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Prepared for:

PILANESBERG PLATINUM MINES (PPM)

**A PHASE I HERITAGE IMPACT ASSESSMENT (HIA) STUDY
FOR PILANESBURG PLATINUM MINES (PPM) NEW
PROPOSED MINING AREAS NEAR THE PILANESBERG IN
THE NORTH-WEST PROVINCE OF SOUTH AFRICA**

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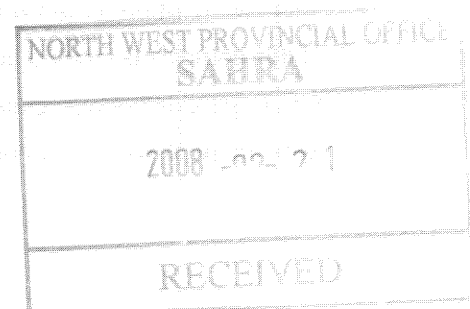
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EXECUTIVE SUMMARY

This 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 as part of an EMP for Pilanesberg Platinum Mines (PPM) in the North-West Province of South Africa.

A relatively wide range of heritage resources were observed in the Pilanesberg Platinum Mines Project Area. However, only the heritage resources in the critical areas in the Pilanesberg Platinum Mines Project Area will be affected directly and indirectly by the proposed development project. These heritage resources include the following:

- A single stone walled site (RGH01) on level ground on Ruighoek 169JP will be destroyed by the development.
- The cultural landscape constituted by large numbers of isolated and clusters of stone walled sites at the mountains of Mogare, Mmatone, Patswane and Mukukunupu on Witkleifontein 136JP and Tuschenkomst 135JP will be affected by the proposed new development project.

These Late Iron Age complexes have been geo-referenced and mapped (Figures 1, & 2; Tables 1 - 6). Their levels of significance have been determined and the magnitude of the impact of the proposed Pilanesberg Platinum Mines activities and infrastructure on these heritage resources was ascertained (Table 10).

The significance of the heritage resources that are likely to be affected in the Pilanesberg Platinum Mines Project Area can be rated as follows (Table 10):

The individual site on the level plain on Ruighoek 169JP (RGH02) can be rated as of **MEDIUM** significance for the following reasons:

- The site is part of a cultural landscape which has been damaged by mining and industrial activities in the past. Site RGH01, west of Site RGH02 was damaged extensively when a road was built through this site. (The remaining unaffected part of this complex is located outside the mining area.)
- Site RGH02 is not associated with elaborate stone walls or any extensive deposits with archaeological material or other surface remains.

- Site RGH02 has medium research value, little aesthetic appeal and limited educational or tourism value if it is conserved as an isolated phenomenon.

The magnitude of the impact on Site RGH02 on Ruighoek 169JP would be **HIGH** and the site would be destroyed by mining activities. However, Site RGH02 has **MEDIUM** significance and can be destroyed after the site has been subjected to a Phase II investigation. A permit for the Phase II investigation and the destruction of this site must be acquired from the North-West Provincial Heritage Resources Authority (NW PHRA).

A Phase II investigation implies that the site has to be investigated prior to its destruction. This investigation will entail the documenting (mapping, photographing) of the site, which may be supplemented by small test excavations of selected spatial components of the site. The results of the Phase II investigation have to be communicated to the NW PHRA by means of a report.

The stone walled sites associated with Mogare, Mmatone, Patswana and Mukukunupu can be rated as outstandingly significant in terms of criteria such as the following:

- The mountains of Mmatone, Mogare, Patswane and Mukukunupu are historical beacons, as they are associated with human occupation during the last three hundred and fifty to four hundred years.
- The four complexes of sites associated with these mountains represent different villages which were occupied simultaneously by several thousands of people who lived in these villages from pre-historical times (AD1650) well into the historical period. (According to a reliable spokesperson, the village of Mabjaneng was still occupied during the Transvaal Anglo War [1899-1902]).
- The four villages and the surrounding landscape represent a 'cultural landscape or townscape' which is unique, as it reflects a regional history, in particular that of the Kgatla and the impact of Mzilikazi's Ndebele on this clan.
- This townscape reflects intangible heritage attributes such as a sense of place, the majesty of mountains associated with the social (political) importance of rulers, activity areas which served as pastures for stock, wood and water collecting spots, possible places of sacrifice and worship, etc.

- These site complexes are unique in the context of the Late Iron Age, as they contain settlements that are characteristic of Tswana, Zulu (Ndebele) and mixed Tswana/Zulu (Ndebele) populations.
- It seems, according to archaeological observations and historical information, as if settlements in these village complexes may have been occupied, temporarily at least, by Mzilikazi's Ndebele (Matabele) from 1827 to 1832. (At least four other village complexes between Pretoria and Rustenburg have been occupied by Mzilikazi's Ndebele. The Pilanesberg complex therefore may represent a fifth Ndebele complex).
- The four villages are in an excellent (pristine) condition and have not been affected by any development in the past. (This is in contrast with numerous other Late Iron Age sites which have been affected in one way or another by mining or other development activities in the North-West).
- These sites offer outstanding research opportunities, as they represent archaeological 'laboratories' which can be utilised for decades to come. Tangible heritage remains in the form of artefacts, structures and features are in abundance in the archaeological deposits that are associated with the sites.
- The village complexes offer exceptional educational and tourism potential, if they are developed according to correct scientific and museological principles.

The Late Iron Age sites and complexes of sites associated with Mmatone, Mogare, Patswane and Mukukunupu are located against the lower slopes and higher up these mountains where these sites need not be affected directly if mining activities and infrastructure are confined to localities, away from these village complexes outside the boundaries of a conceptualised and demarcated cultural landscape constituted by the village complexes. However, the cultural landscape connecting the sites, clusters of sites and the different villages complexes by means of tangible and intangible heritage attributes will be **AFFECTED** as this pre-historical and historical cultural landscape will sacrifice its integrity and authenticity as it now has to exist next to a 21st century platinum mine.

It is recommended that PPM implements a Cultural Heritage Management Program (CHMP) as set out in a proposal to the mine. This would ensure that heritage resources in the mine lease area are conserved according to national and international guidelines for heritage management. This program would enhance PPM national significance as it would

contribute to the mine's social (community) and closure plan while simultaneously receiving international recognition as environmental and heritage management is an integral part of 'progressive' mining operations world-wide.

Pilanesberg Platinum Mines is located in the heartland of the proposed Madikwe Heritage Corridor, between the Madikwe and the Pilanesberg Nature Reserves with the Pilanesberg a natural and cultural resource of international significance. The archaeological remains in PPM are therefore part of a wider sphere of natural and cultural significance which demand specific requirements for conservation. Those living and working in the heritage corridor will inevitably be drawn into the protection, promotion and utilization of the natural and cultural heritage of the area. PPM responsibility towards natural and cultural heritage will increase rather than diminish as time passes. The mine therefore has to act pro-actively in order to get involved with cultural heritage management according to accepted procedures, guidelines and standards. This obligation will last for as long as the mine is operational.

Several graveyards, houses older than sixty years and formal mining heritage remains occur in peripheral areas outside the Pilanesberg Platinum Mines Project Area. These remains are all protected by the National Heritage Resources Act (Act No 25 of 1999), as well as by other legislation. Their existence therefore should be kept in mind as Pilanesberg Platinum Mines may consider expanding its mining operations in the future.

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1 INTRODUCTION

This document contains the report on a Heritage Impact Assessment (HIA) study done for Pilanesberg Platinum Mines on the farms Ruighoek 169JP, Zandspruit 168JP, Rooderand 46JQ, Witkleifontein 136JP and Tuschenkomst 135JP in the North-West Province of South Africa.

The North-West Province of South Africa has a rich heritage comprised of remains dating from the pre-historic and from the historical (or colonial) periods of South Africa. Pre-historic and historical remains in the North-West Province present a record of the heritage of most groups living in South Africa today. Various types and ranges of heritage resources that qualify as part of South Africa's 'national estate' (outlined in Section 3 of the National Heritage Resources Act, Act No 25 of 1999) occur in this region (see Box 1).

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

The National Heritage Resources Act (Act 25 of 1999, Section 3) outlines the following types and ranges of heritage resources that qualify as part of the national estate:

- (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 in terms of the Human Tissue Act (Act 65 of 1983);
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) moveable objects, including -
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects, 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 (Act 43 of 1996).

The National Heritage Resources Act (Act 25 of 1999, Sec 3) also distinguishes nine criteria for a place and/or object 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) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and/or
- (i) its significance relating to the history of slavery in South Africa.

2 AIMS OF THIS REPORT

Pilanesberg Platinum Mines intends to extend current mining activities and to introduce new mining activities on the farms Ruighoek 169JP, Zandspruit 168JP, Rooderand 46JQ, Witkleifontein 136JP and Tuschenkomst 135JP near the Pilanesberg in the North-West Province of South Africa. Given the possibility that heritage resources may occur in or near the proposed new mining areas, Pilanesberg Platinum Mines appointed the author to conduct a Phase I Heritage Impact Assessment (HIA) study of the Pilanesberg Platinum Mines' mining areas. The aims of this HIA study were:

- 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 Pilanesberg Platinum Mines Project Area and, if so, to determine the nature, the extent and the significance of these remains;
- to determine whether such remains will be affected by the proposed new extension and expansion activities; and
- to evaluate what appropriate actions could be taken to reduce the impact of the proposed new extension and expansion activities on such remains.

3 METHODOLOGY

This HIA study was conducted by

- surveying on foot the proposed new mining areas, as well as surveying, where appropriate, areas adjoining the mining areas (in other words, peripheral areas which will not be affected by the extended mining activities);
- briefly surveying literature relating to the pre-historical and historical context of the Pilanesberg region;
- interviewing spokespersons to establish the presence or existence of certain heritage resources such as graveyards or abandoned settlements and to collect indigenous names for landmarks such as hills (usually with archaeological sites) in the area;
- consulting maps of the proposed new mining areas;
- consulting archaeological (heritage) data bases such as the one kept at the North-West Provincial Heritage Resources Agency (NW PHRA); and
- synthesising all information obtained from the literature survey, maps and spokespersons with the evidence derived from the fieldwork.

3.1 Fieldwork

The Pilanesberg Platinum Mines Project Area covers parts of the farms Ruighoek 169JP, Zandspruit 168JP, Rooderand 46JQ, Witkleifontein 136JP and Tuschenkomst 135JP, to the north-west and north of the Pilanesberg in the North-West Province. The project area was reconnoitred with a vehicle where there were accessible roads. However, large tracts of the proposed new mining areas on Witkleifontein 136JP, Tuschenkomst 135JP and Ruighoek 169JP, where large numbers of stone walled sites occur, were covered on foot.

Although heritage resources in the peripheral areas (outside the mining areas) will not be affected by the proposed development project, this report does refer

briefly to the presence of formal heritage remains, historical houses, graveyards and stone walled sites that (may) occur in some of these areas.

3.2 Databases, literature survey and maps

Databases kept and maintained at institutions such as the North-West Heritage Resources Agency (SAHRA) in Mafekeng 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 the Pilanesberg area.

Literature relating to the pre-historical and the historical unfolding of the Pilanesberg area was reviewed. This review focused particularly on local Tswana groups such as the Kgatla Kgafêla and the Tlhako who live along the Pilanesberg. (The history of the origins of the Tlôkwa who live slightly further to the west of the Pilanesberg was not reviewed). The presence and influence of Mzilikazi of the Ndebele in the Pilanesberg was also emphasised, as the remains found in the course of this study suggest that one of his village complexes may have stood in what is now the proposed mining area.

It is important to contextualise the pre-historical and historical background of the Pilanesberg area in order to comprehend the identity and meaning of heritage sites in the Pilanesberg Platinum Mines Project Area and subsequently to determine the significance of any remains which may be affected by the development project (see Parts 4 & 8).

In addition, the Pilanesberg Platinum Mines Project Area were also studied by means of the 1:50 000 topographical maps on which the mining and project areas appear (2526BB Mabeskraal and 2527AA Saulspoor, 1:50 000).

3.3 Spokespersons

Spokespersons living in villages in the project area are usually intimately acquainted with the area, particularly if they were born there. Some spokespersons were therefore consulted with regard to the possible presence of graveyards and abandoned villages, and the indigenous names for landmarks such as mountains and hills were noted, as these natural phenomena are usually associated with pre-historical and historical sites. (It turned out that nearly all the mountains in the area are particularly well remembered by their historical names) (see Part 9).

3.4 Mapping heritage resources

All the heritage resources found in the mining areas and some in the peripheral areas were geo-referenced using a GPS instrument and they were thereafter mapped in Arch View. A relatively wide range of heritage resources occurs in the Pilanesberg Platinum Mining area. The Late Iron Age sites in the mining areas occur in exceptionally large numbers and concentrations and not all of the individual sites were geo-referenced and mapped. At least two informal abandoned graveyards in peripheral areas were geo-referenced and mapped – because such remains are often inconspicuous and neglected, they may be damaged accidentally (Figures 1, 2 & 7; Tables 1- 8).

3.5 Assumptions and limitations

It must be pointed out that heritage resources can be found in the most unexpected places. It must also be borne in mind that surveys may not detect all the heritage resources in a given project area. While some remains may simply be missed during surveys (observations), others may occur below the surface of

the earth and may only be exposed once development (such as mining) commences.

3.6 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 project area, to the first appearance or use of 'modern' Western writing brought to the Rustenburg, Marikana and Pilanesberg areas in the North-West Province by the first colonists who settled in this area after c. 1839.

The term 'relatively recent past' refers to the 20th 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 16th century and the 19th 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 '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 PILANESBERG PLATINUM MINES PROJECT AREA

4.1 Location

The Pilanesberg Platinum Mines Project Area stretches across parts of the farms Ruighoek 169JP, Zandspruit 168JP, Rooderand 46JQ, Witkleifontein 136JP and Tuschenkomst 135JP near the northern-western corner of the Pilanesberg and a stretch of land to the north of the Pilanesberg in the North-West Province of South Africa (2526BB Mabeskraal and 2527AA Saulspoot; 1: 50 000 topographical maps).

The project area will be affected by mining activities such as sinking open cast pits, establishing infrastructure, dumping top soil or waste rock, upgrading roads, etc. These areas are also referred to as critical areas, whereas the peripheral areas cover land adjacent to the critical areas. The mining and peripheral areas are collectively referred to as the Pilanesberg Platinum Mines Project Area (see Terminology, Box 2).

4.2 The Pilanesberg as a natural heritage resource

The Pilanesberg near the PPM is a unique natural landmark and it forms part of South Africa's natural heritage. This complex of mountains consists of an eroded circular alkaline volcanic structure, 1 250 million years old, in the low-lying Bushveld Complex. This extinct volcano is 27km in diameter and it is surrounded by six rings of mountains. The result is a circular mountainous region which stands in stark contrast to the surrounding open plains, creating a unique enclave for human occupation and utilisation from the earliest times. During the Late Iron Age, access to the Pilanesberg was controlled by well-positioned and extensive settlements near the periphery of this circular mountain range, close to some of

the entrances leading to the pathway-like valleys which criss-cross the central part of the Pilanesberg.

The Pilanesberg National Park was developed in and around this extinct volcano and covers a surface of 500km². The park was opened in 1979 and it now contains examples of most southern African mammals and some 300 bird species. The central feature of the park is a man-made lake known as Mankwe on the river by the same name.

Sun City, on the edge of the Pilanesberg, was the first of several casinos and holiday resorts to be established on the South African veldt soon after the Bophuthatswana homeland was granted independence in 1977. The complex incorporates the Superbowl, a huge concert area, four luxury hotels, including the Palace of the Lost City, as well as many sporting and gambling facilities and an artificial beach, the Valley of the Waves.

4.3 How the Pilanesberg Platinum Mines Project Area has been affected

The Pilanesberg Platinum Mines Project Area is not a totally pristine area any longer, as the landscape has been affected by human settlement for centuries. Stone Age people were not present in the project area in large numbers during the last few hundreds of thousands of years. However, large numbers of Late Iron Age communities established themselves in large village complexes near and on the slopes and spurs of most of the mountains and kopjes in the area. Here they cleared parts of the level plains to till the soil to plant crops and they used the veldt as grazing for cattle and small stock. These Late Iron Age farmers were followed by the first colonists in the second half of the 19th century. These colonists continued to practise mixed farming in the area. In the early twentieth century, chrome mining started on the chromite zone to the north and to the west of the Pilanesberg, where the impact of these mining activities can still be seen today.

4.4 Contextualising the Pilanesberg Platinum Mines Project Area

A brief overview of pre-historical and historical information is provided below to contextualise the PPM and to help to determine the significance of any heritage resources that may occur in the Pilanesberg Platinum Project Area.

4.4.1 Stone Age sites

Stone Age sites are marked by stone artefacts that are found scattered on the surface of the earth or that are part of deposits in caves and rock shelters. The Stone Age is divided into the Early Stone Age (the period from 2.5 million years ago to 250 000 years ago), the Middle Stone Age (the period from 250 000 years ago to 22 000 years ago) and the Late Stone Age (the period from 22 000 years ago to about 2 000 years ago).

These three Stone Ages can be divided into different 'cultural' periods, each of which is characterised by specific hominids, artefact types and lifestyles. These cultural periods existed under different climatic conditions and did not necessarily cover the same periods in different regions of South Africa.

A few isolated, haphazardly scattered stone tools were observed throughout the Pilanesberg Platinum Mines Project Area. These tools date from the Middle Stone Age and include two Mousterian cores, a blade and an end scraper. These stone tools were not geo-referenced, as they were too limited in number.

The Late Stone Age is associated with rock paintings and engravings done by the San, Khoi Khoi and, in more recent times, by Negroid (Iron Age) farmers. More than one spokesperson told the author that there are caves higher up Mmatone Mountain. Such phenomena, if they do exist, may contain stone tools dating from the Stone Age, Late Iron Age remains and even rock paintings. A few rock paintings have already been recorded in the Pilanesberg.

4.4.2 Late Iron Age remains

The Pilanesberg area is dominated by stone walled sites that date from the Late Iron Age, some of which were occupied into the historical period. These sites are associated with Tswana groups such as the Kgatla Kgafêla, the Tlhako, the Tlôkwa and Nguni-affiliated clans who were either living in the area from an earlier time, before the Sotho-Tswana arrived, or who were descended from Mzilikazi's Ndebele who temporarily occupied several settlement complexes in the area before they moved to the Zeerust-Marico area in AD1832. Large numbers of the descendants of these original Nguni-speaking people today live in Groenfontein, Rhenosterhoek and Kraalhoek, to the north of the project area.

The following contextual evidence serves as background to the project area: the origins of the Kgatla group; the history of the Kgatla Kgafêla and the Tlhako; the arrival of the first colonists and early chrome mining in the area.

4.4.2.1 Origins of the Kgatla group

The ancestral Kgatla were composed of the Kgatla, the Tlôkwa, the Makgolokwe and probably the Bahlakwana and the Basia sections. (The latter three clans no longer exist). The Kgatla also maintained that there was an early relationship with the Hurutshe (under common chiefs such as Malekele-Masilo-Legabo) which may date back to AD1450 when the Hurutshe and Kwena separated. These earliest Kgatla groups initially lived in the central part of the former Transvaal province, somewhat to the south of what is today Thabazimbi, near the Rooiberg Tin Mines.

Phohoti, the son of Mokgatle, is usually regarded as the first Kgatla chief. His son and successor was Botlholo (Mashiasebara), whose sons Mogale, Pule and Modise split up. Pule initially ruled on behalf of Mogale's son Moseitlha, who died

before he could succeed, and this encouraged Pule (whose son Masego died before his father) to leave the tribe and to form a separate tribe under his grandson Kgafele. The Bothlolo's third son, Modise, and his son Tabane were the forefathers of the sections of the Mmakau, the Motša and the Seabe.

Today there are numerous subsections of the Kgatla. In 1953, a leading anthropologist distinguished at least eleven tribes within this group.

The totem of the Kgatla is the blue monkey (*kgabo*), although they also had another totem, the 'kgabo ya mollo', or the 'tip of the flame', which they used when the Kgatla were on the warpath.

Mogale, the ancestor of the Moseitlha, lived at a place called Dirolong/Direleng in the Bela Bela area (some say in the Rustenburg area). Mogale (Moseitlha) or Mashego (Kgafela) moved to Momuseng (the old Makapans Location). Towards the end of the 17th century, the Kgafela section broke away under Mahego (the son of the regent, Pule). However, Kgafela and his son Tebele remained east of the Crocodile River and Kgafela's grandson Masellane moved to Molokwane ('Vlieggepoort') near the confluence of the Crocodile and Pienaars Rivers. (This split was the result of a dispute whether Moseitlha, a woman, should rule the tribe). This was also the time when Tabane (the Mmakau section) broke away and settled at Mogwete (Varkfontein, in the Premier Mining area).

While the Kgatla Moseitlha remained one section, Tabane's branch later broke up into several tribes. Modise or Moptsha had a young wife who left the tribe while she was pregnant, as she was accused of witchcraft, saying that her child was crying in her womb. It was called 'lelela teng' ('crying inside'). This child later became the great Pedi chief Thulare, who was also called 'Thulare a Mmakau'. Further divisions of the Kgatla were caused by internal strife during the time of Mzilikazi.

4.4.2.2 Brief history of the Kgatla Kgafêla and the Tlhako

After the Kgafêla broke away from the Mosetlha at Momusweng (Makapans Location, Hammanskraal), probably during the first half of the 17th century, they settled in various places on their way to the north-west and the Crocodile River. Known places of settlement were Ntuane (to the north-west of Makapans Location near the Pienaars River), Momoseu (near Ntwane), and Tshokane (Leeuwpoort, south of the Rooiberg Tin Mine). Tshokane proved to be unhealthy, so they dwelt at Matone (Tuschenkomst) for a while and then settled at Molokwane ('Vliegpoort', at the confluence of the Crocodile and Pienaars Rivers) near Ramakokas Location.

At the start of the 18th century, they lived at Mabule, Kruidfontein (near Saulspoort). During the first half of the 18th century, Kgwefane lived at Saulspoort in the Dithubaruba section of Moruleng. Molefe lived at Maramapong at Saulspoort. Towards the end of the 18th century, Phetso lived at Sefikile (Spitskop, 8km to the west of Northam). Letsebe ruled at Mabule (Kruidfontein) at the confluence of the Modderkuil and Middelkuil. When Senwelo was invested as chief, he moved from Mabule to Tlokwane (Rhenosterkop). Motlotle ruled at Magakwe or Dithubarubu (Kruidfontein).

Pilane built his village at Monamaneng (Kafferskraal). Later he moved to Bogopana (Witfonteinrand), to the north-east of Witfontein, and from there to Mmamodimokwana (Schilpadsnest) near the Crocodile River.

After the Matabele invasion in 1827, Pilane went to live at Motsitle (Mabeskraal). After 1837, he settled at the Elands River at Mmasebudule (Rhenosterfontein).

During the Matabele invasion, the Kgatla were too weak to defend themselves. Consequently, they paid a tribute to the Ndebele. Nevertheless, their villages

were destroyed and the young men were incorporated into the Ndebele army. After the Ndebele had left the Pilanesberg area in 1832, Ndebele raiders returned to the area and took three of Pilane's sons with them in 1842. Molefi, Pilane's uncle, negotiated their release. Molefi, who maintained good relations with the Ndebele, took charge of the tribe when Pilane fled to the Langa Ndebele.

The far northern part of Kgatla territory, incorporating the farms Holfontein, Cyferfontein and Rhenosterkraal, was a separate tribal section for some years under the authority of a sub-chief, Dikema Pilane. He played an important role in the times of Paul Kruger. It was also in this far northerly area that the descendants of one of Mzilikazi's sons lived.

Kgamanyana lived at Moruleng, the present tribal headquarters at Saulspoor. In 1869, Kgamanyana and many tribesmen left the country to settle at Mochudi, on the banks of the Nkgotwane River in Botswana, after camping one year at Tshwene-Tshwene (near Vleesfontein). The other part of the tribe remained at Saulspoor and acquired most of the farms to the north of the Pilanesberg.

Many of these Tswana clans were uprooted during the *difaqane* when Mzilikazi's Matabele (Ndebele) entered the North-West Province, crossing the Magaliesberg at Mpame (Kommandonek) in the middle of August 1832.

From this brief historical overview, it is clear that the mountain Mmatone was occupied by the Kgatla, while the Pilanesberg Platinum Minesproject area to the north of the Pilanesberg covers much of the sphere of influence of one section of the Kgatla. This group probably intermarried with Mzilikazi's Ndebele, especially given that some of his sons remained in the area after the Ndebele moved westwards. Descendants of this mixed Ndebele/Tswana population still live in the area today. A similar situation occurred to the north of Rustenburg, south of Phokêng, where the Ndebele intermarried with their Tswana neighbours, the Fokeng.

The Tlhako is one of the numerous Nguni-related clans who lived in the central part of the former Transvaal province from early on. They branched off from the Ndzundza-Ndebele who lived near what is today the Premier Mine (Cullinan, Mangolwana) and Wonderboom (Pretoria). Thereafter they dwelt in the Boshhoek (Pharami) area for some time, before settling along the Thulani River near Pella towards the end of the 17th century.

Chief Seutlwane settled on the northern slope of Pilwe Mountain. His son, Mabe, who lived about the middle of the 18th century, moved six kilometres further to the north to Mothoutlung on the eastern part of Palmietfontein. Mabe's youngest son, Motsisi, went to live at Legatalle, to the north-east of Ruighoek 426, where he became involved with a long struggle with the Kgatla Kgafêla. His son, Molotsi, also lived and died at Legatalle, probably around AD 1820 to 1830.

Mabe became chief in 1820 and settled at Motsitle, today known as Mabieskraal. When Mzilikazi invaded the region, the Tlhako did not leave the area, but were subjugated by the Ndebele. Many of the Tlhako later accompanied the Ndebele and crossed the Marico River to settle with the Ndebele at Silkaatskop. However, when the Ndebele were defeated by the Voortrekkers in the far North-Western Transvaal, many returned to their old home at Motsitle in 1837.

Maabe and the Voortrekkers' relationship deteriorated. After he was flogged by the Boers in c 1860, the tribe moved to Molepolole and settled at Magagarape, where Maabe died in 1869. His sons Moetle, Mokgatele, Leotwane and Setadi returned to Mabieskraal.

Moetle Mabe became chief in 1870. He raided the cattle of the local white farmers and also supplied labour to surrounding white farmers. He died on 15 May 1908.

The Tlhako's sphere of influence overlaps the southern and western parts of the Pilanesberg Platinum Minesproject area. Stone walled sites on Ruighoek 169JP can therefore possibly be associated with this group.

4.4.3 Arrival of the first colonists

During the first half of the 19th century, the first colonial traders who operated between the far north-west and the central part of the Bankeveld used the gap between the northern tip of the Magaliesberg and the south-western edges of the Pilanesberg, near the Pilanesberg Platinum Minesproject area, as a corridor. Wagons passed through this corridor on their way to Rustenburg and further to the east. Several traders, missionaries, a scientific expedition and adventurers trekked between the Magaliesberg and the Pilanesberg and they observed numerous Late Iron Age communities living in this part of the north-west.

Rustenburg, to the far south of the PPM, was the first colonial town to be established by Europeans (Voortrekkers) during the first half of the 19th century. Closer to Pilanesberg, Boshhoek was established along the railway line from Pretoria, and the town initially served as a terminus.

4.4.4 Early chrome mining

It has long been known that there were chrome ores in the Bushveld Igneous Complex. They were indicated on Carl Mauch's geological map of the area close to the Hex River near Rustenburg, which he visited in 1865. Chromite is also mentioned in official reports that were compiled by a certain Molengraaf. The first exploration for chrome occurred in 1917, and general production of the metal began in 1924, when 4 570 tons were mined.

Chromite is present in the Bushveld Igneous Complex as layers in the piroxinite, norite and anorthosite units and to a certain extent also in the harzburgiet unit. The deposits in the Complex can be divided into a Western Zone and an Eastern Zone.

The deposits in the Western Zone stretch for approximately 200km from Brits to Rustenburg, further northwards to the west of the Pilanesberg, and from there, with some interruptions of seven to thirteen kilometres, to near the Crocodile River. The Eastern Complex starts near Draailkraal at the upper reaches of the Dwars River in the Lydenburg district. Further northwards the deposit crosses the Steelpoort River near the Steelpoort station and gradually turns north-westwards as far as Scheiding – a total distance of 120 kilometres.

The Western Zone can be divided into four sections, namely a sector to the north of Rustenburg, two sectors to the west and to the north of the Pilanesberg, and a sector in the Brits-Rustenburg area.

The sector to the west of the Pilanesberg seems to have been exploited the most. Here two distinct layers were distinguished, namely the Groenfontein layer and the Main Layer higher up in the sequence. These layers vary in thickness on farms such as Palmietfontein 208JP, Groenfontein 138JP and Ruighoek 169JP.

By the start of 1974, seventeen chrome mines were already operating: eight in the Western Zone, six in the Eastern Zone, two in Marico and one near Mokopane.

5 THE PHASE I HERITAGE IMPACT ASSESSMENT STUDY (HIA)

5.1 Types and ranges of heritage resources in the Pilanesberg Platinum Mines Project Area

The Phase I HIA for the Pilanesberg Platinum Mines Project Area revealed the following types and ranges of heritage resources, as outlined in Section 3 of the National Heritage Resources Act (Act No 25 of 1999):

- Large numbers of isolated stone walled sites and clusters of stone walled sites dating from the Late Iron Age were found on Ruighoek 169JP, Witkleifontein 136JP and Tuschenkomst 135JP.
- Informal abandoned graveyards dating from the historical period were found and formal graveyards are currently still being used in all the rural villages surrounding the Pilanesberg Platinum Mines Project Area. All these graveyards fall in peripheral areas where they need not be affected by any mining development. However, three graveyards are highlighted in this report – they may be accidentally damaged because they are so inconspicuous.
- Historical remains dating from the more recent past are present, such as the old village of Motlhabe and an extensive homestead on Witkleifontein 136JP.
- The mining heritage remains can be divided into the remains of rudimentary prospecting activities and formal mining heritage remains, which include infrastructure and technological equipment.
- A limited number of stone tools occur haphazardly across the project area.
- There are historical houses in villages such as Ngweding, Ntsana-le-Metsing and Motlhabe, in peripheral areas.

Heritage resources in the Pilanesberg Platinum Project Area were geo-referenced. The co-ordinates for these heritage resources were determined by means of a GPS

instrument and most of these heritage resources were mapped (Figures 1, 2 & 7; Tables 1-9).

A broad description is provided below of all the types and ranges of heritage resources that were identified in the Pilanesberg Platinum Mines Project Area, some of which are illustrated by means of photographs. Some of the remains have been assigned a code (such as the stone walled sites, the historical village, and the graveyards) in order to simplify the identification and description of these resources.

The various types and ranges of heritage resources are discussed according to their types (range). Heritage resources in the mining areas (which may be affected) and those in peripheral areas (which need not be affected) are clearly distinguished. The heritage resources in the peripheral areas are not considered when the significance of the heritage resources is determined and the final impact assessment and management proposals are considered.

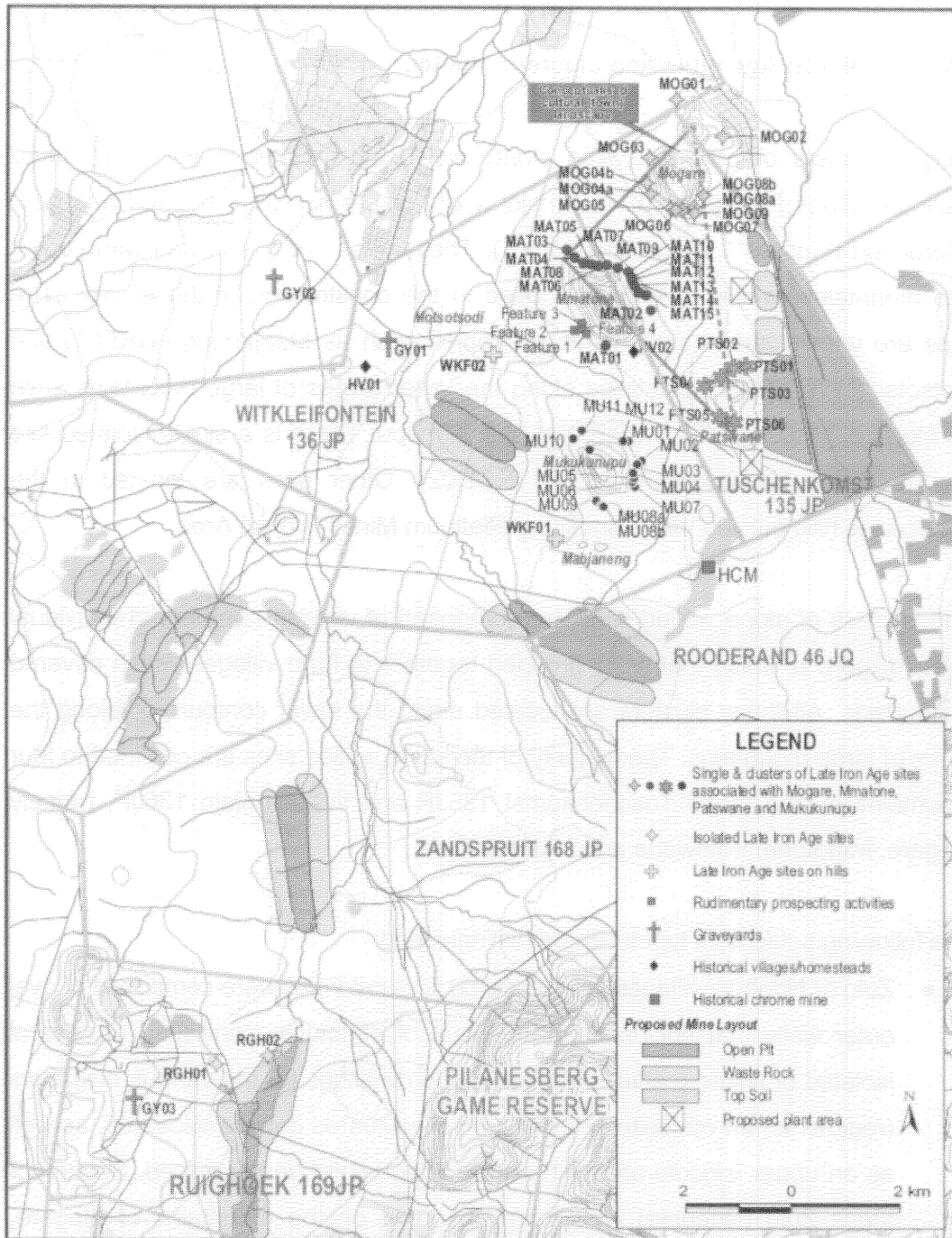


Figure 1- The Pilanesberg Platinum Mines Project Area on parts of the farms Rughoek 169JP, Zandspruit 168JP, Rooderand 46JQ, Witkleifontein 136JP and Tuschenkomst 135JP near the Pilanesberg in the North-West Province (2526BB Mableskraal and 2527AA Saulspoor; 1: 50 000 topographical maps)

The most important heritage resources discovered in the project area were stone walled settlements, graveyards, a historical village and homestead, mining heritage remains, isolated and haphazardly scattered stone tools and historical houses.

5.1.1 Late Iron Age sites and clusters of sites

Large numbers of Late Iron Age stone walled sites occur in the Pilanesberg Platinum Mines Project Area. The majority of these sites were mapped and geo-referenced (Figures 1 & 2; Tables 1 - 6). These sites are associated with kopjes and mountains, where dolerite was used in the construction of these sites. The sites are usually single settlements on kopjes such as Mabjaneng (WKF01) and Motsotsodi (WKF02) or clustered along the lower slopes of large mountains such as Mogare, Mmatone, Patswane and Mukukunupu. There is a single isolated site on the plains on Ruighoek 169JP (RGH02). Other sites are located in the Tlhorosane hills outside the Pilanesberg Platinum Mines Project Area.

The clusters of stone walled sites are composed of varying numbers of individual sites (*dikgôrô* or *imizi*) that were grouped together to form villages which covered large areas. All these clusters are located along the lower contours or along the spurs of large mountains. The majority of the stone walled sites are confined to four mountains on the farms Tuschenkomst 135JP and Witkeifontein 136JP, namely Mogare, Mmatone, Patswane and Mukukunupu.

The following settlement types can be distinguished:

- Zulu or Ndebele villages (singular *umuzi*, plural *imizi*) were composed of oval outer walls that enclosed an inner set of structures consisting of several isolated or linked (cattle) enclosures and dwellings for the various *ezigabeni* (regiments) on opposite sides of centrally situated cattle enclosures, as well as an upper *isigodlo* area, where the village chief (*induna*) lived. Several of these Zulu (Ndebele) *imizi* were observed on the mountains of Mogare, Mmatone and Mukukunupu.
- Tswana villages (singular *motse*, plural *metse*) were composed of a single village (*kgôrô*) or a conglomeration of villages (*dikgôrô*). A typical *kgôrô* is characterized by an outer scalloped wall that encircles central kraal

complexes that were usually linked together. The outer scalloped walls still contain the remains of dwellings (huts) within their surrounding yards (*malapa*) that were occupied by the various family groups (*masika*), central kraal complexes composed of courts (*makgotla*) and enclosures for domestic stock. Tswana sites are common on the mountain Patswana, but also occur on Mmatone, Mogare and Mukukunupu.

- There are some sites that are composed of long terrace walls that are 'stepped' down the slopes of mountains. The terrace walls are associated with a few small and large enclosures. These sites are not demarcated with clear outer boundary walls. It is possible that these sites, which also occur elsewhere in the Rustenburg and Brits areas, may have been built by Ndebele people.
- Sites were found that display a combination of Zulu (Ndebele) and Tswana features, such as Site MAG07 on Mogare, which has well-defined regimental quarters (*ezigabeni*). Such quarters are a characteristic feature of Zulu villages. These quarters occur in one half of the settlement and *malapa*, a Tswana feature, occur in the other half of the site. It seems as if sites with mixed Tswana and Zulu features also occur on Mmatone.
- There were some sites with spatial compositions that could not be interpreted as yet, due to the dense vegetation cover on these sites at the time of the year when the study was done. However, it is expected that settlement types not previously recorded may occur in the clusters that were discovered on Mmatone, Magore, Patswane and Mukukunupu.

The sites located on the hills of Mabjaneng and Motsotsodi were villages on their own. Mabjaneng is historically associated with the Kgatla Kgafêla and it was occupied from at least the second half of the 19th century. These two sites are excellently preserved and both contain an abundance of archaeological material, such as potsherds, middens and artefacts from the historical period spread across the surface of both sites.

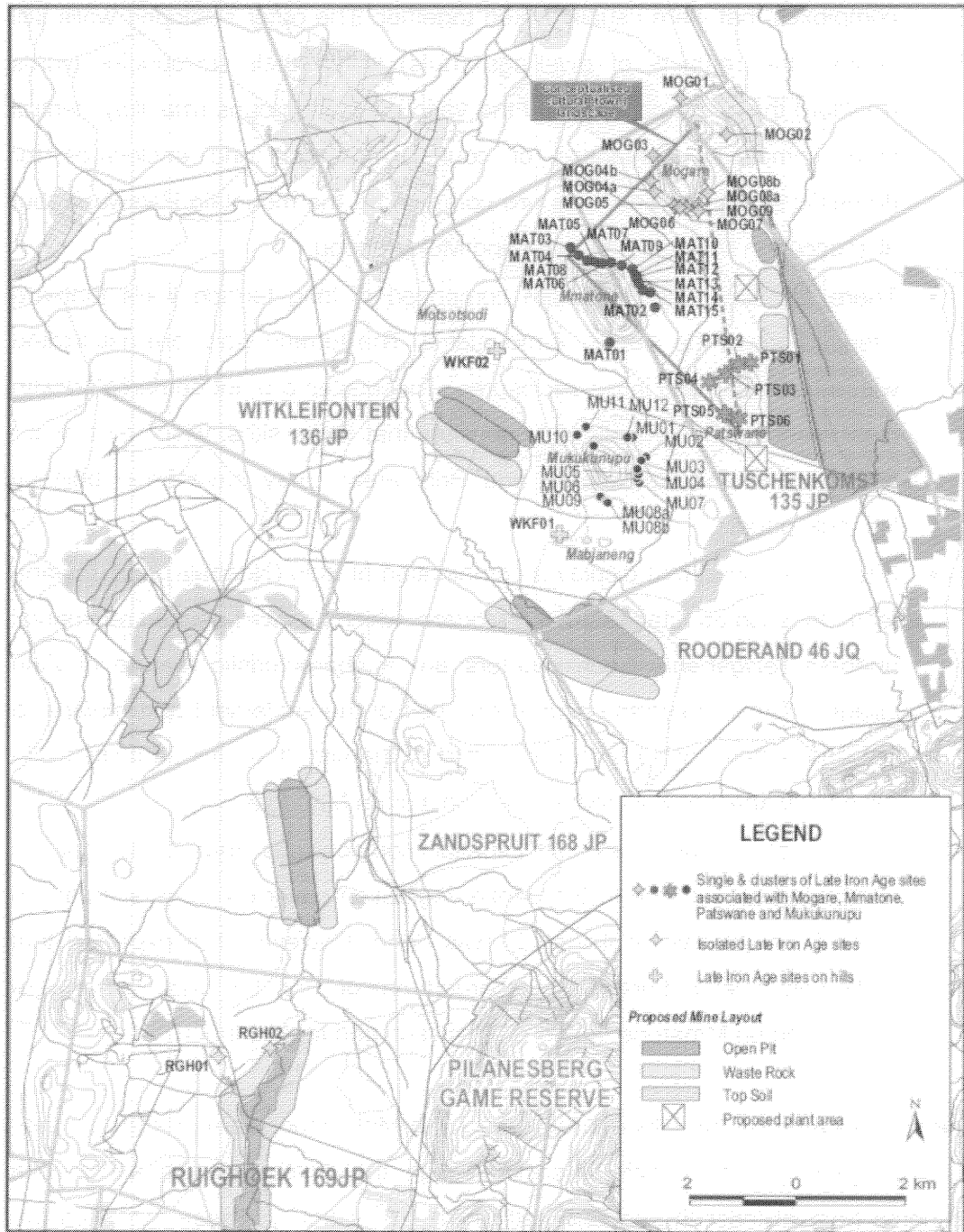


Figure 2- Stone walled sites dating from the Late Iron Age on isolated hills and on spurs and slopes of large mountains such as Mmatone, Mogare, Patswane and Mukukunupu in the Pilanesberg Platinum Mines Project Area. These settlements were occupied by Tswana, Zulu (Ndebele) and mixed populations of Tswana and Ndebele populations.

LATE IRON AGE SITES (MATONE)	CO-ORDINATES	DESCRIPTION
MAT01	25° 05.774' 26° 58.770'	Medium-sized <i>umuzi</i> on western slope.
MAT02	25° 05.498' 26° 58.501'	Site with terraces on western slope.
MAT03	25° 05.026' 26° 58.462'	Large site on northern spur.
MAT04	25° 05.088' 26° 58.526'	Site with inferior walls, differ from other sites.
MAT05	25° 05.130' 26° 58.647'	Extensive site next to northern spur.
MAT06	25° 05.149' 26° 58.709'	<i>Umuzi</i> next to stream, below kloof.
MAT07	25° 05.143' 26° 58.776'	Composed of long terraces. Niches with quartzite and iron ore.
MAT08	25° 05.129' 26° 58.860'	Extensive walls.
MAT09	25° 05.164' 26° 58.916'	Extensive and elaborate walls.
MAT10	25° 05.206' 26° 58.962'	Below saddle in mountain. Could be a main site.
MAT11	25° 05.255' 26° 58.973'	Inferior walls, next to stream.
MAT12	25° 05.297' 26° 58.978'	Extensive, seems to contain scalloped walls.
MAT13	25° 05.321' 26° 59.016'	Covers very large surface. Could be a main site with large open spaces.
MAT14	25° 05.371' 26° 59.027'	Large site.
MAT15	25° 05.372' 26° 59.075'	Inferior, compared with the cluster.

Table 1- Co-ordinates for Late Iron Age sites along the foot of Matone on the farms Wittlefontein 136JP and Tuschenkomst 135JP.

LATE IRON AGE SITES (MAGORE)	CO-ORDINATES	COMMENTS
MAG01 (ON CYFERKUIL 1JQ)	25° 03.852' 26° 59.314'	Located on northern spur of Mogare. Square dwellings and enclosures (historical).
MAG02 (ON CYFERKUIL 1JQ)	25° 04.139' 26° 59.678'	Located on southern spur of Mogare (probably historical).
MAG03	25° 04. 306' 26° 59.101'	On northern slope of Mogare.
MAG04	From: 25 04. 590' 26° 59.115' To: 25° 04. 504' 26° 59.085'	Single, large <i>umuzi</i> as part of a cluster of sites.
MAG05	25° 04.710' 26° 59.279'	Zulu <i>umuzi</i> .
MAG06	25° 04.721' 26° 59.335'	<i>Umuzi</i> with <i>izigabeni</i> on one side and <i>malapa</i> on other side.
MAG07	25° 04.721' 26° 59.366'	Located above TSK06. Haphazard spatial location.
Complex MAG08	From: 25° 04.695' 26° 59.453' To: 25° 04.605' 26° 59.529'	This complex is composed of numerous sites with no definite settlement style.
MAG09	25° 04.749' 26° 59.454'	Situated on south-western spur of mountain.

Table 2- Co-ordinates for Late Iron Age sites along the slopes and spurs of Mogare on Tuschenkomst 135JP and part of Cyferkuil 1.

LATE IRON AGE SITES ON HILLS	CO-ORDINATES	COMMENTS
WKF01 (Mabjaneng)	25° 07.290' 26° 58.372'	Isolated site located on kopje.
WKF02 (Motsotsodi)	25° 05. 851 26° 57.888'	Isolated site located on kopje.

Table 3- Co-ordinates for Late Iron Age sites on the hills Mabjaneng and Motsotsodi on the level plains of Witkleifontein 136JP.

LATE IRON AGE SITES (PATSWANE)	CO-ORDINATES	DESCRIPTION
PTS01	25° 05.943' 26° 59.864'	Large terraced site. Tswana <i>kgoro</i> with extensive <i>malapa</i> .
PTS02	25° 05.945' 26° 59.780'	Terraced site. Tswana <i>kgoro</i> .
PTS03	25° 06.024' 26° 59.669'	Tswana <i>kgoro</i> .
PTS04	25° 06.087' 26° 59.543'	Large Tswana <i>motse</i> , probably composed of several <i>dikgoro</i> .
PTS05	25° 06.343' 26° 59.661'	Tswana <i>kgoro</i> .
PTS06	25° 06.372' 26° 59.774'	Large Tswana <i>kgoro</i> on several terraces with large cattle enclosures.

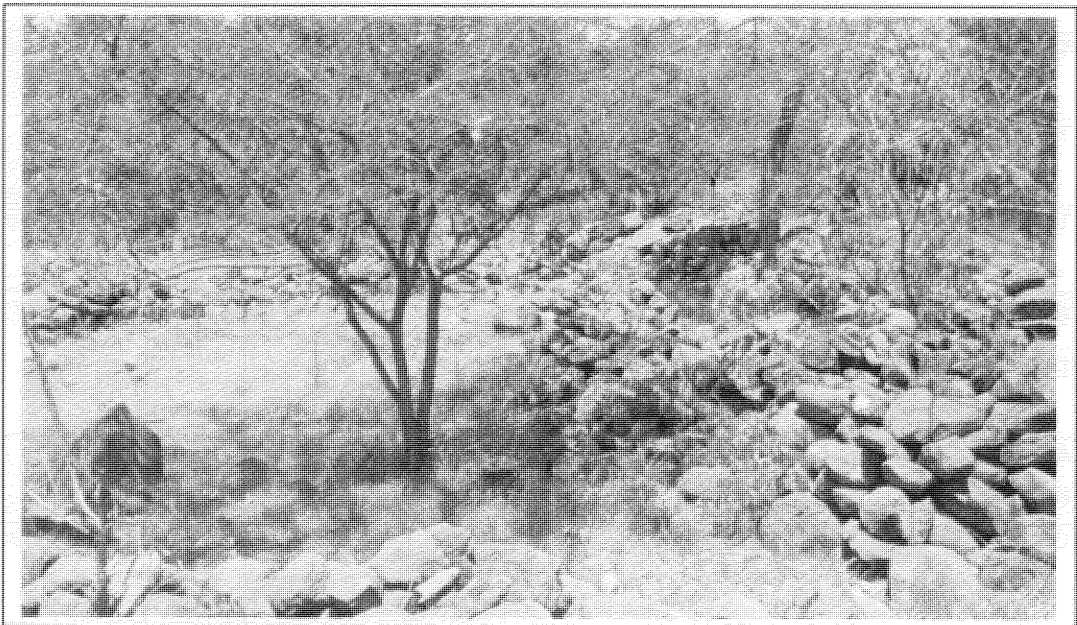
Table 4- Co-ordinates for Late Iron Age sites along the foot of and higher up on Patswane on Tuschenkomst 135JP.

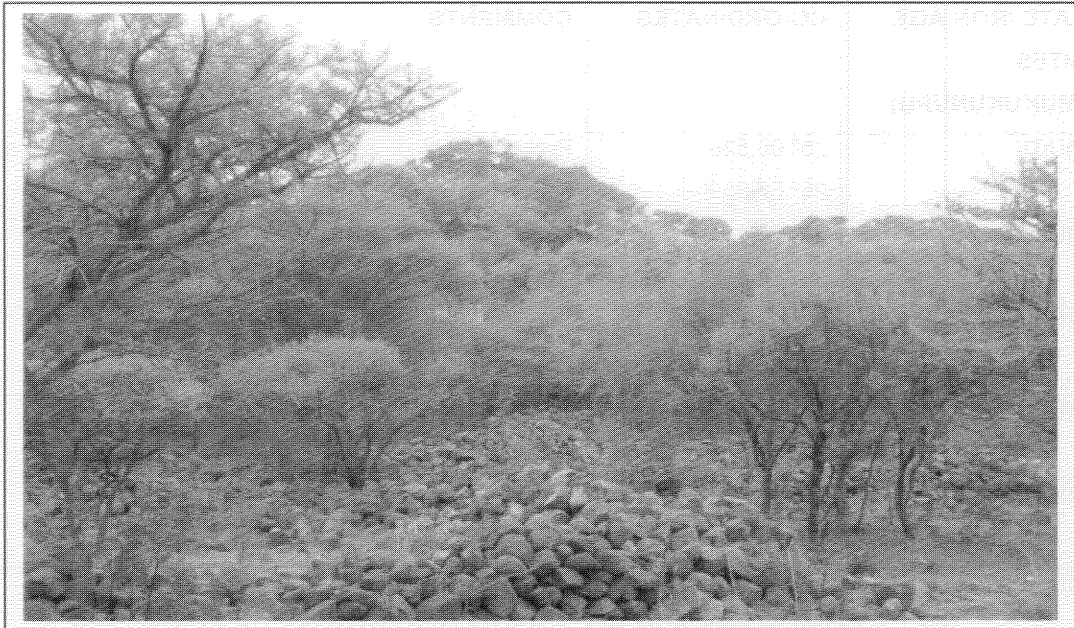
LATE IRON AGE SITES (RUIGHOEK 169JP)	CO-ORDINATES	DESCRIPTION
RGH01	25° 11.454' 26° 55.827'	Large terraced site along foot of kopje. Bisected by a dirt road.
RGH02	25° 11.377' 26° 56.127'	Site with stone lines on level ground close to stream.

Table 5- Co-ordinates for two Late Iron Age sites on Ruighoek 169JP.

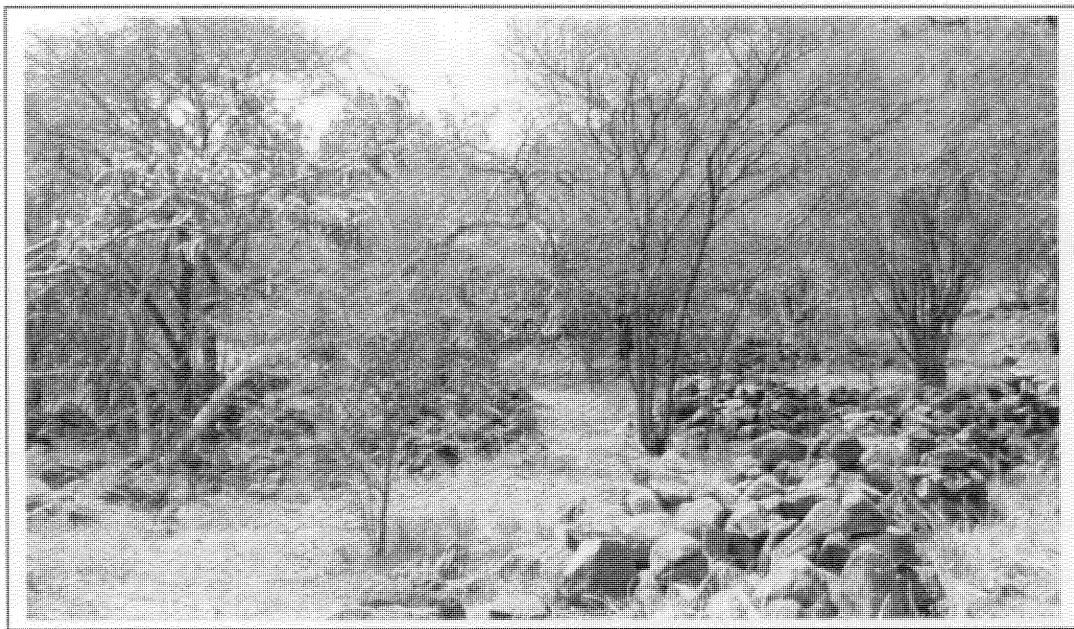


Figures 3 & 4- Isolated hills such as Mabjaneng (above) and Motsotsodi (below) are covered with stone walled settlements dating from the last two hundred years which are in a pristine condition.





Figures 5 & 6- Clusters of settlements on Mmatone, Mogare and Patswane were occupied by Tswana, Zulu (Ndebele) and mixed populations of Tswana and Zulu (Ndebele) populations from the 17th century onwards (above and below).



LATE IRON AGE SITES (MUKUKUNUPU)	CO-ORDINATES	COMMENTS
MU01	25° 06.526' 26° 58.959'	Probably part of Site MU12. Partly damaged by a homestead erected in the recent past.
MU02	25° 06.685' 26° 59.058'	May be part of Site MU01.
MU03	25° 06. 718' 26° 59.020'	This site may be a fully flexed <i>kgôrô</i> .
MU04	25° 06. 779' 26° 58.987'	Perhaps a single piece of wall.
MU05	25° 06.816' 26° 58.996'	Seems to be a large <i>kgôrô</i> .
MU06	25° 06.848' 26° 58.986'	Seems to be a large <i>kgôrô</i> .
MU07	25° 06.875' 26° 59.002'	Seems to be a large <i>kgôrô</i> .
MU08	From: 25° 07.034' 26° 58.770' To: 25° 07.028' 26° 58.770'	Southern side of mountain. This site may be an <i>umuzi</i> .
MU09	25° 07.002' 26° 58.708'	Southern side of Mukukunupu in a valley.
MU10	25° 06.493' 26° 58.538'	On a plateau on top of Mukukunupu
MU11	25° 06.464' 26° 58.594'	A few scattered walls. May be part of a site without any conspicuous stone walls but currently covered with vegetation..
MU12	25° 06.502' 26° 59.908'	This is an excellent example of a <i>kgoro</i> .

Table 6- Co-ordinates for Late Iron Age sites along the lower northern, eastern and southern slopes of Mukukunupu. At least one site is located on a plateau on top of this mountain (above).

5.1.2 Graveyards

Formal graveyards that are still currently used, as well as informal, abandoned graveyards which have attained historical significance, occur in the Pilanesberg Platinum Mines Project Area. The graveyards that are currently used, except one on Ruighoek 169JP, occur within the boundaries of villages near the project area. At least two abandoned informal graveyards occur in peripheral areas, one on Bierkraal 134JP (GY02) and the second on Witkleifontein 136JP (GY01). The latter graveyard is associated with the historical Motlhabe village (HV01) (Figures 1 & 7; Table 7).

The following formal graveyards (numbers in brackets) were observed: in the village of Motlhabe (5), Ngweding (1), Legkraal (1?) Ruighoek (2) and Ntsana-lemetsing (2).

All these graveyards fall in the peripheral area, where they need not be affected by future mining development. However, the abandoned informal graveyards on Witkleifontein 136JP and Bierkraal 134JP, as well as the informal graveyard that is still currently used on Ruighoek 169JP have been geo-referenced (Table 7) and are highlighted in this discussion, as these graveyards (although they are not endangered by the proposed mining activities) may be accidentally damaged - they are very inconspicuous.

5.1.2.1 Graveyard 01 (GY01)

This informal graveyard is located on Witkleifontein 136JP and was used by the inhabitants of the old (historical) Motlhabe village (HV01) (Figures 1 & 7, Table 7). This village was abandoned around 1932 when the occupants of the village moved to several new villages in the area. GY01 was no longer used from this time onwards. As the graveyard is older than sixty years, it qualifies as a historical cemetery.

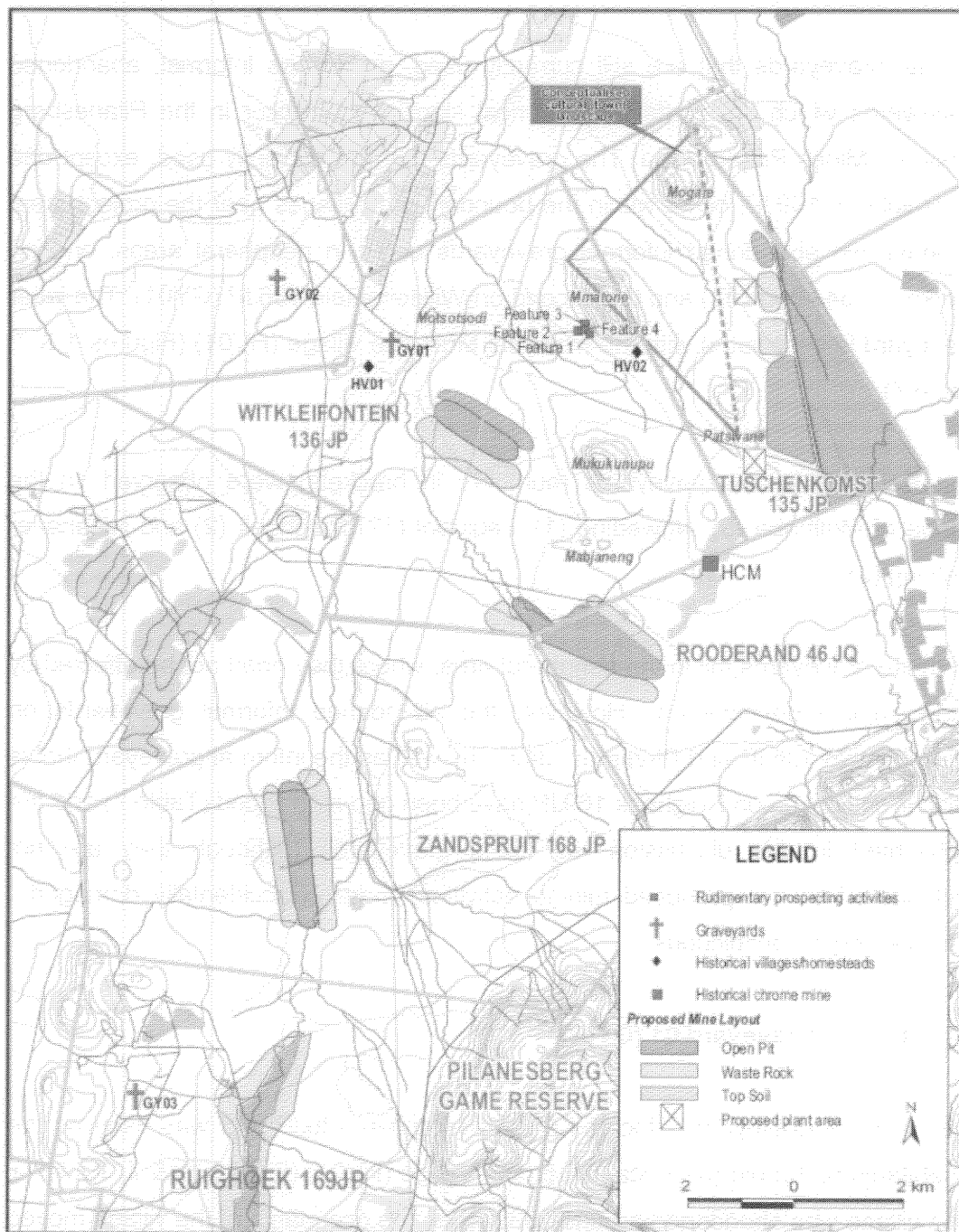


Figure 7- Informal graveyards, the historical Mothlabe village and homestead as well as rudimentary prospecting and formal mining heritage remains in the Pilanesberg Platinum Mines Project Area.

Most of the graves in GY01 consist of piles of stones that are randomly scattered in the veldt. A dense stand of trees with tall grass has grown up in the graveyard, covering the majority of the graves. According to spokespersons, there may be as many as one hundred graves in this graveyard.

At least one grave with an inscription on its tombstone was observed. The inscription reads as follows: 'Nondozenelo D Ntsaku, *1912 †27-12-1940'

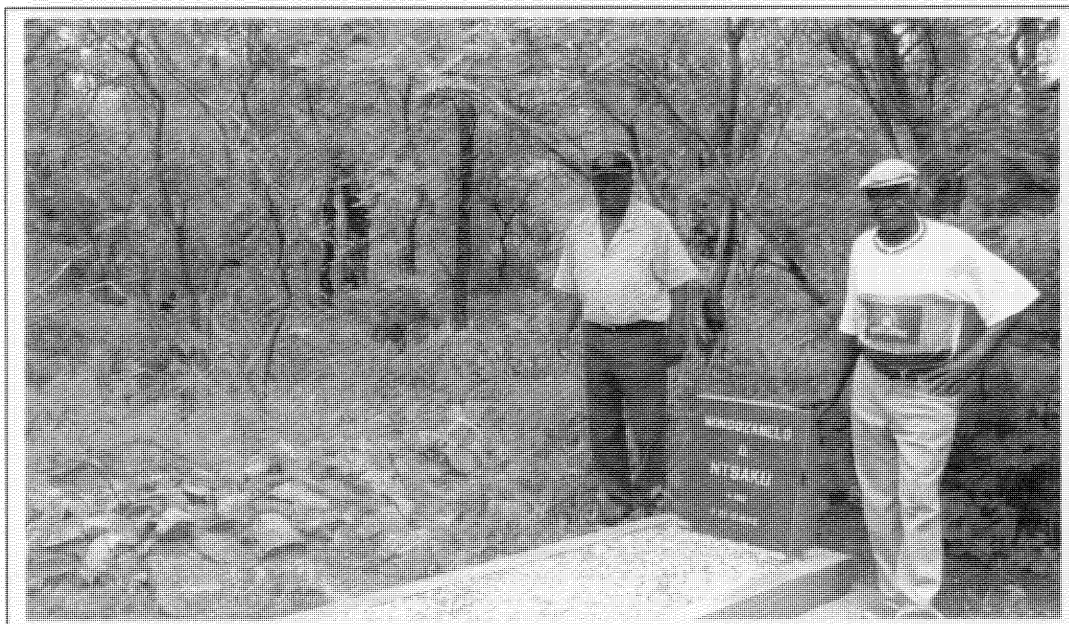


Figure 8- The informal graveyard 01 (GY01) on Witkleifontein 136JP is associated with the historical Mothlabe village (above).

5.1.2.2 Graveyard 02 (GY02)

GY02 is located on Bierkraal 134JP outside the Pilanesberg Platinum Mines Project Area and it is also associated with an abandoned historical village. The graveyard consists of approximately twenty graves that are covered by piles of stone (Figures 1 & 7; Table 7).

5.1.2.3 Graveyard 03 (GY03)

This graveyard is located in the peripheral area on Ruighoek164JP. It is inconspicuous, as it contains only approximately fifteen graves, all covered by piles of stone. The graveyard is currently still being used by the Ruighoek community (Figures 1 & 7; Table 7).



Figure 9- The informal graveyard 03 (GY03) on Ruighoek 169JP is still currently used by the Ruighoek community (above).

GRAVEYARDS	FARM	COORDINATES
GY01 (At old Mothlabe village)	Witkleifontein 136JP	25° 05.771' 26° 57.068'
GY02	Witkleifontein 136JP	25° 15.141' 26° 56.178'
GY03	Ruighoek 164JP	25° 11.726' 26° 55.076'

Table 7- Co-ordinates for the abandoned informal graveyards on Witkleifontein 136JP and an informal graveyard on Ruighoek 164JP.

HISTORICAL SETTLEMENTS (WITKLEIFONTEIN)	CO-ORDINATES	COMMENTS
HV01	25° 05.948' 26° 56.928'	Remains of old Mothlabe village on Witkleifontein 136JP, associated with GY01.
HV02	25° 05.809' 26° 58.974'	Homestead of Mr Selela, foot of Mmatone on Witkleifontein 136JP

Table 8- Co-ordinates for the historical Motlhabe village and homestead on Witkleifontein 136JP.

MINING HERITAGE (WITKLEIFONTEIN 136JP)	CO-ORDINATES	COMMENTS
Feature 1	25° 05.680' 26° 58.611'	Long trench down western slope of Matone.
Feature 2	25° 05. 658 26° 58.533'	Pothole on western slope of Matone.
Feature 3	25° 05.603' 26° 53.577'	Part of a trench and hole along western slope of Matone.
Feature 4	25° 05.640' 26° 58.577'	Hole in western slope of Matone.
Historical Chrome Mine (HCM)	25° 07.510; 26° 59.583'	Cover considerable surface area with waste dumps, shafts, roads, equipment.

Table 9- Co-ordinates for rudimentary prospecting activities along the north-western slope of Matone (Witkleifontein 136JP) and for the historical chrome mine (HCM) on the border of Witkleifontein 136JP and Rooderand 46JQ (above).

5.1.3 Historical remains

Remains on Witkleifontein 136JP which are older than sixty years and therefore protected by the National Heritage Resources Act (Act No 25 of 1999) include the remains of the historical Motlhabe village and the extended homestead of Mr. Selala (Figures 1 & 7; Table 8).

5.1.3.1 The historical Motlhabe village

The remains of the old village of Motlhabe occur on Witkleifontein 136JP. This village was occupied by a section of the Kgatla, but it was abandoned in 1932. The remains of the village consist of foundations and parts of walls of houses that were scattered from east to west along the dirt road running to Saulspoort. Site HV01 is also associated with the abandoned, informal graveyard GY01 (Figures 1 & 7; Table 8).

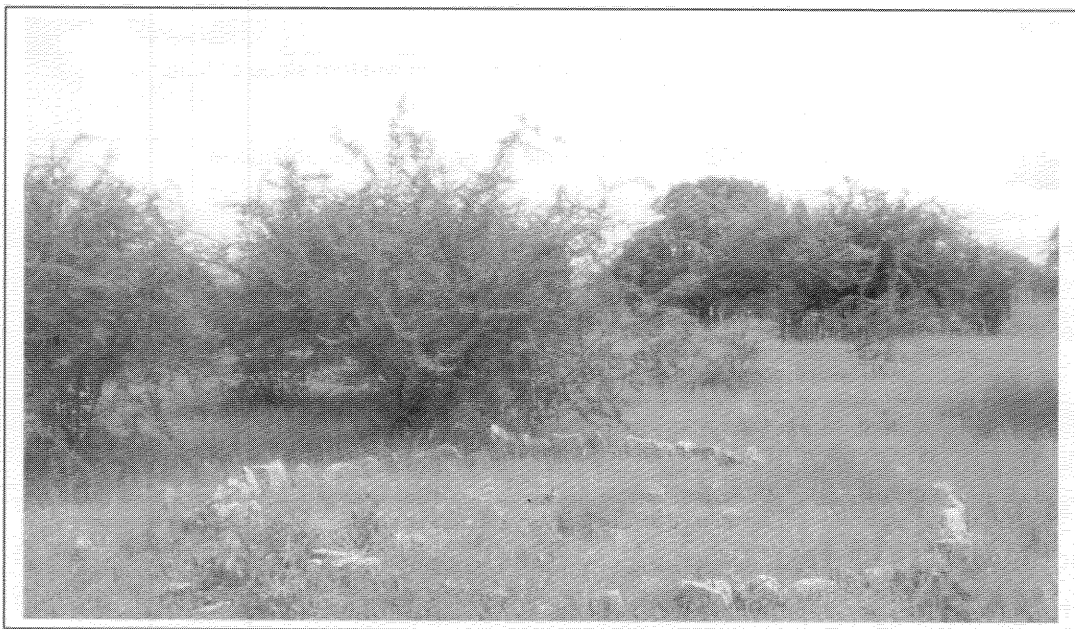


Figure 10- Remains of dwellings associated with the historical village of Motlhabe (Site HV01) on Witkleifontein 136JP (above).

5.1.3.2 Remains of a homestead

The extensive remains of an elaborate concrete homestead which is now dilapidated occur near the southern foot of Mmatone on Witkleifontein 136JP. It seems as if these remains may be close to sixty years old.



Figure 11- The extensive ruins of a homestead once occupied by Mr Selala along the southern foot of Mmatone (above).

5.1.4 Mining heritage remains

Mining heritage remains in the Pilanesberg Platinum Mines Project Area include:

- Remains of early prospecting activities which consist primarily of trenches, potholes and other scars on the earth and are mainly confined to the lower slopes of Mmatone and Mukukunupu on Witkleifontein 136JP.
- Formal chrome mining activities associated with infrastructure and mining equipment occurring in peripheral areas on Groenfontein 138JP, Ruighoek

169JP, Vlakfontein 136JP and on the border between Witkleifontein 136JP and Rooderand 46JQ (Figures 1 & 7; Table 9).

5.1.4.1 Rudimentary prospecting activities

There are remains of rudimentary prospecting on the spur and ridge associated with Mukukunupu, a ridge in the central part of Witkleifontein 136JP, as well as along the western slope of Mmatone, on the same farm. The prospecting activities on Mukukunupu seem to be limited, but they were quite extensive and conspicuous on the north-western slope of Mmatone. These remains are related to two types of prospecting activities, namely trenches and potholes (Figures 1 & 7; Table 9).

The prospecting trenches consist of a limited number of trenches running down the north-western slope of Mmatone, as well as a single long trench that runs along the north-western slope of this mountain. The latter is quite conspicuous and can be seen from the dirt road that runs through Motlhabe village, a considerable distance to the north of the mountain.

The potholes consist merely of a few holes that were sunk along the lower north-western slope of Mmatone. These prospecting holes are now barely visible.

5.1.4.2 Formal mining heritage remains

The remains of a historical chrome mine (HCM) occur near the border between Witkleifontein 136JP and Rooderand 46JQ. These remains can be considered to be of historical significance as they are approaching an age of sixty years whilst these remains can also be associated with the earliest chrome mining activities in the North-West (Figures 1 & 7; Table 9).

These chrome mine activities cover a relatively large surface area and include rock waste dumps, quarries, a shaft, head gear and other equipment.

(Mining heritage remains associated with earlier chrome mining activities also occur in the Pilanesberg Platinum Mine's peripheral areas. Some of these mines came into operation decades ago when chrome mining commenced on the Western Zone of chromite occurring to the north and north-west of the Pilanesberg. [The following chrome mines can be distinguished on the 1:50 000 topographical map of Mabeskraal (2526BB): Ruighoek Chrome Mine, Vlakfontein Chrome Mine and Makgope Chrome Mine]).

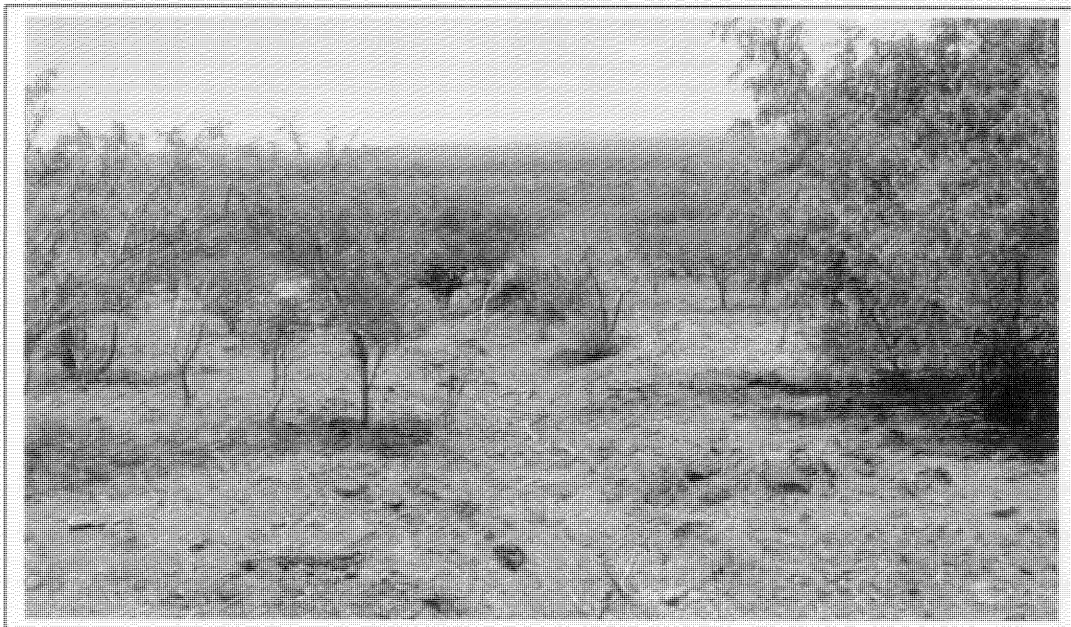


Figure 12- Remains of rudimentary prospecting activities consisting of a long trench running down the north-western slope of Mmatone (above).

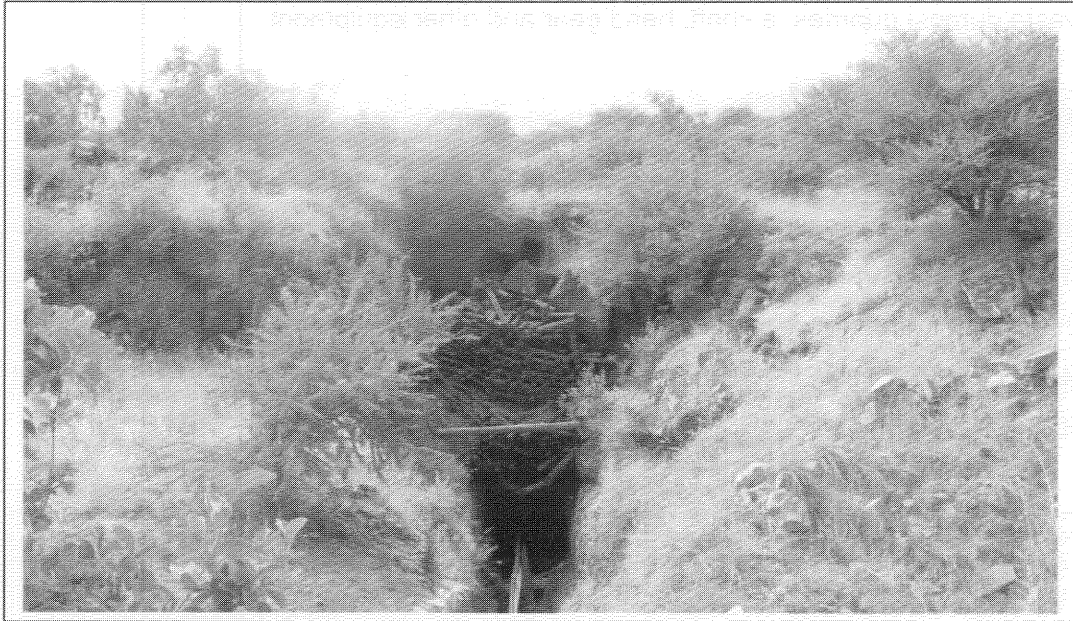


Figure 13- Dilapidated entrance of an incline shaft belonging to a historical chrome mine (HCM) near the border of Witkleifontein 136JP and Rooderand 46JQ (above).

5.1.5 Stone tools that occur haphazardly

Scattered stone tools were observed in several places in the mining and project areas. The stone tools that were observed were all manufactured from hornfels and they include Moustierian cores, an end-scraper and a point. These stone tools were observed on level ground /plains between the mountains and along the slope of Mmatone.

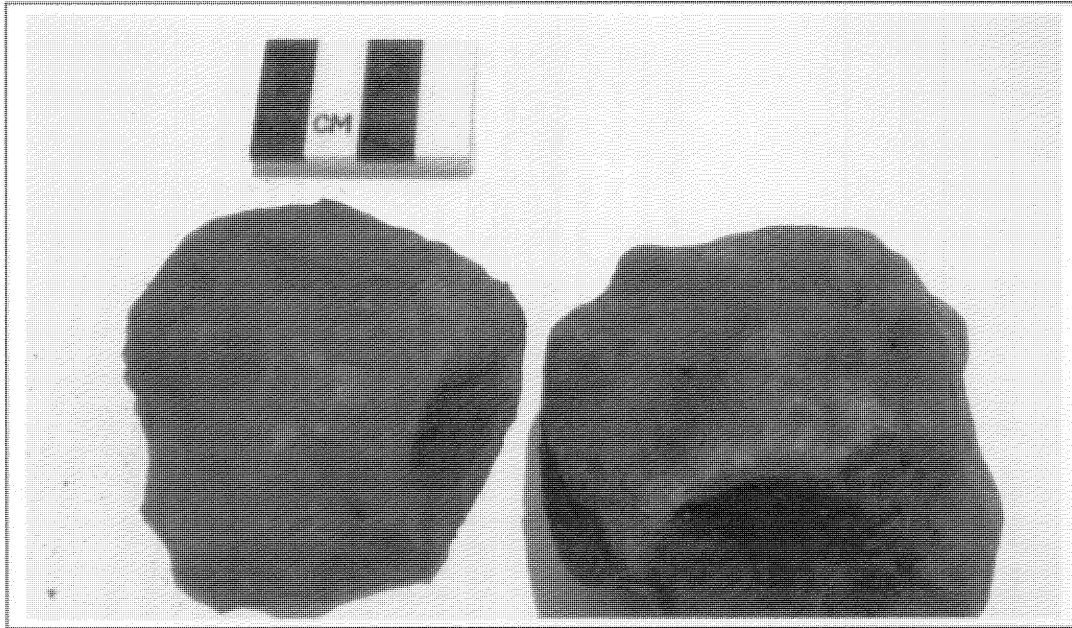


Figure 13- Two Mousterian stone tool cores dating from the Middle Stone Age (200 000 to 22 000 years old) found on the level plains and lower slopes of kopjes on Witkleifontein (136JP). Other stone tools, mostly manufactured from hornfels, were observed as isolated phenomena in the Pilanesberg Platinum Minesproject area (above).

5.1.6 Historical houses

Numerous houses older than sixty years still stand in villages such as Motlhabe, Ntsana-le-Metsing, Ngweding and in Legkraal in the Pilanesberg Platinum Minesproject area. Many of these houses are severely dilapidated and some are of little historical significance.

Those that are still in a good condition are occupied and are not endangered by the mining activities. The fact that historical houses do occur and that they are protected by the National Heritage Resources Act (Act No 25 of 1999), however,

should be taken into account when blasting is to be done near villages, or when expansion activities are considered for the future.



The map shows a large, irregularly shaped area, possibly representing a project site or a geographical region. The details are obscured by heavy noise and low resolution.

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6 THE SIGNIFICANCE OF THE HERITAGE RESOURCES IN THE PILANESBERG PLATINUM MINES PROJECT AREA

6.1 Types and ranges of heritage resources in the Pilanesberg Platinum Mines Project Area

A relatively wide range of heritage resources were observed in the Pilanesberg Platinum Mines Project Area. However, only the heritage resources in the critical areas in the Pilanesberg Platinum Mines Project Area will be affected directly and indirectly by the proposed development project. These heritage resources include the following:

- A single stone walled site (RGH01) on level ground on Ruighoek 169JP will be destroyed by the development.
- The cultural landscape constituted by large numbers of isolated and clusters of stone walled sites at the mountains of Mogare, Mmatone, Patswane and Mukukunupu on Witkleifontein 136JP and Tuschenkomst 135JP will be affected by the proposed new development project.

6.2 The significance of the heritage resources

The significance of the heritage resources that are likely to be affected in the Pilanesberg Platinum Mines Project Area can be rated as follows (Table 10):

Heritage resources	Magnitude of impact	Level of significance
Site RGH02 on the level plain of Ruighoek 196JP	HIGH (Will be destroyed)	MEDIUM
Isolated sites and clusters of Late Iron Age sites associated with Mmatone, Mogare, Patswane and Mukukunupu on Witkleifontein 136JP and Tuschenkomst 134JP	AFFECTED, as they constitute a cultural landscape	HIGH

Table 10- The level of significance and the magnitude of the impact on the individual site on Ruighoek 196JP and the cultural landscape constituted by Late Iron Age settlements at Mogare, Mmatone, Patswane and Mukukunupu.

6.2.1 The single stone walled site

The individual site on the level plain on Ruighoek 169JP (RGH02) can be rated as of **MEDIUM** significance for the following reasons:

- The site is part of a cultural landscape which has partly been damaged by mining and industrial activities in the past. Site RGH01, west of Site RGH02 was damaged extensively when a road was built through this site. (The remaining unaffected part of this complex is located outside the mining area.)
- Site RGH02 is not associated with elaborate stone walls or any extensive deposits with archaeological material or other surface remains.
- Site RGH02 has medium research value, little aesthetic appeal and limited educational or tourism value if it is conserved as an isolated phenomenon.

6.2.2 The sites constituting a cultural landscape

The stone walled sites associated with Mogare, Mmatone, Patswana and Mukukunupu can be rated as outstandingly significant in terms of criteria such as the following:

- The mountains of Mmatone, Mogare, Patswane and Mukukunupu are historical beacons, as they are associated with human occupation during the last three hundred and fifty to four hundred years.
- The four complexes of sites associated with these mountains represent different villages which were occupied simultaneously by several thousands of people who lived in these villages from pre-historical times (AD1650) well into the historical period. (According to a reliable spokesperson, the village of Mabjaneng was still occupied during the Transvaal Anglo War [1899-1902]).
- The four villages and the surrounding landscape represent a 'cultural landscape or townscape' which is unique, as it reflects a regional history, in particular that of the Kgatla and the impact of Mzilikazi's Ndebele on this clan.
- This townscape reflects intangible heritage attributes such as a sense of place, the majesty of mountains associated with the social (political) importance of rulers, activity areas which served as pastures for stock, wood and water collecting spots, possible places of sacrifice and worship, etc.
- These site complexes are unique in the context of the Late Iron Age, as they contain settlements that are characteristic of Tswana, Zulu (Ndebele) and mixed Tswana/Zulu (Ndebele) populations.
- It seems, according to archaeological observations and historical information, that settlements in these village complexes may have been occupied, temporarily at least, by Mzilikazi's Ndebele (Matabele) from 1827 to 1832. (At least four other village complexes between Pretoria and

Rustenburg have been occupied by Mzilikazi's Ndebele. The Pilanesberg complex therefore may represent a fifth Ndebele complex).

- The four villages are in an excellent (pristine) condition and have not been affected by any development in the past. (This is in contrast with numerous other Late Iron Age sites which have been affected in one way or another by mining or other development activities in the North-West).

- These sites offer outstanding research opportunities, as they represent archaeological 'laboratories' which can be utilised for decades to come. Tangible heritage remains in the form of artefacts, structures and features are in abundance in the archaeological deposits that are associated with the sites.

- The village complexes offer exceptional educational and tourism potential, if they are developed according to correct scientific and museological principles.

6.3 Impact of the development on the heritage resources

The magnitude of the impact of the development on the heritage resources in the Pilanesberg Platinum Mines Project Area has been indicated and is discussed below (Table 10).

6.3.1 The single stone walled site

The magnitude of the impact on Site RGH02 on Ruighoek 169JP would be **HIGH** and the site would be destroyed by mining activities.

6.3.2 The sites constituting a cultural landscape

The Late Iron Age sites and complexes of sites associated with Mmatone, Mogare, Patswane and Mukukunupu are located against the lower slopes and higher up these mountains where these sites need not be affected directly if mining activities

and infrastructure are confined to localities, away from these village complexes outside the boundaries of a conceptualised and demarcated cultural landscape constituted by the village complexes.

6.4 Mitigating measures

The following mitigation measures are proposed for the heritage resources that will be affected by the proposed mining activities;

6.4.1 The single stone walled site

Site RGH02 has **MEDIUM** significance and can be destroyed after the site has been subjected to a Phase II investigation. A permit for the Phase II investigation and the destruction of this site must be acquired from the North-West Provincial Heritage Resources Authority (NW PHRA).

A Phase II investigation implies that the site has to be investigated prior to its destruction. This investigation will entail the documenting (mapping, photographing) of the site, which may be supplemented by small test excavations of selected spatial components of the site. The results of the Phase II investigation have to be communicated to the NW PHRA by means of a report.

6.4.2 The sites constituting a cultural landscape

Although the sites, clusters of sites and village complexes associated with Mogare, Mmatone, Patswane and Mukukunupu will not be affected directly by the proposed new mining development the cultural landscape connecting the sites, clusters of sites and the different villages complexes by means of tangible and intangible heritage attributes will be **AFFECTED** as this pre-historical and historical cultural landscape would sacrifice its integrity and authenticity as it now has to exist next to a 21st century platinum mine.

It is recommended that PPM implements a Cultural Heritage Management Program (CHMP) as set out in a proposal to the mine. This would ensure that heritage resources in the mine lease area are conserved according to national and international guidelines for heritage management. This program would enhance PPM national significance as it would contribute to the mine's social (community) and closure plan while receiving international recognition as environmental and heritage management is an integral part of 'progressive' mining operations world-wide.

Pilanesberg Platinum Mines is located in the heartland of the proposed Madikwe Heritage Corridor and in close proximity of the Pilanesberg Nature Reserve, a natural and cultural resource of international significance. The archaeological remains in PPM are therefore part of a wider sphere of natural and cultural significance which demand specific requirements for conservation. Those living and working in the heritage corridor will inevitably be drawn into the protection, promotion and utilization of the natural and cultural heritage of the area. PPM responsibility towards natural and cultural heritage will increase rather than diminish as time passes. The mine therefore has to act pro-actively in order to get involved with cultural heritage management according to accepted procedures, guidelines and standards. This obligation will last for as long as the mine is operational.

7 CONCLUSION AND RECOMMENDATIONS

A relatively wide range of heritage resources were observed in the Pilanesberg Platinum Mines Project Area. However, only the heritage resources in the critical areas in the Pilanesberg Platinum Mines Project Area will be affected directly and indirectly by the proposed development project. These heritage resources include the following:

- A single stone walled site (RGH01) on level ground on Ruighoek 169JP will be destroyed by the development.
- The cultural landscape constituted by large numbers of isolated and clusters of stone walled sites at the mountains of Mogare, Mmatone, Patswane and Mukukunupu on Witkleifontein 136JP and Tuschenkomst 135JP will be affected by the proposed new development project.

These Late Iron Age complexes have been geo-referenced and mapped (Figures 1, & 2; Tables 1 - 6). Their levels of significance have been determined and the magnitude of the impact of the proposed Pilanesberg Platinum Mines activities and infrastructure on these heritage resources was ascertained (Table 10).

The significance of the heritage resources that are likely to be affected in the Pilanesberg Platinum Mines Project Area can be rated as follows (Table 10):

The individual site on the level plain on Ruighoek 169JP (RGH02) can be rated as of **MEDIUM** significance for the following reasons:

- The site is part of a cultural landscape which has partly been damaged by mining and industrial activities in the past. Site RGH01, west of Site RGH02 was damaged extensively when a road was built through this site. (The remaining unaffected part of this complex is located outside the mining area.)
- Site RGH02 is not associated with elaborate stone walls or any extensive deposits with archaeological material or other surface remains.

- Site RGH02 has medium research value, little aesthetic appeal and limited educational or tourism value if it is conserved as an isolated phenomenon.

The magnitude of the impact on Site RGH02 on Ruighoek 169JP would be **HIGH** and the site would be destroyed by mining activities. However, Site RGH02 has **MEDIUM** significance and can be destroyed after the site has been subjected to a Phase II investigation. A permit for the Phase II investigation and the destruction of this site must be acquired from the North-West Provincial Heritage Resources Authority (NW PHRA).

A Phase II investigation implies that the site has to be investigated prior to its destruction. This investigation will entail the documenting (mapping, photographing) of the site, which may be supplemented by small test excavations of selected spatial components of the site. The results of the Phase II investigation have to be communicated to the NW PHRA by means of a report.

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- The four villages and the surrounding landscape represent a 'cultural landscape or townscape' which is unique, as it reflects a regional history, in

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- This townscape reflects intangible heritage attributes such as a sense of place, the majesty of mountains associated with the social (political) importance of rulers, activity areas which served as pastures for stock, wood and water collecting spots, possible places of sacrifice and worship, etc.
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- These sites offer outstanding research opportunities, as they represent archaeological 'laboratories' which can be utilised for decades to come. Tangible heritage remains in the form of artefacts, structures and features are in abundance in the archaeological deposits that are associated with the sites.
- The village complexes offer exceptional educational and tourism potential, if they are developed according to correct scientific and museological principles.

The Late Iron Age sites and complexes of sites associated with Mmatone, Mogare, Patswane and Mukukunupu are located against the lower slopes and higher up these mountains where these sites need not be affected directly if mining activities

and infrastructure are confined to localities, away from these village complexes outside the boundaries of a conceptualised and demarcated cultural landscape constituted by the village complexes. However, the cultural landscape connecting the sites, clusters of sites and the different villages complexes by means of tangible and intangible heritage attributes will be **AFFECTED** as this pre-historical and historical cultural landscape will sacrifice its integrity and authenticity as it now has to exist next to a 21st century platinum mine.

It is recommended that PPM implements a Cultural Heritage Management Program (CHMP) as set out in a proposal to the mine. This would ensure that heritage resources in the mine lease area are conserved according to national and international guidelines for heritage management. This program would enhance PPM national significance as it would contribute to the mine's social (community) and closure plan while receiving international recognition as environmental and heritage management is an integral part of 'progressive' mining operations world-wide.

Pilanesberg Platinum Mines is located in the heartland of the proposed Madikwe Heritage Corridor, between the Madikwe and the Pilanesberg Nature Reserves with the Pilanesberg a natural and cultural resource of international significance. The archaeological remains in PPM are therefore part of a wider sphere of natural and cultural significance which demand specific requirements for conservation. Those living and working in the heritage corridor will inevitably be drawn into the protection, promotion and utilization of the natural and cultural heritage of the area. PPM responsibility towards natural and cultural heritage will increase rather than diminishes as time passes. The mine therefore has to act pro-actively in order to get involved with cultural heritage management according to accepted procedures, guidelines and standards. This obligation will last for as long as the mine is operational.

Several graveyards, houses older than sixty years and formal mining heritage remains occur in peripheral areas outside the Pilanesberg Platinum Mines Project Area. These remains are all protected by the National Heritage Resources Act (Act No 25 of 1999), as well as by other legislation. Their existence should be kept in mind as Pilanesberg Platinum Mines may consider expanding its mining operations in the future.

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9 SPOKESPERSONS CONSULTED

Elias Pilane, local chief and community leader living in Motlhabe village.

Sameul Sebole (Mponyane), member of the Kgatla community in Motlhabane

Seti (surname unknown), employee of Pilanesberg Platinum Mines and community member in the village of Ntsana-le-metsing.

Numerous *badisa* (cattle herders) working in the Pilanesberg Platinum Mines mining area.