

Prepared for:

TUBATSE CHROME (PTY) LTD

GOLDER ASSOCIATES AFRICA (PTY) LTD

**A PHASE I HERITAGE IMPACT ASSESSMENT (HIA) STUDY FOR
TUBATSE CHROME (PTY) LTD: EXPANSION OF A SLAG DUMP
AND THE DEVELOPMENT OF A NEW HAZARDOUS WASTE SITE
IN THE STEELPOORT VALLEY IN THE LIMPOPO PROVINCE OF
SOUTH AFRICA**

Prepared by:

Dr Julius CC Pistorius

Archaeologist & Heritage Consultant

352 Rosemary Street Lynnwood 0081

PO Box 1522 Bela Bela 0480

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Tel and fax: 0147362115

Cell: 0825545449

Member ASAPA

EXECUTIVE SUMMARY

A Phase I Heritage Impact Assessment (HIA) study as required in terms of Section 38 of the National Heritage Resources Act (No 25 of 1999) was done for Tubatse Chrome (Pty) Ltd's proposed expansion of a slag dump (preferred or alternative site) and the development of a hazardous waste disposal facility near Steelpoort in the Limpopo Province.

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

- To establish whether any of the types and ranges of heritage resources ('national estate') as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) do occur in the Tubatse Project Area and, if so to determine the significance of these heritage resources, and
- To make recommendations regarding the mitigation and management of significant heritage resources that may be affected by the Tubatse Project.

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

- Remains from the recent past in the vicinity where the proposed new slag dump will be expanded (Alternative D).

These heritage resources were geo-referenced and tabled (Table 1) and not mapped due to their low significance.

The remains from the recent past have low significance when considering the following criteria:

- Section 34 of the National Heritage Resources Act (No 25 of 1999) requires that all buildings and structures which are older than sixty years must be protected. The remains from the recent past seem to be younger than sixty years and therefore are not protected by the National Heritage Resources Act (No 25 of 1999).
- The remains are too young and are too limited to have any research, educational or tourism value and therefore cannot add to a better understanding of cultural life ways during the last fifty years in the Steelpoort Valley.

The remains from the recent past have been adequately documented in this report and needs no mitigation measures.

General

This Phase I HIA study may have missed other heritage resources in the Tubatse Project Area as heritage sites may occur in thick clumps of vegetation while others may lie below the surface of the earth and may only be exposed once development commences.

If any heritage resources of significance is exposed during the Tubatse 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 notify 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.

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1 INTRODUCTION

This document contains the report on the results of the Phase I Heritage Impact Assessment (HIA) study that was done for Tubatse Chrome (Pty) Ltd on the farm Goudmyn 337 near Steelpoort in the Limpopo Province.

Focused archaeological research has been conducted in the Limpopo Province for several decades. This research consists of surveys and of excavations of Stone Age and Iron Age sites as well as of the recording of rock art and historical sites in this area. The Limpopo Province has a rich heritage comprised of remains dating from the pre-historical and from the historical (or colonial) periods of South Africa. Pre-historical and historical remains in the Limpopo Province of South Africa 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 the National Heritage Resources Act [No 25 of 1999]) occur in the Limpopo 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;
- (a) 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)
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa;
- (i) sites of significance relating to the history of slavery in South Africa

2 AIMS WITH THIS REPORT

Tubatse Chrome (Pty) Ltd intends to develop a new slag dump (preferred or alternative site) and a new hazardous waste disposal facility near the village of Steelpoort in the Steelpoort Valley in the Limpopo Province. These developmental components which are referred to as the Tubatse Project may have an influence on any of the types and ranges of heritage resources which are listed in Section 3 of the National Heritage Resources Act (No 25 of 1999).

In order to comply with heritage legislation, Tubatse requires knowledge of the presence, relevance and the significance of any heritage resources that may be affected by the Tubatse Project. Tubatse needs this knowledge in order to take pro-active measures with regard to any heritage resources that may be affected, damaged or destroyed when the Tubatse Project is implemented. Golder Associates, the environmental company responsible for compiling the Environmental Impact Assessment (EIA) for the Tubatse Project therefore commissioned the author to undertake a Phase I HIA study for the Tubatse Project Area.

The aims with the Phase I HIA were the following:

- To establish whether any of the types and ranges of heritage resources ('national estate') as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) do occur in the Tubatse Project Area and, if so to determine the significance of these heritage resources, and
- To make recommendations regarding the mitigation and management of significant heritage resources that may be affected by the Tubatse Project.

3 METHODOLOGY

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

- Surveying the proposed Tubatse Project Area with a vehicle and selected spots on foot.
- Briefly surveying literature relating to the pre-historical and historical context of the Tubatse Project Area.
- Consulting maps of the proposed Tubatse Project Area.
- Consulting archaeological (heritage) data bases.
- Consulting spokespersons regarding the possible presence of graves and graveyards in the Tubatse Project Area.
- Synthesising all information obtained from the data bases, fieldwork, maps and literature survey.

3.1 Fieldwork

The proposed Tubatse Project Area was surveyed with a vehicle where accessible roads existed while selected, sensitive spots in the Tubatse Project Area were surveyed on foot.

3.2 Databases, literature survey and maps

Databases kept and maintained at institutions such as the Provincial Heritage Resources Agency (PHRA) 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 Tubatse Project Area.

The author is not unacquainted with the Tubatse Project Area at large as he had done several heritage impact assessment studies near the Tubatse Project Area (see Part 8, 'Select Bibliography').

Literature relating to the pre-historical and the historical unfolding of the Tubatse Project Area was reviewed (see Part 5, 'Contextualising the Tubatse Project Area').

It is important to contextualise the pre-historical and historical background of the Tubatse Project Area in order to comprehend the identity and meaning of heritage sites in and near the Tubatse Project Area.

Maps outlining the Tubatse Project Area were studied (2430CA Steelpoort; 1:50 000 topographical map).

3.3 Assumptions and limitations

It is possible that this Phase I HIA study may have missed heritage resources in the Tubatse Project Area as heritage sites may occur in thick clumps of vegetation while others may lie below the surface of the earth and may only be exposed once development commences.

If any heritage resources of significance is exposed during the Tubatse 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 notify in order to determine appropriate mitigation measures for the discovered finds. This may include obtaining the necessary authorization (permits) from SAHRA to conduct the mitigation measures.

3.4 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.

4 THE TUBATSE PROJECT AREA

4.1 Location

The Tubatse Project is situated on the farm Goudmyn 337 in close proximity of the village of Steelpoort in the Steelpoort River Valley in the Limpopo Province. The Tubatse Project Area is situated on opposite sides of the R555 and to the south of the Steelpoort River. The sewage plant is located near Tubatse Chrome's residential area which is located some distance to the south of the chrome smelter complex (2430CA Steelpoort; 1: 50 000 topographic map) (Figure 3).

The Steelpoort Valley's name is derived from the Steelpoort (Tubatse) River, one of the main geographical features in this valley. The Steelpoort River is a southern tributary of the Olifants River. It flows from an altitude higher than 1 800m on the Highveld near Wonderfontein in the Belfast district northwards and then north-eastwards to join the Olifants River before the latter cuts through the Drakensberg to enter the Lowveld.

Other prominent beacons in the wider study area include the Chromite Hills to the north-east of the study area and the imposing Leolo Mountain range in the study area. The Leolo Mountain range is known as a beacon in the origin history of the Pedi.

4.2 The nature of the Tubatse Project

The Tubatse Project Area is not a pristine piece of land any longer as various developmental activities have occurred around the smelter complex.

The key development components of the proposed Tubatse Project include the following:

- The expansion of the slag dump area to include a preferred and an alternative slag dump.
- The development of a hazardous waste disposal facility (Figure 3).

These developmental components and the various options for these developmental components are referred to as the Tubatse Project whilst the areas (footprints) to be affected by the developmental components proposed is referred to as the Tubatse Project Area.



Figure 1- The expansion of the slag dump in a southern direction (Alternative D) will penetrate into an area along the foot and lower foot slope of a mountain where remains dating from the recent past were documented.

4.3 The heritage potential of the Tubatse Project Area

The Tubatse Project is located along the eastern slopes of the Leolo Mountain range in the northern part of the Steelpoort Valley. This region is the heartland of the pre-historical and the historical Pedi chiefdom and is associated with a wide range of heritage resources.

It is therefore necessary that the archaeological and historical significance of this cultural landscape be described and explained in more detail before the results of the Phase I HIA study is discussed (see Part 5, 'Contextualising the Project Area').



Figure 2- The Tubatse Project Area has been affected by mining and mining related development activities in the past and is not a pristine piece of land any longer (above).

5 CONTEXTUALISING THE TUBATSE PROJECT AREA

The Tubatse Project Area is located in the heartland of the Steelpoort Valley which is renowned for its rich and diverse range of heritage resources. The following background information is aimed at contextualising the Project Area with regard to the presence of certain types and ranges of heritage resources that may occur in the waste site, shaft complex and corridor areas.

5.1 Pre-historical context

Stone Age sites are scattered in the extensive network of dongas which occur across the wide valleys floors between the Leolo and other mountain ranges in the northern part of the Steelpoort Valley. Some sites have been observed by the author on farms such as Hendriksplaats 281, Derde Gelid 278, Onverwacht 292, Winterveld 293, Annex Grootboom 335 and Apiesboomen 295. These stone tools date from the Early Stone Age (500 000 to 200 000 years ago), the Middle Stone Age (200 000 to 40 000 years ago) and from the Late Stone Age (40 000 to 200 years ago).

However, no archaeological survey for Stone Age sites as part of any extensive or in-depth Stone Age research project has to the knowledge of this author been done in the Steelpoort River Valley as yet.

5.2 Pre-historical and early Historical Period

The origins of the first Bantu-Negroid farming communities who practised agriculture, live-stock herding and metal working can be traced to the Steelpoort Valley. These Early Iron Age farming communities whose settlements have been recorded on amongst others Hendriksplaats 281 and Derde Gelid 278 were related to Early Iron Age communities who, contemporaneously, AD500 to

AD900, settled further towards the east in the Lydenburg Valley. One of the settlements belonging to the Early Iron Age Lydenburg culture won international acclaim as the Lydenburg clay masks were discovered at this site near the Sterkspruit, south of Lydenburg.

The historical period in the Steelpoort Valley is associated with the second millennium AD when a predominantly Northern Sotho-speaking population occupied the Steelpoort. These people are part of a larger Northern Sotho-speaking community who occupy a vast area between the Limpopo River in the north, the Drakensberg in the east and the Sekhukhune Mountains in the west. Numerous divisions and groups or clans therefore occupy this vast region. The history of the people of this area can be divided into several periods:

The earliest period of settlement is characterized by small groups of Bantu people who started to drive the San and Khoi Khoi from the area and who are difficult to identify. From approximately AD1700 ancestral groupings of the present inhabitants of the land began to arrive in the area. Groups that can be distinguished include:

- A large group of Sotho who came from the north-eastern parts of the Lowveld and who settled on the plateau to the north and to the south of the Strydpoortberge.
- Small groups of Kgatla and Huruthshe-Kwena origin moved from the Tswana area (Brits and Rustenburg) into the territory. Amongst them were the present Pedi (or Rota) who moved into what is now Sekhukhuneland, where they subjected the Sotho already living there.
- During these times Sekhukhuneland was also penetrated by Sotho arriving from the south-east.
- After AD1600 the Northern Ndebele arrived from the south-east and settled in what is now the Mokerong district.

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

During the disruption of the *difaqane* (AD1822 to AD1828) Mzilikazi attacked the Pedi from the south-east in 1826 and in 1827/1828. This caused large-scale depopulation of the southern part of the Northern-Sotho territory. The Pedi sought refuge in the Soutpansberg in 1822 and only returned in 1828.

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

5.3 The Historical Period

After the British annexed the Transvaal (AD1877 to AD1881) the Pedi was subjugated by the British who were supported by the Swazi during the war of Sekhukhune in 1879 (see more detail below).

In 1842 Andries Hendrik Potgieter wished to move from the British sphere of influence and to establish trade relations with Delagoa Bay. He moved with his followers from Potchefstroom to the Eastern Transvaal and founded Andries Ohrigstad (named after himself and Gergios Gerhardus Ohrig, a merchant from Amsterdam who was well disposed towards the Voortrekkers). The name was later abbreviated to Ohrigstad. The town also served as the seat of the Volksraad.

During 1848 to 1849 Ohrigstad was abandoned when many people died of malaria. The town of Lydenburg was founded further to the south near the

confluence of the Sterkspruit and the Spekboom River. This area was located on higher ground and was therefore healthier than Ohrigstad.

The railway line between Steelpoort and Lydenburg was constructed in 1924 due to an increase in the mining of chrome and magnetite. The name Steelpoort is derived from a hunting expedition that took place either in the late 19th century or the early 20th century. When a group of Voortrekkers from Natal under Frans Joubert had settled there, a man called Scholtz shot an elephant at dusk and on returning next morning found that the tusks had been removed. When the wagons were searched, the tusks were found in the possession of a man called Botha, after which the farm Bothashoek was named. Because an elephant had been killed there, the poort was named Olifantspoort. The river flowing through the poort was called Steelpoort River ('steel' meaning steal).

The Pedi were governed by Thulware until his death in 1824. His main village was Monganeng on the banks of the Tubatse River. His son, Sekwati, fled to the Soutpansberg in the north during the raids of Mzilikazi in 1822. He returned in 1828 and occupied the mountain fortress Phiring, his capital from where he united the Pedi.

The Pedi initially maintained good relations with the Voortrekkers who arrived in Ohrigstad from 1845. However, after a clash with Andries Hendrik Potgieter in 1852 Sekwati moved his capital to Thaba ya Mosego. Border disputes with the Zuid-Afrikaansche Republiek (ZAR) were settled in 1857 with an accord that stated that the Steelpoort River served as the border between Pedi land and the Lydenburg Republic.

Sekwati gave the Berlin Missionary Society permission to establish the Maandagshoek missionary station in Pedi territory. After Sekwati's death in 1861, his son Sekhukhune succeeded his father and also established his village at Thaba Mosego. He ordered the Berlin Missionary Society to discontinue their

work and the mission station was burn down. Alexander Merensky, one of the missionaries, thereafter established the well-known Botšabelo missionary station at Middelburg.

The good relationship between the ZAR and the Pedi was gradually weakened. The period from 1876 to 1879 was one of conflict and war, first with the ZAR and then with the British who annexed the Transvaal in 1877. During the First Sekhukhune War in August 1876, the Voortrekkers attacked Thaba Mosego and partly destroyed the settlement.

The Second Sekhukhune War followed in November 1879 during which Sekhukhune was captured in the Mamatamageng cave and sent to prison in Pretoria. Two divisions attacked the Pedi. The main division, comprised of 3 000 whites and 2 500 black allies, attacked from the north-east. The Lydenburg division consist of 5 000 to 8 000 Swazi *impi*, 400 other black allies and 400 white soldiers who attacked from Burgersfort in the south. The Second Sekhukhune War is associated with the settlements of Thaba Mosego and Tšate, a new village established by Sekhukhune close to Thaba Mosego.

5.4 Historical beacons near the Tubatse Project Area

Several outstanding significant historical beacons are located in or near the Leolo Mountain range, in the peripheral area (outside the Project Area) which deserves specific reference, namely:

- The mountain Thaba Mosego is part of the Leolo Mountain range. It was here that the British and their allies subjugated the Pedi of Sekhukhune in 1879 during the Battle of Sekhukhune. The Sekhukhune Wars of 1876 and 1879 were both fought near/on this mountain (and in the Leolo Mountain range) where the Pedi chiefs Sekwati and Sekhukhune also established their mountain fortresses.

- One of the main Pedi villages (*mošate*) during this war, namely Tšatse, is also located along the western foot of the Leolo Mountains range.
- The missionary station known as Maandagshoek (or Ratagou) was established in the middle of the 19th century on Maandagshoek.
- Two mountains in the Leolo Mountain chain are known as ‘Modimolle’. The name ‘modimolle’ implies that these mountains are sacred places. It is possible that Pedi chiefs (and possibly their wives as well) were buried near one or both of these mountains. (These mountains are still sacred places nowadays). The spirits of deceased chiefs (*badimo*) are venerated at these places and sacrifices are made annually at such places.
- The mountain Monganeng on Winterveld 293 may be where Thulare one of the greatest Pedi chiefs of all time lived during the early 19th century. The remains of his villages may be located near the Tubatse (Steelpoort) River.
- Names such as ‘Badimo’ and ‘Badimong’ are recorded on a mountain close to Monganeng. These names refer to forefathers (*‘badimo’*) and the place of the forefathers (*‘badimong’*) and therefore possibly to important settlements and graveyards that have important significance in the origin history of the Pedi.
- A large part of the Tsjate Valley between the Leolo mountain range in the west and Modimolle and the Leolo mountain range in the east was declared a Provincial Heritage Site on the 23rd February 2007 (Provincial Gazette No 1333 33). This cultural landscape was named the Tsjate Provincial Heritage Site.

5.5 The early mining period

The Tubatse Project Area is located on the eastern limb of the Merensky Reef in the northern part of the Steelpoort Valley. Today it is known that the Merensky Reef is composed of the crescent-shaped Bushveld Complex that stretches across the central part of South Africa. This Reef is known for its wealth of mineral resources, generally referred to as the platinum-group metals (PGM’s).

The first discovery of the eastern limb of the Merensky Reef can be traced back to the early decades of the 20th century when the reef was exposed from the Leolo Mountain range in the north to where the Steenkampsberg, west of the Dwars River (Dwars River range), commences as a continuation of the Leolo Mountain range in the south.

The norite zone in which the Merensky Reef outcrops is a rugged mountainous terrain, except in the extreme north-western sector. The area is dominated by high, rough-looking scrub-covered hills and ridges that alternate with flat-bottomed valleys. Four perennial streams, the Olifants, Tubatse, Dwars and Moopetsi Rivers traverse the platinum fields with a number of powerful springs in them.

5.6 The discovery of platinum

The first reference to platinum is found in a narrative published in 1748 by Don Antonio de Ullou y Gracia de la Torre, in which he mentioned that a heavy silvery metal occurred together with gold in New Granada (now called Columbia). The metal was described by Sir William Watson, an English physicist, as a semi-metal or metalloid in 1750. Experiments showed that platinum-rich grains consist of a mixture of several metals, namely platinum (Pt), palladium (Pd), iridium (Ir), ruthenium (Ru) and osmium (Os).

The discovery of platinum in South Africa dates back to the late 19th century. In 1892, William Bettel identified osmium-iridium alloy particles in concentrate from the Witwatersrand gold mines. Bettel and Hall and Humphrey also recorded the presence of platinum in the chromitite layers of the Bushveld Complex. Wagner reported the presence of sperrylite in the ore bodies at Vlakfontein near the Pilanesberg. However, none of these discoveries were considered to be of any economic significance. The first deposits that were economically viable, called the Waterberg Platinum, were found by Adolf Erasmus in the Rooiberg fellsites

between Nylstroom and Potgietersrust. These deposits did not prove to be significant. Andries Lombaard's discovery of platinum nuggets in the Moopetsi River on the farm Maandagshoek in the Steelpoort area in 1924 can be considered the initial discovery of the Merensky Reef.

The Merensky Reef occurs, geographically, in the westerly and the easterly parts of the Bushveld Complex. These two limbs of the Complex are confined to the North-West Province and to the Northern and the Mpumalanga Provinces of South Africa.

The Merensky Reef has been traced for a total distance strike extent of 283km, 138 kilometres of which is in the eastern limb and 145 kilometres in the western limb of the Bushveld Complex. Vertical depths of 1 900m have been registered along the Reef, which also indicates its continuity.

6 THE PHASE I HERITAGE IMPACT ASSESSMENT STUDIES

6.1 Types and ranges of heritage resources

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

- Remains from the recent past in the vicinity where the proposed new slag dump will be expanded.

These heritage resources were geo-referenced and tabled but they were not mapped as these remains are considered to be of low significance (Table 1).

The significance of the remains from the recent past is indicated as well as any mitigation measures, if required, if these remains are to be affected by the proposed Tubatse Project.

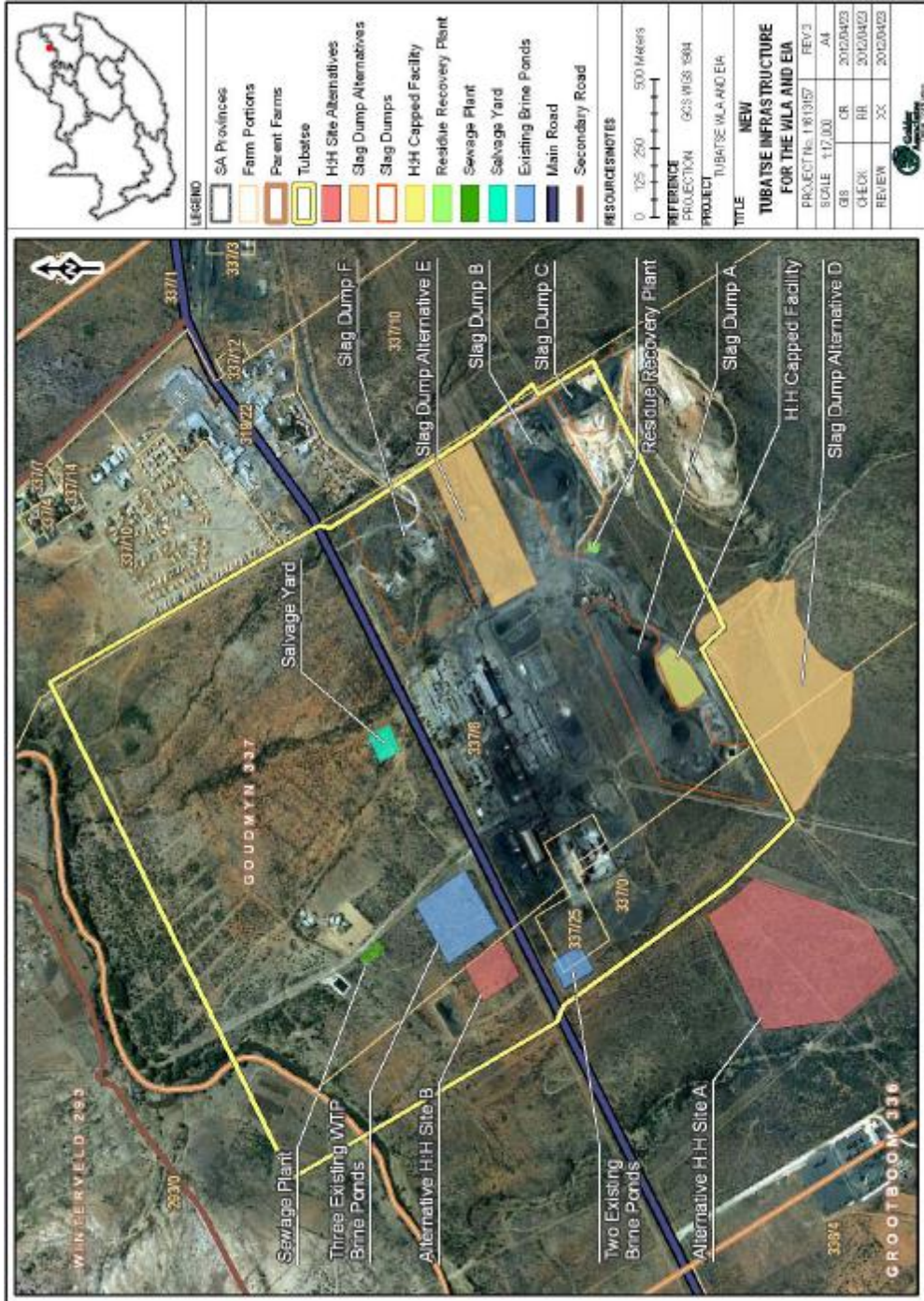


Figure 3- The Tubatse Project Area near the village of Steelpoort in the Limpopo Province. Remains from the recent past occur where the slag dump may be extended (Alternative D) but were not mapped as they are considered to be of low significance.

6.1.1 Remains from the recent past

Remains from the recent past occur along the soft slope of a mountain. These remains consist of a mixed heap of stones and soil which probably represents a dwelling of some kind which have collapsed. It is known that small communities or families lived in informal dwellings across the Steelpoort area before mining and other development activities took its course along the Merensky Reef.

It is highly likely that these remains date from the more recent past.

It is likely that more of these remains may occur in the thick vegetation that currently covers this part of the Project Area.



Figure 3- Remains from the recent past consisting of a heap of small stones occur near the foot of a mountain where Alternative D for the slag dumps may be located.

6.2 The significance of the remains from the recent past

The remains from the recent past have low significance when considering the following criteria:

- Section 34 of the National Heritage Resources Act (No 25 of 1999) requires that all buildings and structures which are older than sixty years must be protected. The remains from the recent past seem to be younger than sixty years and therefore are not protected by the National Heritage Resources Act (No 25 of 1999).
- The remains are too young and are too limited to remain have research, educational or tourism value and therefore cannot add to a better understanding of cultural life ways during the last fifty years in the Steelpoort Valley.

6.3 Mitigating the remains from the recent past

The remains from the recent past have been adequately documented in this report and needs no mitigation measures.

6.4 Table

REMAINS FROM THE RECENT PAST	COORDINATES	SIGNIFICANCE
RP01	24° 45.120'S 30° 11.272'E	Low
Grave outside Project Area		
G01	24° 44.493'S 30° 11.135'E	HIGH
Single grave outside Project Area		

Table 1- Coordinates for remains from the recent past in the Project Area (and for a single grave outside the Project Area).

7 CONCLUSION AND RECOMMENDATIONS

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

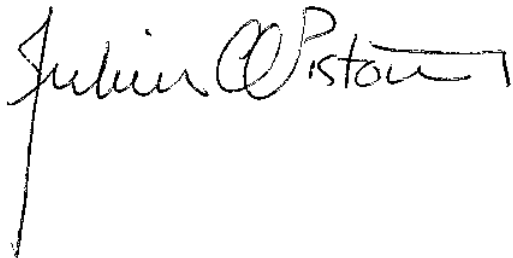
- Remains from the recent past in the vicinity where the proposed new slag dump will be expanded.

These heritage resources were geo-referenced and tabled (Table 1) and not mapped due to their low significance.

The remains from the recent past have low significance when considering the following criteria:

- Section 34 of the National Heritage Resources Act (No 25 of 1999) requires that all buildings and structures which are older than sixty years must be protected. The remains from the recent past seem to be younger than sixty years and therefore are not protected by the National Heritage Resources Act (No 25 of 1999).
- The remains are too young and are too limited to remain have research, educational or tourism value and therefore cannot add to a better understanding of cultural life ways during the last fifty years in the Steelpoort Valley.

The remains from the recent past have been adequately documented in this report and needs no mitigation measures.

A handwritten signature in black ink, appearing to read 'Julian Pistorius'. The signature is written in a cursive style with a long vertical line extending downwards from the 'P'.

DR JULIUS CC PISTORIUS
Archaeologist and Heritage Consultant
Member ASAPA

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