

# ARCHAEOLOGICAL IMPACT ASSESSMENT

FOR THE PROPOSED SUBSTATION AT WESGLASS  
(GARANKUWA) AND ASSOCIATED 132KV OVERHEAD POWER  
LINE, GAUTENG PROVINCE

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Project Reference:

216116

Report date:

November 2016

DOCUMENT PROGRESS  
Archaeological Impact Assessment

Document status

Document Version	v1.0
Report Purpose	Draft Report for review
Report Ref. No.	216116

Distribution List

Date	Report Reference number	Document Distribution	Number of Copies
2016/11/28	216116	Envirolution Consulting	Electronic copy

## General

The possibility of unmarked or informal graves and subsurface finds cannot be excluded. If any possible finds are made during construction, the operations must be stopped and a qualified archaeologist contacted for an assessment of the find/s.

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- The technology described in any report;
- Recommendations delivered to the Client.

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**SIGNATURE:** \_\_\_\_\_

*Jaco van der Walt.*

## EXECUTIVE SUMMARY

### Site name and location:

The proposed substation at Wesglass(GaRankuwa) and its associated 132kv Overhead Power Line is located in Garankuwa, Gauteng Province.

**1: 50 000 Topographic Map:** 2527 DB.

**EIA Consultant:** Envirolution Consulting

**Developer:** Eskom SOC

**Heritage Consultant:** Heritage Contracts and Archaeological Consulting CC (HCAC).

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**Date of Report:** 28 November 2016

### Findings of the Assessment:

HCAC was appointed to assess the study area in terms of the archaeological component of Section 35 of the NHRA as part of the basic assessment for the project. No archaeological sites (Iron Age or Stone Age) of significance were recorded. No further mitigation prior to construction is recommended in terms of Section 35 for the proposed development to proceed.

In terms of Section 34 of the Act no standing structures older than 60 years will be impacted on by the project. In terms of Section 36 of the Act no formal burial sites were recorded that would be impacted on by the project. There is however a large fenced cemetery adjacent to powerlines Alternative 2 and 3.

Based on the results of the field survey of the proposed development there are no significant archaeological risks associated with the development. Due to the lack of significant heritage resources all three alternatives are acceptable from a heritage perspective but as the cemetery is adjacent to Alternative 2 and 3, Alternative 1 is the preferred option.

HCAC is of the opinion that from an archaeological point of view there is no reason why the development should not proceed if the recommendations as made in the report area adhered to and based on approval from SAHRA.

Due to the subsurface nature of archaeological remains and the fact that graves can occur anywhere on the landscape, it is recommended that a chance find procedure is implemented for the project as part of the EMP.

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## ABBREVIATIONS

AIA: Archaeological Impact Assessment
ASAPA: Association of South African Professional Archaeologists
BIA: Basic Impact Assessment
CRM: Cultural Resource Management
ECO: Environmental Control Officer
EIA: Environmental Impact Assessment*
EIA: Early Iron Age*
EIA Practitioner: Environmental Impact Assessment Practitioner
EMP: Environmental Management Plan
ESA: Early Stone Age
GPS: Global Positioning System
HIA: Heritage Impact Assessment
LIA: Late Iron Age
LSA: Late Stone Age
MEC: Member of the Executive Council
MIA: Middle Iron Age
MPRDA: Mineral and Petroleum Resources Development Act
MSA: Middle Stone Age
NEMA: National Environmental Management Act
PRHA: Provincial Heritage Resource Agency
SADC: Southern African Development Community
SAHRA: South African Heritage Resources Agency

*\*Although EIA refers to both Environmental Impact Assessment and the Early Iron Age both are internationally accepted abbreviations and must be read and interpreted in the context it is used.*

## GLOSSARY

Archaeological site (remains of human activity over 100 years old)

Early Stone Age (~ 2.6 million to 250 000 years ago)

Middle Stone Age (~ 250 000 to 40-25 000 years ago)

Later Stone Age (~ 40-25 000, to recently, 100 years ago)

The Iron Age (~ AD 400 to 1840)

Historic (~ AD 1840 to 1950)

Historic building (over 60 years old)



## 1 BACKGROUND INFORMATION

Heritage Contracts and Archaeological Consulting (**HCAC**) was appointed to conduct an Archaeological Impact Assessment for the proposed substation at Wesglass (GaRankuwa) and its associated 132kv Overhead Power Line as part of the Basic Assessment process as well as alternatives.

The aim of the study is to identify cultural heritage sites, document, and assess their importance within local, provincial and national context. It serves to assess the impact of the proposed project on non-renewable heritage resources, and to submit appropriate recommendations with regard to the responsible cultural resources management measures that might be required to assist the developer in managing the discovered heritage resources in a responsible manner. It is also conducted to protect, preserve, and develop such resources within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

The report outlines the approach and methodology utilized before and during the survey, which includes: Phase 1, a desktop study that includes collection from various sources and consultations; Phase 2, the physical surveying of the study area on foot and by vehicle; Phase 3, reporting the outcome of the study.

General site conditions were recorded by means of photographs, GPS locations, and site descriptions. Possible impacts were identified and mitigation measures are proposed in the following report.

This report must also be submitted to the SAHRA for review.

## 1.1. Terms of Reference

### Desktop study

Conduct a brief desktop study where information on the area is collected to provide a background setting of the archaeology that can be expected in the area.

### Field study

Conduct a field study to: a) systematically survey the proposed project area to locate, identify, record, photograph and describe sites of archaeological, historical or cultural interest; b) record GPS points identified as significant areas; c) determine the levels of significance of the various types of heritage resources recorded in the project area.

### Reporting

Report on the identification of anticipated and cumulative impacts the operational units of the proposed project activity may have on the identified heritage resources for all 3 phases of the project; i.e., construction, operation and decommissioning phases. Consider alternatives, should any significant sites be impacted adversely by the proposed project. Ensure that all studies and results comply with Heritage legislation and the code of ethics and guidelines of ASAPA.

To assist the developer in managing the discovered heritage resources in a responsible manner, and to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

## 1.2. Archaeological Legislation and Best Practice

Phase 1, an AIA or a HIA is a pre-requisite for development in South Africa as prescribed by SAHRA and stipulated by legislation. The overall purpose of a heritage specialist input is to:

- » Identify any heritage resources, which may be affected;
- » Assess the nature and degree of significance of such resources;
- » Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance;
- » Assess the negative and positive impact of the development on these resources;
- » Make recommendations for the appropriate heritage management of these impacts.

The AIA or HIA, as a specialist sub-section of the EIA, is required under the National Heritage Resources Act NHRA of 1999 (Act 25 of 1999), Section 23(2) (b) of the NEMA and section S. 39 (3) (b) (iii) of the MPRDA.

The AIA should be submitted, as part of the EIA, BIA or EMP, to the PHRA if established in the province or to SAHRA. SAHRA will be ultimately responsible for the professional evaluation of Phase 1 AIA reports upon which review comments will be issued. 'Best practice' requires Phase 1 AIA reports and additional development information, as per the EIA, BIA/EMP, to be submitted in duplicate to SAHRA after completion of the study. SAHRA accepts Phase 1 AIA reports authored by professional archaeologists, accredited with ASAPA or with a proven ability to do archaeological work.

Minimum accreditation requirements include an Honours degree in archaeology or related discipline and 3 years post-university CRM experience (field supervisor level).

Minimum standards for reports, site documentation and descriptions are set by ASAPA in collaboration with SAHRA. ASAPA is based in South Africa, representing professional archaeology in the SADC region. ASAPA is primarily involved in the overseeing of ethical practice and standards regarding the archaeological profession. Membership is based on proposal and secondment by other professional members.

Phase 1 AIA's are primarily concerned with the location and identification of sites situated within a proposed development area. Identified sites should be assessed according to their significance. Relevant conservation or Phase 2 mitigation recommendations should be made. Recommendations are subject to evaluation by SAHRA.

Conservation or Phase 2 mitigation recommendations, as approved by SAHRA, are to be used as guidelines in the developer's decision making process.

Phase 2 archaeological projects are primarily based on salvage/mitigation excavations preceding development destruction or impact on a site. Phase 2 excavations can only be conducted with a permit, issued by SAHRA to the appointed archaeologist. Permit conditions are prescribed by SAHRA and includes (as minimum requirements) reporting back strategies to SAHRA and deposition of excavated material at an accredited repository.

In the event of a site conservation option being preferred by the developer, a site management plan, prepared by a professional archaeologist and approved by SAHRA, will suffice as minimum requirement.

After mitigation of a site, a destruction permit must be applied for from SAHRA by the client before development may proceed.

Human remains older than 60 years are protected by the National Heritage Resources Act, with reference to Section 36. Graves older than 60 years, but younger than 100 years fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act), as well as the Human Tissues Act (Act 65 of 1983), and are the jurisdiction of SAHRA. The procedure for Consultation Regarding Burial Grounds and Graves (Section 36[5]) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administrated by a local authority.

Graves in this age category, located inside a formal cemetery administrated by a local authority, require the same authorisation as set out for graves younger than 60 years, in addition to SAHRA authorisation. If the grave is not situated inside a formal cemetery, but is to be relocated to one, permission from the local authority is required and all regulations, laws and by-laws, set by the cemetery authority, must be adhered to.

Human remains that are less than 60 years old are protected under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), as well as the Human Tissues Act (Act 65 of 1983), and are the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the office of the relevant Provincial Premier. This function is usually delegated to the Provincial MEC for Local Government and Planning; or in some cases, the MEC for Housing and Welfare. Authorisation for exhumation and reinternment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws and by-laws must also be adhered to. To handle and transport human remains, the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

### 1.3. Description of Study Area

#### 1.3.1 Location Data

The proposed substation at Wesglass(GaRankuwa) and its associated 132kv Overhead Power Line is located in Garankuwa, Gauteng Province (Figure 1).

The project is located on the following properties:

SG Code	Farm Name/ Township	Portion Number	Type
T0JR04430000002800000	GA-RANKUWA INDUSTRIAL	28	Erf
T0JR04430000002900000	GA-RANKUWA INDUSTRIAL	29	Erf
T0JR04430000003000000	GA-RANKUWA INDUSTRIAL	30	Erf
T0JR04430000003100000	GA-RANKUWA INDUSTRIAL	31	Erf
T0JR04430000008000000	GA-RANKUWA INDUSTRIAL	80	Erf
T0JR044300000038800000	GA-RANKUWA INDUSTRIAL	388	Erf
T0JR0258000000003000000	SJAMBOK ZIJN OUDE KRAAL 258-JR	3/258-JR	Farm Portion
T0JR0258000000002000000	SJAMBOK ZIJN OUDE KRAAL 258-JR	R/2/258-JR	Farm Portion
T0JR0258000000002000000	SJAMBOK ZIJN OUDE KRAAL 258-JR	2/258-JR	Farm Portion

### 1.3.2. Location Map

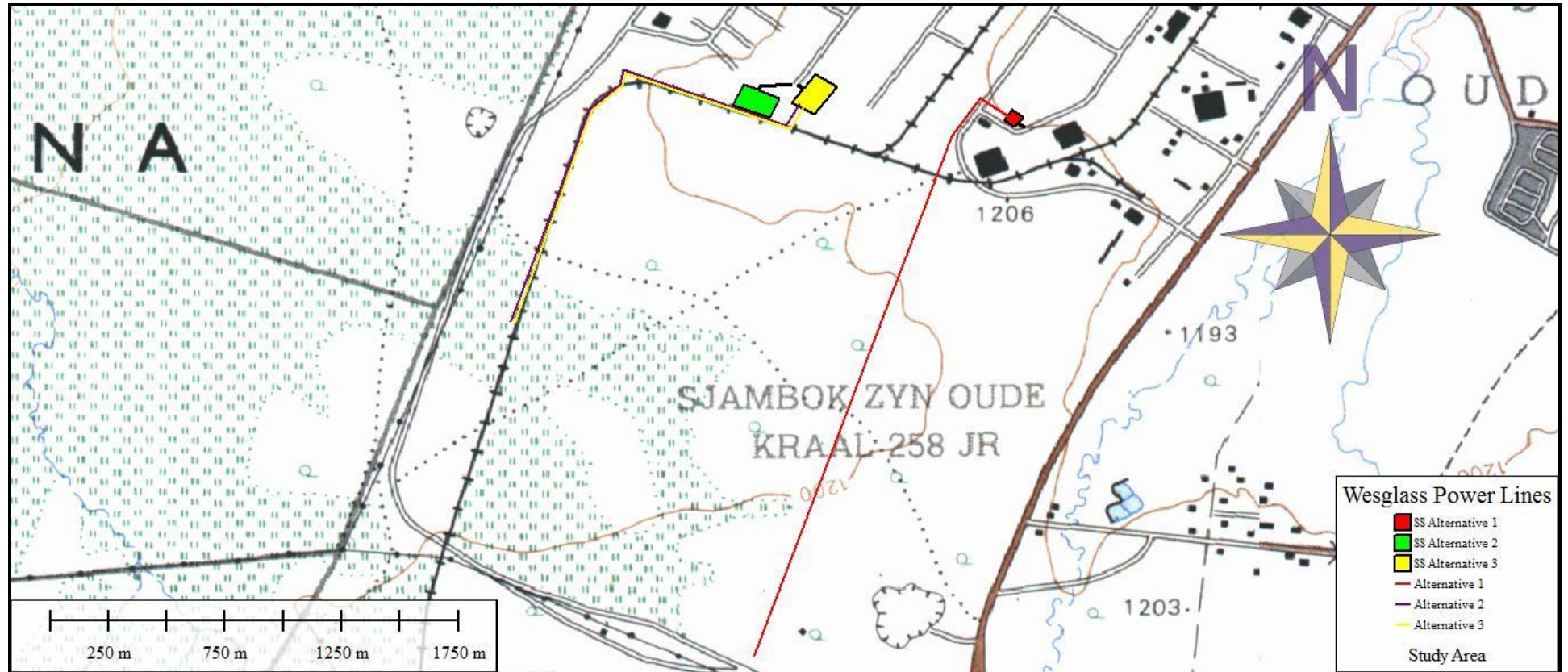


Figure 1. Location map.

## 2. APPROACH AND METHODOLOGY

The aim of the study is to cover archaeological databases to compile a background of the archaeology that can be expected in the study area followed by field verification; this was accomplished by means of the following phases.

### 2.1 Phase 1 - Desktop Study

The first phase comprised desktop, scanning existing records for archaeological sites, historical sites, graves, architecture (structures older than 60 years) of the area. The following approached was followed:

#### 2.1.1 Literature Search

This was conducted by utilising data stored in the national archives and published reports relevant to the area. The aim of this is to extract data and information on the area in question.

#### 2.1.2 Information Collection

SAHRIS was consulted to collect data from previously conducted CRM projects in the region to provide a comprehensive account of the history of the study area.

#### 2.1.3 Consultation

No public consultation was done by the author as this was done independently as part of the BA.

#### 2.1.4 Google Earth and Mapping Survey

Google Earth and 1:50 000 maps of the area were utilised to identify possible places where sites of heritage significance might be located.

#### 2.1.5 Genealogical Society of South Africa

The database of the Genealogical Society was consulted to collect data on any known graves in the area.

## 2.2 Phase 2 - Physical Surveying

Due to the nature of cultural remains, the majority of which occurs below surface, a field survey of the proposed development was conducted. The study area was surveyed by means of vehicle and extensive pedestrian surveys on the 23rd November 2016.

The survey was aimed at covering the proposed development footprint, focussing on specific areas on the landscape that would be more likely to contain archaeological and/or other heritage remains like drainage lines, rocky outcrops as well as slight elevations in the natural topography. These areas were searched more intensively, but many other areas were walked in order to confirm expectations in those areas. Track logs of the areas covered were taken (Figure 2).

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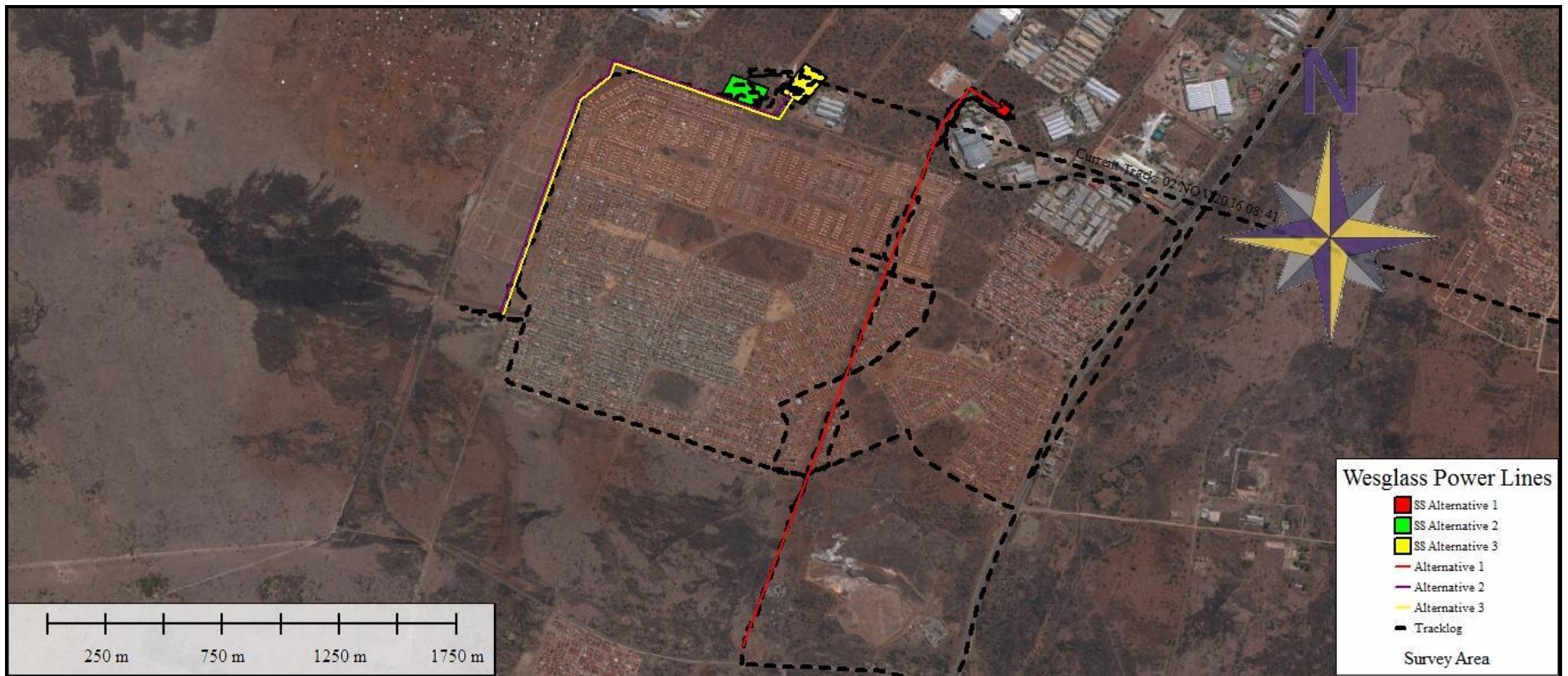


Figure 2. Track logs of the areas surveyed indicated in black with the development footprint of alternative 1 indicated in red, alternative 2 in green and alternative 3 in yellow.



### 2.3. Restrictions

Due to the subsurface nature of archaeological artefacts, the possibility exists that some features or artefacts may not have been discovered/ recorded during the survey and the possible occurrence of unmarked graves and other cultural material cannot be excluded. This report only deals with the footprint area of the proposed development as indicated in the location map. It should be noted that access in the study area was restricted due to safety concerns, presence of illegal squatters, dumping and sewerage spill areas.

Although HCAC surveyed the area as thoroughly as possible, it is incumbent upon the developer to stop operations and inform the relevant heritage agency should further cultural remains, such as graves, stone tool scatters, artefacts, bones or fossils, be exposed during the process of development. It should be noted that access to the study area was restricted due to vagrants in the area and subsequent safety concerns. Taking of photographs was also restricted.

### 3. NATURE OF THE DEVELOPMENT

The scope of work for the proposed project includes the construction of a substation and associated 132 kV powerline for which three alternatives were assessed.

## 4. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND OF THE STUDY AREA

### 4.1 Databases Consulted

#### SAHRA

Several unpublished CRM projects were conducted in the general study area - van der Walt (2012) recorded no sites, Van Schalkwyk (2013) recorded numerous burial sites and Kusel (2015) also recorded no sites.

#### *Genealogical Society and Google Earth Monuments*

The database of the Genealogical Society was consulted to collect data on any known graves in the area. There is an existing cemetery on the farm Sjambok Zijn Oude Kraal Portion 3. It is a formal cemetery and is fenced.

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## 4.2. Brief background to the study area

### 4.2.1 Historiography And Methodology

It was necessary to use a range of sources in order to give an accurate account of the history of the area in which the Sjambok Zijn Oude Kraal 258 JR is located. Sources include secondary source material, maps, electronic sources and archival documents. It was possible to trace a number of documents in the National Archives that specifically relates to issues on the farm Sjambok Zijn Oude Kraal 258 JR . This report serves only as a very superficial overview of the farm under investigation, and a more in-depth study on the history of the property may be done in the future.

### 4.2.2. Maps Of The Area Under Investigation

Since the mid 1800's up until the present, South Africa has been divided and re-divided into various different districts. Since 1857, the farm Sjambok Zijn Oude Kraal 258 JR formed part of the Pretoria District. (Bergh 1999: 17) In 1902 the Pretoria District was subdivided into various wards and the farm was now located in the Crocodile Ward of the Pretoria District. (Bergh 1999: 18) In 1928 the District of Brits was established and the farm was now located in this district. This remained the case up until 1977, when South Africa was divided into various smaller Magisterial Districts. The area of the farm became part of the Odi Magisterial District. (Bergh 1999: 25) Since the late 1970's, however, the farm was located in the Bophuthatswana Bantustan or homeland. This area was reintegrated into South Africa in 1994. (Bergh 1999: 26-27) It will also be noted that the farm was first known as Sjambok Zijn Oude Kraal No. 52 and later Sjambok Zijn Oude Kraal 258 JR. The property is sometimes also referred to as Sjambok Zyn Oude Kraal and Sjambok Zyn Kraal. Judging from the maps that could be found, the farm was known as Sjambok Zyn Oude Kraal No. 52 from around 1900 up until 1917.

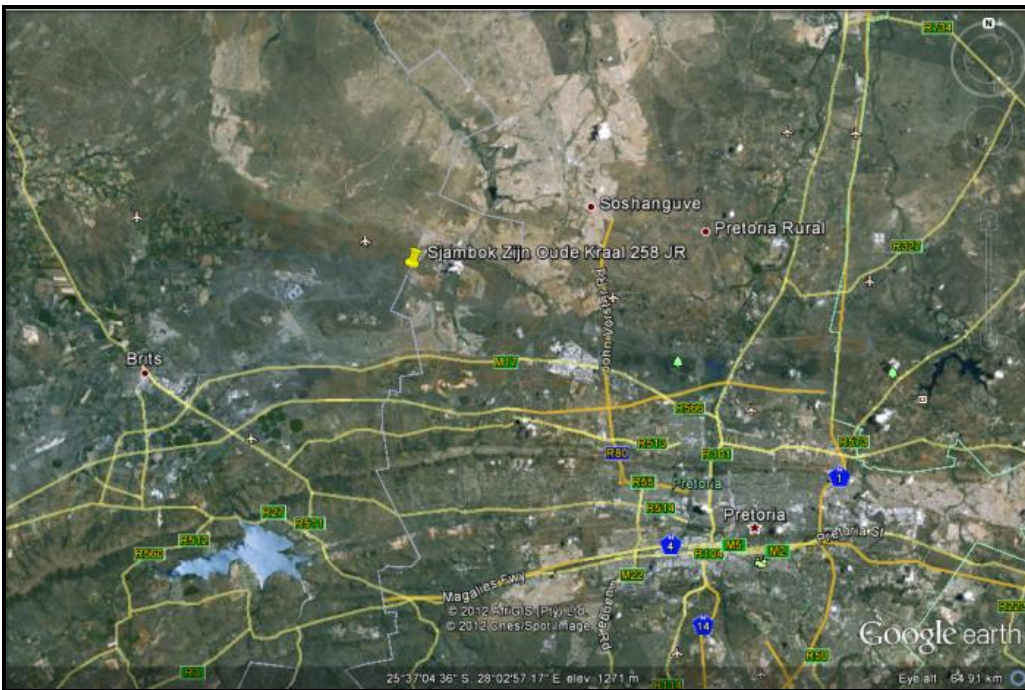


Figure 3. Google Earth Image, showing the location of Sjambok Zijn Oude Kraal 258 JR in relation to Brits, Ga-Rankuwa, Soshanguve and other sites. (Google Earth 2012).

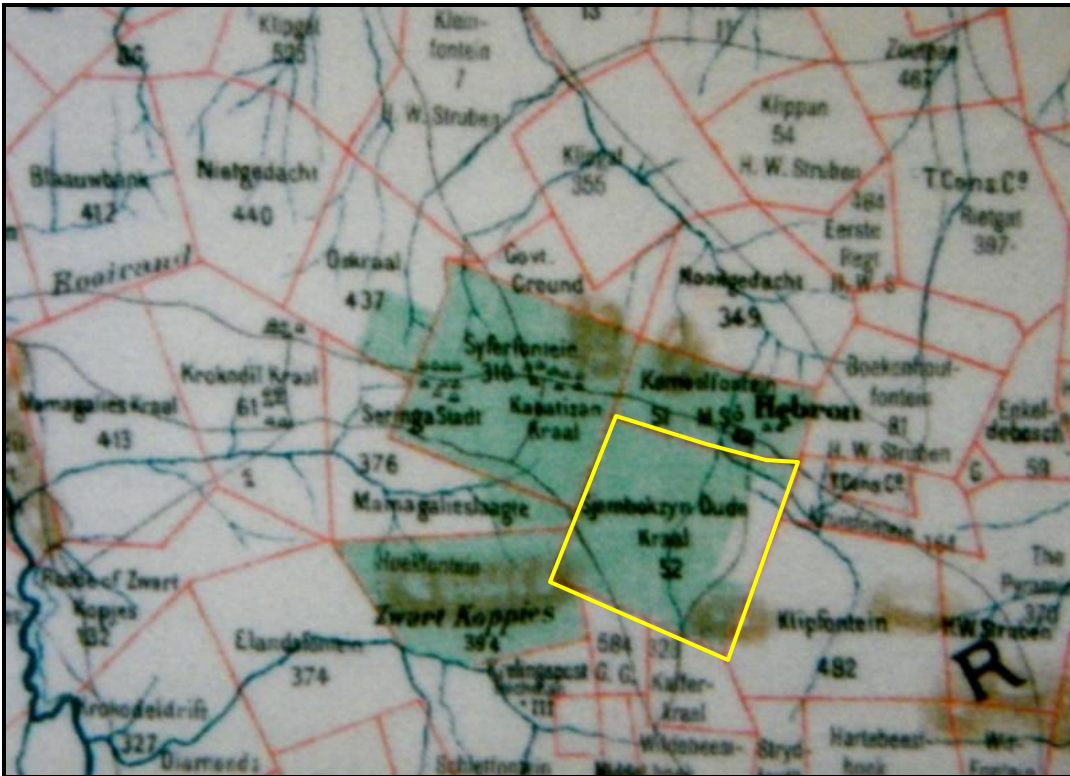
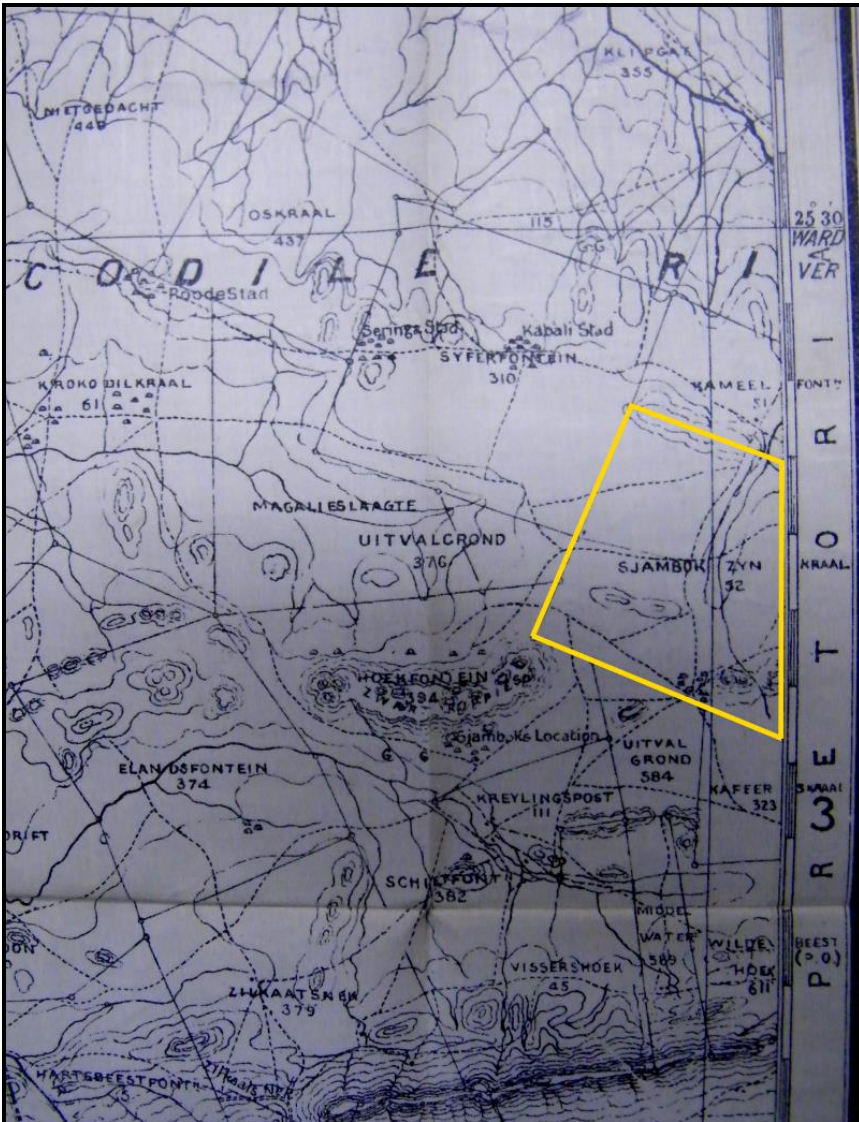


Figure 4. 1900 Map of the Transvaal showing the location of Sjabok Zyn Oude Kraal No. 52. (Holmden1900 [?])



References	
Territorial Boundaries	-----
District	-----
Ward	-----
Location	-----
Farm Names Beacons and Boundaries	-----
Sub-divisions of Farms with names if any	-----
Unsurveyed farms are marked thus	(U)

Figure 5. 1908 Major Jackson map of The Rustenburg district. The farm Sjambok Zyn Kraal No. 52 is indicated by the yellow outline. One can see a number of black settlements indicated in the bottom part of the farm. (Major Jackson Series 1908)

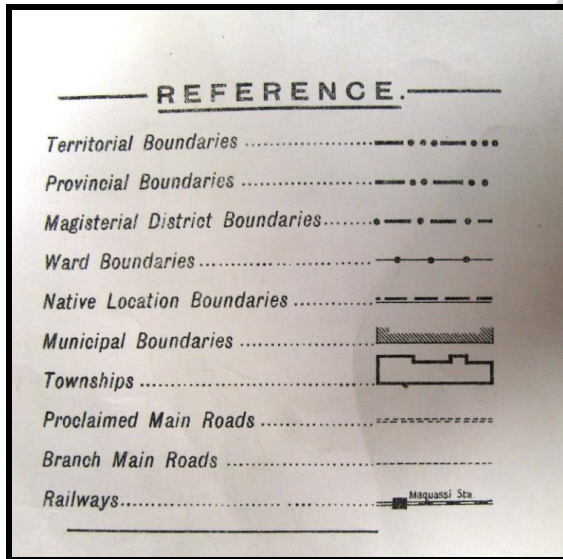
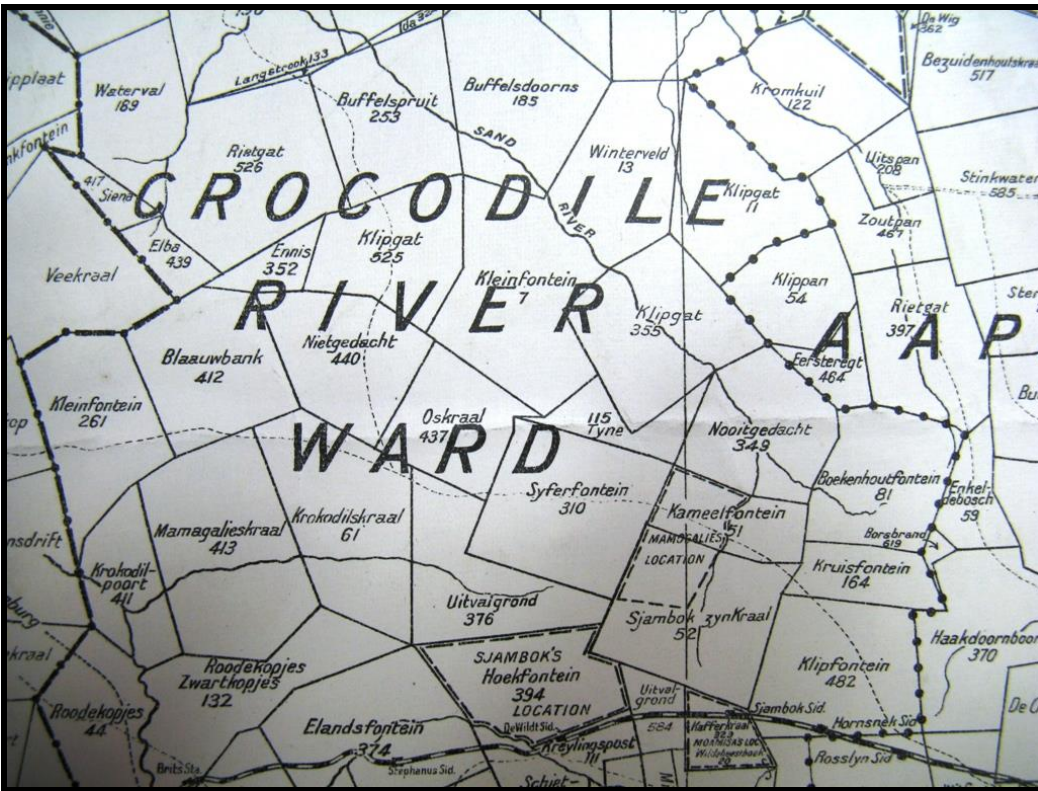


Figure 6. Map showing the location of the farm Sjambok Zyn Kraal No. 52 in the Crocodile Ward, Pretoria District. The Mamogalies Location was located in the northern part of the farm, and stretched up into the farm Kameelfontein No. 51. (Magisterial District of Pretoria Map 1917)

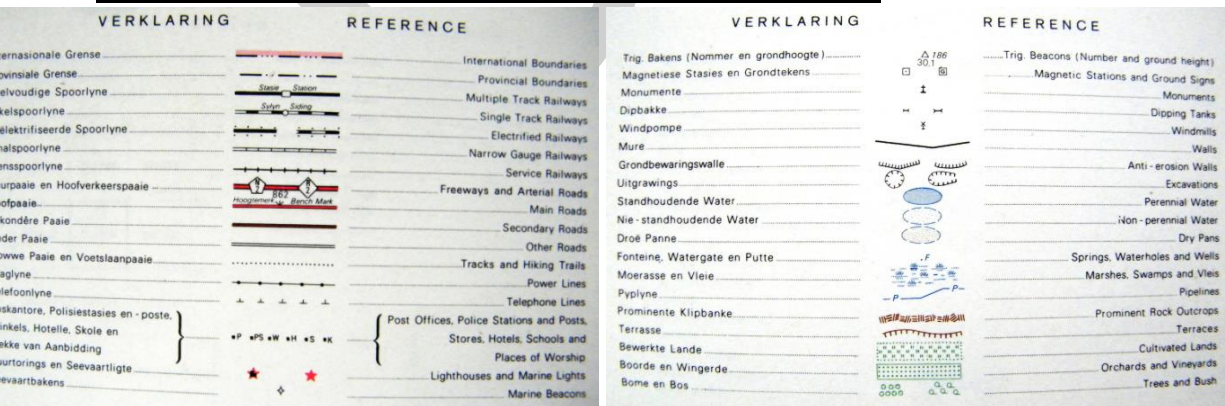


Figure 7. 1985 Topographical Map of the farm Sjambok Zyn Oude Kraal 258 JR. One can see that a small western portion of the land was cultivated at the time. The Garankuwa settlement is visible to the southwest of the property. (Topographical Map [2527DB] 1985)



#### 4.2.3. A Brief History Of Human Settlement And Black And White Interaction In The Brits Area

J. S. Bergh's historical atlas of the four northern provinces of South Africa is a very useful source for the writing of local and regional history. Through this source it could be ascertained that there might have been sporadic occurrences of Malaria infections in the area of the farm Sjambok Zijn Oude Kraal 258 JR during the rainy season, up until the 1930's. Tsetse flies were however not present in the area at that time. (Bergh 1999: 2)

There are no signs of Stone Age or Early Iron Age remains in the immediate vicinity of Sjambok Zijn Oude Kraal 258 JR. The closest Stone Age site is located to the southeast of the present day town of Rustenburg. This rock engraving is however located too far from the farm to give any indication that Stone Age people may have settled there in the past. (Bergh 1999: 4-6) There are however signs that the present-day Rustenburg is located in an area that used to be a large Late Iron Age (1000-1800) site. (Bergh 1999: 7)

Archaeological excavations on the farm Roodekopjes located about 1.5km west of the town of Brits confirm the material heritage of Sotho and Tswana tribal origin in this area. It would seem that the Tswana tribes settled in the Rustenburg area around 1500 AD. There is evidence that the Bakwena-Ba-Magopa (which has as its totem the crocodile) settled on the banks of the Crocodile River in the 17<sup>th</sup> century. According to local reminiscences the Magaliesberg was named after one of their chiefs, either Mogale or Mamogale. (Steyn *et al*, 1978)

The Difaqane (Sotho), or Mfekane ("the crushing" in Nguni) was a time of bloody upheavals in Natal and on the Highveld, which occurred around the early 1820's until the late 1830's. (Bergh 1999: 10) It came about in response to heightened competition for land and trade, and caused population groups like gun-carrying Griquas and Shaka's Zulus to attack other tribes. (Bergh 1999: 14; 116-119) In 1825 as a result of the Mfekane, Mzilikazi of the Matabeles conquered the area and displaced the Tswana tribes that used to live in the area. Mzilikazi established his kraal north of the Magaliesberg in the vicinity of the present day Hartebeespoort Dam. (Steyn *et al*, 1978) By the late 1820's a mass-movement of Dutch speaking people in the Cape Colony started advancing into the northern areas. This was due to feelings of mounting dissatisfaction caused by economical and other circumstances in the Cape. This movement later became known as the Great Trek. This migration resulted in a massive increase in the extent of that proportion of modern South Africa dominated by people of European descent. (Ross 2002: 39)

In 1837 the Voortrekkers drove Mzilikazi into territory now located in present day Zimbabwe. As a result many of the Tswana tribes returned to their ancestral land and settled in the areas occupied by them before the advent of the Mfekane. (Steyn *et al* 1978) As can be expected, the movement of whites into the northern provinces would have a significant impact on the black people who populated the land. This was also the case in the North West Province, where Sjambok Zijn Oude Kraal 258 JR is located. The first white people settled on the farm De Kroon near Brits in the 1840's. At first many of these settlers lived in Hartbeeshuisies which later developed into more permanent structures. Water furrows were laid from the Crocodile River to irrigate their agricultural fields. (Steyn *et al*, 1978)

The area next to the Crocodile River north of the Magaliesberg was seen as a good place for human settlement. Although there were malaria outbreaks during the rainy seasons the area had adequate water supplies and game was plentiful. (Steyn *et al*, 1978) By 1860, the population of whites in the central Transvaal was already very dense and the administrative machinery of their leaders was firmly in place. Many of the policies that would later be entrenched as legislation during the period of apartheid had already been developed. (Bergh 1999: 170)

By 1899, some farms in the area of Brits were owned by blacks. The title deeds to these farms were usually registered in the name of missionary societies. The Bakwena-Ba-Magopa tribe owned Sjambok Zijn Oude Kraal 258 JR. The following table compiled from P.L. Breutz, *The Tribes of Rustenburg and Pilansberg Districts*, indicates the farms owned by this tribe in the Brits area.

Farm name and number	Morgen
Berseba 503	5046
Boschport 841	4459
Karreepoort 623	623
Leeuwkop 501	5374
Leeuwpan 1047	155
Losperfontein 119	3677
Pearl 395	98
Waaikraal 206	1718
Wolwekraal 512	2827
Wonderkop 835	373
Nooitgedacht 908	475
Kameelfontein 51	2199
<b>Sjambok zyn Kraal 52</b>	<b>4264</b>
Syferfontein 310	5110
Oskraal 437	1015
Uitvalgrond 376	494
Palmietfontein 59	5823
Kaalzandbult 34	3437
Uitvalgrond 326	494
Elandsfontein 20	5335
Elandsfontein21	2923

The ownership of these farms by the Bakwena-Ba-Magopa can be traced back at least to 16 March 1885. On this date the Location Commission of the South African Republic (ZAR) was informed by the then Chief of the Bakwena-Ba-Magopa, Jacobus More Mamogale, that the tribe owned several farms with the Hermansburg Missionary Society. (Bergh 1999: 217) The Location Commission had to report to the ZAR government on what land in the ZAR had to be set aside for black occupation.

During the twentieth century the 1913 Natives Land Act and the 1936 Native Trust and Land Act ensured that black "homelands" were to be established in various areas in South Africa. The farms mentioned above were assimilated into what was to become the "Independent Black State" of Bophuthatswana. (Bergh 1999: 43) As part of apartheid policy the town of Brits was ideally located to become what was known as a border industry town. The town and surrounding farms provided work for black people residing in Bophuthatswana. In 1976 about 10 500 black labourers commuted daily between this town and the homeland. (Steyn et al, 1978).

#### 4.2.4. Historical Overview Of The Ownership And Development Of The Farm Sjambok Zijn Oude Kraal 258 Jr

The following section gives an overview of some primary sources that could be located in the National Archives of South Africa in Pretoria.

As this is only a preliminary report, and due to severe time restrictions, a full archival study was not yet done on the farm Sjambok Zijn Oude Kraal. The following archival sources may be investigated if a more detailed study is done in future.

- National Archives of South Africa. 1903-1906. *TAB, SNA: 117 NA686/03. Rev DL Kaiser Missionary Hebrew RE Chief Sjambok Moamesis statement that his people the Bakhatla contributed 27 cattle towards the purchase of "Sjamboks Kraal".*
- National Archives of South Africa. 1942. *SAB, URU: 2026 1653. Proclamation providing for the levy of special rate to the tax paying members of the community of natives, comprising the co-purchasers of certain portion of farm "Sjambok Zyn Oude Kraal" No.*
- National Archives of South Africa. 1960-1961. *SAB, BAO: 10086/15 D52/1093/11. Mynbou. Mining. Brits. Sjambok Zyn Oude Kraal 258 JR. Anglo American Prospecting Company.*
- National Archives of South Africa. 1962. *SAB, BAO: 10086/15 D52/1093/11/1. Mynbou. Mining. Brits. Sjambok Zyn Oude Kraal 258 JR. Nell Broers.*
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- National Archives of South Africa. 1967. *SAB, BAO: 10086/15 D52/1093/11/2. Mynbou. Mining. Brits. Sjambok Zyn Oude Kraal. Transvaal Vanadium Company Pty. Limited.*

From these references one can deduce that it is possible that the farm Sjambok Zijn Oude Kraal was bought by a mission society between 1903 and 1906, and that the Bakhatla Tribe (under Chief Sjambok Moamesis) contributed 27 cattle towards this purchase. The farm is referred to as "Sjamboks Kraal". (NASA TAB, SNA: 117 NA686/03)

By the early 1940s a certain proportion of black people living on the property would receive a special tax rate, seemingly because they were the co-purchasers of the farm. It is possible that these individuals formed part of the Bakhatla Tribe that contributed towards the purchase in the early 1900s. (NASA SAB, URU: 2026 1653)

It seems that the Anglo American Prospecting Company had mining operations on Sjambok Zijn Oude Kraal between 1960 and 1961. (NASA SAB, BAO: 10086/15 D52/1093/11) From the references one can deduce that the Nell Broers had mining interests on the property in 1962. (NASA SAB, BAO: 10086/15 D52/1093/11/1) The Transvaal Vanadium Company Pty Limited seemingly had mining operations on the farm in 1967. (NASA SAB, BAO: 10086/15 D52/1093/11/2)

There is a rather long record of the office of Bantu Administration and Development, referring to the acquiring and estrangement of Sjambok Zijn Oude Kraal 258 JR as Native Trust land. It should be interesting to investigate this file, if more information is required on black people who lived on the land between 1966 and 1984. (NASA SAB, BAO: 2/1484 T8/8/2/2/P54/19)

#### 4.2.5. Archaeology of the area

South Africa has a long and complex Stone Age sequence of more than 2 million years. The broad sequence includes the Later Stone Age, the Middle Stone Age and the Earlier Stone Age. Each of these phases contain sub-phases or industrial complexes, and within these we can expect regional variation regarding characteristics and time ranges. For Cultural Resources Management (CRM) purposes it is often only expected/ possible to identify the presence of the three main phases.

Yet sometimes the recognition of cultural groups, affinities or trends in technology and/or subsistence practices, as represented by the sub-phases or industrial complexes, is achievable. The three main phases can be divided as follows;

- Later Stone Age; associated with Khoi and San societies and their immediate predecessors. Recently to ~30 thousand years ago
- Middle Stone Age; associated with Homo sapiens and archaic modern humans. 30-300 thousand years ago.
- Earlier Stone Age; associated with early Homo groups such as Homo habilis and Homo erectus. 400 000-> 2 million years ago.

**Iron Age*****Iron Age (general)***

The Iron Age as a whole represents the spread of Bantu speaking people and includes both the pre-Historic and Historic periods. It can be divided into three distinct periods:

The Early Iron Age: Most of the first millennium AD.

The Middle Iron Age: 10th to 13th centuries AD

The Late Iron Age: 14th century to colonial period.

The Iron Age is characterised by the ability of these early people to manipulate and work Iron ore into implements that assisted them in creating a favourable environment to make a better living.

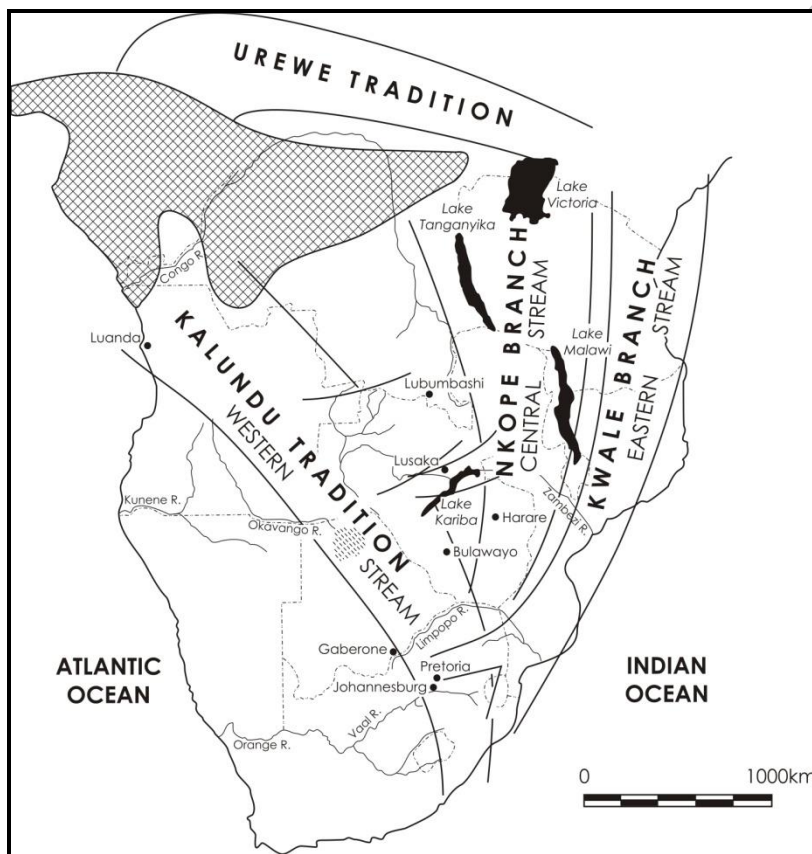


Figure 8: Movement of Bantu speaking farmers (Huffman 2007).

**Early Iron Age**

Early in the first millennium AD, there seem to be a significant change in the archaeological record of the greater part of eastern and southern Africa lying between the equator and Natal. This change is marked by the appearance of a characteristic ceramic style that belongs to a single stylistic tradition. These Early Iron Age people practised a mixed farming economy and had the technology to work metals like iron and copper. A meaningful interpretation of the Early Iron Age has been hampered by the uneven distribution of research conducted so far; this can be partly attributed to the poor preservation of these early sites.

Sites belonging to the EIA consisting of *Happy Rest and Mzonjani facies* have been recorded close to the project area. Happy Rest and Mzonjani pottery form part of two traditions (Kalundu and Urewe) that represent the spread of mixed farmers into southern Africa during the Early Iron Age (See Figure 1). This find is important as it provides evidence for early interaction between these groups. Later, by the 8<sup>th</sup> and 9<sup>th</sup> centuries, the two merged to form a new facies, *Doornkop*.

**Middle Iron Age**

No sites dating to this period are on record close to the study area.

**Late Iron Age**

For the area in question the history and archaeology of the Sotho Tswana are of interest. The ceramic sequence for the Sotho Tswana is referred to as Moloko and consists of different facies with origins in either the Icon facies or a different branch associated with Nguni speakers. Several sites belonging to the Madikwe and Olifantspoort facies (from Icon) have been recorded close to the project area. These sites date to between AD 1500 and 1700 and predate stone walling ascribed to Sotho-Tswana speakers. Sotho Tswana stonewalled sites with Uitkomst pottery have been found close to the study area and dates to the seventeenth to nineteenth centuries. Stone walled sites belonging to the LIA have also been identified next to the study area.

**5. HERITAGE SITE SIGNIFICANCE AND MITIGATION MEASURES**

The presence and distribution of heritage resources define a 'heritage landscape'. In this landscape, every site is relevant. In addition, because heritage resources are non-renewable, heritage surveys need to investigate an entire project area, or a representative sample, depending on the nature of the project. In the case of the proposed project the local extent of its impact necessitates a representative sample and only the footprint of the areas demarcated for development were surveyed. In all initial investigations, however, the specialists are responsible only for the identification of resources visible on the surface.

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

- » The unique nature of a site;
- » The integrity of the archaeological/cultural heritage deposits;
- » The wider historic, archaeological and geographic context of the site;
- » The location of the site in relation to other similar sites or features;
- » The depth of the archaeological deposit (when it can be determined/is known);
- » The preservation condition of the sites;
- » Potential to answer present research questions.

Furthermore, The National Heritage Resources Act (Act No 25 of 1999, Sec 3) 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:

- » Its importance in/to the community, or pattern of South Africa's history;
- » Its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- » Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- » Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- » Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- » Its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- » Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- » Its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa;
- » Sites of significance relating to the history of slavery in South Africa.

### 5.1. Field Rating of Sites

Site significance classification standards prescribed by SAHRA (2006), and acknowledged by ASAPA for the SADC region, were used for the purpose of this report. The recommendations for each site should be read in conjunction with section 7 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)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction



## Assessment of Impacts

Direct, indirect and cumulative impacts of the issues identified through the specialist study, as well as all other issues must be assessed in terms of the following criteria:

- » The nature, which shall include a description of what causes the effect, what will be affected and how it will be affected.
- » The extent, wherein it will be indicated whether the impact will be local (limited to the immediate area or site of development) or regional, and a value between 1 and 5 will be assigned as appropriate (with 1 being low and 5 being high):
- » The duration, wherein it will be indicated whether:
  - \* the lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1;
  - \* the lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2;
  - \* medium-term (5–15 years) – assigned a score of 3;
  - \* long term (> 15 years) - assigned a score of 4; or
  - \* permanent - assigned a score of 5;
- » The consequences (magnitude), quantified on a scale from 0-10, where 0 is small and will have no effect on the environment, 2 is minor and will not result in an impact on processes, 4 is low and will cause a slight impact on processes, 6 is moderate and will result in processes continuing but in a modified way, 8 is high (processes are altered to the extent that they temporarily cease), and 10 is very high and results in complete destruction of patterns and permanent cessation of processes.
- » The probability of occurrence, which shall describe the likelihood of the impact actually occurring. Probability will be estimated on a scale of 1–5, where 1 is very improbable (probably will not happen), 2 is improbable (some possibility, but low likelihood), 3 is probable (distinct possibility), 4 is highly probable (most likely) and 5 is definite (impact will occur regardless of any prevention measures).
- » the significance, which shall be determined through a synthesis of the characteristics described above and can be assessed as low, medium or high; and
- » the status, which will be described as either positive, negative or neutral.
- » the degree to which the impact can be reversed.
- » the degree to which the impact may cause irreplaceable loss of resources.
- » the degree to which the impact can be mitigated.

The significance is calculated by combining the criteria in the following formula:

$$S=(E+D+M)P$$

S = Significance weighting

E = Extent

D = Duration

M = Magnitude

P = Probability

The significance weightings for each potential impact are as follows:

- » < 30 points: Low (i.e. where this impact would not have a direct influence on the decision to develop in the area),

- » 30-60 points: Medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- » 60 points: High (i.e. where the impact must have an influence on the decision process to develop in the area).

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## 6. BASELINE STUDY-DESCRIPTION OF SITES

It is important to note that the entire farm was not surveyed but only the proposed substation, powerline alignment and alternatives as indicated in Figure 1 & 2. The study area was assessed in terms of the archaeological component of Section 35 of the NHRA and no archaeological (Stone or Iron Age) sites of significance were identified in the study area. The lack of archaeological material can be attributed to the disturbed character of the majority of the study area. Old agricultural fields, abandoned railway lines, township development and associated infrastructure like services and roads would have impacted on surface indicators of archaeological sites. The proposed powerlines also follow existing power lines and the study area is characterised by illegal dumping (Figure 9 – 11). No standing structures older than 60 years will be impacted on by the development. No formal burial sites were recorded that would be impacted on by the project. There is however a large cemetery (Figure 12) adjacent to powerlines Alternative 2 and 3 (Figure 13). This cemetery is fenced and will not be impacted on by the proposed project and is therefore not discussed further.

No formal graves were recorded and no significant cultural landscapes or viewsapes were noted during the fieldwork due to the extensive residential developments surrounding the study area. As graves can be expected anywhere on the landscape and the fact that the area has been disturbed it is recommended that a chance find procedure is incorporated for this project.



Figure 9. Illegal Dumping.



Figure 10. Existing powerline servitude.



Figure 11. Remains of old railway line.



Figure 12. Fenced in cemetery adjacent to alternative 2 & 3.

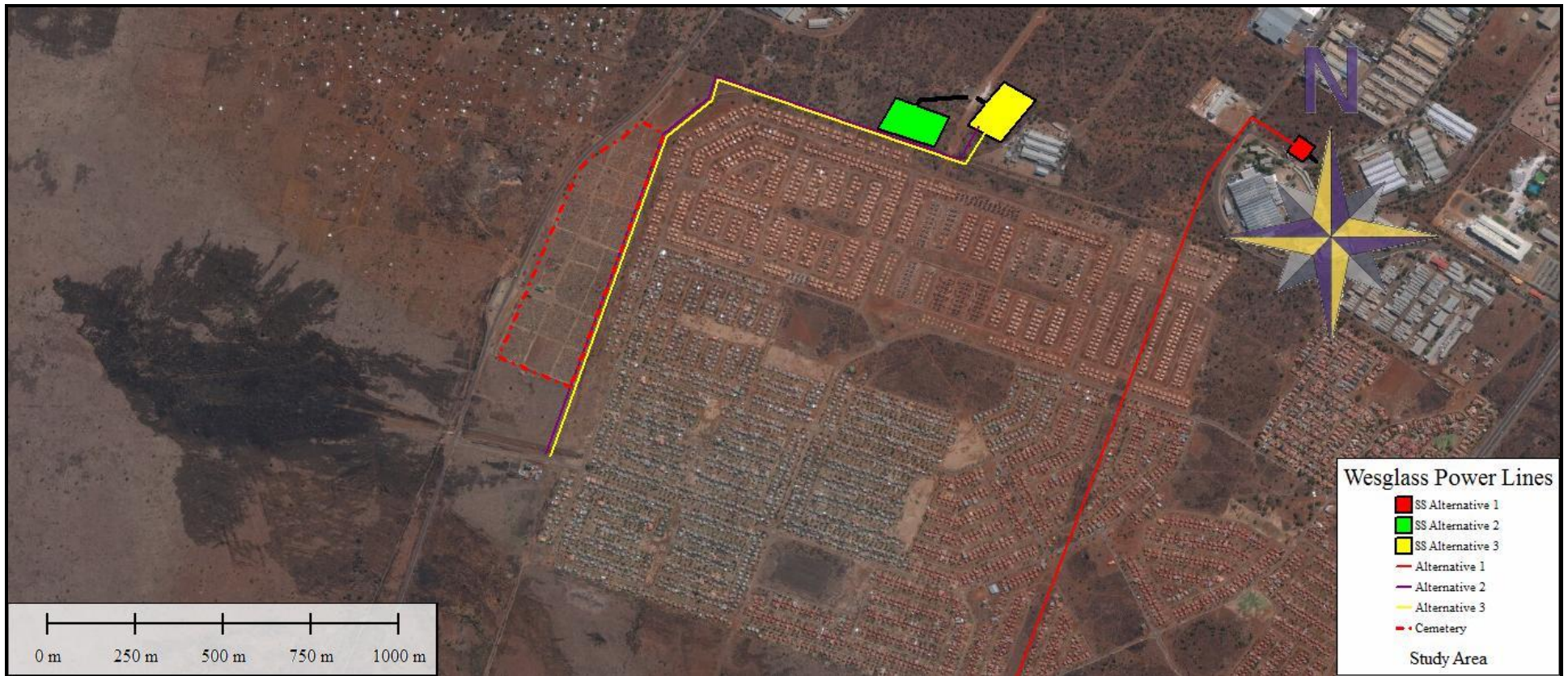


Figure 13. Map showing the known cemetery in relation to the project.

### 6.1. Impact rating

Table 1. Impact rating of the project on heritage resources

<b>Nature:</b> [Outline and describe fully the impact anticipated as per the assessment undertaken]		
	<b>Without mitigation</b>	<b>With mitigation</b>
<b>CONSTRUCTION PHASE</b>		
<b>Probability</b>	Improbable (2)	Improbable (2)
<b>Duration</b>	Permanent (5)	Permanent (5)
<b>Extent</b>	Limited to Local Area (2)	Limited to Local Area (2)
<b>Magnitude</b>	Low (4)	Low (3)
<b>Significance</b>	<b>22 (Low)</b>	<b>20 (Low)</b>
<b>Status (positive or negative)</b>	Negative	Negative
<b>OPERATIONAL PHASE</b>		
<b>Probability</b>	Improbable (2)	Improbable (2)
<b>Duration</b>	Permanent (5)	Permanent (5)
<b>Extent</b>	Limited to Local Area (2)	Limited to Local Area (2)
<b>Magnitude</b>	Low (4)	Low (3)
<b>Significance</b>	<b>22 (Low)</b>	<b>20 (Low)</b>
<b>Status (positive or negative)</b>	Negative	Negative
<b>Reversibility</b>	Irreversible	Irreversible
<b>Irreplaceable loss of resources?</b>	Low	Low
<b>Can impacts be mitigated?</b>	Yes	
<b>Mitigation:</b> A Chance find procedure will be implemented.		
<b>Cumulative impacts:</b> Archaeological sites are non-renewable and impact on any archaeological context or material will be permanent and destructive.		
<b>Residual Risks:</b> Depletion of archaeological record of the area.		

## 6.2. Environmental Management Plan Table

**OBJECTIVE:** To preserve and mitigate non-renewable heritage resources in the study area.

<b>Project component/s</b>	Heritage resources can be impacted by the pre-construction and construction activities of the project.
<b>Potential Impact</b>	Irreplaceable loss of heritage resources in the study area and depletion of the archaeological database of the area.
<b>Activity/risk source</b>	Activities such as vegetation clearing and digging foundations could destroy archaeological resources.
<b>Mitigation: Target/Objective</b>	An environmental management plan that considers heritage resources in the event of any future extensions of infrastructure or identification of heritage resources. Mitigation is not considered to be necessary at this point. .

<b>Mitigation: Action/control</b>	<b>Responsibility</b>	<b>Timeframe</b>
Implement a Chance Finds Procedure to ensure that if any heritage resources are uncovered that these are reported and correctly mitigated.	ECO	Daily

<b>Performance Indicator</b>	Heritage impacts should be considered in any future development in the area. Implementation of a chance find procedure i.e. immediate reporting to relevant heritage authorities of any heritage feature discovered during any phase of development or operation of the facility.
<b>Monitoring</b>	The ECO should monitor the possible occurrence of heritage resources regularly.

## 7. CONCLUSIONS AND RECOMMENDATIONS

HCAC was appointed to assess the study area in terms of the archaeological component of Section 35 of the NHRA. No archaeological sites (Iron Age or Stone Age) of significance were recorded within the study area in line with other studies in the immediate vicinity (Van der Walt 2012, Kusel 2015). No further mitigation is recommended in terms of Section 35 for the proposed development to proceed. In terms of Section 34 of the Act no standing structures older than 60 years occur in the study area. In terms of Section 36 of the Act no burial sites were recorded that would be impacted on by the project. However if any graves are located in future they should ideally be preserved *in-situ* or alternatively relocated according to existing legislation.

The study area is largely disturbed and due to the subsurface nature of archaeological remains and the fact that graves can occur anywhere on the landscape, it is recommended that a chance find procedure is implemented for the project as part of the EMP:

### Chance find procedure

This procedure applies to the developer's permanent employees, its subsidiaries, contractors and subcontractors, and service providers. The aim of this procedure is to establish monitoring and reporting procedures to ensure compliance with this policy and its associated procedures. Construction crews must be properly inducted to ensure they are fully aware of the procedures regarding chance finds as discussed below.

- If during the pre-construction phase, construction, operations or closure phases of this project, any person employed by the developer, one of its subsidiaries, contractors and subcontractors, or service provider, finds any artefact of cultural significance or heritage site, this person must cease work at the site of the find and report this find to their immediate supervisor, and through their supervisor to the senior on-site manager.
- It is the responsibility of the senior on-site Manager to make an initial assessment of the extent of the find, and confirm the extent of the work stoppage in that area.
- The senior on-site Manager will inform the ECO of the chance find and its immediate impact on operations. The ECO will then contact a professional archaeologist for an assessment of the finds who will notify the SAHRA.

The study area is surrounded by residential developments and no significant cultural landscapes or viewsapes were noted during the fieldwork.



### 7.1 Reasoned Opinion

The proposed project is acceptable from a heritage point of view. If the above recommendations are adhered to and based on approval from SAHRA, HCAC is of the opinion that the development can continue as the development will not impact negatively on the archaeological record of the area. All three alternatives of the distribution line are acceptable due to the lack of heritage resources, but Alternative 1 is preferred due to the proximity of Alternative 2 and 3 to the existing cemetery in the area. Similarly all three substation options are acceptable from a heritage point of view.

If during the pre-construction phase or during construction, any archaeological finds are made (e.g. graves, stone tools, and skeletal material), the operations must be stopped, and the archaeologist must be contacted for an assessment of the finds. Due to the subsurface nature of archaeological material and graves the possibility of the occurrence of unmarked or informal graves and subsurface finds cannot be excluded, but can be easily mitigated by preserving the sites *in-situ* within the development.

### 8. PROJECT TEAM

Jaco van der Walt, Project Manager

### 9. STATEMENT OF COMPETENCY

I (Jaco van der Walt) am a member of ASAPA (no 159), and accredited in the following fields of the CRM Section of the association: Iron Age Archaeology, Colonial Period Archaeology, Stone Age Archaeology and Grave Relocation. This accreditation is also acknowledged by SAHRA and AMAFA.

I have been involved in research and contract work in South Africa, Botswana, Zimbabwe, Mozambique, Tanzania and the DRC; having conducted more than 300 AIA's since 2000.

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