

Prepared for:

PILANESBERG PLATINUM MINE (PPM)

METAGO ENVIRONMENTAL ENGINEERS

**A PHASE II HERITAGE IMPACT ASSESSMENT (HIA) STUDY
FOR CHROME MINING REMAINS ON THE FARM
WITKLEIFONTEIN 136JP AND ROODERAND 46JQ NEAR THE
PILANESBERG IN THE NORTH-WEST PROVINCE OF SOUTH
AFRICA**

Prepared by:

DR JULIUS CC PISTORIUS

Archaeologist and Heritage Consultant

Member of ASAPA

352 Rosemary Street Lynnwood 0081

PO Box 1522 Roodekuil Bela Bela 0480

Tel/fax 014 7362115 Cell 082 554 5449

In collaboration with:

MR SIDNEY MILLER

Civil Engineer and Conservation Architect

Postnet Suite 427 PO Box X15 Menlopark 0102

Cell 0820396536

September 2010

EXECUTIVE SUMMARY

A Phase I HIA study as well as an extended Phase I HIA were done for the Pilanesberg Platinum Mine (PPM) (formerly known as Boynton Platinum) during 2006 which 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) in the mining area:

- Large numbers of isolated stone walled sites and clusters of stone walled sites dating from the Late Iron Age on the farms Ruighoek 169JP, Witkleifontein 136JP and Tuschenkomst 135JP.
- Informal, abandoned graveyards dating from the historical period as well as formal graveyards which are still being used in all the rural villages surrounding the mining areas.
- Historical remains dating from the more recent past such as the old village of Motlhabe and an extensive homestead on Witkleifontein 136JP.
- Mining remains which can be divided into rudimentary prospecting activities and formal mining remains which included limited infrastructure on Witkleifontein 136JP and Rooderand 46JQ.
- A limited number of stone tools occur haphazardly across the project area.
- Historical houses in villages such as Ngweding, Ntsana-le-Metsing and Motlhlabe (Pistorius 2006a, 2006b).

These heritage resources were geo-referenced and mapped (Figure 1).

During the extended Phase I HIA study the author indicated that the chrome mining remains on Witkleifontein 136JP and Rooderand 46JQ may have historical significance as these remains may be older than sixty years. This implied that the mining remains could not be destroyed by contemporary mining activities as these remains have attained historical significance and that a permit should be acquired from the South African Heritage Resources Authority (SAHRA) before these remains may be destroyed to make way for new proposed chrome mining activities.

The purpose of this report was to establish whether the chrome mining remains on Witkleifontein 136JP and Rooderand 46JQ in fact do have any historical (technological) significance as this would determine whether any permit is needed from the South African Heritage Resources Agency (SAHRA) before these remains can be destroyed in order to make way for new proposed chrome mining activities.

This Phase II HIA study which was conducted by an archaeologist in collaboration with a civil engineer, established that the mining remains possibly date from the 1960's or the 1970's and therefore may be as old as four to five decades. Consequently, the mining remains have no historical significance, considered from a chronological point of view, and therefore do not require any permit before being demolished by modern (contemporary) mining activities. Neither do any other criteria exist which qualify the remains to have some form of cultural, historical or technical significance.

The documentation of these remains by means of his report is also considered to serve as adequate mitigation measures considering the fact that these remains, which are non-renewable, will attain historical significance within a decade and the fact that these mining remains may be destroyed to make way for new proposed chrome mining activities. As such, a record for the chrome mining remains on Witkleifontein 1356JP and Rooderand 46JQ does exist as reference and for use by future researchers into early chrome mining in the North-West.

CONTENTS

EXECUTIVE SUMMARY	4
1 INTRODUCTION	6
2 TYPES AND RANGES OF HERITAGE RESOURCES	7
2.1 Late Iron Age sites and clusters of sites	7
2.2 Graveyards	11
2.3 Historical remains	11
2.3.1 The historical Motlhabe village	12
2.3.2 Remains of a homestead	12
2.4 Stone tools that occur haphazardly	12
2.5 Historical Houses	13
2.6 Mining remains	14
3 AIMS OF THIS REPORT	15
4 METHODOLOGY	16
5 THE PROJECT AREA	17
5.1 Location	17
5.2 The Pilanesberg as a natural heritage resource	17
5.3 How the Project Area has been affected	17
5.4 Contextualising the Project Area	17
5.4.1 Stone Age sites	18
5.4.2 Late Iron Age remains	18
5.4.2.1 Origins of the Kgatla group	19
5.4.2.2 Brief history of the Kgatla Kgafêla and the Tlhako	20
5.4.3 Arrival of the first colonists	23
5.4.4 Chrome mining	23

6	THE PHASE II HERITAGE IMPACT ASSESSMENT STUDY	24
6.1	The discovery of chromium	24
6.2	Chromium in the Bushveld Igneous Complex	24
6.3	The mining remains	26
6.3.1	Rudimentary prospecting activities	26
6.3.2	Formal mining remains	28
6.3.3	The chrome mine on Witkleifontein 136JP and Rooderand 48JQ	28
7	CONCLUSION AND RECOMMENDATIONS	32
8	SELECT BIBLIOGRAPHY	34

1 INTRODUCTION

This document contains the report on a Phase II Heritage Impact Assessment (HIA) study which was done for chrome mining remains on the farms Witkleifontein 136JP and Rooderand 46JQ in the Pilanesberg Platinum Mine's (PPM) premises north of the Pilanesberg in the North-West Province of South Africa.

A Phase I HIA study and an extended Phase I HIA were done for PPM (formerly known as Boynton Platinum) during 2006 which 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) in the mining area (Pistorius 2006a, 2006b):

- Large numbers of isolated stone walled sites and clusters of stone walled sites dating from the Late Iron Age on the farms Ruighoek 169JP, Witkleifontein 136JP and Tuschenkomst 135JP.
- Informal, abandoned graveyards dating from the historical period as well as formal graveyards which are still being used in all the rural villages surrounding the mining areas.
- Historical remains dating from the more recent past such as the old village of Motlhabe and an extensive homestead on Witkleifontein 136JP.
- Mining remains which can be divided into rudimentary prospecting activities and formal mining remains with infrastructure on Witkleifontein 136JP and Rooderand 46JQ.
- A limited number of stone tools occur haphazardly across the project area.
- Historical houses in villages such as Ngweding, Ntsana-le-Metsing and Motlhabe.

These heritage resources were geo-referenced and mapped (Figure 1). The coordinates for these heritage resources, except the chrome mining remains, are not provided in this report.

A brief overview of all the types and ranges of heritage resources that were identified in the mining area, some of which are illustrated by means of photographs, is provided below.

2 TYPES AND RANGES OF HERITAGE RESOURCES

The following types and ranges of heritage resources were distinguished in the mining area, namely:

2.1 Late Iron Age sites and clusters of sites

Large numbers of Late Iron Age stone walled sites were mapped and geo-referenced in the mining area (Figure 1). 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, Tlhorosane and Mukukunupe. There is a single isolated site on the plains on Ruighoek 169JP (RGH02). Other sites are located in the Tlhorosane hills outside the mining 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 three mountains on the farms Tuschenkomst 135JP and Witkeifontein 136JP, namely Mogare, Mmatone and Patswane.

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, and Mmatone whilst at least one occur along the slope of Mukukunupe.

- 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 and Mogare.
- 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. Such 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 and at Mukukunupe.
- 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 and Magore on the farms Tuschenkomst 135JP and Witkleifontein 136JP.

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.

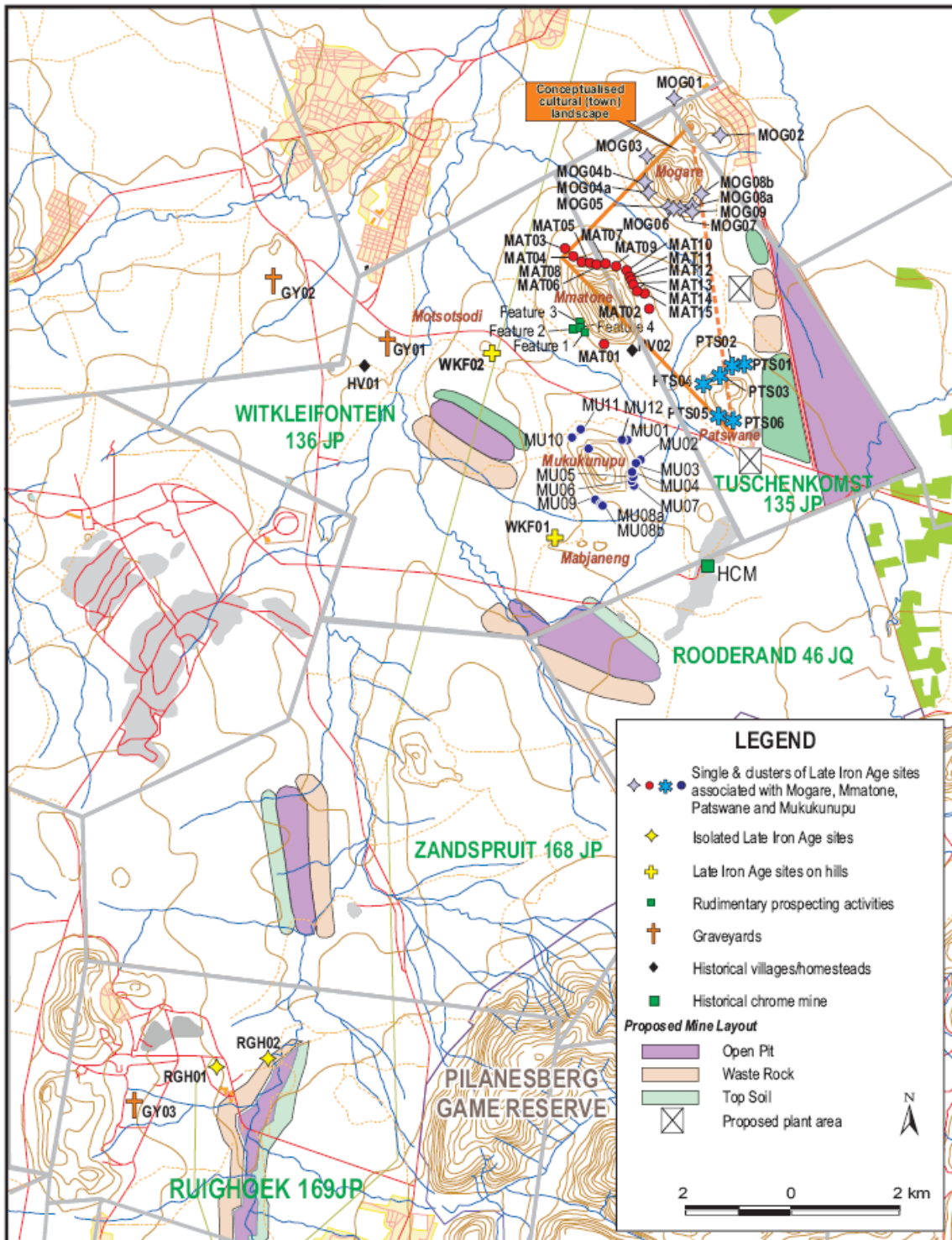


Figure 1- The Pilanesberg Platinum Mines Project Area on parts of the farms Ruighoek 169JP, Zandspruit 168JP, Rooderand 46JQ, Witkleifontein 136JP and Tuschenkomst 135JP near the Pilanesberg in the North-West Province (2526BB Mabeskraal and 2527AA Saulspoort; 1: 50 000 topographical maps).

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.

The chrome mining remains on Witkleifontein 136JP and Rooderand 46JQ are the focus of this report.



Figures 2 & 3- Isolated hills such as Mabjaneng and Motsotsodi (above) with stone walled settlements occupied by Kgatla clans and clusters of stone walled settlements on Mmatone, Mogare and Patswane (below) were occupied by Tswana, Zulu (Ndebele) and mixed populations of Tswana and Zulu (Ndebele) clans from AD1700 onwards.



2.2 Graveyards

Formal graveyards that are still currently used, as well as informal, abandoned graveyards which have attained historical significance, occur in the mining lease area. The graveyards that are currently used, except one on Ruighoek 169JP, occur within the boundaries of villages. At least two abandoned informal graveyards occur on Bierkraal 134JP (GY02) and the second on Witkleifontein 136JP (GY01). The latter graveyard is associated with the historical Motlhabe village (HV01).

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



Figure 4- An informal graveyard 01 (GY01) on Witkleifontein 136JP is associated with the historical Motlhabe village (above).

2.3 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 old Motlhabe village and the extended homestead of Mr. Selala.

2.3.1 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 Saulspoot. Site HV01 is also associated with the abandoned, informal graveyard GY01.



Figure 5- Remains of dwellings associated with the historical village of Motlhabe (Site HV01) on Witkleifontein 136JP (above).

2.3.2 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.

2.4 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 6- Two Moustierian 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 Boynton project area (above).

2.5 Historical houses

Numerous houses older than sixty years still stand in villages such as Motlhabe, Ntsana-le-Metsing, Ngweding and in Legkraal in the Boynton project 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.

2.6 Mining remains

Mining remains on Witkleifontein 136JP and Rooderand 48JQ as well as in the overall mining area include:

- Remains of early prospecting activities which consist of trenches, potholes and other scars on the surface and are mainly confined to the farm Witkleifontein 136JP.
- Chrome mining activities associated with limited infrastructure and equipment occurring outside the mining area on Groenfontein 138JP, Ruighoek 169JP, Vlakfontein 136JP and on Witkleifontein 136JP and Rooderand 46JQ, the site which is the focus of this report.

The chrome mining remains and activities on Witkleifontein 136JP and Rooderand 46JQ are the focus of this report and is discussed in more detail in Part 6: 'The Phase II Heritage Impact Assessment'.

3 AIMS OF THIS REPORT

During the extended Phase I HIA study which was done for the PPM the author indicated that the chrome mining remains on Witkleifontein 136JP and Rooderand 46JQ may have historical significance as these remains may be older than sixty years. This implied that the mining remains could not be destroyed by contemporary mining activities as these remains have attained historical significance and that a permit should be acquired from the South African Heritage Resources Authority (SAHRA) before these remains may be destroyed by new proposed mining activities (Pistorius 2006b).

The purpose of this report was to establish whether the chrome mining remains on Witkleifontein 136JP and Rooderand 46JQ in fact do have any historical (technological) significance as this would determine whether any permit is needed from the South African Heritage Resources Agency (SAHRA) before these remains can be destroyed in order to make way for new proposed chrome mining activities.

The documentation of these remains by means of his report is also considered to serve as adequate mitigation measures considering the fact that these remains, which are non-renewable, will attain historical significance within a decade and the fact that these mining remains may be destroyed to make way for new proposed chrome mining activities. As such, a record for the chrome mining remains on Witkleifontein 1356JP and Rooderand 46JQ does exist as reference and for use by future researchers into early chrome mining in the North-West.

4 METHODOLOGY

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

- A physical investigation and description of the remains which still exist on Witkleifontein 136JP and Rooderand 48JQ. Photographs of these remains are also printed in this report.
- Briefly surveying literature relating to chrome mining in South Africa.
- Studying 1:50 000 topographical maps of the larger mining area which also indicates the presence of early chrome mining activities in the region (2526BB Mabeskraal and 2527AA Saulspoort, 1:50 000).

A detailed documentation and in-depth literature research into chrome mining and the chrome mining remains therefore was not undertaken due to the fact that the remains have no historical, cultural or technological significance.

5 THE PROJECT AREA

5.1 Location

The Pilanesberg Platinum Mining area cover 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.

The chrome mining remains which are the focus of this report are located near the border of the farms Witkleifonrein 136JP and Rooderand 46JQ (2526BB Mabeskraal and 2527AA Saulspoort; 1: 50 000 topographical maps).

5.2 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.

5.3 Contextualising the PPM's premises

A brief overview of pre-historical and historical information is provided below to contextualise the Boynton project area and to help to determine the significance of any heritage resources that may occur in the Boynton mining areas.

5.3.1 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 Boynton 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.

5.3.2 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.

5.3.2.1 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 Botlholo'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.

5.3.2.2 Brief history of the Kgatla Kgafêla and the Tlhako

After the Kgafêla broke away from the Moseitlha 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 Tshekane (Leeuwpoort, south of the Rooiberg Tin Mine). Tshekane proved to be unhealthy, so they dwelt at Matone (Tuschenkomst) for a while and then settled at Molokwane ('Vlieggepoort', 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 Saulspoort. 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 Saulspoort 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 Boynton project 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 Mabeskraal.

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 Boynton project area. Stone walled sites on Ruighoek 169JP can therefore possibly be associated with this group.

5.3.3 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 Boynton project 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 Boynton project area, 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.

5.4.4 Chrome mining

See next chapter, 'Part 6: The Phase II Heritage Impact Assessment study'.

6 THE PHASE II HERITAGE IMPACT ASSESSMENT STUDY

6.1 The discovery of chromium

Chromium was discovered by Lowitz and Klaproth when they inspected a black rock sample which was sent to them by the Mining Superintendent of the Beresof Mine in Russia in 1798. The Prussian chemist, Tassaert determined that the chromium bearing mineral to be a chromium-iron spinel (now known as chromite). The discovery of chromite in the Ural Mountains was followed by the discovery of this metal by Isaac Newton on the Maryland-Pennsylvania border in 1827. By exploiting these deposits the USA held the monopoly in supplying chromium ore until the discovery of chromite deposits near Bursa in Turkey who became the next major source of supply and continue until new discoveries were made in India and Rhodesia (Zimbabwe) in 1906.

6.2 Chromium in the Bushveld Igneous Complex

The presence of chromite in the Bushveld Igneous Complex was first noted in the geological maps of Carl Mauch in 1865 where it outcropped near the Hex River near Rustenburg. Chromite is also mentioned in official reports that were compiled by a certain Molengraaf. The first comprehensive reports focussing on chromite was made by Hall and Humphreys after which chromite production in the Burgersfort and Steelpoort areas (Eastern Bushveld Complex) commenced in earnest in 1924 when 4 570 tons were mined. However, evidence has shown that chrome mining already commenced in 1916 at Goudmyn 337KT and Mooihoek 255KT in the Steelpoort region.

It was only in the 1960' that South Africa became a major force in the chromium industry.

Major chromite deposits are of three main types: (1) stratiform; (2) podiform (or Alpine-type) and (3) laterite deposits. Stratiform-type chromite deposits occur as horizontal to subhorizontal layers and seams in large layered complexes. These chromite ores usually have a high iron-content. Examples of these types include the

Bushveld Igneous Complex in South Africa, the Kemi intrusion in Finland and the Great Dyke in Zimbabwe.

Stratiform-type chromite deposits account for 90% of the world's identified economically exploitable chromite resources. Approximately 50% of these deposits is classified as high-iron deposits and are mostly from the Steelpoort in the Eastern Bushveld Complex.

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 harzburgite 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 Draaikraal 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.

6.3 The mining remains

Mining remains on Witkleifontein 136JP and Rooderand 48JQ as well as in the overall mining area include:

- Remains of early prospecting activities which consist of trenches, potholes and other scars on the surface and are mainly confined to the farm Witkleifontein 136JP.
- Chrome mining activities associated with limited infrastructure and equipment occurring outside the mine boundaries on Groenfontein 138JP, Ruighoek 169JP and Vlakfontein 136JP. Other chrome mining remains include those on Witkliefontein 136JP and Rooderand 46JQ, the site which is the focus of this report.

6.3.1 Rudimentary prospecting activities

Rudimentary prospecting activities occur 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.

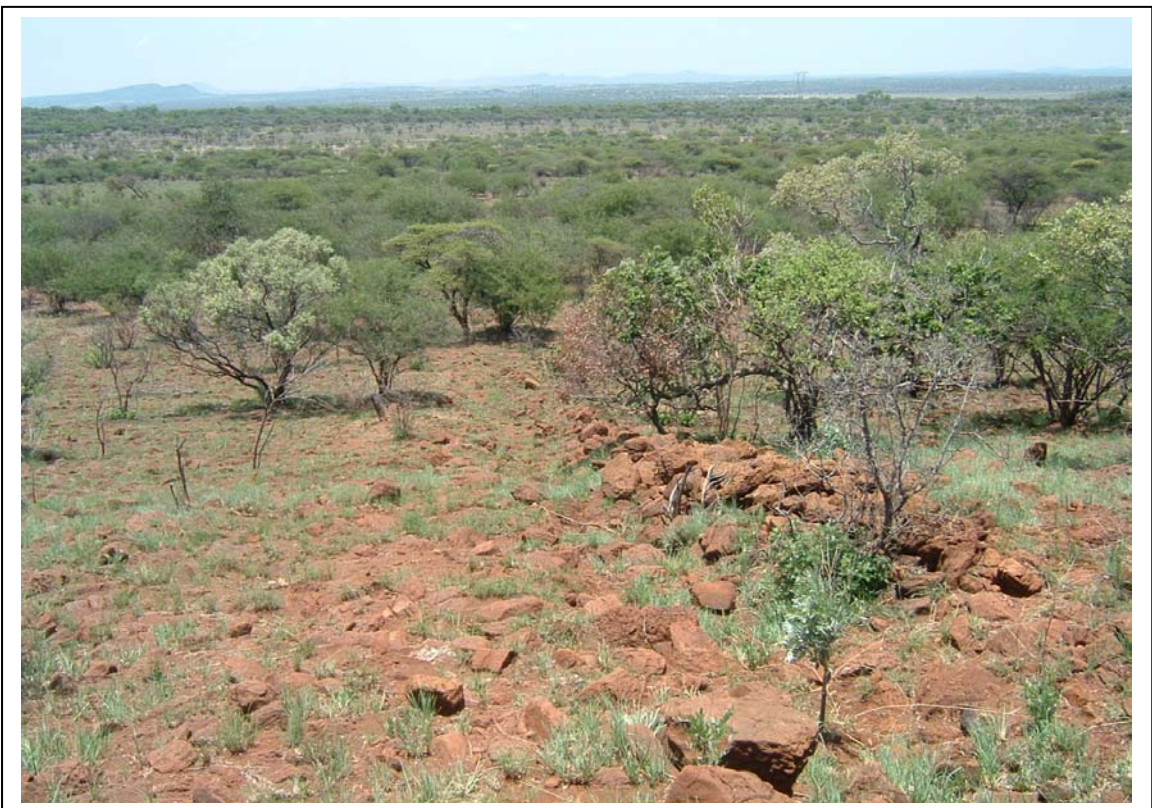
The prospecting activities on Mukukunupu seem to be of a more limited nature whilst those on the north-western slope of Mmatone are more extensive and conspicuous.

These remains are related to two types of prospecting activities, namely trenches and potholes. The prospecting trenches run down the north-western slope of Mmatone while a single long trench occur along the north-western slope of this mountain. The latter is 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 merely consist of a few holes that were sunk along the lower north-western slope of Mmatone. These prospecting holes are barely visible as they are gradually been filled with soil and are overgrown with vegetation.



Figures 7 & 8- Remains of rudimentary prospecting activities consisting of long narrow trenches (above) running down the north-western slope of Mmatone. The trench in the photograph below, is located next to the stone wall.



6.3.2 Formal mining remains

Early chrome mining activities on the Western Zone of the Bushveld Igneous Complex occur on farms such as Ruighoek 169JP, Groenfontein 138JP, Vlakfontein 136JP, Witkleifontein 136JP and Rooderand 46JQ inside and outside the PPM's premises. The following chrome mines can be distinguished on the 1:50 000 topographical map: Ruighoek Chrome Mine, Vlakfontein Chrome Mine and Makgope Chrome Mine (Mabeskraal 2526BB).

Most, if not all of these mines came into operation during the 1960's and the 1970's when chrome mining commenced on the northern and north-western sectors of the Western Zone of the Bushveld Igneous Complex which occurs to the north and to the north-west of the Pilanesberg. Although abandoned, some of these mines are still fitted with infrastructure and equipment.

These mines and their associated infrastructure therefore are forty to fifty years old and only will attain historical (technological) significance, according to the National Heritage Resources Act (No 25 of 1999), when they approach sixty years of age.

6.3.3 The chrome mine on Witkleifontein 136JP and Rooderand 46JQ

The remains of the chrome mine near the border between Witkleifontein 136JP and Rooderand 46JQ have no historical significance as this mine and its remains are not yet sixty years old and also do not represent the earliest chrome mining activities in the North-West Province. The earliest discovery of chromium in the region was done near the Hex River, further to the south of the Project Area.

Some of the infrastructure associated with the chrome mine on Witkleifontein 136JP and Rooderand 46JQ include rock waste dumps, at least one mine shaft, head gear associated with the incline shaft and other limited equipment. Most of these remains have been affected by natural decay since the time of their abandonment and the general condition of these remains cannot be described as well preserved any longer..



Figure 9- An incline shaft running into the chrome mine on Witkleifontein 136JP and Rooderand 46JQ. Note the corridor with a railway line between the shaft and the anchor block.

Railway lines which ran from the anchor block to the shaft were manufactured at Iscor and dates from the 1960's indicating that the chrome mine have been functional during the 1960's or the 1970's and therefore has no historical significance in terms of its chronological age (above).

A photograph of the railway line appears in Sidney Miller's report which is appended to this report.



Figures 10 & 11- The anchor concrete block on which the mine's head gear rested (below), this is the most pronounced feature to be associated with the chrome mine (above). Pulleys with cables hoisted coco pans from the underground mine to the surface where the chrome ore was stock-piled (above).





Figure 12- Waste rock dumps and an unknown piece of equipment associated with the chrome mine on Witkeifontein 136JP and Rooderand 46JQ.).

Rudimentary prospecting remains Witkleifontein 136JP	Coordinates	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.
Chrome Mine	Witkeifontein 136JP and Rooderand 46JQ	See text

Table 1- Co-ordinates for remains associated with rudimentary prospecting activities along the north-western slope of Matone on Witkleifontein 136JP (above).

7 CONCLUSION AND RECOMMENDATIONS

A Phase I HIA study as well as an extended Phase I HIA were done for the Pilanesberg Platinum Mine (formerly known as Boynton Platinum) during 2006 which 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) in the mining area:

- Large numbers of isolated stone walled sites and clusters of stone walled sites dating from the Late Iron Age on the farms Ruighoek 169JP, Witkleifontein 136JP and Tuschenkomst 135JP.
- Informal, abandoned graveyards dating from the historical period as well as formal graveyards which are still being used in all the rural villages surrounding the mining areas.
- Historical remains dating from the more recent past such as the old village of Motlhabe and an extensive homestead on Witkleifontein 136JP.
- Mining remains which can be divided into rudimentary prospecting activities and formal mining remains which included limited infrastructure on Witkleifontein 136JP and Rooderand 46JQ.
- A limited number of stone tools occur haphazardly across the project area.
- Historical houses in villages such as Ngweding, Ntsana-le-Metsing and Motlhabe.

These heritage resources were geo-referenced and mapped (Figure 1).

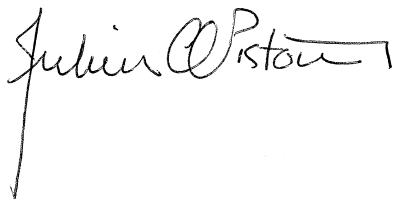
During the extended Phase I HIA study the author indicated that the chrome mining remains on Witkleifontein 136JP and Rooderand 46JQ may have historical significance as these remains may be older than sixty years. This implied that the mining remains could not be destroyed by contemporary mining activities as these remains have attained historical significance and that a permit should be acquired from the South African Heritage Resources Authority (SAHRA) before these remains may be destroyed to make way for new proposed chrome mining activities.

The purpose of this report was to establish whether the chrome mining remains on Witkleifontein 136JP and Rooderand 46JQ in fact do have any historical (technological)

significance as this would determine whether any permit is needed from the South African Heritage Resources Agency (SAHRA) before these remains can be destroyed in order to make way for new proposed chrome mining activities.

This Phase II HIA study which was conducted by an archaeologist in collaboration with a civil engineer established that the mining remains possibly date from the 1960's or the 1970's and therefore may be as old as four to five decades. Consequently, the mining remains have no historical significance, considered from a chronological point of view, and therefore do not require any permit before being demolished by modern (contemporary) mining activities. Neither do any other criteria exist which qualify the remains to have some form of cultural, historical or technical significance.

The documentation of these remains by means of his report is also considered to serve as adequate mitigation measures considering the fact that these remains, which are non-renewable, will attain historical significance within a decade and the fact that these mining remains may be destroyed to make way for new proposed chrome mining activities. As such, a record for the chrome mining remains on Witkleifontein 1356JP and Rooderand 46JQ does exist as reference and for use by future researchers into early chrome mining in the North-West.

A handwritten signature in black ink, reading "Julius CC Pistorius". The signature is written in a cursive style with a long vertical line extending downwards from the end of the name.

DR JULIUS CC PISTORIUS

Archaeologist and Heritage Consultant

Member ASAPA

8 SELECT BIBLIOGRAPHY

Breutz, P.L. 1953. *The tribes of the Rustenburg and Pilanesberg districts*. Pretoria: Government Printer.

Breutz, P.L. 1986. *A history of the Batswana and origin of Bophuthatswana*. Margate, Natal: Thumbprint.

Coetzee C.B. 1976. *Delfstowwe van die Republiek van Suid-Afrika*. Geologiese Opname. Departement van Mynbou. Pretoria: Die Staatsdrukker.

Harris, C. 1963. *The wild sports of Southern Africa*. London:John Murray.

Horn, A. C. 1996. Okkupasie van die Bankeveld voor 1840 n.C.: 'n sintese. *Suid Afrikaanse Tydskrif vir Etnologie*, 19(1):17-27.

Lye, W.F. (ed.) 1975. *Andrew Smith's journal of his expedition into the interior of South Africa, 1834-1836*. Cape Town: Balkema.

Pistorius, J.C.C. 1995. Rathateng and Mabyanamatsywaana: cradles of the Kwena and Kgatla. *South African Journal of Ethnology*, 18(2):49-62.

Pistorius, J.C.C. 1997. The Matabele village which eluded history, Part I. *South African Journal of Ethnology*, 20(1):26-38.

Pistorius, J.C.C. 1997. The Matabele village which eluded history, Part II. *South African Journal of Ethnology*, 20(2):43-55.

Pistorius, J.C.C. 1998. EmHlalandlela, a Matabele settlement in the Bankeveld. *South African Journal of Ethnology*, 21(2):55-65.

Pistorius, J.C.C. 2000. New Late Iron Age spatial identities in the Bankeveld. *South African Journal of Ethnology*, 23(4):150-163.

Pistorius, J.C.C. 2006a. A Phase I Heritage Impact Assessment (HIA) study for Boynton Platinum's new proposed mining areas near the Pilanesberg in the North-West Province of South Africa. Unpublished report for Boynton Platinum Mine and Metago Environmental Engineers.

Pistorius, J.C.C. 2006b. An extended Phase I Heritage Impact Assessment (HIA) study for the Pilanesberg Platinum Mine's new proposed mining areas near the Pilanesberg in the North-West Province of South Africa. Unpublished report for Pilanesberg Platinum Mine and Metago Environmental Engineers.

Schapera, I. 1952. *The ethnic composition of Tswana tribes*. Monographs on Social Anthropology, No 11. London School of Economics and Political Science.

Schapera, I. 1942. *A short history of the Bakgatla Bagakgafela of Bechuanaland Protectorate*. Communications from the School of African Studies. University of Cape Town.

Viljoen, M.J. & Reinhold, W.U. 1999. *An introduction to South Africa's geological and mining heritage*. Randburg: Mintek.

SIDNEY MILLER

Cell: 082 039 6536
E-mail: sidneymiller@vodamail.co.za

Postnet Suit 427
P.B X15
Menlopark
0102

AUGUST 2010

2ND Phase

CULTURAL HERITAGE RESOURCES IMPACT ASSESSMENT FOR OLD MINING STRUCTURE ON WITKLEIFONTEIN 136 JP

1. DEFINITION

The broad generic term *Cultural Heritage Resources* refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of palaeontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

2. PROTECTED SITES IN TERMS OF THE NATIONAL HERITAGE ACT, Act. NO. 25 OF 1999

The following are the most important sites and objects protected by the National Heritage Act:

- a. Structures or parts of structures older than 60 years
- b. Archaeological sites and objects
- c. Palaeontological sites
- d. Meteorites
- e. Ship wrecks
- f. Burial grounds
- g. Graves of victims of conflict
- h. Public monuments and memorials
- i. Structures, places and objects protected through the publication of notices in the Gazette and Provincial Gazette
- j. Any other places or object which are considered to be of interest or of historical or cultural significance
- k. Geological sites of scientific or cultural importance
- l. Sites of significance relating to the history of slavery in South Africa
- m. Objects to which oral traditions are attached

- n. Sites of cultural significance or other value to a community or pattern of South African history

3. METHODOLOGY

All relevant maps and documents available concerning the site were studied. The site was visited and evaluated. Visual inspection and evaluation gave rise to the results below.

4. RESULTS

Although the assessor of the first phase assessment identified the mining structure as possibly older than sixty years, present site inspection revealed the fact that this mine was most probably in production in the 1960's. This was indicated by the type of steel used as rails at this mine. It was produced by YSCOR in the 1960's.



Sidney Miler

B.Sc (Engineering) Civil, M (Architecture) Conservation.

ASAPA no 087



Figure 1. Dr Pistorius, the first phase assessor, and the site manager inspecting the now enclosed shaft of the earlier mine.



Figure 2. Remains of the headgear anchor block.



Figure 3. Remains of the rail on which coco pans retrieved ore from the mine headgear anchor block. The type of rail used is YSCOR steel from 1960's

Bibliography.

1. **[Rail profile - Wikipedia, the free encyclopedia](#)**
In all but very **early** cast **rails** a **rail** is hot rolled **steel profile** of a specific shape or cross section (an asymmetrical I-beam) designed for use as the ...
en.wikipedia.org/wiki/Rail_profile - Cached - Similar
2. **[Rail tracks - Wikipedia, the free encyclopedia](#)**
Hot rolled **steel** in the **profile** (cross section) of an asymmetrical I-beam During the **early** days of **rail** there was considerable variation in the gauge ...
en.wikipedia.org/wiki/Rail_tracks - Cached - Similar
[Show more results from en.wikipedia.org](#)



Sidney Miler

B.Sc (Engineering) Civil, M (Architecture) Conservation.

ASAPA no 087