mountain range in the south. The vast outstretched piece of land was covered with a vehicle where accessible roads existed whilst parts of the flat areas where the mining surface infrastructure will be established was covered by means of a vehicle as well as a pedestrian (foot) survey.

#### **3.2 Databases, literature survey and maps**

Databases kept and maintained at institutions such as Provincial Heritage Resources Agencies and the Archaeological Data Recording Centre at the National Flagship Institute (Museum Africa) in Pretoria were consulted to determine whether any heritage resources had been identified during earlier archaeological surveys in or near the Project Area.

Literature relating to the pre-historical and the historical unfolding of Chuniespoort was reviewed. This review focused particularly on local

historical groups such as the Pedi and the Bakgaga Bamakaa who lived in the area (see Part 9, 'Select Bibliography').

In addition, the Project Area was also studied by means of the 1:50 000 topographical map and the 1:250 000 map on which the Project Area appears (2429BC Lebowakgomo).

It is important to contextualise the pre-historical and historical background of the Project Area in order to comprehend the identity and meaning of heritage sites in and near the project area and subsequently to determine the significance of any remains which may be affected by the mining operations (See Part 5, 'Contextualising the Project Area').

### **3.3 Mapping heritage resources**

All the heritage resources that were found in the Project Area were geo-referenced using a GPS instrument and they were thereafter mapped in Arch View.

### **3.4 Assumptions and limitations**

It is highly likely that this survey may have missed heritage resources in the Project Area as heritage sites may occur in thick clumps of vegetation while others may lie below the surface of the earth and may only be exposed once development commences.

If any heritage resources of significance are exposed during mining operations the South African Heritage Resources Authority (ASAPA) should be notified immediately and all development activities must be stopped. An archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) should be notified in order to determine appropriate mitigation measures for the discovered finds. This may include obtaining the necessary authorisation and permits from SAHRA to conduct mitigation measures on any uncovered heritage resources or human remains.

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

Terms that may be used in this report are briefly outlined in Box 2.

## Box 2- Terminology relevant to this report

The Heritage Impact Assessment (HIA) referred to in the title of this report includes a survey of heritage resources as outlined in the National Heritage Resources Act, Act 25 of 1999 (see Box 1).

Heritage resources include all human-made phenomena and intangible products that are the result of the human mind. Natural, technological or industrial features may also be part of heritage resources, as places that have made an outstanding contribution to the cultures, traditions and lifestyles of the people or groups of people of South Africa.

The term 'pre-historic' refers to the time before any historical documents were written or any written language developed in a particular area or region of the world. The historical period and historical remains refer, for the Mphahalele Project Area, to the first appearance or use of 'modern' Western writing brought to Mokopane, Lydenburg, Burgersfort and the Steelpoort by the first colonists who settled in this area after c. 1839.

The term 'relatively recent past' refers to the 20<sup>th</sup> century. Remains from this period are not necessarily older than sixty years and therefore may not qualify as archaeological or historical remains. Some of these remains may, however, be almost sixty years old and these may qualify as heritage resources in the near future.

It is not always possible, based on observations alone, to distinguish clearly between archaeological remains and historical remains, or between historical remains and remains from the relatively recent past. Although certain criteria may help to make this distinction possible, these criteria are not always present, or, when they are present, they are not always clear enough to interpret with great accuracy. Criteria such as square floor plans (a historical feature) may serve as a guideline. However, circular and square floors may occur together on the same site.

The term 'sensitive remains' is sometimes used to distinguish graves and cemeteries, as well as ideologically significant features such as holy mountains, initiation sites or other sacred places. Graves in particular are not necessarily heritage resources if they date from the recent past and do not have headstones that are older than sixty years. The distinction between 'formal' and 'informal' graves in most instances also refers to graveyards that were used by colonists and by indigenous people. This distinction may be important, as different cultural groups may uphold different traditions and values with regard to their ancestors. These values have to be recognised and honoured whenever graveyards are exhumed and relocated.

The term 'Stone Age' refers to the prehistoric past, although Late Stone Age peoples lived in South Africa well into the historical period. The Stone Age is divided into an Earlier Stone Age (3 million years to 150 000 thousand years ago) the Middle Stone Age (150 000 years to 40 000 years ago) and the Late Stone Age (40 000 years to 200 years ago).

The term 'Iron Age' refers to the last two millennia and 'Early Iron Age' to the first thousand years AD. 'Late Iron Age' refers to the period between the 16<sup>th</sup> century and the 19<sup>th</sup> century and can therefore include the historical period.

Mining heritage sites refer to old, abandoned mining activities, underground or on the surface, which may date from the pre-historic, historical or the relatively recent past.

The term 'mining area' ('critical area') refers to the area where the developer wants to focus development activities.

The term 'peripheral area' refers to the area that will not be affected by the proposed new development activities.

The 'South Shaft 3 Project Area' refers to both the mining and peripheral areas.

Phase I studies refer to surveys using various sources of data in order to establish the presence of all possible types of heritage resources in any given area.

Phase II studies include in-depth cultural heritage studies such as archaeological mapping, excavating and sometimes laboratory work. Phase II work may include the documenting of rock art, engraving or historical sites and dwellings; the sampling of archaeological sites or shipwrecks; extended excavations of archaeological sites; the exhumation of bodies and the relocation of graveyards, etc. Phase II work may require the input of specialists and requires the cooperation and approval of SAHRA.

## **4 THE DWAALKOP PROJECT AREA**

### **4.1 Location**

The proposed new Dwaalkop Mining Operation involves the farm Dwaalkop 455 KS near Lebowakgomo in Chuniespoort in the Limpopo Province of South Africa. The proposed new project is situated approximately fifty kilometres to the east of Mokopane (Potgietersrust) and ten kilometres to the east of Lebowakgomo, previous capital of the Lebowa homeland.

The imposing Chuniespoort and Strydpoort mountains are situated to the north and the impressive Maake Mountain range further to the east of the Project Area. This mountain has taken its name from the Kgaga of Maake who served as an ancestral group to Kgaga clans who today occupy land to the north and to the south of the Strydpoortberge. This clan lives along the eastern foothills of the Drakensberg whilst the Kgaga of Mphahlele, who is a senior section of the Kgaga, occupies an area to the east of the Project Area. The Kekana Ndebele, one of a number of clans belonging to the Northern Ndebele cluster lives at Zebediela south-west of the Project Area.

The Maralaleng mountain range skirts the southern border of the Project Area which also borders on the village of Makurung in the east. Dithabaneng are another village located further to the east of the Project Area with Lebowakgomo, previous capital of the Lebowa homeland, situated to the west (2429BC Lebowakgomo).

The Dwaalkop Mining Operations will be closely interconnected with the proposed Doornvlei Mining Operation to the east and the existing Baobab Shaft to the west. The mine operation will be confined in a rectangular area that extends 4.6 km in an east-west direction and which is 550m wide on the western side and 1 200m wide on the eastern side. This area lies immediately south of the Merensky Reef outcrop. Some of the infrastructure and activity areas associated with the mining operation are the following:

- Six decline shafts with portals and associated up and down ventilation shafts.
- Stockpiles near the eastern and western end of the mine as well as crushing stations at these points.
- Six waste rock dumps of varying sizes.
- A noise beam across the eastern portion of the mine.
- Other mine surface infrastructure such as offices, workshops, parking area, control room, etc.

#### **4.2 The nature of the Project Area**

Formal and informal villages are scattered from Chuniespoort to Steelpoort further to the south-east. These communities used to be part of the former Lebowa homeland which was occupied by Northern-Sotho speaking communities generally referred to as the Pedi. However, the communities who live in these villages south of the Strydpoort Mountains and eastwards along the Leolo Mountain range have various origins, histories and were never part of a homogenous cultural group.

Many of these communities practise mixed farming in this part of the Limpopo Province. Both Chuniespoort and Steelpoort have been occupied by these communities, without interruption, for decades and in certain places even for centuries. The Project Area is not a pristine piece of land any longer as communities have used parts of these level sandy areas for agricultural activities over a prolonged period of time. Other development activities have also scarred the area during the more recent past, namely:

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**Figure 2- The horizon before the Chuniespoort and Strydpoort Mountain in the far background resembles the northern border of the Project Area (above).**

### **4.3 Agricultural traditions in Chuniespoort**

In the past, chiefs allocated pieces of land to the heads of wards that then provided plots to married men. The sizes of plots were determined by the number of wives a man had, but each plot was usually 1 to 2 hectares, which is the maximum that a woman could cultivate using a hoe. The introduction of the plough allowed families to cultivate larger areas of land, up to about 4, 5 hectares.

Crops included sorghum (*mabele*) and millet (*letsoa*), which were later largely replaced by maize (*mahea*) as a staple food. Supplementary crops included pumpkins (*marotse*), various varieties of gourd (*maraka*), beans (*dinawa*) and a type of groundnut (*ditloo*). Tobacco and sugarcane were also planted.

Although each person usually possessed his own stock, pasturage was used on a communal basis. At a fixed time the tribal ruler declared the reaped grain fields open for use as winter grazing. Grazing cattle in particular disturbs heritage resources, as deposits on sites are churned under hoof and low stone foundations are broken and scattered.

Most of the villages and homesteads in the Project Area straggle along the base lines of the mountains and mountain ranges and there is little doubt that some of these dwellings are superimposed on earlier remains and settlements. Stone and clay that were used as building material during the Late Iron Age and historical period are today still used as building material. Low stone walls between contemporary dwellings units or homesteads in villages along the base lines of mountains, as well as low terrace walls along the feet of mountains, may be remnants of old (historical) walls that separated homesteads in villages which used to exist in the past.



**Figure 2- The southern perimeter of the Project Area is bordered by the broken tail of the Maralaleng Mountain range (above).**

## **5 CONTEXTUALISING THE PROJECT AREA**

### **5.1 Pre-historical context**

Very little is known about the pre-historical context of the Project Area. Further to the east of Chuniespoort, in the Steelpoort area, hundreds of Stone Age sites with predominant Middle Stone Age assemblages dating from 200 000 years to 22 000 years ago occur in the network of dongas which occur on the wide valley floors between the Leolo Mountain range and its numerous foothills.

No thorough research of the Stone Age in the Chuniespoort has been undertaken to date. However, it can be expected that Stone Age sites dating from all periods of the Stone Age will occur in this vast mountainous area with its numerous rivers and tributaries which are millenniums of years old and which criss-cross an area with high ecological potential and opportunities for humans to exploit from an early period.

### **5.2 Historical context**

A predominantly Northern Sotho-speaking population has occupied the previous Lebowa homeland area for centuries. These people are part of a larger Northern Sotho-speaking community who occupy a vast area between the Limpopo River in the north, the Drakensberg in the east and the Sekhukhune Mountains in the west. The history of the people of this area can be divided into several periods:

The earliest period of settlement is characterized by small groups of black people who drove the San and Khoi Khoi from the area. From AD1700 ancestral groupings of the present inhabitants of the land began to arrive in the area. Groups that can be distinguished include the following:

- A large group of Sotho came from the north-eastern parts of the Lowveld and settled on the plateau to the north and to the south of the Strydpoort Mountains. Amongst this group were the Kgaga from whom the Kgaga of Mphahlele originated.

- Smaller groups of Sotho of Kgatla and Hurutshe-Kwena origin moved from the Tswana area (Brits and Rustenburg) into the territory. Amongst them were the Pedi (or Rota) who moved into what is now Sekhukhuneland, where they subjugated the Sotho already living in the area.
- At that time Sekhukhuneland was also penetrated by Sotho arriving from the south-east.
- During the period after AD1600, the Northern Ndebele arrived from the south-east and settled in what is now the Mokerong district.

It is assumed that during the period from AD1700 to AD1826 the Pedi took political control over the territory previously known as Lebowa, but to the south of the Strydpoort Mountains. The Pedi chiefdom reached its zenith during the reign of Thulare, who died in 1824.

During the disruption of the *difaqane* (c.1822 to 1828) Mzilikazi attacked the Pedi from the south-east in 1826 and in 1827/1828. This caused the large-scale depopulation of the southern part of the Northern Sotho territory. The Pedi sought refuge in the Soutpansberg in 1822 and only returned in 1828.

After the wars with Mzilikazi, there were wars with the Swazi. The Voortrekkers arrived in the Steelpoort area and in Potgietersrust (Mokopane) in the late 1840's. Several armed struggles between the Voortrekkers and the Pedi ensued.

During the War of Sekhukhune (1879) the British were supported by the Swazi in their subjugation of the Pedi.

In 1842 Andries Hendrik Potgieter decided to move out of the British sphere of influence and to establish trade relations with Delagoa Bay. He moved with his followers from Potchefstroom to the Eastern Transvaal and founded Andries Ohrigstad. (The name was later abbreviated to Ohrigstad). During 1848 to 1849 Ohrigstad was abandoned when many people died of malaria.

The town of Lydenburg was founded further to the south near the confluence of the Sterkspruit and the Spekboom River.

The first discovery of platinum nuggets in 1924 by Andries Lombaard in the Moopetsi River on the farm Maandagshoek in the Steelpoort valley led to an increase in the rate of exploration and mining in the Steelpoort and Chuniespoort areas.

### **5.3 The Kgaga of Mphahlele**

A number of Sotho tribes, all of Kgaga origin, live to the north and to the south of the Strydpoort Mountains, between the Pedi heartland further to the east and the Tlokwa territory in Sekgosesa to the west. The place of origin of the Kgaga people was Bokgaga, to the west of Ofcolaco. It was here that the Kgaga of Maake settled in early times. Their totem (usually a sacred animal that is venerated) was the *phuti* (or 'duiker').

Around 1750, the Kgaga of Mphahlele broke away from Maake and moved southwards and then westwards across the Steelpoort River. They eventually settled to the west of the Olifants River and to the south of the Strydpoort Mountains in the present Mphahlele village at Chuniespoort. When they arrived, the Kekana of Moletlane had already settled to the south-west of the area chosen by the Kgaga of Mphahlele. The Kgaga of Mphahlele remained in the area which is today known as the Lepelle-Nkumpi municipal area.

## 6 THE PHASE I HERITAGE IMPACT ASSESSMENT

### 6.1 Earlier heritage impact assessment studies

At least three earlier heritage impact assessments studies were done in the Project Area as well as in close proximity of the Project Area, namely:

- Pistorius, J. C.C. 2002. *A Cultural Heritage Impact Assessment for the farm Doornvlei 456KS and Turfpan 122KS for the scoping phase of the EMPR for the proposed Doornvlei Platinum Project*. Unpublished report prepared for SRK.
- Roodt, F. 2003. *Phase I Heritage Impact Assessment: Messina Platinum Mine: EMPR for the proposed Dwaalkop-Doornvlei Project Limpopo Province*. Unpublished report prepared for SRK Consulting.
- Roodt, F. 2006. *Report of the grave identification process. Maneeng Community on the farm Dwaalboom Lebowakgomo: Limpopo Province*. Unpublished report prepared for Lonmin Limpopo Mvelaphanda Joint Venture.

Considering the results of these reports in conjunction with the findings of this fourth heritage impact assessment study it can be concluded that the following types and ranges of heritage resources occur in and near the Project Area, namely:

- Stone tools, mostly dating from the MSA, occur along calcrete deposits which protrude in the northern part of the Project Area as well as to the south of the Project Area. Scattered isolated MSA tools also occur in close proximity of the Maralaleng range of mountains outside the Project Area. (Due to their scattered occurrence and the fact that most occur outside the Project Area they were not geo-referenced and mapped).
- Limited stone walls with associated features from the Late Iron Age skirt the lowest contours of the Maralaleng range of mountains near the southern perimeter of the Project Area. These stone walls, as well as remains from the historical period or the more recent past which generally seems to occur further away from this low range of mountains

may be associated with activities of an ideological nature such as initiation ceremonies (sites) which occur in the mountain range. (These remains were not geo-referenced and mapped as they occur outside the Project Area).

- Remains from the recent past consisting of the rubble of houses, outbuildings and enclosures for stock are scattered along the northern border of the Project Area where these remains constitute the abandoned village of Maneeng. Remains of isolated dwellings, or a few grouped houses, may occur at random in the Project Area and across the wider area. (The former existence of the village of Maneeng is reflected by the positions of graves in the village which have been geo-referenced and mapped. Scattered, isolated occurrences of remains from the recent past were not mapped as they have no significance).
- Some of the remains from the recent past are associated with formal (marked) and informal (unmarked) graves such as the 87 graves/burial locations associated with 144 individuals which were identified in the abandoned Maneeng village. (These graves and proposed grave sites were geo-referenced and mapped).
- Formal cemeteries are clearly demarcated and are still in use and occur outside the Project Area. (They were not geo-referenced and mapped in this report).
- Older, abandoned mining activities, sometimes with limited infrastructure, exist in the northern part of the Project Area as well as outside the Project Area. (Some of these remains in the Project Area were mapped).

## **6.2 Types and ranges of heritage resources in the Project Area**

The remains of significance which were identified in the Project Area include the following:

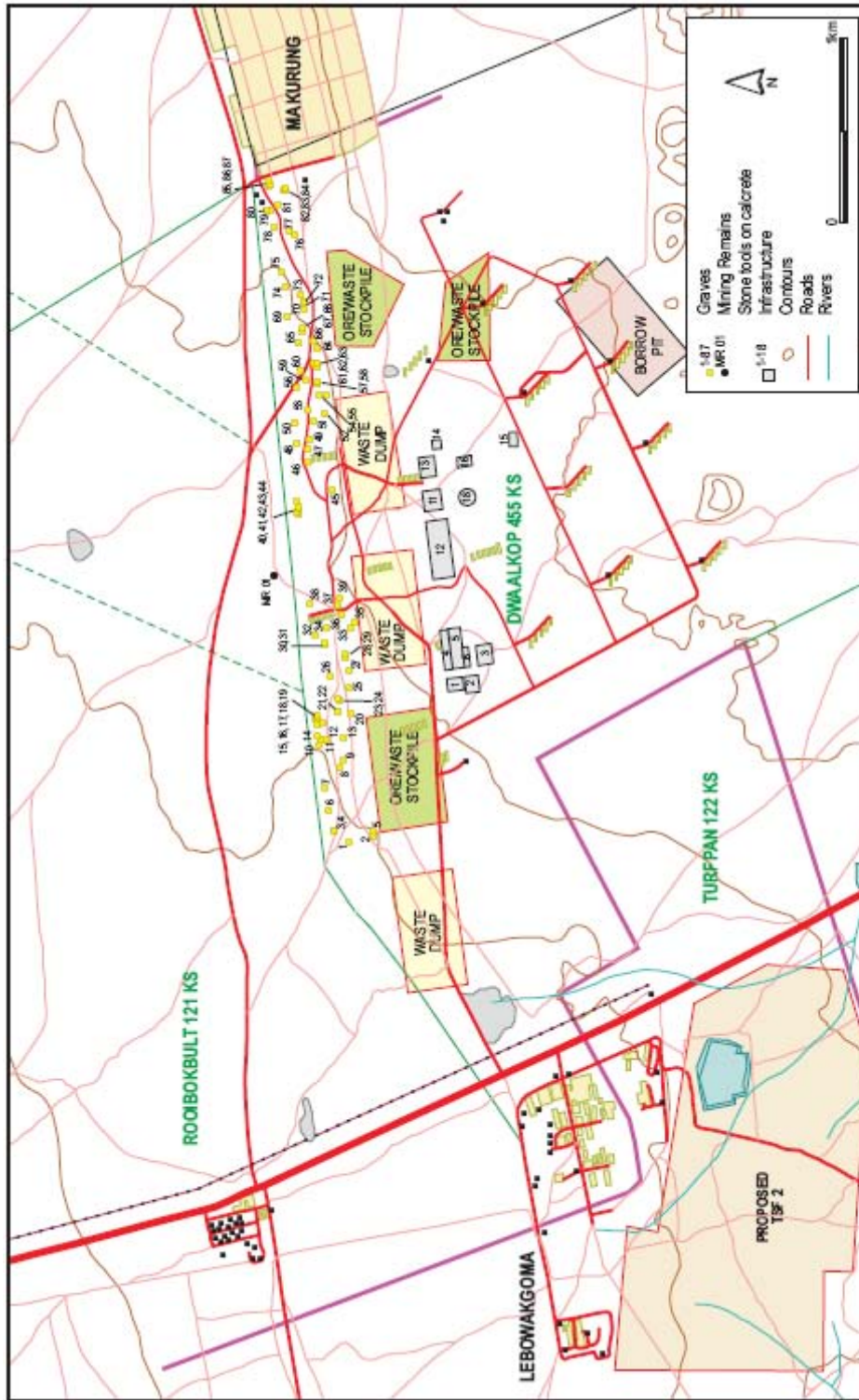
- Stone tools mostly dating from the MSA occur along a calcrete deposit which protrude in the northern part of the Project Area as well as outside the Project Area.

- Formal (marked) and informal (unmarked) graves which were recorded during 2006 in the previous but now abandoned Maneeng village in the northern part of the Project Area (Roodt 2006).
- Older, abandoned mining activities with limited infrastructure in the northern part of the Project Area

The graveyards, graves and mining remains were geo-referenced and mapped (Figure 3; Tables 1-3).

The heritage resources which have been recorded outside the Project Area have no bearing on this report and is not further discussed.





**Figure 3-** The Project Area on Dwaalkop 455 near Lebowakgoma in the Limpopo Province of South Africa. Heritage resources in the Project Area include scattered stone tools, marked and unmarked graves and mining remains (above).

### **6.2.1 Scattered stone tools**

Scattered stone tools were observed along calcrete deposits which run across the northern part of the Project Area as well as outside the Project Area. These outcrops are associated with banded iron stone and quartz pebbles which are scattered along the length of the calcrete outcrops. The outcrop (with stone tools) in the northern part of the Project Area has been disturbed as the village of Maneeng was established along this calcrete outcrop.

The banded iron stone, quartz pebbles and some dolerite stones were used by Middle Stone Age (MST) people to manufacture flake tools. Flakes with varying sizes and shapes were struck from the banded iron stone, quartz pebbles and dolerite.

It seems as if fewer flake than cores occur along the calcrete deposits suggesting that the tool manufacturers visited the calcrete reefs in order to manufacture flake tools which may have taken with the mobile hunting groups. The larger, heavier cores were left behind.

A similar occurrence of stone tools along calcrete deposits was observed on Doornvlei 456 and Locatie van Mphahlele to the east of the Project Area.

### **6.2.2 Graveyards and graves**

The abandoned village of Maneeng is associated with 87 graves/burial locations some of which are formal (marked) and informal (unmarked) graves. These burial locations are associated with 144 individuals.

It is highly likely that more inconspicuous abandoned graves may exist in the Project Area but that they have not been detected during this survey.



Figures 4 & 5- Scattered stone tools occur along calcrete deposits in the Project Area. Note banded iron stone flake (top, left), core (top, right) and a small, possible, Late Stone Age flake (bottom, right). Flake tools include a round scraper (below, left) and a quartz point (middle, below) (above). Note quartz cores (top) and a dolerite flake partly metamorphosed into hornfels (bottom) (below).







**Figure 6- One of at least eighty-seven burial locations/graves in the previous Maneeng village in the northern part of the Project Area (above).**

### **6.2.3 Mining remains**

Mining remains consisting of waste dumps, excavations and limited infrastructure such as reservoirs and other concrete structures exist in the northern part of the Project Area.

These remains have been abandoned some time ago. They are overgrown with vegetation and barely visible any longer.

<b>Heritage resources</b>	<b>Coordinates</b>	<b>Significance</b>
Mining remains	24° 20.939' 29° 30.983'	Low

**Table 1 - Coordinates for mining remains in the Project Area (above).**



**Figure 7- Abandoned mining remains in the Project Area which is becoming obscure as they are being covered with vegetation (above).**

### **6.3 The significance of the heritage resources**

The significance of the heritage resources that may be affected by the proposed new mining development project has been determined according to stipulations from the National Heritage Resources Act (No 25 of 1999) and various other criteria:

#### **6.3.1 The stone tools**

The stone tools that occur along calcrete deposits qualify as archaeological remains and are protected by Section 35 of the National Heritage Resources Act (No 25 of 1999). These stone tools can be considered to be of medium significance when considering the following criteria:

- The number of stone tools that occur along the calcrete deposit is not large. These stone tools probably represent a limited number of types but

may include specialised types that were manufactured from banded iron stone, quartz and dolerite which were used for specific purposes.

- The stone tools do not occur in any archaeological context which diminishes their significance for research purposes. (Any archaeological material in a sealed stratigraphic context has much higher significance).
- The stone tools may not be uncommon in the region as they were also along other calcrete deposits in the wider area.

### **6.3.2 Graves and graveyards**

All graveyards can be considered to be of high significance as all graves are protected by various laws. Legislation with regard to graves includes the National Heritage Resources Act (No 25 of 1999) whenever graves are older than sixty years. The act also distinguishes various categories of graves and burial grounds.

Other legislation with regard to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on Exhumations (No 12 of 1980) and the Human Tissues Act (No 65 of 1983 as amended).

### **6.3.3 The mining remains**

The mining remains date from the more recent past and have no mining heritage significance.

## **6.4 Mitigating the heritage resources**

Mitigation measures for the heritage resources that will be affected by the mining development project are the following:

Burial No.	Latitude	Longitude	Burial No.	Latitude	Longitude
1	-24.35238889	29.50333333	45	-24.35155556	29.52047222
2	-24.35355556	29.50361111	46	-24.35036111	29.52183333
3	-24.35163889	29.50386111	47	-24.35044444	29.52244444
4	-24.35163889	29.50383333	48	-24.34986111	29.52272222
5	-24.35361111	29.50388889	49	-24.35047222	29.52294444
6	-24.35136111	29.50491667	50	-24.34975	29.52372222
7	-24.35125	29.506	51	-24.35066667	29.52380556
8	-24.35197222	29.50697222	52	-24.35119444	29.52416667
9	-24.35216667	29.50730556	53	-24.35038889	29.52436111
10	-24.35094444	29.50805556	54	-24.35130556	29.52505556
11	-24.35105556	29.50830556	55	-24.35094444	29.52508333
12	-24.35133333	29.50836111	56	-24.34988889	29.52547222
13	-24.35213889	29.50838889	57	-24.35083333	29.52566667
14	-24.35086111	29.50852778	58	-24.35088889	29.52572222
15	-24.35086111	29.50905556	59	-24.35027778	29.52583333
16	-24.35111111	29.50916667	60	-24.35	29.52625
17*	-24.35077778	29.50930556	61	-24.35086111	29.52641667
18	-24.35088889	29.50938889	62	-24.35069444	29.52663889
19	-24.35088889	29.5095	63	-24.35083333	29.52666667
20	-24.3525	29.50961111	64	-24.35086111	29.52736111
21	-24.35188889	29.50969444	65	-24.34997222	29.52763889
22	-24.35183333	29.50972222	66	-24.35063889	29.52769444
23	-24.35194444	29.51025	67	-24.35016667	29.52819444
24	-24.35180556	29.51027778	68	-24.35016667	29.52836111
25	-24.35241667	29.51083333	69	-24.34944444	29.52886111
26	-24.35152778	29.51136111	70	-24.35025	29.52925
27	-24.35241667	29.51166667	71	-24.35022222	29.52958333
28	-24.35222222	29.51230556	72	-24.35019444	29.52963889
29	-24.35225	29.51244444	73	-24.35002778	29.53
30	-24.35119444	29.51297222	74	-24.34927778	29.53038889
31	-24.35122222	29.51305556	75	-24.34913889	29.53105556
32	-24.35072222	29.51336111	76	-24.34972222	29.53286111
33	-24.35244444	29.51377778	77	-24.34952778	29.53302778
34	-24.35130556	29.51380556	78	-24.34872222	29.53325
35	-24.35269444	29.514	79	-24.34855556	29.53405556
36	-24.35205556	29.51436111	80	-24.34844444	29.53411111
37	-24.35183333	29.51486111	81	-24.34894444	29.53436111
38	-24.3505	29.51494444	82	-24.34919444	29.53502778
39	-24.35194444	29.51525	83	-24.34933333	29.53502778
40	-24.34994444	29.51925	84	-24.34930556	29.53513889
41	-24.34986111	29.51938889	85	-24.34852778	29.53525
42	-24.34991667	29.51952778	86	-24.34858333	29.53530556
43	-24.34994444	29.51961111	87	-24.34847222	29.53555556
44	-24.34986111	29.51994444			

**Table 2- List of burial locations/graves identified in the proposed Dwaalkop Project Area (above).**

#### **6.4.1 The stone tools**

The stone tools along the northern calcrete deposit where the village of Maneeng was located was affected when this village was constructed, demolished and abandoned. Stone tools on unaffected calcrete deposits such as the one in the south-west which may fall outside the Project Area have to be collected before these calcrete deposits are affected or destroyed by the mining development project.

The sampling of the stone tools can only be done by an archaeologist accredited with the Southern African Association for Professional Archaeologists (ASAPA) who must apply for a permit from the Limpopo Provincial Heritage Resources Authority (LIHRA) before the collection of the stone tools may commence.

The stone tools must be preserved in a provincial or university museum.

#### **6.4.2 The graves and graveyards**

If any of the graves or graveyards along the northern perimeter of the Project Area may be affected by the proposed mining development project they have to be mitigated. One of the following strategies may be followed:

- The graveyard can be preserved *in situ*. The graveyards can be demarcated with brick walls or with fences. Conserving graves and graveyard *in situ* creates the risk and responsibility that they may be damaged (accidentally), that the mine remains responsible for their future unaffected existence, maintenance and that controlled access must exist for any relatives or friends who wish to visit the deceased.
- The graveyards can be exhumed and relocated. The exhumation of human remains and the relocation of graveyards are regulated by various laws, regulations and administrative procedures. This task is undertaken by forensic archaeologists or by reputed undertakers who are acquainted with all the administrative procedures and relevant



legislation that have to be adhered to whenever human remains are exhumed and relocated. This process also includes social consultation with a 60 days statutory notice period for graves older than sixty years. Permission for the exhumation and relocation of human remains have to be obtained from the descendants of the deceased (if known), the National Department of Health, the Provincial Department of Health, the Premier of the Province and the local police.

A court interdict issued to Lonmin by the Maneeng community on 26 January 2005 with regard to the identified graves in the Project Area also has to be adhered to (Roodt 2006).

#### **6.4.3 Mining remains**

The mining remains from the recent past need no mitigation measures and can be destroyed by the mining development project.

## 8 CONCLUSION AND RECOMMENDATIONS

A Phase I Heritage Impact Assessment (HIA) study as required in terms of Section 38 of the National Heritage Resources Act (Act 25 of 1999) was done for the proposed new Dwaalkop Mining Operation on the farm Dwaalkop 445KS in Chuniespoort in the Limpopo Province of South Africa. Consequently, a Phase I HIA study was conducted for the proposed new Dwaalkop Mining Operation with the following objectives:

- To establish whether any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (Box 1) do occur in the Project Area and, if so, to determine the nature, the extent and the significance of these remains.
- To determine whether these remains will be affected by the proposed Dwaalkop Mining Operation and, if so, to evaluate what appropriate mitigation and management measures could be taken to reduce the impact of the proposed mining development project on these heritage resources.

At least three earlier heritage impact assessments studies were done in the Project Area as well as in close proximity of the Project Area, namely:

- Pistorius, J. C.C. 2002. *A Cultural Heritage Impact Assessment for the farm Doornvlei 456KS and Turfpan 122KS for the scoping phase of the EMPR for the proposed Doornvlei Platinum Project*. Unpublished report prepared for SRK.
- Roodt, F. 2003. *Phase I Heritage Impact Assessment: Messina Platinum Mine: EMPR for the proposed Dwaalkop-Doornvlei Project Limpopo Province*. Unpublished report prepared for SRK Consulting.
- Roodt, F. 2006. *Report of the grave identification process. Maneeng Community on the farm Dwaalboom Lebowakgomo: Limpopo Province*. Unpublished report prepared for Lonmin Limpopo Mvelaphanda Joint Venture.

### **Types and ranges of heritage resources in the Project Area**

The remains of significance which were identified in the Project Area include the following:

- Stone tools mostly dating from the MSA occur along a calcrete deposit which protrudes in the northern part of the Project Area as well as outside the Project Area.
- Formal (marked) and informal (unmarked) graves which were recorded during 2006 in the previous but now abandoned Maneeng village in the northern part of the Project Area (Roodt 2006).
- Older, abandoned mining activities with limited infrastructure in the northern part of the Project Area

The graveyards, graves and mining remains were geo-referenced and mapped (Figure 3; Table 1-2).

The heritage resources which have been recorded outside the Project Area have no bearing on this report and is not further discussed.

### **The significance of the heritage resources**

The significance of the heritage resources that may be affected by the proposed new mining development project has been determined according to stipulations from the National Heritage Resources Act (No 25 of 1999) and various other criteria:

#### **The stone tools**

The stone tools that occur along calcrete deposits qualify as archaeological remains and are protected by Section 35 of the National Heritage Resources Act (No 25 of 1999). These stone tools can be considered to be of medium significance when considering the following criteria:

- The number of stone tools that occur along the calcrete deposit is not large. These stone tools probably represent a limited number of types but may include specialised types that were manufactured from banded iron stone, quartz and dolerite which were used for specific purposes.

- The stone tools do not occur in any archaeological context which diminishes their significance for research purposes. (Any archaeological material in a sealed stratigraphic context has much higher significance).
- The stone tools may not be uncommon in the region as they were also along other calcrete deposits in the wider area.

### **Graves and graveyards**

All graveyards can be considered to be of high significance as all graves are protected by various laws. Legislation with regard to graves includes the National Heritage Resources Act (No 25 of 1999) whenever graves are older than sixty years. The act also distinguishes various categories of graves and burial grounds.

Other legislation with regard to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on Exhumations (No 12 of 1980) and the Human Tissues Act (No 65 of 1983 as amended).

### **The mining remains**

The mining remains date from the more recent past and have no mining heritage significance.

### **Mitigating the heritage resources**

Mitigation measures for the heritage resources that will be affected by the mining development project are the following:

### **The stone tools**

The stone tools along the northern calcrete deposit where the village of Maneeng was located was affected when this village was constructed, demolished and abandoned. Stone tools on unaffected calcrete deposits such as the one in the south-west which may fall outside the Project Area have to be collected before these calcrete deposits are affected or destroyed by the mining development project.

The sampling of the stone tools can only be done by an archaeologist accredited with the Southern African Association for Professional Archaeologists (ASAPA) who must apply for a permit from the Limpopo Provincial Heritage Resources Authority (LIHRA) before the collection of the stone tools may commence.

The stone tools must be preserved in a provincial or university museum.

### **The graves and graveyards**

If any of the graves or graveyards along the northern perimeter of the Project Area may be affected by the proposed mining development project they have to be mitigated. One of the following strategies may be followed:

- The graveyard can be preserved *in situ*. The graveyards can be demarcated with brick walls or with fences. Conserving graves and graveyard *in situ* creates the risk and responsibility that they may be damaged (accidentally), that the mine remains responsible for their future unaffected existence, maintenance and that controlled access must exist for any relatives or friends who wish to visit the deceased.
- The graveyards can be exhumed and relocated. The exhumation of human remains and the relocation of graveyards are regulated by various laws, regulations and administrative procedures. This task is undertaken by forensic archaeologists or by reputed undertakers who are acquainted with all the administrative procedures and relevant legislation that have to be adhered to whenever human remains are exhumed and relocated. This process also includes social consultation with a 60 days statutory notice period for graves older than sixty years. Permission for the exhumation and relocation of human remains have to be obtained from the descendants of the deceased (if known), the National Department of Health, the Provincial Department of Health, the Premier of the Province and the local police.

A court interdict issued to Lonmin by the Maneeng community on 26 January 2005 with regard to the identified graves in the Project Area also has to be adhered to (Roodt 2006).

### **Mining remains**

The mining remains from the recent past need no mitigation measures and can be destroyed by the mining development project.

### **General**

It is highly likely that this survey may have missed heritage resources in the Project Area as heritage sites may occur in thick clumps of vegetation while others may lie below the surface of the earth and may only be exposed once development commences.

If any heritage resources of significance are exposed during mining operations the South African Heritage Resources Authority (ASAPA) should be notified immediately and all development activities must be stopped. An archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) should be notified in order to determine appropriate mitigation measures for the discovered finds. This may include obtaining the necessary authorisation and permits from SAHRA to conduct mitigation measures on any uncovered heritage resources or human remains.

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