

Prepared for:

MOKWALE CONSULTING

76 Hans Van Rensburg Street

Parklane Building Polokwane 0699

Tel 0152970030 Fax 0152975757

**A PHASE I HERITAGE IMPACT ASSESSMENT (HIA) STUDY
FOR ESKOM'S PROPOSED 132kV POWER LINES BETWEEN
THE GOMPIES AND DWAF02 SUBSTATIONS AND BETWEEN
THE CHROMORE AND DWAF03 SUBSTATIONS ON THE
NORTHERN EDGES OF THE SPRINGBOK FLATS IN THE
LIMPOPO PROVINCE**

PREPARED BY:

DR JULIUS CC PISTORIUS

Archaeologist & Heritage Consultant

352 Rosemary Street Lynnwood 0081

PO Box 1522 Roodekuil Bela Bela 0480

November 2012

Tel and fax 0147362115

Cell 0825545449

EXECUTIVE SUMMARY

A Phase I Heritage Impact Assessment (HIA) study as required in terms of Section 38 of the National Heritage Resources Act (No 25 of 1999) was done for Eskom's proposed construction of 132kV power lines on the northern edges of the Springbok flats between Roedtan and Zebediela in the Limpopo Province. The construction of the proposed 132kV power lines between the Gompies and the DWAF02 Substations and between the Chromore and DWAF03 Substations is referred to as the Eskom Project whilst the footprint to be affected by the project is referred to as the Eskom Project Area.

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

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

The Phase I HIA study for the proposed Eskom Project did not reveal the presence of any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) in the Eskom Project Area. This study did not provide for a paleontological study for the Project Area.

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

All the alternatives for the proposed 132kV power lines between the Gompies and DWAF02 Substations as well as between the Chromore and DWAF03 Substations seem, from a heritage point of view, suitable for the proposed Eskom Project. However, both preferred routes for both projects mainly follow existing infrastructure (the Caborra Basa power lines and dirt roads) where development activities have exerted an influence on stretches of land where the proposed new power line corridors will be established. The preferred power line routes between the Gompies to DWAF02 Substations and between the Chromore to DWAF03 Substations therefore seem to be the best options for the proposed Eskom Project.

General

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

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

CONTENTS

Executive summary	2
1 INTRODUCTION	5
2 TERMS OF REFERENCE	7
3 THE ESKOM PROJECT AREA	8
3.1 Location	8
3.2 The nature of the Eskom Project	8
3.3 The nature of the Eskom Project Area	9
4 METHODOLOGY	11
4.1 Fieldwork	11
4.2 Databases, literature survey and maps	13
4.3 Assumptions and limitations	13
4.4 Some remarks on terminology	14
5 CONTEXTUALISING THE ESKOM PROJECT AREA	17
5.1 Pre-historical context	17
5.2 Historical context	17
5.3 Most common types and ranges of heritage resources	18
6 THE PHASE I HERITAGE IMPACT ASSESSMENT STUDY	19
6.1 The 132kV power line between the Gompies and DWAF02 Substations	19
6.2 The 132kV power line between the Chromore and DWAF03 Substations	23
6.3 Summary	27
7 CONCLUSION	28

1 INTRODUCTION

Eskom's proposed construction of 132kV power lines between the existing Gompies and DWAF03 Substations and between the existing Chromore to DWAF03 Substations on the northern perimeters of the Springbok flats between Roedtan and Zebediela in the Limpopo Province of South Africa may have an influence on heritage resources that may be present in the Eskom Project Area.

This report therefore outlines the results of a Phase I Heritage Impact Assessment (HIA) study which was done for the proposed Eskom Project in the Limpopo Province of South Africa.

Parts of the Limpopo Province such as Polokwane (Pietersburg), Phalaborwa, the Blouberg Mountains, Mokopane (Potgietersrust), Louis Trichardt (Makhado), the Steelpoort Valley (Sekhukuneland) and areas to the north and south of the Soutpansberg have been explored for archaeological remains in the past. These explorations have shown that the Limpopo Province has a rich archaeological heritage comprised of remains dating from the prehistoric and the historical past. Prehistoric and historical remains in the Limpopo Province reflect South Africa's 'national estate' as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (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 (No 25 of 1999)

The National Heritage Resources Act (No 25 of 1999) 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 paleontological 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 Tissue Act, 1983 (Act No 65 of 1983)
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) moveable objects, including -
 - (i) objects recovered from the 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) 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, Sec 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 organisation of importance in the history of South Africa;
- (i) sites of significance relating to the history of slavery in South Africa

2 TERMS OF REFERENCE

Eskom intends to construct 132kV power lines on the northern perimeters of the Springbok flats between Roedtan and Zebediela in the Limpopo Province. This Eskom Project may have an influence on any of the types and ranges of heritage resources which are listed in Section 3 of the National Heritage Resources Act (No 25 of 1999).

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

The aims with the Phase I HIA were the following:

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

3 THE ESKOM PROJECT AREA

3.1 Location

The Eskom Project Area is located between Roedtan in the south and Zebediela and Lebowakgomo in the north and as such falls within the northern edges of the Springbok flats in the Limpopo Province of South Africa. The existing Gompies Substation is located near the village of Mogoto in the north with the DWAF02 Substation further to the south, on the southern shoulder of a secondary road which joins the R518 which runs between Naboomspruit (Mookgopong) and Mokopane further to the west. The existing Chromore Substation is located near the eastern shoulder of the R101 which links Mokopane with Polokwane whilst the DWAF03 Substation is located further to the east on the shoulder of the secondary road that joins the R518. These two projects fall within the ambits of the Springbokflats.

3.2 The nature of the Eskom Project Area

In the past the Springbokflats represented a seamless, outstretched savannah veld which was composed of acacia and other trees which occurred as scattered occurrence or as dense clumps of trees on a vast grass plain. Many thousands of springbok and other antelope roamed these plains before they were wiped out by hunters during the 18th and 19th centuries. Mobile, small bands of hunter-gatherers roamed these plains from as early as the Middle Stone Age in search of antelope and other small animals whilst collecting various types of plant food from the veld. They did not occupy permanent base camps but migrated seasonally following the herds of antelope which seek new grazing territories.

Today, large parts of the Springbokflats and therefore also parts of the Eskom Project Area has been transformed by development activities such as irrigation and dry land agriculture which encompass vast tracks of land or which occur as smaller agricultural fields interspersed between patches with pristine bush. The mining and processing of limestone and the infrastructure which are associated with these

activities are focussed in an area between Mokopane and Zebediela and further south near Bela Bela and Kalkbult on the Springbokflats where large deposits of limestone occur. Some of these limestone mining activities are located towards the central part of the Eskom Project Area. Chrome mining activities used to exist at the Chromore Substation. The Eskom Project Area therefore cannot be described as a pristine piece of land any longer (2429AB Zebediela East & 2429AC Zebediela West; 2428BD Haakdoring 1: 50 000 topographical map) (Figures 1-2).

3.3 The nature of the Eskom Project

The Eskom Project involves the following developmental components, namely:

- The construction of a 132kV power line between the existing Gompies Substation and the DWAF02 Substation. This power line has a preferred route and two alternatives.
- The construction of a 132kV power line between the existing Chromore Substation and the DWAF03 Substation. This power line has a preferred route and two alternatives (Figure 3).

These various developmental components are referred to as the Eskom Project whilst the collective footprints for these power line corridors are referred to as the Eskom Project Area.



Figures 1 & 2- Examples of how the Springbokflats were altered as a result of extensive dry land agriculture (above). Limestone quarries are scattered across the central part of the Eskom Project Area and mined limestone are utilized not only for agriculture but even to be used to consolidate the surfaces of roads in the area (below).



4 METHODOLOGY

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

- Surveying the proposed Eskom Project Area with a vehicle and selected spots on foot.
- Briefly surveying literature relating to the pre-historical and historical context of the Eskom Project Area.
- Consulting maps of the proposed Eskom Project Area.
- Consulting archaeological (heritage) data bases.
- Synthesising all information obtained from the data bases, fieldwork, maps and literature survey into this report.

4.1 Fieldwork

The proposed Eskom Project Area was surveyed with a vehicle where accessible roads existed along the power lines. This was possible as the both the preferred routes as well as most of the alternatives had accessible primary or secondary roads which ran along these proposed corridors.

The GPS track pathway (Figure A1) from a mounted GPS provide an outline of the field survey, namely:

Gompies to DWAF02

- Preferred route followed from Gompies Substation along the Cabora Bassa power line's servitude which crosses (joins) a dirt road on Volop which was followed to the DWAF02 Substation.
- Alternative 01 follows the preferred route (in the north) but continues along the Cabora Bassa power line's servitude. The south-western (penultimate and last) stretch runs across agricultural fields and a stretch of veld scarred by lime stone mining activities.

- Alternative 02 was followed further (than Alternative 01) along the Cabora Bassa power line's servitude. The last stretch was followed along the road that joins with the R518.

Chromore to DWAF03

- First short stretch of preferred route which runs from Chromecor Substation was not surveyed. It falls within an abandoned, restricted mining area which is sealed for the public for safety reasons. This stretch is not considered to be significant: it is short and runs across flat terrain which partly has been scarred by mining activities. These second, longest stretch follows the shoulder of a dirt road whilst the penultimate and last stretch runs across agricultural fields and bush.
- Alternative 01 and Alternative 02 runs parallel in close proximity with each other and was surveyed in conjunction. The first stretch of both runs across partly inaccessible disturbed mining area. East of the R518 Alt01 runs across pristine veld and small agricultural field and last stretch across regenerating bush to DWAF03. East of R518 Alt 02 runs along dirt road to farmstead complex and last stretch runs across veld with regenerating bush to DWAF03.



Figure A- GPS track log outlining the field survey for Eskom’s 132kV Gompies to DWAF02 to and the 132kV Chromore to DWAF03 power line routes (above).

The larger Eskom Project Area was subjected to several heritage impact assessment studies in the past, namely:

- Pistorius, J. C.C. 2002. A Cultural Heritage Impact Assessment for the farm Doornvlei 456KS and Turfpan 122KS for the scoping phase of the EMPR for the proposed Doornvlei Platinum Project. Unpublished report prepared for SRK.
- Roodt, F. 2003. A Phase I Heritage Impact Assessment: Messina Platinum Mine: EMPR for the proposed Dwaalkop-Doornvlei Project Limpopo Province. Unpublished report prepared for SRK Consulting.
- Pistorius, J.C.C. 2007. A Phase I Heritage Impact Assessment study for the proposed Mphahlele Project in Chuniespoort in the Limpopo Province of South Africa. Unpublished report prepared for Metago Environmental Engineers.
- Pistorius, J.C.C. 2009. A Phase I Heritage Impact Assessment study for Lonmin’s proposed new Dwaalkop Mining operation near Lebowakgomo in Chuniespoort in the Limpopo Province of South Africa. Unpublished report prepared for SRK Consulting.
- Pistorius, J.C.C. 2010. A Phase I Heritage Impact Assessment study for a proposed seismic project on a number of farms near Chuniespoort in the Limpopo Province. Unpublished report prepared for Metago Environmental Engineers.
- Pistorius, J.C.C. 2011. A Phase I Heritage Impact Assessment study for the proposed Voorspoed Substation and for the proposed Dwaalkop Substation near Lebowakgomo and Chuniespoort in the Limpopo Province. Unpublished report prepared for URGENEG (see Part 8, ‘Select Bibliography’).

4.2 Databases, literature survey and maps

Databases kept and maintained at institutions such as the Provincial Heritage Resources Agency (PHRA), the Archaeological Data Recording Centre at the National Flagship Institute (Museum Africa) in Pretoria and SAHRA’s national archive (SAHRIS)

were consulted to determine whether any heritage resources of significance has been identified during earlier heritage surveys in or near the Sasol Project Area.

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

Maps outlining the Eskom Project Area were studied (2429AB Zebediela East, 2429AC Zebediela West & 2428BD Haakdoring; 1: 50 000 topographical maps).

4.3 Assumptions and limitations

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

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

4.4 Some remarks on terminology

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

- Conservation: The act of maintaining all or part of a resource (whether renewable or non-renewable) in its present condition in order to provide for its continued or future use. Conservation includes sustainable use, protection, maintenance, rehabilitation, restoration and enhancement of the natural and cultural environment.

- Conservation (*in-situ*): The conservation and maintenance of ecosystems, natural habitats and cultural resources in their natural and original surroundings.
- Cultural (heritage) 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.
- Cultural (heritage) 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.
- Heritage resources: The various natural and cultural assets that collectively form the heritage. These assets are also known as cultural and natural resources. Heritage (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.
- 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 300 years ago).
- 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.

- Historical period: Refers to the first appearance or use of 'modern' Western writing in a particular area or region of the world.
- 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.
- 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.
- Maintenance: Keeping something in good health or repair.
- Preservation: Conservation activities that consolidate and maintain the existing form, material and integrity of a cultural resource.
- 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.
- 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.
- 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 plan).
- 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.

- Phase II studies include in-depth cultural heritage studies such as archaeological mapping, excavating and sometimes laboratory work. Phase II work may include the documenting of rock art, engraving or historical sites and dwellings; the sampling of archaeological sites or shipwrecks; extended excavations of archaeological sites; the exhumation of human remains and the relocation of graveyards, etc. Phase II work involve permitting processes, require the input of different specialists and the co-operation and approval of SAHRA.

5 CONTEXTUALISING THE ESKOM PROJECT AREA

A brief overview of pre-historical and historical information below contextualises the Eskom Project Area in order to identify possible types and ranges of heritage resources that may occur in the Project Area.

5.1 Pre-historical context

Very little is known about the pre-historical context of the Springbok flats as no thorough research has been undertaken to date. However, it can be expected that Stone Age sites dating from the Middle Stone Age and the Late Iron Age will occur in this vast outstretched region as Stone Age sites have been recorded on Vellefontein, Blaauwbank and Hartebeesfontein near the Rooiberg.

Artefacts from the Middle Stone Age (200 000 to 22 000 years ago) also occur wide across the Springbok flats and they are mainly manufactured from dolerite, felsite and quartzite derived from the Rooiberg. At Tuinplaas, on the Springbokflats, a part of the skull of a Homo Neanderthalensis was found decades ago (Van Der Ryst 1996, 1998).

5.2 Historical context

A predominantly Northern Sotho-speaking population has occupied the former Lebowa homeland area for centuries. These people are part of a Northern Sotho-speaking community who occupy a vast area between the Limpopo River in the north, the Drakensberg in the east and Zebediela in the west (Mönnig 1978).

The earliest period of settlement is characterized by small groups of black people who drove the San and Khoi Khoi from the area. From AD1700 ancestral groupings of the present inhabitants of the land began to arrive in the area. Groups that can be distinguished in this region include the following:

- A large group of Sotho came from the north-eastern parts of the Lowveld and settled on the plateau to the north and to the south of the Strydpoort Mountains.

- Smaller groups of Sotho of Kgatla and Hurutshe-Kwena origin moved from the Tswana area (Brits and Rustenburg) into the territory. Amongst them were the Pedi (or Rota) who moved into what is now Sekhukhuneland, where they subjugated the Sotho already living in the area.
- At that time Sekhukhuneland was also penetrated by Sotho arriving from the south-east.
- During the period after AD1600, the Northern Ndebele arrived from the south-east and settled in what is now the Mokerong district (Van Warmelo 1930, 1944).

A number of Sotho tribes, all of Kgaga origin, live to the north and to the south of the Strydpoort Mountains, between the Pedi heartland further to the east and the Tlokwa territory in Sekgosesese to the west. The place of origin of the Kgaga people was Bokgaga, to the west of Ofcolaco. It was here that the Kgaga of Maake settled in early times. Their totem (usually a sacred animal that is venerated) was the *phuti* (or 'duiker') (Hammond Tooke 1993).

Around 1750, the Kgaga of Mphahlele broke away from Maake and moved southwards and then westwards across the Steelpoort River. They eventually settled to the west of the Olifants River and to the south of the Strydpoort Mountains in the present Mphahlele village at Chuniespoort.

When the Kgaga arrived, the Kekana of Moletlane had already settled to the south-west of the area chosen by the Kgaga of Mphahlele. The Kgaga and particularly the Ndebele of Kekana are therefore the most dominant pre-historical and historical groups who lived near and in the Eskom Project Area for the last four hundred years or longer (Van Warmelo 1930, 1944).

Further to the west of the Eskom Project Area in the Rooiberg, which represents the southern tip of the Waterberg, a survey for Iron Age settlements was done and a cultural historical sequence was established for this region (Hall 1981). Several heritage studies to the north-east of the Eskom Project Area, amongst other a survey across a wide area which incorporated the former sphere of influence of the

Bakgaga and Ndebel, revealed a disappointingly low range and scarcity of heritage resources in an area which initially was considered to be rich in heritage sites (Pistorius 2007, 2010).

5.3 Most common types and ranges of heritage resources

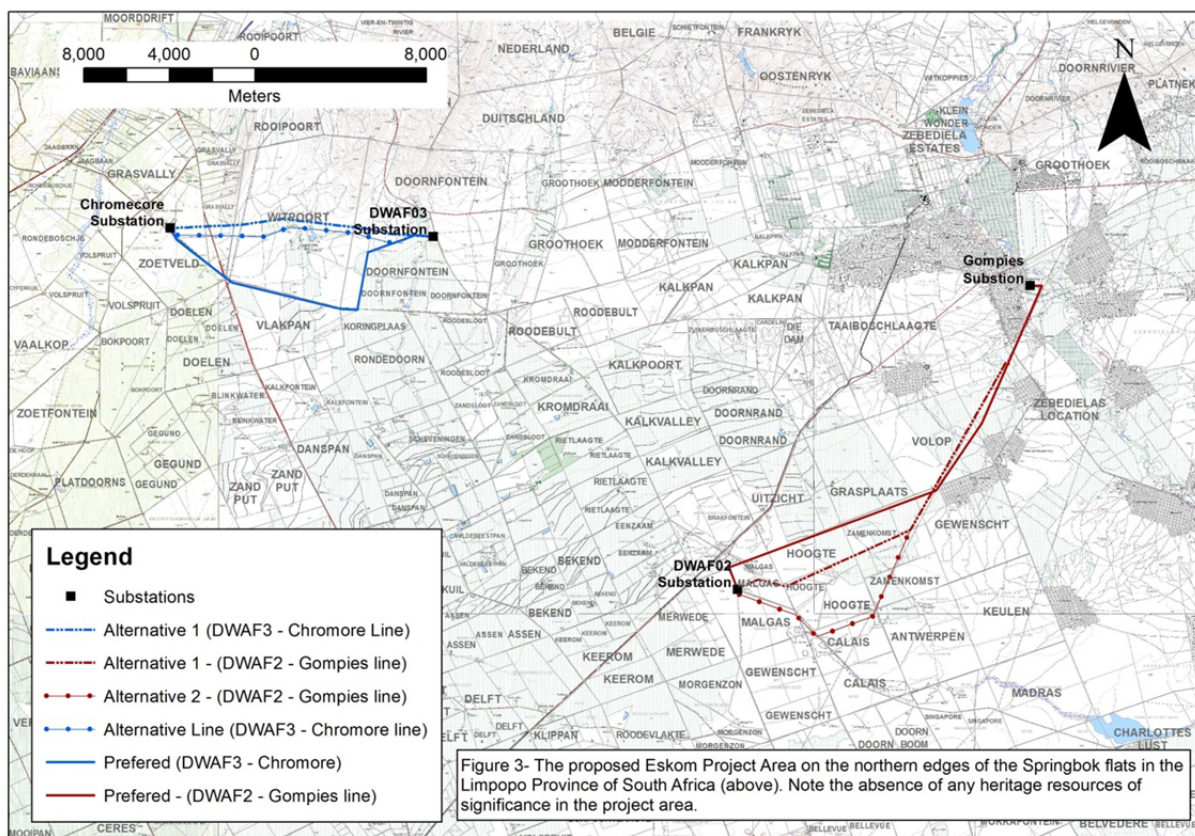
According to earlier heritage surveys as well as the ecological background in conjunction with cultural and historical evidence the Eskom Project Area cannot be described as a region which is endowed with a variety of any heritage resources.

6 THE PHASE I HERITAGE IMPACT ASSESSMENT STUDY

The Eskom Project can be divided into the following two smaller projects, namely:

- The 132kV power line which runs between the Gompies Substation and the DWAF02 Substations.
- The 132kV power line which runs between the Chromore Substation and the DWAF03 Substations (Figure 3).

The Phase I Heritage Impact Assessment study is now briefly discussed and illuminated with photographs.



6.1 The 132kV power line between the Gompies and DWAF02 Substations

This power line has the following three options, namely (Figure 3):

The preferred route (solid red line) runs from the Gompies Substation along the following stretches, namely:

- The first stretch runs from the Gompies Substation along the eastern perimeter of the village of Mogoto southwards in order to join the Caborah Bassa power line along the eastern perimeter of this village. From here the power line bends to the south-west and west in order to run across Taaiboschlaagte 163KS and Volop 164KS.

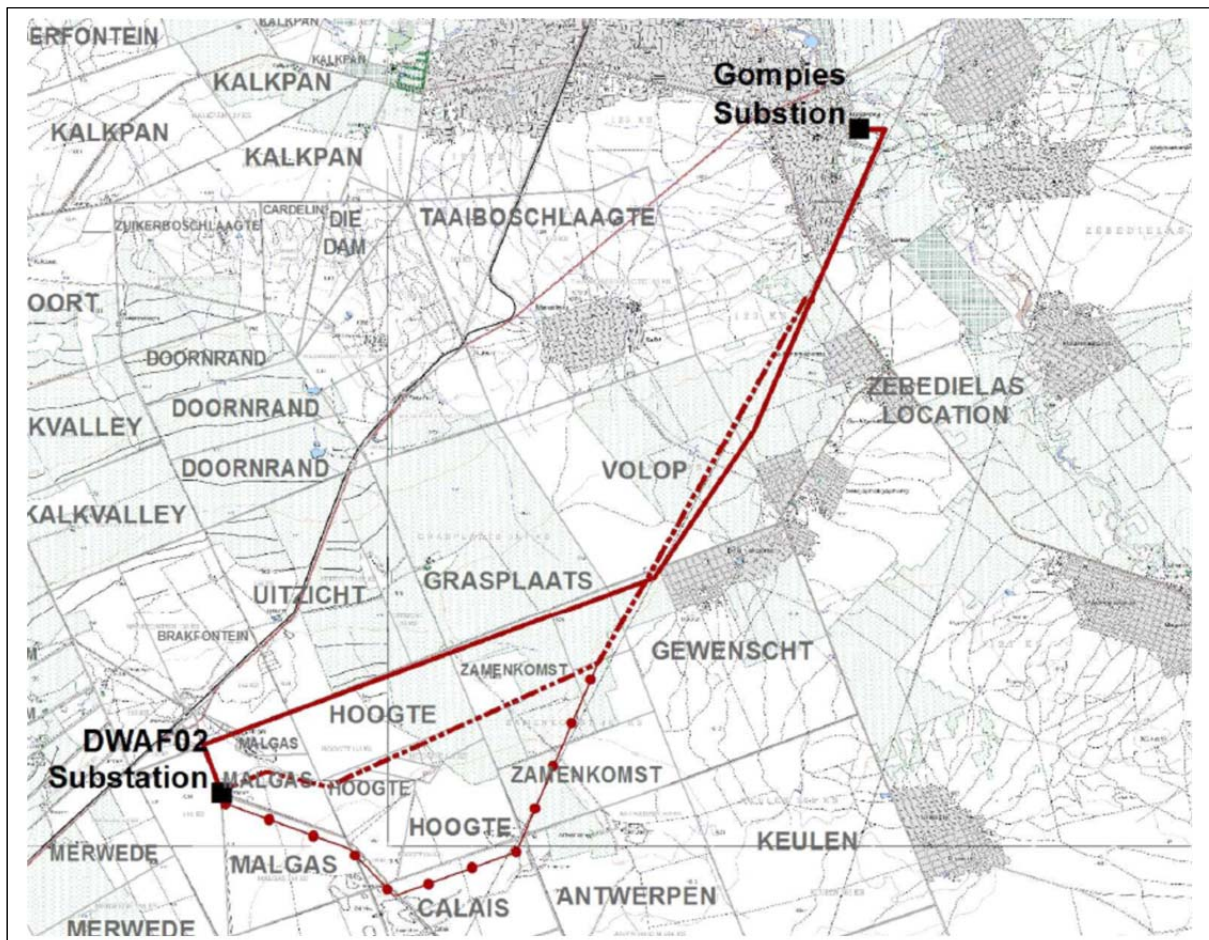


Figure 4- The 132kV power line which runs between the Gompies Substation to the DWAFO2 Substation with its preferred and two alternative power line corridors (above).

- On Volop 164KS the second stretch bends to the south-west in order to run along the borders of the farms Grasplaats 161KS/Zamekomst 162KS, Uitzicht 156KS/Hoogte 15KS and Brakfontein 152KS/Malgas 154KS to the proposed DWAFO2 Substation on the farm Malgas 154KS.



Figure 5- The 132kv Gompies/DWAF02 power line runs along the eastern perimeter of the village of Mogoto and joins the Caborah Basa power line. This part of the power line corridor has been disturbed as it is located next to the village (above).

Alternative 01 (Figure 3, fine dotted red line) runs from the Gompies Substation south-westwards following the preferred route to a point on Volop 164KS where the preferred route bends to the south-west. Alternative 01 then continues in a straight line across Zamekomst 162KS where it bends to the south-west in order to cross the farm Hoogte 155KS and the farm Malgas 154KS where it joins the proposed DWAF02 Substation.

Alternative 02 (Figure 3, big red dotted line) runs from the Gompies Substation south-westwards following the preferred route to the point on Volop 164KS where the preferred route bends to the south-west. Alternative 02 however continues in a straight line across Zamekomst 162KS and Calais 563KS still following the Cabora Bassa power line before it bends to the south-west in order to join the road that again joins with the R518 (which runs to Mokopane). Alternative 02 then bends to the north-west in order to run along the shoulder of the road that joins the R518 and ends at the DWAF02 Substation on the farm Malgas 154KS.



Figure 6- Long stretches of the preferred and both the alternatives routes for the 132kv Gompies to DWAF02 Substations power lines follow the existing Caborah Bassa power line where no heritage resources were observed. This corridor has been disturbed as a result of earlier construction activities (above).

6.2 The 132kV power line between the Chromore and DWAF03 Substations

This power line has the following three options, namely:

The preferred route (Figure 3, solid blue line) runs from the Chromore Substation along the following stretches, namely:

- The first stretch bends to the south-east and runs across Zoetveld 294KP before crossing the N11 which runs between Mokopane and Marble Hall. (This stretch could not be surveyed as it falls in a sealed off restricted mining area that are locked and which is inaccessible. However, it is considered to be insignificant as it is a short stretch running across a level plain which has partly been scarred by mining activities).

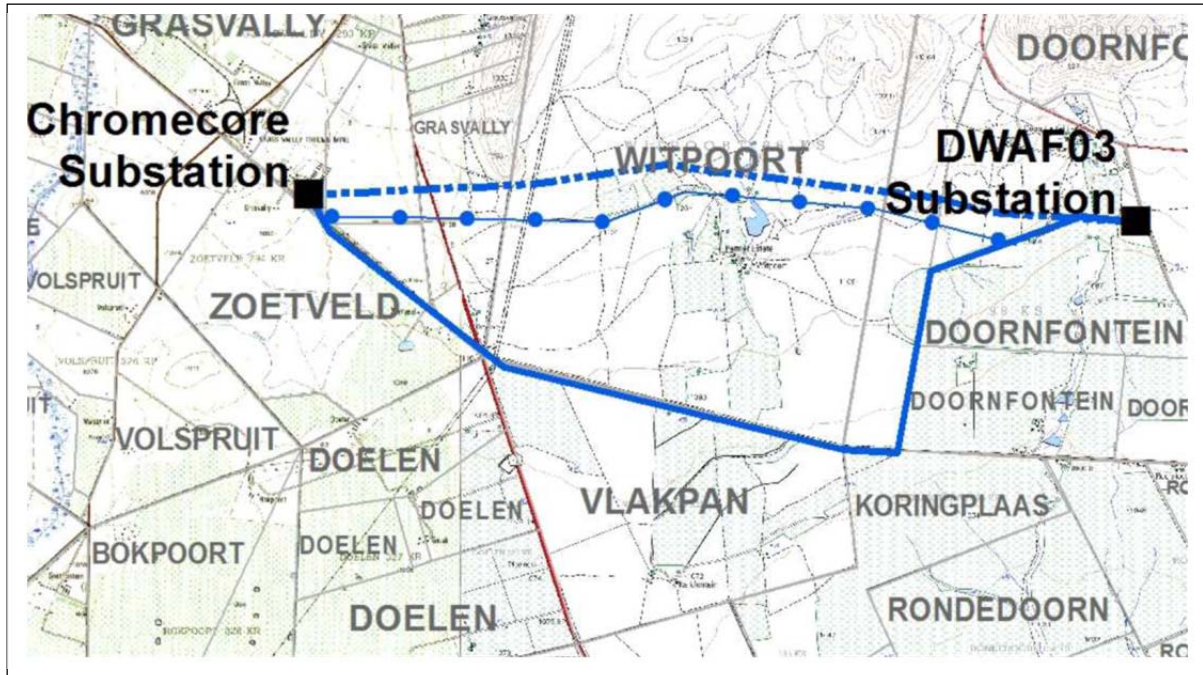


Figure 7- The 132kV power line which runs between the Chromore Substation and the DWAF03 Substation with its preferred and two alternative power line corridors (above).



Figure 8- The longest stretch for the preferred route for the 132kV power line which runs between the Chromemore and DWAF03 Substations closely follows a dirt road where no heritage resources of significance occur (above)

- The second stretch runs further eastwards across Vlakkrans 36KS and follows the southern shoulder of a dirt road.



Figure 9- The longest stretch for the preferred route for the 132kV power line which runs between the Chromore and DWAF03 Substations runs across abandoned or active agricultural fields where no heritage resources of significance occur (above)

- The third and last short stretch bends towards the north and runs across Doornfontein 98KS where it bends to the north-east in order to join the proposed DWAF03 Substation near the shoulder of the N11. This stretch also crosses agricultural fields and a patch with pristine bush.

Alternative 01 (Figure 3, fine dotted blue line) and Alternative 02 (Figure 3, big blue dotted line) both run eastwards in a relatively straight line crossing the farms Zoetveld 294KP, Witpoort 96KS and Doornfontein 98KS before joining the DWAF03 Substation. (The first stretch of both the alternatives which run from the Chromore

Substation to the N11 was not surveyed as they fall in an abandoned, restricted mining area which has been sealed-off from the public. However, these stretches are considered to be of little significance as they were partly disturbed by mining activities in the past)

Both Alternative 01 and Alternative 02 which run parallel with each other were surveyed in conjunction as they are situated close to each other.



Figure 10- Whilst Alternative 01 for the 132kV Chromore to DWAF03 Substation runs through bush, Alternative 02 follows the shoulder a dirt road and also crosses a piece of agricultural land (above).



Figure 11- The last stretches for both Alternative 01 and Alternative 02 for the 132kV power line which runs between the Chromore and DWAF03 Substation run across an area in which bush is regenerating as a result of earlier agricultural activities before joining the DWAF03 Substation on the shoulder of the N11 (above)

6.3 Summary

No heritage resources of significance were observed along either the preferred or the alternatives for the 132kv power lines which will run between the Gompies to DWAF02 Substations and between the Chromore and DWAF03 Substations.

7 CONCLUSION AND RECOMMENDATIONS

The Phase I HIA study for the proposed Eskom Project did not reveal the presence of any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) in the Project Area.

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

All the alternatives for the proposed 132kV power lines between the DWAF02 and Gompies Substations as well as between the DWAF03 and the Chromore Substations therefore seem, from a heritage point of view, suitable for the proposed Eskom Project. However, both preferred routes for both projects mainly follow existing infrastructure (the Caborra Basa power lines and dirt roads) where previous development activities have exerted an influence on stretches of land where the proposed new power line corridors will be established. The preferred power line routes between the Gompies to DWAF02 Substations and between the Chromore to DWAF03 Substations therefore seem to be the best options for the proposed Eskom Project.

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



DR JULIUS CC PISTORIUS

Archaeologist & Heritage Consultant

Member ASAPA

8 SELECT BIBLIOGRAPHY

Bergh, J.S. (red.) 1998. *Geskiedenisatlas van Suid Afrika. Die vier noordelike provinsies*. J.L. van Schaik: Pretoria.

Erasmus, B.P.J. 1995. *Oppad in Suid Afrika. 'n Gids tot Suid Afrika, Streek vir Streek*. Jonathan Ball Uitgewers Bpk.

Esterhuysen, A.B. 2008. Ceramic alliance: pottery and the history of the Kekana Ndebele in the old Transvaal. In: Swanepoel, N., Esterhuysen, A. & Bonner, P. (eds). *Five hundred years rediscovered: southern African precedents and prospects: 197-214*. Johannesburg: Wits University Press.

Hall, S. 1981. Iron Age sequence and settlement in the Rooiberg, Thabazimbi area. Unpublished MA dissertation. University of the Witwatersrand.

Hammond Tooke 1993. *The roots of black South Africa*. Jonathan Ball Publishers: Johannesburg.

Inskeep, R.R. 1978. *The peopling of Southern Africa*. David Philip: Cape Town.

Mason, R. 1962. *Prehistory of the Transvaal*. Johannesburg: Witwatersrand University Press.

Mönnig, H.O. 1978. *The Pedi*. National Book Printers: Cape Town.

Naude, M. 1990. Die Transvaalse Boerewoning. *Africana Society of Pretoria* (8): 46-49.

Naude, M. 2004. Oral evidence on the construction of vernacular farm dwellings in the Waterberg (Limpopo Province). *South African Journal of Cultural History*. 18(1): 34-61.

Pistorius, J. C.C. 2002. A Cultural Heritage Impact Assessment for the farm Doornvlei 456KS and Turfpan 122KS for the scoping phase of the EMPR for the proposed Doornvlei Platinum Project. Unpublished report prepared for SRK.

Pistorius, J.C.C. 2007. A Phase I Heritage Impact Assessment study for the proposed Mphahlele Project in Chuniespoort in the Limpopo Province of South Africa. Unpublished report prepared for Metago Environmental Engineers.

Pistorius, J.C.C. 2009. A Phase I Heritage Impact Assessment study for Lonmin's proposed new Dwaalkop Mining operation near Lebowakgomo in Chuniespoort in the Limpopo Province of South Africa. Unpublished report prepared for SRK Consulting.

Pistorius, J.C.C. 2010. A Phase I Heritage Impact Assessment study for a proposed seismic project on a number of farms near Chuniespoort in the Limpopo Province. Unpublished report prepared for Metago Environmental Engineers.

Pistorius, J.C.C. 2011. A Phase I Heritage Impact Assessment study for the proposed Voorspoed Substation and for the proposed Dwaalkop Substation near Lebowakgomo and Chuniespoort in the Limpopo Province. Unpublished report prepared for URGENEG (see Part 8, 'Select Bibliography').

Roodt, F. 2003. A Phase I Heritage Impact Assessment: Messina Platinum Mine: EMPR for the proposed Dwaalkop-Doornvlei Project Limpopo Province. Unpublished report prepared for SRK Consulting.

Van Der Ryst, M. 1996. The later Stone Age prehistory of the Waterberg, with special reference to Goergap shelter. Unpublished MA thesis. University of the Witwatersrand.

Van Der Ryst, M. 1998. The Waterberg Plateau in the Northern Province, Republic of South Africa, in the Later Stone Age. *BAR International Series* 715.

Van Warmelo, N. J. 1930. Transvaal Ndebele texts. Government Printer: Pretoria.

Van Warmelo, N. J. 1944. The Ndebele of J. Kekana. Government Printer: Pretoria.