

Prepared for:

**METAGO ENVIRONMENTAL ENGINEERS (PTY) LTD
AQUARIUS PLATINUM (SOUTH AFRICA) (PTY) LTD**

**A PHASE I CULTURAL AND HERITAGE IMPACT ASSESSMENT (HIA)
STUDY FOR THE PROPOSED EXTENSION OF MINING OPERATIONS
(PROJECT FAIRWAY) AT EVEREST PLATINUM MINE ON PARTS OF
SEVERAL ADJOINING FARMS IN THE STEENKAMPSBERGE
BETWEEN ROOSENEKAL AND LYDENBURG IN THE MPUMALANGA
PROVINCE OF SOUTH AFRICA**

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October 2011

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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 Everest Platinum Mine's proposed Project Fairway on parts of several adjoining farms between Lydenburg and Roossenekal in the Mpumalanga Province of South Africa. The aims with the Phase I HIA was to establish whether any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) do occur in the Project Area and, if so, to establish the significance of these heritage resources as well as possible mitigation measures should any of these heritage resources be affected by the proposed Project Fairway.

The aims with the Phase HIA study were the following:

- To establish whether any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (Box 1) do occur in the proposed Project Area and, if so, to determine the nature, the extent and the significance of these remains.
- To determine whether such remains will be affected by the proposed Project Fairway; and, if so, to evaluate what appropriate actions could be taken to reduce the impact of the mining development project on such heritage resources.

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

- Historical remains consisting of two hamlets.
- An informal graveyard.

The historical remains and the graveyard were geo-referenced, tabled and mapped (Figure 5, Tables 1-2).

The significance of the heritage resources was determined and mitigation measures are proposed should these remains be affected by the proposed Project Fairway (Tables 1 & 2).

The significance of the heritage resources

The heritage resources that were recorded in the Project Area have significance. It is unlikely that any of these remains will be affected by the proposed Project Fairway. Nevertheless, the significance of the heritage resources is indicated as well as mitigation measures which have to

be followed should these remains may be affected during the construction, operation or closure phases of Project Fairway.

The historical remains

The historical remains comprising of two hamlets are older than sixty years and are protected by various sections in the National Heritage Resources Act (No 25 of 1999).

The historical remains have medium to high significance when considering criteria such as the following:

- The remains are scattered across the higher eastern bank of the Dwars River and represents a single settlement (small village) with two hamlets which have been relatively well preserved.
- This site is unaffected and has research potential as it can yield information on historical communities who lived in and near the Groot Dwars River Valley during the late nineteenth and early twentieth century.
- The remains may be associated with Phetla, Choma or Ndzundza-Ndebele communities who have long and well established historical and cultural links with the region.

The graveyard

All graveyards and graves can be considered to be of high significance and are protected by various laws. Legislation with regard to graves includes Section 36 of the National Heritage Resources Act (No 25 of 1999) whenever graves are older than sixty years. The act also distinguishes various categories of graves and burial grounds. Other legislation with regard to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on Exhumations (No 12 of 1980) and the Human Tissues Act (No 65 of 1983 as amended).

Mitigating the heritage resources

It is unlikely that any of these remains will be affected by the proposed Project Fairway. Nevertheless, the following mitigation measures have to be followed should these remains be affected during the construction, operation or closure phases of Project Fairway.

The historical remains

The historical remains (H01 and H02) may not be affected (altered, removed or demolished) by Project Fairway before a permit which authorises such an impact has been issued by the South African Heritage Resources Authority (SAHRA). This impact can only occur after the remains have been subjected to a Phase II investigation. This implies that the remains have

to be investigated before they are destroyed. This investigation would entail that the historical remains be documented by means of surveying the structures and features of the hamlets consisting of stone walls and other structures. These structures and features also have to be photographed, mapped and described. The results of this Phase II investigation must be published in a report which will be kept in SAHRA's data bank.

The graveyard

The graveyard (GY01) can be mitigated by following one of the following strategies, namely:

- The graveyards can be demarcated with a brick wall or with a fence. Conserving graveyards *in situ* in mining areas create the risk and responsibility that they may be damaged, accidentally, that the mine remains responsible for its future unaffected existence, maintenance and that controlled access must exist for any relatives or friends who wish to visit the deceased.
- The graveyard can also be exhumed and relocated. The exhumation of human remains and the relocation of graveyards are regulated by various laws, regulations and administrative procedures. This task is undertaken by forensic archaeologists or by reputed undertakers who are acquainted with all the administrative procedures and relevant legislation that have to be adhered to whenever human remains are exhumed and relocated. This process also includes social consultation with a 60 days statutory notice period for graves older than sixty years. Permission for the exhumation and relocation of human remains have to be obtained from the descendants of the deceased (if known), the National Department of Health, the Provincial Department of Health, the Premier of the Province and the local police.

General

It must be pointed out that heritage resources can be found in the most unexpected places. It must also be borne in mind that surveys may not detect all the heritage resources in a given Project Area. While some remains may simply be missed during surveys (observations), others may occur below the surface of the earth and may only be exposed once development (such as mining) commences.

If any heritage resources of significance is exposed during Project Fairway the South African Heritage Resources Authority (SAHRA) should be notified immediately, all mining 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.

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1 INTRODUCTION

This document contains the report on a Phase I Heritage Impact Assessment (HIA) study which was done for Everest South Platinum Mine's proposed Project Fairway on several adjoining farms in the Steenkampsberge between Lydenburg and Roossenekal in the Mpumalanga Province of South Africa.

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

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

Aquarius Platinum (South Africa) (Pty) Ltd (Aquarius) intends to implement the proposed Project Fairway on parts of several adjoining farms in the Steenkampsberge between Roossenekal and Lydenburg in the Mpumalanga Province of South Africa. The proposed Project Fairway may impact on any of the types and ranges of heritage as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (see Box 1). Consequently, Metago Environmental Engineers, the company responsible for compiling the Environmental Impact Assessment (EIA) report for Project Fairway commissioned the author to undertake a Phase I Heritage Impact Assessment (HIA) study for the proposed project.

The aims with the Phase HIA study were the following:

- To establish whether any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (Box 1) do occur in the proposed Project Area and, if so, to determine the nature, the extent and the significance of these remains.
- To determine whether such remains will be affected by the proposed Project Fairway; and, if so, to evaluate what appropriate actions could be taken to reduce the impact of the mining development project on such heritage resources.

3 METHODOLOGY

This HIA study was conducted by:

- Surveying the Project Area. The areas adjoining the open pit areas as well as spots along the haul road were also surveyed in the same manner.
- 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 such as the one kept at the Mpumalanga Provincial Heritage Resources Agency in Barberton.
- Synthesising all information obtained from the literature survey, maps and fieldwork in this report.

3.1 Fieldwork

The Project Area contains the waste stockpile area, haul roads, etc which were surveyed with a vehicle and on foot. The dense grass cover in certain parts of the Project Area prevented total surface visibility. Undetected heritage resources therefore may exist (see Part 3.5, 'Assumptions and limitations').

3.2 Databases, literature survey and maps

The databases kept and maintained at institutions such as the Mpumalanga Provincial Heritage Resources Agency in Barberton and the Archaeological Data Recording Centre at the National Flagship Institute (Museum Africa) in Pretoria were consulted to determine whether any heritage resources had been identified during earlier archaeological surveys in the larger Project Area.

The literature relating to the pre-historical and the historical unfolding of the larger Project Area was reviewed. This review focused on local historical groups such as the Petlas and Chomas who lived in the area, the Ndzundza-Ndebele who lived closer to Roosenekal and the Bakoni and Bapedi who lived in the larger region. The historical or colonial period is briefly referred to as the towns of Roosenekal and

Lydenburg in the former Eastern Transvaal Province represent two of the oldest towns that were established by the colonists (Voortrekkers) north of the Vaal River.

It is important to contextualise the pre-historical and historical background of the Project Area in order to comprehend the identity and meaning of heritage sites in the Project Area and subsequently to determine the significance of any remains which may be affected by the Project Fairway (see Parts 5 & 8).

In addition, the Project Area was also studied by means of the 1:50 000 topographical map on which it appears (2530AA Draaikraal, 1:50 000).

3.3 Mapping heritage resources

The Heritage resources found in the Project Area were geo-referenced using a GPS instrument and they were thereafter mapped in Arc View (Figure 5; Tables 1-2).

3.5 Assumptions and limitations

It must be pointed out that heritage resources can be found in the most unexpected places. It must also be borne in mind that surveys may not detect all the heritage resources in a given Project Area. While some remains may simply be missed during surveys (observations), others may occur below the surface of the earth and may only be exposed once development (such as mining) commences.

If any heritage resources of significance is exposed during Project Fairway the South African Heritage Resources Authority (SAHRA) should be notified immediately, all mining 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.

3.6 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 PROJECT AREA

4.1 Location

Aquarius Platinum (South Africa) (Pty) Ltd (Aquarius) is planning to extend its mining operations at Everest Platinum Mine (Everest). The proposed project is referred to as Project Fairway and aims to establish the necessary infrastructure to enable the underground mining of the Booyendal South mining block located immediately west of the existing Everest mine.

The proposed Project Fairway involves parts of the farms Sterkfontein 52JT, De Kafferskraal 53JT, Sterkfontein 749JT and Buttonslope 51JT near the Steenkampsberge between Lydenburg and Roossenekal in the Mpumalanga Province of South Africa. The proposed Project Area is located at the bottom and along the eastern edge of the Groot Dwars River Valley (2530AA Draaikraal [1: 50 000 topographical map]) (Figures 1-5).

4.2 The nature of the proposed Project Fairway

Project Fairway comprises the establishment of additional infrastructure at Everest Platinum Mine to enable the extension of the underground mine into the Booyendal South mining block. Existing infrastructure at the mine will be used as far as possible to minimise disturbance of the environment. At this stage in project planning, the following is proposed:

- Ongoing exploration drilling.
- Extension of the underground mining operations to the ore body on the western side of the valley – this will be done by establishing new box cuts.
- A new surfaced access road (approximately 8km long) into the valley to service the box cuts.
- Ventilation shafts on the eastern and western side of the valley, with associated gravel service tracks.
- Support facilities for the new box cuts.
- Change to infrastructure at the existing valley decline.

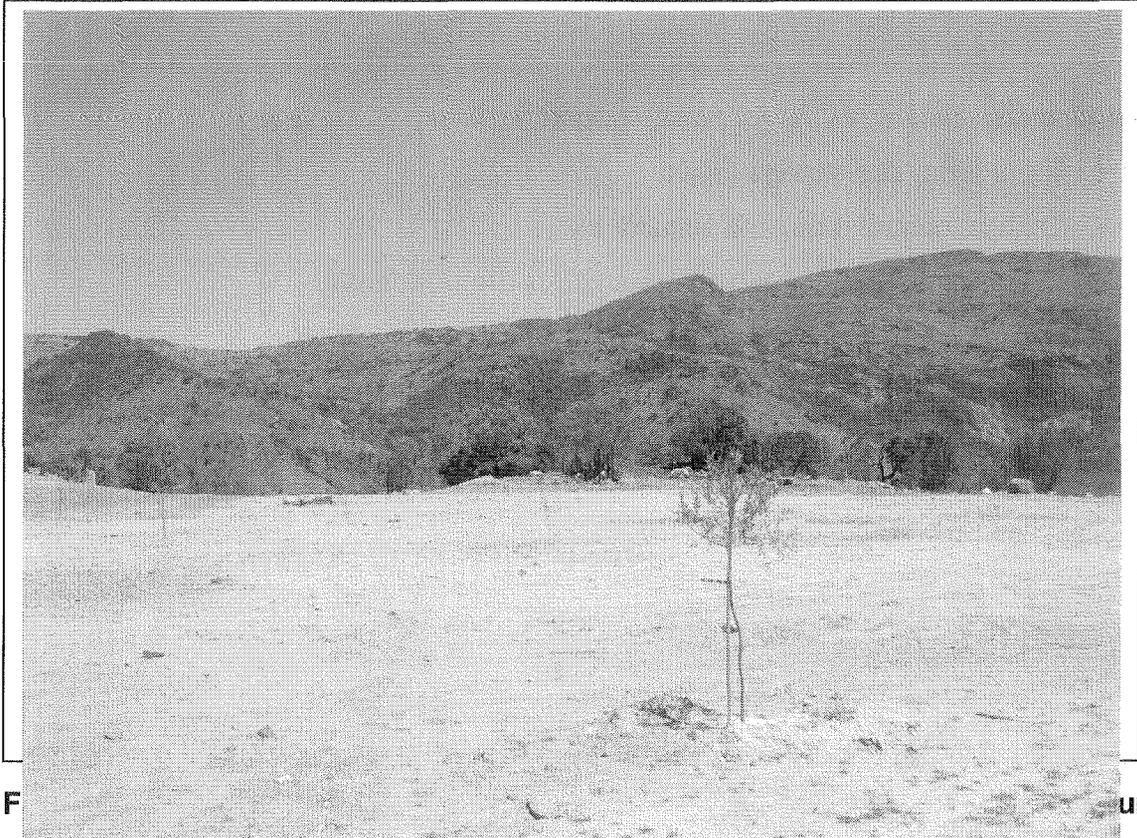
- A new tailings storage facility (located on the terrace and potentially similar in size to the existing facility).
- Potential process changes to the existing plant to accommodate an increase in capacity from 250,000 to 280,000 tonnes/month.
- Extension to services at the mine.



Figure 1- The bottom of the Groot Dwars River Valley where the bulk of the proposed Fairway Project's infrastructure will be located (above).

Existing services at the mine will be extended as far as possible to service the new project sites. These include the following:

- Water will be sourced from the mine's existing allocation. The water supply network will be extended to service new project sites.
- The existing power supply network at the mine will be extended to service new project sites. No additional capacity is needed at this stage.



F **ure**
such as offices, workshops, a return water dam, store, etc will be established as part of the proposed Fairway Project (above).

- Clean and dirty storm water management systems will be established at new project sites, including storm water control dams, to ensure that clean and dirty water are kept separate.
- General and industrial hazardous waste from new project sites will form part of Everest's waste management plan.
- Storage facilities for dangerous goods such as explosives, fuel, oils, lubricants will be established where required.
- A new sewage treatment facility is planned.
- Transport of ore within the site boundary will be via the extension of underground and surface conveyor systems. The access road into the valley will be used to transport men and materials.

Infrastructure that is developed in the valley will be minimized whilst the usage of existing infrastructure will be maximized. In addition to that mentioned above, project planning also envisages the following support facilities:

- Emergency ore storage facility.
- Offices, control room and transformer.
- Chairlift platforms, parking area and bus drop-off facility.
- Sumps, settling dams and service water storage facilities.
- An explosive off-loading facility.
- Lighting masts.
- Change house.
- Compressor station.

Some or all of the facilities could be located at each of the box cuts.

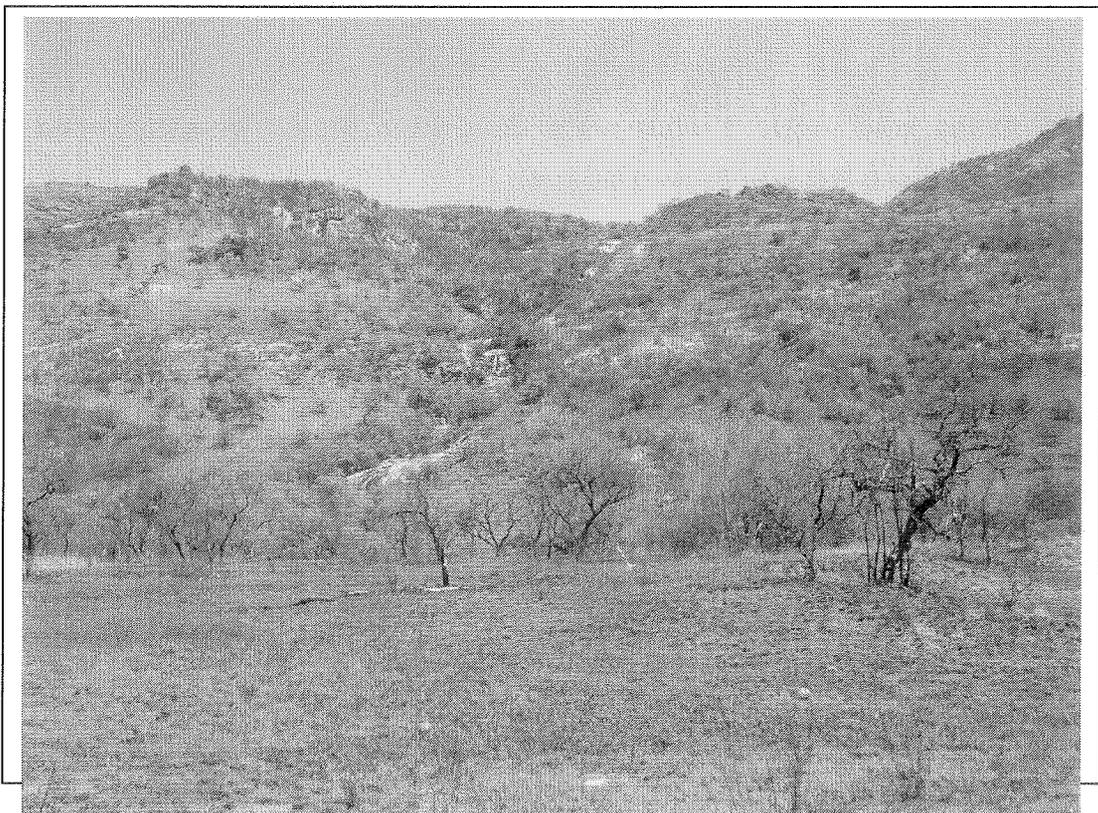


Figure 2- The proposed Waterfall Box Cut in the Groot Dwars River Valley is situated near a waterfall in the bottom of the Groot Dwars River Valley where some of the infrastructure for the proposed Fairway Project will be established (above).

4.3 Within a cultural landscape

The Project Area is located in the Groot Dwars River Valley and along the rugged eastern edge of the Groot Dwars River Valley and is part of a cultural landscape that is marked by heritage remains dating from the pre-historical into the historical (colonial) period. Stone Age sites, Iron Age remains and colonial remains therefore do occur in this area (see Part 5, 'Contextualising the Project Area'). The archaeological and historical significance of this landscape is described in more detail before the results of the Phase I HIA study is discussed.

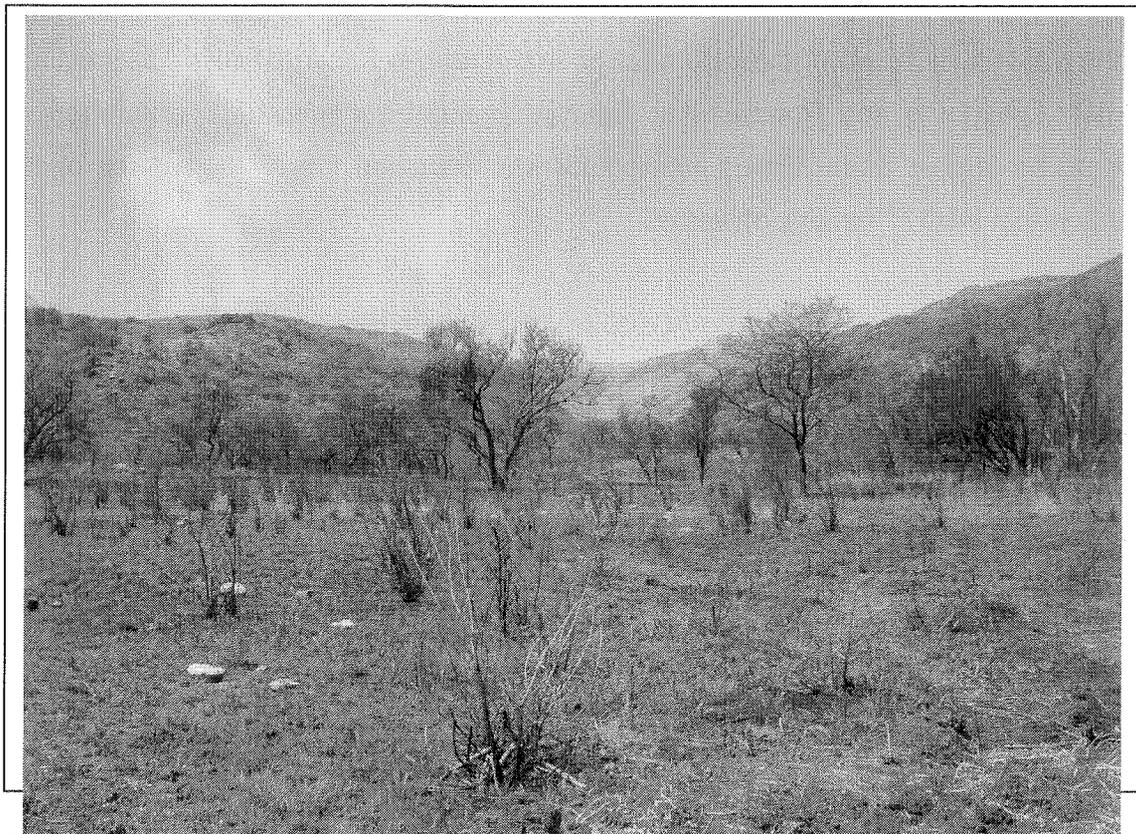


Figure 3- The bottom of the Groot Dwars River Valley looking towards the Buttonslope South Box Cut where some of the proposed Fairway Project's infrastructure will be located (above).

5 CONTEXTUALISING THE PROJECT AREA

The Project Area falls within a geographical area which includes parts of Sekhukhuneland and incorporates the Steelpoort Valley as well as the Lydenburg and Roossenekal areas which are important historical beacons close to the Project Area (2530AA Draaikraal [1: 50 000]) (Figure 5).

Bantu-Negroid farmers and metalworkers, the first Iron Age people, established large villages in the Steelpoort Valley and near Lydenburg 1 500 years ago while colonists who left the Cape Colony in the early 19th century established themselves to the north of the Vaal River in two of the oldest towns in the former Eastern Transvaal Province, namely Lydenburg and Roossenekal. Sekhukhuneland became the headquarters of one of the largest Sotho (Pedi) populations who occupied the northern parts of the country from the 17th century onwards.

Early Iron Age sites dating back to AD500 to AD800 were discovered by archaeologists along the banks of the Sterkspruit and other rivers near Lydenburg. The Steelpoort Valley to the northwest was also occupied during this time period and eventually became the heartland of the Bapedi during the 18th and 19th centuries. However, numerous small Sotho clans occupied the area before the Bakgatla consolidated these groups into the Bapedi state that dominated the region. The majestic Leolo Mountain range to the north-west of the project area in time became an important beacon in the origin history of many Bantu groups now scattered across the Limpopo Province of South Africa.

The Project Area which partly involves the Groot Dwars River Valley may have been occupied from the earliest times. The earliest human occupation of the project area was probably by Early Stone Age people such as *Homo erectus* who lived 500 000 years ago. Acheulian sites with hand axes and cleavers may occur on forested valley floors near rivers and streams such as the Groot Dwars River. The forested nature of the river valley to the west of the project area probably did not change drastically during the Acheulian period. *Homo Erectus* manufactured picks, plains and other tools that were adapted to forested areas towards the end of the Acheul (the Sango phase). The

Acheulian people did not prefer high altitudes and therefore probably did not occupy settlements higher up the slopes or on plateaux along the slopes of valleys.

Middle Stone Age sites are numerous and date from 250 000 years ago and are associated, initially, with an archaic form of *Homo sapiens* and later with modern humans (*Homo sapiens sapiens*). Middle Stone Age people roamed the project area as Middle Stone Age sites were discovered during HIA studies in the Groot Dwars River Valley. Middle Stone Age people manufactured stone tools with prepared surface platforms, points (for arrows) and hafted stone tools in wooden handles (for spears, knives). They also occupied caves and rock shelters. Their sites, although discovered on the river valley floors, may also occur in rock shelters.

Later Stone Age San hunter-gathers established base camps in caves but also on level plains dating back from 20 000 years ago. The Later Stone Age period is also associated with rock engravings and rock paintings. Rock engravings dating from the more recent past were recorded against the eastern slope of the Groot Dwars River Valley. It is possible that more engravings may exist in this valley. A substantial number of rock engravings have also been recorded near Lydenburg to the east of the project area.

The first Bantu-Negroid herders and agriculturists south of the Limpopo River occupied the area around Lydenburg where a number of terracotta heads (masks) were discovered in the 1960's. These Early Iron Age remains date from AD500 to AD800 and also occur in the Steelpoort Valley. Although no Early Iron Age Lydenburg type sites have been recorded in the project area it is likely that Iron Age sites dating from the first millennium may exist in valleys, particularly near the confluences of large rivers and small streams.

During the Middle Iron Age (AD900 to AD1200) Eiland type sites occur at various places in South Africa. Little is known about the Eiland people except that they manufactured a characteristic style of pottery, practised metal working, herded with cattle and probably kept small stock as well. They built dwellings with clay and grass roofs. Grinding stones indicate that they either planted crops or traded metal for crops.

At least one Middle Iron Age site on the Groot Dwars River valley's floor was found during an earlier HIA study.

The Bapedi state was established during the late 18th and early 19th centuries. This chiefdom reached its zenith, initially under Thulare and later during the rule of Sekhuhkune. The Bapedi (of Kgatla origin) consolidated various scattered Sotho clans in Sekhukhuneland in the Pedi confederacy. The Pedi chiefdom lasted during the Late Iron Age with its centre in the Steelpoort Valley. However, numerous Late Iron Age sites that became part of the Pedi sphere of influence are scattered across the Limpopo and Mpumalanga Provinces. These sites are marked by elaborately constructed stone walls and pottery that may be highly decorated.

During the Late Iron Age and Early Historical Period the Ndzundza-Ndebele occupied the southern and western parts of the larger project area. The Ndzundza-Ndebele established their capitol Erholweni (Mapochs Caves) near Roossenekal. Numerous sites that are associated with the Ndzundza-Ndebele and possibly with the Swazi (Mokwana) are scattered around Erholweni in a sphere of influence that is generally referred to as KoNomtjarhelo. The Ndzundza-Ndebele ruled this domain for approximately forty-four years (1839 to 1883) under the consecutive reigns of four chiefs. Erholweni was declared a national monument in 1968.

During the 18th and the 19th centuries lesser well known clans such as the Phetlas and Chomas settled in an area to the east of Roossenekal where they build an extensive and diversified range of stone walled sites that have only recently being brought to public attention by archaeologists becoming more active with heritage impact assessment work in this part of the country.

The village of Roossenekal was established by colonists (Voortrekkers) who settled on the Mapochsgronden during the late 1830's. The conflict between the Colonists and the Ndzundza-Ndebele eventually lead to at least two wars. During the Mapochs Wars as many as thirty to forty blockhouses were built around Erholweni in order to serve as bulwarks for ZAR forces fighting the Ndzundza-Ndebele. These forts eventually contributed with the siege of the Mapochs Caves and the final subjugation of the Ndzundza-Ndebele in 1867.

Numerous *pre-difaqane* and *difaqane* wars were fought to the west of the Project Area during the first quarter of the 19th century. The battles between the ZAR forces (with Swazi support) and the Bakopa of Maleoskop (near Groblersdal) and between the Pedi and the British (with Swazi support) in Sekhukhuneland also occurred during this time period.

During the historical period colonists (Voortrekkers) established themselves in Lydenburg and at Roosenekal during the early 19th century. The colonists established farm homesteads with outbuildings, agricultural fields, cattle kraals and cemeteries close to their homes. Some of these heritage resources still exist in the larger project area.

African villages and homesteads dating from the historical period – after the Bapedi and Ndzundza-Ndebele tribes were disbanded - are common in the larger project area. The homesteads occupied by labourers in the service of farmers with single graves or with small informal cemeteries are also common in the larger project area.

The two declared heritage sites close to the project area are the Mapochs Caves and the Groot Dwars River geological occurrence which represents unique chromite bands in anorthosite. The geological site is situated to the north of the Project Area while Erholweni (Mapochs Caves) is located to the west of the Groot Dwars River Valley.

6 THE PHASE I HERITAGE IMPACT ASSESSMENT

6.1 Types and ranges of heritage resources

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

- Historical remains consisting of two hamlets.
- An informal graveyard.

The historical remains and the graveyard were geo-referenced, tabled and mapped (Figure 5, Tables 1-2).

The significance of the heritage resources was determined and mitigation measures are proposed should these remains be affected by the proposed Project Fairway (Tables 1 & 2).

The Phase I HIA study is now briefly discussed and illuminated by means of descriptions, photographs, a map and tables.

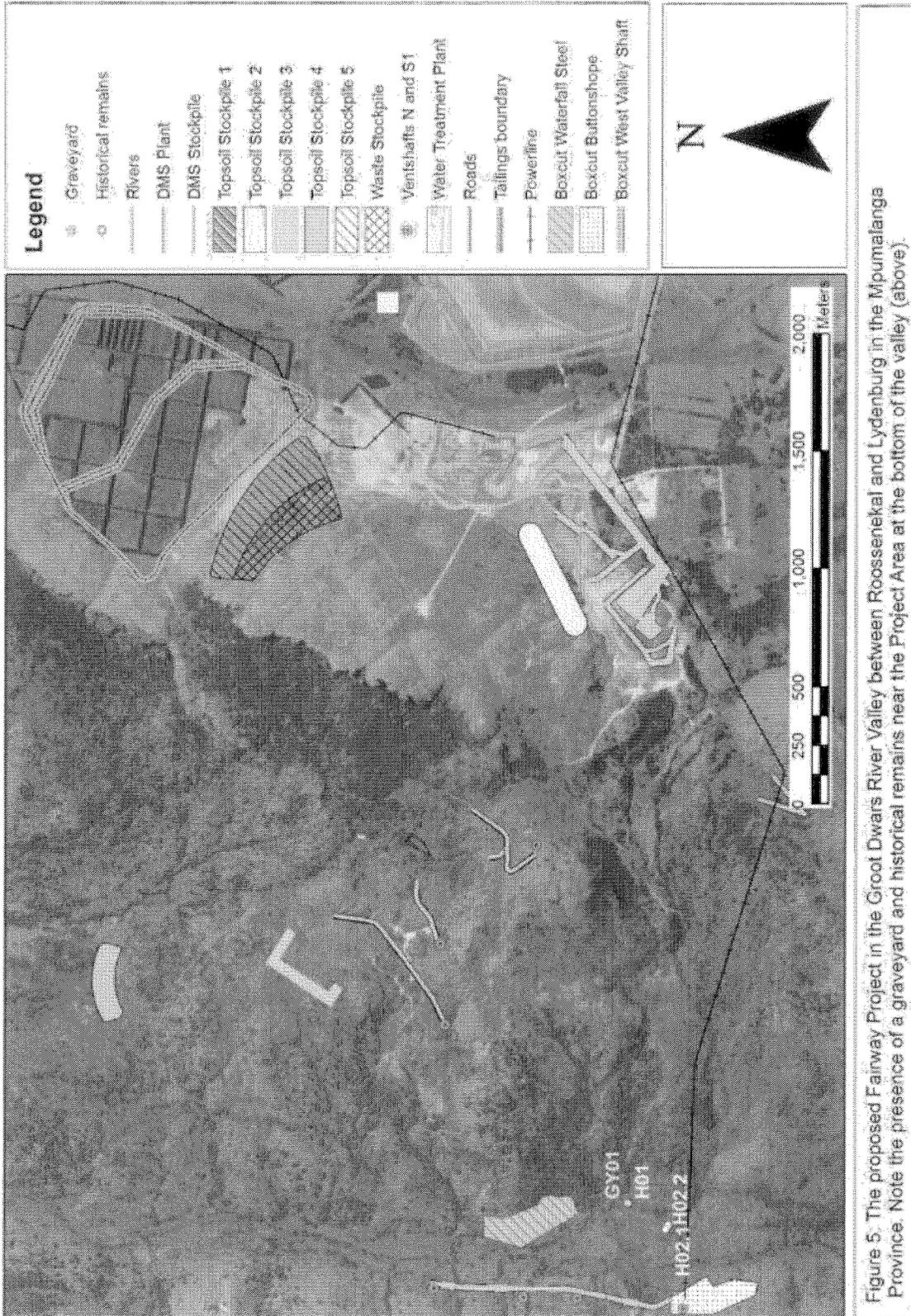


Figure 5. The proposed Fairway Project in the Groot Dwaars River Valley between Roossenekal and Lydenburg in the Mpumalanga Province. Note the presence of a graveyard and historical remains near the Project Area at the bottom of the valley (above).

6.2 Historical remains

The historical remains consists of two hamlets (H01 and H02) which were probably occupied by two family groups living in close proximity of each other on the higher eastern banks of the Groot Dwars River. These two hamlets are located on the floor of the Groot Dwars River Valley, approximately 120m below the escarp and the surface of the landscape above the valley.

The remains of both hamlets comprises of limited stone walls which probably served as enclosures for small stock such as goat or as protective walls in which dwellings of some kind were constructed. The hamlet with the most extensive stone walls (H02) also holds the remains of a large dwelling which was constructed with rubble and clay walls.

A number of lower and upper grinding stones occur at each hamlet. One of the hamlets (H01) is associated with a graveyard with three graves (GY01).

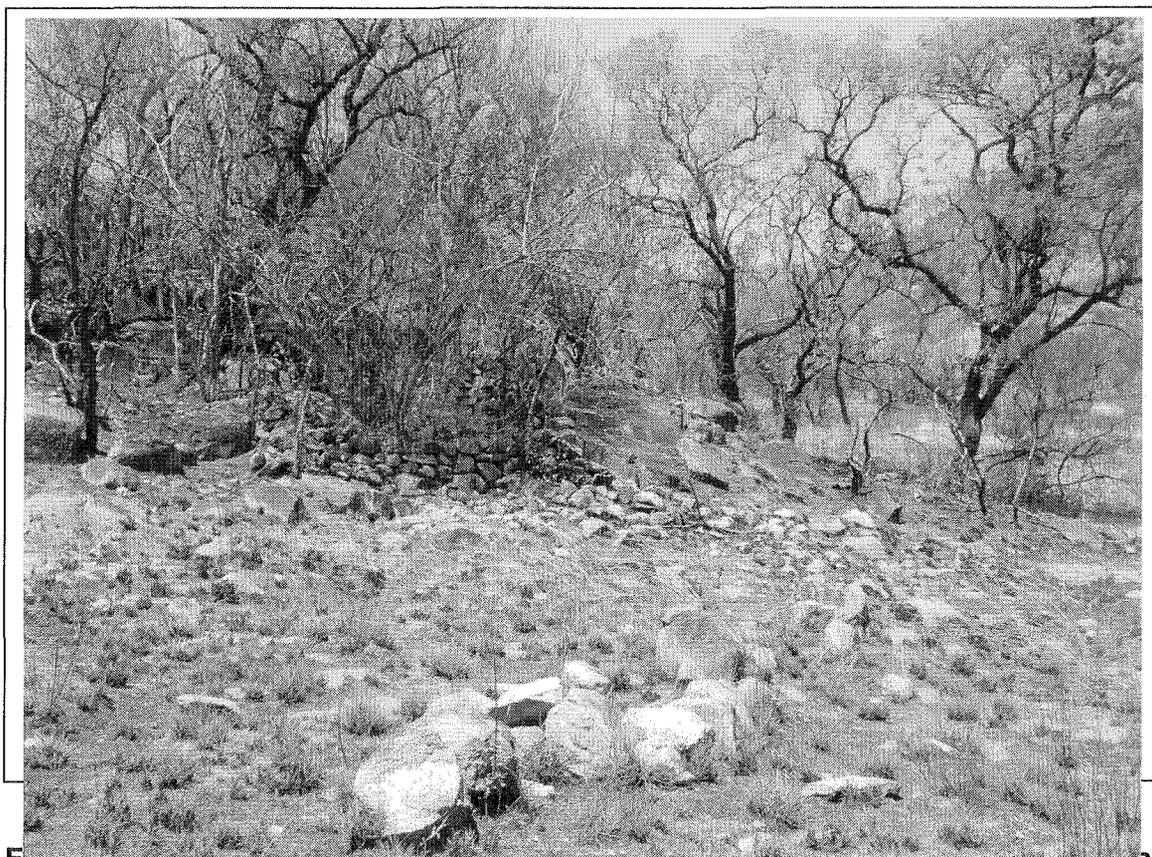


Figure 6 Stone walls and upright stones in a hamlet (H01) in a small historical village located on the higher eastern banks of the Groot Dwars River at the bottom of the Groot Dwars River Valley (above).



F **the**
historical village near the waterval Box Cut (above). Lower grinding stones occur
in both hamlets in the historical village located in the bottom of the Groot Dwars
River Valley (below).



6.3 Graveyard

This graveyard (GY01) holds three graves one of which is fitted with a cement slab and headstone but with no inscriptions. The other two graves are demarcated with stones.

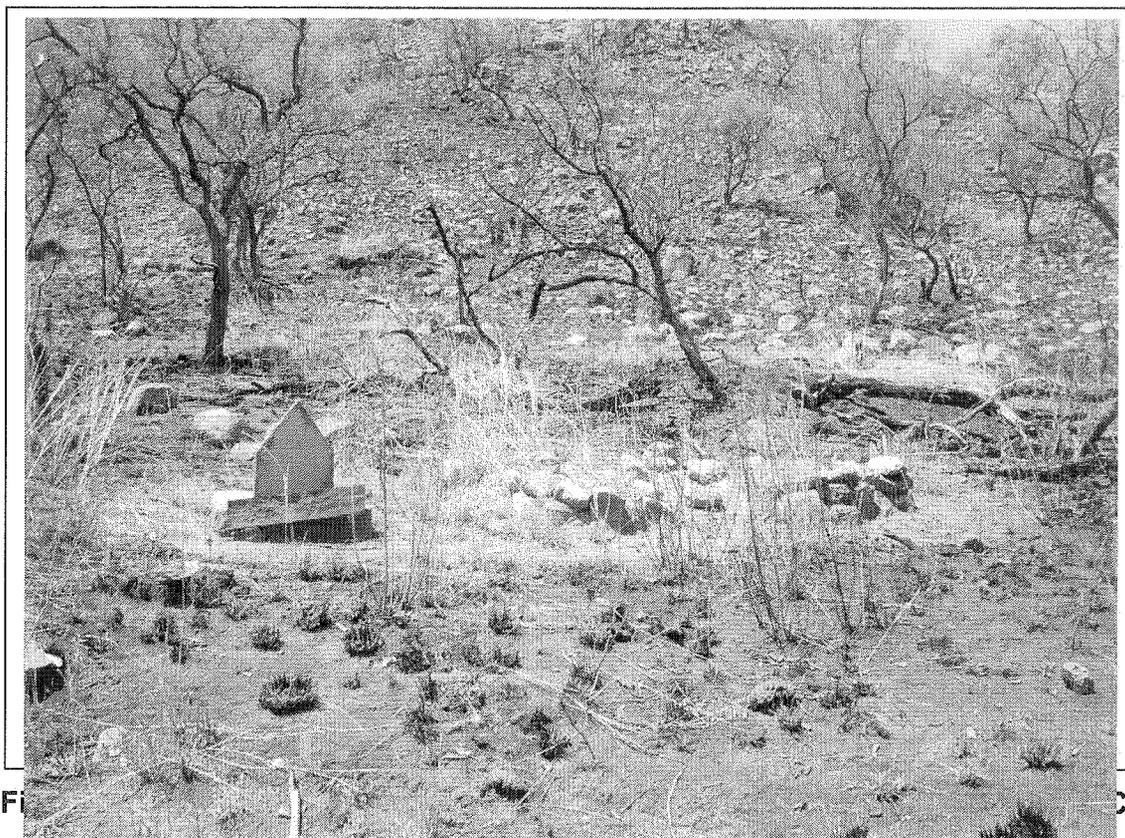


Figure 1- Aerial view of the site in the bottom of the Groot Dwars River Valley (above).

NO ON MAP	HISTORICAL VILLAGE	COORDINATES	REMARKS	SIGNIFICANCE
	Hamlet 01 (H01)			
H01	Enclosure	25° 09.517'S 30° 07.124'E	Enclosure constructed with stone	Med – high
	Hamlet 02 (H02)			
H02.1	Two enclosures	25° 09.610'S 30° 07.067'E	Foundation for dwelling	Med – high
H02.2	Rubble and clay dwelling	25° 09.604'S 30° 07.057'E	Dwelling built with rubble and clay	Med – high

Table 1- Coordinates for the remains of a small historical village, for isolated stone walls and for a historical (colonial) dwelling in the Project Area (above).

GRAVEYARDS AND GRAVES	COORDINATES	REMARKS	SIGNIFICANCE
Graveyard 01 (GY01)	25° 09.517'S 30° 07.124'E	Three graves	HIGH

Table 2- Coordinates for graveyards and graves in the Project Area (above).

6.4 The significance of the heritage resources

The heritage resources that were recorded in the Project Area have significance. It is unlikely that any of these remains will be affected by the proposed Project Fairway. Nevertheless, the significance of the heritage resources is indicated as well as mitigation measures which have to be followed if these remains may be affected during the construction, operation or closure phases of Project Fairway.

6.4.1 The historical remains

The historical remains comprising of two hamlets are older than sixty years and are protected by various sections in the National Heritage Resources Act (No 25 of 1999).

The historical remains have medium to high significance when considering criteria such as the following:

- The remains are scattered across the higher eastern bank of the Dwars River and represents a single settlement (small village) with two hamlets which have been relatively well preserved.
- This site is unaffected and has research potential as it can yield information on historical communities who lived in and near the Groot Dwars River Valley during the late nineteenth and early twentieth century.
- The remains may be associated with Phetla, Choma or Ndzundza-Ndebele communities who have long and well established historical and cultural links with the region.

6.4.2 The graveyard

All graveyards and graves can be considered to be of high significance and are protected by various laws. Legislation with regard to graves includes Section 36 of the National Heritage Resources Act (No 25 of 1999) whenever graves are older than sixty years. The act also distinguishes various categories of graves and burial grounds. Other legislation with regard to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on Exhumations (No 12 of 1980) and the Human Tissues Act (No 65 of 1983 as amended).

6.5 Mitigating the heritage resources

It is unlikely that any of these remains will be affected by the proposed Project Fairway. Nevertheless, the following mitigation measures should be followed if these remains may be affected during the construction, operation or closure phases of Project Fairway.

6.5.1 The historical remains

The historical remains (H01 and H02) may not be affected (altered, removed or demolished) by Project Fairway before a permit which authorises such an impact has been issued by the South African Heritage Resources Authority (SAHRA). This impact can only occur after the remains have been subjected to a Phase II investigation. This implies that the remains have to be investigated before they are destroyed. This investigation would entail that the historical remains be documented by means of surveying the structures and features of the hamlets consisting of stone walls and other structures. These structures and features also have to be photographed, mapped and described. The results of this Phase II investigation must be published in a report which will be kept in SAHRA's data bank.

6.3.2 The graveyard

The graveyard (GY01) can be mitigated by following one of the following strategies, namely:

- The graveyards can be demarcated with a brick wall or with a fence. Conserving graveyards *in situ* in mining areas create the risk and responsibility that they may be damaged, accidentally, that the mine remains responsible for its future unaffected existence, maintenance and that controlled access must exist for any relatives or friends who wish to visit the deceased.
- The graveyard can also be exhumed and relocated. The exhumation of human remains and the relocation of graveyards are regulated by various laws, regulations and administrative procedures. This task is undertaken by forensic

archaeologists or by reputed undertakers who are acquainted with all the administrative procedures and relevant legislation that have to be adhered to whenever human remains are exhumed and relocated. This process also includes social consultation with a 60 days statutory notice period for graves older than sixty years. Permission for the exhumation and relocation of human remains have to be obtained from the descendants of the deceased (if known), the National Department of Health, the Provincial Department of Health, the Premier of the Province and the local police.

7 CONCLUSION AND RECOMMENDATIONS

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

- Historical remains consisting of two hamlets.
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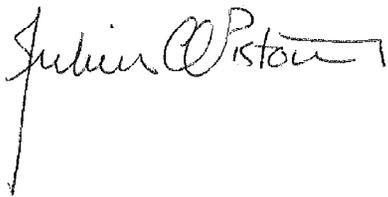
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