Prepared for:

METAGO ENVIRONMENTAL ENGINEERS (PTY) LTD IMPALA PLATINUM LIMITED – RUSTENBURG OPERATIONS (IMPALA)

A PHASE I HERITAGE IMPACT ASSESSMENT (HIA) STUDY FOR IMPALA PLATINUM LIMITED'S (IMPALA) PROPOSED NEW TAILINGS FACILITY AND OPEN CAST MINING AREAS IN THE RUSTENBURG (BAFOKENG) DISTRICT OF THE NORTH-WEST PROVINCE

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EXECUTIVE SUMMARY

A Phase I Heritage Impact Assessment (HIA) study as required in terms of Section 38 of the National Heritage Resources Act (Act 25 of 1999) was done for Impala Platinum Ltd – Rustenburg Operations (Impala) for the development of a proposed new Tailings Dam (No. 5) and Open Cast expansion operations in the Rustenburg (Bafokeng) District in the North-West Province

The aims with the Phase I HIA study were the following:

- To determine if any of the types and ranges of heritage resources (the 'national estate') as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) do occur in the Project Area and, if so, to establish the significance of these heritage resources.
- To establish whether these heritage resources will be affected by the Impala Project and, if so, to propose mitigation measures for those heritage resources that may be affected.

The Phase I HIA study for the proposed Tailings Dam and Open Cast mines (Project Area) revealed none of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999).

There is consequently no reason from a heritage point of view why the proposed Impala Project should not continue.

General

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

	Executive Summary	2
1	INTRODUCTION	5
2	TERMS OF REFERENCE	7
3	THE PROJECT AREA	8
3.1	Location	8
3.2	The components of the Impala Project	8
3.3	Within a cultural landscape	9
4	METHODOLOGY	10
4.1	Fieldwork	10
4.2	Databases, literature survey and maps	10
4.3	Spokespersons consulted	11
4.4	Assumptions and limitations	11
4.5	Some remarks on terminology	11
5	CONTEXTUALISING THE PROJECT AREA	15
5.1	The Central Bankeveld	15
5.2	Pre-historical context	15
5.3	Brief history of the Fokeng	17
5.4	Historical context	20
6	THE PHASE I HERITAGE IMPACT ASSESSMENT STUDY	22
6.1	Types and ranges of heritage resources	22
6.1.1	The proposed Tailings Dam	22
6.1.2	The proposed Open Cast mines	24
6.1.2.	1 The proposed Pit 14 Open Cast mine	24
6.1.2.	2 The proposed Pit 19U_B Open Cast mine	26
6.2	Summary	27

7	CONCLUSION AND RECOMMENDATIONS	28
8	SELECT BIBLIOGRAPHY	29
9	SPOKESPERSONS CONSULTED	31

1 INTRODUCTION

This document contains the report on the results of a Phase I Heritage Impact Assessment (HIA) study which was done for Impala Platinum Limited – Rustenburg Operations (Impala) in the Rustenburg (Bafokeng) District in the North-West Province.

Focused archaeological research has been conducted in the North-West Province for more than four decades. This research consists of surveys and of excavations of Stone Age and Iron Age sites as well as the recording of rock art and historical sites. The Mpumalanga Province has a rich heritage comprised of remains dating from the pre-historical and from the historical (or colonial) periods of South Africa. Prehistorical and historical remains in the North-West Province of South Africa therefore form 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' as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) occur in the North-West Province (see Box 1, next page).

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

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

- (a) places, buildings structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and palaeontological sites;
- (g) graves and burial grounds including-

(i) ancestral graves;

(ii) royal graves and graves of traditional leaders;

(iii) graves of victims of conflict;(iv) graves of individuals designated by the Minister by notice in the Gazette;

(v) historical graves and cemeteries; and

(vi) other human remains which are not covered by in terms of the Human Tissues Act, 1983 (Act No 65 of 1983);

- (h) sites of significance relating to the history of slavery in South Africa;
- (i) movable objects, including -

(i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;

- (ii) objects to which oral traditions are attached or which are associated with living heritage;
- (iii) ethnographic art and objects;
- (iv) military objects;
- (v) objects of decorative or fine art;
- (vi) objects of scientific or technological interest; and

(vii) books, records, documents, photographs, positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No 43 of 1996).

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

- (a) its importance in the community, or pattern of South Africa's history;
- its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (b) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (c) 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;
- (i) sites of significance relating to the history of slavery in South Africa

2 TERMS OF REFERENCE

Impala intends to establish a new Tailings Dam referred to as the tailings dam No. 5 as well as the expansion of two open pits (Pit14 and Pit9U_B) in the Rustenburg (Bafokeng) District in the North-West Province. These mining related activities may impact on any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (see Box 1) which may occur in the Project Area.

In order to comply with legislation, Impala requires knowledge of the presence, relevance and the significance of any heritage resources that may occur in the Project Area in order to take pro-active measures with regard to any heritage resources that may be affected by the Impala Project. Metago Environmental Engineers (Pty) Ltd, the environmental company responsible for compiling the Environmental Impact Assessment report for Impala therefore commissioned the author to undertake a Phase I Heritage Impact Assessment (HIA) study for the proposed Project Area.

The aim with the Phase I HIA study is as follows:

- To determine if any of the types and ranges of heritage resources (the 'national estate') as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) occur in the Project Area and, if so, to establish the significance of these heritage resources.
- To establish whether these heritage resources will be affected by the Impala Project and, if so, to propose mitigation measures for these heritage resources.

3 THE PROJECT AREA

3.1 Location

Impala proposes to implement the following projects: the development of a new Tailings Dam (No 5.), re-processing and rehabilitating the footprint of an existing Tailings Dam (No 1 and 2)) and an associated waste disposal facility and expanding its current open cast operations that are currently being mined as part of the open cast mining operations.

The proposed projects are all located within Impala's Converted Mine lease area which is part of the heartland of the Rustenburg (Bafokeng) District which falls under the Rustenburg Local Municipality in the Bojanala Platinum District Municipality in the North-West Province (Rustenburg East [2527CB]: 1: 50 000 topographical map) (Figure 3).

3.2 The components of the Impala Project

For the purpose of this study, the Phase I HIA study will only focus on the following developmental components:

- The development of the No 5 Tailings Dam which will be positioned adjacent to the current operational dam (No 3 and 4). The new Tailings Dam will require the establishment of supporting infrastructure such as slurry delivery lines, return water facilities and pumping stations. The estimated life of the tailings facility is expected to be 30 years.
- The expansion of one Open Cast mine pit (Pit 14) which will be situated adjacent to the Kutlwanong School. Current opencast mining operations will be applied.
- The establishment of a second Open Cast mine pit (Pit 9U_B) on opposite sides of the main road leading to Impala from the south.

The development of the No 5 Tailings Dam and two Open Cast mining areas is referred to as the Impala Project whilst the surface areas to be affected by these mining related activities and infrastructure are referred to as the Project Area.

Impala's existing tailings dam (No. 1&2) does not form part of the project scope as this is an existing facility and will therefore not impact on any heritage/ cultural resources.

3.3 Within a cultural landscape

The Project Area is located in the heartland of the former sphere of influence of the Late Iron Age and historical Bafokeng people. The Project Area therefore is part of a cultural landscape which warrants a brief description to demonstrate its place in the local and regional cultural history of the North-West Province (see Part 5, 'Contextualising the Project Area').

4 METHODOLOGY

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

- Surveying the proposed Project Area with a vehicle and sensitive spots on foot.
- Briefly surveying literature relating to the pre-historical and historical context of the Project Area;
- Consulting maps of the proposed Project Area.
- Consulting archaeological (heritage) data bases.
- Consulting spokespersons regarding the possible presence of heritage resources such as graveyards.
- Synthesising all information obtained from the fieldwork survey, literature review, maps, heritage data bases and spokespersons into this report.

4.1 Fieldwork

The proposed Project Area was surveyed with a vehicle while sensitive spots were surveyed on foot.

4.2 Databases, literature survey and maps

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

Literature relating to the pre-historical and the historical unfolding of the Project Area where the proposed mining development project will take place was reviewed (see Part 5, 'Contextualing the Project Area'). It is important to contextualise the pre-historical and historical background of the region in order to comprehend the identity, meaning and significance of heritage resources that may occur in and near the Project Area (see Parts 5 & 8).

In addition, the Project Area was studied by means of maps on which it appears (Rustenburg East [2527CB]: 1: 50 000 topographical map) (Figures 1-3).

4.3 Spokespersons consulted

Spokespersons living or working in the Project Area are usually intimately acquainted with the area, particularly if they were born there. Consequently, some spokespersons were therefore consulted with regard to the possible presence of graveyards and other possible heritage resources which may occur in the Project Area (see Part 9, 'Spokespersons consulted').

4.4 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 mining development commences.

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

4.5 Some remarks on terminology

Terms that may be used in this report are briefly outlined below:

• Conservation: The act of maintaining all or part of a resource (whether renewable or non-renewable) in its present condition in order to provide for its continued or future use. Conservation includes sustainable use, protection,

maintenance, rehabilitation, restoration and enhancement of the natural and cultural environment.

- Cultural resource management: A process that consists of a range of interventions and provides a framework for informed and value-based decision-making. It integrates professional, technical and administrative functions and interventions that impact on cultural resources. Activities include planning, policy development, monitoring and assessment, auditing, implementation, maintenance, communication, and many others. All these activities are (or will be) based on sound research.
- Cultural resources: A broad, generic term covering any physical, natural and spiritual properties and features adapted, used and created by humans in the past and present. Cultural resources are the result of continuing human cultural activity and embody a range of community values and meanings. These resources are non-renewable and finite. Cultural resources include traditional systems of cultural practice, belief or social interaction. They can be, but are not necessarily identified with defined locations.
- Heritage resources: The various natural and cultural assets that collectively form the heritage. These assets are also known as cultural and natural resources. Heritage resources (cultural 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.
- In-Situ Conservation: The conservation and maintenance of ecosystems, natural habitats and cultural resources in their natural and original surroundings.
- 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.

- Maintenance: Keeping something in good health or repair.
- Pre-historical: 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 Eastern Highveld by the first Colonists who settled here from the 1840's onwards.
- Preservation: Conservation activities that consolidate and maintain the existing form, material and integrity of a cultural resource.
- 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, however, may be close to sixty years of age and may, in the near future, qualify as heritage resources.
- Protected area: A geographically defined area designated and managed to achieve specific conservation objectives. Protected areas are dedicated primarily to the protection and enjoyment of natural or cultural heritage, to the maintenance of biodiversity, and to the maintenance of life-support systems. Various types of protected areas occur in South Africa.
- Reconstruction: Re-erecting a structure on its original site using original components.
- Replication: The act or process of reproducing by new construction the exact form and detail of a vanished building, structure, object, or a part thereof, as it appeared at a specific period.
- Restoration: Returning the existing fabric of a place to a known earlier state by removing additions or by reassembling existing components.
- 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).

- Sustainability: The ability of an activity to continue indefinitely, at current and projected levels, without depleting social, financial, physical and other resources required to produce the expected benefits.
- Translocation: Dismantling a structure and re-erecting it on a new site using original components.
- Project Area: refers to the area (footprint) where the developer wants to focus its development activities (refer to Figure 3).
- Phase I studies refer to surveys using various sources of data in order to establish the presence of all possible types and ranges of heritage resources in any given Project Area (excluding paleontological remains as these studies are done by registered and accredited palaeontologists).
- 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 human remains and the relocation of graveyards, etc. Phase II work involve permitting processes, require the input of different specialists and the co-operation and approval of SAHRA.

5 CONTEXTUALISING THE PROJECT AREA

5.1 The Central Bankeveld

The Project Area is located in the Central Bankeveld of the North-West Province of South Africa. The Bankeveld is a narrow strip of land between the northern bushveld savannah and the centrally situated Highveld. The Central Bankeveld with its numerous centuries-old remains of ancient Tswana spheres of influence is important to this report.

The Central Bankeveld is covered by older grabbo penetrated by younger volcanic magma which formed the series and chains of pyramid-shaped norite hills from the Pilanesberg in the north-west to Brits in the east. These hills, as part of the Magaliesberg valley, represent a unique ecozone characterised by grassveld, savannah veld and near wooded valleys. The region has abundant surface water supplies. The Pienaar, the Moretele, the Hex and the Apies Rivers all drain their waters into the Crocodile River.

5.2 Pre-historical context

The Project Area is located between the Magaliesberg in the west and the series of norite kopjes running from Thekwane in the south to near the Pilanesberg in the north. This area is known for its rich and diverse range of heritage resources. Stone Age sites are scattered along the Magaliesberg and are also found in caves and rock shelters in the mountain. Rock engravings are located further towards Maanhaarrand and Rustenburg in the west. The most abundant heritage, however, are those that date from the Late Iron Age and which are associated with the numerous Tswana chiefdoms who occupied this region during the last four centuries.

The interaction between the climate, geology, topography, and the fauna and flora of the Central Bankeveld established a milieu in which the first Tswana found a suitable living environment in order to practise herding, agriculture, metal working and trading. It was here that their chiefdoms flourished during AD1600 to 1840. The settlements of these early Tswana chiefdoms are characterised by an impressive and elaborate stone-built tradition. Hundreds and perhaps thousands of sites were built along the bases of the norite hills. The most formidable of these chiefdoms were the Kwena Môgôpa, Kwena Môgale (Bapô), Bakgatla and Fokeng. Further to the west, closer to Rustenburg was the Fôkeng chiefdom while several Kgatla spheres of influence emerged further to the west near Brits. The Kgatla were subjugated by Mzilikazi and were used as labourers to built one of the Ndebele's villages, probably known as emHlalandlela.

The Bapô, a people whose earliest ancestors were descended from the Amambô Nguni from Kwa Zulu/Natal, arrived in the Magaliesberg during the 16th or 17th centuries. One of their capitals was Tlhôgôkgôlô (Wolhuterskop). Several of the chiefs of this clan where known by the name of Môgale. The name of the Magalies Mountains (Magaliesberg) was derived from the name Môgale.

Numerous *difaqane* wars were fought during the last quarter of the 18th century and during the first quarter of the 19th century in the Central Bankeveld. These wars led to the displacement of large numbers of Tswana in the Bankeveld. The *difaqane* wars were caused by the Ndebele (Matabele) of Mzilikazi who arrived from the Vaal River region to occupy the Bankeveld in August 1827. The Ndebele destroyed the Kwena Môgôpa, the Kgatla and what had remained of the Bapô after an earlier defeat by the Pedi of Thulare. These wars exacerbated the havoc started earlier in the Bankeveld and gradually became a characteristic feature of historical events in this region during the early 19th century.

The Ndebele established several settlement complexes in the Central Bankeveld from whence they maintained their grip on the indigenous population. Four of these Zulu/Nguni residences (*imisi*) and military kraals (*amakhanda*) have been discovered during the course of earlier archaeological surveys.

Internal strife between the various Tswana chiefdoms also seems to have been on the increase from the latter half of the 18th century onwards. Paternal relatives fought against each other to attain the chieftaincy of the various Tswana chiefdoms.

Succession disputes also led to the splintering of the existing chiefdoms into a growing number of independent spheres of influence in the Bankeveld.

During the early 19th century travellers, traders and missionaries visited the Central Bankeveld where they encountered the devastated Tswana chiefdoms. They also mentioned that numerous Tswana tribes were displaced. These travellers included the traders Robert Schoon and William McLuckie in August 1829. They were soon followed by the missionary Robert Moffat who visited Mzilikazi in an *umuzi* near what is today Pretoria. In June 1835 Charles Bell and other members of Andrew Smith's expedition visited a Ndebele village near Rustenburg which Bell subsequently painted. One year later, in December 1836, Cornwallis Harris also visited the Central Bankeveld where he painted emHlalandlela near Brits.

The Bankeveld was rich in fauna which attracted the Griqua and the first white hunters to the region. Ivory was plentiful, with herds of elephants roaming the area. Ivory and the skins of the wide variety of fauna were sought after as precious trade commodities. Although the Tswana hunted the fauna of the Bankeveld, they were more renowned as agriculturists and cattle herders than as hunters.

Complex causes led to the unfolding of the numerous Tswana chiefdoms and their spheres of influence throughout the Bankeveld during the last decades of the 18th century and during the first decades of the 19th century. These causes were multidimensional and included the ecological potential of the region, the social and political formation and expansion of different spheres of influence, the establishment of short and long distance trade relations and local and regional wars. These causes and historical events were complex and are not fully recorded in oral traditions or in any other records.

5.3 Brief history of the Fokeng

The Thaba-ea-Nape (also known as the Thaba-ea-Maralla) range of mountains in which the Ga-Nape Heritage Park and Wilderness Area is located was home to numerous ancestral rulers of the Fokeng people. According to oral tradition different branches (clans) of the Fokeng settled from the north to the south along this range of

mountains from as early as the 17th century. The places of settlement were: Serutube, Marekana, Tsitsing (Kanana), Thekoane (Thekwana) and Photsaneng (Bleskop).

It is not necessary to describe the origins and the history of the Fokeng here in great detail. Only a broad outline of the genealogy of Fokeng rulers, from Nape (AD1700) to Môkgatle (AD1835) is outlined. Settlements that were associated with some of these rulers, although only a few are mentioned in oral tradition, are also indicated.

The oldest legends state that the Fokeng entered the Transvaal through Tweedepoort, under the leadership of Nape, the earliest known Fokeng chief. This was before AD1700 AD. The group moved south-eastwards and settled on the banks of the Elands River (Kgetleng). Three Fokeng groups detached themselves from the main branch and moved southwards on different occasions. The Fokeng are therefore spread over the Orange Free State, Lesotho and even the former homeland of Transkei. The Fokeng are, next to the San people, the oldest inhabitants of the Orange Free State.

The domain under Fokeng control during the last two centuries was the following: the northern border was the Kgetleng River (and the Tlôkwa and Kgatla Kgafêla chiefdoms); the western boundary was the Kwena Modimosana chiefdoms and the southern boundary the Magaliesberg. The eastern boundary was determined by the presence of the Kwena Môgôpa and the Kwena Mogale chiefdoms.

The history of the Fokeng begins with Sekete III (Maleriba) who probably ruled in AD1700. He had three sons Kgantsi, Pitswe and Diale. (The last two had the same mother). Kgantsi was born from a Hurutshe father after the Hurutshe had abducted his mother. (Controversy surrounded Sekete's III position until his death, although he was the oldest son).

Diale succeeded Sekete III and his reign probably began in AD1720. His sons were Mokuru, Mogotsi, Ramarwa, Ramogase, Tlase and Ntê. (The first two died young). Diale's sons freed the Fokeng from the Hurutshe's custom to castrate the Fokeng's bulls, an act that was considered offensive by the Fokeng as it indicated the Hurutshe's seniority above the Fokeng. This particular incident put an end to the Hurutshe's domination of the Fokeng.

With the exception of Ramorwa all the known sons of Diale became leaders of *dikgoro*, Ntê, the progenitor of the *kgoro* Seloko, Tlase, of Mathebetswaane and Ramogware of Metlapeng.

Ramorwa succeeded Diale as chief and had fours sons: Mmutle, Sekete, Katane and Mpie.

Sekete succeeded Ramorwa in about AD1790. He was a formidable warrior and is remembered as one of the greatest Fokeng chiefs. The following individuals were sons of Sekete: Thete, Nameng, Nôge, Mogotsi, Molefe, Pitswe, Ramarue, Mohue, Manaana, Rantsogwana and Marahtsane (more can be added). Important individuals were Thete, Nameng and Nôge.

Katane, or Raikane acted as regent for Thethe (also known as Mmakgongwana) who became the next chief. He had the following sons: Diale, Mokgatle, Molotlegi, Molefe, Liphatse and Pogwe. (The first, third and fifth died young). Môkgatle, Molefe and Pogwe played important parts in the next phase of Fokeng history.

Thethe was very fond of his two younger brothers, Namemg and Nôge. The two brothers, however, turned against him. (The main concentration point in Thethe's time was at Makotshaneng [Makojaneng], east of Rustenburg near the Hex River). Thethe fled with his followers and took refuge with the Modimosana Mmatau. The Fokeng accepted Nameng as chief.

Nameng reigned for only eight months after the enforced departure of Thethe as he was killed by the doings of Nôge, who now became chief.

Nôge's rule commenced in about 1820 and ended when he was ousted in 1829 to 1830. Nôge's reign represents a stormy period in Fokeng history. Thethe invited the Pedi to attack the Fokeng whereupon Malekutu destroyed the Fokeng in 1823 to 1824. The devastation caused by the Pedi accounts for the fact that Mzilikazi amassed very little from the Fokeng's territory in 1826 to 1829.

Nôge killed Ndebele visitors to his village. He occupied the summit of Ntlhane, a 'hillock near Malejane', with his followers and bolstered the foot and slopes with wooden stockades. The Fokeng pounded the Ndebele with stones forcing them to retreat.

Nôge became unpopular and fled to Moshoeshoe in the Orange Free State.

Môkgatle's accession was somewhere between 1834 and 1836. His reign had hardly begun when the Voortrekkers drove the Ndebele out of the Transvaal. He remained in office until his death in 1891 when he was about eighty years old. His principal village was named Mmakgongwana (after Thethe), today located in Rustenburg and partly on Paardekraal. Dirêpotsana Hill, where Phokeng now stands, was also re-occupied as residential area in Mokgatle's time.

5.4 Historical context

Some of the earliest Voortrekkers who moved across the Magaliesberg in the early 19th century established themselves on the farms Kafferskraal and Witpensfontein (today Rustenburg) and Schaapkraal, to the east of the study area. Since the second half of the 19th century, farmers and workers have occupied the Rustenburg District (including the Mooinooi, Marikana, Hartebeespoort and Brits areas). Tobacco and citrus farming, together with cattle herding, became a subsistence pattern that has lasted to this day. Old farm homesteads, agricultural implements and other infrastructure such as tobacco drying sheds may still exist on farms adjacent to the study area.

During the Anglo Transvaal Boer War (1899-1902) British blockhouses were built along the ridge of the Magaliesburg, from Pretoria in the east to Rustenburg in the west. Several of these structures are located in Kommandonek, Pampoennek and in Olifantsnek in the Magaliesberg, to the south of the Impala Shaft 17 project area.

After the discovery of the Merensky Reef in 1929, the economy of the area was gradually changed from farming into platinum and chrome mining. What started as small scale mining activities north of the Magaliesberg during the 20th century was soon eclipsed by the rise of the platinum mining complex near Rustenburg. The discovery of

the Merensky Reef and the accompanying platinum boom was soon followed by the establishment of numerous chrome and norite mines in the North-West Province.

6 THE PHASE I HERITAGE IMPACT ASSESSMENT

6.1 Types and ranges of heritage resources

The Phase I HIA study for the proposed new Tailings Dam (No.5) and the proposed opencast expansion areas (Pit 14 and Pit 9U_B) is briefly discussed and illuminated with photographs below.

6.1.1 The proposed Tailings Dam

The proposed Tailings Dam stretches across a level piece of land situated adjacent to Impala's current Tailings Dam. The affected area is marked by outstretched agricultural fields as well as patches with pristine grassveld.

A few norite protrusions are located close to the north-eastern boundary of the proposed new Tailings Dam (No.5) project site.

Figure 1- Outstretched agricultural fields occupy large tracks of land where the proposed new Tailings Dam will be established (above).

Figures 3 & 4- Patches of grassveldt with *acacia* trees occupy part of the proposed new Tailings Dam area. Note the historical Ga-Nape mountain range in the far background (above). Norite protrusions occur near the north-eastern perimeter of the proposed new Tailings Dam (below)

6.1.2 The proposed Open Cast mining areas

The opencast expansion included in this Impala Project, are:

- An open cast pit next to the Kutlwanong School and old age home (Pit 14).
- A second Open Cast pit located on opposite sides of the main road leading to Impala (Pit 9U_B).

6.1.2.1 The proposed Pit 14 Open Cast expansion project

The proposed Pit 14 opencast expansion project is located adjacent to the Kutlwanong School and old age home on the farm Kookfontein 265 JQ, on a relatively level piece of land. A prominent mountain is located to the north-west of the proposed project area. The base of this mountain is covered with stone walled sites dating from the Late Iron Age (LIA). A large LIA site may also be located opposite the mountain on a slight rise. Both these archaeological sites are located outside theProject Area of Pit 14.

Figure 5- The proposed Open Cast mine (Pit 14) is located on a level stretch of land parts of which may have been ploughed in the past (above).

Infrastructure such as Eskom's power lines and barbed wire fences run through the Project Area. Part of the Pit 14 project area may have been ploughed in the past. It is therefore not a pristine piece of land any longer.

Figure 6- The proposed Open Cast mine (Pit 14) is located next to the Kutlwanong School on a piece of land which cannot be described as pristine any longer (above).

6.1.2.2 The proposed Pit 19U_B Open Cast mine

The proposed Pit 19U_B opencast expansion project is located on the farm Kookfontein 265JQ on either side (west and east) of the main access road towards main Impala offices.

The proposed Pit 9U_B project area, particularly to the west of the tar road will be located on a piece of land which has been intensely disturbed in the past. A rail way line as well as dirt roads, one leading to a magazine, used to criss-cross this piece of land. The piece of land to the east of the tar road used to be covered with natural

vegetation and used to be in a pristine condition. However, mining related activities on this piece of land has scarred its former condition so that it cannot be described as a pristine piece of land any longer.

It is highly likely that a Late Iron Age site may exist on the low rise to the south of the proposed Open Cast mine. However, this site, which is thickly covered with *Euphorbia* and other trees, is not located within the footprint area of the proposed Pit 9U_B project area.

Figure 7- A part of the land to be used for the proposed Open Cast mine (Pit 9U_B 14) is located to the west of the main road running to the headquarters of Impala. This piece of land is currently covered with open cast mining activities which will be extended into the proposed Pit 9U_B (above).

6.2 Summary

The Phase I HIA study for the proposed Tailings Dam and Open Cast mining areas revealed none of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999).

7 CONCLUSION AND RECOMMENDATION

The Phase I HIA study for the development of a proposed new Tailings Dam (No. 5) and the proposed Pit 14 and Pit 9U_B opencast expansion areas revealed none of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999).

There is consequently no reason from a heritage point of view why the proposed Impala Project should not continue.

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