Heritage Scoping Report for the Prospecting Right Application On The Farm Sjambok Zijn Oude Kraal 258 Jr In The Gauteng Province

Prepared For

Quanto Environmental Solutions CC

By

HERITAGE
Contracts and Archaeological Consulting

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ACKNOWLEDGEMENT OF RECEIPT

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I, Jaco van der Walt as duly authorised representative of Heritage Contracts and Archaeological Consulting CC, hereby confirm my independence as a specialist and declare that neither I nor Heritage Contracts and Archaeological Consulting CC have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of which the client was appointed as Environmental Assessment practitioner, other than fair remuneration for work performed on this project.

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EXECUTIVE SUMMARY

Site name and location: The prospecting area applied for is in extent of 4223.3671 hectares and is situated in the immediate surroundings of the Ga-Rankuwa area. The prospecting area is located approximately 23 km north west of Pretoria and falls within the City of Tshwane Metropolitan Municipality. The following farm portions will be part of the study:
Remainder of Portion 1, 2 and 3 of the Farm Sjambok Zijn Oude Kraal 258 JR
Portion 4, 8, 9, 16, 17, 18 and 31 of the Farm Sjambok Zijn Oude Kraal 258 JR
Ga-Rankuwa Township Unit 2" ("on former portion 30"), 3 (22), 4 (29), 5 (25), 6 (24) 7 (21), 8 (20), 9 (15), 10 (10), 15 (27), 16 (28), 20 (40), 21 (39), 23 (34), 24 (35), 25 (38) of the Farm Sjambok Zijn Oude Kraal 258 JR
Ga-Rankuwa Township Unit 17 (on the Remainder of Portion 3) of the Farm Sjambok Zijn Oude Kraal 258 JR
Ga-Rankuwa View Township of former Portion 19 of the Farm Sjambok Zijn Oude Kraal 258 JR
Ga-Rankuwa Industrial Township on former Portion 6 and Portion 7 of the Farm Sjambok Zijn Oude Kraal 258 JR.

1: 50 000 Topographic Map: 2527 DB and 2528 CA.

EIA Consultant: Quanto Environmental Solutions CC.

Developer: Platinum Group Metals

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

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Date of Report: 31 July 2011

Findings of the Assessment:

This scoping study revealed that a range of Late Iron Age Sites occur within the study area and mitigation measures as recommended in section 10 and 11 of this report needs to be implemented to protect these sites during exploration.

Disclaimer: *Although all possible care is taken to identify 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. Heritage Contracts and Archaeological Consulting CC 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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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. INTRODUCTION

Heritage Contracts and Archaeological Consulting CC was contracted by QES to conduct a Heritage Scoping Report for prospecting rights located approximately 23 km north west of Pretoria close to Garankua. The heritage scoping report forms part of the Environmental Management Plan (EMP) for the proposed project.

The aim of the scoping report is to conduct a desktop study to identify possible heritage resources within the project area and to assess their importance within a Local, Provincial and National context. The study furthermore aims to assess the impact of the proposed project on non - renewable heritage resources and to submit appropriate recommendations with regards 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, in order to protect, preserve and develop them within the framework provided by Heritage legislation.

The report outlines the approach and methodology utilized for the Scoping phase of the project. The report includes information collected from various sources and consultations. Possible impacts are identified and mitigation measures are proposed in the following report. It is important to note that the study area was not subjected to a thorough field survey as part of the scoping phase and should be conducted as part of the Impact Assessment phase of the EIA.

1.1 Terms of Reference

The main aim of this scoping report is to determine if any known heritage resources occur within the study area and to predict the occurrence of any possible heritage significant sites that might present further management action during the drilling phase of the project. The objectives of the scoping report were to:

- Conduct a desktop study:
    - Review available literature, previous heritage studies and other relevant information sources to obtain a thorough understanding of the archaeological and cultural heritage conditions of the area;
    - Gather data and compile a background history of the area;
    - Identify known and recorded archaeological and cultural sites;
    - Determine whether the area is renowned for any cultural and heritage resources, such as Stone Age sites, Iron Age sites, informal graveyards or historical homesteads.
- Report

The reporting of the scoping component is based on the results and findings of the desk-top study and a short site visit, wherein potential issues associated with the proposed project will be identified, and those issues requiring further investigation highlighted. Reporting will aim to identify the anticipated impacts, as well as cumulative impacts, of the operational units of the proposed drilling on the identified heritage resources. This is done to assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve and develop them within the framework provided by Heritage Legislation.

1.2 Nature of the development

The Prospecting Work Programme (PWP) will consist of both Non-Invasive and Invasive Prospecting Methods.

Non-Invasive Activities will include:

a desktop study on data availability on generic/conceptual geological model. Use of datasets supplied by the Government (Council of Geoscience) could include regional geological and geophysical plans that could be used.

· Geological Mapping to be conducted with the use of ortho-photos and aerial photography and satellite imagery of the area.

· Geophysical Survey methods on the target area.

Invasive activities will include:

· Drilling – the presence of concealed mineralization / ore body can only be confirmed and outlined by drilling. Diamond boreholes will be drilled to ascertain the sequence stratigraphy and potential prospective reef horizons. A follow up exploration drilling program will be conducted as the source for gaining ground truth information of the potential ore body and to prove continuity in the third dimension. This drilling will be conducted in a basic one phase approach. Primary Exploration drilling on a widely spaced grid which is intended to simply delineate the mineralization.

Diamond drilling of BQ (outside diameter core of 36.4mm) size will be the preferred drilling method but as the nature of the mineralization are established other forms of drilling could be used such as percussion, reverse circulation and rotary blast be used. With the above being said, non-invasive prospecting methods will not have an impact on the receiving environment. Invasive activities (drilling) will have an impact, although limited, on the receiving environment.

Activities associated with drilling will include the establishment of temporary access roads where existing access roads cannot be used. These access roads will be tracks and will be utilised for the duration of the prospecting phase. A number of small drilling sample sites will be cleared from vegetation in order to allow for the drilling operation to continue. Water will be sourced off site in the event where no water is available on site. Water will be circulated throughout the drilling operation and is needed to cool the drill rig. Circulated water will be stored in temporary plastic lined sumps and cleaned with oil water separators for reuse. The area to be cleared will generally not exceed 20m X 20m.

1.3 The receiving environment

The prospecting area is located on the western limb of the Bushveld Igneous complex. The proposed drilling/ exploration area falls within the jurisdiction of the City of Tshwane Metropolitan Municipality and measures approximately 4223.3671 hectares. The prospecting area is located north of the R566 covering the Ga-Rankuwa area as well as the Ga-Rankuwa Rural area and the Ga-Rankuwa Industrial Township.

A portion of Soshanguve South is included in the north-eastern corner of the prospecting area. Neighbouring towns of Mapetla and Hoekfontein borders the prospecting area to the south.

The Sandspruit flows through the north-eastern corner of the prospecting area in a north-westerly direction. An unnamed tributary of the Sandspruit flows through the centre of the prospecting site discharging towards the north. The south-western corner of the site is traversed by the Rosespruit discharging to the north.

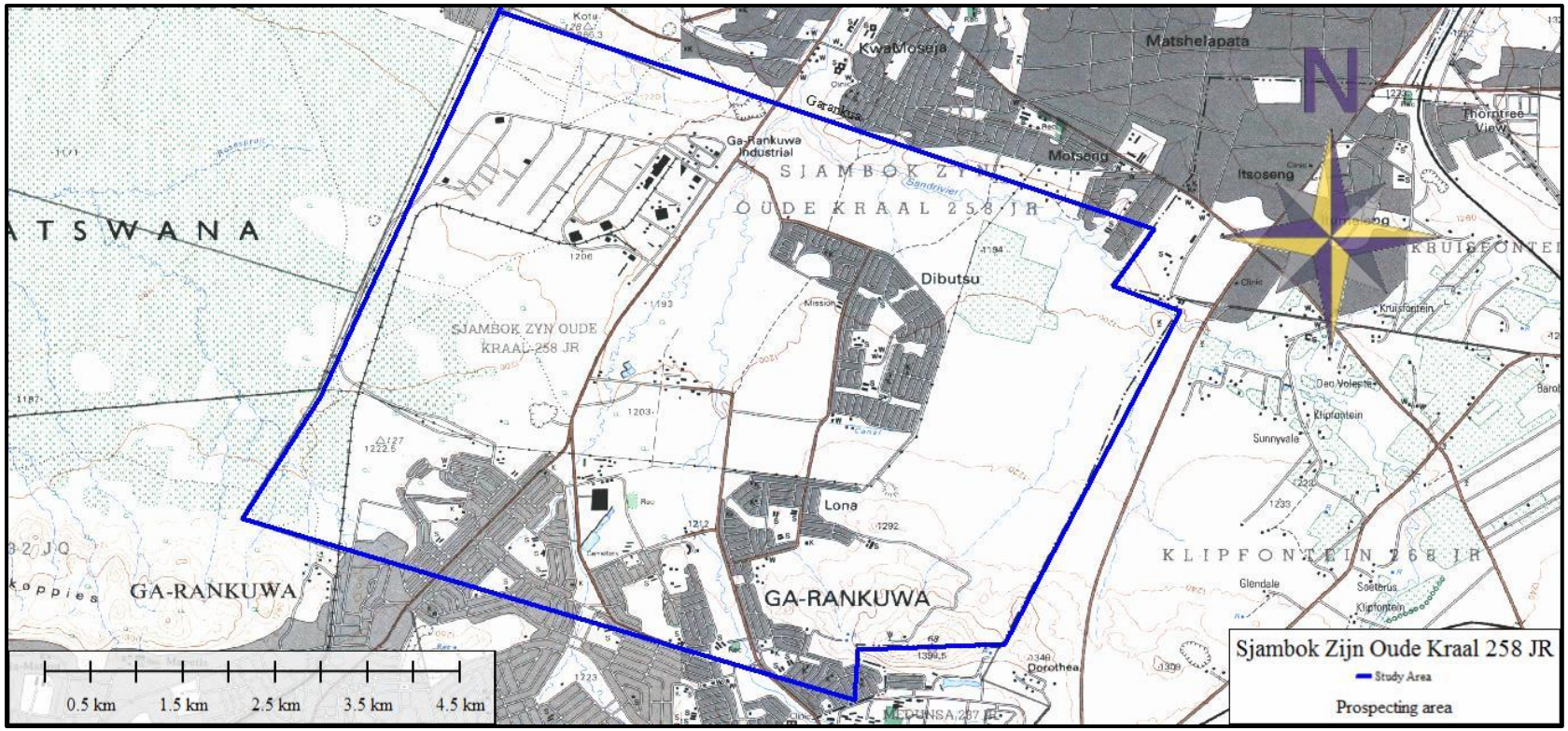

Figure 1: Locality map showing the study area in blue

2. APPROACH AND METHODOLOGY

The aim of the scoping phase is to extensively cover all archaeological and cultural heritage data available to compile a background history of the study area. In order to identify possible heritage issues that will require further mitigation or management actions before prospecting can start.

This was accomplished by means of the following phases of which the results are discussed in section 4 of this report:

2.1 Literature search

Utilising data for information gathering stored in the archaeological database at Wits, published articles on the archaeology and history of the area and a search in the National archives. The aim of this is to extract data and information on the area in question, looking at archaeological sites, historical sites, graves, architecture, oral history and ethnographical information on the inhabitants of the area.

2.2 Information collection

The SAHRA report mapping project (Version 1.0) was consulted to further collect data from CRM practitioners who undertook work in the area to provide the most comprehensive account of the history of the area where possible.

2.3 Public consultation

No public consultation was conducted during this phase.

2.4 Google Earth and mapping survey

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

2.5 Genealogical Society of South Africa

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

3. LEGISLATION

For this project the National Heritage Resources Act, 1999 (Act No. 25 of 1999) is of importance and the following sites and features are protected:

a. Archaeological artefacts, structures and sites older than 100 years
b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
c. Objects of decorative and visual arts
d. Military objects, structures and sites older than 75 years
e. Historical objects, structures and sites older than 60 years
f. Proclaimed heritage sites
g. Grave yards and graves older than 60 years
h. Meteorites and fossils
i. Objects, structures and sites or scientific or technological value.

The national estate that includes the following:

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 features of cultural significance
e. Geological sites of scientific or cultural importance
f. Archaeological and palaeontological importance
g. Graves and burial grounds
h. Sites of significance relating to the history of slavery
i. Movable objects (e.g. archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

Section 34 (1) of the act deals with structures which is older than 60 years. Section 35(4) of this act deals with archaeology, palaeontology and meteorites. Section 36(3) of the National Heritage Resources Act, deals with human remains older than 60 years. Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

3.1 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. 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.

4.2. Field Rating of Sites

Site significance classification standards prescribed by SAHRA (2006), and approved by ASAPA for the SADC region, were used for the purpose of this report. The recommendations should be read in conjunction with section 7 of this report.

FIELD RATING	***GRADE***	***SIGNIFICANCE***	***RECOMMENDED MITIGATION***
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

4. REGIONAL OVERVIEW

4.1 General Information

4.1.1. Literature search

The archaeological database at Wits have 13 previously recorded sites on the 2528 CA map and thirty seven sites are on record for the 2527 DB topographic map. These sites all consist of MSA, LSA, Rock paintings and LIA Moloko stonewalled sites (referenced 2009).

4.1.2. Information collection

The current study area has not been subjected to CRM surveys although adjacent areas have been covered (Van Vollenhoven 1992, Kusel 2003, Van Schalkwyk. & Moifatswane 2003, van der Walt 2012).

4.1 3. Public consultation

No public consultation was conducted during the scoping phase.

4.1.4. Google Earth and mapping survey

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

4.1.5. Genealogical Society of South Africa

No grave sites are indicated within the study area.

5. HISTORIC PERIOD

The following section will endeavour to give an account of the history of this farm and also a brief overview of the history of the area and district in which it is located. The report has been divided into several sections that will focus on the following aspects:

- General history of human settlement in the area
- The history of black and white interaction in the farm area
- The development of the farm

5.2. 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 necessary if mining goes ahead in this area..

5.2.1. 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. (Geskiedenisatlas van Suid-Afrika 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. (Geskiedenisatlas van Suid-Afrika 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. (Geskiedenisatlas van Suid-Afrika 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. (Geskiedenisatlas van Suid-Afrika 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 2: 1900 Map of the Transvaal showing the location of Sjambok Zyn Oude Kraal No. 52. (Holmden1900 [?])

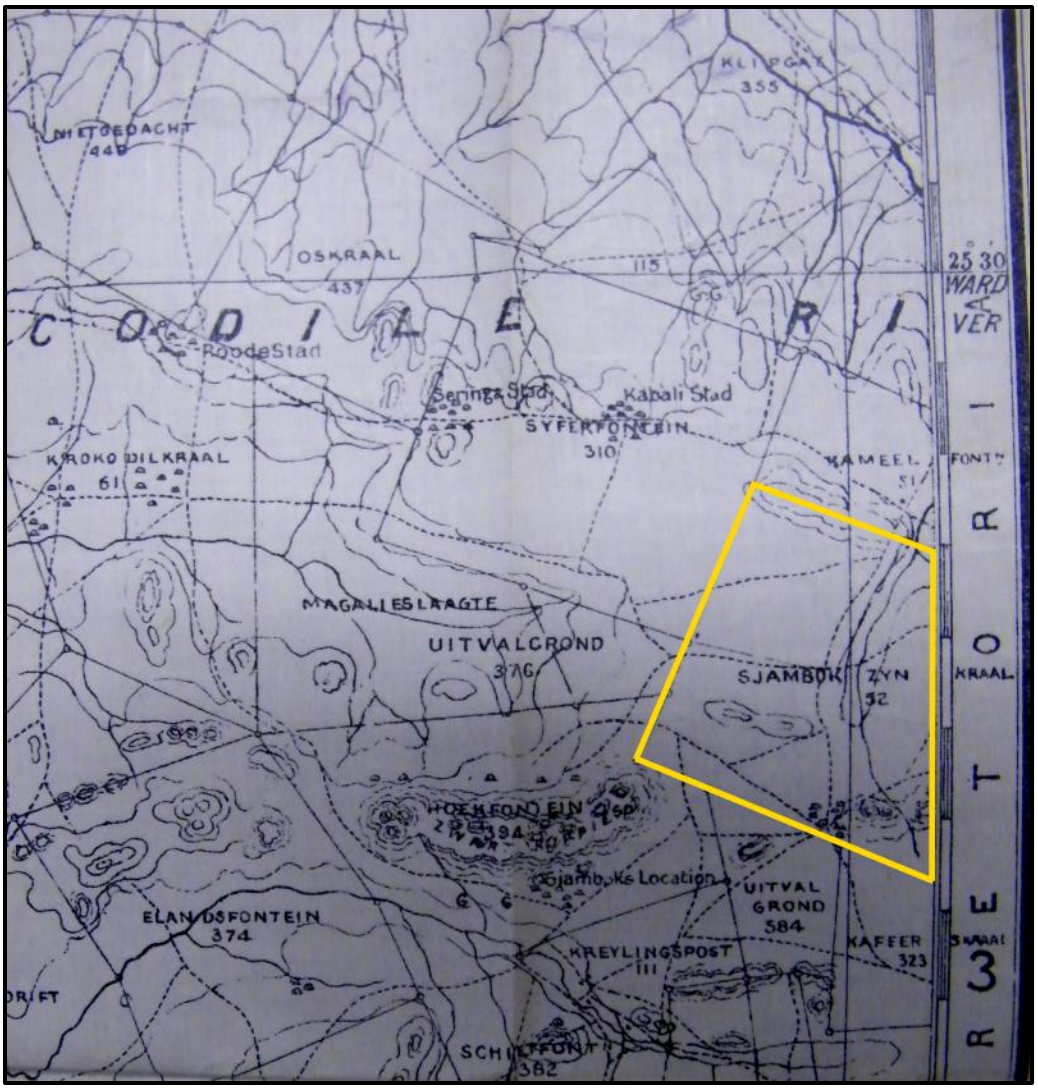

Figure 3: 1908 Major Jackson map of The Rustenburg district. The farm Sjambok Zyn Kraal No. 52 is indicated by the yellow outline. One can see a number of black settlements indicated in the bottom part of the farm. (Major Jackson Series 1908).

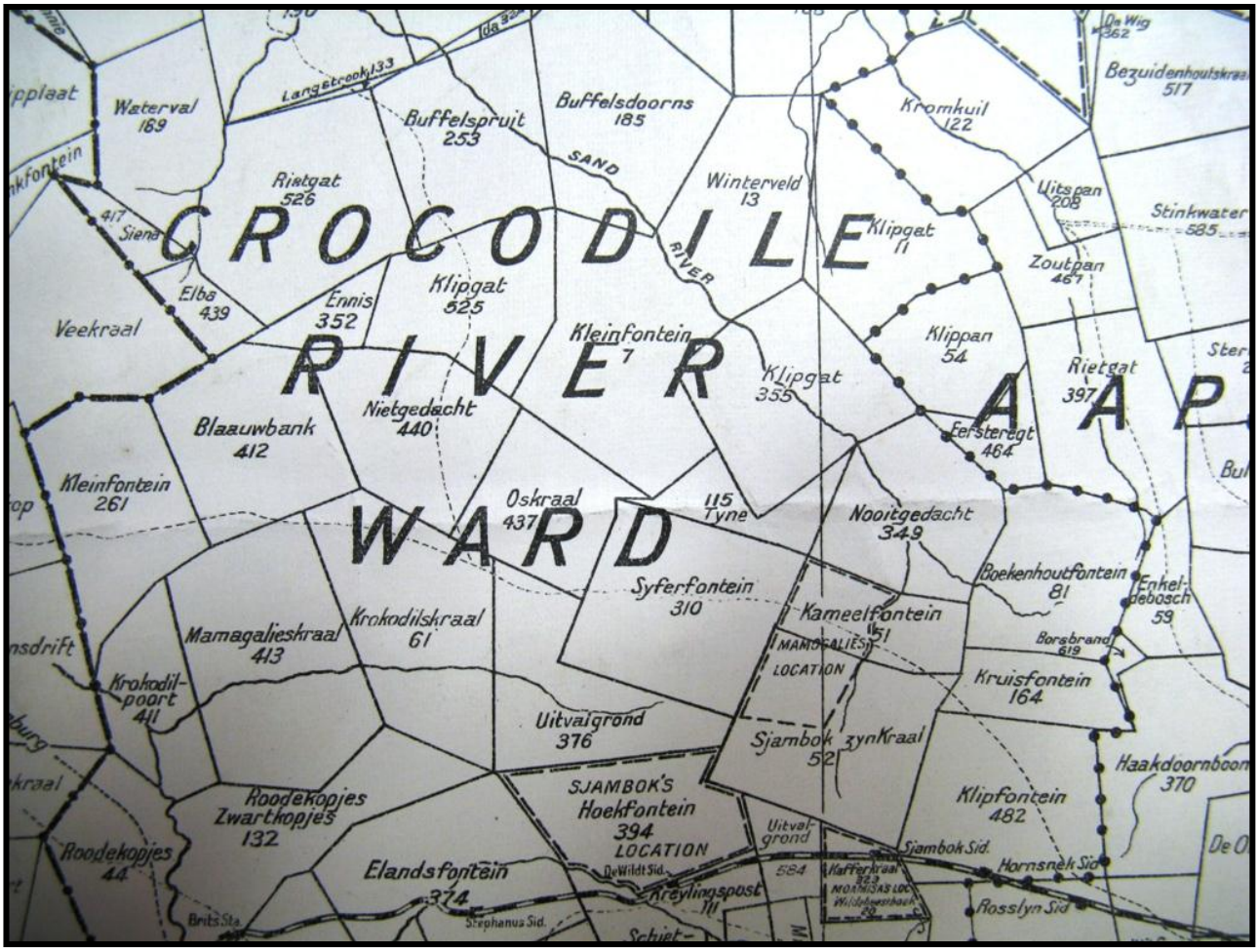

Figure 4: Map showing the location of the farm Sjambok Zyn Kraal No. 52 in the Crocodile Ward, Pretoria District. The Mamogalies Location was located in the northern part of the farm, and stretched up into the farm Kameelfontein No. 51. (Magisterial District of Pretoria Map 1917)

5.2.2. 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. (Geskiedenisatlas van Suid-Afrika 1999: 2)

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 17th 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. (Geskiedenisatlas van Suid-Afrika 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. (Geskiedenisatlas van Suid-Afrika 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. (Geskiedenisatlas van Suid-Afrika 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
Sjambok zyn Kraal 52	4264
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. (Geskiedenisatlas van Suid-Afrika 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. (Geskiedenisatlas van Suid-Afrika 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)

5.2.3.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 Hebrow 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.*
- National Archives of South Africa. 1966-1984. *SAB, BAO: 2/1484 T8/8/2/2/P54/19. Grondsake. Verkryging en vervreemding van Trustgrond. Aankoop van grond. Transaksies. Pretoria. Sjambok Zyn Oude Kraal 258 JR.*
- 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*)

6. ARCHAEOLOGICAL BACKGROUND

South Africa has one of the longest archaeological sequences in the world because humanity evolved in the area stretching from the Cape to Ethiopia. Most of this sequence covers the times when our ancestors used stone tools.

It is worthwhile, thus, to review the archaeological record for southern Africa and to place in context the known occurrences.

The archaeology of the area can be divided into the Stone Age and Iron Age time frames. Each of these will be briefly discussed

Copyright for the Stone Age component is held by Dr Marlize Lombard, Department of Anthropology and development studies, University of Johannesburg.

6.1 Introduction

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 contains 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. Such finer-grained identifications may help to highlight the importance of some archaeological sites in a specific region. Table 1 provides a brief overview of the Stone Age phases and sub-phases/industrial complexes of South Africa, based on our current knowledge. The information is aimed at assisting the identification of Stone Age occurrences in the field by providing the main associated characteristics, and it provides the broadly associated age estimates. Users of this document should, however, remember that the outlines are broad, and any field interpretations can only be considered preliminary observations until further research is conducted (Lombaard 2011).

Cultural sequence	**~ Associated ages**	**Associated characteristics**
Later Stone Age; associated with Khoi and San societies and their immediate predecessors		
See sub-phases below for more detailed chronology	Recently to ~30 thousand years ago	Include stone tools mostly < 25 mm, bored stones, grinding stones, grooved stones, ostrich eggshell beads, bone tools sometimes with decoration, decorated ostrich eggshell flasks and fishing equipment These are the general characteristics for the Later Stone Age. In the sub-divisions below I highlight differences or characteristics that may be used to refine interpretations depending on context.
Broad overview of Later Stone Age sub-phases/industrial complexes		
Hunters-with-livestock/herders (e.g. Mitchell 2002; Lombard & Parsons 2008; Sadr 2008)	Mostly less than 2 thousand years ago	Regular occurrence of blades and bladelets, but formal stone tools are rare, backed pieces mostly absent, grindstones are common, stone bowls and boat-shaped grinding grooves may occur Sheep, goat, cattle and dog bones along with wild species Pottery is mostly well-fired, thin-walled, sometimes with lugs, spouts and coned bases, sometimes with comb-stamping

Post-Wilton (includes some Smithfield phases) (e.g. Deacon & Deacon 1999; Lombard & Parsons 2008)	~1 hundred -3 thousand years ago	Mostly macrolithic (stone tools > 20 mm) and informal sometimes with blades and bladelets Characterised by large untrimmed flakes At some sites there are also small backed tools, scrapers and adzes Sometimes includes thick-walled, grass-tempered potsherds
Wilton (includes some Smithfield phases) (e.g. Deacon & Deacon 1999; Wadley 2007)	~4-8 thousand years ago	Microlithic (stone tools < 20 mm) High incidence of backed bladelets and geometric shapes such as segments Include borers, small scrapers, double scrapers, polished bone tools
Oakhurst (includes Albany and Lockshoek) (e.g. Deacon & Deacon 1999; Wadley 2007)	~8-12 thousand years ago	Characterised by round, end and D-shaped scrapers, adzes and a wide range of polished bone tools Few or no microliths
Robberg (Deacon & Deacon 1999; Wadley 2007)	~12-22 thousand years ago	Characterised by few backed tools, few scrapers, significant numbers of unretouched bladelets
Early Later Stone Age	~30-40 thousand years ago	Described at some sites, but as yet unclear whether this represents a real archaeological phase or a mixture of LSA/MSA artefacts
Middle Stone Age; associated with *Homo sapiens* and archaic modern humans		
See sub-phases below for more detailed chronology	~30-300 thousand years ago	Mostly based on prepared core techniques, and the production of triangular flakes with convergent dorsal scars and faceted striking platforms

		Most pieces are in the region of 40-100 mm Often includes the deliberate manufacture of parallel-sided blades and flake-blades Sometimes produced using the Levallois technique Occasionally includes marine shell beads, bone points, engraved ochre nodules and engraved ostrich eggshell fragments These are the general characteristics for the Middle Stone Age. In the sub-divisions below I highlight differences or characteristics that may be used to refine interpretations depending on context
Broad overview of Middle Stone Age sub-phases/industrial complexes		
Final Middle Stone Age (informal designation partly based on the Sibudu sequence) (Jacobs et al. 2008; Wadley, 2005, 2010)	~30-40 thousand years ago	Could include bifacially retouched, hollow-based points Small bifacial and unifacial points Could include backed geometric shapes such as segments, as well as side scrapers
Late Middle Stone Age (informal designation partly based on the Sibudu sequence) (Jacobs et al. 2008; Wadley 2010)	~45-50 thousand years ago	Most formal retouch aimed at producing unifacial points Sometimes includes bifacially retouched points
Post-Howieson's Poort (also referred to as MSA III at Klasies River or MSA 3 generally) (e.g. Soriano et al. 2007; Jacobs et al. 2008:734)	~47-58 thousand years ago	Most points are produced using Levallois technique, and many are unifacially retouched Some side scrapers are present Backed pieces are rare
Howieson's Poort	~58-	Characterized by blade technology and the presence of

Industry (e.g. Jacobs et al. 2008:734)	66 thousand years ago	small (< 4 cm) backed tools (made on blades), including segments, trapezes and backed blades.
Still Bay Industry (e.g. Jacobs et al. 2008; Lombard et al. 2010; Henshilwood & Dubreuil 2011)	~70-77 thousand years ago	Characterised by thin (< 10 mm), bifacially worked foliate or lanceolate points with either a semicircular or wide-angled pointed butt Could include finely serrated points
Mossel Bay Industry (also referred to as MSA II at Klasies River or MSA 2b generally) (e.g. Wurz 2010, in press)	~85-105 thousand years ago	Characterised by a unipolar Levallois-type point reduction Products have straight profiles, percussion bulbs are prominent and often splintered or ring-cracked Formal retouch is infrequent, restricted to sharpening the tip or shaping the butt
Klasies River sub-stage (also referred to as MSA I at Klasies river or MSA 2a generally) (e.g. Wurz 2010, in press)	~105-115 thousand years ago	Mostly large blades, pointed flakes are elongated and thin, often with curved profiles Platforms are often diffuse and lack clear percussion marks Low frequencies of retouch, few denticulated pieces
MSA 1 (tentative, informal designation) (Volman 1984; Thompson et al. 2010)	Suggested age OIS 6 (~130-195 thousand years ago)	Platforms are mostly plain Very little formal retouch Flakes are mostly short and broad, few have denticulate retouch Rare scraper retouch
Sangoan Sometimes observed between MSA and ESA deposits, some researcher place this phase under the Middle Stone Age, others	> 200 thousand years ago, but few sites in southern Africa have been dated	Contains small bifaces (< 100 mm), picks, heavy- and light-duty denticulated and notched scrapers

under the Earlier Stone Age, the designation is thus not yet clear (e.g. Kuman et al. 2005)		
Earlier Stone Age; associated with early *Homo* groups such as *Homo habilis* and *Homo erectus*		
Fauresmith (e.g. Porat et al. 2010)	~400-600 thousand years ago	Generally includes small handaxes, long blades and convergent/pointed pieces
Acheulean (e.g. Kuman 2007; Mitchell 2002)	~300 thousand-1.5 million years ago	Bifacially worked handaxes and cleavers, large flakes > 10 cm Some flakes with deliberate retouch, sometimes classified as scrapers Give impression of being deliberately shaped, but could indicate result of knapping strategy Sometimes shows core preparation Mostly found in disturbed open-air locations
Oldowan (e.g. Kuman 2007; d'Errico & Backwell 2009; Mitchell 2002)	~1.5 -> 2 million years ago	Cobble, core or flake tools with little retouch and no flaking to predetermined patterns Hammerstones, manuports, cores Polished bone fragments/tools

Table 1. *Outline of the Stone Age cultural sequence of South Africa. The information presented here provides a basic, simplified interpretation for the Stone Age sequence. Details may vary from region to region and from site to site. Most of the criteria such as dating, transitional phases, technological phenomena and recursions are currently being researched, so that the information cannot be considered static or final (Lombard 2011)*

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.

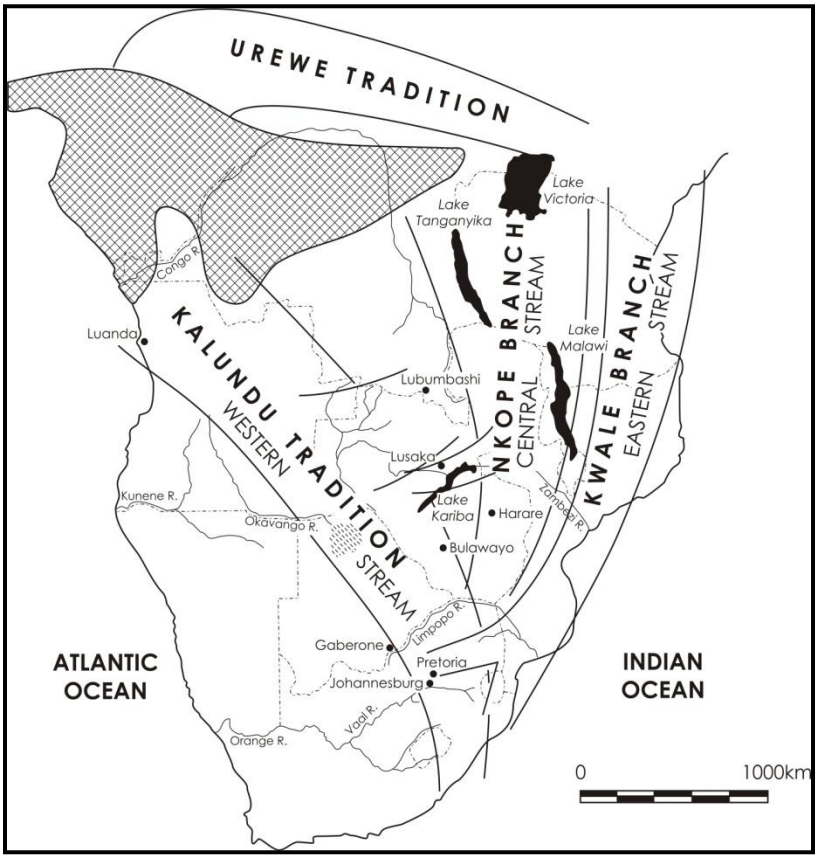

Figure 5*: Movement of Bantu speaking farmers (Huffman 2007)*

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 *Mzonjani and Happy Rest facies* have been recorded to the south of the project area close to Harties. 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 (Figure 8).

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 to north of project area. These sites date to between AD 1500 and 1700 and predate stone walling ascribed to Sotho-Tswana speakers.

What is of interest here is the Swartkoppies mountain range that extents into the southern part of the study area this area is renowned for its LIA stone walled settlements. A detailed survey of the mountain range on the farm Hoekfontein (located to the west of the current study area) identified 470 individual archaeological sites (Kusel 2003) covering an area of about 1000 hectares (Pelser 2007). Unfortunately almost 110 of these sites were already negatively impacted on in 2007. Another site worth mentioning is the LIA stone walled complex at Medunsa on the southern border of the prospecting area. The sites are currently being researched as part of a Master's Thesis project. Following the classification system used for Makau these sites belong to Mike Taylor's (1979) group 2, particularly group 2a. These sites date to between AD 1650 and AD 1840.

Sotho Tswana stonewalled sites with Uitkomst pottery have been found close to the study area and dates to the seventeenth to nineteenth centuries (Huffman 2007).

6.2. Concluding remarks

The brief background study above indicates that an extensive range of LIA manifestations can be expected in the area demarcated for potential prospecting, particularly in the south close to hills and mountain ranges.

7 PROBABILITY OF OCCURRENCE OF SITES

Based on the above information, it is possible to determine the probability of finding archaeological and cultural heritage sites within the study area to a certain degree. For the purposes of this section of the report the following terms are used – low, medium and high probability. Low indicates that no known occurrences of sites have been found previously in the general study area, medium probability indicates some known occurrences in the general study area are documented and can therefore be expected in the study area and a high probability indicates that occurrences have been documented close to or in the study area and that the environment of the study area has a high degree of probability having sites.

» Palaeontological landscape

Fossil remains. Such resources are typically found in specific geographical areas, e.g. the Karoo and are embedded in ancient rock and limestone/calcrete formations exposed by road cuttings and quarry excavation: *Unknown.*

» Archaeological And Cultural Heritage Landscape

NOTE: *Archaeology is the study of human material and remains (by definition) and is not restricted in any formal way as being below the ground surface*.

*Archaeologica*l remains dating to the following periods can be expected within the study area:

» Stone Age finds

ESA: *Low Probability*
MSA*: High Probability*
LSA: Medium Probability
LSA –Herder: Low Probability

» Iron Age finds

EIA: *Low - Medium Probability*
MIA*: Low Probability*
LIA: High Probability

» Historical finds

Historical period: *Low -Medium Probability*
Historical dumps: *Low -Medium Probability*
Structural remains: *Low -Medium Probability*
Cultural Landscape*: Low -Medium probability*

» Living Heritage
For example rainmaking sites: *Low Probability*

» Burial/Cemeteries

Burials over 100 years: M*edium Probability*
Burials younger than 60 years*: Higher Probability*

Subsurface excavations or drilling including ground levelling, landscaping, and foundation preparation can expose any number of these.

8. ASSUMPTIONS AND LIMITATIONS

The study area was not subjected to a thorough field survey. It is assumed that information obtained for the wider area is applicable to the study area.

9. FINDINGS

The heritage scoping study revealed that the following heritage sites, features and objects that can be expected within the study area.

9.1. Archaeology

9.1.1 Archaeological finds

There is a high likelihood of finding Middle Stone Age artefacts scattered over the study area. There is an increased likelihood of finding material nearer to rivers, tributaries and ridges. Several stone walled settlements (Figure 9) were recorded during the brief site visit. (Medunsa S25 36 27.5451 E28 01 35.8124)

(Makau S25 36 9.1419 E 27 54 47.2624) Zambok Zyn Kraal S25 35 42.1251 E 28 01 17.5626.

9.1.2 Nature of Impact

Drilling and associated activities like roads etc could directly impact on surface and subsurface archaeological sites.

9.1.3 Extent of impact

Drilling could have a low to medium impact on a local scale.

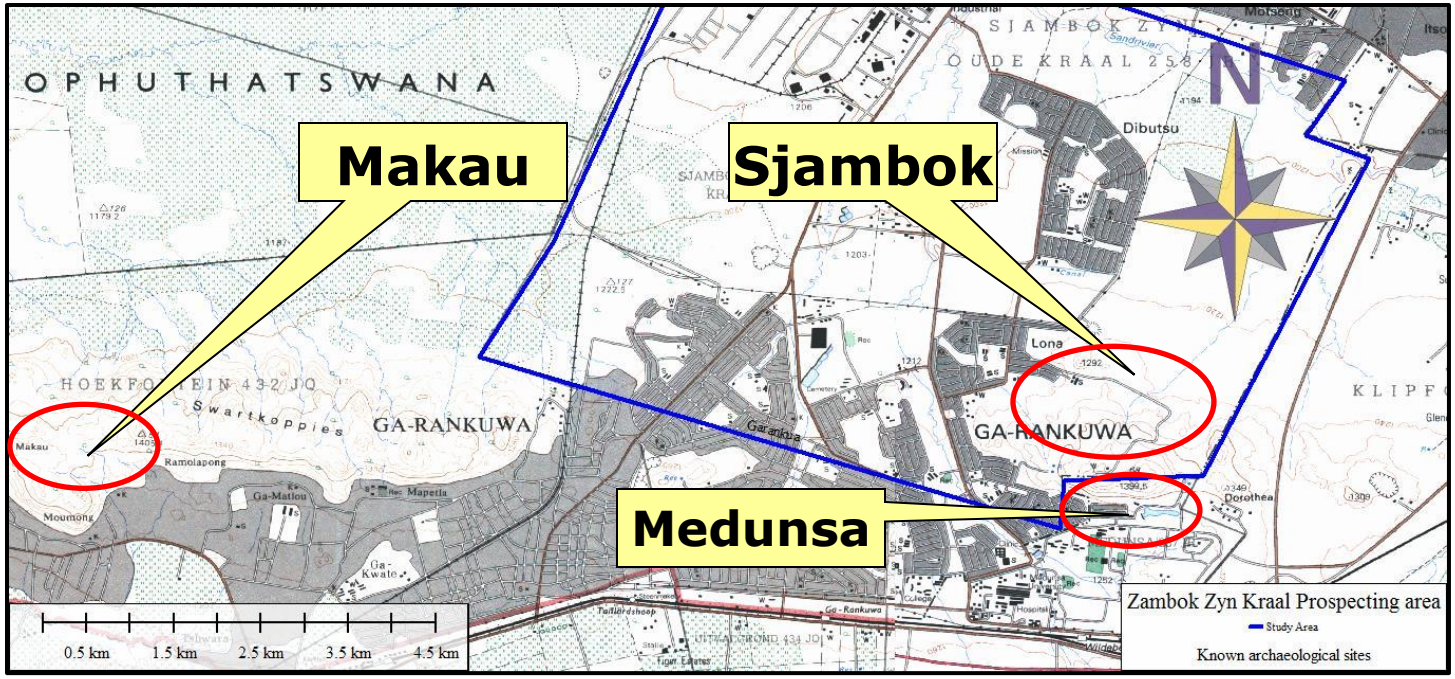

Figure 6: Archaeological sites mentioned in the text. Red polygons indicate approximate extent of sites

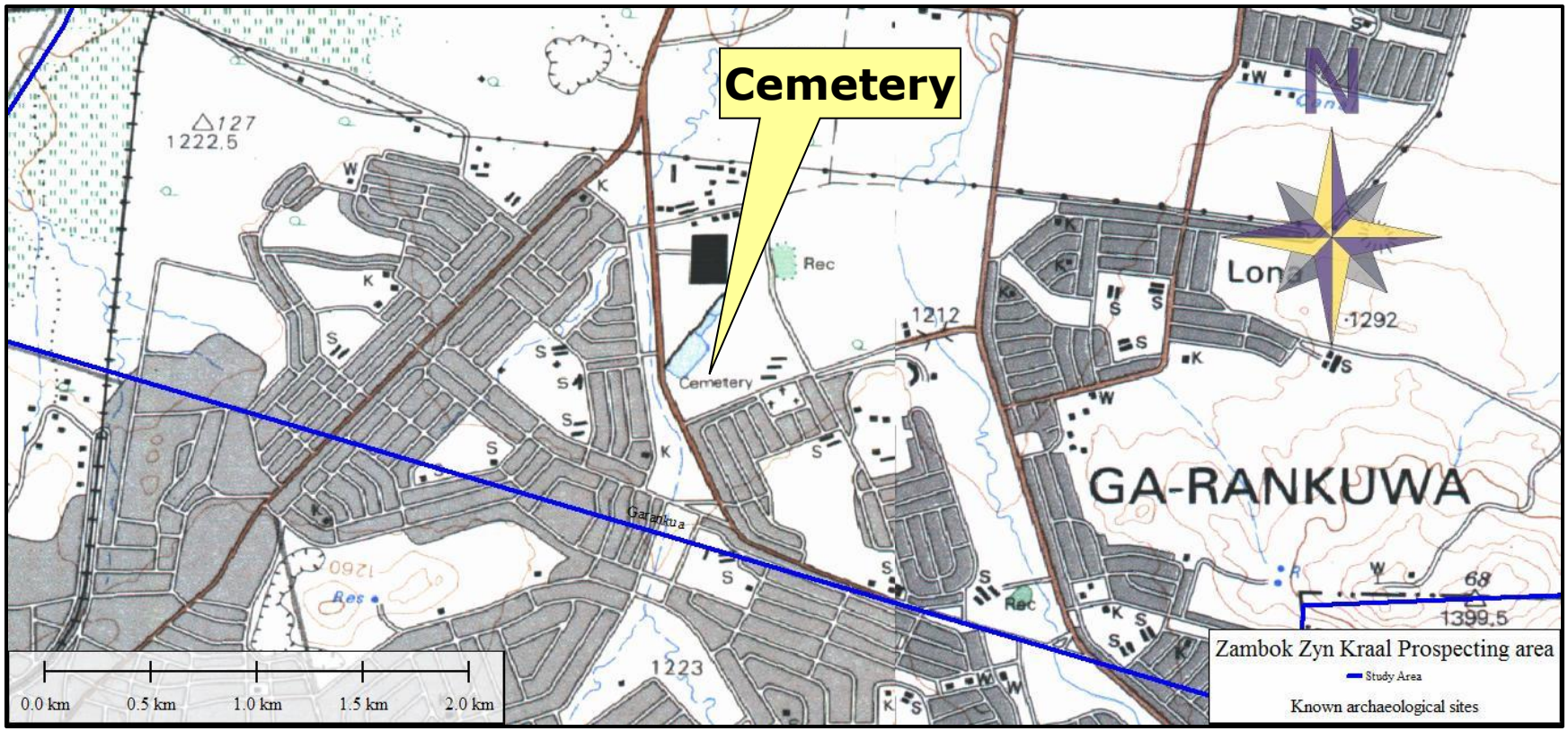

Figure 7: Known cemetery in study area

Figure 8: Stone wall foundations

Figure 9: Mountain range to the south of study area that has various LIA sites

9.2. Historical period

9.2.1 Historical finds:

Including middens, structural remains and cultural landscape. The desktop study highlighted the fact that the area was occupied at least from 1885 and features dating to this period associated with farming can be expected.

9.2.2 Nature of Impact

Drilling activities can directly impact on historic sites affecting both the visual context and sense of place of historical sites. There were no structures identified in the area during the brief site visit.

9.2.3 Extent of impact

Drilling activities will have a negligible impact on the historic time period and cultural landscape due to the lack of any noteworthy sites in the area.

9.3. Burials and Cemeteries

9.3.1 Burials and Cemeteries

Graves can be expected especially close to the river with more recent formal and informal cemeteries anywhere else on the landscape. A single cemetery (figure 7) was noted at 25 35 46.4472 27 59 31.5023

9.3.2 Nature of Impact

Drilling activities could directly impact on marked and unmarked graves.

9.3.3 Extent of impact

The activities could have a low to medium impact on a local scale.

10. POTENTIAL SIGNIFICANCE OF HERITAGE RESOURCES

Based on the current information obtained for the area at a desktop level it is anticipated that any sites that occur within the proposed development area will be graded as Generally Protected B.

11. CONCLUSIONS AND RECOMMENDATIONS

This report endeavoured to give an account of the history of the farm Sjambok Zijn Oude Kraal 258 JR and if the general study area is renowned for any archaeological sites. It is clear that the area is known for its archaeological stone walled sites especially to the mountains in the south of the study area.

Every site is relevant to the Heritage Landscape, but it is anticipated that few if any sites in the area have conservation value. However these sites are protected by legislation and some management actions will be necessary to protect archaeological sites within the study area from drilling activities.

Here brief consideration is given to measures that would be required during drilling activities in the lease area.

OBJECTIVE: prevent unnecessary disturbance and/or destruction of historical features, graves and archaeological sites.

Project component/s	Exploration activities		
Potential impact	Damage and disturbance to the cultural heritage of the area.		
Activity risk/source	Impact of drilling sites and new access roads on cultural heritage of the area.		
Mitigation: target/objective	To retain historical features, graves and archaeological sites in undisturbed condition.		
Mitigation: Action/control		**Responsibility**	**Timeframe**
Mini heritage management plan must be implemented. Survey and identification of no go areas.		ECO	Duration of drilling activities
Performance indicator	Historical features, graves and archaeological sites remains undamaged.		
Monitoring	No activity outside of agreed upon ‘archaeologically cleared areas”.		

» Archaeological sites

All sites could be mitigated either in the form of conservation of the sites or by a Phase 2 study where the sites will be recorded and sampled before the client can apply for a destruction permit for these sites prior to destruction

» Historical finds and Cultural landscape

It is not anticipated that the built environment will be severely impacted upon as it is not anticipated that any buildings will be demolished for drilling activities. However, direct and indirect impacts on the cultural landscape and possible historical sites can only be assessed during the survey of the area and suitable mitigation measures proposed.

» Burials and cemeteries

Formal and informal cemeteries as well as pre-colonial graves occur widely across Southern Africa. It is generally recommended that these sites are preserved *in-situ.* These sites can how ever be relocated if conservation is not possible, but this option must be seen as a last resort. The presence of any grave sites can only be confirmed during a thorough field survey and the public consultation process.

One site of historical significance was identified during the survey that will be directly impacted on by the proposed project. Several buildings that might be older than 60 years occur within the wider study area but it is assumed that none of these will be impacted on by the proposed line however some management actions will be necessary to enforce this and is explained in further detail below.

12. PLAN OF STUDY

Compilation of a mini heritage management plan and watching brief complying with the National Heritage Resources Act (Act 25 of 1999) to ensure that drilling activities do not impact on heritage resources. This includes basic training for construction staff on possible finds, action steps for mitigation measures, surface collections, excavations and communication routes to follow in the case of a discovery

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14. STATEMENT OF COMPETENCY

The author of the report is a member of the Association of Southern African Professional Archaeologists and is also accredited in the following fields of the Cultural Resource Management (CRM) Section,

member number 159: Iron Age Archaeology, Colonial Period Archaeology, Stone Age Archaeology and Grave Relocation.

Jaco serves as a council member for the CRM Section of the Association of Southern African Association Professional Archaeologists and is also an accredited CRM Archaeologist with SAHRA and AMAFA.

Jaco has been involved in research and contract work in South Africa, Botswana, Mozambique, Zimbabwe and Tanzania and conducted well over 300 AIAs since he started his career in CRM in 2000. This involved several mining operations, Eskom transmission and distribution projects and infrastructure developments. The results of several of these projects were presented at international and local conferences.

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