



## **PHASE 1 HERITAGE IMPACT ASSESSMENT**

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**AN ARCHAEOLOGICAL INVESTIGATION OF  
THE PROPOSED ESTABLISHMENTS OF A  
NEW 132KV POWER LINE FROM STEENBERG  
EVEREST PLATINUM MINE (SUBSTATION) TO  
BOOYSENDAL, WITHIN GREATER TUBATSE  
LOCAL MUNICIPALITY OF THE  
SEKHUKHUNE DISTRICT IN LIMPOPO  
PROVINCE**

**REPORT PREPARED FOR  
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## **Executive Summary**

**Site name and location:** The proposed 12Kilometers, 132kv power line and substation establishment is situated approximately 60kilometers south east of Roosenekal area, The proposed power line route start from an existing Anglo Platinum (Everest Platinum Mine) substation across various farms such as De kafferskraal 53JT, Vygenhoek 10 JT, Mareesburg 8JT, Thornccliffe 374KT, Helena 6JT, Der Brochen 7JT and Booyesendal 43JT.

**Local Authority:** Greater Tubatse Local Municipality

**Developer:** Eskom SA LTD, Limpopo Province

**Date of field work:** 23, 30, 31<sup>st</sup> of July 2009

**Date of report:** 4<sup>th</sup> of August 2009

**Findings:** Eskom SA LTD proposed to construct 132KV transmission Power line from the existing Steenberg substation, situated at (Anglo) Everest Platinum Mine to Booyesendal where a proposed new substation will be constructed, thus necessitating heritage impact assessment surveys of three alternative Power line routes. The proposed power line routes are primarily centered on agricultural farm land currently used for cultivation, game ranging and Plantations under the mines jurisdictions.

### **Stone walling structures and five informal graves**

Four rectangular/ square stone walled complex sites () slightly to the south of the proposed alternative 3 were identified, mapped and geo referenced outside the proposed corridor, the stone walling shapes (rectangular) qualifies the structures as barring European settlers construction techniques and influences, and qualifies as remnants of historical period and are protected by the National Heritage Resource Act 25 of 1999. Within one of these stone walling structures five graves have been noted and geo- referenced (See below for details).

### **Cluster of Two graves**

Cluster of two graves and a formal grave yard with more recent graves were identified and geo-referenced out side the proposed power line corridors (Proposed alternative route no 1) during the heritage impact assessment surveys.

### **A formal graveyard**

A recent grave yard situated 100m north of the existing 132kv power line corridor from Steen berg to Der Brochen, 2 km form steenberg platinum mine. The grave yard is situated north east approximately 500m of Kiwi primary school (Proposed alternative route no 1)

All formal and informal graves identified can be considered to be of high significance and are protected by various laws. Legislation with regards to graves includes the National Heritage Resource 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 regards to graves includes those which apply when graves are exhumed and relocated, namely the ordinance on Exhumation (No 12 of 1980) and the Human Tissue Act (No 12 of 1980) and the Human Tissue Act No 65 of 1983 as amended)

The developer in this case Eskom SA LTD should take note of the heritage resources identified and recommendation as out lined in this report in case they changed their proposed routes. No further studies are necessary. However, should any chance archaeological or any other physical cultural resources be discovered subsurface, heritage authorities should be informed. From an archaeological and cultural heritage resources perspective, there are no objections to the proposed new 132 KV Power line and associated substation project and we recommend to South African Heritage Resources Agency (SAHRA) authorities to approve the project as planned.

## ***HERITAGE REPORT-July 2009, amended -June 2010***

*Disclaimer: Although all possible care is taken to identify all sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. Vhufahashu Heritage Consultants and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights*

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## TABLE OF CONTENTS

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CONTENT	PAGE
EXECUTIVE SUMMARY .....	II
ACKNOWLEDGEMENTS:.....	IV
1. INTRODUCTION .....	1
TYPE AND RANGES OF HERITAGE RESOURCES AS OUTLINED IN SECTION 3 OF THE NATIONAL HERITAGE RESOURCES ACT (NO 25 OF 1999) .....	2
HISTORICAL REMAINS .....	ERROR! BOOKMARK NOT DEFINED.
ARCHAEOLOGICAL REMAINS .....	3
BURIAL GROUNDS AND GRAVES.....	3
CULTURE RESOURCE MANAGEMENT .....	3
2. AIM OF STUDY.....	4
2.1 PROJECT DEVELOPERS AND CONSULTANTS .....	4
3. TERMS OF REFERENCE .....	5
4. TERMINOLOGIES THAT MAY BE USED IN THIS REPORT.....	6
5. METHODOLOGY.....	7
PHYSICAL SURVEY .....	7
RESTRICTIONS .....	8
DOCUMENTATION.....	8
6. ASSESMENT CRITERIA .....	9
6.1 SITE SIGNIFICANCE .....	9
6.2 IMPACT RATING .....	11
6.3 CERTAINTY .....	12
6.4 DURATION .....	12
6.5 MITIGATION.....	13
7. HISTORICAL BACKGROUND .....	13
8. SITE LOCATION.....	16
8.1. PROPOSED ALTERNATIVE ROUTE ONE (1).....	17
8.2. PROPOSED ALTERNATIVE ROUTE TWO (2). .....	21
8.3. PROPOSED ALTERNATIVE ROUTE THREE (3). .....	22

<b>8.4. PROPOSED BOOYSENDAL SUBSTATION</b> .....	<b>27</b>
<b>9. ASSESMENT OF SITES AND FINDS</b> .....	<b>27</b>
<b>10. RECOMMENDATIONS</b> .....	<b>29</b>
<b>11. TOPOGRAPHICAL MAP</b> .....	<b>31</b>
<b>12. REFERENCE</b> .....	<b>32</b>

## **1. INTRODUCTION**

Eskom SA Limited commissioned studies on the proposed establishment of 132KV power line from Steenberg Anglo platinum Everest mine to Booyendal. The proposed power line with the associated new substation is located approximately 60km South-east of Roosenekal in the Limpopo province. Naledzi Environmental Consultants were appointed to handle the environmental aspects of the proposed power line and substation project. They appointed Vhufa Hashu Heritage Consultants to conduct an Archaeological and Cultural Heritage Impact Assessment study as part of the Environmental Impact Assessment (EIA) for the proposed project.

As part of the development process, an application for an Environmental Assessment Authorization must be completed. This report is one of a series of appendices prepared for the impact assessment that is to be submitted to the Department of Environmental Affairs and Tourism (DEAT) \_environmental assessment office, in support of the application as amended by the National Environmental Management (NEMA) Act no 107 of 1998 regulation in terms of chapter 5 section (32)(2)(d) and section (34) (b), The Mineral and Petroleum Resource Development (MPRDA) Act 28 of 2002 and Development Facilitation (DFA) Act 67 of 1995 regulation GNR1 of 7 January 2000 section 31 . The information presented in this report provides the background and the basis for the Heritage Resources component of the Project impact assessment. The heritage resources impact assessment focused on archaeological sites.

The Project proposal constitutes an activity, which may potentially be harmful to heritage resources that may occur in the demarcated area. The National Heritage Resources Act (NHRA - Act No. 25 of 1999) protects all structures and features older than 60 years (section 34), archaeological sites and material (section 35) and graves and burial sites (section 36). In order to comply with the legislation, the Applicant requires information on the heritage resources, and their significance that occur in the demarcated area. This will enable the Applicant to take pro-active measures to limit the adverse effects that the development could have on such heritage resources. In terms of the National Heritage Resources Act (1999) the following is of relevance:

**TYPE AND RANGES OF HERITAGE RESOURCES AS OUTLINED IN SECTION 30 OF THE NATIONAL HERITAGE RESOURCES ACT (NO 25 OF 1999)**

The National Heritage Act (Act No 25 of 1999, Art 3) outlines the following types and ranges of the 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 tradition are attached or which are associated with living heritage;
- (c) Historical settlement and townscapes
- (d) Landscape and natural features of cultural significance;
- (e) Geological sites of scientific or cultural importance
- (f) Archaeological and paleontological sites
- (g) Graves and burial ground including-
  - (I) Ancestral graves
  - (II) Royal graves and graves of traditional leaders
  - (III) Graves of victim 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 Tissue 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) object recovered from soil or waters of South Africa, including archaeological and paleontological 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) object of scientific or technological interest; and
  - (VII) books, records, documents, photographs, positive and negatives, graphic, film or video material or sound recording, excluding those that are public records as defined in section1(xiv) of the National Archives of South Africa Act,1996(Act No 43 of 1996).

The National Heritage Resource 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;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;



- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons
- (h) Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa

### ***Archaeological remains***

**Section 35(4)** No person may, without a permit issued by the responsible heritage resources authority:

- destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite

### ***Burial grounds and graves***

**Section 36 (3)** No person may, without a permit issued by SAHRA or a provincial heritage resources authority:

- (i) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- (ii) bring onto or use at a burial ground or grave any excavation equipment, or any equipment which assists in detection or recovery of metals.

### ***Culture resource management***

**Section 38(1)** Subject to the provisions of subsection (7), (8) and (9), any person who intends to undertake a development:

- must at the very earliest stages of initiating such development notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

**development** means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including:

(i) Construction, alteration, demolition, removal or change of use of a place or a structure at a place;

(ii) Any change to the natural or existing condition or topography of land, and

(iii) Any removal or destruction of trees, or removal of vegetation or topsoil;

**place** means a site, area or region, a building or other structure

**structure** means any building, works, device or other facility made by people and which is fixed to the ground.

## **2. AIM OF STUDY**

The aim of this Heritage Impact Assessment (HIA) Study was to determine the presence or not of heritage resources such as archaeological , historical sites ,features, graves, places of religious and cultural significance, and to submit appropriate mitigation recommendations with regard to the identified cultural resources management measures that may be affected by the proposed development.

### **2.1 Project Developers and Consultants**

Developers are encouraged to consider archaeological values in their project planning and design from the outset. This will minimize scheduling and budget difficulties at later stages. As Consultants in the archaeological assessment process, we are responsible for: (*see table 1*)

- ❖ Determining the presence of archaeological sites that may be adversely impacted by the proposed development, and evaluate their significance.
- ❖ Identification of potential adverse impacts to archaeological sites protected under the National Heritage Resources Act No: 25 of 1999.
- ❖ Assessing of the heritage significance of identified archaeological sites to assist in the development of appropriate mitigation strategies.
- ❖ Make recommendations for avoidance or mitigation of protected or otherwise significant archaeological sites.
- ❖ Reporting the results of these studies to the Heritage Authorities.

*Table 1*

### **3. TERMS OF REFERENCE**

The **Terms of Reference** for the study were to:

- (I) Assess the significance of the known cultural resources within the borders of proposed development area, in terms of their historical, social, religious, aesthetic and scientific value.
- (II) Develop mitigation or control measures for impact minimization and cultural resources preservation
- (III) Develop procedures to be implemented if previously unidentified cultural resources are uncovered during the construction.

#### 4. TERMINOLOGIES THAT MAY BE USED IN THIS REPORT

The Heritage impact Assessment (HIA) referred to in the title of this report includes a survey of heritage resources as outlined in the National Heritage resources Act, 1999 (Act No 25 of 1999). Heritage resources, (Cultural resources) include all human-made phenomena and intangible products that are 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 lifestyle of the people or groups of people of South Africa.

The term '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 South Africa by the first colonist who settled in the Cape in the early 1652 and brought to the other different part of South Africa in the early 1800.

The term 'relatively recent past' refers to the 20<sup>th</sup> 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.

It is not always possible, based on the observation alone, to distinguish clearly between archaeological remains and historical remains or between historical remains and remains from the relatively recent past. Although certain criteria may help to make this distinction possible, these criteria are not always present, or when they are present, they are not always clear enough to interpret with great accuracy. Criteria such as square floors plans (a historical feature) may serve as a guideline. However circular and square floors may occur together on the same site.

The 'term sensitive remains' is sometimes used to distinguish graves and cemeteries as well as ideologically significant features such as holy mountains, initiation sites or other sacred places. Graves in particular are not necessarily heritage resources if they date from the recent past and do not have head stones that are older than sixty years. The distinction between 'formal' and 'informal' graves in most instances also refers to graveyards that were used by colonists and by indigenous people. This distinction may be important as different cultural groups may uphold different traditions and values with regard to their ancestors. These values have to be recognized and honored whenever graveyards are exhumed and relocated.

The term 'Stone Age' refers to the prehistoric past, although Late Stone Age people lived in South Africa well into the historical period. The Stone Age is divided into an Early Stone Age (3 Million years to 150 000 thousand years ago) the Middle Stone Age (150 000 years ago to 40 years ago) and the Late Stone Age (40 000 years to 200 years ago).

The term 'Early Iron Age' and Late Iron Age respectively refers to the periods between the first and second millenniums AD.

The 'Late Iron Age' refers to the period between the 17<sup>th</sup> and the 19<sup>th</sup> centuries and therefore includes the historical period.

Mining heritage sites refers to old, abandoned mining activities, underground or on the surface, which may date from the pre historical, historical or relatively recent past.

The term 'study area' or 'project area' refers to the area where the developers wants to focus its development activities (refer to plan)

Phase I studies refers to survey using various sources of data in order to establish the presence of all possible types of heritage resources in a given area.

Phase II studies includes in-depth cultural heritage studies such as archaeological mapping, excavating and sometimes laboratory work. Phase II work may include documenting of rock art, engravings or historical sites and dwellings; the sampling of archaeological sites or shipwrecks; extended excavation of archaeological sites; the exhumation of bodies and the relocation of grave yards, etc. Phase II work may require the input of specialist and require the co-operation and the approval of SAHRA.

The following aspects have direct bearing on the survey and the resulting report:

- **Archaeological sites** are places where people lived and left evidence of their presence in the form of artifacts, food remains and other traces such as rock paintings or engravings, burials, fireplaces and structures.
- **Cultural Resources** are all non-physical human-made occurrences, as well as natural occurrences that are associated with human activity. These include all sites, structures and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development.
- **Cultural Significance** is the aesthetic, historical, scientific and social value for past, present and future generations.
- **Conservation** means all the processes of looking after a place so as to retain its cultural significance.
- **In Situ material** means archaeological remains that have not been disturbed.
- **Place** means site, area, building or other work, group of buildings or other works, together with pertinent contents, surroundings and historical and archaeological deposits.
- **Preservation** means protecting and maintaining the fabric of a place in its existing state and retarding deterioration or change, and may include stabilization where necessary.

## 5. METHODOLOGY

### *Physical Survey*

The extent of the proposed alternative Power line routes and their corridors were determined as well as the extent of the areas to be affected by secondary activities (access route) during the development.

Physical survey was aided by vehicle and on foot covering the proposed Power line corridors, peripheral areas which will not be affected by the proposed new

power line and its substation. Priority was placed on the undisturbed areas. A systematic inspection of the area on along linear transects resulted in the maximum coverage of the proposed area. The survey was conducted on the 23<sup>rd</sup>, 30<sup>th</sup>, 31st of July, 2009 and was performed by Mathoho Eric and Munyai Richard.

A brief literature survey relating to the pre-historical and historical context of the project area where the proposed new 132KV power line and associated substation will be constructed was consulted, Institute such as South African Heritage resource agency office in Polokwane were consulted to determine whether any heritage resources have been identified during earlier archaeological survey near the proposed new power line corridors. In addition, the proposed new power line corridors and its substation was studied by means of the 1:50 000 topographical maps and the 1:250 000 map on which the proposed new power line appears.

### ***Restrictions***

It must be pointed out that heritage resources can be found in the unexpected places, it must also be borne in mind that survey may not detect all the heritage resources in a given project area. While some remains may simply be missed during surveys (observation) others may occur below the surface of the earth and may be exposed once development (such as the construction of the new power line) commences.

### ***Documentation***

All sites/find spots located during the foot surveys were briefly documented. The documentation included digital photographs and descriptions as to the nature and condition of the site and recovered materials. The sites/find spots were plotted using a Global Positioning System (GPS) (Garmin E-Trek Legend) and numbered accordingly.

## **6. ASSESMENT CRITERIA**

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The significance of archaeological and heritage sites were based on the following criteria:

- The unique nature of a site
- The amount/depth of the archaeological deposit and the range of features (stone walls, activity areas etc.)
- The wider historic, archaeological and geographic context of the site.
- The preservation condition and integrity of the site
- The potential to answer present research questions.

### **6.1 Site Significance**

The site significance classification standards as prescribed and endorsed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region, were used as guidelines in determining the site significance for the purpose of this report.

<b>FIELD RATING</b>	<b>GRADE</b>	<b>SIGNIFICANCE</b>	<b>RECOMMENDED MITIGATION</b>
National Significance (NS)	Grade 1	-	Conservation; National Site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; Provincial Site nomination
Local Significance (LS)	Grade 3A	High Significance	Conservation; Mitigation not advised
Local Significance (LS)	Grade 3B	High Significance	Mitigation (Part of site should be retained)
Generally Protected A (GP.A)	Grade 4A	High / Medium Significance	Mitigation before destruction
Generally Protected B (GP.B)	Grade 4B	Medium Significance	Recording before destruction
Generally Protected C (GP.C)	Grade 4C	Low Significance	Destruction

Grading and rating systems of heritage resources



## **6.2 Impact Rating**

### **VERY HIGH**

These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or cultural) environment, and usually result in severe or very severe effects, or beneficial or very beneficial effects.

**Example:** The loss of a species would be viewed by informed society as being of VERY HIGH significance.

**Example:** The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with VERY HIGH significance.

### **HIGH**

These impacts will usually result in long term effects on the social and /or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light.

**Example:** The loss of a diverse vegetation type, which is fairly common elsewhere, would have a significance rating of HIGH over the long term, as the area could be rehabilitated.

**Example:** The change to soil conditions will impact the natural system, and the impact on affected parties (e.g. farmers) would be HIGH.

### **MODERATE**

These impacts will usually result in medium- to long-term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by the public or the specialist as constituting a fairly unimportant and usually short term change to the (natural and/or social) environment. These impacts are real, but not substantial.

**Example:** The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.

**Example:** The provision of a clinic in a rural area would result in a benefit of MODERATE significance.

### **LOW**

These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by

society as constituting a fairly important and usually medium term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect.

**Example:** The temporary changes in the water table of a wetland habitat, as these systems are adapted to fluctuating water levels.

**Example:** The increased earning potential of people employed as a result of a development would only result in benefits of LOW significance to people living some distance away.

### **NO SIGNIFICANCE**

There are no primary or secondary effects at all that are important to scientists or the public.

**Example:** A change to the geology of a certain formation may be regarded as severe from a geological perspective, but is of NO SIGNIFICANCE in the overall context.

### **6.3 Certainty**

**DEFINITE:** More than 90% sure of a particular fact. Substantial supportive data exist to verify the assessment.

**PROBABLE:** Over 70% sure of a particular fact, or of the likelihood of an impact occurring.

**POSSIBLE:** Only over 40% sure of a particular fact, or of the likelihood of an impact occurring.

**UNSURE:** Less than 40% sure of a particular fact, or of the likelihood of an impact occurring.

### **6.4 Duration**

**SHORT TERM** : 0 – 5 years

**MEDIUM:** 6 – 20 years

**LONG TERM:** more than 20 years

**DEMOLISHED:** site will be demolished or is already demolished

## **6.5 Mitigation**

Management actions and recommended mitigation, which will result in a reduction in the impact on the sites, will be classified as follows:

- **A** – No further action necessary
- **B** – Mapping of the site and controlled sampling required
- **C** – Preserve site, or extensive data collection and mapping required; and
- **D** – Preserve site

## **7. HISTORICAL BACKGROUND**

The 1960s research by Professor Reviel Mason on the area shed light in the understanding of escarpment the archaeological and historical point of view. Aerial photographic survey and the layout of the Mapochstad showed that the region starting from Lydenburg area had major concentration of stone walled settlements. Collet studied and classified these settlements and contended that they comprised of three basic units, namely: homesteads, terraces and cattle tracks. His ceramic description, classification and analysis indicated that the ceramics belongs to Marateng pottery, which is the reminiscent of the Pedi pottery. Ethnography and the Pedi oral history of the region show that these groups of people were called the Koni.

Some Koni are identified with the extensive Badfontein type of walling found along the Mpumalanga escarpment, more or less contemporary with Melora. Badfontein walling emphasizes the centre/side axis of the Central Cattle Pattern expressed through concentric circles: the inner circle encompassed cattle, the next marked the men's court, and the outer ring the zone of houses. Rock engravings in the same area depict this settlement pattern. Associated engravings, terrace walls, cattle lanes and circular settlements extend over an enormous area along the escarpment south of Lydenburg. Oral traditions place Koni in this escarpment area before the Pedi, and so some walled settlements must first date before AD 1650, perhaps as early as AD 1600 and the second dispersal. The centre/side layout pattern indicates that they were of Langa origin from northern KwaZulu-Natal. Later, as the associated ceramics show, they became allied to the Pedi.

Establishment of a proposed power line form Steenberg to Booyendal HIA. 13

These Badfontein Koni probably chose the escarpment because it is part of a mist belt that would have offered some relief to dry conditions during the Little Ice Age.

Based on such datable phenomena as initiation cycles, other northern and southern groups are thought to have left KwaZulu-Natal between about AD 1630 and 1670. These dates, of course, are tentative. At about the same time, around AD 1700, cool, very dry conditions prevailed throughout the subcontinent. According to climatic data, this was the worst time in the Little Ice Age. Dated with remarkable precision, this event is so close to the historical dating that the severe conditions were the most likely reason for the third set of movements. Although the reason may have been the same, there were so many small groups at different times that a coordinated movement was unlikely.

As part of this uncoordinated movement, several small groups entered the Pretoria area. These include the well known Manala and Ndzundza Ndebele who claim Musi as a legendary leader. Significantly, Ndzundza capitals in the Steelpoort area to the northeast, such as KwaMaza have a Moor Park variant of stonewalling: kraals and middens lay down slope of the most important residential zone. Pedi pottery (*Marateng*) in Ndzundza settlements demonstrates interaction with northern neighbours.

Fortunately, the history of many Nguni-derived groups on the plateau today is accessible to oral traditions. Generally, those who live north of the Springbok Flats are known collectively as Northern (Transvaal) Ndebele and those below as Southern (Transvaal) Ndebele. Generally again, many northern groups claim Langa as a legendary leader and many of those to the south claim Musi (Van Warmelo 1935). If they retained the Nguni language, they are called Ndebele, while those who adopted Sotho-Tswana are Koni (Sotho-Tswana for *Nguni*).

The third set of movements also included various groups that claim Langa as a legendary leader. Most of these Langa people were supposed to have followed the escarpment north through Swaziland to the Leydsdorp area in the Limpopo Province low-veld before turning west to climb onto the plateau. Thus, there was a different Langa route out of KwaZulu-Natal.

The Ledwaba are an example of Langa Ndebele who followed the Langa route. The Ledwaba settled in the Polokwane (Pietersburg) district in about AD 1840 and found that the Sebietela (Musi) to the south and the Bakoni ba Matlala (Langa) to the north had preceded them. The Matlala had also followed the Langa route.

While living in the northeastern low-veld, some members of the Langa cluster, including the Ledwaba, were greatly influenced by the Zimbabwe culture in general and the Lovedu in particular. Loubser (1994) interprets *Letaba* pottery found on Group II sites, characteristic of the low-veld, as evidence for this influence in Ledwaba sites.

The main route most Langa Ndebele took north, through the Swaziland and Mpumalanga low-veld, suggests that the original Langa homeland was in northern KwaZulu-Natal. It is significant that most Nguni groups today who claim a Langa ancestry live in that area. The combination of oral history, routes and settlement patterns shows that the division between Langa and Musi is ancient, extending back to at least the middle of the Moor Park phase, and that this division has a geographical expression ( Roodt ;2009).

In 1800 the Koni communities around the region were living harmoniously, trading and farming it was up to the year 1826 when Muzilikazi Khumalo fled from King Shaka rule and reaches the region devastating the Koni communities. The Pedi who were under king Sekwati recovered the devastation by Mzilikazi. King Sekhukhune succeeded his father Sekwati who was murdered by his half brother Mampuru in 1882. During those years Mampuru and Nyabela fled and hid from Commandant General Piet Joubert. (Mapoch was the chief of the Ndzundza-Ndebele tribe) The cave where Nyabela and Mampuru were hiding was besieged by Joubert in 1882 and Nyabela was arrested and lost his chieftaincy and the land under his jurisdiction was divided amongst the white (Burgers) who participated in the siege.

## **8. SITE LOCATION**

Eskom SA LTD is expanding the transmission and electricity generation infrastructure to ensure sufficient generation capacity to sustain the country's economic growth in the mining industries. Consequently, a new 132kv power line has to be established from Steen berg to Booyesendal.

The proposed 132KV power line establishment is situated south east of Roosenekal area. The proposed power line route run from an existing Steenberg substation at Anglo Platinum (Everest Platinum Mine) across the farm De kafferskraal 53JT, Vygenhoek 10 JT, Mareesburg 8JT, Thorncliffe 374KT, Helena 6JT, Der Brochen 7JT to the proposed new substation at Booyesendal 43JT farm where the new mine has been earmarked. The proposed power line route cover approximately 12 km in length and stretched across, farm land which was previously used as cultivated land, livestock and game farm land and at some stage the proposed power line crosses Dwars River and the rolling mountainous area.

### **ALTERNATIVES CONSIDERED**

In terms of the EIA Regulations, feasible alternatives are required to be considered within the Environmental Scoping Study (ESS). All identified, feasible alternatives are required to be evaluated in terms of social, biophysical, economic and technical factors.

In general when determining alternatives within study areas various limitations arise ranging from natural to manmade obstacles. These restraints are diverse and can range from physical restraints such as lakes, rivers, mountains and areas of particular environmental sensitivity to manmade structures such as the presence of urban and built up areas and current or surrounding land use. The alternatives presented for the proposed development are expected to have moderate to negligible impacts on the natural attributes in the area.

For the purpose of this study three (3) feasible alternative route corridors for the deviation of the 132 kV power line were identified during the scoping phase. A detailed description of the alternatives is given as the following.

## 8.1. Proposed alternative route one (1).

All the heritage resources that were observed in and near these parts of the proposed new power line corridor were geo-referenced and mapped. Their level of significance is discussed although none will be affected by the proposed new 132kv power line and its associated substation.

The alternative route one (1) heritage impact assessment study was conducted along the proposed new power line corridor starting from the Steenberg (Anglo Platinum -Everest Platinum Mine substation) to the newly proposed substation at Booyensdal 43JT farm portion.

The proposed power line alternative route one (1) start at global positioning system co-ordinates (GPS S25°09'.35.4" E 30° 09'.56.7"). Everest Platinum mine, on the farm portion De Kafferskraal 53JT. Eskom proposed to upgrade the existing substation in order to accommodate proposed new power line. From the substation the proposed power line runs north east of the Anglo platinum mine following the existing power line which supply generated electricity to Der Brochen Substation which is situated within the Anglo platinum Mototolo joint ventures mine. The line runs across an agricultural farm land (cattle farming land) and at some stage across a piece of land which is currently occupied by few homesteads characterized of a primary school buildings (Kiwi primary school) and several houses through the farm property before the turning point at skaapkraal.(On the dirt gravel road marked Vygenhoek)

The proposed power line turning point is adjacent to pole DRB/STB 055(Der Brochen-Steenberg Structure No 55 .GPS co-ordinates S25°05'.25.9" E 30° 10'.16.0").) the pole is located on the southern bank side of the perennial stream, here the proposed power line runs through across the perennial stream towards the northern section of the farm across the Dwars River up towards the mountain and connects to the proposed Booyensdal substation.

The following heritage resources were observed along the proposed new 132kv power line corridor:

**Two clustered graves.****GPS Co-ordinates S25° 08' .54.4" E 30° 10' .38.6"**

A cluster of two graves situated approximately 12 meters from the gravel dirt road from Steenberg to Vygenhoek, these graves are located on the northern edge of the road, indicated by constructed stone and cement outline with cement headrest one of the graves have been inscribed: Fa le tye phethla makolo robala. The site is located far from the power line corridor.

**Formal graveyard****GPS Co-ordinates S25° 08' .54.4" E 30° 10' .38.6"**

A recent grave yard situated 100m north of the existing 132kv power line corridor from Steenberg to Der Brochen, 2 km from Steenberg platinum mine. The graveyard is also situated north east approximately 500m of Kiwi primary school, located inside a well fenced off area with big pine trees associated overgrown outside the grave yard fence. Most graves have been indicated by granite tomb stones as grave dressing and the majority of these graves have been indicated belonging to Phethla family.

The proposed new 132 KV power line will be established south of the identified grave yard on an area previously used as ploughing fields and will therefore not impact the identified formal grave yard.





**Figure 1:** View of the existing Steenberg substation, situated adjacent to the Aglo Everest Platinum Mine.



**Figure 2:** View of two graves situated adjacent to the main (Dirt) gravel road from Steenberg to Vygenhoek area situated adjacent to the plantation.



**Figure 3:** View of the identified grave yard situated north east of Kiwi primary school



**Figure 4:** View of the existing power line from Steenberg to Der Brochen, at this pole the proposed new power line will deviate from the existing power line turning  
Establishment of a proposed power line form Steenberg to Booyensdal HIA.



towards north of Pole DRB/STB 055 which is located south of the perennial stream

## 8.2. Proposed alternative route Two (2).

The proposed alternative route two (2) start at global positioning system coordinates (GPS S25°00′.27.7″ E 30° 06′.43.8″) at Der Brochen (Anglo -Mototolo joint Venture Mine) substation which is situated on the farm portion of Thornccliffe 374 KT. The proposed power line runs parallel the existing Steen berg to Der Brochen power line from the eastern sections of farm portions Helena 6 JT, Der Brochen 7 JT farm where the power line cross the great Dwars River over the mountainous escarpment through Meiring and Land goed property to the turning point adjacent to pole DRB/STB 055(Der Brochen-Steenberg Structure No 55 .GPS co-ordinates S25°05′.25.9″ E 30° 10′.16.0″). The pole is located on the southern bank side of the perennial stream; here the proposed power line runs through across the perennial stream towards the north across the Dwars River up towards the mountain and connecting the proposed Booysendal substation.



**Figure 5:** The existing 132kv power line turning point from Der Brochen across the Dwars River.

### 8.3. Proposed alternative route three (3).

The proposed alternative route three (3) start at global positioning system coordinates (GPS S25°00′.27.7″ E 30° 06′.43.8″) at Der Brochen (Anglo -Mototolo joint Venture Mine) substation which is situated on the farm portion of Thorncliffe 374 KT. The proposed power line route runs parallel the existing Steen berg, Der Brochen power line from the eastern sections of farm portions Helena 6 JT, Der Brochen 7 JT .The proposed power line route extend deviating from where the existing power line turn crossing the Dwars River through the mountainous escarpment where the existing power line is oriented from the north towards the southern section. The proposed power line route three runs on the northern bank of Dwars River at some stage crossing the gravel access road in the Der Brochen property running parallel the existing telephone line north of Dwars river and Der Brochen dam straight to the newly proposed substation at Booyesendal 43JT farm portion.



**Figure 6:** View of the Anglo platinum Mototolo joint venture mine where Der Brochen substation is situated.

#### **(DER 001)Remains of stone walling and cluster of five graves**

On the farm section of Der Brochen 7 JT, in close proximity where the new Booyendal substation will be established remains of stone walling consisting of series of rectangular/square dilapidated stone walling, situated on a promontory undulated flat section indicated by aloes and euphorbia trees. Wild animals have disturbed the site as there are many scattered stone every where. There is clear indication that the area was once used as a livestock enclosure (cattle kraal) because of high dung concentration deposit in the vicinity. The middle section of one area five graves has been noted and geo referenced. Four of the graves dressings have been constructed by brick outline with concrete head rest while the last grave have been indicated by a cairn of stone as grave dressing, one of the concrete headrest have been paint marked ,Kgopotso te kee sello mamonyane,o hlokofetse 11. 7.1963. Poloko 12. 7.63, grave offering of four cents was recorded behind the headrest (**GPS Co-ordinates for cluster of five graves S25°05′.17.4" and E 30° 06′.54.5"**).

South east of the identified graves a broken piece of grinding stones were noticed, and further at the same location a small circular parked stone wall was noticed with a diameter of 3m, and height of 30cm. another straight parked stone wall was recorded on the northern part of the site badly disturbed by wild animal, at the length of 20m. Further 100m west of the area, another series of rectangular parked stone walls have been recoderd; the diameter of the area was 20m, at a height of 1m, the middle surface of the enclosure had Livestock dung deposit. Two piece of grinding stone was noticed in the vicinity. All this stone walling structure has been arranged in a linear form following the promontory hill and covers an area of approximately 400m. (**GPS Co-ordinates of the stone wall section S25°05′.17.3" and E 30° 06′.46.4"**) No potsherds have been found in the vicinity.



**Figure 7:** A section of dilapidated stone wall.



**Figure 8:** View of one of the five clustered graves found associated with section of stone.





**Figure 9:** A section of stone wall which was noticed on the north facing bottom slope



**Figure 10:** View of a grinding stone found in the vicinity

**Basically should the proposed alternative route 3 and its corridors become Eskom's preferred route for the establishment of the power line the following should be noted.**

#### **SUGGESTED MITIGATION MEASURES**

- Due to the nature, of the site it is possible to mitigate graves, the process is long and involves many stages of consultations and professional work. For this reason it is strongly recommended that this site be left intact. The significance of the heritage resources has been indicated. It is unlikely that any of these heritage resources will be affected by the proposed 132 KV power line as they do occur some distance south of the proposed alternative route no 3 and its corridor.

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

The following steps and measures are recommended regarding the identified graves. Eskom planners should take note of the location of graves location and recommendations regarding these graves. The identified graves have significant heritage value to the relevant families and should therefore be preserved. It is recommended that the identified graves should be clearly marked with danger tape during the entire duration of the project and a 30m buffer zone must be allowed around the graves. The proposed power line route activities should be altered and should be planned around these graves in order to protect them from any damage or other negative impacts. It is noted, however, that the developer in this regards Eskom is aware of the graves and their locations.



- Due to sensitivity of the stone walling complex it is not recommended for the placement of Pylon structures or access route over the historical site, if this is unavoidable, should Eskom decide to proceed with the use of this area we strongly recommend a **DETAILED ARCHAEOLOGICAL EXCAVATIONS (PHASE 2)** to be performed on the site before placement of the Pylon, and access route, as the site is of heritage significant.

#### 8.4. Proposed Booyensdal substation.

The proposed Booyensdal substation is situated on the farm Booyensdal 43JT, which is located west of Der Brochen and north of Steenberg substations. The proposed area is a flat surface surrounded by hills and mountains, the surface area is dominated by Themeda triandra (red) grass with few types of vegetation on the nearby hill. (GPS co-ordinates for the proposed Booyensdal substation S25°05′.41.09" and E 30° 06′.48.45")



**Figure 11:** View of the proposed site for the establishment of substation on the farm portion of Booyensdal 43JT

### 9. ASSESMENT OF SITES AND FINDS

This section contains the results of the heritage site/find assessment. The phase 1 heritage scoping assessment program as required in terms of the section 38 of the National Heritage Resource Act (Act 25 of 1999) was done for Eskom proposed 132 KV new power line from Steen berg to Booyensdal substation.

The following types and ranges of heritage resources were discovered near the proposed power line corridors, four rectangular/square shaped stone walling and graves. Graves as heritage resources are classified by the rating system as heritage resources with high significance and the criteria that determine this significance is evaluated on these report, though these heritage resources are located outside the proposed power line corridor.

**All identified graves have been assessed and categorized as heritage resources of high significance**

*Heritage Significance:* GP.A; High/Medium Significance  
*Impact:* Negative  
*Impact Significance:* High  
*Certainty:* Probable  
*Duration:* Permanent  
*Mitigation:* C

**The four rectangular/square stone wall structures have been assessed and categorized as remnants of historical period and the age of these structures could not be determined, it is not possible based on the observation alone to distinguish clearly between remnants of recent past as well as historical. If older than 60 years, they are protected by section 34 of the National Heritage Resource Act**

*Heritage Significance:* GP.A; High/Medium Significance  
*Impact:* Negative  
*Impact Significance:* High  
*Certainty:* Probable  
*Duration:* Permanent  
*Mitigation:* C

## 10. RECOMMENDATIONS

The identified rectangular or square stone walled complex, graves and grave yard fall outside of the area intended for the establishment of the proposed 132 KV power line substation and its corridors, but the developer should take note of their location and recommendations regarding these heritage resources.

- The identified graves have significant heritage values to the relevant families and should therefore be preserved.
  
- In case where they will be affected the relevant families should be identified and should be informed about the proposed development which could possibly affect their graves
- They should be clearly marked with a danger tape in order for them to be visible.
  
- The identified stone wall site were most probably occupied during the 19<sup>th</sup> century as some of the graves in one of the individual have been recorded to have been buried in the early 1963.
  
- Should there be changes on the proposed power line route, it is therefore recommended that the proposed route be altered around to avoid damage of both sites and graves.
  
- Personnel and other members of the construction crew should be made clear about the location of these sites in order to avoid them and not to accidentally damage them during the clearing of access route.

Based on the outcome of the assessments of finds and heritage resources we would like to recommend the proposed alternative route no 1 as the most preferred route because there are no other site-specific actions or any further heritage mitigation measures recommended as no heritage resource sites or finds of any value or significance identified within the proposed power line corridor.

There is consequently no reason from a heritage point of view why Eskom should not proceed with the proposed power line and substation project.

## **11. TOPOGRAPHICAL MAP**

## 12. REFERENCE

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