

**TO:
METAGO ENVIRONMENTAL ENGINEERS
SA CHROME**

**AN ARCHAEOLOGICAL SCOPING REPORT SUPPLEMENTED
WITH A PHASE I ARCHAEOLOGICAL SURVEY FOR SA
CHROME'S PROPOSED NEW FERROCHROME SMELTER ON
THE FARM BOSCHHOEK 103JQ IN THE RUSTENBURG
DISTRICT OF THE CENTRAL BANKEVELD IN THE NORTH
WEST PROVINCE**

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EXECUTIVE SUMMARY

Two historical houses (HH001 and HH002), one with outbuildings, and at least two recent graveyards (GY001 and GY002), as well as a third possible graveyard (GY003), occur in the study area. Legislation requires mitigation measures whenever cultural resources or sensitive remains such as these historical structures or graveyards will be affected, for example, during the construction or subsequent operational phases of the smelter complex. Mitigation measures (or procedures) which should be adopted with regard to the historical structures and the graveyards are set out in Table 1 in the report.

These mitigation measures also apply to other cultural resources (of the same range) which may be discovered and affected during subsequent development phases of the smelter complex.

Mitigation measures require specialists such as a cultural historian or architect (for historical houses) and forensic archaeologists (for human remains) to conduct further studies. These specialists are acquainted with legislation pertaining to such remains as well as with the administrative procedures needed to obtain permits to conduct such studies. Contact details for specialists are provided in this report.

If it is possible to avoid disturbing or destroying these cultural resources and sensitive remains during the building of the smelter or during subsequent project phases, no further studies may be needed. Cultural heritage authorities may consider mitigation measures such as walling off the cemeteries or the incorporation of some of the historical structures in the smelter complex to be adequate.

If SA Chrome's does not go ahead with the planned development, the *status quo* of the (endangered) cultural resources and sensitive remains will remain unaltered.

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1 INTRODUCTION

This report is the result of a scoping exercise supplemented by a Phase I archaeological survey done for Metago Environmental Engineers and SA Chrome on four portions of the farm Boschhoek 103JQ in the Rustenburg district in the Central Bankeveld of the North West. The Central Bankeveld is located, ecologically speaking, between the Bushveld to the north and the Highveld to the south. The Bankeveld can be divided, geographically and archaeologically, into the Western Bankeveld, the Central Bankeveld and the Eastern Bankeveld. The Western Bankeveld is the area around Zeerust, Marico and Swartruggens in the far north-west. The Central Bankeveld includes the areas around Rustenburg, Mooinooi, Marikana and Brits. The Eastern Bankeveld is the area to the east of Pretoria and includes the Middelburg district as far as Belfast and Roosenekal.

The Western Bankeveld is largely unexplored in terms of its archaeology, compared to the Central Bankeveld. However, it is known that the Western Bankeveld, like the Eastern Bankeveld, once housed numerous Batswana chiefdoms. The remains of stone walled villages left behind by these chiefdoms can therefore still be found in this part of the Bankeveld. These chiefdoms emerged five hundred years ago and were destroyed during the *difaqane* in the early 19th century. Stone walled settlements in the Eastern Bankeveld also date from the last five hundred years and are largely associated with the Manala-Ndebele and with the Ndzundza-Ndebele.

The Central Bankeveld as a whole has a rich cultural heritage comprised of remains dating from the prehistoric and the historical (or colonial) periods of South Africa. Prehistoric and historical remains in the Central Bankeveld form a record of the cultural heritage of most groups living in South Africa today. These remains include:

- limestone caves and underground dwelling sites of the earliest hominids (ape-man creatures) who lived in South Africa 2 to 3 million years ago;
- Stone Age sites which may be associated with the San people and which date back hundreds of thousands of years;
- rock engraving sites located along diabase outcrops and dating back 20 000 years;
- rock painting sites in the Magaliesberg and in the Pilanesberg Mountains which date from the last 10 000 years;

- Early Iron Age sites occupied by the first Bantu-Negroid farmers which date back 500 years;
- Late Iron Age sites dating from the last 500 years;
- remains dating from the previous century when the first immigrant Boers settled in various places to the north and the west of the Magaliesberg from the 1840's onwards;
- block houses built by British troops during the Anglo Boer War (1899-1902) on the Magaliesberg and other mountain ranges;
- graves and graveyard sites dating from historic and pre-historical times; and
- numerous other formal historical features (the Voortrekker Monument, the Willem Prinsloo agricultural museum, the Pioneers' Open Air Museum, Melrose House, the Sammy Marks Museum, the Paul Kruger house museum in Pretoria and Paul Kruger's farm Boekenhoutfontein to the north of Rustenburg, the Rustenburg and Zeerust museums, etc).

The implementation of the new National Heritage Resources Act (Act No 25 of 1999), which replaced the old National Monuments Act (Act No 28 of 1969) on 1 April 2000, has dramatically altered the *status quo* and the future of South Africa's cultural heritage. This law, and other laws relevant to the cultural heritage of South Africa, are briefly outlined in the next part of this report.

2 ARCHAEOLOGICAL REMAINS AND LEGISLATION

The Metago Environmental Engineers' study areas, located on the farm Boschhoek 103JQ, are situated in the archaeologically sensitive Central Bankeveld. All settlements older than a hundred years and all structures or parts of structures older than sixty years located in this region are protected by legislation. A synopsis of the relevant legislation is provided below. It must serve as a guideline to be considered before any development project is undertaken.

2.1 The Environment Conservation Act (Act No 73 of 1989)

The Environment Conservation Act (Act No 73 of 1989) makes provision for the drawing up of reports concerning the impact on the environment of activities identified and prohibited in terms of Sections 21 and 22 respectively. These reports must evaluate the impact that development may have on the natural and man-made environment, and this includes archaeological sites.

Local and regional authorities (Town Councils, Regional Governments and Regional Services Councils) also have regulations requiring evaluation of the possible effects that rezoning and development schemes may have on the environment, including the cultural environment. These regulations must be studied to ensure that they are implemented correctly.

2.2 The Minerals Act (Act No 50 of 1991)

The Minerals Act (Act No 50 of 1991) and the Minerals Amendment Act (Act No 103 of 1993) require plans for the conservation of the environment at or in the vicinity of any mine or works to be detailed in an environmental management programme (EMP). The EMP must indicate how the natural and the 'man-made' environment will be protected and rehabilitated during and after mining.

2.3 The National Heritage Resources Act (Act No 25 of 1999)

The National Heritage Resources Act (Act No 25 of 1999) requires all developers (including engineers, farmers [agriculturists] and mines, previously excluded from the bill) to undertake impact assessment studies whenever any development activities are undertaken. The law also provides guidelines for impact assessment studies to be done whenever cultural resources may be destroyed by development activities. Permits have to be acquired from the South African Heritage Resources Agency (SAHRA)

before a heritage site can be affected or destroyed during the course of development activities.

Archaeological impact assessment studies have therefore become a common procedure for all development activities, even if such development may be exempted in terms of the Environment Conservation Act.

The new law stipulates the types of remains that qualify as cultural resources (heritage). These cultural resources are graded into national, provincial and other cultural heritage resources. The law stipulates general principles for heritage resources management and involves all three levels of government in the management of the country's cultural heritage. The law also requires community participation in the protection of living heritage resources.

SAHRA will establish and maintain a national policy, strategy plans and standards for heritage resources management and will monitor the system as a whole. Heritage authorities will assist and co-operate with individuals and organisations concerned with the study, the conservation and the promotion and utilisation of national heritage resources. The newly established National Heritage Resources Fund will provide financial assistance for heritage projects.

3 THE AIM OF THIS REPORT

SA Chrome intends to build a Ferrochrome smelter on the farm Boschhoek 103JQ in the Rustenburg district of the North West. Four portions (the study area) on the farm were identified and were subjected to a Phase I survey. These included (Figure 2):

- Portion 21, roughly 70 hectares, and hereafter referred to as Portion A;
- Portion 67, roughly 28 hectares, and hereafter referred to as Portion B;
- Portion 66, roughly 5 hectares, and hereafter referred to as Portion C; and
- Portion 11, roughly 3 hectares, and hereafter referred to as Portion D.

In order to comply with legislation, SA Chrome requires knowledge of the presence and of the significance of any cultural resources that may occur in these study areas. SA Chrome needs this knowledge in order to take pro-active measures with regard to any significant cultural resources that may occur in the study areas because these remains may be affected, damaged or destroyed by the proposed development activities. Consequently, I, as an archaeologist was commissioned by Metago Environmental Engineers and SA Chrome to undertake a desk top study and a Phase I archaeological survey of the development areas in order to determine whether any cultural resources occur or may be expected in the study area.

The aims of the desk top study and the Phase I survey were three-fold, namely:

- to establish whether any significant cultural resources occur in the study area;
- to establish what the nature, the extent and the significance of these remains are; and
- to propose pro-active measures to reduce the impact of development activities on the range of cultural resources which exist in the study area and which may be affected by the proposed development activities.

The pro-active measures suggested would also apply for similar types of cultural resources missed during the Phase I investigation, but uncovered during subsequent construction phases.

4 CONTEXTUALISING THE STUDY AREA

The Bankeveld is a narrow strip of land between the northern part of South Africa and the centrally situated Highveld. This area is roughly demarcated by Krugersdorp in the south, the Pienaars River to the north, Bronkhorstspruit in the east and the Pilanesberg to the west. This region can be divided into three parallel ecozones, running from east to west, namely the grassveld of the southern Highveld and the northern Bushveld, with the Magaliesberg valley forming a central ecozone.

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

The interaction in this part of the Transvaal, over millions of years, between the climate, geology, topography, and the fauna and flora in the Bankeveld has established a milieu in which the first Batswana, who practised herding, agriculture, metal working and trading, found a suitable living environment. It was here that their chiefdoms flourished. The settlements of these early Batswana chiefdoms are characterised by an impressive and elaborate stone-built tradition. Hundreds of sites were built along the bases of the granite hills. These chiefdoms emerged, according to oral history, from the start of the 17th century onwards. Small vanguards of these agro-pastoralists may, however, have been present in this area as early as the 14th century. One of the earliest ancestors was known as Mogale, from whose name the Magaliesberg derives its name.

The study areas fall within a sphere of influence that was occupied by the Bafokeng people who entered the area, according to oral tradition, during the early 17th century. The Bafokeng's royal lineage, however, settled south of Boschhoek at Phokeng. The Bafokeng gradually extended their influence and presence in this area as far north as the Elandsriver, south and west towards to the Magaliesberg and east towards the granite hills that separate Marikana from Rustenburg.

Batswana clans such as the Batlokwa, Bakgatla and the Bathlako occupied the Pilanesberg further to the north while the Bakwena Bamodimosasa chiefdoms of

Mmatau and Ramanamela occupied the mega stone walled complexes known as Molokwane and Bôitsemagano to the west of the Magaliesberg.

Numerous pre-*difaqane* and *difaqane* wars took place in the Central Bankeveld during the last quarter of the 18th century and the first three decades of the 19th century. These wars led to the displacement of large numbers of Batswana in the Bankeveld. Refugee sites occupied by *dislocados* became a common sight. The Matabele of Mzilikazi caused chaos and havoc in the Bankeveld. The Matabele established several settlement complexes in this region from whence they maintained a grip on the indigenous population. One of these Zulu/Nguni residences (*imisi*) and military kraals (*amakhanda*) was discovered during an archaeological survey in 1997 in the newly developed Thlabane-West suburb, north of Rustenburg. The Matabele must have intermarried with the Bafokeng. One of Mzilikazi's sons, Nkulumane, was buried in Phôkeng. His grave is today wrongly indicated as 'Mzilikazi's grave' in Phôkeng's main street.

The Late Iron Age history of the Rustenburg and Boschhoek areas was complex and is not fully recorded in oral traditions or in any other records. This history can therefore only be unravelled by means of the methods and theory associated with archaeological research.

The discontinuous nature of the northern tip of the Magaliesberg near the study area was important for the movement of people such as traders between the Western Bankeveld and the Central Bankeveld. During the first half of the 19th century and decades thereafter, this part of the mountain served as a trail through which wagons passed on their way to Rustenburg and the eastern parts of the Central Bankeveld. Traders such as Schoon and McLuckie (1829), who were the first white people to visit the area north of the Magaliesberg, missionaries such as Robert Moffat (1829), scientists such as Andrew Smith (1835) and the adventurer Cornwallis Harris (1836) trekked through the Magaliesberg (and over the farm Boschhoek) on their way to the eastern part of the Central Bankeveld, where some of them visited Mzilikazi of the Matabele (Ndebele), who occupied at least three villages complexes in the region.

The largest and most important towns and villages close to SA Chrome's planned smelter site are the towns of Phôkeng, Rustenburg and Thlabane, located to the south of Boshhoek. The towns of Bala and Chuane are located to the north-east of the planned smelter site.

The town of Phôkeng came into being when the Bafokeng established themselves, according to oral tradition, at a place called 'Phôka' during the early decades of the

17th century. ('Phôka' is a type of wild grass the people ate during a time of famine). Later Bafokeng rulers reigned between the Magaliesberg in the west and the Thaba ea Maralla range of mountains to the east.

Rustenburg is the third oldest town established by Colonials or Voortrekkers in the former Transvaal area during the first half of the 19th century. The town was proclaimed by the governor of the Zuid-Afrikaanse Republiek in September 1851. The Transvaal Volksraad met in the town in 1852 and important decisions relating to the church and state were taken in the town. Rustenburg also served as the seat for the Zuid-Afrikaanse Republiek before Pretoria became the capitol.

Paul Kruger, who served as President of the Zuid-Afrikaanse Republiek, owned the farm Boekenhoutfontein south of Boshhoek. His family occupied the farm during the second half of the 19th century. The buildings on the farm were destroyed during the Anglo-Boer War. The farm was declared a national heritage site in 1936 and has been preserved by the Simon van der Stel Foundation since 1971.

The town of Boshhoek's name is derived from that of the farm Boschhoek. The town is located along the railway line from Pretoria and was formerly a terminus. The town is known for its citrus and for the cultivation of Virginia tobacco. Several old houses and shops still stand along the sides of the town's main street. The Boshhoek area has been occupied without interruption by farmers and workers since the 19th century. Remains dating from this historical (colonial and modern) period therefore exist in or near the study area. The character of the town has, however, gradually changed due to the expansion of platinum and chrome mining and the stream of visitors and the constant stream of visitors and tourists that passes through the town on their way to Sun City and the Pilansberg Game Reserve.

5 METHODOLOGY

The desk top study was based on a survey of literature pertaining to the history and the archaeology of the Central Bankeveld in general, and the cultural history and the pre-history of the Boshhoek and Phôkeng areas in particular (see 'Contextualising the study area' and Bibliography, Part 9).

The archaeologist's own practical fieldwork experience in this region during the past twenty years has contributed significantly to the generation of predictive evidence (assumptions) of the types of cultural resources to be expected in the study areas (see Bibliography, Parts 11 and 12).

Further data used was the 1:50 000 topographical maps of Rustenburg (West) 2527DA and Heystekrand 2527CA. The latter map includes the study area. An aerial photograph of the study area (provided by Metago Environmental Engineers) also served as an invaluable source for detecting some of the features and to map the cultural resources and sensitive remains discovered in the study areas.

The Phase I survey focused on geographical niches where spokesperson Oompie Mashebela and a second spokesperson knew sensitive remains such as graveyards to exist and areas in which the archaeologist deemed it necessary to look for such remains. These geographical niches were surveyed on foot. Parts of the study areas that had accessible routes were also covered in a vehicle. A complete survey on foot of the areas altered by recent human activities was not warranted.

The high rainfall during the early part of 2000 did not enhance the conditions needed for fieldwork. Dense vegetation in the more undisturbed areas made the detection of archaeological remains difficult, if not impossible.

6 THE DESK TOP STUDY

The Introduction to this report lists a broad range of cultural resources to be found in the Central Bankeveld. This range can be narrowed down to four categories, based on a literature survey and field experience, to include the following types of cultural resources most likely to occur in the study areas:

- Stone Age sites associated with the San people and which may date back hundreds of thousands of years;
- Late Iron Age sites dating from the last 500 years;
- remains dating from the 19th century when the first immigrant Boers settled in places such as Mooinooi, Marikana, Rustenburg, Schaapkraal and Boshhoek to the north of the Magaliesberg from the 1840's onwards; and
- graves and graveyard sites dating from pre-historical and historical times as well as from the relatively recent past.

The possible presence of these four categories of cultural resources and sensitive remains in the study areas are briefly considered, together with the results of the Phase I survey.

7 THE PHASE I SURVEY

Interviews with spokesperson Oompie Mashabela and another local resident, a study of 1:50 000 topographical maps of the study areas and surveys on foot of parts of the study areas revealed the presence or absence of the following types of cultural resources and sensitive remains in the study area. These sites and features are indicated on the map and illustrated with photographs (Figures 1 and 2).

7.1 The (developed) nature of the study area

SA Chrome's intends to develop portions of the farm Boschhoek 103JQ in the Rustenburg district of the North West Province (see the 1:50 000 topographical map of Heystekrand 2527CA). The study area is situated near the eastern foothills of the Magaliesberg and the Pilanesberg in the north. The modern towns of Phôkeng, Thlabane and Rustenburg are located further to the south. Formal and informal settlements in the area include the town of Boschhoek directly to the west of the proposed smelter site and the towns of Bala and Chaneng further to the north-east.

The Boshhoek area is already a developed area. The study area has been affected by development activities in the past. The most pronounced development consisted of the cultivation of land, which disturbed large areas of land. These activities were already common as early as 1961 (see 1:50 000 map of Heystekrand [2527CA] printed and published in 1964 by the Government Printer) on large parts of all four portions of land. The study area can therefore no longer be described as an unaffected piece of land. It seems that only a part of the north-western and the south-western corners of Portion A may have been unaffected by development activities in the past .

Most of the infrastructure discovered during the survey, including modern (contemporary) structures, historical and sensitive remains (houses and graveyards), were documented on Portion A. The various structures and features documented in the study area are indicated in Figures 1 and 2. These structures and features can be summarised as follows:

- at least three contemporary houses (CH001, CH002 and CH003), two on Portion B and one (CH003) on Portion A;
- at least three individual, isolated modern structures on Portion A (IIS001, IIS002 and IIS003).
- two historical houses (approximately sixty years or older), one on Portion A (HH001) and the other on Portion D (HH002). HH001 has been abandoned and includes several outbuildings. HH002 is occupied by squatters; and
- three graveyards (GY001, GY002 and GY003) on Portion A.

These remains, as well as the four types of cultural resources that may exist in the study area, are now discussed and illustrated with photographs.

7.2 Stone Age sites

Stone Age sites are numerous all over South Africa and tend to crop up even where the presence of humans in the past was not remotely expected. Some of these settlements date back millennia and existed when the climate of and environment in the region differed from what is found there today.

Stone Age communities well adapted to such climates and ecological niches proliferated into skilled hunter and gatherer bands and probably established themselves over large areas of the Central Bankeveld. Stone Age sites occur in rock shelters and in cave sites in the Magaliesberg.

No Stone Age sites were detected in the study area. However, stone artefacts may occur anywhere in the study area. This is also true for disturbed areas where stone tools, otherwise undetectable, may be exposed by development activities.

It is, however, doubtful whether significant Stone Age sites or significant numbers of Stone Age tools occur in the study area.

7.3 Late Iron Age sites

Stone walled sites dating from the Late Iron Age occur around the study area. The archaeologist has been told that there are stone walled sites along the bases of the kopjes on Elandsfontein 102JQ to the west of Boschhoek 103JQ.

The study area on Boschhoek is, however, devoid of any conspicuous granite kopjes, where these sites are usually found. No granite protrusions or dykes occur in the study area. These geological features could have provided building material for smaller sites such as cattle posts located in flatter parts where there is abundant grazing. Cattle posts were usually located away from residential sites.

7.4 Remains from the colonial period

The first immigrant Boers who settled north of the Magaliesberg established the town of Rustenburg in the 1840's. The farm Schaapkraal 292JQ, located to the north of Marikana, was another early point of settlement in the Central Bankeveld. The Marikana, Mooinooi and Boschhoek areas were also occupied by colonists during the second half of the 19th century. The farm Boekenhoutfontein, north of Rustenburg, was occupied by Paul Kruger, president of the Zuid-Afrikaanse Republiek. A part of this farm and residential houses on this farm have been declared a national heritage site.

The Boshhoek railway station contains several buildings older than sixty years. These houses are, however, located on the western side of the railroad and therefore fall outside the study area. HH002, on the northern side of the railroad, may have been part of the original railway town. Remains in the study area which qualify as historical structures or as sensitive remains are the following:

Historical House 001

HH001 has several outbuildings. This structure actually consists of a farmstead with a main dwelling and several outbuildings. The main dwelling is a square house with a high pitched roof of corrugated iron which extends to a stoep (veranda) on three sides of the house. HH001 is surrounded by outbuildings. The majority of these outbuildings are of recent construction, but they are to a large degree, dilapidated.

The outbuildings include what seem to be chickenruns and a pig sty, located to the east of the main house. Outbuildings to the west of the main house include a barn (or 'waenhuis') and a square structure. The barn may predate the main house. The remaining two outbuildings, the one small and square and the second large and consisting of two or more rooms, seem to be of recent construction. Both once had

corrugated iron roofs and were built with decorated concrete bricks. They are both in a poor condition.

A pump station, a small reservoir and a reservoir on a stand are situated directly to the west of the main house.

The main house is still in good condition, although it has been vandalised.

Approximately 500 metres to the west of HH001, and west of the barn, there were a second pump house, a reservoir and a reservoir on a stand.

View of HH001 from the south (the front or *façade*).

View of HH001 from the north (the back).

Several outbuildings are associated with HH001. The barn (below) is situated to the west of HH001 and may have been built at the same time or earlier than the house.

This square structure was probably built at the same time as the barn and may be older than the main dwelling (HH001)

These outbuildings, located to the east of HH001, were probably used to house pigs and chickens (above and below). These structures seem to be of recent construction.

A small and a larger outbuilding located to the west of HH001 (above and below).
These structures also seem to be of modern origin.

Historical House 002

Portion D, the smallest part of the study area, includes part of the previous Boschhoek station. This piece of land has been intensely affected by development activities during the last century. Portion D contains HH002. This structure may have been one of the original railway houses built adjacent to the railway line. This house, was, however, extended several times. Its original architectural style has been altered considerably. The house and two small structures to the east and west are dilapidated and are now occupied by several squatter families.

View of HH002 from the north (the front or *façade*) (below).

View of HH002 from the east (or the side).

7.5 Remains from the recent (or contemporary) past

There are three individual, isolated modern structures on Portion A. The first structure, IIS001 may have been a store or a dwelling for labourers. It is located next to (south of) the dirt road between HH001 and CH003, close to GY002 (below).

The second structure (IIS002) is located next to a 'modern' cattle kraal built with wooden poles. This structure has been plastered with concrete. The third structure (IIS003) is a pump station built with concrete bricks. It is located in the central part of Portion A (above).

Three graveyards were pointed out by spokespersons on Portion A. The graveyards are qualified as being used by 'black' or 'white' people because different cultural groups, today and in the past, attach different cultural values to their dead and to the way the dead must be treated. It is therefore important that, if a graveyard must be resettled in order to build the smelter, such cultural values are considered and duly respected.

GY001 is located on Portion D's southern border in close proximity to the dirt road parallel to the railroad. The graves are covered with stones and do not have tombstones. There are at least nine graves. The graves are located between a patch of tall grass and a clump of trees (below). According to Oompie Mashabela, the dead were interred before 1985. Two of the dead, Mavis Mashebela and Petrus Morake, were known to the spokesperson.

GY002 is located approximately 350 metres north of GY001 and approximately 40 metres east of the dirt road between HH001 and CH003. It contains only two graves. The graves are covered with a few stones and are inconspicuous, as they are overgrown with grass and do not have tombstones (below). These graves probably date from the relatively recent past and were probably used for black people.

A third 'graveyard' (GY003) on Portion A was pointed out by Oompie Mashabela. It is located in a thick impenetrable thorn bush against the fence that separates Portion A from Portion B, approximately 150 metres north-west of HH001. An investigation of this bush, however, did not reveal the presence of graves. It is not certain whether Oompie Mashabele was correct in identifying this graveyard which, according to Oompie, was used by white people. No tombstones are visible in the thorn bush. It would only be possible to establish whether GY003 did in fact exist by clearing the thorn bush cover.

There are at least three contemporary houses on Portion A and Portion B. CH003, with outbuildings consisting of a garage, a pump house and reservoir on a stand, is located on Portion A (below). CH003 dates from the recent past and has been extensively damaged.

The outbuildings (see garage above) associated with CH003 also date from the recent past and are also badly damaged.

CH001 and CH002 are situated on Portion B. CH002 may be older than sixty years and may qualify as an historical structure (below).

8 CONCLUSION

The proposed SA Chrome smelter site is located in the north-western corner of the Central Bankeveld. The study area falls between Batswana spheres of influence that date from the 17th century. The Rustenburg district, including the Boshhoek area, was occupied by the Voortrekkers from the second half of the 19th century. The SA Chrome study area therefore partly includes the historical village of Boshhoek. Historically significant houses, shops and other structures still mark opposite sides of the main street running through Boshhoek. Historical farmsteads still occur on some of the farms in the area but are disappearing at an alarming rate. Very little, if indeed anything, has been done in the past to preserve the historical character of the town and the area. Growing chrome and platinum mines have gradually replaced agriculture, the other traditional economic activity of the area during the last two to three decades. Mining has, in recent years, become the main economic pursuit of the North West.

The Boshhoek study area has been scarred by agricultural activities in the past. SA Chrome's proposed smelter will therefore be built in an established agricultural context and in a new emerging mining context. The few remaining cultural resources identified in the Boschhoek Study Area have lost their cultural context long ago, due to the various development activities undertaken there in the past. The cultural resources that may be affected by the proposed smelter complex on a part of Boshhoek are indicated in Table 1 included in this report. The table also outlines possible mitigation measures that would ensure that the impact of development on

these cultural resources is minimized. Measures and procedures to be adopted before mitigation measures be introduced are also indicated.

Two historical structures (HH001 and HH002), one with outbuildings (HH001), and two recent graveyards (GY001 and GY002) as well as a third possible graveyard (GY003) were identified in the study area. These structures and features may be negatively affected during the construction or the subsequent development phases of the smelter complex. Legislation requires mitigation measures to be implemented whenever cultural resources or sensitive remains (such as contemporary graveyards) are to be affected by development activities. The relevant legislation includes the National Heritage Resources Act (Act No 25 of 1999), the Ordinance on Exhumations (Ordinance No 12 of 1980) and the Human Tissues Act (Act No 65 of 1983 as amended).

Mitigation measures (or procedures) to be adopted with regard to the historical structures (HH001 and HH002) and the graveyards (GY001, GY002 and GY003) are set out in Table 1. These mitigation measures and procedures also apply to other cultural resources (of the same range) which may be discovered or which may be affected during subsequent development phases. Cultural resources buried beneath the surface may also be affected by construction activities.

The levels of significance of the range of cultural resources which may be affected by the building of the smelter or during consecutive project phases must be assessed by the specialists identified in Table 1, namely a cultural historian [architect] and forensic archaeologist. These specialists are acquainted with legislation relating to these remains, the administrative procedures involved to obtain the necessary permits for mitigation such as the exhumation of human remains, the documentation of historical houses or the surveying and excavation of Late Iron Age settlements. Specialists who can be consulted on these ranges of cultural resources are:

- Prof. Maryna Steyn of the Department of Anatomy of the University of Pretoria for the exhumation of human remains; and
- Mr Mauritz Naudé of the National Cultural History Museum for the documentation of historical houses and structures.

If any Iron Age remains are exposed during the construction or subsequent development phases of the smelter, the following person can be contacted:

- Dr Julius Pistorius of the Department of Anthropology and Archaeology at the University of Pretoria for the surveying and excavation of Late Iron Age settlements.

If it is possible to avoid the cultural resources and sensitive remains during the building of the smelter or during subsequent project phases, this may imply that no further studies have to be done. Cultural heritage authorities may consider mitigation measures such as walling off the cemeteries or the incorporation of historical structures in the smelter complex as sufficient.

If SA Chrome's development does not occur, the *status quo* of these endangered cultural resources and sensitive remains will remain unaltered.

Dr JULIUS CC PISTORIUS

Table 1. The range of cultural resources in and near the study areas on the farm Boschhoek 103JQ. Note the procedures to be followed whenever any of these resources is to be affected by the building of the smelter or during subsequent project phases.

CULTURAL RESOURCES	MITIGATION MEASURES	PREREQUISITE/ PROCEDURES	GENERAL REMARK
Stone Age sites and scattering of stone tools	<ul style="list-style-type: none"> • Collection from surface and donation to Rustenburg Museum. • Test excavations if unique. • Extended excavations if unique. 	<ul style="list-style-type: none"> • Permit from SAHRA and collaboration with archaeologist • Ditto • Ditto 	It is doubtful whether significant Stone Age sites or significant numbers of Stone Age tools occur in the proposed development area.
Stone walled sites dating from the Late Iron Age.	<ul style="list-style-type: none"> • Surveys and test excavations. 	<ul style="list-style-type: none"> • Permit from SAHRA and collaboration with archaeologist. 	No stone walled sites were observed in the study areas.
Historical structures and features (houses, farm-home steads, etc).	<ul style="list-style-type: none"> • Documentation of these structures and features before destruction. • Restoration of these structures and features. 	<ul style="list-style-type: none"> • Permit from SAHRA and collaboration with cultural historian/architect 	These structures may be affected by the building of the smelter complex.

	<ul style="list-style-type: none"> Incorporation of structures and features into development scheme. 		
Graveyards	<ul style="list-style-type: none"> Incorporation of graveyards into development scheme. Relocation of graves and graveyards. 	<ul style="list-style-type: none"> Permits from national and provincial health departments, community consultation and collaboration with forensic archaeologists. 	These features may be affected by the building of the smelter complex

9 BIBLIOGRAPHY OF LITERATURE PERTAINING TO THE BROADER STUDY AREA

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

Breutz, P.L. 1986. *A History of the Batswana and Origin of Bophuthatswana*. Thumbprint: Margate.

Burrow, J. 1971. *Travels in the Wilds of Africa, being the diary of a young scientific assistant who accompanied Sir Andrew Smith in the expedition of 1834-1836*. Edited by Kirby, P.R. Balkema: Cape Town.

Bergh, J.S. 1992. Die vestiging van die Voortrekkers noord van die Vaalrivier tot 1840. *Historia*, 37(2):38-42.

Chase, J.C. 1830. Substance of the Journal of two Trading Travellers, and of the Communications of a Missionary, regarding their recent visits to the Countries in the rear of the Portuguese Settlement at De la Goa Bay. *South African Literary and Scientific Institution*:402-407.

De Beer, B.K. 1975. *Agter die Magalies*. Postma Publikasies:Fontainebleau.

Harris, W.C. 1839. *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.

Kirby, P.R. 1940. *The Diary of Dr. Andrew Smith, director of the "Expedition for Exploring Central Africa," 1834-1836*. The Van Riebeeck Society: Cape Town.

Lye, W.F. (ed.) 1975. *Andrew Smith's Journal of his expedition into the interior of South Africa 1834-36*. Cape Town: Balkema.

Mason, R.J. 1968. Iron Age settlement in the Transvaal and Natal revealed by aerial photography and excavation. *African Studies*, 27(4).

Mason, R.J. 1973. Iron Age research in the Western Transvaal. *Current Anthropology*, 14: 485-487.

Mason, R.J. 1974. Background to the Transvaal Iron Age - new discoveries at Olifantspoort and Broederstroom. *Journal of the South African Institute of Metallurgy and Mining*, 74(6): 211-216.

Mason, R.J. 1986. *Origins of black people of Johannesburg and the Southern Western Central Transvaal AD 350-1880*. Archaeological Research Unit, Occasional paper No 16. University of the Witwatersrand.

Moffat, R. 1842. *Missionary Labours and Scenes in Southern Africa*. London: John Snow.

Pretorius, Z.L. 1967. *Die Geskiedenis van Rustenburg, 1851-1918*. MA verhandeling. Potchefstroom: PU vir CHO.

Rasmussen, R.K. 1978. *Migrant Kingdom: Mzilikazi's Ndebele in South Africa*. David Philip: Cape Town.

Standard Encyclopaedia of Southern Africa. Volume 2. 1970. Nasionale Opvoedkundige Uitgewery Edms Bpk: Kaapstad.

Steadman, A. 1835/1966. *Wanderings and adventures in the interior of Southern Africa*. 2 Vols. Facsimile reprint. Cape Town: Struik.

TNAD 1905. *Short History of the Native Tribes of the Transvaal*. Government Printer: Pretoria.

Visagie, J..C. 1992. 'n Besoek aan Mzilikazi in 1830. *Historia*, 37(1): 9-23.

Wallis, J.P.R. 1945. *The Matabele Journals of Robert Moffat, 1829-1860*. Vol I. London: Chatto & Windus.

10 LIST OF SPOKESPERSONS CONSULTED

Mr Oompie Mashebela, local inhabitant of Boshhoek.

Male family member of Mr Oompie Mashebela, local inhabitant of Boshhoek.

Mr Pierre Theunissen, employee at SA Chrome.

11 BIBLIOGRAPHY OF ARCHAEOLOGICAL IMPACT STUDIES DONE IN THE CENTRAL BANKEVELD NEAR THE STUDY AREA

Pistorius, J.C.C. 1993. *'n Argeologiese impakstudie van die beoogde trajek van roete K16 in die Britsdistrik van Transvaal*. (Mede-outeur, F.P. Coetzee). Verslag voorberei vir Liebenberg & Jenkins, Siviele Ingenieurs: Pretoria. (56pp).

Pistorius, J.C.C. 1993. *'n Argeologiese ondersoek van 'n gedeelte van die plaas Elandsrand (570JQ) in die Britsdistrik van Transvaal*. (Mede-outeur F.P. Coetzee). Verslag voorberei vir Wates, Meiring en Barnard, Siviele Ingenieurs: Johannesburg. (26pp).

Pistorius, J.C.C. 1994. *'n Verslag van argeologiese opgrawings op die plaas Zwartkopjes of Roodekopjes (427JG) in die Britsdistrik van Transvaal*. (Medewerkers: P. Nortje, K. Lubbe, W. van der Merwe). Verslag voorberei vir Liebenberg & Jenkins, Siviele Ingenieurs: Pretoria. (74pp).

Pistorius, J.C.C. 1995. *'n Argeologiese verkenningsopname van 'n gedeelte van die beoogde Adis-Ikaros-Phoebus 400kV transmissielynkorridor tussen Garankuwa en Brits*. Verslag voorberei vir die Transmissiegroep van Eskom: Megawattpark. (37pp).

Pistorius, J.C.C. 1996. *'n Fase 1 argeologiese ondersoek en evaluering van die voorkoms van argeologiese terreine binne die beoogde Noordsigwoonbuurt van Rustenburg.* (Medewerkers M. Hutten en S. Gaigher). Verslag voorberei vir EVN Projektebestuur (Pretoria), die Oorgangsraad van Rustenburg en Fox Lake & Machouse Ontwikkelaars. (36pp).

Pistorius, J.C.C. 1996. *Assessment of archaeological potential of land under the control of Rhombus Vanadium (Pty) Ltd.* Report prepared for Stass Environmental. (7pp).

Pistorius, J.C.C. 1996. *A Phase I archaeological investigation of land to be mined by Samco Tiles at Hornsnek, Pretoria, south of the Magaliesberg.* Report prepared for Fritz Klöpfer Environmental. (12pp).

Pistorius, J.C.C. 1997. *'n Fase 2 argeologiese ondersoek van 'n negentiende eeuse Matabeledorp binne die beoogde Noordsigwoonbuurt van Rustenburg.* (Medewerkers: M. Hutten, S. Gaigher, P. Birkholtz en W. Fourie). Verslag voorberei vir EVN Projektebestuur, die Oorgangsraad van Rustenburg en Fox Lake & Machouse Ontwikkelaars. (27pp).

Pistorius, J.C.C. 1997. *Survey of Mmatshetshela on Tweedepoort (283JQ) in the Rustenburg district of the North West Province: Archaeological assessment for the Vaalkop Southern Regional Water Supply Scheme.* Report prepared for Walmsley Environmental Consultants, EVN Consulting Engineers, Magalies Water & National Monuments Council. (41pp).

Pistorius, J.C.C. 1997. *Mmatshetshela, a settlement from the difaqane or pre-difaqane period on the farm Tweedepoort (283JQ) in the Rustenburg district of the North-West Province: Results of a Phase II archaeological investigation for the Vaalkop Southern Regional Water Supply Scheme.* Report prepared for EVN Consulting Engineers, Magalies Water & the National Monuments Council. (52pp).

Pistorius, J.C.C. 1997. *Proposal for archaeological survey and assessment in the Bankeveld: new Buffelschroem/Modderspruit substations and 88/22/11Kv interconnections.* Report prepared for the Network Services Manager, Eskom: Rustenburg. (24pp).

Pistorius, J.C.C. 1997. *A Phase I archaeological survey and assessment for Eskom's new Buffelschroem/Modderspruit substations and 88/22/11Kv interconnections.* Report prepared for the Network Services Manager, Eskom: Rustenburg. (23pp).

Pistorius, J.C.C. 1997. *The archaeological potential of Boschkoppie (104JQ) in the Rustenburg district of North West: An impact and assessment report for Amplats' platinum mine*. Report prepared for North West Environmental Consultants and Amplats. (17pp).

Pistorius, J.C.C. 1997. *A Phase I archaeological survey on the farm Hartebeespoort B 410 JQ in the Brits district: establishing a cultural heritage management programme for Nyala Granite in collaboration with an archaeological enterprise*. Unpublished report for North West Environmental Consultants and Nyala Granite. (36pp).

Pistorius, J.C.C. 1997. *Results of a Phase I archaeological survey of the 88 kV transmission line corridor and stand for the Marikana substation in the Rustenburg district of the North West Province*. Unpublished report for the Network Services Manager, Eskom: Rustenburg. (21pp).

Pistorius, J.C.C. 1998. *Archaeological survey and assessment of the Taylor mining area on the farm Tweedepoort (283JQ) in the Rustenburg district. Addendum to the Environmental Management Programme Report done for Kudu Granite*. Report prepared for Kudu Granite. (49pp).

Pistorius, J.C.C. 1998. *Archaeological survey and assessment of the Schaapkraal mining area in the Rustenburg district. Addendum to the Environmental Management Programme Report done for Kudu Granite*. Report prepared for Kudu Granite. (49pp).

Pistorius, J.C.C. 1998. *A Phase I archaeological investigation of the PWV9 highway between Van Der Hoff Road and Church Street, Pretoria*. Report prepared for Van Riet and Louw. 18pp.

Pistorius, J.C.C. 1998. *A Phase I archaeological survey of the Eugene Marais Park in Groenkloof, Pretoria*. Report prepared for Cave and Clapwijk. (18pp).

Pistorius, J.C.C. 1998. *A Phase I archaeological survey for Eskom's 88kV transmission line upgrade from Ontgin substation (Rooikoppiesdam) to Vaalkop pump substation, North West Province*. Unpublished report prepared for Eskom's Network Services Manager, Rustenburg (18pp).

Pistorius, J.C.C. 1998. *A Phase I archaeological survey for Eskom's Adis powerstation, 132kV transmissionline corridor and transmission line corridor between Bighorn (Marikana) and Adis powerstation (Brits)*. Unpublished report prepared for Eskom's Transmission Group, Megawattpark (37pp).

Pistorius, J.C.C. 1998. *A Phase I archaeological survey for Magalies Water's Vaalkop Southern Regional Water Supply Scheme: The water pipeline corridors between Boschpoort and Tlhabane (Contract 4), between Meriting and Ga-Luka (Contract 5) and for the stand of the water pump station (Contract 6)*. Unpublished report prepared for Walmsley Environmental and Magalies Water (26pp).

Pistorius, J.C.C. 1999. *Archaeological survey and assessment of Granite mines on the farms Tweedepoort (283JQ) and Boschpoort (284JQ) in the Rustenburg district. Incorporating the Taylor mining area, the Bekker mining area, the Transvaal mining area and the Springbok mining area*. Addendum to the Environmental Management Programme Reports done for Marlin and Kelgran Granite. Report prepared for Marlin and Kelgran Granite Mines. (89pp).

Pistorius, J.C.C. 1999. *A Phase I archaeological survey for Eskom's 88kV transmission line relocation on the Kroondal Platinum Mine premises, Rustenburg district*. Unpublished report prepared for the Eskom's network services manager, Rustenburg (pp24).

Pistorius, J.C.C. 1999. *A Phase I archaeological survey of the 88kV Rustenburg furnace interconnector transmission line corridor*. Unpublished report prepared for the Eskom's network services manager, Rustenburg (pp17).

Pistorius, J.C.C. 1999. *A Phase I archaeological survey of the proposed trajectory of Road K105 in Centurion*. Unpublished report prepared for Plan Associates, Pretoria (pp22).

12 BIBLIOGRAPHY OF SCIENTIFIC ARTICLES

Pistorius, J.C.C. 1994. Molokwane, a seventeenth century Batswana village. *South African Journal of Ethnology*, 17(2): 38-53.

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

Pistorius, J.C.C. & Steyn, M. 1995. Iron Working and Burial Practices amongst the Kgatla-Kwena of the Mabyanamatshwaana Complex. *Southern African Field Archaeology*, 4(2): 68-77.

Pistorius, J.C.C. 1995. Radiocarbon Dates from the Mabyanamatshwaana Complex. *South African Journal of Ethnology*, 18(3): 123-127.

Nienaber, W.C. & Pistorius, J.C.C. 1996. Argeologiese Opleidingsopgrawings in die Hans Merensky Natuurresewaat in die Laeveld (Noordelike Provinsie). *Suid-Afrikaanse Tydskrif vir Etnologie*, 19(1): 28-36.

Pistorius, J.C.C. 1996. Spatial Expressions in the *kgosing* of Molokwane. *South African Journal of Ethnology*, 19(4): 143-164.

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

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

Nienaber, W.C., Prinsloo, H.P., & Pistorius, J.C.C. 1997. Derdepoort: 'n Vroeë Ystertydperkterrein noord van die Magaliesberg. *Suid-Afrikaanse Tydskrif vir Etnologie*, 20(1): 15-22.

Pistorius, J.C.C. 1997. Diachronic evidence from the *kgosing* of Molokwane. *South African Journal of Ethnology*, 20(3): 118-132.

Pistorius, J.C.C. 1997. Mmatshetshela, the settlement of a displaced group in the Bankeveld. *South African Journal of Ethnology*, 20(4): 191-206.

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., Steyn, M. & Nienaber, W.C. 1998. Two burials from Makgope, a Late Iron Age Batswana settlement in the Bankeveld. *South African Journal of Ethnology*, 21(3): 115-124.

Pistorius, J.C.C. 1998. African metal working, metaphors and medicines. *South African Journal of Ethnology*, 21(4): 198-202.

Pistorius, J.C.C. 1999. Spatial identity and expressions in a stone walled complex in Kroondal. *South African Journal of Ethnology*, 22(3): 116-128.

Plug, I. & Pistorius, J.C.C. 1999. The faunal remains from specialised industrial communities, Phalaborwa, *South Africa*. *African Archaeological Review*, 16(3): 155-184.